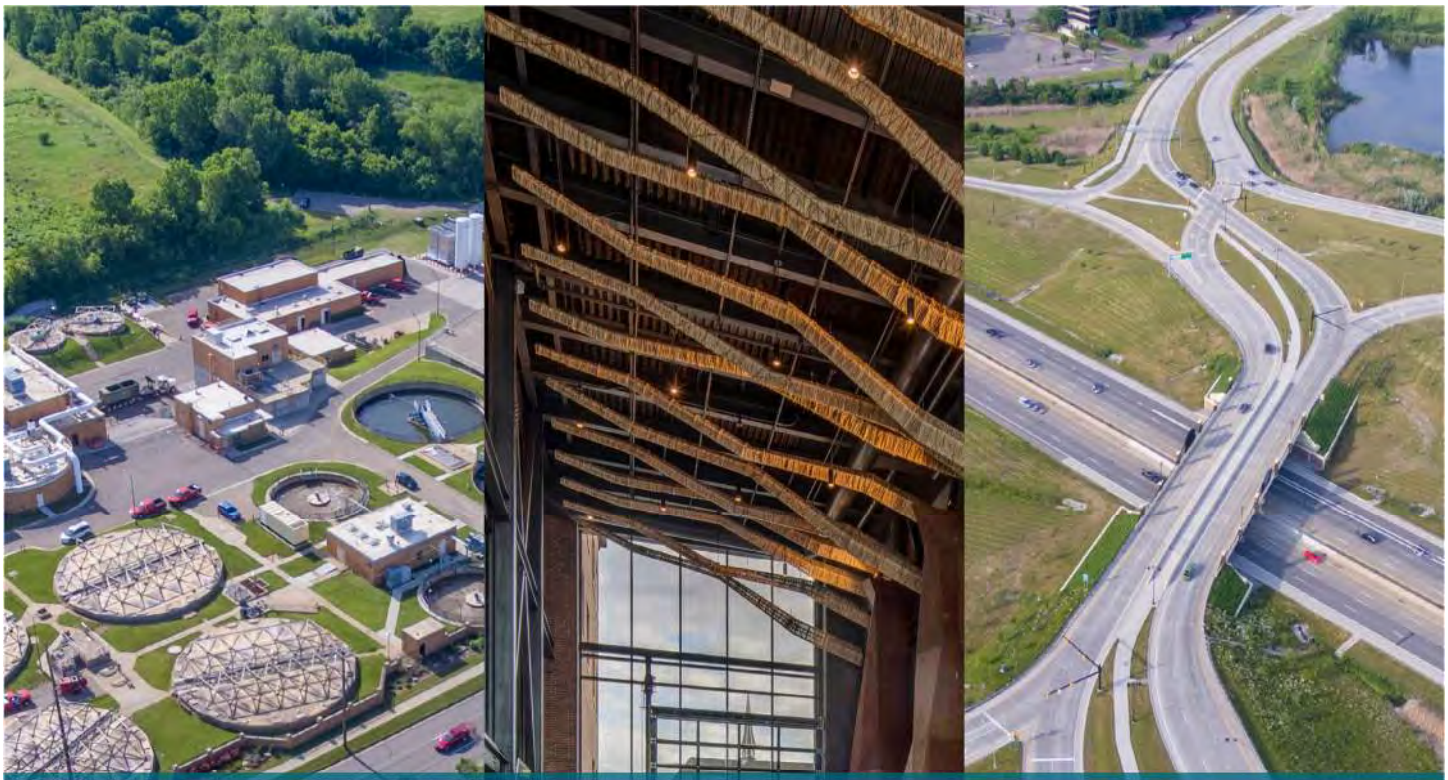


Phase II Environmental Site Assessment

Former Grand Haven Board of Light and Power
518 South Harbor Drive
Grand Haven, Michigan

Project No. 211365
December 2021

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Phase II Environmental Site Assessment

Former Grand Haven Board of Light and Power Diesel Plant
518 South Harbor Drive
Grand Haven, Michigan
Parcel Number 70-03-20-399-006

Prepared For:
Ottawa County Brownfield Redevelopment Authority
West Olive, Michigan

and

CL Real Estate, LLC
Grand Haven, Michigan

December 28, 2021
Project No. 211365

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List of Abbreviations/Acronyms

AMSD	approximate minimum search distance
ASTM	American Standards for Testing and Materials
BEA	Baseline Environmental Assessment
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CESQG	Conditionally Exempt Small-Quantity Generator
DPW	Department of Public Works
DU	decision unit
ECHO	Enforcement & Compliance History Information
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EM	electromagnetic
ESA	Environmental Site Assessment

facility	Any area, place, parcel or parcels of property, or portion of a parcel of property where a hazardous substance in excess of the concentrations that satisfy the cleanup criteria for unrestricted residential use has been released, deposited, disposed of, or otherwise comes to be located.
FINDS	Facility Index System/Facility Registry System
GPR	ground penetrating radar
GPS	Global Positioning System
GRCC	Generic Residential Cleanup Criteria
MEK	methyl ethyl ketone
msl	mean sea level
PA	Public Act
Part 201	Part 201 (Environmental Remediation) of the Natural Resources and Environmental Protection Act, 1994 of Public Act 451, as amended (NREPA)
PCBs	polychlorinated biphenyls
PID	photoionization detector
PNA	polynuclear aromatic hydrocarbons
ppm	part(s) per million
PVC	polyvinyl criteria
QA/QC	quality assurance/quality control
QAPP	quality assurance project plan
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RIASL	Recommended Interim Action Screening Levels
RSD	relative standard deviation
SDBL	statewide default background level
SVOC	semivolatile organic compound
TOV	total organic vapors
TSRIASL	Time Sensitive Recommended Interim Action Screening Levels
µg/Kg	microgram per kilogram
µg/L	microgram per liter
UST	underground storage tank
VIAPSLs	Volatilization to Indoor Air Screening Levels
VOC	volatile organic compound
WDS	Waste Data System

1.0 Introduction

Fishbeck conducted a Phase II ESA on October 28, 2021, and November 1, 2021, at 518 South Harbor Drive, Grand Haven, Ottawa County, Michigan (Site) (see Figure 1 for a Site Location Map and Figure 2 for the Site Map). The Phase II ESA was completed to evaluate the Recognized Environmental Conditions (RECs) identified in a Phase I ESA, dated October 8, 2021, completed by Fishbeck on behalf of CL Real Estate, LLC.

The Site is currently owned by the City of Grand Haven Board of Light and Power (GHBLP) and contains the former GHBLP diesel plant. The plant was retired on June 1, 2020, and it is no longer operating. The Site consists of approximately two acres and contains an approximately 10,200-square-foot building, with a parking lot east of the building. The generation of electrical power using diesel engines has been conducted since at least the 1930s until it was shut down. Historical records indicate the Site contained a coal-fired plant prior to development of the diesel plant.

During the course of this investigation, Fishbeck encountered evidence of the following RECs in connection with the Site:

- Based on site observations, the basement of the diesel plant building is heavily stained, and the presence of several absorbent mats indicate current incidental and historical releases of petroleum products to the basement floor. Groundwater was observed infiltrating into the basement during the reconnaissance. This is indicative of cracks in the basement floor where spilled material could potentially reach the subsurface below.
- The Site is listed as an EGLE Inventory/Part 201 Site as the result of a 2005 release of No. 5 fuel oil from a buried transfer line connected to an offsite former AST to the building. Historical investigations identified the presence of xylene and benzo(a)pyrene in site soils. Annual groundwater sampling events indicate the groundwater has not been impacted by BTEX or PNAs; however, a sheen has routinely been observed in monitoring wells located west of the building.
- An electrical substation has been present southeast of the building since at least 1962. Current information indicates the transformers onsite do not contain PCBs. Potentially, PCB-containing transformer oil may have been released to the soils in the substation area from past undocumented releases.
- Historical records indicate that a coal-fired power plant and coal storage area was formerly located on the east side of the Site, approximately where the current parking lot exists. Soil and/or groundwater may be impacted by the past use and storage of coal.
- An unidentified approximate 1-inch capped steel pipe was observed leading out of the basement wall on the north side of the building. The former use of this pipe is unknown. There is a potential for this pipe to have been used to transport petroleum products, and to have leaked to the subsurface outside the plant.

In addition to the RECs outlined above, the potential for vapor intrusion into the Site building exists due to the potential releases of petroleum products beneath the building, and the presence of high methane in groundwater at the neighboring U.S. Coast Guard (USCG) site.

There were no HRECs or CRECs identified in the October 2021 Phase I ESA.

Fishbeck submitted a Phase II ESA Sampling and Analysis Plan (SAP) to the USEPA for review and approval. The SAP documented proposed sampling locations and laboratory analyses to address the RECs identified in the Phase I ESA and included a Health and Safety Plan (HASP). The SAP/HASP was approved by the USEPA on October 26, 2021. The Phase II ESA is discussed in the sections below.

2.0 Investigation Methods

The Phase II ESA consisted of the completion of eleven (11) soil borings at the Site (CL-SB-GP-1 through CL-SB-GP-9) and installation of three temporary monitoring wells (CL-GW-TMW-1 through CL-GW-TMW-3). Temporary soil gas probes were installed at locations CL-SG-GP-01 through CL-SG-GP-05 (i.e., SG-1 through SG-5). After sampling was completed, the temporary monitoring wells and soil gas sampling probes were removed, and the borings were backfilled with cuttings and bentonite, and the ground surface was restored to its original condition. The soil boring/temporary monitoring well locations and temporary soil gas probes are shown on Figure 3. A sampling rationale for each location is provided in Table 1.

The Phase II ESA also consisted of conducting a geophysical survey to evaluate the Site for anomalies consistent with potential orphan underground storage tanks (USTs).

2.1 Geophysical Survey

On November 2, 2021, Facility Management Consultants International (FMCI) conducted a geophysical survey utilizing ground penetrating radar (GPR) to determine if orphan USTs were present on the exterior portions of the Site and to search for evidence of any excavations associated with any orphan USTs. The GPR scans were completed every 5 feet in a grid pattern.

The GPR scan identified two underground features in an area east of the northeast corner of the building approximately 4 feet by 12 feet and 4 feet by 10 feet in size. These features were in an area where the GPR showed a significant amount of fill material and likely attributed to the demolition of the previous building. It is believed these underground features may be remaining pipes from the previous building or possible USTs. A copy of the GPR report is included in Appendix 1.

2.2 Soil and Groundwater Sampling

Fishbeck subcontracted Rosendall Well Drilling, of Grand Rapids, Michigan, to provide drilling services at the Site. On October 28, 2021, soil borings (CL-SB-GP-1 through CL-SB-GP-9 and CL-GW-TMW-1 though CL-GW-TMW-3) were advanced using a direct-push rig (Geoprobe® 7822DT) and macro-cores equipped with single-use acetate liners or a stainless-steel hand auger. A continuous core of soil was collected at each soil boring location, and the soils were described by a Fishbeck geologist. The soils were field screened for the presence of total organic vapors (TOVs) using a photoionization detector (PID).

Temporary monitoring wells (CL-GW-TMW-1 and CL-GW-TMW-2) constructed using 1-inch-diameter polyvinyl chloride (PVC) casings and 1-inch-diameter 5-foot-long PVC screens were installed within soil borings CL-SB-GP-1 and CL-SB-GP-2. The bottom of each screen was generally installed approximately 3 to 4 feet below the water table. Temporary monitoring well CL-GW-TMW-3 was installed using a 6-inch-long Geoprobe® micro screen installed directly beneath the concrete surface in the basement of the Site building. Borehole logs that include well construction details are provided in Appendix 2. The wells were sampled using a peristaltic pump equipped with disposable tubing, following EGLE-approved low-flow methods.

The soil and groundwater samples were collected directly into laboratory-prepared bottles, stored on ice in an insulated cooler, sealed, and transported under chain-of-custody documentation to Trace Analytical Laboratories, Inc. of Muskegon, Michigan, for laboratory analysis of one or more of the following: 8260 plus list of volatile organic compound (VOCs), polynuclear aromatic hydrocarbons using USEPA Method 8270, polychlorinated biphenyls (PCBs), and Michigan 10 metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc).

To meet the data quality objectives in the QAPP, duplicate samples, matrix-spike/matrix-spike-duplicate samples, an equipment blank, and a trip blank were collected. These additional samples are recommended to evaluate the precision and accuracy of the reported data. Refer to Section 4 of this report for additional information relative to the data validation.

2.3 Soil Gas Sampling

Fishbeck oversaw the completion of five temporary soil gas probes (CL-SG-GP-1 through CL-SG-GP-5) constructed using polyvinyl chloride (PVC) micro screen implants. The implants were installed using a direct-push rig (Geoprobe® 7822DT). The temporary soil gas probe locations are shown on Figure 3. Sand pack was placed around the micro screens, with a bentonite seal installed above the micro screen to the ground surface. The PVC micro screen implants were connected to the ground surface with nylon tubing. QA/QC procedures, consisting of leak testing using a shroud and ultra-pure helium as a tracer gas, was performed prior to sampling at each location. Additionally, soil gas vapor readings were performed to evaluate the carbon dioxide, oxygen, and methane concentrations. All field readings indicated an aerobic environment containing oxygen ranging between 18% and 20.9%. Methane was not detected in any of the soil gas sample locations.

Quality assurance/quality control procedures, consisting of shut-in testing and leak testing using a shroud and ultra-pure helium as a tracer gas, were performed prior to sampling at each location. No leaks were observed at any of the locations; therefore, the vapor probes were installed with a sufficient seal, and the soil gas samples can be considered representative of subsurface conditions.

Sample collection was conducted at each of the five temporary soil gas probe locations, in accordance with EGLE Indoor Air Sampling Procedure Via USEPA Method TO 15 (February 1, 2013, Revision #1) and the QAPP. One-liter bottle vac containers, equipped with regulators calibrated for a 7-minute sampling period, were used for the sample collection. The samples were delivered under chain of custody documentation to Fibertec Environmental Services, Holt, Michigan, for VOC and PNA analysis, in accordance with U.S. Environmental Protection Agency (USEPA) Method TO-15 and Method TO-13, respectively.

3.0 Investigation Results

The soil, groundwater, and soil gas analytical results were compared to applicable EGLE Part 201 GRCC or EGLE Remediation and Redevelopment Division Volatilization to Indoor Air Screening Levels (VIAPSLs) and are provided in Tables 2, 3, and 4, respectively. The analytical results exceeding Part 201 GRCC are shown on Figure 3. Copies of the laboratory reports are provided as Appendix 3.

3.1 Soil

In general, the soils encountered at the soil boring locations on the Site consisted of fine to medium-grained sand with varying amounts of silt and gravel. Fill material was observed on the eastern portion of the Site in the upper 1.5 feet of boring CL-SB-GP-6. Groundwater was encountered between 8 and 18 feet below ground surface (bgs) outside of the Site building and directly beneath the concrete in the basement inside the building. TOVs were not detected above background levels in the soils. A copy of the soil boring logs is provided in Appendix 2.

The analytical results identified the following exceedances of Part 201 GRCC in soil:

- CL-SB-GP-6 (0.5-2.5') – total xylenes, naphthalene, arsenic, copper, and selenium

Analyzed contaminants in the remaining soil samples were either not detected or were detected at concentrations below Part 201 GRCC.

3.2 Groundwater

The analytical results identified the following exceedances of Part 201 GRCC in groundwater:

- CL-GW-TMW-1 – chromium (total), copper, lead, and selenium
- CL-GW-TMW-2 (Duplicate) – copper and lead

Analyzed contaminants in the remaining groundwater sample were either not detected or were detected at concentrations below Part 201 GRCC.

3.3 Soil Gas

Trichloroethene (TCE) was detected in the soil gas sample collected from SG-GP-5 at a concentration below EGLE RRD VIAPSL. No other VOCs or PNAs were detected in any of the soil gas samples at concentrations exceeding laboratory reporting limits. A summary of the soil gas results is presented in Table 4. The laboratory reports are provided as Appendix 3.

4.0 Data Validation and Assessment

Validation of the soil, groundwater, and soil gas monitoring data was performed as required by the QAPP; the analytical tables were adjusted to add "j" flags where necessary. The completeness objective for the task was met and sufficient data was available to support decision-making. The data validation information is provided in Appendix 4.

5.0 Summary and Conclusions

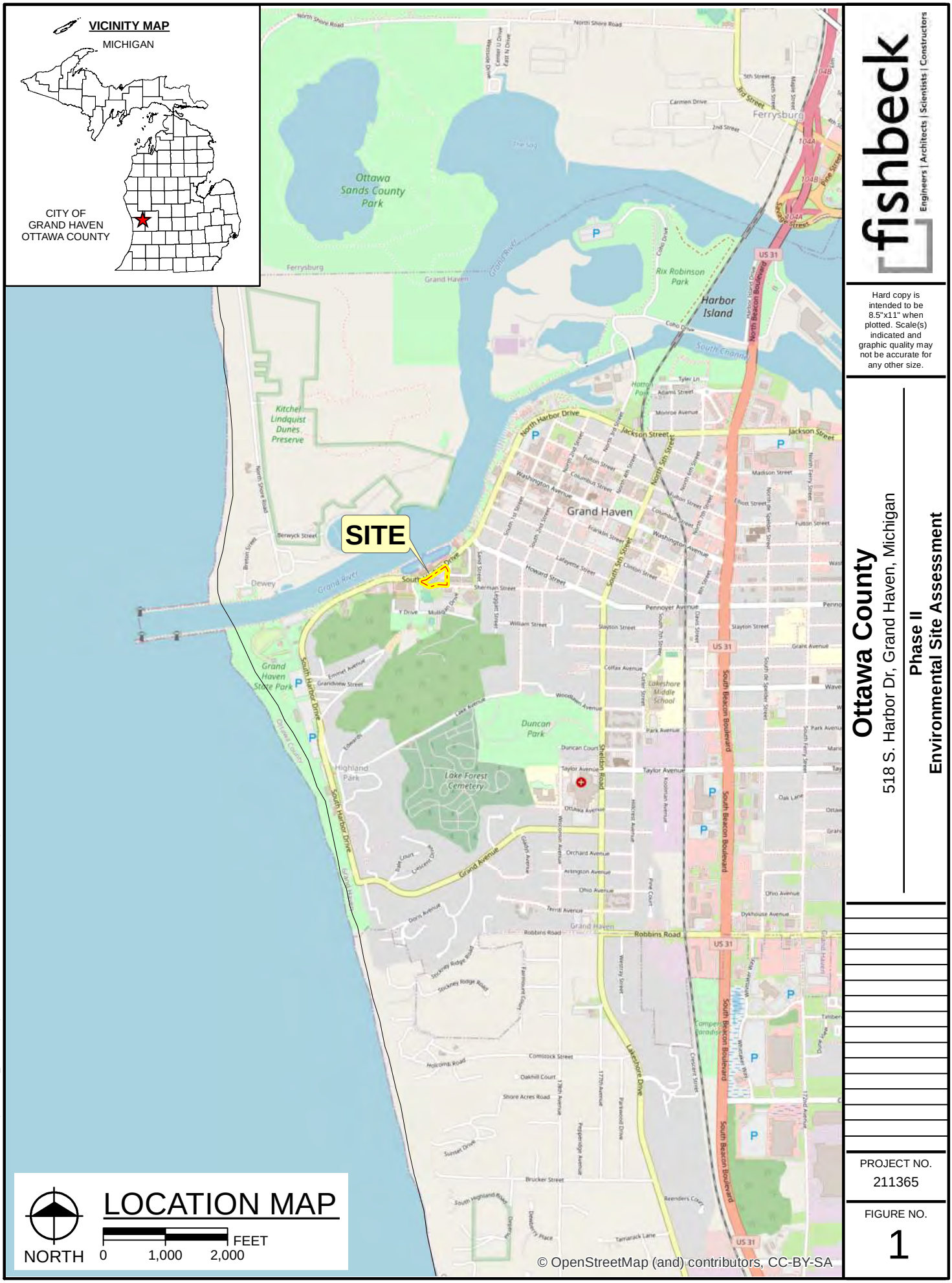
Fishbeck conducted a Phase II ESA on October 28, 2021, and November 1, 2021, at 518 South Harbor Drive, Grand Haven, Michigan (Site). The Phase II ESA was completed to evaluate the RECs identified in a Phase I ESA, dated October 8, 2021, completed by Fishbeck on behalf of CL Real Estate, LLC. The Phase I ESA identified the following RECs in connection with the Site:

- Based on site observations, the basement of the diesel plant building is heavily stained, and the presence of several absorbent mats indicate current incidental and historical releases of petroleum products to the basement floor. Groundwater was observed infiltrating into the basement during the reconnaissance. This is indicative of cracks in the basement floor where spilled material could potentially reach the subsurface below.
- The Site is listed as an EGLE Inventory/Part 201 Site as the result of a 2005 release of No. 5 fuel oil from a buried transfer line connected to an offsite former AST to the building. Historical investigations identified the presence of xylene and benzo(a)pyrene in site soils. Annual groundwater sampling events indicate the groundwater has not been impacted by BTEX or PNAs; however, a sheen has routinely been observed in monitoring wells located west of the building.
- An electrical substation has been present southeast of the building since at least 1962. Current information indicates the transformers onsite do not contain PCBs. Potentially, PCB-containing transformer oil may have been released to the soils in the substation area from past undocumented releases.
- Historical records indicate that a coal-fired power plant and coal storage area was formerly located on the east side of the Site, approximately where the current parking lot exists. Soil and/or groundwater may be impacted by the past use and storage of coal.
- An unidentified approximate 1-inch capped steel pipe was observed leading out of the basement wall on the north side of the building. The former use of this pipe is unknown. There is a potential for this pipe to have been used to transport petroleum products, and to have leaked to the subsurface outside the plant.

Activities conducted to investigate the RECs included the completion of nine soil borings, three temporary wells, and five soil gas samples. Total xylenes, naphthalene, arsenic, copper, and selenium were detected in soil and chromium (total), copper, lead, and selenium were detected in groundwater at concentrations exceeding Part 201 GRCC during the October 2021 Phase II ESA. In addition, there were no VOCs or PNAs in soil gas samples detected above EGLE VIAPSL collected during the November 1, 2021, sampling event. Therefore, based on the Phase II ESA, the Site is considered a *facility*. The completion of a Baseline Environmental Assessment (BEA) for the Site is warranted.

Based on the presence of TCE detected in soil gas at the Site, further characterization of the Site soil gas is warranted related to VIAP.

Figures



LOCATION MAP

NORTH

0 1,000 2,000 FEET

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Environmental Site Assessment

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FIGURE NO.
1

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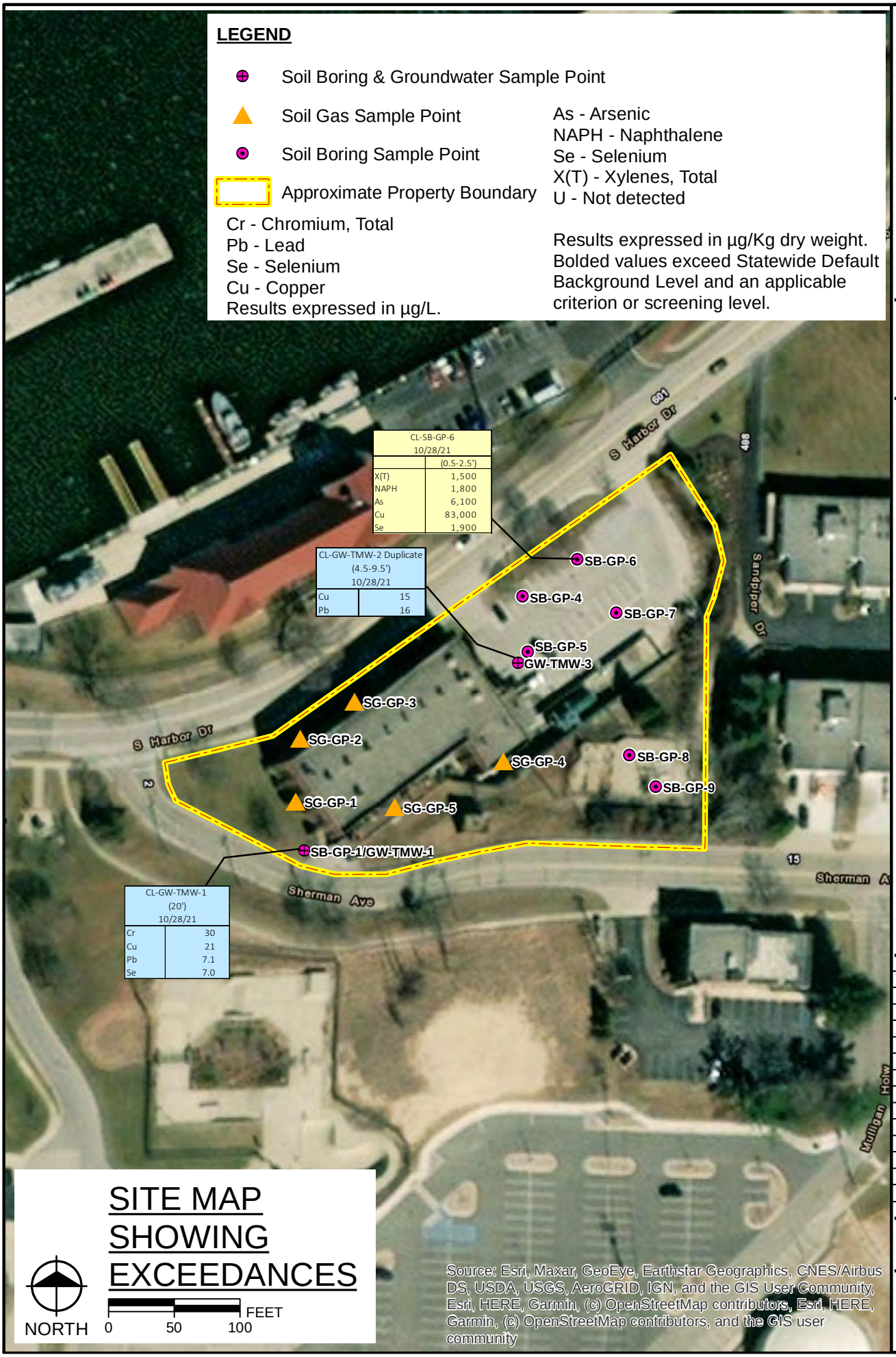
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FIGURE NO.
2

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SITE MAP SHOWING EXCEEDANCES

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FIGURE NO.
3

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Tables

Table 1 - Sampling Rationale
Phase II Environmental Site Assessment
518 South Harbor Drive, Grand Haven, Ottawa County, Michigan
December 2021

Sample ID	Sample Location/REC	Rationale	Sample Depth (ft)/ Screened Interval (ft)	Soil Analytical				Groundwater Analytical			Soil Gas Analytical	
				VOCs	PNAs	MI 10 Metals	PCBs	VOCs	PNAs	MI 10 Metals	VOCs*	PNAs**
CL-GW-TMW-1	Western portion of Site; near former release of # 5 fuel oil.	Determine if groundwater contamination exists at the Site related to former #5 fuel oil release	17.5-22.5					1	1	1		
CL-GW-TMW-2	Central portion of the Site.	Determine if groundwater contamination exists	4.5-9.5					1	1	1		
CL-GW-TMW-3	Beneath Basement	Determine if groundwater contamination exists	0-.5					1	1	1		
CL-SB-GP-1	Western Portion of Site	Determine if contamination exists related to #5 fuel oil release	8-10	1	1	1						
CL-SB-GP-2	Central portion of building	Determine if contamination exists related to historical industrial operations at the Site	2-4	1	1	1						
CL-SB-GP-4	Northeastern portion of Site	Determine if contamination exists related to historical Coal Storage/Plant at the Site	2-4	1	1	1						
CL-SB-GP-5	Northeastern portion of Site	Determine if contamination exists related to historical Coal Storage/Plant at the Site	1-3	1	1	1						
CL-SB-GP-6	Northeastern portion of Site	Determine if contamination exists related to historical Coal Storage/Plant at the Site	0.5-2.5	1	1	1						
CL-SB-GP-7	Northeastern portion of Site	Determine if contamination exists related to historical Coal Storage/Plant at the Site	1-3	1	1	1						
CL-SB-GP-8	Southeastern portion of Site/former substation	Determine if contamination exists related to historical electrical transformers	0.5-1.5				1					
CL-SB-GP-9	Southeastern portion of Site/former substation	Determine if contamination exists related to historical electrical transformers	0.5-1.5				1					
CL-SG-GP-1	Western portion of the Site; adjacent to building	Determine if volatilization to indoor concerns exist for future development	7								1	1
CL-SG-GP-2	Northwestern portion of the Site; adjacent to building	Determine if volatilization to indoor concerns exist for future development	4.5								1	1
CL-SG-GP-3	Northern portion of Site; adjacent to building	Determine if volatilization to indoor concerns exist for future development	4.5								1	1
CL-SG-GP-4	Eastern Portion in building	Determine if volatilization to indoor concerns exist for future development	1.75								1	1
CL-SG-GP-5	Central Portion of building	Determine if volatilization to indoor concerns exist for future development	10								1	1

Notes:
PNAs - polynuclear aromatic hydrocarbons (Method 8270)
VOCs - volatile organic compounds (Method 8260 plus)
MI 10 Metals-arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc
PCBs - polychlorinated biphenyls
VOCs*- volatile organic compounds (Method TO-15)
PNAs*- polynuclear aromatic hydrocarbons (Method TO-13)

Table 1 - Soil Data Summary - Validated
Phase II Environmental Site Assessment
518 S. Harbor Drive, Grand Haven, MI
December 2021

Sample Location:		SB-GP-1	SB-GP-4	SB-GP-5	SB-GP-5	SB-GP-6	SB-GP-7	SB-GP-8	SB-GP-9	SB-GP-9	Field Blank	*Statewide Default Background Levels* [1]	*Drinking Water Protection Criteria* [1]	*GSIP Criteria* [1]	*Soil Volatilization to Indoor Air Inhalation Criteria* [1]	*Infinite Source VSIC* [1]	*Finite VSIC for 5 Meter Source Thickness* [1]	*Finite VSIC for 2 Meter Source Thickness* [1]	*Particulate Soil Inhalation Criteria* [1]	*Direct Contact Criteria* [1]	*Soil Saturation Concentration SL* [1]	*Soil VIAP SL* [2]
Depth Interval (ft):		(8-10)	(2-4)	(1-3)	(1-3)	(0.5-2.5)	(1-3)	(0.5-1.5)	(0.5-1.5)	(0.5-1.5)												
Investigative/Field Duplicate/QC:		Investigative	Investigative	Investigative	Duplicate	Investigative	Investigative	Investigative	Investigative	Duplicate	QC											
Laboratory ID:		21J1205-01	21J1205-02	21J1205-03	21J1205-10	21J1205-04	21J1205-05	21J1205-06	21J1205-07	21J1205-08	21J1205-09											
Collection Date:		10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21											
Volatile Organic Compounds	***CAS Number***																					
1,1,1,2-Tetrachloroethane	630-20-6	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,500*	*ID*	*6,200*	*36,000*	*54,000*	*1.00E+05*	*4.20E+08*	*4.80E+05 (C)*	*4.40E+05*	*3.2 (M*)*
1,1,1-Trichloroethane	71-55-6	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*4,000*	*1,800*	*2.50E+05*	*3.80E+06*	*1.20E+07*	*2.80E+07*	*6.70E+10*	*5.00E+08 (C)*	*4.60E+05*	*450 (EE)*
1,1,2,2-Tetrachloroethane	79-34-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*170*	*1,600 (X)*	*4,300*	*10,000*	*10,000*	*14,000*	*5.40E+07*	*53,000*	*8.70E+05*	*2.7 (M*)*
1,1,2-Trichloroethane	79-00-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*6,600 (X)*	*4,600*	*17,000*	*21,000*	*44,000*	*1.90E+08*	*1.80E+05*	*9.20E+05*	*0.37 (M*)*
1,1-Dichloroethane	75-34-3	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*18,000*	*15,000*	*2.30E+05*	*2.10E+06*	*5.90E+06*	*1.40E+07*	*3.30E+10*	*2.70E+07 (C)*	*8.90E+05*	*2.6 (M*)*
1,1-Dichloroethene	75-35-4	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*140*	*2,600*	*62*	*1,100*	*5,300*	*13,000*	*6.20E+07*	*2.00E+05*	*5.70E+05*	*12 (M*)*
1,2,3-Trichlorobenzene	87-61-6	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	--	--	--	--	--	--	--	--	--	--	*830*
1,2,3-Trichloropropane	96-18-4	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*840*	*NA*	*4,000*	*9,200*	*9,200*	*11,000*	*2.00E+07*	*1.30E+06 (C)*	*8.30E+05*	*2.6 (M*)*
1,2,3-Trimethylbenzene	526-73-8	50 U	51 U	50 U	50 U	280	50 U	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	*270 (IT)*
1,2,4-Trichlorobenzene	120-82-1	330 U	330 U	330 U	330 U	330 U	330 U	--	--	--	330 U	*NA*	*4,200*	*5,900 (X)*	*9.60E+06 (C)*	*2.80E+07*	*2.80E+07*	*2.80E+07*	*2.50E+10*	*9.90E+05 (DD)*	*1.10E+06*	*53 (M*)*
1,2,4-Trimethylbenzene	95-63-6	100 U	100 U	100 U	100 U	340	100 U	--	--	--	100 U	*NA*	*2,100*	*570*	*4.30E+06 (C)*	*2.10E+07*	*5.00E+08*	*5.00E+08*	*8.20E+10*	*3.20E+07 (C)*	*1.10E+05*	*150 (IT)*
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	100 U	100 U	100 U	100 U	110 U	100 U	--	--	--	100 U	*NA*	*10 (M); 4.0*	*ID*	*220*	*260*	*260*	*260*	*5.60E+05*	*4,400 (C)*	*1,200*	*DATA*
1,2-Dibromoethane (EDB)	106-93-4	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*20 (M); 1.0*	*110 (X)*	*670*	*1,700*	*1,700*	*3,300*	*1.40E+07*	*92*	*8.90E+05*	*0.074 (M*)*
1,2-Dichlorobenzene	95-50-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*14,000*	*280*	*1.10E+07 (C)*	*3.90E+07*	*3.90E+07*	*5.20E+07*	*1.00E+11*	*1.90E+07 (C)*	*2.10E+05*	*1,500*
1,2-Dichloroethane	107-06-2	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*7,200 (X)*	*2,100*	*6,200*	*11,000*	*26,000*	*1.20E+08*	*91,000*	*1.20E+06*	*0.82 (M*)*
1,2-Dichloropropane	78-87-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*4,600 (X)*	*4,000*	*25,000*	*50,000*	*1.10E+05*	*2.70E+08*	*1.40E+05*	*5.50E+05*	*2.1 (M*)*
1,3,5-Trimethylbenzene	108-67-8	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,800*	*1,100*	*2.60E+06 (C)*	*1.60E+07*	*3.80E+08*	*3.80E+08*	*8.20E+10*	*3.20E+07 (C)*	*94,000*	*100 (IT)*
1,3-Dichlorobenzene	541-73-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*170*	*680*	*26,000*	*79,000*	*79,000*	*1.10E+05*	*2.00E+08*	*2.00E+05 (C)*	*1.70E+05*	*10 (M*)*
1,3-Dichloropropene, cis-	10061-01-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropene, trans-	10061-02-6	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropene (Total)	542-75-6	100 U	102 U	100 U	100 U	110 U	100 U	--	--	--	100 U	*NA*	*170*	*180 (X)*	*1,000*	*18,000*	*68,000*	*1.60E+05*	*7.80E+08*	*10,000*	*6.20E+05*	*3.1 (J,M*)*
1,4-Dichlorobenzene	106-46-7	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,700*	*360*	*19,000*	*77,000*	*77,000*	*1.10E+05*	*4.50E+08*	*4.00E+05*	*NA*	*23 (M*)*
2-Butanone (MEK)	78-93-3	750 U	760 U	750 U	760 U	820 U	750 U	--	--	--	750 U	*NA*	*2.60E+05*	*44,000*	*5.40E+07 (C)*	*2.90E+07*	*2.90E+07*	*3.50E+07*	*6.70E+10*	*1.20E+08 (C,DD)*	*2.70E+07*	*31,000 (DD*)*
2-Hexanone	591-78-6	2,500 U	2,500 U	2,500 U	2,500 U	2,700 U	2,500 U	--	--	--	2,500 U	*NA*	*20,000*	*ID*	*9.90E+05*	*1.10E+06*	*1.10E+06*	*1.40E+06*	*2.70E+09*	*3.20E+07 (C)*	*2.50E+06*	*210 (M*)*
2-Methylnaphthalene	91-57-6	330 U	330 U	330 U	330 U	910	330 U	--	--	--	330 U	*NA*	*57,000*	*4,200*	*2.70E+06*	*1.50E+06*	*1.50E+06*	*1.50E+06*	*6.70E+08*	*8.10E+06*	*NA*	*1,700*
4-Isopropyltoluene	99-87-6	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	108-10-1	2,500 U	2,500 U	2,500 U	2,500 U	2,700 U	2,500 U	--	--	--	2,500 U	*NA*	*36,000*	*ID*	*3.70E+07 (C)*	*4.50E+07*	*4.50E+07*	*6.70E+07*	*1.40E+11*	*5.60E+07 (C)*	*2.70E+06*	*3,300*
Acetone	67-64-1	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	1,000 U	--	--	--	1,000 U	*NA*	*15,000*	*34,000*	*2.90E+08 (C)*	*1.30E+08*	*1.30E+08*	*1.90E+08*	*3.90E+11*	*2.30E+07*	*1.10E+08*	*2.60E+05 (EE)*
Acrylonitrile	107-13-1	100 U	100 U	100 U	100 U	110 U	100 U	--	--	--	100 U	*NA*	*100 (M); 52*	*100 (M); 40*	*6,600*	*5,000*	*5,100*	*10,000*	*4.60E+07*	*16,000*	*8.30E+06*	*1.2 (M*)*
Benzene	71-43-2	50 U	51 U	50 U	50 U	91	50 U	--	--	--	50 U	*NA*	*100*	*4,000 (X)*	*1,600*	*13,000*	*34,000*	*79,000*	*3.80E+08*	*1.80E+05*	*4.00E+05*	*1.7 (M*)*
Bromobenzene	108-86-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*550*	*NA*	*3.10E+05*	*4.50E+05*	*4.50E+05*	*4.50E+05*	*5.30E+08*	*5.40E+05*	*7.60E+05*	*160*
Bromochloromethane	74-97-5	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	--	--	--	--	--	--	--	--	--	---	--
Bromodichloromethane	75-27-4	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,600 (W)*	*ID*	*1,200*	*9,100*	*9,700*	*19,000*	*8.40E+07*	*1.10E+05*	*1.50E+06*	*0.61 (M*)*
Bromoform	75-25-2	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,600 (W)*	*ID*	*1.50E+05*	*9.00E+05*	*9.00E+05*	*9.00E+05*	*2.80E+09*	*8.20E+05*	*8.70E+05*	*45 (M*)*
Bromomethane	74-83-9	200 U	200 U	200 U	200 U	200 U	200 U	--	--	--	200 U	*NA*	*200*	*100*	*860*	*11,000*	*57,000*	*1.40E+05*	*3.30E+08*	*3.20E+05*	*2.20E+06*	*0.90 (M*)*
Carbon disulfide	75-15-0	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	*NA*	*16,000*	*ID*	*76,000*	*1.30E+06*	*7.90E+06*	*1.90E+07*	*4.70E+10*	*7.20E+06 (C,DD)*	*2.80E+05*	*52 (M*)*
Carbon tetrachloride	56-23-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*760 (X)*	*190*	*3,500*	*12,000*	*28,000*	*1.30E+08*	*96,000*	*3.90E+05*	*0.31 (M*)*
Chlorobenzene	108-90-7	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*2,000*	*500*	*1.20E+05*	*7.70E+05*	*9.90E+05*	*2.10E+06*	*4.70E+09*	*4.30E+06 (C)*	*2.60E+05*	*82*
Chloroethane	75-00-3	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*8,600*	*22,000 (X)*	*2.90E+06 (C)*	*3.00E+07*	*1.20E+08*	*2.80E+08*	*6.70E+11*	*2.60E+06 (C)*	*9.50E+05*	*330*
Chloroform	67-66-3	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*1,600 (W)*	*7,000*	*7,200*	*45,000*	*1.20E+05*	*2.70E+05*	*1.30E+09*	*1.20E+06*	*1.50E+06*	*0.26 (M*)*
Chloromethane	74-87-3	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*5,200*	*ID*	*2,300*	*40,000*	*4.10E+05*	*1.00E+06*	*4.90E+09*	*1.60E+06 (C)*	*1.10E+06*	*6.9 (M*)*
cis-1,2-Dichloroethene	156-59-2	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*1,400*	*12,000*	*22,000*	*1.80E+05*	*4.20E+05*	*9.90E+05*	*2.30E+09*	*2.50E+06 (C)*	*6.40E+05*	*2.1 (M*)*
Cyclohexane	110-82-7	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	--	--	--	--	--	--	--	--	--	--	*320 (M*)*
Dibromochloromethane	124-48-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,600 (W)*	*ID*	*3,900*	*24,000*	*24,000*	*33,000*	*1.30E+08*	*1.10E+05*	*6.10E+05*	*0.40 (M*,MM)*
Dibromomethane	74-95-3	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*1,600*	*NA*	*ID*	*ID*	*ID*	*ID*	*ID*	*2.50E+06 (C)*	*2.00E+06*	*3.5 (M*)*
Dichlorodifluoromethane	75-71-8	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*95,000*	*ID*	*9.00E+05*	*5.30E+07*	*5.50E+08*	*1.40E+09*	*3.30E+12*	*5.20E+07 (C)*	*1.00E+06*	*12 (M*)*
Diethyl ether	60-29-7	200 U	200 U	200 U	200 U	220 U	200 U	--	--	--	200 U	*NA*	*200*	*ID*	*2.80E+07 (C)*	*8.50E+07*	*1.50E+08*	*3.40E+08*	*8.00E+11*	*1.10E+08 (C)*	*7.40E+06*	*350*
Diisopropyl ether	108-20-3	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	*NA*	*600*	*ID*	*6.70E+05 (C)*	*3.40E+05*	*7.60E+05*	*1.80E+06*	*4.10E+09*	*9.20E+05 (C)*	*1,300*	*190 (M*,DD*)*
Ethyl-tert-butyl ether (ETBE)	637-92-3	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	*NA*	*980*	*ID*	*5.40E+05*	*1.90E+06*	*4.50E+06*	*1.10E+07*	*2.50E+10*	*ID*	*6.50E+05*	*DATA*
Ethylbenzene	100-41-4	50 U	51 U	50 U	50 U	200	50 U	--	--	--	50 U	*NA*	*1,500*	*360*	*87,000*	*7.20E+05*	*1.00E+06*	*2.20E+06*	*1.00E+10*	*2.20E+07 (C)*	*1.40E+05*	*12 (M*)*
Hexachloroethane	67-72-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*430*	*1,800 (X)*	*40,000*	*5.50E+05*	*9.30E+05*	*9.30E+05*	*2.30E+08*	*2.30E+05*	*NA*	*3.2 (M*)*
Iodomethane	74-88-4	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	--	--	--	--	--	--	--	--	--	--	--
Isopropyl benzene (Cumene)	98-82-8	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*91,000*	*3,200*	*4.00E+05 (C)*	*1.70E+06*	*1.70E+06*	*2.80E+06*	*5.80E+09*	*2.50E+07 (C)*	*3.90E+05*	*3.8 (M*)*
Methyl-tert-butyl ether (MTBE)	1634-04-4	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	*NA*	*800*	*1.40E+05 (X)*	*9.90E+06 (C)*	*2.50E+07*	*3.90E+07*	*8.70E+07*	*2.00E+11*	*1.50E+06*	*5.90E+06*	*74 (M*)*
Methylene chloride	75-09-2	250 U	250 U	250 U	250 U	250 U	250 U	--	--	--	250 U	*NA*	*100*	*30,000 (X)*	*45,000*	*2.10E+05*	*5.90E+05*	*1.40E+06*	*6.60E+09*	*1.30E+06*	*2.30E+06*	*130*
n-Butylbenzene	104-51-8	50 U	51 U	50 U	50 U	62	50 U	--	--	--	50 U	*NA*	*1,600*	*ID*	*ID*	*ID*	*ID*	*ID*	*2.00E+09*	*2.50E+06*	*1.00E+07*	*550*
n-Propylbenzene	103-65-1	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*1,600*	*ID*	*ID*	*ID*	*ID*	*ID*	*1.30E+09*	*2.50E+06*	*1.00E+07*	*1,800 (DD*)*
Naphthalene	91-20-3	330 U	330 U	330 U	330 U	**860**	330 U	--	--	--	330 U	*NA*	*35,000*	*730*	*2.50E+05*	*3.00E+05*	*3.00E+05*	*3.00E+05*	*2.00E+08*	*1.60E+07*	*NA*	*67 (M*)*
sec-Butylbenzene	135-98-8	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*1,600*	*ID*	*ID*	*ID*	*ID*	*ID*	*4.00E+08*	*2.50E+06*	*1.00E+07*	*3,800*
Styrene	100-42-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*2,700*	*2,100 (X)*	*2.50E+05*	*9.70E+05*	*9.70E+05*	*1.40E+06*	*5.50E+09*	*4.00E+05*	*5.20E+05*	*150*
t-Amyl methyl ether (TAME)	994-05-8	250 U	250 U	250 U	250 U	270 U	250 U	--	--	--	250 U	*NA*	*3,900*	*NA*	*58,000*	*3.40E+05*	*7.60E+05*	*1.80E+06*	*4.10E+09*	*2.90E+07 (C)*	*4.40E+05*	*34 (M*)*
t-Butyl alcohol	75-65-0	2,500 U	2,500 U	2,500 U	2,500 U	2,700 U	2,500 U	--	--	--	2,500 U	*NA*	*78,000*	*NA*	*3.10E+08 (C)*	*9.70E+07*	*2.00E+08*	*2.00E+08*	*1.30E+11*	*1.20E+08 (C)*	*1.10E+08*	*3,200*
t-Butylbenzene	98-06-6	50 U	51 U	50 U	50 U	61	50 U	--	--	--	50 U	*NA*	*1,600*	*ID*	*ID*	*ID*	*ID*	*ID*	*6.70E+08*	*2.50E+06*	*1.00E+07*	*0.64 (M*)*
Tetrachloroethene	127-18-4	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*1,200 (X)*	*11,000*	*1.70E+05*	*4.80E+05*	*1.10E+06*	*2.70E+09*	*2.00E+05 (C)*	*88,000*	*6.2 (M*,EE)*
Tetrahydrofuran	109-99-9	1,000 U	1,000 U	1,000 U	1,000 U	1,100 U	1,000 U	--	--	--	1,000 U	*NA*	*1,900*	*2.20E+05 (X)*	*1.30E+06*	*1.30E+07*	*6.70E+07*	*1.60E+08*	*3.90E+11*	*2.90E+06*	*1.20E+08*	*13,000*
Toluene	108-88-3	100 U	100 U	100 U	100 U	880	100 U	--	--	--	100 U	*NA*	*16,000*	*5,400*	*3.30E+05 (C)*	*2.80E+06*	*5.10E+06*	*1.20E+07*	*2.70E+10*	*5.00E+07 (C)*	*2.50E+05*	*3,700*
trans-1,2-Dichloroethene	156-60-5	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*2,000*	*30,000 (X)*	*23,000*	*2.80E+05*	*8.30E+05*	*2.00E+06*	*4.70E+09*	*3.80E+06 (C)*	*1.40E+06*	*12 (M*)*
trans-1,4-Dichloro-2-butene	110-57-6	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	79-01-6	50 U	51 U	50 U	50 U	55 U	50 U	--	--	--	50 U	*NA*	*100*	*4,000 (X)*	*1,000*	*11,000*	*25,000*	*57,000*	*1.30E+08*	*1.10E+05 (DD)*	*5.00E+05*	*0.33 (M*,DD*)*
Trichlorofluoromethane	75-69-4	100 U	100 U	100 U	100 U	100 U	100 U	--	--	--	100 U	*NA*	*52,000*	*NA*	*2.80E+06 (C)*	*9.20E+07*	*6.30E+08*	*1.50E+09*	*3.80E+12*	*7.90E+07 (C)*	*5.60E+05*	*19 (M*)*
Vinyl chloride	75-01-4	40 U	41 U	40 U	40 U	44 U	40 U	--	--	--	40 U	*NA*	*40*	*260 (X)*	*270*	*4,200*	*30,000*	*73,000*	*3.50E+08*	*3,800*	*4.90E+05*	*0.082 (M*,MM)*
Xylenes, meta- & para-	179601-23-1	100 U	100 U	100 U	100 U	860	100 U	--	--	--	100 U	--	--	--	--	--	--	--	--	--	--	--
Xylene, ortho-	95-47-6	50 U	51 U	50 U	50 U	590	50 U	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	--
Xylenes, Total	1330-20-7	150 U	150 U	150 U	150 U	**1,500**	150 U	--	--	--	150 U	*NA*	*5,600*	*980*	*6.30E+06 (C)*	*4.60E+07*	*6.10E+07*	*1.30E+08*	*2.90E+11*	*4.10E+08 (C)*	*1.50E+05*	*280 (J)*

Table 1 - Soil Data Summary - Validated
Phase II Environmental Site Assessment
518 S. Harbor Drive, Grand Haven, MI
December 2021

Sample Location:		SB-GP-1	SB-GP-4	SB-GP-5	SB-GP-5	SB-GP-6	SB-GP-7	SB-GP-8	SB-GP-9	SB-GP-9	Field Blank	*Statewide Default Background Levels* [1]	*Drinking Water Protection Criteria* [1]	*GSIP Criteria* [1]	*Soil Volatilization to Indoor Air Inhalation Criteria* [1]	*Infinite Source VSIC* [1]	*Finite VSIC for 5 Meter Source Thickness* [1]	*Finite VSIC for 2 Meter Source Thickness* [1]	*Particulate Soil Inhalation Criteria* [1]	*Direct Contact Criteria* [1]	*Soil Saturation Concentration SL* [1]	*Soil VIAP SL* [2]
Depth Interval (ft):		(8-10)	(2-4)	(1-3)	(1-3)	(0.5-2.5)	(1-3)	(0.5-1.5)	(0.5-1.5)	(0.5-1.5)												
Investigative/Field Duplicate/QC:		Investigative	Investigative	Investigative	Duplicate	Investigative	Investigative	Investigative	Investigative	Duplicate	QC											
Laboratory ID:		21J1205-01	21J1205-02	21J1205-03	21J1205-10	21J1205-04	21J1205-05	21J1205-06	21J1205-07	21J1205-08	21J1205-09											
Collection Date:		10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21											
Polynuclear Aromatic Compounds	***CAS Number***																					
2-Methylnaphthalene	91-57-6	330 U	330 U	330 U	330 U	2,700	330 U	--	--	--	--	*NA*	*57,000*	*4,200*	*2.70E+06*	*1.50E+06*	*1.50E+06*	*1.50E+06*	*6.70E+08*	*8.10E+06*	*NA*	*1,700*
Acenaphthene	83-32-9	330 U	330 U	330 U	330 U	920 U	330 U	--	--	--	--	*NA*	*3.00E+05*	*8,700*	*1.90E+08*	*8.10E+07*	*8.10E+07*	*8.10E+07*	*1.40E+10*	*4.10E+07*	*NA*	*2.00E+05*
Acenaphthylene	208-96-8	330 U	330 U	330 U	330 U	920 U	330 U	--	--	--	--	*NA*	*5,900*	*ID*	*1.60E+06*	*2.20E+06*	*2.20E+06*	*2.20E+06*	*2.30E+09*	*1.60E+06*	*NA*	*DATA*
Anthracene	120-12-7	330 U	330 U	330 U	330 U	920 U	330 U	--	--	--	--	*NA*	*41,000*	*ID*	*1.00E+09*	*1.40E+09*	*1.40E+09*	*1.40E+09*	*6.70E+10*	*2.30E+08*	*NA*	*1.30E+07*
Benzo(a)anthracene	56-55-3	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*ID*	*20,000*	*NA*	*1.60E+05 (MM)*
Benzo(a)pyrene	50-32-8	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*1.50E+06*	*2,000*	*NA*	*NA*
Benzo(b)fluoranthene	205-99-2	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*ID*	*ID*	*ID*	*ID*	*ID*	*20,000*	*NA*	*NA*
Benzo(g,h,i)perylene	191-24-2	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*8.00E+08*	*2.50E+06*	*NA*	*NA*
Benzo(k)fluoranthene	207-08-9	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*ID*	*2.00E+05*	*NA*	*NA*
Chrysene	218-01-9	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*ID*	*ID*	*ID*	*ID*	*ID*	*2.00E+06*	*NA*	*NA*
Dibenzo(a,h)anthracene	53-70-3	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*ID*	*2,000*	*NA*	*NA*
Fluoranthene	206-44-0	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*7.30E+05*	*5,500*	*1.00E+09*	*7.40E+08*	*7.40E+08*	*7.40E+08*	*9.30E+09*	*4.60E+07*	*NA*	*NA*
Fluorene	86-73-7	330 U	330 U	330 U	330 U	920 U	330 U	--	--	--	--	*NA*	*3.90E+05*	*5,300*	*5.80E+08*	*1.30E+08*	*1.30E+08*	*1.30E+08*	*9.30E+09*	*2.70E+07*	*NA*	*4.70E+05*
Indeno(1,2,3-cd)pyrene	193-39-5	330 U	330 U	330 U	330 U	370 U	330 U	--	--	--	--	*NA*	*NLL*	*NLL*	*NLV*	*NLV*	*NLV*	*NLV*	*ID*	*20,000*	*NA*	*NA*
Naphthalene	91-20-3	330 U	330 U	330 U	330 U	**1,800**	330 U	--	--	--	--	*NA*	*35,000*	*730*	*2.50E+05*	*3.00E+05*	*3.00E+05*	*3.00E+05*	*2.00E+08*	*1.60E+07*	*NA*	*67 (M*)*
Phenanthrene	85-01-8	330 U	330 U	330 U	330 U	1,100	330 U	--	--	--	--	*NA*	*56,000*	*2,100*	*2.80E+06*	*1.60E+05*	*1.60E+05*	*1.60E+05*	*6.70E+06*	*1.60E+06*	*NA*	*1,700*
Pyrene	129-00-0	330 U	330 U	330 U	330 U	920 U	330 U	--	--	--	--	*NA*	*4.80E+05*	*ID*	*1.00E+09 (D)*	*6.50E+08*	*6.50E+08*	*6.50E+08*	*6.70E+09*	*2.90E+07*	*NA*	*2.50E+07*
Polychlorinated Biphenyls	***CAS Number***																					
PCB 1016	12674-11-2	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1221	11104-28-2	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1232	11141-16-5	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1242	53469-21-9	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1248	12672-29-6	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1254	11097-69-1	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
PCB 1260	11096-82-5	--	--	--	--	--	--	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs (J)	1336-36-3	--	--	--	--	--	--	330 U	330 U	330 U	--	*NA*	*NLL*	*NLL*	*3.00E+06*	*2.40E+05*	*7.90E+06*	*7.90E+06*	*5.20E+06*	*(T)*	*NA*	*DATA*
Metals, Total	***CAS Number***																					
Arsenic (B)	7440-38-2	2,000 U	2,000 U	2,000 U	2,000 U	**6,100**	2,000 U	--	--	--	--	*5,800*	*4,600*	*4,600*	*NLV*	*NLV*	*NLV*	*NLV*	*7.20E+05*	*7,600*	*NA*	*NA*
Barium (B)	7440-39-3	2,500	4,600	5,000	4,500	29,000	7,700	--	--	--	--	*75,000*	*1.30E+06*	*4.40E+05 (G)*	*NLV*	*NLV*	*NLV*	*NLV*	*3.30E+08*	*3.70E+07*	*NA*	*NA*
Cadmium (B)	7440-43-9	200 U	200 U	210 U	200 U	210 U	210 U	--	--	--	--	*1,200*	*6,000*	*3,600 (G,X)*	*NLV*	*NLV*	*NLV*	*NLV*	*1.70E+06*	*5.50E+05*	*NA*	*NA*
Chromium, Total (B, H)	7440-47-3	2,100	2,000 U	2,000 U	2,000 U	*3,700*	2,400	--	--	--	--	*18,000 (total)*	*1.00E+09 (D)*	*2.90E+09 (G,X)*	*NLV*	*NLV*	*NLV*	*NLV*	*3.30E+08*	*7.90E+08*	*NA*	*NA*
Copper (B)	7440-50-8	1,000 U	1,000 U	1,000 U	1,000 U	**83,000**	1,600 J	--	--	--	--	*32,000*	*5.80E+06*	*75,000 (G)*	*NLV*	*NLV*	*NLV*	*NLV*	*1.30E+08*	*2.00E+07*	*NA*	*NA*
Lead (B)	7439-92-1	1,000 U	1,700	2,000	2,300	22,000	1,700 J	--	--	--	--	*21,000*	*7.00E+05*	*5.10E+06 (G,X)*	*NLV*	*NLV*	*NLV*	*NLV*	*1.00E+08*	*4.00E+05*	*NA*	*NA*
Mercury (Total) (B)	7439-97-6	50 U	50 U	50 U	50 U	50 U	50 U	--	--	--	--	*130*	*1,700*	*50 (M); 1.2*	*48,000*	*52,000*	*52,000*	*52,000*	*2.00E+07*	*1.60E+05*	*NA*	*22 (M*)*
Selenium (B)	7782-49-2	610 U	600 U	630 U	560 U	**1,900**	640 U	--	--	--	--	*410*	*4,000*	*400*	*NLV*	*NLV*	*NLV*	*NLV*	*1.30E+08*	*2.60E+06*	*NA*	*NA*
Silver (B)	7440-22-4	510 U	500 U	530 U	460 U	530 U	530 U	--	--	--	--	*1,000*	*4,500*	*100 (M); 27*	*NLV*	*NLV*	*NLV*	*NLV*	*6.70E+06*	*2.50E+06*	*NA*	*NA*
Zinc (B)	7440-66-6	15,000	5,000 J	4,800 J	4,200 J	13,000 J	4,800 J	--	--	--	--	*47,000*	*2.40E+06*	*1.70E+05 (G)*	*NLV*	*NLV*	*NLV*	*NLV*	*ID*	*1.70E+08*	*NA*	*NA*
Solids, Total (%)	--	*96*	*97*	*97*	*98*	*90*	*96*	*93*	*95*	*95*	--	--	--	--	--	--	--	--	--	--	--	--

Results expressed in µg/Kg dry weight.
Bolded values exceed Statewide Default Background Level and an applicable criterion or screening level
Italicized values are below Statewide Default Background Level but exceed an applicable criterion or screening level
Underlined parameters are classified as Polynuclear Aromatic Compounds.

Data Qualifiers:
J Estimated value
U Not detected

Footnotes/Abbreviations:
[1] *Part 201 Residential Soil Generic Cleanup Criteria and Screening Levels/Part 213 Risk-based Screening Levels, December 30, 2013 (GSI Criteria Updated June 25, 2018).*
[2] *EGLE Volatilization to Indoor Air Pathway Screening Levels, September 4, 2020.*
(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated criterion
(C) Value is screening level based on the chemical-specific generic soil saturation concentration (Csat).
(D) Calculated criterion exceeds 100 percent; hence it is reduced to 100 percent or 1.00E+09 parts per billion (ppb)
(G) Criterion dependent on receiving surface water (SW) hardness; calculated criteria based on water hardness of 150 mg/L
(H) Data provided for total chromium only; evaluated against hexavalent chromium criteria
(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to criteria
(JT) Hazardous substance may be present in several isomer forms. The VIAP SL may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive VIAP SL of the detected isomer
(M) Calculated criterion is below the target detection limit (TDL); first number is the criterion (TDL), the second is the risk-based value
(M*) The VIAP SL may be below TDL. In accordance with Sec. 20120a(10) when the TDL for a hazardous substance is greater than the developed VIAP SL, the TDL is used to evaluate the risk posed from the pathway.
(T) Refer to federal Toxic Substances Control Act (TSCA), 40 CFR 761 Subparts D and G, to determine applicability of TSCA cleanup standards
(W) Concentrations of trihalomethanes must be added together to determine compliance with criterion
(X) Criterion is not protective for SW used as a drinking water (DW) source.
(DD) Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure
(DD*) Hazardous substance causes developmental effects. Residential VIAP SLs are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Prenatal developmental effects may occur after an acute (i.e. short- term) or full-term exposure
(EE) The acceptable air concentration (AAC) for the volatile hazardous substances is not derived using standard equations. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for these hazardous substances is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a USEPA Integrated Risk Information System (IRIS) acute reference concentration, or an acute initial threshold screening level (ITSL) by the EGLE's Air Quality Division.
(MM) Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating VIAP SLs are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic
DATA Insufficient physical chemical parameters to calculate a VIAP SL for specified media. If detections are present in specified media, health-based soil vapor value should be used to evaluate risk
GSIP groundwater surface water interface protection
ID Insufficient data to develop criterion.
NA not available
NLL Not likely to leach under most soil conditions.
NLV Not likely to volatilize under most conditions.
SL screening level
VIAP volatilization to indoor air pathway
VSIC volatile soil inhalation criteria

Table 3 - Groundwater Data Summary - Validated
Phase II Environmental Site Assessment
518 S. Harbor Drive, Grand Haven, MI
December 2021

Monitoring Location:		TMW-1(20')	TMW-2(4.5-9.5'	TMW-2(4.5-9.5' Duplicate	TMW-3(1-1.5')	Trip Blank	Equip. Blank	SB-Equip. Blank	*Residential DWC [1]*	*GSI Criteria [1]*	*Residential Groundwater VIAIC [1]*	*Water Solubility [1]*	*Flammability and Explosivity SL [1]*	*Residential GW-Shallow VIAP SL [2]*	*Residential GW-Not in Contact VIAP SL [2]*
Field Duplicate:															
Laboratory ID:		21J1202-01	21J1202-02	21J1202-03	21J1202-06	21J1202-04	21J1202-05	21J1202-07							
Collection Date:		10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21							
Volatile Organic Compounds	***CAS Number***														
1,1,1,2-Tetrachloroethane	630-20-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*77*	*ID*	*15,000*	*1.10E+06*	*ID*	*3.1*	*89.0*
1,1,1-Trichloroethane	71-55-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*200 (A)*	*89*	*6.60E+05*	*1.33E+06*	*ID*	*180 (FF*)*	*17,000 (EE*)*
1,1,2,2-Tetrachloroethane	79-34-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*8.5*	*78 (X)*	*12,000*	*2.97E+06*	*ID*	*2.4*	*71*
1,1,2-Trichloroethane	79-00-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*330 (X)*	*17,000*	*4.42E+06*	*NA*	*0.47 (M*)*	*14*
1,1-Dichloroethane	75-34-3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*880*	*740*	*1.00E+06*	*5.06E+06*	*3.80E+05*	*4.7*	*130*
1,1-Dichloroethene	75-35-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*7.0 (A)*	*130*	*200*	*2.25E+06*	*97,000*	*18*	*330*
1,2,3-Trichlorobenzene	87-61-6	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	--	--	--	--	*58*	*1,700*
1,2,3-Trichloropropane	96-18-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*42*	*NA*	*8,300*	*1.90E+06*	*NA*	*1.9*	*57.0*
1,2,3-Trimethylbenzene	526-73-8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	*43 (JT)*	*1,200 (JT)*
1,2,4-Trichlorobenzene	120-82-1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*70 (A)*	*99 (X)*	*3.00E+05 (S)*	*3.00E+05*	*NA*	*3.8 (M*)*	*110*
1,2,4-Trimethylbenzene	95-63-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*63/1,000 (E)*	*17*	*56,000 (S)*	*55,890*	*56,000 (S)*	*25 (JT)*	*670 (JT)*
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*0.20 (A)*	*ID*	*220*	*1,230*	*NA*	*0.00045 (M*,MM)*	*0.00045 (CC*,M*,MM)*
1,2-Dibromoethane (EDB)	106-93-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*0.050 (A)*	*5.7 (X)*	*2,400*	*4.20E+06*	*ID*	*0.13*	*3.8*
1,2-Dichlorobenzene	95-50-1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*600 (A)*	*13*	*1.60E+05 (S)*	*1.56E+05*	*NA*	*370*	*11,000*
1,2-Dichloroethane	107-06-2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*360 (X)*	*9,600*	*8.52E+06*	*2.50E+06*	*1.4*	*41*
1,2-Dichloropropane	78-87-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*230 (X)*	*16,000*	*2.80E+06*	*5.50E+05*	*2.6*	*74.0*
1,3,5-Trimethylbenzene	108-67-8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*72/1,000 (E)*	*45*	*61,000 (S)*	*61,150*	*ID*	*18 (JT)*	*470 (JT)*
1,3-Dichlorobenzene	541-73-1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*6.6*	*28*	*18,000*	*1.11E+05*	*ID*	*2.6*	*75*
1,3-Dichloropropene, cis-	10061-01-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
1,3-Dichloropropene, trans-	10061-02-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
1,3-Dichloropropene (Total)	542-75-6	2 U	2 U	2 U	2 U	2 U	2 U	2 U	*8.5*	*9.0 (X)*	*3,900*	*2.80E+06*	*1.30E+05*	*3.3 (J)*	*95 (J)*
1,4-Dichlorobenzene	106-46-7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*75 (A)*	*17*	*16,000*	*73,800*	*NA*	*5.9*	*170*
2-Butanone (MEK)	78-93-3	25 U	25 U	25 U	25 U	25 U	25 U	25 U	*13,000*	*2,200*	*2.40E+08 (S)*	*2.40E+08*	*ID*	*2,600 (DD)*	*4.30E+06 (DD)*
2-Hexanone	591-78-6	50 U	50 U	50 U	50 U	50 U	50 U	50 U	*1,000*	*ID*	*4.20E+06*	*1.60E+07*	*NA*	*660*	*20,000*
2-Methylnaphthalene	91-57-6	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*260*	*19*	*25,000 (S)*	*24,600*	*ID*	*66*	*2,000*
4-Isopropyltoluene	99-87-6	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	108-10-1	50 U	50 U	50 U	50 U	50 U	50 U	50 U	*1,800*	*ID*	*2.00E+07 (S)*	*2.00E+07*	*ID*	*660*	*20,000*
Acetone	67-64-1	50 U	50 U	50 U	50 U	50 U	50 U	50 U	*730*	*1,700*	*1.00E+09 (D,S)*	*1.00E+09*	*1.50E+07*	*50,000 (FF*)*	*50,000*
Acrylonitrile	107-13-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	*2.6*	*2.0 (M); 1.2*	*34,000*	*7.50E+07*	*6.40E+06*	*4.6*	*140*
Benzene	71-43-2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*200 (X)*	*5,600*	*1.75E+06*	*68,000*	*1.0*	*28*
Bromobenzene	108-86-1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*18*	*NA*	*1.80E+05*	*4.13E+05*	*ID*	*62*	*1,800*
Bromochloromethane	74-97-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80 (A,W)*	*ID*	*4,800*	*6.74E+06*	*ID*	*1.2*	*34*
Bromoform	75-25-2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80 (A,W)*	*ID*	*4.70E+05*	*3.10E+06*	*ID*	*89*	*2,700*
Bromomethane	74-83-9	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*10*	*5.0 (M); 4.2*	*4,000*	*1.45E+07*	*ID*	*2.1 (M*)*	*55*
Carbon Disulfide	75-15-0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*800*	*ID*	*2.50E+05*	*1.19E+06*	*13,000*	*92*	*2,100*
Carbon Tetrachloride	56-23-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*38 (X)*	*370*	*7.93E+05*	*ID*	*0.41 (M*)*	*7.7*
Chlorobenzene	108-90-7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*100 (A)*	*25*	*2.10E+05*	*4.72E+05*	*1.60E+05*	*33*	*940*
Chloroethane	75-00-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*430*	*1,100 (X)*	*5.70E+06 (S)*	*5.74E+06*	*1.10E+05*	*620*	*15,000*
Chloroform	67-66-3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80 (A,W)*	*350*	*28,000*	*7.92E+06*	*ID*	*0.49 (M*)*	*14*
Chloromethane	74-87-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*260*	*ID*	*8,600*	*6.34E+06*	*36,000*	*15*	*380*
cis-1,2-Dichloroethene	156-59-2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*70 (A)*	*620*	*93,000*	*3.50E+06*	*5.30E+05*	*3.4*	*95.0*
Cyclohexane	110-82-7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	--	--	--	--	*290*	*2,000*
Dibromochloromethane	124-48-1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*80 (A,W)*	*ID*	*14,000*	*2.60E+06*	*ID*	*0.78 (M*,MM)*	*23 (MM)*
Dibromomethane	74-95-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*80*	*NA*	*ID*	*1.10E+07*	*ID*	*8.8*	*260*
Dichlorodifluoromethane	75-71-8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*1,700*	*ID*	*2.20E+05*	*3.00E+05*	*ID*	*13*	*49*
Diethyl Ether	60-29-7	10 U	10 U	10 U	10 U	10 U	10 U	10 U	*10/3,700 (E)*	*ID*	*6.10E+07 (S)*	*6.10E+07*	*6.50E+05*	*1,200*	*36,000*
Diisopropyl ether	108-20-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*30*	*ID*	*8,000 (S)*	*8,041*	*8,000 (S)*	*36 (DD)*	*13,000 (DD)*
Ethyl-tert-butyl ether (ETBE)	637-92-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*49 (E)*	*ID*	*2.90E+06*	*5.63E+06*	*ID*	*22*	*22 (CC*)*
Ethylbenzene	100-41-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*74/700 (E)*	*18*	*1.10E+05*	*1.69E+05*	*43,000*	*2.8*	*74*
Hexachloroethane	67-72-1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*7.3*	*6.7 (X)*	*27,000*	*50,000*	*ID*	*1.5 (M*)*	*43*
Iodomethane	74-88-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
Isopropylbenzene (Cumene)	98-82-8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*800*	*28*	*56,000 (S)*	*56,000*	*29,000*	*0.60 (M*)*	*15*

Table 3 - Groundwater Data Summary - Validated
Phase II Environmental Site Assessment
518 S. Harbor Drive, Grand Haven, MI
December 2021

Monitoring Location:		TMW-1(20')	TMW-2(4.5-9.5'	TMW-2(4.5-9.5' Duplicate	TMW-3(1-1.5')	Trip Blank	Equip. Blank	SB-Equip. Blank	*Residential DWC [1]*	*GSI Criteria [1]*	*Residential Groundwater VIAIC [1]*	*Water Solubility [1]*	*Flammability and Explosivity SL [1]*	*Residential GW-Shallow VIAP SL [2]*	*Residential GW-Not in Contact VIAP SL [2]*
Field Duplicate:															
Laboratory ID:		21J1202-01	21J1202-02	21J1202-03	21J1202-06	21J1202-04	21J1202-05	21J1202-07							
Collection Date:		10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21							
Methyl tert-Butyl Ether (MTBE)	1634-04-4	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*40/240 (E)*	*7,100 (X)*	*4.70E+07 (S)*	*4.68E+07*	*ID*	*250*	*7,400*
Methylene Chloride	75-09-2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*5.0 (A)*	*1,500 (X)*	*2.20E+05*	*1.70E+07*	*ID*	*79 (FF*)*	*8,400*
n-Butylbenzene	104-51-8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80*	*ID*	*ID*	*NA*	*ID*	*44*	*1,100*
n-Propylbenzene	103-65-1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80*	*ID*	*ID*	*NA*	*ID*	*43 (DD)*	*6,100 (DD)*
Naphthalene	91-20-3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*520*	*11*	*31,000 (S)*	*31,000*	*NA*	*4.2 (M*)*	*130*
sec-Butylbenzene	135-98-8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*80*	*ID*	*ID*	*NA*	*ID*	*270*	*8,100*
Styrene	100-42-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*100 (A)*	*80 (X)*	*1.70E+05*	*3.10E+05*	*1.40E+05*	*33*	*960*
t-Amyl Methyl ether (TAME)	994-05-8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	*190/910 (E)*	*NA*	*2.60E+05*	*2.64E+06*	*NA*	*82*	*2,400*
t-Butyl alcohol	75-65-0	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*3,900*	*NA*	*1.00E+09 (D,S)*	*1.00E+09*	*6.10E+07*	*17,000*	*5.10E+05*
t-Butylbenzene	98-06-6	50 U	50 U	50 U	50 U	50 U	50 U	50 U	*80*	*ID*	*ID*	*NA*	*ID*	*0.077 (M*)*	*1.8*
Tetrachloroethene (PCE)	127-18-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*60 (X)*	*25,000*	*2.00E+05*	*ID*	*1.5 (FF*)*	*130 (EE*)*
Tetrahydrofuran	109-99-9	90 U	90 U	90 U	90 U	90 U	90 U	90 U	*95*	*11,000 (X)*	*6.90E+06*	*1.00E+09*	*60,000*	*45,000*	*1.40E+06*
Toluene	108-88-3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*790/1,000 (E)*	*270*	*5.30E+05 (S)*	*5.26E+05*	*61,000*	*300 (FF*)*	*41,000*
trans-1,2-Dichloroethene	156-60-5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*100 (A)*	*1,500 (X)*	*85,000*	*6.30E+06*	*2.30E+05*	*16*	*390*
trans-1,4-Dichloro-2-butene	110-57-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
Trichloroethene (TCE)	79-01-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*5.0 (A)*	*200 (X)*	*2,200*	*1.10E+06*	*ID*	*0.073 (M*,DD)*	*10 (DD)*
Trichlorofluoromethane	75-69-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*2,600*	*NA*	*1.10E+06 (S)*	*1.10E+06*	*ID*	*22*	*190*
Vinyl Chloride	75-01-4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	*2.0 (A)*	*13 (X)*	*1,100*	*2.76E+06*	*33,000*	*0.12 (M*,MM)*	*2.1 (MM)*
Xylenes, meta- & para-	179601-23-1	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--
Xylene, ortho-	95-47-6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--
Xylenes, Total	1330-20-7	3 U	3 U	3 U	3 U	3 U	3 U	3 U	*280/10,000 (E)*	*49*	*1.90E+05 (S)*	*1.86E+05*	*70,000*	*75 (J)*	*2,000 (J)*
Polynuclear Aromatic Compounds	***CAS Number***														
2-Methylnaphthalene	91-57-6	5 U	5 U	5 U	5 U	--	5 U	5 U	*260*	*19*	*25,000 (S)*	*24,600*	*ID*	*66*	*2,000*
Acenaphthene	83-32-9	5 U	5 U	5 U	5 U	--	5 U	5 U	*1,300*	*38*	*4,200 (S)*	*4,240*	*ID*	*3,900 (S)*	*3,900 (S)*
Acenaphthylene	208-96-8	5 U	5 U	5 U	5 U	--	5 U	5 U	*52*	*ID*	*3,900 (S)*	*3,930*	*ID*	*65*	*65 (CC*)*
Anthracene	120-12-7	5 U	5 U	5 U	5 U	--	5 U	5 U	*43 (S)*	*ID*	*43 (S)*	*43.4*	*ID*	*43 (S)*	*43 (S)*
Benzo(a)anthracene	56-55-3	1 U	1 U	1 U	1 U	--	1 U	1 U	*2.1*	*ID*	*NLV*	*9.4*	*ID*	*9.4 (S,MM)*	*9.4 (S,MM)*
Benzo(a)pyrene	50-32-8	1 U	1 U	1 U	1 U	--	1 U	1 U	*5.0 (A)*	*ID*	*NLV*	*1.62*	*ID*	*NA*	*NA*
Benzo(b)fluoranthene	205-99-2	1 U	1 U	1 U	1 U	--	1 U	1 U	*1.5 (S,AA)*	*ID*	*ID*	*1.5*	*ID*	*NA*	*NA*
Benzo(g,h,i)perylene	191-24-2	1 U	1 U	1 U	1 U	--	1 U	1 U	*1.0 (M); 0.26 (S)*	*ID*	*NLV*	*0.26*	*ID*	*NA*	*NA*
Benzo(k)fluoranthene	207-08-9	1 U	1 U	1 U	1 U	--	1 U	1 U	*1.0 (M); 0.80 (S)*	*NA*	*NLV*	*0.80*	*ID*	*NA*	*NA*
Chrysene	218-01-9	1 U	1 U	1 U	1 U	--	1 U	1 U	*1.6 (S)*	*ID*	*ID*	*1.6*	*ID*	*NA*	*NA*
Dibenzo(a,h)anthracene	53-70-3	2 U	2 U	2 U	2 U	--	2 U	2 U	*2.0 (M); 0.21*	*ID*	*NLV*	*2.49*	*ID*	*NA*	*NA*
Fluoranthene	206-44-0	1 U	1 U	1 U	1 U	--	1 U	1 U	*210 (S)*	*1.6*	*210 (S)*	*206*	*ID*	*NA*	*NA*
Fluorene	86-73-7	5 U	5 U	5 U	5 U	--	5 U	5 U	*880*	*12*	*2,000 (S)*	*1,980*	*ID*	*1,700 (S)*	*1,700 (S)*
Indeno(1,2,3-cd)pyrene	193-39-5	2 U	2 U	2 U	2 U	--	2 U	2 U	*2.0 (M); 0.022 (S)*	*ID*	*NLV*	*0.022*	*ID*	*NA*	*NA*
Naphthalene	91-20-3	5 U	5 U	5 U	5 U	--	5 U	5 U	*520*	*11*	*31,000 (S)*	*31,000*	*NA*	*4.2 (M*)*	*130*
Phenanthrene	85-01-8	2 U	2 U	2 U	2 U	--	2 U	2 U	*52*	*2.0 (M); 1.7*	*1,000 (S)*	*1,000*	*ID*	*9.5*	*290*
Pyrene	129-00-0	5 UJ	5 U	5 U	5 U	--	5 U	5 U	*140 (S)*	*ID*	*140 (S)*	*135*	*ID*	*140 (S)*	*140 (S)*
Polychlorinated Biphenyls	***CAS Number***														
PCB 1016	12674-11-2	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1221	11104-28-2	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1232	11141-16-5	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1242	53469-21-9	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1248	12672-29-6	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1254	11097-69-1	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
PCB 1260	11096-82-5	--	--	--	--	--	--	0.2 U	--	--	--	--	--	--	--
Total PCBs (J)	1336-36-3	--	--	--	--	--	--	0.2 U	*0.50 (A)*	*0.20 (M); 2.60E-05*	*45 (S)*	*44.7*	*ID*	*0.031 (J,M*)*	*0.031 (CC*,J,M*)*
Metals, Total	***CAS Number***														
Arsenic (B)	7440-38-2	5 U	5 U	5.5	5 U	--	5 U	5 U	*10 (A)*	*10*	*NLV*	*NA*	*ID*	*NA*	*NA*
Barium (B)	7440-39-3	100 U	100 U	100 U	100 U	--	100 U	100 U	*2,000 (A)*	*674 (G)*	*NLV*	*NA*	*ID*	*NA*	*NA*
Cadmium (B)	7440-43-9	1 U	1 U	1 U	1 U	--	1 U	1 U	*5.0 (A)*	*3.0 (G,X)*	*NLV*	*NA*	*ID*	*NA*	*NA*
Chromium, Total (B, H)	7440-47-3	**30**	10 U	10 U	10 U	--	10 U	10 U	*100 (A)*	*11*	*NLV*	*NA*	*ID*	*NA*	*NA*
Copper (B)	7440-50-8	**21**	4 U	**15**	4 U	--	4 U	**21**	*1,000/1,400 (E)*	*13 (G)*	*NLV*	*NA*	*ID*	*NA*	*NA*

Table 3 - Groundwater Data Summary - Validated
Phase II Environmental Site Assessment
518 S. Harbor Drive, Grand Haven, MI
December 2021

Monitoring Location:		TMW-1(20')	TMW-2(4.5-9.5'	TMW-2(4.5-9.5' Duplicate	TMW-3(1-1.5')	Trip Blank	Equip. Blank	SB-Equip. Blank	*Residential DWC [(1)]*	*GSI Criteria [(1)]*	*Residential Groundwater VIAIC [(1)]*	*Water Solubility [(1)]*	*Flammability and Explosivity SL [(1)]*	*Residential GW-Shallow VIAP SL [(2)]*	*Residential GW-Not in Contact VIAP SL [(2)]*
Field Duplicate:															
Laboratory ID:		21J1202-01	21J1202-02	21J1202-03	21J1202-06	21J1202-04	21J1202-05	21J1202-07							
Collection Date:		10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21	10/28/21							
Lead (B)	7439-92-1	**7.1**	4.0	**16**	3 U	--	3 U	**6.6**	*4.0 (L)*	*34 (G,X)*	*NLV*	*NA*	*ID*	*NA*	*NA*
Mercury (B)	7439-97-6	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	*2.0 (A)*	*0.0013*	*56 (S)*	*56*	*ID*	*0.088*	*2.5*
Selenium (B)	7782-49-2	**7.0**	5 U	5 U	5 U	--	5 U	5 U	*50 (A)*	*5.0*	*NLV*	*NA*	*ID*	*NA*	*NA*
Silver (B)	7440-22-4	1 U	1 U	1 U	1 U	--	1 U	1 U	*34*	*0.20 (M); 0.060*	*NLV*	*NA*	*ID*	*NA*	*NA*
Zinc (B)	7440-66-6	50 U	50 U	140	50 U	--	50 U	52	*2,400*	*167 (G)*	*NLV*	*NA*	*ID*	*NA*	*NA*
Field Parameters	***CAS Number***														
Dissolved Oxygen (DO) (mg/L)	--	5.4	0.5	--	2.6	--	--	--	*ID*	*(EE)*	*ID*	*NA*	*NA*	--	--
Eh (mV)	--	200	18	--	41	--	--	--	--	--	--	--	--	--	--
pH (SU)	--	7.4	7.6	--	8.8	--	--	--	*6.5 to 8.5 (E)*	*6.5 to 9.0*	*ID*	*NA*	*NA*	--	--
Specific Conductance (µmhos/cm)	--	580	1,400	--	520	--	--	--	--	--	--	--	--	--	--
Temperature (°C)	--	14.0	12.7	--	11.2	--	--	--	--	--	--	--	--	--	--
Turbidity (NTU)	--	21	4.0	--	12	--	--	--	--	--	--	--	--	--	--

Results expressed in µg/L.
Bolded values exceed an applicable criterion and/or screening level.
Underlined compounds classified as polynuclear aromatic compounds.

Data Qualifiers:
U Not detected above the given limit

Footnotes/Abbreviations:
[(1)] Part 201 Groundwater Generic Cleanup Criteria and Screening Levels, December 21, 2020.
[(2)] EGLE Volatilization to Indoor Air Pathway Screening Levels, September 4, 2020.
(A) Criterion is the state of Michigan drinking water (DW) standard.
(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated criterion.
(D) Calculated criterion exceeds 100%; hence it is reduced to 100%, or 1.00E+09 µg/L.
(E) Aesthetic drinking water (DW) value. Notice of aesthetic impact may be employed as an institutional control if concentration exceeds the aesthetic DWC but not the health-based DW value (second value, if provided).
(G) Criterion dependent on receiving surface water (SW) hardness; calculated criteria based on water hardness of 150 mg/L.
(H) Data provided for total Chromium only; compare to hexavalent Chromium criteria. If both trivalent Chromium and hexavalent Chromium are present, the total concentration of both cannot exceed the DW criterion of 100 µg/L.
(J) Substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.
(JT) Substance present in several isomer forms. The VIAP SL may be used for the individual isomer provided that it is sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive VIAP SL of the detected isomers.
(L) Concentrations up to the State action level of 15 µg/L may still allow for DW use if soil concentrations are below 400 mg/Kg.
(M) Calculated criterion is below the analytical target detection limit (TDL), therefore, the criterion defaults to the TDL (first value is criterion, second value is the risk based or solubility value).
(M*) The VIAP SL may be below target detection limits (TDL). In accordance with Sec. 20120a(10) when the TDL for a hazardous substance is greater than the developed VIAP SL, the TDL is used to evaluate the risk posed from the pathway.
(S) Criterion defaults to the hazardous substance-specific water solubility limit.
(W) Concentrations of trihalomethanes shall be added together to determine compliance with the Michigan DW standard of 80 µg/L.
(X) Criterion is not protective for SW used as a DW source.
(AA) Use 10,000 µg/L where GW enters a structure through the use of a water well, sump or other device. Use 28,000 µg/L for all other uses.
(CC*) Insufficient chemical-physical input parameters have been identified to allow the development of a VIAP SL using standard equations. The VIAP SL for GW is developed based solely on the approach that the department uses for shallow GW. If GW detections are present, soil vapor may be the most appropriate media to evaluate risk.
(DD) Hazardous substance causes developmental effects. Residential VIAP SLs are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential VIAP screening levels are protective of prenatal exposure using a pregnant female receptor. Prenatal developmental effects may occur after an acute (i.e. short- term) or full-term exposure.
(EE) Cold receiving waters ≥7,000 µg/L; Warm receiving waters ≥5,000 µg/L; Since a low level of DO can be harmful to aquatic life, the criterion represents a minimum level that on-site samples must exceed. Criteria are not applicable if GW Carbonaceous Biochemical Oxygen Demand (CBOD) is less than 10,000 µg/L and GW ammonia concentration is less than 2,000 µg/L.
(EE*) The acceptable air concentration (AAC) for the volatile hazardous substance is not derived using standard equations. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for this hazardous substance is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a USEPA Integrated Risk Information System (IRIS) acute reference concentration, or an acute initial threshold screening level (ITSL) by the EGLE's Air Quality Division.
(FF*) The AAC for the volatile hazardous substances are based on toxicity values that have been identified to have the potential to cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The short-term exposure for shallow groundwater VIAP SLs are based on modification of the standard equations by the department to develop applicable shallow groundwater VIAP SLs.
(MM) Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating VIAP SLs are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic.
DWC drinking water criterion
GSI groundwater surface water interface
ID Insufficient data to develop criterion.
NA not available
NLV Not likely to volatilize under most conditions.
SL screening level
VIAIC volatilization to indoor air inhalation criteria
VIAP volatilization to indoor air pathway

Table 3 -Soil Gas Data Summary
518 S. Harbor Drive, Grand Haven, MI
October 2021

Monitoring Location: *Field Duplicate:* *Laboratory ID:* *Collection Date:*		SG-GP-1(7') A05022-001/007 11/01/21	SG-GP-1(7') Duplicate A05022-006 11/01/21	SG-GP-2(4.5') A05022-002/008 11/01/21	SG-GP-3(4.5') A05022-003/009 11/01/21	SG-GP-4(1.75') A05022-004/012 11/01/21	SG-GP-4(1.75') Duplicate A05022-011 11/01/21	SG-GP-5(10') A05022-005/010 11/01/21	Field Blank (µg) A05022-013 11/01/21	***Residential Soil Vapor VIAP SL*** [(1)]	***Nonresidential Soil Vapor VIAP SL*** [(1)]
Volatile Organic Compounds	***CAS Number***										
1,1,1-Trichloroethane	71-55-6	33 U	33 U	33 U	33 U	33 U	--	33 U	--	*1.70E+05 (EE)*	*2.30E+05 (EE)*
1,1,2,2-Tetrachloroethane	79-34-5	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	--	3.3 U	--	*15*	*34*
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	46 U	46 U	46 U	46 U	46 U	--	46 U	--	*6.60E+05*	*9.70E+05*
1,1,2-Trichloroethane	79-00-5	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	--	6.5 U	--	*7.0*	*10.0000*
1,1-Dichloroethane	75-34-3	24 U	24 U	24 U	24 U	24 U	--	24 U	--	*530*	*1,200*
1,1-Dichloroethene	75-35-4	24 U	24 U	24 U	24 U	24 U	--	24 U	--	*7,000*	*10,000*
1,2,4-Trichlorobenzene	120-82-1	89 U	89 U	89 U	89 U	89 U	--	89 U	--	*70*	*100*
1,2,4-Trimethylbenzene	95-63-6	29 U	29 U	29 U	29 U	29 U	--	29 U	--	*2,100 (JT)*	*3,100 (JT)*
1,2-Dibromoethane (EDB)	106-93-4	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	--	0.92 U	--	*1.4*	*3.3*
1,2-Dichlorobenzene	95-50-1	36 U	36 U	36 U	36 U	36 U	--	36 U	--	*10,000*	*15,000*
1,2-Dichloroethane	107-06-2	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	--	4.9 U	--	*33*	*77*
1,2-Dichloropropane	78-87-5	28 U	28 U	28 U	28 U	28 U	--	28 U	--	*140*	*200*
1,3,5-Trimethylbenzene	108-67-8	29 U	29 U	29 U	29 U	29 U	--	29 U	--	*2,100 (JT)*	*3,100 (JT)*
1,3-Butadiene	106-99-0	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	--	0.66 U	--	--	--
1,3-Dichlorobenzene	541-73-1	36 U	36 U	36 U	36 U	36 U	--	36 U	--	*100*	*150*
1,3-Dichloropropene, cis-	10061-01-5	27 U	27 U	27 U	27 U	27 U	--	27 U	--	--	--
1,3-Dichloropropene, trans-	10061-02-6	27 U	27 U	27 U	27 U	27 U	--	27 U	--	--	--
1,3-Dichloropropene (J)	542-75-6	54 U	54 U	54 U	54 U	54 U	--	54 U	--	*210 (J)*	*500 (J)*
1,4-Dichlorobenzene	106-46-7	36 U	36 U	36 U	36 U	36 U	--	36 U	--	*220*	*510*
1,4-Dioxane	123-91-1	22 U	22 U	22 U	22 U	22 U	--	22 U	--	*170*	*400*
2-Butanone (MEK)	78-93-3	35 U	35 U	35 U	35 U	35 U	--	35 U	--	*1.70E+05 (DD)*	*1.70E+05 (DD)*
2-Hexanone	591-78-6	49 U	49 U	49 U	49 U	49 U	--	49 U	--	*1,000*	*1,500*
2-Methylnaphthalene	91-57-6	140 U	140 U	140 U	140 U	140 U	--	140 U	--	*350*	*510*
2-Propanol (Isopropyl Alcohol)	67-63-0	29 U	29 U	29 U	29 U	29 U	--	29 U	--	*7,000*	*10,000*
4-Methyl-2-pentanone (MIBK)	108-10-1	49 U	49 U	49 U	49 U	49 U	--	49 U	--	*27,000*	*27,000*
Acetone	67-64-1	57 U	57 U	57 U	57 U	57 U	--	57 U	--	*1.00E+06 (EE)*	*1.00E+06 (EE)*
Benzene	71-43-2	19 U	19 U	19 U	19 U	19 U	--	19 U	--	*110*	*260*
Benzyl Chloride	100-44-7	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	--	6.2 U	--	*17*	*40*
Bromodichloromethane	75-27-4	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	--	8.0 U	--	*48*	*100*
Bromoform	75-25-2	62 U	62 U	62 U	62 U	62 U	--	62 U	--	*770*	*1,800*
Bromomethane	74-83-9	23 U	23 U	23 U	23 U	23 U	--	23 U	--	*350*	*510*
Carbon Disulfide	75-15-0	37 U	37 U	37 U	37 U	37 U	--	37 U	--	*24,000*	*36,000*
Carbon Tetrachloride	56-23-5	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	--	7.5 U	--	*150*	*360*
Chlorobenzene	108-90-7	28 U	28 U	28 U	28 U	28 U	--	28 U	--	*1,700*	*2,600*
Chloroethane	75-00-3	16 U	16 U	16 U	16 U	16 U	--	16 U	--	*1.40E+05*	*2.00E+05*
Chloroform	67-66-3	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	--	5.9 U	--	*37*	*87*
Chloromethane	74-87-3	12 U	12 U	12 U	12 U	12 U	--	12 U	--	*3,100*	*4,600*
cis-1,2-Dichloroethene	156-59-2	24 U	24 U	24 U	24 U	24 U	--	24 U	--	*280*	*410*
Cyclohexane	110-82-7	41 U	41 U	41 U	41 U	41 U	--	41 U	--	*2.10E+05*	*3.10E+05*
Dibromochloromethane	124-48-1	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	--	4.1 U	--	*14 (MM)*	*83*
Dichlorodifluoromethane (CFC 12)	75-71-8	30 U	30 U	30 U	30 U	30 U	--	30 U	--	*11,000*	*17,000*
Ethyl Acetate	141-78-6	43 U	43 U	43 U	43 U	43 U	--	43 U	--	*6.30E+05 (EE)*	*6.30E+05 (EE)*
Ethylbenzene	100-41-4	52 U	52 U	52 U	52 U	52 U	--	52 U	--	*340*	*800*
Hexachlorobutadiene	87-68-3	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	--	*39*	*91*

Table 3 -Soil Gas Data Summary
518 S. Harbor Drive, Grand Haven, MI
October 2021

Monitoring Location: *Field Duplicate:* *Laboratory ID:* *Collection Date:*		SG-GP-1(7') A05022-001/007 11/01/21	SG-GP-1(7') Duplicate A05022-006 11/01/21	SG-GP-2(4.5') A05022-002/008 11/01/21	SG-GP-3(4.5') A05022-003/009 11/01/21	SG-GP-4(1.75') A05022-004/012 11/01/21	SG-GP-4(1.75') Duplicate A05022-011 11/01/21	SG-GP-5(10') A05022-005/010 11/01/21	Field Blank (µg) A05022-013 11/01/21	***Residential Soil Vapor VIAP SL*** [(1)]	***Nonresidential Soil Vapor VIAP SL*** [(1)]
Volatile Organic Compounds	***CAS Number***										
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22 U	22 U	22 U	22 U	22 U	--	22 U	--	*3,300*	*7,700*
Methylene Chloride	75-09-2	42 U	42 U	42 U	42 U	42 U	--	42 U	--	*21,000*	*31,000*
n-Heptane	142-82-5	49 U	49 U	49 U	49 U	49 U	--	49 U	--	*1.20E+05*	*1.80E+05*
n-Hexane	110-54-3	42 U	42 U	42 U	42 U	42 U	--	42 U	--	*24,000*	*36,000*
Naphthalene	91-20-3	19 U	19 U	19 U	19 U	19 U	**--**	19 U	**--**	*25*	*59*
Styrene	100-42-5	51 U	51 U	51 U	51 U	51 U	--	51 U	--	*1,500*	*3,500*
Tetrachloroethene (PCE)	127-18-4	41 U	41 U	41 U	41 U	41 U	--	41 U	--	*1,400 (EE)*	*1,400 (EE)*
Tetrahydrofuran (THF)	109-99-9	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	--	4.0 U	--	*70,000*	*1.00E+05*
Toluene	108-88-3	23 U	23 U	23 U	23 U	23 U	--	23 U	--	*170,000*	*2.50+05 (EE)*
trans-1,2-Dichloroethene	156-60-5	24 U	24 U	24 U	24 U	24 U	--	24 U	--	*2,800*	*4,100*
Trichloroethene (TCE)	79-01-6	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	--	6.4	--	*67 (DD)*	*67 (DD)*
Trichlorofluoromethane	75-69-4	34 U	34 U	34 U	34 U	34 U	--	34 U	--	*15,000*	*22,000*
Vinyl Acetate	108-05-4	42 U	42 U	42 U	42 U	42 U	--	42 U	--	*7,000*	*10,000*
Vinyl Chloride	75-01-4	15 U	15 U	15 U	15 U	15 U	--	15 U	--	*54 (MM)*	*450*
Xylenes, m-&p-	179601-23-1	52 U	52 U	52 U	52 U	52 U	--	52 U	--	--	--
Xylene, o-	95-47-6	52 U	52 U	52 U	52 U	52 U	--	52 U	--	--	--
Xylenes, Total	1330-20-7	100 U	100 U	100 U	100 U	100 U	--	100 U	--	*7,600 (J)*	*11,000 (J)*
Polynuclear Aromatic Compounds	***CAS Number***										
2-Methylnaphthalene	91-57-6	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*350*	*510*
Acenaphthene	83-32-9	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*7,300*	*10,000*
Acenaphthylene	208-96-8	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*7,300*	*11,000*
Anthracene	120-12-7	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*35,000*	*51,000*
Benzo(a)anthracene	56-55-3	2.0 U	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.0020 U	*5.8 (MM)*	*33*
Fluorene	86-73-7	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*4,900*	*7,200*
Naphthalene	91-20-3	5.0 U	**--**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*25*	*59*
Phenanthrene	85-01-8	2.0 U	--	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.0025 U	*3.5*	*5.1*
Pyrene	129-00-0	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.0050 U	*3,500*	*5,100*

Results are expressed in µg/m^3 except where noted.
Bolded values exceed an applicable criterion.

Data Qualifiers:
U Not detected

Footnotes/Abbreviations:
[(1)] EGLE Volatilization to Indoor Air Pathway Screening Levels, September 4, 2020.
(J) Substance present in several isomer forms; isomer concentrations must be added together for comparison to criteria.
(JT) Substance present in several isomer forms. The VIAP SL may be used for the individual isomer provided that it is sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive VIAP SL of the detected isomers.
(DD) Hazardous substance causes developmental effects. Residential VIAP SLs are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential VIAP SLs are protective of prenatal exposure using a pregnant female receptor. Prenatal developmental effects may occur after an acute (i.e. short- term) or full-term exposure.
(EE) The acceptable air concentration (AAC) for the volatile hazardous substance is not derived using standard equations. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for this hazardous substance is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a USEPA Integrated Risk Information System (IRIS) acute reference concentration, or an acute initial threshold screening level (ITSL) by the EGLE's Air Quality Division.
(MM) Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating VIAP SLs are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic.
SL screening level
VIAP volatilization to indoor air pathway

Appendix 1

November 4, 2021

Tom Budge
Fishbeck
1515 Arboretum Drive SE
Grand Rapids, MI 49546

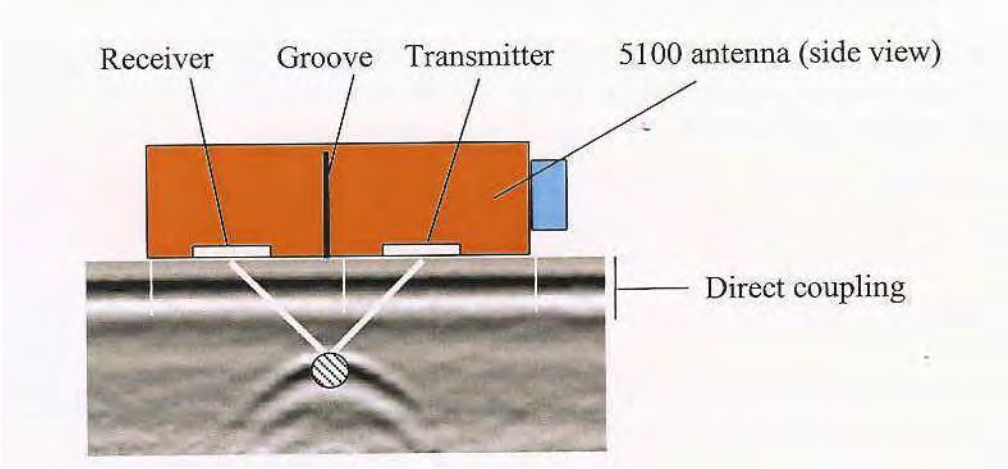
Survey Site: 518 South Harbor Drive-Grand Haven, MI

Project Objective:

Utilize Ground Penetrating Radar to investigate for evidence of remaining underground storage tanks in the areas highlighted in the drawing provided by Tom Budge of Fishbeck.

GPR Information and Background:

GPR has been used extensively in the past for geological and archeological exploration and mapping; however, it has only been since 2001 that GPR had the capability to image shallow targets. The system used for this project has the ability to image targets to a depth of 12 feet with an accuracy of ± 2 inches. The 400 MHz antenna broadcasts a microwave energy pulse of less than $1/6^{th}$ watt at a rate of 100 ns. This energy pulse is timed as it propagates through a material noting when a return pulse arrives. The time and strength of the return pulse is captured and analyzed and interpreted graphically. This process is shown in the figure of a 1500 MHz antenna below.



Project Procedures:

Scans were completed every 5 feet in a grid pattern throughout the survey area using Ground Penetrating Radar. The survey area was approximately 23,500 square feet.

There were a few parked vehicles obstructing a small amount of the survey area. Scans were collected between each vehicle to minimize the gaps in data collection as much as possible.

There was also a portion of the survey area on the back side of the existing building that was difficult to record accurate data due to the steep incline of the property.

All data was collected on November 2, 2021.

Project Results:

The data collected determined there were two anomalies with some consistencies of remaining underground storage tanks in the survey area. However, the data image was not clear enough to determine whether these two anomalies were possibly remaining pipes from the previously existing building or if they are actual remaining underground storage tanks. These unknown underground features were in an area of 4'x12' and 4'x10'. Both unknown underground features were painted on site in pink paint. There was significant evidence found of fill materials in the parking lot area, most likely attributed to the demolition of the previously existing building.

All results of the data collected are documented in the attached drawing and pictures of markings are also attached.

This report provided by FMCI is provided solely for illustration and information purposes. FMCI is not responsible for any loss or damage caused, arising out of the use of, or reliance on this report or the data collected, and this report is not to be construed as a warranty or guarantee on the part of FMCI.

Sincerely,



Nick Schwartz
Facility Management Consultants International
nick@facilitiescompliance.com
(616) 730-3331

Image shows general site conditions on the day of the survey.



Image shows general site conditions on the day of the survey.



Image shows general site conditions on the day of the survey.



Image shows general site conditions on the day of the survey.



Image shows unknown underground features marked in pink paint.

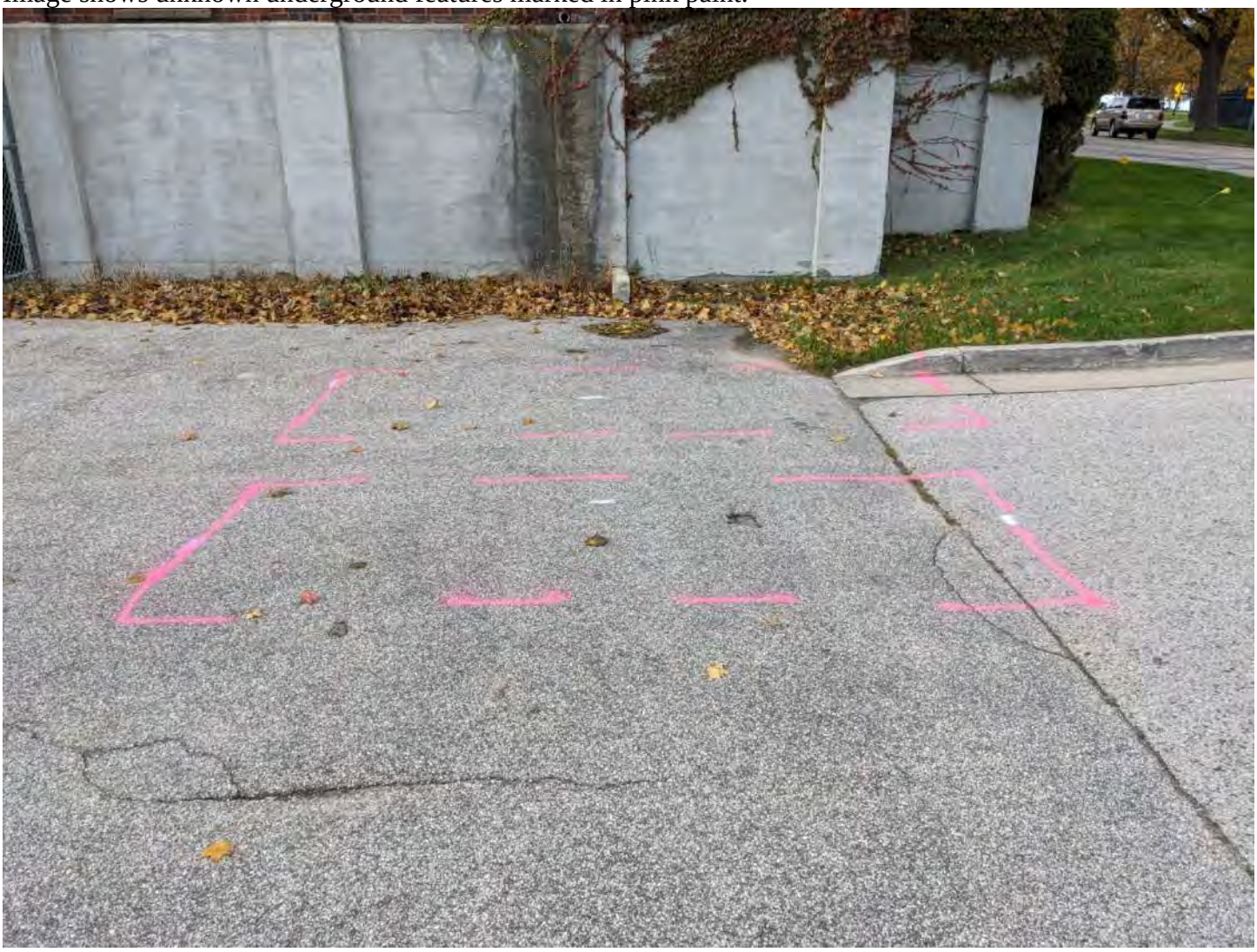


Image shows unknown underground features marked in pink paint.



Image shows general site conditions on the day of the survey.



Image shows general site conditions on the day of the survey.



Image shows general site conditions on the day of the survey.



Area Surveyed
Unknown Underground Feature
Area With Evidence of Fill Material

3'-0"

5'

518 S Harbor Dr

Appendix 2

fishbeck

BOREHOLE LOG

BORING/WELL ID: **SB-GP-01/TMW-01**

TOTAL DEPTH (ft.): **25**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** 17.68' bgs	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
TOPSOIL: Organics (60%); Sand (40%), fine grained. Black, dry.	0.0		0					1" PVC Casing with 2.1' ags Stick-up
SAND: Fine to medium grained (70/30). Light brown, dry.	0.0		1–4		5.0'			
SAND: Same as above. Light brown with orange mottling.	0.0		5–9		4.5'	SB-GP-1(8-10')		
SAND AND SILT: Very fine grained. Tan with moderate orange to rust orange mottling, dry.	0.0		10–14					
SAND: Same as above. Light brown, moist.	0.1		15–17					
SAND: Same as above. Saturated.			18	▼				
SAND: Fine to coarse grained (20/50/30). Light brown, saturated.	0.2		19–20					1" PVC Screen (10 Slot)
	0.0		21–23					
SAND: Same as above with slightly higher fine content.	0.0		24–25					

BOREHOLE LOG

BORING/WELL ID: **TMW-02**

TOTAL DEPTH (ft.): **10**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** 8.0' bgs	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
ASPHALT	0.2		0					1" PVC Casing with 0.4' ags Stick-up
SILTY SAND: Fine to medium grained; some Silt (20%). Light brown, dry.	0.2		1					
	0.2		2		2.3'			
	0.2		3					
	0.2		4					
	0.2		5					1" PVC Screen (10 Slot)
SAND: Same as above. Saturated.	0.2		6					
SILTY SAND WITH GRAVEL: Fine to medium grained; Gravel (40%), fine to coarse; little Silt (10%). Black with oily sheen, saturated.			7					
			8	▼	2.8'			
			9					
			10					

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BOREHOLE LOG

BORING/WELL ID: **SB-GP-04**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	COMMENTS
ASPHALT			0					
SILTY SAND: Fine to medium grained; some Silt (20%). Light brown, moist.			0.4		4.2'	SB-GP-4(2-4')		
			1.0					
			2.0					
			0.6					
			5					

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BOREHOLE LOG

BORING/WELL ID: **SB-GP-05**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	COMMENTS
ASPHALT			0					
SILTY SAND: Fine to medium grained; some Silt (20%). Light brown, moist.	1.3		1		2.8'	SB-GP-5(1-3')		
	1.3		2					
	0.8		3					
	0.8		4					
			5					

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BOREHOLE LOG

BORING/WELL ID: **SB-GP-06**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
ASPHALT			0					
SILTY SAND: Fine to medium grained; some Silt (20%). Brown, dry.								
FILL: Coal; some Glass. Black, dry.			1			SB-GP-6 (0.5-2.5')		
SILTY SAND: Fine to medium grained; some Silt (20%). Light brown, dry.	0.5		2		3.5'			
	0.5		3					
	0.3		4					
SILTY SAND: Same as above with little Gravel.								
SILTY SAND: Fine to medium grained; some Silt (20%). Light brown, dry.	0.2		5					

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BOREHOLE LOG

BORING/WELL ID: **SB-GP-07**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
ASPHALT	0.3		0					
SILTY SAND: Fine to medium grained; some Silt (20%). Brown, moist.	0.3		1			SB-GP-7 (1-3')		
	0.3		2		3.1'			
	0.2		3					
	0.2		4					
			5					

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BOREHOLE LOG

BORING/WELL ID: **SB-GP-08**

TOTAL DEPTH (ft.): **2.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	COMMENTS
SILTY SAND: Fine to medium grained; some Silt (20%). Brown, dry.	0.3 0.3 0.4 0.4		0 1 2			SB-GP-8 (0.5-1.5')		

fishbeck

BOREHOLE LOG

BORING/WELL ID: **SB-GP-09**

TOTAL DEPTH (ft.): **2.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: M. Hunter	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	COMMENTS
SILTY SAND: Fine to medium grained; some Silt (20%). Brown, dry.	0.4 0.4 0.4 0.4		0 1 2			SB-GP-9 (0.5-1.5')		

fishbeck

BOREHOLE LOG

BORING/WELL ID: **SG-GP-01**

TOTAL DEPTH (ft.): **10**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
TOPSOIL: Organics (60%); Sand (40%), fine grained. Black, dry.	0.0		0					1/4" HDPE Tubing with 1.0' ags Stick-up
SAND: Fine grained. Brown, dry.	0.0		1					Bentonite Seal
SAND: Same as above. Black with oily sheen.	0.0		2					
SAND: Fine to medium grained (70/30). Light brown, dry.	0.0		3					
	0.1		4					
SAND: Same as above. Tan.	0.1		5					
	0.0		6					Sand
	0.0		7					3/8" Ceramic Vapor Implant (Mesh)
	0.1		8					
	0.1		9					
	0.1		10					

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BOREHOLE LOG

BORING/WELL ID: **SG-GP-02**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
TOPSOIL: Organics (60%); Sand (40%), fine grained. Black, dry.	0.1		0					1/4" HDPE Tubing with 1.0' ags Stick-up Bentonite Seal
SAND: Fine to medium grained (60/30); little Gravel (10%). Brown, dry.	0.0		1					
	0.2		2					
			3					
	0.1		4					Sand 3/8" Ceramic Vapor Implant (Mesh)
			5					

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BOREHOLE LOG

BORING/WELL ID: **SG-GP-03**

TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
TOPSOIL: Organics (60%); Sand (40%), fine grained. Black, dry.	0.2		0					1/4" HDPE Tubing with 1.0' ags Stick-up
SAND: Fine to medium grained (60/30); little Gravel (10%). Dark brown, dry.			1					Bentonite Seal
	0.1		2					
SAND: Same as above. Brown.			3					
	0.0		4					Sand
			5					3/8" Ceramic Vapor Implant (Mesh)

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BOREHOLE LOG

BORING/WELL ID: **SG-GP-04**

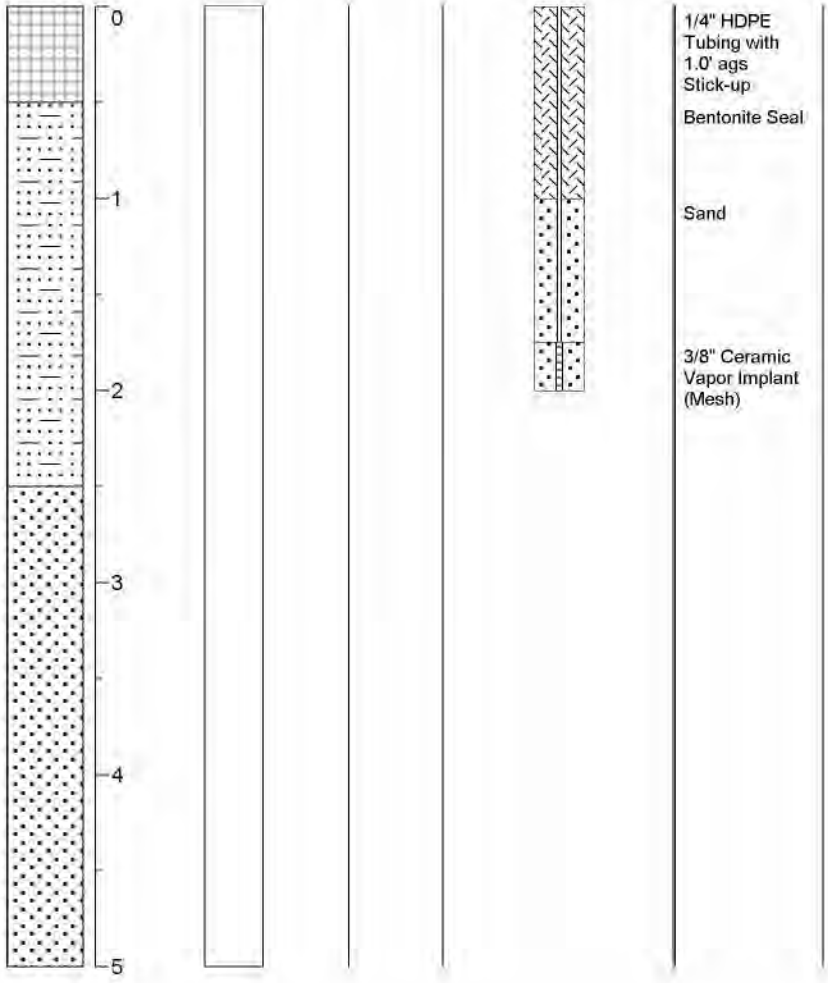
TOTAL DEPTH (ft.): **5.0**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft. bgl)	Static Water Level	Sample/ Recovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
CONCRETE			0					1/4" HDPE Tubing with 1.0' ags Stick-up
SILTY SAND: Very fine grained; Silt (30%). Tan, dry.			1					Bentonite Seal
			2					Sand
SAND: Fine to coarse grained (30/50/20). Light brown, saturated.			3					3/8" Ceramic Vapor Implant (Mesh)
			4					
			5					



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BOREHOLE LOG

BORING/WELL ID: **SG-GP-05**

TOTAL DEPTH (ft.): **10**

PROJECT: Ottawa Co P&P / 518 South Harbor Drive	**START DATE:** 10/28/21	**DRILLING CO.:** Rosendall Well Drilling
SITE LOCATION: Grand Haven, MI	**END DATE:** 10/28/21	**DRILLER:** Jeff / Jason
PROJECT NO.: 211365	**TOC ELEV.:**	**RIG TYPE:** Geoprobe 7822DT
PROJECT MANAGER: K. Perschbacher	**GROUND ELEV.:**	**METHOD OF DRILLING:** Direct Push
LOGGED BY: A. Frye	**STATIC WATER LVL.:** --	**SAMPLING METHODS:** Macrocore

NOTES:

▼ Static Water Level

DESCRIPTION	PID ppm	GRAPHIC LOG	DEPTH (ft bgl)	Static Water Level	Sample/ Revovery	Sample ID	Blow Counts	WELL CONSTRUCTION DETAIL
TOPSOIL: Organics (60%); Sand (40%), fine grained. Black, dry.	0.1		0-1					1/4" HDPE Tubing with 1.0' ags Stick-up; Bentonite Seal
SAND: Fine to medium grained (70/30). Brown, dry.	0.0		1-2					
SAND: Same as above. Brown with stringers of black.	0.2		2-3					
	0.1		3-4					
SAND: Fine to coarse grained (30/50/20). Light brown with slight orange mottling.	0.0		4-5					
	0.1		5-6					
SAND: Same as above. Light tan with slight orange mottling, dry.	0.0		6-7					
	0.1		7-8					
			8-9					Sand
			9-10					3/8" Ceramic Vapor Implant (Mesh)

Appendix 3

Trace Analytical Laboratories, Inc.
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November 11, 2021

Mr. Kirk Perschbacher
Fishbeck
1515 Arboretum Drive SE
Grand Rapids, MI 49546

RE: Trace Project 21J1205
Client Project OC Grant/518 South Harbor Ph II ESA

Dear Mr. Perschbacher:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAP Accreditation, Trace certifies that these test results meet all requirements of the NELAP Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAP at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Senior Project Manager
Enclosures

NELAP ACCREDITED TNI LABORATORY

NJDEP Accreditation No. MI008

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SAMPLE SUMMARY

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
21J1205-01	CL-SB-GP-1 (8-10') I/MS/MSD	Soil	MRH/ADF	10/28/21 14:37	10/29/21 14:40
21J1205-02	CL-SB-GP-4 (2-4') I	Soil	MRH/ADF	10/28/21 12:00	10/29/21 14:40
21J1205-03	CL-SB-GP-5 (1-3') I	Soil	MRH/ADF	10/28/21 11:37	10/29/21 14:40
21J1205-04	CL-SB-GP-6 (0.5-2.5') I	Soil	MRH/ADF	10/28/21 12:30	10/29/21 14:40
21J1205-05	CL-SB-GP-7 (1-3') I	Soil	MRH/ADF	10/28/21 13:00	10/29/21 14:40
21J1205-06	CL-SB-GP-8 (0.5-1.5') I/MS/MSD	Soil	MRH/ADF	10/28/21 14:00	10/29/21 14:40
21J1205-07	CL-SB-GP-9 (0.5-1.5') I	Soil	MRH/ADF	10/28/21 14:05	10/29/21 14:40
21J1205-08	CL-SB-GP-9 (0.5-1.5') D	Soil	MRH/ADF	10/28/21 14:05	10/29/21 14:40
21J1205-09	CL-QCFB	Solid	Client	10/28/21 14:53	10/29/21 14:40
21J1205-10	CL-SB-GP-5 (1-3') D	Soil	MRH/ADF	10/28/21 11:37	10/29/21 14:40

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the laboratory is not accredited by NELAP for this compound
NA	Indicates that the compound is not available.

NOTE: Samples for volatiles that have been extracted with a water miscible solvent were corrected for the total volume of the solvent/water mixture.
Solid matrices Method Blanks are at 100% solids as such results are the same wet or dry.

DATA QUALIFIERS

Trace ID: 21J1205-04

Analysis: EPA 8270D

	Note 407 : The reporting limit was raised due to a post extraction dilution required based on matrix interference present in the sample.

Trace ID: T116349-MSD1

Analysis: EPA 8270D

Acenaphthene	Note 207 : The RPD between the MS and the MSD was out of control. Because both spike recoveries were in control, no data require qualification.
Pyrene	Note 207 : The RPD between the MS and the MSD was out of control. Because both spike recoveries were in control, no data require qualification.

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-01 Matrix: Soil Date Collected: 10/28/21 14:37
Sample ID: CL-SB-GP-1 (8-10') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**2.5**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	**2.1**	**mg/kg dry**	**2.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Copper	<1.0	mg/kg dry	1.0	1	11/02/21	mrh	11/04/21	dc		
Lead	<1.0	mg/kg dry	1.0	1	11/02/21	mrh	11/04/21	dc		
Zinc	**15**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	<2.0	mg/kg dry	2.0	10	11/02/21	mrh	11/03/21	acs		
Cadmium	<0.20	mg/kg dry	0.20	10	11/02/21	mrh	11/03/21	acs		
Selenium	<0.61	mg/kg dry	0.61	10	11/02/21	mrh	11/03/21	acs		
Silver	<0.51	mg/kg dry	0.51	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
2-Methylnaphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluorene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Phenanthrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-01 Matrix: Soil Date Collected: 10/28/21 14:37
Sample ID: CL-SB-GP-1 (8-10') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Chrysene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	86	%	36-98	1	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	91	%	44-105	1	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	84	%	46-109	1	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<40	ug/kg dry	40	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-01 Matrix: Soil Date Collected: 10/28/21 14:37
Sample ID: CL-SB-GP-1 (8-10') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<750	ug/kg dry	750	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Toluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<150	ug/kg dry	150	50	10/29/21	nw	10/30/21	bag		
Styrene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-01 Matrix: Soil Date Collected: 10/28/21 14:37
Sample ID: CL-SB-GP-1 (8-10') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	96	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	98	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	104	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-01 Matrix: Soil Date Collected: 10/28/21 14:37
Sample ID: CL-SB-GP-1 (8-10') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116266										
% Solids	**96**	**% by Wt.**	**0.10**	**1**	**11/01/21**	**mr**	**11/01/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-02 Matrix: Soil Date Collected: 10/28/21 12:00
Sample ID: CL-SB-GP-4 (2-4') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**4.6**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	<2.0	mg/kg dry	2.0	1	11/02/21	mrh	11/04/21	dc		
Copper	<1.0	mg/kg dry	1.0	1	11/02/21	mrh	11/04/21	dc		
Lead	**1.7**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Zinc	**5.0**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	<2.0	mg/kg dry	2.0	10	11/02/21	mrh	11/03/21	acs		
Cadmium	<0.20	mg/kg dry	0.20	10	11/02/21	mrh	11/03/21	acs		
Selenium	<0.60	mg/kg dry	0.60	10	11/02/21	mrh	11/03/21	acs		
Silver	<0.50	mg/kg dry	0.50	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
2-Methylnaphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluorene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Phenanthrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-02 Matrix: Soil Date Collected: 10/28/21 12:00
Sample ID: CL-SB-GP-4 (2-4') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Chrysene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	68	%	36-98	1	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	63	%	44-105	1	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	62	%	46-109	1	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<41	ug/kg dry	41	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-02 Matrix: Soil Date Collected: 10/28/21 12:00
Sample ID: CL-SB-GP-4 (2-4') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<760	ug/kg dry	760	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Benzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Toluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<150	ug/kg dry	150	50	10/29/21	nw	10/30/21	bag		
Styrene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-02 Matrix: Soil Date Collected: 10/28/21 12:00
Sample ID: CL-SB-GP-4 (2-4') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<51	ug/kg dry	51	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	95	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	102	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	98	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	102	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-02 Matrix: Soil Date Collected: 10/28/21 12:00
Sample ID: CL-SB-GP-4 (2-4') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116266										
% Solids	**97**	**% by Wt.**	**0.10**	**1**	**11/01/21**	**mr**	**11/01/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-03 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**5.0**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	<2.0	mg/kg dry	2.0	1	11/02/21	mrh	11/04/21	dc		
Copper	<1.0	mg/kg dry	1.0	1	11/02/21	mrh	11/04/21	dc		
Lead	**2.0**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Zinc	**4.8**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	<2.0	mg/kg dry	2.0	10	11/02/21	mrh	11/03/21	acs		
Cadmium	<0.21	mg/kg dry	0.21	10	11/02/21	mrh	11/03/21	acs		
Selenium	<0.63	mg/kg dry	0.63	10	11/02/21	mrh	11/03/21	acs		
Silver	<0.53	mg/kg dry	0.53	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
2-Methylnaphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluorene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Phenanthrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-03 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Chrysene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	65	%	36-98	1	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	56	%	44-105	1	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	65	%	46-109	1	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<40	ug/kg dry	40	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-03 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<750	ug/kg dry	750	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Toluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<150	ug/kg dry	150	50	10/29/21	nw	10/30/21	bag		
Styrene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-03 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	102	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	98	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-03 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116266										
% Solids	**97**	**% by Wt.**	**0.10**	**1**	**11/01/21**	**mr**	**11/01/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-04 Matrix: Soil Date Collected: 10/28/21 12:30
Sample ID: CL-SB-GP-6 (0.5-2.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**29**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	**3.7**	**mg/kg dry**	**2.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Copper	**83**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Lead	**22**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Zinc	**13**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	**6.1**	**mg/kg dry**	**2.0**	**10**	**11/02/21**	**mrh**	**11/03/21**	**acs**		
Cadmium	<0.21	mg/kg dry	0.21	10	11/02/21	mrh	11/03/21	acs		
Selenium	**1.9**	**mg/kg dry**	**0.64**	**10**	**11/02/21**	**mrh**	**11/03/21**	**acs**		
Silver	<0.53	mg/kg dry	0.53	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									407	
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	**1800**	**ug/kg dry**	**920**	**10**	**11/03/21**	**kbc**	**11/09/21**	**avl**		
2-Methylnaphthalene	**2700**	**ug/kg dry**	**2300**	**10**	**11/03/21**	**kbc**	**11/09/21**	**avl**		
Acenaphthylene	<920	ug/kg dry	920	10	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<920	ug/kg dry	920	10	11/03/21	kbc	11/09/21	avl		
Fluorene	<920	ug/kg dry	920	10	11/03/21	kbc	11/09/21	avl		
Phenanthrene	**1100**	**ug/kg dry**	**370**	**10**	**11/03/21**	**kbc**	**11/09/21**	**avl**		
Anthracene	<920	ug/kg dry	920	10	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Pyrene	<920	ug/kg dry	920	10	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-04 Matrix: Soil Date Collected: 10/28/21 12:30
Sample ID: CL-SB-GP-6 (0.5-2.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS									407	
Chrysene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<370	ug/kg dry	370	10	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	65	%	36-98	10	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	73	%	44-105	10	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	76	%	46-109	10	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<44	ug/kg dry	44	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<220	ug/kg dry	220	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2700	ug/kg dry	2700	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<110	ug/kg dry	110	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-04 Matrix: Soil Date Collected: 10/28/21 12:30
Sample ID: CL-SB-GP-6 (0.5-2.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<820	ug/kg dry	820	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1100	ug/kg dry	1100	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Benzene	**91**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
t-Amyl Methyl Ether	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<270	ug/kg dry	270	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2700	ug/kg dry	2700	50	10/29/21	nw	10/30/21	bag		
Toluene	**880**	**ug/kg dry**	**100**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
trans-1,3-Dichloropropene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2700	ug/kg dry	2700	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	**200**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
m,p-Xylene	**860**	**ug/kg dry**	**110**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**	**N**	
o-Xylene	**590**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**	**N**	
Xylenes, total	**1500**	**ug/kg dry**	**160**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
Styrene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-04 Matrix: Soil Date Collected: 10/28/21 12:30
Sample ID: CL-SB-GP-6 (0.5-2.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	**61**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
1,2,4-Trimethylbenzene	**340**	**ug/kg dry**	**100**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
sec-Butylbenzene	<55	ug/kg dry	55	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	**62**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
1,2,3-Trimethylbenzene	**280**	**ug/kg dry**	**55**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**	**N**	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<110	ug/kg dry	110	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	**860**	**ug/kg dry**	**330**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	**910**	**ug/kg dry**	**330**	**50**	**10/29/21**	**nw**	**10/30/21**	**bag**	**N**	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	97	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	105	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-04 Matrix: Soil Date Collected: 10/28/21 12:30
Sample ID: CL-SB-GP-6 (0.5-2.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**90**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-05 Matrix: Soil Date Collected: 10/28/21 13:00
Sample ID: CL-SB-GP-7 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**7.7**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	**2.4**	**mg/kg dry**	**2.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Copper	**1.6**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Lead	**1.7**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Zinc	**4.8**	**mg/kg dry**	**1.1**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	<2.0	mg/kg dry	2.0	10	11/02/21	mrh	11/03/21	acs		
Cadmium	<0.21	mg/kg dry	0.21	10	11/02/21	mrh	11/03/21	acs		
Selenium	<0.64	mg/kg dry	0.64	10	11/02/21	mrh	11/03/21	acs		
Silver	<0.53	mg/kg dry	0.53	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
2-Methylnaphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluorene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Phenanthrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-05 Matrix: Soil Date Collected: 10/28/21 13:00
Sample ID: CL-SB-GP-7 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Chrysene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	80	%	36-98	1	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	74	%	44-105	1	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	73	%	46-109	1	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<40	ug/kg dry	40	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-05 Matrix: Soil Date Collected: 10/28/21 13:00
Sample ID: CL-SB-GP-7 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<750	ug/kg dry	750	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Toluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<150	ug/kg dry	150	50	10/29/21	nw	10/30/21	bag		
Styrene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-05 Matrix: Soil Date Collected: 10/28/21 13:00
Sample ID: CL-SB-GP-7 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	100	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	104	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-05 Matrix: Soil Date Collected: 10/28/21 13:00
Sample ID: CL-SB-GP-7 (1-3') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**96**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-06 Matrix: Soil Date Collected: 10/28/21 14:00
Sample ID: CL-SB-GP-8 (0.5-1.5') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
PESTICIDES/PCBS										
Analysis Method: EPA 8082A										
Batch: T116248										
Aroclor-1016	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1221	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1232	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1242	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1248	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1254	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1260	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Surrogates:										
Tetrachloro-m-xylene	70	%	40-113	1	11/01/21	kbc	11/02/21	tml	N	
Decachlorobiphenyl	66	%	32-111	1	11/01/21	kbc	11/02/21	tml	N	
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**93**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-07 Matrix: Soil Date Collected: 10/28/21 14:05
Sample ID: CL-SB-GP-9 (0.5-1.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
PESTICIDES/PCBS										
Analysis Method: EPA 8082A										
Batch: T116248										
Aroclor-1016	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1221	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1232	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1242	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1248	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1254	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1260	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Surrogates:										
Tetrachloro-m-xylene	87	%	40-113	1	11/01/21	kbc	11/02/21	tml	N	
Decachlorobiphenyl	82	%	32-111	1	11/01/21	kbc	11/02/21	tml	N	
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**95**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-08 Matrix: Soil Date Collected: 10/28/21 14:05
Sample ID: CL-SB-GP-9 (0.5-1.5') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
PESTICIDES/PCBS										
Analysis Method: EPA 8082A										
Batch: T116248										
Aroclor-1016	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1221	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1232	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1242	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1248	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1254	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Aroclor-1260	<330	ug/kg dry	330	1	11/01/21	kbc	11/02/21	tml		
Surrogates:										
Tetrachloro-m-xylene	83	%	40-113	1	11/01/21	kbc	11/02/21	tml	N	
Decachlorobiphenyl	76	%	32-111	1	11/01/21	kbc	11/02/21	tml	N	
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**95**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-09 Matrix: Solid Date Collected: 10/28/21 14:53
Sample ID: CL-QCFB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS									
Analysis Method: EPA 8260D									
Batch: T116243									
Dichlorodifluoromethane	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Chloromethane	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Vinyl chloride	<40 ug/kg wet	40	50	10/29/21	bag	10/30/21	bag		
Bromomethane	<200 ug/kg wet	200	50	10/29/21	bag	10/30/21	bag		
Chloroethane	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Trichlorofluoromethane	<100 ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
Diethyl ether	<200 ug/kg wet	200	50	10/29/21	bag	10/30/21	bag	N	
Tert-butyl alcohol	<2500 ug/kg wet	2500	50	10/29/21	bag	10/30/21	bag	N	
1,1-Dichloroethene	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Acetone	<1000 ug/kg wet	1000	50	10/29/21	bag	10/30/21	bag		
Iodomethane	<100 ug/kg wet	100	50	10/29/21	bag	10/30/21	bag	N	
Carbon disulfide	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Methyl-tert-butyl ether	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Methylene chloride	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Acrylonitrile	<100 ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
trans-1,2-Dichloroethene	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,1-Dichloroethane	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Diisopropyl Ether	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag	N	
2-Butanone	<750 ug/kg wet	750	50	10/29/21	bag	10/30/21	bag		
cis-1,2-Dichloroethene	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
t-Butyl Ethyl Ether	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag	N	
Bromochloromethane	<100 ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
Tetrahydrofuran	<1000 ug/kg wet	1000	50	10/29/21	bag	10/30/21	bag	N	
Chloroform	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,1,1-Trichloroethane	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Carbon tetrachloride	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Benzene	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
t-Amyl Methyl Ether	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag	N	
1,2-Dichloroethane	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Cyclohexane	<250 ug/kg wet	250	50	10/29/21	bag	10/30/21	bag	N	
Trichloroethene	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,2-Dichloropropane	<50 ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-09 Matrix: Solid Date Collected: 10/28/21 14:53
Sample ID: CL-QCFB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Dibromomethane	<250	ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
Bromodichloromethane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
cis-1,3-Dichloropropene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg wet	2500	50	10/29/21	bag	10/30/21	bag		
Toluene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
trans-1,3-Dichloropropene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,1,2-Trichloroethane	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Tetrachloroethene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
2-Hexanone	<2500	ug/kg wet	2500	50	10/29/21	bag	10/30/21	bag		
Dibromochloromethane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
1,2-Dibromoethane (EDB)	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Chlorobenzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
Ethylbenzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
m,p-Xylene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag	N	
o-Xylene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag	N	
Xylenes, total	<150	ug/kg wet	150	50	10/29/21	bag	10/30/21	bag		
Styrene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Bromoform	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
Isopropylbenzene	<250	ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
Bromobenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
n-Propylbenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
t-Butyl Benzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
sec-Butylbenzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
n-Butylbenzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-09 Matrix: Solid Date Collected: 10/28/21 14:53
Sample ID: CL-QCFB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
1,2,3-Trimethylbenzene	<50	ug/kg wet	50	50	10/29/21	bag	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag		
Hexachloroethane	<100	ug/kg wet	100	50	10/29/21	bag	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg wet	330	50	10/29/21	bag	10/30/21	bag		
Naphthalene	<330	ug/kg wet	330	50	10/29/21	bag	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg wet	250	50	10/29/21	bag	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg wet	330	50	10/29/21	bag	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	50	10/29/21	bag	10/30/21	bag		
Toluene-d8	101	%	75-120	50	10/29/21	bag	10/30/21	bag		
4-Bromofluorobenzene	99	%	69-119	50	10/29/21	bag	10/30/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	50	10/29/21	bag	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-10 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7471B										
Batch: T116323										
Mercury	<0.050	mg/kg dry	0.050	1	11/02/21	mrh	11/03/21	mrh		
METALS, TOTAL										
Analysis Method: EPA 6010D										
Batch: T116316										
Barium	**4.5**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Chromium	<2.0	mg/kg dry	2.0	1	11/02/21	mrh	11/04/21	dc		
Copper	<1.0	mg/kg dry	1.0	1	11/02/21	mrh	11/04/21	dc		
Lead	**2.3**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Zinc	**4.2**	**mg/kg dry**	**1.0**	**1**	**11/02/21**	**mrh**	**11/04/21**	**dc**		
Analysis Method: EPA 6020B										
Batch: T116316										
Arsenic	<2.0	mg/kg dry	2.0	10	11/02/21	mrh	11/03/21	acs		
Cadmium	<0.20	mg/kg dry	0.20	10	11/02/21	mrh	11/03/21	acs		
Selenium	<0.56	mg/kg dry	0.56	10	11/02/21	mrh	11/03/21	acs		
Silver	<0.46	mg/kg dry	0.46	10	11/02/21	mrh	11/03/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116349										
Naphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
2-Methylnaphthalene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Acenaphthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluorene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Phenanthrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-10 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Chrysene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (b) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (k) fluoranthene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (a) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Indeno (1,2,3-cd) pyrene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Dibenz (a,h) anthracene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Benzo (g,h,i) perylene	<330	ug/kg dry	330	1	11/03/21	kbc	11/09/21	avl		
Surrogates:										
Nitrobenzene-d5	76	%	36-98	1	11/03/21	kbc	11/09/21	avl	N	
2-Fluorobiphenyl	68	%	44-105	1	11/03/21	kbc	11/09/21	avl	N	
Terphenyl-d14	81	%	46-109	1	11/03/21	kbc	11/09/21	avl	N	
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116243										
Dichlorodifluoromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Chloromethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<40	ug/kg dry	40	50	10/29/21	nw	10/30/21	bag		
Bromomethane	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag		
Chloroethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Diethyl ether	<200	ug/kg dry	200	50	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Acetone	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag		
Iodomethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Methylene chloride	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-10 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Butanone	<760	ug/kg dry	760	50	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<1000	ug/kg dry	1000	50	10/29/21	nw	10/30/21	bag	N	
Chloroform	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Cyclohexane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Dibromomethane	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Toluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
2-Hexanone	<2500	ug/kg dry	2500	50	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<150	ug/kg dry	150	50	10/29/21	nw	10/30/21	bag		
Styrene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromoform	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-10 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Isopropylbenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
Bromobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<50	ug/kg dry	50	50	10/29/21	nw	10/30/21	bag	N	
1,2-Dichlorobenzene	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<100	ug/kg dry	100	50	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
Naphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<250	ug/kg dry	250	50	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<330	ug/kg dry	330	50	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	68-133	50	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	50	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	99	%	69-119	50	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	102	%	72-127	50	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1205-10 Matrix: Soil Date Collected: 10/28/21 11:37
Sample ID: CL-SB-GP-5 (1-3') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
WET CHEMISTRY										
Analysis Method: ASTM D2974-07a										
Batch: T116308										
% Solids	**98**	**% by Wt.**	**0.10**	**1**	**11/02/21**	**mr**	**11/03/21**	**mr**	**N**	

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QUALITY CONTROL RESULTS

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116323
QC Batch Method: EPA 7471B Prep
Analysis Description: Mercury, Total, EPA 7470/7471
Analysis Method: EPA 7471B

METHOD BLANK: T116323-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/kg wet	<0.050	0.050	

LABORATORY CONTROL SAMPLE: T116323-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	mg/kg wet	0.800	0.790	99	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116323-MSD1

Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Mercury	mg/kg dry	0	0.716	0.757	0.716	99	100	80-120	1	20	

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116316
QC Batch Method: EPA 3051 Microwave Assisted Digestions for Solids
Analysis Description: Copper, Total
Analysis Method: EPA 6010D

METHOD BLANK: T116316-BLK2

Parameter	Units	Blank Result	Reporting Limit	Notes
Barium	mg/kg dry	<1.0	1.0	
Chromium	mg/kg dry	<2.0	2.0	
Copper	mg/kg dry	<1.0	1.0	
Lead	mg/kg dry	<1.0	1.0	
Zinc	mg/kg dry	<1.0	1.0	

LABORATORY CONTROL SAMPLE: T116316-BS2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Barium	mg/kg dry	40.0	37.9	95	80-120	
Chromium	mg/kg dry	40.0	37.7	94	80-120	
Copper	mg/kg dry	40.0	36.8	92	80-120	
Lead	mg/kg dry	40.0	37.3	93	80-120	

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LABORATORY CONTROL SAMPLE: T116316-BS2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Zinc	mg/kg dry	40.0	37.2	93	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116316-MSD2 Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Barium	mg/kg dry	2.45	41.2	41.6	41.5	95	95	75-125	0.07	20	
Chromium	mg/kg dry	2.10	41.2	41.0	40.7	94	94	75-125	0.9	20	
Copper	mg/kg dry	0.782	41.2	38.8	38.8	92	92	75-125	0.2	20	
Lead	mg/kg dry	0.681	41.2	39.5	39.5	94	94	75-125	0.08	20	
Zinc	mg/kg dry	15.1	41.2	52.8	53.4	91	93	75-125	2	20	

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116316
QC Batch Method: EPA 3051 Microwave Assisted Digestions for Solids
Analysis Description: Selenium, Total
Analysis Method: EPA 6020B

METHOD BLANK: T116316-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/kg dry	<0.50	0.50	
Arsenic	mg/kg dry	<2.0	2.0	
Cadmium	mg/kg dry	<0.20	0.20	
Selenium	mg/kg dry	<0.60	0.60	

LABORATORY CONTROL SAMPLE: T116316-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	mg/kg dry	5.00	4.92	98	80-120	
Arsenic	mg/kg dry	5.00	4.50	90	80-120	
Cadmium	mg/kg dry	40.0	35.9	90	80-120	
Selenium	mg/kg dry	5.00	4.08	82	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116316-MSD1 Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Silver	mg/kg dry	0	5.15	4.77	5.21	92	101	75-125	9	20	
Arsenic	mg/kg dry	0.761	5.15	5.04	5.26	83	87	75-125	5	20	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116316-MSD1 Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Cadmium	mg/kg dry	0	41.2	36.1	38.4	87	93	75-125	6	20	
Selenium	mg/kg dry	0.409	5.15	4.26	4.59	75	81	75-125	8	20	

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116248
QC Batch Method: EPA 3550C Ultrasonic Extraction
Analysis Description: PCBs
Analysis Method: EPA 8082A

METHOD BLANK: T116248-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Aroclor-1016	ug/kg wet	<330	330	
Aroclor-1221	ug/kg wet	<330	330	
Aroclor-1232	ug/kg wet	<330	330	
Aroclor-1242	ug/kg wet	<330	330	
Aroclor-1248	ug/kg wet	<330	330	
Aroclor-1254	ug/kg wet	<330	330	
Aroclor-1260	ug/kg wet	<330	330	
Tetrachloro-m-xylene (S)	%	62	40-113	
Decachlorobiphenyl (S)	%	75	32-111	

LABORATORY CONTROL SAMPLE: T116248-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Aroclor-1016	ug/kg wet	533	340	64	37-132	
Aroclor-1260	ug/kg wet	533	388	73	48-130	
Tetrachloro-m-xylene (S)	%	33.3	26.9	81	40-113	
Decachlorobiphenyl (S)	%	33.3	27.5	83	32-111	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116248-MSD1 Original: **21J1205-06**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Aroclor-1016	ug/kg dry	0	571	513	480	90	84	41-118	7	39	
Aroclor-1260	ug/kg dry	0	571	544	508	95	89	41-113	7	40	
Tetrachloro-m-xylene (S)	%		35.7	34.5	30.5	97	85	40-113			
Decachlorobiphenyl (S)	%		35.7	32.1	28.4	90	80	32-111			

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

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QC Batch: T116349
QC Batch Method: EPA 3550C Ultrasonic Extraction

Analysis Description: PNAs
Analysis Method: EPA 8270D

METHOD BLANK: T116349-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Naphthalene	ug/kg wet	<330	330	
2-Methylnaphthalene	ug/kg wet	<330	330	
Acenaphthylene	ug/kg wet	<330	330	
Acenaphthene	ug/kg wet	<330	330	
Fluorene	ug/kg wet	<330	330	
Phenanthrene	ug/kg wet	<330	330	
Anthracene	ug/kg wet	<330	330	
Fluoranthene	ug/kg wet	<330	330	
Pyrene	ug/kg wet	<330	330	
Benzo (a) anthracene	ug/kg wet	<330	330	
Chrysene	ug/kg wet	<330	330	
Benzo (b) fluoranthene	ug/kg wet	<330	330	
Benzo (k) fluoranthene	ug/kg wet	<330	330	
Benzo (a) pyrene	ug/kg wet	<330	330	
Indeno (1,2,3-cd) pyrene	ug/kg wet	<330	330	
Dibenz (a,h) anthracene	ug/kg wet	<330	330	
Benzo (g,h,i) perylene	ug/kg wet	<330	330	
Nitrobenzene-d5 (S)	%	80	36-98	
2-Fluorobiphenyl (S)	%	74	44-105	
Terphenyl-d14 (S)	%	74	46-109	

LABORATORY CONTROL SAMPLE: T116349-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Acenaphthene	ug/kg wet	1730	1060	61	52-105	
Pyrene	ug/kg wet	1680	977	58	47-114	
Nitrobenzene-d5 (S)	%	3330	2500	75	36-98	
2-Fluorobiphenyl (S)	%	3370	2160	64	44-105	
Terphenyl-d14 (S)	%	3330	2200	66	46-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116349-MSD1 Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Acenaphthene	**ug/kg dry**	**0**	**1800**	**1460**	**887**	**81**	**49**	**46-111**	**49**	**31**	**207**
Pyrene	**ug/kg dry**	**0**	**1740**	**1320**	**804**	**76**	**46**	**40-124**	**48**	**33**	**207**
Nitrobenzene-d5 (S)	%		3450	2870	1840	83	53	36-98			
2-Fluorobiphenyl (S)	%		3490	2900	1760	83	50	44-105			
Terphenyl-d14 (S)	%		3450	2660	1800	77	52	46-109			

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Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116243
QC Batch Method: EPA 5035A Purge-and-Trap for Solids and Wastes

Analysis Description: Volatiles, Full MDEQ+ List
Analysis Method: EPA 8260D

METHOD BLANK: T116243-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Dichlorodifluoromethane	ug/kg wet	<250	250	
Chloromethane	ug/kg wet	<250	250	
Vinyl chloride	ug/kg wet	<40	40	
Bromomethane	ug/kg wet	<200	200	
Chloroethane	ug/kg wet	<250	250	
Trichlorofluoromethane	ug/kg wet	<100	100	
Diethyl ether	ug/kg wet	<200	200	
Tert-butyl alcohol	ug/kg wet	<2500	2500	
1,1-Dichloroethene	ug/kg wet	<50	50	
Acetone	ug/kg wet	<1000	1000	
Iodomethane	ug/kg wet	<100	100	
Carbon disulfide	ug/kg wet	<250	250	
Methyl-tert-butyl ether	ug/kg wet	<250	250	
Methylene chloride	ug/kg wet	<250	250	
Acrylonitrile	ug/kg wet	<100	100	
trans-1,2-Dichloroethene	ug/kg wet	<50	50	
1,1-Dichloroethane	ug/kg wet	<50	50	
Diisopropyl Ether	ug/kg wet	<250	250	
2-Butanone	ug/kg wet	<750	750	
cis-1,2-Dichloroethene	ug/kg wet	<50	50	
t-Butyl Ethyl Ether	ug/kg wet	<250	250	
Bromochloromethane	ug/kg wet	<100	100	
Tetrahydrofuran	ug/kg wet	<1000	1000	
Chloroform	ug/kg wet	<50	50	
1,1,1-Trichloroethane	ug/kg wet	<50	50	
Carbon tetrachloride	ug/kg wet	<50	50	
Benzene	ug/kg wet	<50	50	
t-Amyl Methyl Ether	ug/kg wet	<250	250	
1,2-Dichloroethane	ug/kg wet	<50	50	
Cyclohexane	ug/kg wet	<250	250	
Trichloroethene	ug/kg wet	<50	50	
1,2-Dichloropropane	ug/kg wet	<50	50	
Dibromomethane	ug/kg wet	<250	250	
Bromodichloromethane	ug/kg wet	<100	100	
cis-1,3-Dichloropropene	ug/kg wet	<50	50	
4-Methyl-2-pentanone	ug/kg wet	<2500	2500	
Toluene	ug/kg wet	<100	100	
trans-1,3-Dichloropropene	ug/kg wet	<50	50	

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METHOD BLANK: T116243-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
1,1,2-Trichloroethane	ug/kg wet	<50	50	
Tetrachloroethene	ug/kg wet	<50	50	
2-Hexanone	ug/kg wet	<2500	2500	
Dibromochloromethane	ug/kg wet	<100	100	
1,2-Dibromoethane (EDB)	ug/kg wet	<50	50	
Chlorobenzene	ug/kg wet	<50	50	
1,1,1,2-Tetrachloroethane	ug/kg wet	<100	100	
Ethylbenzene	ug/kg wet	<50	50	
m,p-Xylene	ug/kg wet	<100	100	
o-Xylene	ug/kg wet	<50	50	
Xylenes, total	ug/kg wet	<150	150	
Styrene	ug/kg wet	<50	50	
Bromoform	ug/kg wet	<100	100	
Isopropylbenzene	ug/kg wet	<250	250	
1,1,2,2-Tetrachloroethane	ug/kg wet	<50	50	
1,2,3-Trichloropropane	ug/kg wet	<100	100	
trans-1,4-Dichloro-2-butene	ug/kg wet	<50	50	
Bromobenzene	ug/kg wet	<100	100	
n-Propylbenzene	ug/kg wet	<100	100	
1,3,5-Trimethylbenzene	ug/kg wet	<100	100	
t-Butyl Benzene	ug/kg wet	<50	50	
1,2,4-Trimethylbenzene	ug/kg wet	<100	100	
sec-Butylbenzene	ug/kg wet	<50	50	
p-Isopropyltoluene	ug/kg wet	<100	100	
1,3-Dichlorobenzene	ug/kg wet	<100	100	
1,4-Dichlorobenzene	ug/kg wet	<100	100	
n-Butylbenzene	ug/kg wet	<50	50	
1,2,3-Trimethylbenzene	ug/kg wet	<50	50	
1,2-Dichlorobenzene	ug/kg wet	<100	100	
1,2-Dibromo-3-chloropropane	ug/kg wet	<100	100	
Hexachloroethane	ug/kg wet	<100	100	
1,2,4-Trichlorobenzene	ug/kg wet	<330	330	
Naphthalene	ug/kg wet	<330	330	
1,2,3-Trichlorobenzene	ug/kg wet	<250	250	
2-Methylnaphthalene	ug/kg wet	<330	330	
1,2-Dichloroethane-d4 (S)	%	97	68-133	
Toluene-d8 (S)	%	101	75-120	
4-Bromofluorobenzene (S)	%	104	69-119	
1,2-Dichlorobenzene-d4 (S)	%	103	72-127	

LABORATORY CONTROL SAMPLE: T116243-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
1,1-Dichloroethene	ug/kg wet	1000	998	100	64-156	

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LABORATORY CONTROL SAMPLE: T116243-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	ug/kg wet	1000	981	98	80-120	
Trichloroethene	ug/kg wet	1000	1030	103	69-133	
Toluene	ug/kg wet	1000	1020	102	80-120	
Chlorobenzene	ug/kg wet	1000	1040	104	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	28.8	96	68-133	
Toluene-d8 (S)	%	30.0	30.2	101	75-120	
4-Bromofluorobenzene (S)	%	30.0	30.3	101	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	30.1	100	72-127	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116243-MSD1 Original: **21J1205-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
1,1-Dichloroethene	ug/kg dry	0	996	915	928	92	93	60-146	1	15	
Benzene	ug/kg dry	0	996	957	1000	96	101	78-114	4	11	
Trichloroethene	ug/kg dry	0	996	988	1030	99	103	70-117	4	14	
Toluene	ug/kg dry	0	996	968	998	97	100	77-118	3	10	
Chlorobenzene	ug/kg dry	0	996	988	1030	99	103	75-116	4	12	
1,2-Dichloroethane-d4 (S)	%		30.0	29.2	29.4	97	98	68-133			
Toluene-d8 (S)	%		30.0	30.2	29.6	101	99	75-120			
4-Bromofluorobenzene (S)	%		30.0	29.2	28.8	97	96	69-119			
1,2-Dichlorobenzene-d4 (S)	%		30.0	30.9	30.5	103	102	72-127			

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116266
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: ASTM D2974-07a

SAMPLE DUPLICATE: T116266-DUP1 Original: **21J1205-01**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	96.5	96.4	0.06	20	

Trace Project ID: 21J1205
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116308
QC Batch Method: % Solids
Analysis Description: Solids, Dry Weight
Analysis Method: ASTM D2974-07a

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SAMPLE DUPLICATE: T116308-DUP1 Original: **21J1205-06**

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
% Solids	% by Wt.	93.3	92.3	1	20	

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CHAIN OF CUSTODY RECORD

21J1205 NCV

fishbeck
Address: 1515 Arboretum Dr. SE
Grand Rapids, MI 49546
Phone: 616.575.3824

Report to: Penni Mahler
Email: pdmahler@fishbeck.com
Copy to: Todd Campbell
Email: tcampbell@fishbeck.com

Invoice to: Accounts Payable
Email: acpay@fishbeck.com
Lab Quote Reference:

PROJECT NAME: OC Grant/518 South Harbor Ph II ESA
PROJECT LOCATION: Grand Haven, MI
PROJECT MANAGER: Kirk Perschbacher
ADDITIONAL INFORMATION: Full Deliverables (Level IV)

PROJECT NO.: 211365
SAMPLER(S) NAME: MRH, ADF
PHONE
EMAIL: kperschbacher@fishbeck.com

MATRIX TYPE: AQUEOUS (WATER); SOLID/SEMI-SOLID; AIR; NONAQUEOUS LIQUID

"X" for REQUIRED ANALYSES: TOTAL # BOTTLES; VOCs (US EPA 8260+); PNAs (US EPA 8270); Michigan 10 Metals (Total); % Solids; PCBs (8082)

Preservative: MeOH; None; None; None

PAGE: of

STD TAT: 5 DAY
RUSH TAT:
DATE DUE:

	SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID/SEMI-SOLID	TOTAL # BOTTLES	REMARKS
1	10/28/21	14:37	CL-SB-GP-1 (8-10'))/MS/MSD		X	4	VOC bottle, Soil (nograms)
			CL-SB-GP-2 ( ))				33.60, 10.4 | 33.63, 10.4 | 33.62, 10.0
			CL-SB-GP-3 ( ))				
2		12:00	CL-SB-GP-4 (2-4'))	X	X	2	33.79, 10.7 duplicate collected from CL-SB-GP-4 (2-4')
3/10		11:37	CL-SB-GP-5 (1-3')) ↓ 10		X	4	33.77, 10.8 + 33.64, 10.5 Sample ID: CL-SB-GP-5 (1-3')
4		12:30	CL-SB-GP-6 (0.5-2.5'))		X	2	33.43, 10.8
5		13:00	CL-SB-GP-7 (1-3'))		X	2	33.54, 11.0
6		14:00	CL-SB-GP-8 (0.5-1.5'))/MS/MSD		X	1	
7		14:05	CL-SB-GP-9 (0.5-1.5'))		X	1	
8		14:05	CL-SB-GP-9 (0.5-1.5'))D		X	1	
9	V	14:53	CL-QCFB	X			

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	METHOD OF SHIPMENT/TRACKING NUMBER
Adam Frye	10/29/21	1830				COC Sealed Trace Fedex
				10/29/21	1300	
				10/29/21	13:45	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	RECEIVED FOR LAB
						10/29/21 14:40

TO STORAGE: 10/29/21
RECEIVED BY: Fromstorage 10/29/21 13:00
2021-1028-01

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TRACE
ANALYTICAL LABORATORIES, INC.

Lab Weight Check – Methanol/DI Water Preserved Soils

Trace ID: 21J1205 Sample Weight Checked By: GH

Date: 10/29/21 Balance ID: 14

Sample #	Weight of VOA and MeOH or DI (g) Use only for MeOH Calculation QEC Weight	Weight of VOA and MeOH or DI (g) 2nd weight on vial TRACE Weight	Weight of VOA, MeOH or DI & Soil (g) FINAL Weight	Bottle and MeOH or DI LIMS#	Amount of Soil added (g) (FINAL Wt - TRACE Wt)	Volume of MeOH (QEC-TRACE)/0.792 subtract this value from 10
-01D	33.67	33.63	44.43	21I0305		
-01E	33.62	33.60	43.84	21I0305		
-01F	33.82	33.62	43.60	21I0305		
-02B	33.81	33.79	44.26	21I0305		
-03B	33.79	33.77	44.60	21I0305		
-04B	33.46	33.43	44.74	21I0305		
-05B	33.59	33.54	44.55	21I0305		
-09A	not available	not available	37.59	not available		
-10B	33.69	33.64	44.05	21I0305		

Form 70-N.3
Effective 6/20/19

F:\Support Documentation Worksheets\70-Sample Receiving\70-N.3 Lab Weight Check for Methanol Preserved Soils.doc

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21J1205
Fishbeck
Project Manager: Jon Mink

Sample Log In Checklist

	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.4°C)	Temp Blank	Client Sample
Date: 10/29/21							
Time: 16:04							
Logged by: [illegible]							
Package Description: Cooler #2							
Package Temp °C	-0.6	-0.5		✓			
Representative Sample Temp °C	2.1	1.7			✓	✓	

Sample Receipt

Yes No
- ☑ ☐ Received on ice or other coolant
- ☑ ☐ Ice still present upon receipt
- ☑ ☐ Custody seals present ☐ Yes ☐ No Custody seals intact (if applicable)
- ☑ Trace Courier ☐ Client Drop-off ☐ UPS ☐ Fed Ex ☐ US Mail ☐ Other

Sample Condition

Yes No N/A
- ☑ ☐ ☐ All sample containers arrived unbroken and labeled
- ☑ ☐ ☐ Sufficient sample to run requested analyses
- ☑ ☐ ☐ Correct chemical preservative added to samples
- ☐ ☑ ☐ Samples preserved at Trace
- ☑ ☐ ☐ Chemical preservation verified, check EMD pH test strip used (if applicable)
  - ☑ pH 0-2.5 (Lot: HC029115) ☐ pH 11.0-13.0 (Lot: HC022540) ☐ Other
- ☑ ☐ ☐ Air bubbles absent from VOAs

Chain of Custody (COC)

Yes No
- ☑ ☐ All bottle labels agree with COC
- ☑ ☐ COC filled out properly
- ☑ ☐ COC signed by client

Notes:

2 1 L Amb.
1 PL250 HNO_3 } CL-SB-QCEB-02 (Aqueous Matrix)
2 HCL VOAs

1 16 oz jar
9 ~~6~~ 10 4 oz jars } Soil Matrix
9 Methanol VOAs

CL-SB-GP-1 (8-10') I/MS/MSD
CL-SB-GP-4 (2-4') I
CL-SB-GP-5 (1-3') I & D
CL-SB-GP-6 (0.5-2.5') I
CL-SB-GP-7 (1-3') I
CL-SB-GP-8 (0.5-1.5') I/MS/MSD
CL-SB-GP-9 (0.5-1.5') I & D
CL-QCFB

Form 70-A.40
Effective 10/2/21

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November 11, 2021

Mr. Kirk Perschbacher
Fishbeck
1515 Arboretum Drive SE
Grand Rapids, MI 49546

RE: Trace Project 21J1202
Client Project OC Grant/518 South Harbor Ph II ESA

Dear Mr. Perschbacher:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAP Accreditation, Trace certifies that these test results meet all requirements of the NELAP Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAP at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Senior Project Manager
Enclosures

NELAP ACCREDITED TNI LABORATORY

NJDEP Accreditation No. MI008

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SAMPLE SUMMARY

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
21J1202-01	CL-GW-TMW-1 (20') I/MS/MSD	Ground Water	MRH/ADF	10/28/21 14:15	10/29/21 14:40
21J1202-02	CL-GW-TMW-2 (4.5-9.5') I	Ground Water	MRH/ADF	10/28/21 11:03	10/29/21 14:40
21J1202-03	CL-GW-TMW-2 (4.5-9.5') D	Ground Water	MRH/ADF	10/28/21 11:03	10/29/21 14:40
21J1202-04	CL-QCTB	Water	Client	10/28/21	10/29/21 14:40
21J1202-05	CL-GW-GCEB-01	Ground Water	MRH/ADF	10/28/21 16:00	10/29/21 14:40
21J1202-06	CL-GW-TMW-3 (1-1.5') I	Ground Water	MRH/ADF	10/28/21 11:00	10/29/21 14:40
21J1202-07	CL-SB-QCEB-02	Ground Water	MRH/ADF	10/28/21 16:20	10/29/21 14:40

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the laboratory is not accredited by NELAP for this compound
NA	Indicates that the compound is not available.

NOTE: Samples for volatiles that have been extracted with a water miscible solvent were corrected for the total volume of the solvent/water mixture.
Solid matrices Method Blanks are at 100% solids as such results are the same wet or dry.

DATA QUALIFIERS

Trace ID: T116347-MS1

Analysis: EPA 8270D

Pyrene	Note 208 : The MS recovery was out of control. Because the MSD recovery and the RPD between the MS and the MSD were in control, no data require qualification.

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-01 Matrix: Ground Water Date Collected: 10/28/21 14:15
Sample ID: CL-GW-TMW-1 (20') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	**0.030**	**mg/L**	**0.010**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Copper	**0.021**	**mg/L**	**0.0040**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Lead	**0.0071**	**mg/L**	**0.0030**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Selenium	**0.0070**	**mg/L**	**0.0050**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Silver	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Zinc	<0.050	mg/L	0.050	1	11/01/21	mrh	11/04/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-01 Matrix: Ground Water Date Collected: 10/28/21 14:15
Sample ID: CL-GW-TMW-1 (20') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	65	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	55	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	45	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116290										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Diethyl ether	<10	ug/L	10	1	11/01/21	bag	11/01/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	11/01/21	bag	11/01/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Acetone	<50	ug/L	50	1	11/01/21	bag	11/01/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	11/01/21	bag	11/01/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	
2-Butanone	<25	ug/L	25	1	11/01/21	bag	11/01/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-01 Matrix: Ground Water Date Collected: 10/28/21 14:15
Sample ID: CL-GW-TMW-1 (20') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Bromochloromethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	11/01/21	bag	11/01/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Benzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	11/01/21	bag	11/01/21	bag		
Toluene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
2-Hexanone	<50	ug/L	50	1	11/01/21	bag	11/01/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	11/01/21	bag	11/01/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	11/01/21	bag	11/01/21	bag		
Styrene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Bromoform	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-01 Matrix: Ground Water Date Collected: 10/28/21 14:15
Sample ID: CL-GW-TMW-1 (20') I/MS/MSD Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	11/01/21	bag	11/01/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/01/21	bag	11/01/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	1	11/01/21	bag	11/01/21	bag		
Toluene-d8	100	%	75-120	1	11/01/21	bag	11/01/21	bag		
4-Bromofluorobenzene	102	%	69-119	1	11/01/21	bag	11/01/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	1	11/01/21	bag	11/01/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-02 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	<0.010	mg/L	0.010	1	11/01/21	mrh	11/04/21	acs		
Copper	<0.0040	mg/L	0.0040	1	11/01/21	mrh	11/04/21	acs		
Lead	**0.0040**	**mg/L**	**0.0030**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Selenium	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Silver	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Zinc	<0.050	mg/L	0.050	1	11/01/21	mrh	11/04/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-02 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	54	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	43	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	40	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-02 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-02 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	99	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	101	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	105	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	105	%	72-127	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-03 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	**0.0055**	**mg/L**	**0.0050**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	<0.010	mg/L	0.010	1	11/01/21	mrh	11/04/21	acs		
Copper	**0.015**	**mg/L**	**0.0040**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Lead	**0.016**	**mg/L**	**0.0030**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Selenium	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Silver	<0.00060	mg/L	0.00060	1	11/01/21	mrh	11/04/21	acs		
Zinc	**0.14**	**mg/L**	**0.050**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-03 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	66	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	53	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	44	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-03 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-03 Matrix: Ground Water Date Collected: 10/28/21 11:03
Sample ID: CL-GW-TMW-2 (4.5-9.5') D Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	96	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	104	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-04 Matrix: Water Date Collected: 10/28/21
Sample ID: CL-QCTB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-04 Matrix: Water Date Collected: 10/28/21
Sample ID: CL-QCTB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-04 Matrix: Water Date Collected: 10/28/21
Sample ID: CL-QCTB Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	101	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	103	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-05 Matrix: Ground Water Date Collected: 10/28/21 16:00
Sample ID: CL-GW-GCEB-01 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	<0.010	mg/L	0.010	1	11/01/21	mrh	11/04/21	acs		
Copper	<0.0040	mg/L	0.0040	1	11/01/21	mrh	11/04/21	acs		
Lead	<0.0030	mg/L	0.0030	1	11/01/21	mrh	11/04/21	acs		
Selenium	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Silver	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Zinc	<0.050	mg/L	0.050	1	11/01/21	mrh	11/04/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-05 Matrix: Ground Water Date Collected: 10/28/21 16:00
Sample ID: CL-GW-GCEB-01 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	69	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	68	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	65	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-05 Matrix: Ground Water Date Collected: 10/28/21 16:00
Sample ID: CL-GW-GCEB-01 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-05 Matrix: Ground Water Date Collected: 10/28/21 16:00
Sample ID: CL-GW-GCEB-01 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	98	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	103	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	101	%	72-127	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-06 Matrix: Ground Water Date Collected: 10/28/21 11:00
Sample ID: CL-GW-TMW-3 (1-1.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	<0.010	mg/L	0.010	1	11/01/21	mrh	11/04/21	acs		
Copper	<0.0040	mg/L	0.0040	1	11/01/21	mrh	11/04/21	acs		
Lead	<0.0030	mg/L	0.0030	1	11/01/21	mrh	11/04/21	acs		
Selenium	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Silver	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Zinc	<0.050	mg/L	0.050	1	11/01/21	mrh	11/04/21	acs		
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-06 Matrix: Ground Water Date Collected: 10/28/21 11:00
Sample ID: CL-GW-TMW-3 (1-1.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	63	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	68	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	61	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-06 Matrix: Ground Water Date Collected: 10/28/21 11:00
Sample ID: CL-GW-TMW-3 (1-1.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-06 Matrix: Ground Water Date Collected: 10/28/21 11:00
Sample ID: CL-GW-TMW-3 (1-1.5') I Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	101	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	103	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	102	%	72-127	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-07 Matrix: Ground Water Date Collected: 10/28/21 16:20
Sample ID: CL-SB-QCEB-02 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 7470A										
Batch: T116319										
Mercury	<0.00020	mg/L	0.00020	1	11/03/21	mrh	11/03/21	mrh	N	
METALS, TOTAL										
Analysis Method: EPA 6020B										
Batch: T116268										
Arsenic	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Barium	<0.10	mg/L	0.10	1	11/01/21	mrh	11/04/21	acs		
Cadmium	<0.0010	mg/L	0.0010	1	11/01/21	mrh	11/04/21	acs		
Chromium	<0.010	mg/L	0.010	1	11/01/21	mrh	11/04/21	acs		
Copper	**0.021**	**mg/L**	**0.0040**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Lead	**0.0066**	**mg/L**	**0.0030**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
Selenium	<0.0050	mg/L	0.0050	1	11/01/21	mrh	11/04/21	acs		
Silver	<0.00082	mg/L	0.00082	1	11/01/21	mrh	11/04/21	acs		
Zinc	**0.052**	**mg/L**	**0.050**	**1**	**11/01/21**	**mrh**	**11/04/21**	**acs**		
PESTICIDES/PCBS										
Analysis Method: EPA 8082A										
Batch: T116303										
Aroclor-1016	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1221	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1232	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1242	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1248	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1254	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Aroclor-1260	<0.20	ug/L	0.20	1	11/02/21	kbc	11/04/21	tml		
Surrogates:										
Tetrachloro-m-xylene	56	%	38-94	1	11/02/21	kbc	11/04/21	tml	N	
Decachlorobiphenyl	49	%	27-95	1	11/02/21	kbc	11/04/21	tml	N	

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-07 Matrix: Ground Water Date Collected: 10/28/21 16:20
Sample ID: CL-SB-QCEB-02 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8270D										
Batch: T116347										
Naphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
2-Methylnaphthalene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthylene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Acenaphthene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluorene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Phenanthrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Anthracene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Pyrene	<5.0	ug/L	5.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) anthracene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Chrysene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (b) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (k) fluoranthene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (a) pyrene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Indeno (1,2,3-cd) pyrene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Dibenz (a,h) anthracene	<2.0	ug/L	2.0	1	11/03/21	kbc	11/08/21	avl		
Benzo (g,h,i) perylene	<1.0	ug/L	1.0	1	11/03/21	kbc	11/08/21	avl		
Surrogates:										
Nitrobenzene-d5	60	%	36-103	1	11/03/21	kbc	11/08/21	avl		
2-Fluorobiphenyl	58	%	36-119	1	11/03/21	kbc	11/08/21	avl		
Terphenyl-d14	53	%	37-109	1	11/03/21	kbc	11/08/21	avl		
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 8260D										
Batch: T116242										
Dichlorodifluoromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Vinyl chloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Chloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Trichlorofluoromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-07 Matrix: Ground Water Date Collected: 10/28/21 16:20
Sample ID: CL-SB-QCEB-02 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Diethyl ether	<10	ug/L	10	1	10/29/21	nw	10/30/21	bag	N	
Tert-butyl alcohol	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag	N	
1,1-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Acetone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Iodomethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Carbon disulfide	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methyl-tert-butyl ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Acrylonitrile	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Diisopropyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
2-Butanone	<25	ug/L	25	1	10/29/21	nw	10/30/21	bag		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Ethyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Bromochloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Tetrahydrofuran	<90	ug/L	90	1	10/29/21	nw	10/30/21	bag	N	
Chloroform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Amyl Methyl Ether	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2-Dichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Cyclohexane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Trichloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Dibromomethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Bromodichloromethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
4-Methyl-2-pentanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Toluene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-07 Matrix: Ground Water Date Collected: 10/28/21 16:20
Sample ID: CL-SB-QCEB-02 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Tetrachloroethene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
2-Hexanone	<50	ug/L	50	1	10/29/21	nw	10/30/21	bag		
Dibromochloromethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Chlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,1,1,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
m,p-Xylene	<2.0	ug/L	2.0	1	10/29/21	nw	10/30/21	bag	N	
o-Xylene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag	N	
Xylenes, total	<3.0	ug/L	3.0	1	10/29/21	nw	10/30/21	bag		
Styrene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromoform	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Isopropylbenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
trans-1,4-Dichloro-2-butene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Bromobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Propylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,3,5-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
t-Butyl Benzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,4-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
sec-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
p-Isopropyltoluene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
n-Butylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trimethylbenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1	10/29/21	nw	10/30/21	bag		
Hexachloroethane	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
1,2,4-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
Naphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		
1,2,3-Trichlorobenzene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

Trace ID: 21J1202-07 Matrix: Ground Water Date Collected: 10/28/21 16:20
Sample ID: CL-SB-QCEB-02 Date Received: 10/29/21 14:40

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
2-Methylnaphthalene	<5.0	ug/L	5.0	1	10/29/21	nw	10/30/21	bag	N	
Surrogates:										
1,2-Dichloroethane-d4	97	%	68-133	1	10/29/21	nw	10/30/21	bag		
Toluene-d8	100	%	75-120	1	10/29/21	nw	10/30/21	bag		
4-Bromofluorobenzene	103	%	69-119	1	10/29/21	nw	10/30/21	bag		
1,2-Dichlorobenzene-d4	103	%	72-127	1	10/29/21	nw	10/30/21	bag		

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QUALITY CONTROL RESULTS

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116319
QC Batch Method: EPA 7470A Prep
Analysis Description: Mercury, Total, EPA 7470/7471
Analysis Method: EPA 7470A

METHOD BLANK: T116319-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.00020	0.00020	

LABORATORY CONTROL SAMPLE: T116319-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	mg/L	0.00400	0.00356	89	77-122	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116319-MSD1

Original: **21J1202-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Mercury	mg/L	0	0.00400	0.00346	0.00364	86	91	76-123	5	20	

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116268
QC Batch Method: EPA 3015 Microwave Assisted Digestions for Liquids
Analysis Description: Arsenic, Total
Analysis Method: EPA 6020B

METHOD BLANK: T116268-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.0010	0.0010	
Arsenic	mg/L	<0.0050	0.0050	
Barium	mg/L	<0.10	0.10	
Cadmium	mg/L	<0.0010	0.0010	
Chromium	mg/L	<0.010	0.010	
Copper	mg/L	<0.0040	0.0040	
Lead	mg/L	<0.0030	0.0030	
Selenium	mg/L	<0.0050	0.0050	
Zinc	mg/L	<0.050	0.050	

LABORATORY CONTROL SAMPLE: T116268-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes

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LABORATORY CONTROL SAMPLE: T116268-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	mg/L	0.0278	0.0317	114	80-120	
Arsenic	mg/L	0.0556	0.0567	102	80-120	
Barium	mg/L	0.889	0.940	106	80-120	
Cadmium	mg/L	0.0278	0.0292	105	80-120	
Chromium	mg/L	0.0278	0.0287	103	80-120	
Copper	mg/L	0.890	0.836	94	80-120	
Lead	mg/L	0.0556	0.0538	97	80-120	
Selenium	mg/L	0.0556	0.0557	100	80-120	
Zinc	mg/L	0.889	0.821	92	80-120	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116268-MSD1 Original: **21J1202-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Silver	mg/L	0	0.0278	0.0309	0.0312	111	112	75-125	0.7	20	
Arsenic	mg/L	0.00194	0.0556	0.0527	0.0543	91	94	75-125	3	20	
Barium	mg/L	0.0762	0.889	0.970	0.977	101	101	75-125	0.7	20	
Cadmium	mg/L	0	0.0278	0.0287	0.0287	103	103	75-125	0.01	20	
Chromium	mg/L	0.0295	0.0278	0.0548	0.0553	91	93	75-125	2	20	
Copper	mg/L	0.0207	0.890	0.714	0.740	78	81	75-125	4	20	
Lead	mg/L	0.00712	0.0556	0.0489	0.0496	75	76	75-125	2	20	
Selenium	mg/L	0.00703	0.0556	0.0559	0.0572	88	90	75-125	3	20	
Zinc	mg/L	0.0379	0.889	0.744	0.753	79	80	75-125	1	20	

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116303
QC Batch Method: EPA 3510C Separatory Funnel Liquid-Liquid Extr.
Analysis Description: PCBs
Analysis Method: EPA 8082A

METHOD BLANK: T116303-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Aroclor-1016	ug/L	<0.20	0.20	
Aroclor-1221	ug/L	<0.20	0.20	
Aroclor-1232	ug/L	<0.20	0.20	
Aroclor-1242	ug/L	<0.20	0.20	
Aroclor-1248	ug/L	<0.20	0.20	
Aroclor-1254	ug/L	<0.20	0.20	

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METHOD BLANK: T116303-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Aroclor-1260	ug/L	<0.20	0.20	
Tetrachloro-m-xylene (S)	%	66	38-94	
Decachlorobiphenyl (S)	%	69	27-95	

LABORATORY CONTROL SAMPLE: T116303-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Aroclor-1016	ug/L	0.800	0.583	73	52-118	
Aroclor-1260	ug/L	0.800	0.557	70	47-123	
Tetrachloro-m-xylene (S)	%	0.0600	0.0369	62	38-94	
Decachlorobiphenyl (S)	%	0.0600	0.0328	55	27-95	

Trace Project ID: 21J1202
Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116347
QC Batch Method: EPA 3510C Separatory Funnel Liquid-Liquid Extr.

Analysis Description: PNAs
Analysis Method: EPA 8270D

METHOD BLANK: T116347-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Naphthalene	ug/L	<5.0	5.0	
2-Methylnaphthalene	ug/L	<5.0	5.0	
Acenaphthylene	ug/L	<5.0	5.0	
Acenaphthene	ug/L	<5.0	5.0	
Fluorene	ug/L	<5.0	5.0	
Phenanthrene	ug/L	<2.0	2.0	
Anthracene	ug/L	<5.0	5.0	
Fluoranthene	ug/L	<1.0	1.0	
Pyrene	ug/L	<5.0	5.0	
Benzo (a) anthracene	ug/L	<1.0	1.0	
Chrysene	ug/L	<1.0	1.0	
Benzo (b) fluoranthene	ug/L	<1.0	1.0	
Benzo (k) fluoranthene	ug/L	<1.0	1.0	
Benzo (a) pyrene	ug/L	<1.0	1.0	
Indeno (1,2,3-cd) pyrene	ug/L	<2.0	2.0	
Dibenz (a,h) anthracene	ug/L	<2.0	2.0	
Benzo (g,h,i) perylene	ug/L	<1.0	1.0	
Nitrobenzene-d5 (S)	%	74	36-103	
2-Fluorobiphenyl (S)	%	66	36-119	
Terphenyl-d14 (S)	%	69	37-109	

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LABORATORY CONTROL SAMPLE: T116347-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Acenaphthene	ug/L	52.0	36.6	70	42-105	
Pyrene	ug/L	50.5	36.3	72	47-116	
Nitrobenzene-d5 (S)	%	100	71.9	72	36-103	
2-Fluorobiphenyl (S)	%	101	72.2	72	36-119	
Terphenyl-d14 (S)	%	100	72.4	72	37-109	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116347-MSD1 Original: **21J1202-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Acenaphthene	ug/L	0	49.6	27.0	26.6	54	54	44-106	0.8	22	
Pyrene	ug/L	0	48.1	25.9	26.8	53	56	55-113	4	24	
Nitrobenzene-d5 (S)	%		95.3	54.1	46.7	56	49	36-103			
2-Fluorobiphenyl (S)	%		96.3	48.8	48.4	50	50	36-119			
Terphenyl-d14 (S)	%		95.3	48.2	46.8	50	49	37-109			

Trace Project ID: 21J1202

Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116242

QC Batch Method: EPA 5030B Purge-and-Trap for Aqueous Samples

Analysis Description: Volatiles, Full MDEQ+ List

Analysis Method: EPA 8260D

METHOD BLANK: T116242-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Dichlorodifluoromethane	ug/L	<5.0	5.0	
Chloromethane	ug/L	<5.0	5.0	
Vinyl chloride	ug/L	<1.0	1.0	
Bromomethane	ug/L	<5.0	5.0	
Chloroethane	ug/L	<5.0	5.0	
Trichlorofluoromethane	ug/L	<1.0	1.0	
Diethyl ether	ug/L	<10	10	
Tert-butyl alcohol	ug/L	<50	50	
1,1-Dichloroethene	ug/L	<1.0	1.0	
Acetone	ug/L	<50	50	
Iodomethane	ug/L	<1.0	1.0	
Carbon disulfide	ug/L	<5.0	5.0	
Methyl-tert-butyl ether	ug/L	<5.0	5.0	
Methylene chloride	ug/L	<5.0	5.0	
Acrylonitrile	ug/L	<2.0	2.0	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	
1,1-Dichloroethane	ug/L	<1.0	1.0	
Diisopropyl Ether	ug/L	<5.0	5.0	

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METHOD BLANK: T116242-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2-Butanone	ug/L	<25	25	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	
t-Butyl Ethyl Ether	ug/L	<5.0	5.0	
Bromochloromethane	ug/L	<1.0	1.0	
Tetrahydrofuran	ug/L	<90	90	
Chloroform	ug/L	<1.0	1.0	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	
Carbon tetrachloride	ug/L	<1.0	1.0	
Benzene	ug/L	<1.0	1.0	
t-Amyl Methyl Ether	ug/L	<5.0	5.0	
1,2-Dichloroethane	ug/L	<1.0	1.0	
Cyclohexane	ug/L	<5.0	5.0	
Trichloroethene	ug/L	<1.0	1.0	
1,2-Dichloropropane	ug/L	<1.0	1.0	
Dibromomethane	ug/L	<5.0	5.0	
Bromodichloromethane	ug/L	<1.0	1.0	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	
4-Methyl-2-pentanone	ug/L	<50	50	
Toluene	ug/L	<1.0	1.0	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	
Tetrachloroethene	ug/L	<1.0	1.0	
2-Hexanone	ug/L	<50	50	
Dibromochloromethane	ug/L	<5.0	5.0	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	
Chlorobenzene	ug/L	<1.0	1.0	
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	
Ethylbenzene	ug/L	<1.0	1.0	
m,p-Xylene	ug/L	<2.0	2.0	
o-Xylene	ug/L	<1.0	1.0	
Xylenes, total	ug/L	<3.0	3.0	
Styrene	ug/L	<1.0	1.0	
Bromoform	ug/L	<1.0	1.0	
Isopropylbenzene	ug/L	<5.0	5.0	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	
trans-1,4-Dichloro-2-butene	ug/L	<1.0	1.0	
Bromobenzene	ug/L	<1.0	1.0	
n-Propylbenzene	ug/L	<1.0	1.0	
1,3,5-Trimethylbenzene	ug/L	<1.0	1.0	
t-Butyl Benzene	ug/L	<1.0	1.0	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	
sec-Butylbenzene	ug/L	<1.0	1.0	
p-Isopropyltoluene	ug/L	<5.0	5.0	

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METHOD BLANK: T116242-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
1,3-Dichlorobenzene	ug/L	<1.0	1.0	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	
n-Butylbenzene	ug/L	<1.0	1.0	
1,2,3-Trimethylbenzene	ug/L	<1.0	1.0	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	1.0	
Hexachloroethane	ug/L	<5.0	5.0	
1,2,4-Trichlorobenzene	ug/L	<5.0	5.0	
Naphthalene	ug/L	<5.0	5.0	
1,2,3-Trichlorobenzene	ug/L	<5.0	5.0	
2-Methylnaphthalene	ug/L	<5.0	5.0	
1,2-Dichloroethane-d4 (S)	%	97	68-133	
Toluene-d8 (S)	%	101	75-120	
4-Bromofluorobenzene (S)	%	104	69-119	
1,2-Dichlorobenzene-d4 (S)	%	103	72-127	

LABORATORY CONTROL SAMPLE: T116242-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
1,1-Dichloroethene	ug/L	20.0	20.0	100	64-156	
Benzene	ug/L	20.0	19.6	98	80-120	
Trichloroethene	ug/L	20.0	20.6	103	69-133	
Toluene	ug/L	20.0	20.5	102	80-120	
Chlorobenzene	ug/L	20.0	20.8	104	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	28.8	96	68-133	
Toluene-d8 (S)	%	30.0	30.2	101	75-120	
4-Bromofluorobenzene (S)	%	30.0	30.3	101	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	30.1	100	72-127	

Trace Project ID: 21J1202

Client Project ID: OC Grant/518 South Harbor Ph II ESA

QC Batch: T116290

Analysis Description: Volatiles, Full MDEQ+ List

QC Batch Method: EPA 5030B Purge-and-Trap for Aqueous Samples

Analysis Method: EPA 8260D

METHOD BLANK: T116290-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Dichlorodifluoromethane	ug/L	<5.0	5.0	
Chloromethane	ug/L	<5.0	5.0	
Vinyl chloride	ug/L	<1.0	1.0	
Bromomethane	ug/L	<5.0	5.0	
Chloroethane	ug/L	<5.0	5.0	

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METHOD BLANK: T116290-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Trichlorofluoromethane	ug/L	<1.0	1.0	
Diethyl ether	ug/L	<10	10	
Tert-butyl alcohol	ug/L	<50	50	
1,1-Dichloroethene	ug/L	<1.0	1.0	
Acetone	ug/L	<50	50	
Iodomethane	ug/L	<1.0	1.0	
Carbon disulfide	ug/L	<5.0	5.0	
Methyl-tert-butyl ether	ug/L	<5.0	5.0	
Methylene chloride	ug/L	<5.0	5.0	
Acrylonitrile	ug/L	<2.0	2.0	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	
1,1-Dichloroethane	ug/L	<1.0	1.0	
Diisopropyl Ether	ug/L	<5.0	5.0	
2-Butanone	ug/L	<25	25	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	
t-Butyl Ethyl Ether	ug/L	<5.0	5.0	
Bromochloromethane	ug/L	<1.0	1.0	
Tetrahydrofuran	ug/L	<90	90	
Chloroform	ug/L	<1.0	1.0	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	
Carbon tetrachloride	ug/L	<1.0	1.0	
Benzene	ug/L	<1.0	1.0	
t-Amyl Methyl Ether	ug/L	<5.0	5.0	
1,2-Dichloroethane	ug/L	<1.0	1.0	
Cyclohexane	ug/L	<5.0	5.0	
Trichloroethene	ug/L	<1.0	1.0	
1,2-Dichloropropane	ug/L	<1.0	1.0	
Dibromomethane	ug/L	<5.0	5.0	
Bromodichloromethane	ug/L	<1.0	1.0	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	
4-Methyl-2-pentanone	ug/L	<50	50	
Toluene	ug/L	<1.0	1.0	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	
Tetrachloroethene	ug/L	<1.0	1.0	
2-Hexanone	ug/L	<50	50	
Dibromochloromethane	ug/L	<5.0	5.0	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	
Chlorobenzene	ug/L	<1.0	1.0	
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	
Ethylbenzene	ug/L	<1.0	1.0	
m,p-Xylene	ug/L	<2.0	2.0	
o-Xylene	ug/L	<1.0	1.0	
Xylenes, total	ug/L	<3.0	3.0	

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METHOD BLANK: T116290-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Styrene	ug/L	<1.0	1.0	
Bromoform	ug/L	<1.0	1.0	
Isopropylbenzene	ug/L	<5.0	5.0	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	
trans-1,4-Dichloro-2-butene	ug/L	<1.0	1.0	
Bromobenzene	ug/L	<1.0	1.0	
n-Propylbenzene	ug/L	<1.0	1.0	
1,3,5-Trimethylbenzene	ug/L	<1.0	1.0	
t-Butyl Benzene	ug/L	<1.0	1.0	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	
sec-Butylbenzene	ug/L	<1.0	1.0	
p-Isopropyltoluene	ug/L	<5.0	5.0	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	
n-Butylbenzene	ug/L	<1.0	1.0	
1,2,3-Trimethylbenzene	ug/L	<1.0	1.0	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	1.0	
Hexachloroethane	ug/L	<5.0	5.0	
1,2,4-Trichlorobenzene	ug/L	<5.0	5.0	
Naphthalene	ug/L	<5.0	5.0	
1,2,3-Trichlorobenzene	ug/L	<5.0	5.0	
2-Methylnaphthalene	ug/L	<5.0	5.0	
1,2-Dichloroethane-d4 (S)	%	97	68-133	
Toluene-d8 (S)	%	100	75-120	
4-Bromofluorobenzene (S)	%	104	69-119	
1,2-Dichlorobenzene-d4 (S)	%	105	72-127	

LABORATORY CONTROL SAMPLE: T116290-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
1,1-Dichloroethene	ug/L	20.0	20.4	102	64-156	
Benzene	ug/L	20.0	19.7	99	80-120	
Trichloroethene	ug/L	20.0	20.3	101	69-133	
Toluene	ug/L	20.0	19.9	99	80-120	
Chlorobenzene	ug/L	20.0	19.9	100	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	29.7	99	68-133	
Toluene-d8 (S)	%	30.0	30.4	102	75-120	
4-Bromofluorobenzene (S)	%	30.0	30.7	102	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	30.3	101	72-127	

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MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T116290-MSD1 Original: **21J1202-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
1,1-Dichloroethene	ug/L	0	20.0	20.1	19.6	101	98	60-146	3	15	
Benzene	ug/L	0	20.0	19.4	19.1	97	95	78-114	2	11	
Trichloroethene	ug/L	0	20.0	19.8	19.5	99	98	70-117	1	14	
Toluene	ug/L	0	20.0	20.0	19.4	100	97	77-118	3	10	
Chlorobenzene	ug/L	0	20.0	19.5	19.0	97	95	75-116	2	12	
1,2-Dichloroethane-d4 (S)	%		30.0	29.7	30.1	99	100	68-133			
Toluene-d8 (S)	%		30.0	30.3	30.6	101	102	75-120			
4-Bromofluorobenzene (S)	%		30.0	30.3	30.6	101	102	69-119			
1,2-Dichlorobenzene-d4 (S)	%		30.0	30.6	30.6	102	102	72-127			

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CHAIN OF CUSTODY RECORD

21J1202 NC

fishbeck
Address: 1515 Arboretum Dr. SE
Grand Rapids, MI 49546
Phone: 616.575.3824

Report to: Penni Mahler pdmahler@fishbeck.com
Copy to: Todd Campbell tcampbell@fishbeck.com
Email:

Invoice to: Accounts Payable
Email: acpay@fishbeck.com
Lab Quote
Reference:

PROJECT NAME: OC Grant/518 South Harbor Ph II ESA
PROJECT LOCATION: Grand Haven, MI
PROJECT MANAGER: Kirk Perschbacher
ADDITIONAL INFORMATION: Full Deliverables (Level IV)
PROJECT NO.: 211365
SAMPLER(S) NAME: MKH, ATF
PHONE
EMAIL: kperschbacher@fishbeck.com

	SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: AQUEOUS (WATER)	SOLID/SEMI-SOLID	AIR	NONAQUEOUS LIQUID	TOTAL # BOTTLES	Preservative: HCl	None	HNO3	None	"X" for REQUIRED ANALYSES: VOCs (US EPA 8260+)	PNAs (US EPA 8270)	Michigan 10 Metals (Total)	PCB USEPA 8082	~~PNAs (US EPA 8270)~~	REMARKS
1	10/28/21	14:15	CL-GW-TMW-1 (20')/MS/MSD	X				8	X	X	X		X	X	X	X		
2		11:03	CL-GW-TMW-2 (45-9.5')I	X				4	X	X	X		X	X	X			
3		11:03	CL-GW-TMW-2 (45-9.5')D	X				4	X	X	X		X	X	X			
4		-	CL-QCTB	X				1	X									
5		16:00	CL-GW-QCEB-01	X				4	X	X	X	*KWP						
6		16:20	CL-SB-QCEB-02	X				5	X	X	X	X						
		11:00	CL-GW-TMW-3 (1-15')I	X				4	X	X	X	X						

STD TAT: 5 DAY
RUSH TAT:
DATE DUE:
PAGE: of

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	METHOD OF SHIPMENT/TRACKING NUMBER
Alex Frye	10/29/21	1830				
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
				10/29/21	13:00	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
				10/29/21	13:00	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	
				10/29/21	13:45	
RELINQUISHED BY	DATE	TIME	RECEIVED FOR LAB	DATE	TIME	
				10/29/21	14:40	

TO STORAGE: Alex Frye 10/29/21
RECEIVED BY: FEDEX Storage DATE: 10/29/21
2021-1028-02

COC Sealed Trace Pickup

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CHAIN OF CUSTODY RECORD

21J1202 NCV

fishbeck
Address: 1515 Arboretum Dr. SE
Grand Rapids, MI 49546
Phone: 616.575.3824

Report to: Penni Mahler
Email: pdmahler@fishbeck.com
Copy to: Todd Campbell
Email: tcampbell@fishbeck.com

Invoice to: Accounts Payable
Email: acpay@fishbeck.com
Lab Quote Reference:

PROJECT NAME: OC Grant/518 South Harbor Ph II ESA
PROJECT NO.: 211365
PROJECT LOCATION: Grand Haven, MI
SAMPLER(S) NAME: Mitch Arce
PROJECT MANAGER: Kirk Perschbacher
PHONE
EMAIL: kperschbacher@fishbeck.com
ADDITIONAL INFORMATION
Full Deliverables (Level IV)

PAGE: of
STD TAT: 5 DAY
RUSH TAT:
DATE DUE:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: AQUEOUS (WATER)	SOLID/SEMI-SOLID	AIR	NONAQUEOUS LIQUID	TOTAL # BOTTLES	"X" for REQUIRED ANALYSES: VOCs (US EPA 8260+)	PNAs (US EPA 8270)	Michigan 10 Metals (Total)	PCB (EPA 8082) ~~PNAs (US EPA 8270)~~	REMARKS
			Preservative: HCl	None	HNO3	None						
10/28/21	14:15	CL-GW-TMW-1 (20')I/MS/MSD	X				8	X	X	X		
	11:03	CL-GW-TMW-2 (4.5-9.5')I	X				4	X	X	X		
	11:03	CL-GW-TMW-2 (4.5-9.5')D	X				4	X	X	X		
	-	CL-QCTB	X				1	X				
	16:00	CL-GW-QCEB-01	X				4	X	X	X	X VP	
	16:20	CL-SB-QCEB-02	X				4 @5	X	X	X	X	
	11:00	CL-GW-TMW-3 (1-1.5')I	X				4 (4)	X	X	X		

RELINQUISHED BY: [signature] DATE: 10/28/21 TIME: 1830
RECEIVED BY: [signature] DATE: 10/29/21 TIME: 13:00
RELINQUISHED BY: [signature] DATE: 10/29/21 TIME: 13:00
RECEIVED BY: [signature] DATE: 10/29/21 TIME: 13:45
RELINQUISHED BY: DATE: TIME:
RECEIVED BY: DATE: TIME:

METHOD OF SHIPMENT/TRACKING NUMBER: COC Sealed Trace Pickup
RECEIVED FOR LAB: [signature] DATE: 10/29/21 TIME: 14:40

RELINQUISHED BY: TS STONE Alex Fye DATE: 10/28/21 TIME: 1830
RECEIVED BY: Frank Stone DATE: 10/29/21 TIME: 13:00
2021-1028-02

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21J1202
Fishbeck
Project Manager: Jon Mink

Sample Log In Checklist

	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.4°C)	Temp Blank	Client Sample
Date: 10/29/21							
Time: 16:04							
Logged by: JKS							
Package Description: Cooler #1							
Package Temp °C	-0.8	-0.7		✓			
Representative Sample Temp °C	1.8	1.4			✓	✓	

Sample Receipt

Yes No
- ☑ ☐ Received on ice or other coolant
- ☑ ☐ Ice still present upon receipt
- ☑ ☐ Custody seals present ☐ Yes ☐ No Custody seals intact (if applicable)
- ☑ Trace Courier ☐ Client Drop-off ☐ UPS ☐ Fed Ex ☐ US Mail ☐ Other

Sample Condition

Yes No N/A
- ☑ ☐ ☐ All sample containers arrived unbroken and labeled
- ☑ ☐ ☐ Sufficient sample to run requested analyses
- ☑ ☐ ☐ Correct chemical preservative added to samples
- ☐ ☑ ☐ Samples preserved at Trace
- ☑ ☐ ☐ Chemical preservation verified, check EMD pH test strip used (if applicable)
  - ☑ pH 0-2.5 (Lot: HC029115) ☐ pH 11.0-13.0 (Lot: HC022540) ☐ Other
- ☑ ☐ ☐ Air bubbles absent from VOAs

Chain of Custody (COC)

Yes No
- ☑ ☐ All bottle labels agree with COC
- ☑ ☐ COC filled out properly
- ☑ ☐ COC signed by client

Notes:

7 1L Ambers
5 PL250 HNO_3 } Aqueous Matrix
13 HCL VOAs }

CL-GW-TMW-1(20')I/MS/MSD
CL-GW-TMW-2(4.5-9.5')I
CL-GW-TMW-2(4.5-9.5')D
CL-QCTB
CL-GW-QCEB-01
CL-GW-TMW-3(1-1.5')I

Form 70-A.40
Effective 10/2/21

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21J1202

Fishbeck
Project Manager: Jon Mink

Sample Log In Checklist

	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.4°C)	Temp Blank	Client Sample
Date: 10/29/21							
Time: 16:04							
Logged by: JKL							
Package Description: Cooler #2							
Package Temp °C	-0.6	-0.5		✓			
Representative Sample Temp °C	2.1	1.7			✓	✓	

Sample Receipt

Yes / No

- [x] Received on ice or other coolant
- [x] Ice still present upon receipt
- [x] Custody seals present — [ ] Yes [ ] No Custody seals intact (if applicable)
- [x] Trace Courier [ ] Client Drop-off [ ] UPS [ ] Fed Ex [ ] US Mail [ ] Other

Sample Condition

Yes / No / N/A

- [x] [ ] [ ] All sample containers arrived unbroken and labeled
- [x] [ ] [ ] Sufficient sample to run requested analyses
- [x] [ ] [ ] Correct chemical preservative added to samples
- [ ] [x] [ ] Samples preserved at Trace
- [x] [ ] [ ] Chemical preservation verified, check EMD pH test strip used (if applicable)
  - [x] pH 0-2.5 (Lot: HC029115) [ ] pH 11.0-13.0 (Lot: HC022540) [ ] Other,
- [x] [ ] [ ] Air bubbles absent from VOAs

Chain of Custody (COC)

Yes / No

- [x] All bottle labels agree with COC
- [x] COC filled out properly
- [x] COC signed by client

Notes:

2 1 L Amb.
1 PL250 HNO_3 } CL-SB-QCEB-02 (Aqueous Matrix)
2 HCL VOAs

1 16 oz jar
9 4 oz jars } Soil Matrix
9 Methanol VOAs

CL-SB-GP-8 (0.5-1.5') I/MS/MSD
CL-SB-GP-9 (0.5-1.5') I & D
CL-QC FB

CL-SB-GP-1 (8-10') I/MS/MSD
CL-SB-GP-4 (2-4') I
CL-SB-GP-5 (1-3') I & D
CL-SB-GP-6 (0.5-2.5') I
CL-SB-GP-7 (1-3') I

Form 70-A.40
Effective 10/2/21

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Fibertec
environmental
services

Tuesday, December 21, 2021

Fibertec Project Number:	A05022
Project Identification:	Ottawa CO P&P/518 S. Harbor Dr Phase II ESA /211365
Submittal Date:	11/03/2021

Mr. Kirk Perschbacher
Fishbeck, Thompson, Carr & Huber - G.R.
1515 Arboretum Dr., S.E.
Grand Rapids, Michigan 49546

Dear Mr. Perschbacher,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Back sections of PAH tubes were analyzed and show no signs of breakthrough unless otherwise noted.

Upon analysis, it was discovered that the field spike tube had not been spiked prior to going to the field and therefore could not be evaluated.

Batch precision and accuracy were evaluated by LCS and LCD, which met all criteria.

This report has been amended to update the TO-15 qualifiers for Bromoform and 1,4-Dichlorobenzene and replaced the report issued on November 18, 2021.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,



By Sharon Rakow at 2:07 PM, Dec 21, 2021

For Daryl P. Strandbergh
Laboratory Director

Enclosures

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:46**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-001** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:46**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-001** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**95**	%	80-120	VN	VN21K09A	11/9/2021 15:49	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:53**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-002** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:53**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-002** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**105**	%	80-120	VN	VN21K09A	11/9/2021 16:36	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**11:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-003** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**11:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-003** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**107**	%	80-120	VN	VN21K09A	11/9/2021 17:23	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:36**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-004** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
2. Benzene	U		µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
3. Benzyl Chloride	U	V+	µg/m3	6.2	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
5. Bromoform	U	V+ ICV+	µg/m3	62	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
17. 1,2-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
18. 1,3-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
19. 1,4-Dichlorobenzene	U	V+ L+ ICV+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
34. Hexachlorobutadiene	U	V+	µg/m3	5.1	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:36**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-004** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
41. MTBE	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 42. Naphthalene	U	V+	µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
43. Styrene	U		µg/m3	51	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
47. Toluene	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**89**	%	80-120	VN	VN21K10B	11/10/2021 17:22	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:27**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-005** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
2. Benzene	U		µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
3. Benzyl Chloride	U	V+	µg/m3	6.2	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
5. Bromoform	U	V+ ICV+	µg/m3	62	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
17. 1,2-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
18. 1,3-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
19. 1,4-Dichlorobenzene	U	V+ L+ ICV+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
34. Hexachlorobutadiene	U	V+	µg/m3	5.1	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:27**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-005** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
41. MTBE	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 42. Naphthalene	U	V+	µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
43. Styrene	U		µg/m3	51	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
47. Toluene	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
51. Trichloroethene	**6.4**		µg/m3	1.6	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**98**	%	80-120	VN	VN21K10B	11/10/2021 18:09	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7') (D)**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:54**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-006** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7') (D)**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:54**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-006** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**106**	%	80-120	VN	VN21K09A	11/9/2021 20:31	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:16**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-007** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-1 (7')I**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**88**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR
1-Fluoronaphthalene(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR
4-Terphenyl-d14(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:31**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-008** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**87**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR
1-Fluoronaphthalene(S)	**84**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR
4-Terphenyl-d14(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:34**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-009** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**82**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR
1-Fluoronaphthalene(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR
4-Terphenyl-d14(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-010** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR
1-Fluoronaphthalene(S)	**76**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR
4-Terphenyl-d14(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75') (D)**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:11**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-011** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-4 (1.75') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**90**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR
1-Fluoronaphthalene(S)	**84**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR
4-Terphenyl-d14(S)	**85**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:58**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-012** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR
1-Fluoronaphthalene(S)	**73**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR
4-Terphenyl-d14(S)	**78**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**Field Blank**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Blank: Tube**	Collect Time:	**12:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-013** **Matrix: Blank: Tube**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: Field Blank**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg	0.0020	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg	0.0025	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**86**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR
1-Fluoronaphthalene(S)	**80**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR
4-Terphenyl-d14(S)	**82**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits
D: The sample or extract was analyzed at a DF greater than 1.

Exception Summary:

ICV+ : Recovery in the associated initial calibration verification sample exceeds the upper control limit. Results may be biased high.
L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.

Accreditation Number(s):

T104704518-19-8 (TX)

PS21K11C: Method Blank (MB)

EPA TO-13A (Modified

Run Time: PS21K11C.MB 11/11/2021 17:03 [SJ21K11A]

Analyte	MB Result µg/tube	MB Qualifier	MB RDL µg/tube
Acenaphthene (SIM)	U		5.0
Acenaphthylene (SIM)	U		5.0
Anthracene (SIM)	U		5.0
Benzo(a)anthracene (SIM)	U		2.0
Fluorene (SIM)	U		5.0
2-Methylnaphthalene (SIM)	U		5.0
Naphthalene (SIM)	U		5.0
Phenanthrene (SIM)	U		2.0
Pyrene (SIM)	U		5.0
2-Fluorobiphenyl(S)	***103***		***70-130***
1-Fluoronaphthalene(S)	***87***		***70-130***
4-Terphenyl-d14(S)	***114***		***70-130***

PS21K11C: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-13A (Modified

Run Time: PS21K11C.LCS: 11/11/2021 17:40 [SJ21K11A] PS21K11C.LCSD: 11/11/2021 18:17 [SJ21K11A]

Analyte	LCS Spike Amount µg/tube	LCS Result µg/tube	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/tube	LCSD Result µg/tube	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Acenaphthene (SIM)	0.0200	0.0159	79	70-130		0.0200	0.0148	74		7	30	
Acenaphthylene (SIM)	0.0200	0.0183	91	70-130		0.0200	0.0173	86		6	30	
Anthracene (SIM)	0.0200	0.0150	75	70-130		0.0200	0.0170	85		13	30	
Benzo(a)anthracene (SIM)	0.0200	0.0182	91	70-130		0.0200	0.0173	86		6	30	
Fluorene (SIM)	0.0200	0.0165	82	70-130		0.0200	0.0157	79		4	30	
2-Methylnaphthalene (SIM)	0.0200	0.0173	86	70-130		0.0200	0.0181	91		6	30	
Naphthalene (SIM)	0.0200	0.0208	104	70-130		0.0200	0.0203	101		3	30	
Phenanthrene (SIM)	0.0200	0.0171	85	70-130		0.0200	0.0178	89		5	30	
Pyrene (SIM)	0.0200	0.0165	83	70-130		0.0200	0.0151	76		9	30	
2-Fluorobiphenyl(S)			***91***	***70-130***				***88***				
1-Fluoronaphthalene(S)			***77***	***70-130***				***79***				
4-Terphenyl-d14(S)			***86***	***70-130***				***83***				

VN21K09A: Method Blank (MB)

EPA TO-15

Run Time: VN21K09A.MB 11/09/2021 15:01 [VN21K09A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Acetone	U		57
Benzene	U		19
Benzyl Chloride	U		6.2
Bromodichloromethane	U		8.0
Bromoform	U		62
Bromomethane	U		23
1,3-Butadiene	U		0.66
2-Butanone	U		35
Carbon Disulfide	U		37
Carbon Tetrachloride	U		7.5
Chlorobenzene	U		28
Chloroethane	U		16
Chloroform	U		5.9
Chloromethane	U		12
Cyclohexane	U		41
Dibromochloromethane	U		4.1
1,2-Dichlorobenzene	U		36
1,3-Dichlorobenzene	U		36
1,4-Dichlorobenzene	U		36
Dichlorodifluoromethane	U		30
1,1-Dichloroethane	U		24
1,2-Dichloroethane	U		4.9
1,1-Dichloroethene	U		24
cis-1,2-Dichloroethene	U		24
trans-1,2-Dichloroethene	U		24
1,2-Dichloropropane	U		28
cis-1,3-Dichloropropene	U		27
trans-1,3-Dichloropropene	U		27
1,4-Dioxane	U		22
Ethyl Acetate	U		43
Ethylbenzene	U		52
Ethylene Dibromide	U		0.92
n-Heptane	U		49

VN21K09A: Method Blank (MB)

EPA TO-15

Run Time: VN21K09A.MB 11/09/2021 15:01 [VN21K09A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Hexachlorobutadiene	U		5.1
n-Hexane	U		42
2-Hexanone	U		49
Isopropanol	U		29
4-Methyl-2-pentanone	U		49
Methylene Chloride	U		42
2-Methylnaphthalene	U		140
MTBE	U		22
Naphthalene	U		19
Styrene	U		51
1,1,2,2-Tetrachloroethane	U		3.3
Tetrachloroethene	U		41
Tetrahydrofuran	U		3.5
Toluene	U		23
1,2,4-Trichlorobenzene	U		89
1,1,1-Trichloroethane	U		33
1,1,2-Trichloroethane	U		6.5
Trichloroethene	U		1.6
Trichlorofluoromethane	U		34
1,1,2-Trichlorotrifluoroethane	U		46
1,2,4-Trimethylbenzene	U		29
1,3,5-Trimethylbenzene	U		29
Vinyl Acetate	U		42
Vinyl Chloride	U		15
m&p-Xylene	U		52
o-Xylene	U		52
4-Bromofluorobenzene(S)	***95***		***80-120***

VN21K09A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K09A.LCS: 11/09/2021 12:35 [VN21K09A] VN21K09A.LCSD: 11/09/2021 13:23 [VN21K09A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Acetone	18.8	16.6	88	70-130		18.8	16.6	88		0	20	
Benzene	41.2	38.1	92	70-130		41.2	37.8	92		0	20	
Benzyl Chloride	75.7	100	132	70-150		75.7	102	134		2	20	
Bromodichloromethane	84.7	82.6	97	70-130		84.7	81.8	97		0	20	
Bromoform	134	170	127	70-138		134	176	131		3	20	
Bromomethane	51.7	51.4	99	70-133		51.7	51.9	100		1	20	
1,3-Butadiene	24.2	18.6	77	70-134		24.2	19.2	79		3	20	
2-Butanone	30.7	29.7	97	70-130		30.7	28.3	92		5	20	
Carbon Disulfide	38.8	36.6	95	70-130		38.8	35.2	91		4	20	
Carbon Tetrachloride	81.7	82.9	102	70-131		81.7	83.0	102		0	20	
Chlorobenzene	59.5	66.6	112	70-130		59.5	68.5	115		3	20	
Chloroethane	35.2	30.2	86	70-130		35.2	30.5	87		1	20	
Chloroform	64.0	60.8	95	70-130		64.0	59.8	93		2	20	
Chloromethane	26.9	20.8	77	70-130		26.9	21.0	78		1	20	
Cyclohexane	43.9	40.9	93	70-130		43.9	40.7	93		0	20	
Dibromochloromethane	99.3	117	118	70-135		99.3	122	123		4	20	
1,2-Dichlorobenzene	83.4	90.9	109	70-130		83.4	94.4	113		4	20	
1,3-Dichlorobenzene	91.7	117	127	70-131		91.7	120	131		3	20	
1,4-Dichlorobenzene	86.4	116	134	70-134		86.4	120	138	*	3	20	
Dichlorodifluoromethane	64.7	60.5	93	70-132		64.7	61.2	95		2	20	
1,1-Dichloroethane	51.4	45.7	89	70-130		51.4	44.6	87		2	20	
1,2-Dichloroethane	50.8	46.5	92	70-130		50.8	45.6	90		2	20	
1,1-Dichloroethene	51.0	43.0	84	70-133		51.0	42.9	84		0	20	
cis-1,2-Dichloroethene	50.4	46.9	93	70-130		50.4	45.7	91		2	20	
trans-1,2-Dichloroethene	45.5	45.1	99	70-130		45.5	44.5	98		1	20	
1,2-Dichloropropane	60.3	56.8	94	70-130		60.3	54.9	91		3	20	
cis-1,3-Dichloropropene	58.8	58.0	99	70-131		58.8	57.2	97		2	20	
trans-1,3-Dichloropropene	57.7	59.2	103	70-134		57.7	58.6	102		1	20	
1,4-Dioxane	46.6	46.9	101	70-130		46.6	47.4	102		1	20	
Ethyl Acetate	45.7	42.9	94	70-130		45.7	41.6	91		3	20	
Ethylbenzene	54.1	60.8	112	70-130		54.1	62.4	115		3	20	
Ethylene Dibromide	101	115	114	70-130		101	119	118		3	20	
n-Heptane	52.7	52.5	100	70-132		52.7	51.6	98		2	20	

VN21K09A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K09A.LCS: 11/09/2021 12:35 [VN21K09A] VN21K09A.LCSD: 11/09/2021 13:23 [VN21K09A]

Analyte	LCS Spike Amount µg/m3	LCS Result µg/m3	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/m3	LCSD Result µg/m3	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Hexachlorobutadiene	112	137	123	70-134		112	144	129		5	20	
n-Hexane	38.8	34.3	88	70-130		38.8	33.4	86		2	20	
2-Hexanone	43.0	49.3	115	70-139		43.0	49.4	115		0	20	
Isopropanol	32.0	22.6	71	54-144		32.0	22.6	71		0	20	
4-Methyl-2-pentanone	45.8	44.3	97	70-130		45.8	43.9	96		1	20	
Methylene Chloride	43.8	36.9	84	70-132		43.8	36.7	84		0	20	
2-Methylnaphthalene	73.7	79.0	107	70-146		73.7	80.6	109		2	20	
MTBE	46.7	44.4	95	70-130		46.7	43.5	93		2	20	
Naphthalene	65.2	78.1	120	70-148		65.2	80.3	123		2	20	
Styrene	54.4	65.3	120	70-130		54.4	66.9	123		2	20	
1,1,2,2-Tetrachloroethane	88.3	94.3	107	70-130		88.3	96.3	109		2	20	
Tetrachloroethene	86.7	103	118	70-130		86.7	105	122		3	20	
Tetrahydrofuran	49.0	47.9	98	70-138		49.0	46.8	96		2	20	
Toluene	48.1	53.3	111	70-130		48.1	54.5	113		2	20	
1,2,4-Trichlorobenzene	93.0	110	118	70-140		93.0	113	122		3	20	
1,1,1-Trichloroethane	69.9	69.6	100	70-130		69.9	69.3	99		1	20	
1,1,2-Trichloroethane	72.7	80.9	111	70-130		72.7	82.9	114		3	20	
Trichloroethene	68.4	67.5	99	70-130		68.4	66.7	98		1	20	
Trichlorofluoromethane	71.3	82.9	116	70-132		71.3	83.1	117		1	20	
1,1,2-Trichlorotrifluoroethane	95.2	90.8	95	70-130		95.2	87.9	92		3	20	
1,2,4-Trimethylbenzene	61.2	67.4	110	70-132		61.2	69.5	114		4	20	
1,3,5-Trimethylbenzene	62.7	70.9	113	70-131		62.7	73.2	117		3	20	
Vinyl Acetate	55.4	53.7	97	70-131		55.4	54.3	98		1	20	
Vinyl Chloride	32.0	26.3	82	70-131		32.0	26.9	84		2	20	
m&p-Xylene	110	124	113	70-130		110	128	116		3	20	
o-Xylene	55.2	61.0	111	70-130		55.2	62.3	113		2	20	
4-Bromofluorobenzene(S)			***107***	***80-120***				***109***				

VN21K10B: Method Blank (MB)

EPA TO-15

Run Time: VN21K10B.MB 11/10/2021 16:35 [VN21K10B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Acetone	U		57
Benzene	U		19
Benzyl Chloride	U		6.2
Bromodichloromethane	U		8.0
Bromoform	U		62
Bromomethane	U		23
1,3-Butadiene	U		0.66
2-Butanone	U		35
Carbon Disulfide	U		37
Carbon Tetrachloride	U		7.5
Chlorobenzene	U		28
Chloroethane	U		16
Chloroform	U		5.9
Chloromethane	U		12
Cyclohexane	U		41
Dibromochloromethane	U		4.1
1,2-Dichlorobenzene	U		36
1,3-Dichlorobenzene	U		36
1,4-Dichlorobenzene	U		36
Dichlorodifluoromethane	U		30
1,1-Dichloroethane	U		24
1,2-Dichloroethane	U		4.9
1,1-Dichloroethene	U		24
cis-1,2-Dichloroethene	U		24
trans-1,2-Dichloroethene	U		24
1,2-Dichloropropane	U		28
cis-1,3-Dichloropropene	U		27
trans-1,3-Dichloropropene	U		27
1,4-Dioxane	U		22
Ethyl Acetate	U		43
Ethylbenzene	U		52
Ethylene Dibromide	U		0.92
n-Heptane	U		49

VN21K10B: Method Blank (MB)

EPA TO-15

Run Time: VN21K10B.MB 11/10/2021 16:35 [VN21K10B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Hexachlorobutadiene	U		5.1
n-Hexane	U		42
2-Hexanone	U		49
Isopropanol	U		29
4-Methyl-2-pentanone	U		49
Methylene Chloride	U		42
2-Methylnaphthalene	U		140
MTBE	U		22
Naphthalene	U		19
Styrene	U		51
1,1,2,2-Tetrachloroethane	U		3.3
Tetrachloroethene	U		41
Tetrahydrofuran	U		3.5
Toluene	U		23
1,2,4-Trichlorobenzene	U		89
1,1,1-Trichloroethane	U		33
1,1,2-Trichloroethane	U		6.5
Trichloroethene	U		1.6
Trichlorofluoromethane	U		34
1,1,2-Trichlorotrifluoroethane	U		46
1,2,4-Trimethylbenzene	U		29
1,3,5-Trimethylbenzene	U		29
Vinyl Acetate	U		42
Vinyl Chloride	U		15
m&p-Xylene	U		52
o-Xylene	U		52
4-Bromofluorobenzene(S)	***90***		***80-120***

VN21K10B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K10B.LCS: 11/10/2021 14:10 [VN21K10B] VN21K10B.LCSD: 11/10/2021 14:57 [VN21K10B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Acetone	18.8	17.4	92	70-130		18.8	17.9	95		3	20	
Benzene	41.2	38.3	93	70-130		41.2	39.5	96		3	20	
Benzyl Chloride	75.7	106	140	70-150		75.7	104	138		1	20	
Bromodichloromethane	84.7	83.3	98	70-130		84.7	84.4	100		2	20	
Bromoform	134	166	124	70-138		134	159	119		4	20	
Bromomethane	51.7	55.0	106	70-133		51.7	54.8	106		0	20	
1,3-Butadiene	24.2	22.5	93	70-134		24.2	22.5	93		0	20	
2-Butanone	30.7	29.2	95	70-130		30.7	31.4	102		7	20	
Carbon Disulfide	38.8	37.1	96	70-130		38.8	38.1	98		2	20	
Carbon Tetrachloride	81.7	83.5	102	70-131		81.7	83.3	102		0	20	
Chlorobenzene	59.5	66.1	111	70-130		59.5	64.5	108		3	20	
Chloroethane	35.2	33.5	95	70-130		35.2	33.6	95		0	20	
Chloroform	64.0	61.7	96	70-130		64.0	62.5	98		2	20	
Chloromethane	26.9	25.3	94	70-130		26.9	25.4	94		0	20	
Cyclohexane	43.9	41.5	95	70-130		43.9	43.7	100		5	20	
Dibromochloromethane	99.3	115	116	70-135		99.3	112	113		3	20	
1,2-Dichlorobenzene	83.4	94.3	113	70-130		83.4	90.1	108		5	20	
1,3-Dichlorobenzene	91.7	120	131	70-131		91.7	114	124		5	20	
1,4-Dichlorobenzene	86.4	119	137	70-134	*	86.4	113	131		4	20	
Dichlorodifluoromethane	64.7	70.8	109	70-132		64.7	70.0	108		1	20	
1,1-Dichloroethane	51.4	45.4	88	70-130		51.4	47.6	93		6	20	
1,2-Dichloroethane	50.8	47.0	92	70-130		50.8	48.0	94		2	20	
1,1-Dichloroethene	51.0	46.7	91	70-133		51.0	48.3	95		4	20	
cis-1,2-Dichloroethene	50.4	46.9	93	70-130		50.4	48.5	96		3	20	
trans-1,2-Dichloroethene	45.5	45.5	100	70-130		45.5	46.8	103		3	20	
1,2-Dichloropropane	60.3	57.4	95	70-130		60.3	59.5	99		4	20	
cis-1,3-Dichloropropene	58.8	59.4	101	70-131		58.8	60.8	104		3	20	
trans-1,3-Dichloropropene	57.7	61.0	106	70-134		57.7	62.2	108		2	20	
1,4-Dioxane	46.6	47.4	102	70-130		46.6	49.9	107		5	20	
Ethyl Acetate	45.7	42.6	93	70-130		45.7	44.0	96		3	20	
Ethylbenzene	54.1	60.4	112	70-130		54.1	59.7	110		2	20	
Ethylene Dibromide	101	113	112	70-130		101	111	110		2	20	
n-Heptane	52.7	54.5	103	70-132		52.7	57.7	109		6	20	

VN21K10B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K10B.LCS: 11/10/2021 14:10 [VN21K10B] VN21K10B.LCSD: 11/10/2021 14:57 [VN21K10B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Hexachlorobutadiene	112	139	125	70-134		112	131	117		7	20	
n-Hexane	38.8	34.7	90	70-130		38.8	36.2	93		3	20	
2-Hexanone	43.0	50.2	117	70-139		43.0	51.8	121		3	20	
Isopropanol	32.0	24.1	75	54-144		32.0	24.6	77		3	20	
4-Methyl-2-pentanone	45.8	45.2	99	70-130		45.8	47.4	104		5	20	
Methylene Chloride	43.8	40.5	92	70-132		43.8	41.8	96		4	20	
2-Methylnaphthalene	73.7	86.4	117	70-146		73.7	84.6	115		2	20	
MTBE	46.7	44.5	95	70-130		46.7	45.2	97		2	20	
Naphthalene	65.2	86.3	132	70-148		65.2	83.1	127		4	20	
Styrene	54.4	66.3	122	70-130		54.4	64.7	119		2	20	
1,1,2,2-Tetrachloroethane	88.3	95.6	108	70-130		88.3	95.2	108		0	20	
Tetrachloroethene	86.7	100	116	70-130		86.7	97.2	112		4	20	
Tetrahydrofuran	49.0	48.4	99	70-138		49.0	51.8	106		7	20	
Toluene	48.1	52.8	110	70-130		48.1	52.1	108		2	20	
1,2,4-Trichlorobenzene	93.0	113	122	70-140		93.0	108	116		5	20	
1,1,1-Trichloroethane	69.9	69.8	100	70-130		69.9	70.3	101		1	20	
1,1,2-Trichloroethane	72.7	78.8	108	70-130		72.7	78.4	108		0	20	
Trichloroethene	68.4	68.6	100	70-130		68.4	68.8	101		1	20	
Trichlorofluoromethane	71.3	86.6	122	70-132		71.3	85.5	120		2	20	
1,1,2-Trichlorotrifluoroethane	95.2	90.7	95	70-130		95.2	91.5	96		1	20	
1,2,4-Trimethylbenzene	61.2	72.0	118	70-132		61.2	69.7	114		3	20	
1,3,5-Trimethylbenzene	62.7	73.2	117	70-131		62.7	71.7	114		3	20	
Vinyl Acetate	55.4	56.2	101	70-131		55.4	55.9	101		0	20	
Vinyl Chloride	32.0	30.9	97	70-131		32.0	30.8	96		1	20	
m&p-Xylene	110	124	113	70-130		110	121	110		3	20	
o-Xylene	55.2	62.2	113	70-130		55.2	61.0	110		3	20	
4-Bromofluorobenzene(S)			***110***	***80-120***				***108***				

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Sue Ricketts at 9:29 AM, Nov 18, 2021

Fibertec environmental services

Vapor Tube Sampling Field Worksheet

Client Name: 211365 | Sample Date: 11/1/21

Project Name/Number: | Sampled By: MRH

Sample Identifiers					Field Calibration					
Time Collected	Sample Descriptor	Tube Lot Number	Vapor Kit Number	Analysis Requested	Field Pre Cal Rate (L/min)	** Pre Back Pressure (hPa)	** Post Back Pressure (hPa)	Field Post Cal Rate (L/min)	***Field Cal Average (L/min)	Total Time (minutes)
N/A	Field Blank	13422	N/A	PAH	N/A	N/A	N/A	N/A	N/A	N/A
		F.S. ID Number								
N/A	Field Spike	13422	N/A		N/A	N/A	N/A	N/A	N/A	N/A
14:16 ✓	CL-SG-GP-1 (7') I	13422			0.2	7.75 ✓	7.71 ✓	0.2	0.2	10
13:31 ✓	CL-SG-GP-2 (4.5') I	13422				6.08	6.00 ✓			
12:34 ✓	CL-SG-GP-3 (4.5') I	13422				5.56	5.51			
14:58 ✓	CL-SG-GP-4 (1.75') I	13422				4.18 ✓	4.14 ✓			
13:48 ✓	CL-SG-GP-5 (10') I	13422				8.09 ✓	8.08 ✓			
MH	~~CL-SG-GP-6~~	~~13422~~								
✓15:11	CL-SG-GP-4 (1.75') D	13422				4.11 ✓	4.05 ✓			

*Comments:

I verify that the field sampling was conducted in accordance with the specification(s) in the approval letter(s) included in the sampling kit.

* Any deviation or issue with sample collection will be noted above

PAH - Asborent tube
Method - IO-13
.2 L per min
10 minutes
Manometer # Sophia

e:

e:

:

Sampling Notes

**Maximum Vacuum during sampling should be < 75hPa H_2O comp

*** Collection rate should be a maximum 0.2 L/minute

Sampling Media

Mercury: 200 mg Anasorb | PAH: 150mg XAD-2 | PCB: 1

Page____ of ____

Lab Use Only:
Fibertec Project Number:

Soil Vapor Sampling and Analysis Verification

Fibertec Project Number: A05022

The analysis of the samples included in this report were analyzed in accordance with the approach and modifications identified in the attached EGLE approval letter(s).

Reviewed and Approved by:

Signature: Ken Mueller

Printed Name: Ken Mueller

Date: 11/18/2021

Title: Quality Assurance Officer

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0388
11766 Grand River Brighton, Michigan 48116 Telephone: (810) 220-3300 Facsimile: (810) 220-3311
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STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

August 12, 2020

Fibertec Environmental Services
c/o Mr. Daryl Strandbergh, Laboratory Director
1914 Holloway Drive
Holt, Michigan 48842

Dear Mr. Strandbergh**:**

SUBJECT: Notice of Approval with Conditions of NIOSH 5515/TO-13A – Modified for Polycyclic Aromatic Hydrocarbon (PAH) Analysis in Soil Gas

The Michigan Department of Environment, Great Lakes, and Energy, Remediation and Redevelopment Division (EGLE-RRD) has reviewed the proposed modifications to the National Institute for Occupational Safety and Health's analytical method NIOSH 5515/TO-13A modified for polycyclic aromatic hydrocarbon (PAH) analysis in soil gas (NIOSH 5515M/TO-13AM). The NIOSH 5515M/TO-13AM was submitted and proposed by Fibertec Environmental Services of Holt, Michigan (Fibertec). In addition to EGLE's review, the modifications underwent a technical review by Geosyntec Consultants of Ann Arbor, Michigan (Geosyntec). Based upon EGLE's review and Geosyntec's recommendation, EGLE conditionally approves of Fibertec's use of NIOSH 5515M/TO-13AM for the analysis of PAHs in soil gas or subsurface vapor.

Geosyntec verified and validated that the proposed NIOSH 5515M/TO-13AM air method will produce defensible data that are reproducible, traceable, transparent, and of known quality for the analysis of mercury in soil gas. The final version of the NIOSH 5515M/TO-13AM method as reviewed by Geosyntec was submitted to EGLE on August 5, 2020 and is attached.

This approval is conditioned on the inclusion of the following information with each final laboratory data package:

1. A copy of this approval letter (without the attachments);
2. Written verification from Fibertech that the samples were analyzed in accordance with the approach and modifications identified in the August 7, 2020 letter as attached, and;
3. Written verification from the field sampling collection team that all field sampling methodology including sampling collection rates and volumes, calibration of sampling pumps, and the collection of blanks used in the collection of the soil gas or subsurface vapor sample were performed as outlined and described in the August 7, 2020 letter as attached.

If the above conditions are not met, EGLE approval of the data generated from the use of the NIOSH 5515M/TO-13AM air method may not be possible. This approval with conditions is based upon the representations and information contained in the August 7, 2020 that contains information on the modifications as provided by Fibertech and does not speak to the representativeness of the sample, nor that sufficient sampling was completed.

If you should have further questions or concerns, please contact Matthew Williams at williamsm13@michigan.gov at your earliest convenience.

Sincerely,



Joshua M. Mosher, Assistant Director
Remediation and Redevelopment Division

Attachment
cc: Matthew Williams, Vapor Intrusion Specialist
Patricia Brandt, Program Specialist
file

Geosyntec consultants
Geosyntec Consultants of Michigan, Inc.

2100 Commonwealth Blvd., Suite 100
Ann Arbor, Michigan 48015
PH 734.332.8004
www.geosyntec.com

7 August 2020

Matthew Williams
Volatilization to Indoor Air Specialist
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy
517-284-5171 | WilliamsM13@Michigan.gov

Subject: Approval of NIOSH 5515M / TO-13AM for Polycyclic Aromatic Hydrocarbon (PAH) Analysis in Soil Gas by Fibertec, Inc.

Dear Mr. Williams:

Geosyntec Consultants of Michigan, Inc (Geosyntec) was retained by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to evaluate whether the methods used by the environmental analytical laboratory of Fibertec, Inc of Holt, Michigan (Fibertec laboratory) for collection and analysis of soil gas samples for PAH analysis by modified NIOSH Method 5515 and modified USEPA Method TO-13A will provide data of acceptable data quality in order to support EGLE's approval.

Geosyntec prepared a request for information (**Table 1**) and reviewed the documents provided by the Fibertec laboratory on July 27, 2020, in response to the request, which are included in **Attachment A**, specifically:

- The laboratory standard operating procedure(s) associated with the sample preparation and analysis.
- A full or EPA Contract Laboratory Program (CLP)-like data package that has been validated for samples prepared and analyzed by modified NIOSH Method 5515.
- Method detection limit study
- Standards traceability documentation
- Analyst training records
- Laboratory accreditations

- Reporting and detection limits

Geosyntec also reviewed the reporting limits for the method, provided by Fibertec (**Table 2**) to assure that the Fibertec analytical method is sensitive enough to reliably quantify PAHs from 0.001 to 0.25 µg. In order to have a concentration reporting limit equal to or less than the criteria for PAHs in residential soil vapor or subslab vapor provided by Shane Morrison of Michigan EGLE via email on 10 March 2020, the sample volume would need to be at least 0.75 liter (L), which is necessary to quantify phenanthrene at 3.5 microgram per cubic meter ($\mu g/m^3$). We consider the sample volume of 2 L recommended by Fibertec to be appropriate because it provides a margin above the minimum volume that will help to avoid uncertainties that may be associated with barely reportable concentrations. We recommend that the samples be collected at a flow rate no greater than 0.2 liters per minute (L/min). This corresponds to a sample duration of about 10 minutes, which is practical, affordable and easily measured.

Review and approval of Fibertec's sampling standard operating procedure (SOP) will be done under a separate cover. We recommend that the SOP includes: purging of at least one tubing volume of soil gas through a sacrificial tube prior to sampling; confirming that the sampling flow rate can be sustained without laboring the pump (permeability is adequate); and confirming water is not drawn up from the probe. Additionally, we recommend that language be added to the SOP that indicates that the sampling protocol can be modified, but only in ways that meet project specific data quality objectives, through submittal of a request for EGLE to review a Response Activity Plan, under Section 20114b, Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Geosyntec also performed a Stage 4 validation of the data package submitted by Fibertec and concluded that the reported results were correctly produced per the specifications of the provided laboratory SOPs.

Geosyntec concludes that Fibertec laboratory can provide defensible data that are traceable, transparent and of known quality, if analyses are conducted in accordance with the attached documents and Fibertec receives the volumetric flow rate through the sampling apparatus, total sample volume, and a fortified field blank to demonstrate acceptable recoveries is carried to sampling sites by the field representative who collects the samples.

Regards,



Julia K. Caprio MBA ASQ-CMQ/OE
Sr. Principal/Quality Assurance



Todd A. McAlary, Ph.D., CUT, P.Eng.ON, BC, P.G.NC
Practice Leader – Vapor Intrusion Services

Attachments:
Table 1 – Documentation Checklist for PAHs by Modified NIOSH 5515 / USEPA TO-13A
Table 2 – Reporting Limits and Volume Requirements for Soil Vapor
Attachment A - Submitted Documentation

Copies to: Sam Baushke, Geosyntec

engineers | scientists | innovators

Appendix 4

fishbeck
Engineers | Architects | Scientists | Constructors

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Analytical Data Validation Report
518 South Harbor Drive
Grand Haven, Michigan
Field Work Completed November 1, 2021

For

Phase II Environmental Site Assessment
518 South Harbor Drive
Grand Haven, Michigan

Prepared For:
Ottawa County Brownfield Redevelopment Authority

December 2, 2021
Project No. 211365

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Table 4 – Validated Soil Gas Data Summary

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Appendix 1 Laboratory Data Summary Report

List of Abbreviations/Acronyms

BrCl	bromine monochloride
CCV	continuing calibration verification
°C	degrees Celsius
DCQAP	Data Collection Quality Assurance Plan
GC/MS	gas chromatograph/mass spectrometer
HCl	hydrochloric acid
ICAL	initial calibration
ICP-AES	inductively coupled plasma-atomic emission spectroscopy
ICP-MS	inductively coupled plasma-mass spectrometry
LCS	laboratory control sample
MDL	method detection limit
MS	matrix spike
MSD	matrix spike duplicate
PCB	Polychlorinated Biphenyls
%R	percent recovery
QC	quality control
QCS	quality control sample
RF	response factor
RL	reporting limit
RPD	relative percent difference
RT	retention time
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
µg/L	micrograms per liter

1.0 Project Information

Site name:		518 South Harbor Drive, Grand Haven, Michigan	
Project name:		Ottawa County Brownfield Redevelopment Authority	
Sample collection dates:		October 28 & November 1, 2021	
Sample matrix:		Groundwater, Soil and Soil Gas	
Analytical parameters/methods:	Groundwater:	VOCs	USEPA 8260D
		SVOCs	USEPA 8270D
		PCBs	USEPA 8082A
		Metals	USEPA 6020B
		Mercury	USEPA 7470A
	Soil:	VOCs	USEPA 8260D
		SVOCs	USEPA 8270D
		PCBs	USEPA 8082A
		Metals	USEPA 6010D & USEPA 6020B
		Mercury	USEPA 7471B
	Soil Gas:	VOCs	USEPA TO-15
		PAHs	NIOSH 5515 (Modified)
			EPA TO-13A (Modified)
Laboratory:		Groundwater & Soil: Trace Analytical Laboratories Soil Gas: Fibertec Environmental Services	
Sample Delivery Group(s):		Trace: 21J1202, 21J1205; Fibertec: A05022	

Sample Index:

Field ID	Lab ID
CL-GW-TMW-1(20')I/MS/MSD	21J1202-01
CL-GW-TMW-2(4.5-9.5')I	21J1202-02
CL-GW-TMW-2(4.5-9.5')D	21J1202-03
CL-QCTB	21J1202-04
CL-GW-GCEB-01	21J1202-05
CL-GW-TMW-3(1-1.5')I	21J1202-06
CL-SB-QCEB-02	21J1202-07

Field ID	Lab ID
CL-SB-GP-1(8-10')I/MS/MSD	21J1205-01
CL-SB-GP-4(2-4')I	21J1205-02
CL-SB-GP-5(1-3')I	21J1205-03
CL-SB-GP-6(0.5-2.5')I	21J1205-04
CL-SB-GP-7(1-3')I	21J1205-05
CL-SB-GP-8(0.5-1.5')I/MS/MSD	21J1205-06
CL-SB-GP-9(0.5-1.5')I	21J1205-07
CL-SB-GP-9(0.5-1.5')D	21J1205-08
CL-QCFB	21J1205-09
CL-SB-GP-5(1-3')D	21J1205-10

CL-SG-GP-1(7')I	A05022-001; 007
CL-SG-GP-1(7')D	A05022-006
CL-SG-GP-2(4-5')I	A05022-002; 008
CL-SG-GP-3(4-5')I	A05022-003; 009

CL-SG-GP-4(1.75')I	A05022-004; 012
CL-SG-GP-4(1.75')D	A05022-011
CL-SG-GP-5(10')I	A05022-005; 010
Field Blank	A05022-013

The laboratory data package was evaluated for compliance with the data quality objectives outlined in *Data Collection Quality Assurance Plan2* (DCQAP) (Fishbeck, October 2020). The following USEPA Region V data qualifier codes may be utilized in this report:

U The analyte was analyzed for, but not detected above the MDL.
J Analyte present. Reported value may not be accurate or precise.
R Result is rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria.

2.0 Volatile Organic Fraction

The laboratory data summary report is provided in Appendix 1. The validated groundwater VOC data are summarized in Table 3. The validated soil VOC data are summarized in Table 2. The validated soil gas VOC data are summarized in Table 4.

2.1 Technical Holding Time and Sample Preservation

Samples were received by the laboratory in proper condition with shipping container temperatures at ≤ 6°C (but not frozen) upon receipt.	Yes ☒	No ☐	NA ☐
Unpreserved aqueous samples were analyzed within the 7-day holding time.	Yes ☐	No ☐	NA ☒
Aqueous samples that were acid-preserved with HCl to a pH of ≤ 2 were analyzed within the 14-day holding time.	Yes ☒	No ☐	NA ☐
Non-aqueous samples that were properly cooled at ≤ 6°C (but not frozen) and preserved with methanol, were analyzed within the 14-day holding time.	Yes ☒	No ☐	NA ☐
Unpreserved non-aqueous samples were prepared and analyzed within the 14-day holding time.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If sample temperature was greater than 10°C upon receipt at the laboratory, detects were qualified as estimated (J) and non-detects were qualified as estimated (UJ). For samples received with temperatures greater than 6°C but less than 10°C, professional judgment was applied to qualify the data.

If unpreserved aqueous samples were analyzed outside the 7-day holding time, detects were qualified as estimated (J) and non-detects as unusable (R).

If samples were properly preserved but the holding time was exceeded, detects were qualified as estimated (J) and non-detects as unusable (R).

If holding times were grossly exceeded (e.g., by greater than 2X the holding time) for either the first analysis or upon reanalysis, detects were qualified as estimated (J); non-detects were qualified as unusable (R).

Holding Time/ Preservation Exceptions:

None

2.2 Blanks

2.2.1 Method Blanks

2.2.1.1 Groundwater

A method blank was analyzed once every 12-hour period, prior to any sample analysis, and after all ICAL standards or CCV.	Yes ☒	No ☐
The method blanks were analyzed on each GC/MS system used for sample analysis within an entire analytical sequence.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Method Blank Exceptions:

None

2.2.1.2 Soil

A method blank was analyzed once every 12-hour period, prior to any sample analysis, and after all ICAL standards or CCV.	Yes ☒	No ☐
The method blanks were analyzed on each GC/MS system used for sample analysis within an entire analytical sequence.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Method Blank Exceptions:

None

2.2.1.3 Soil Gas

A method blank was analyzed once every 12-hour period, prior to any sample analysis, and after all ICAL standards or CCV.	Yes ☒	No ☐	
The method blanks were analyzed on each system used for sample analysis within an entire analytical sequence.	Yes ☒	No ☐	
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒	

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Method Blank Exceptions:

None

2.2.2 Trip Blanks

2.2.2.1 Groundwater

A trip blank was included in each VOC sample shipment.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the trip blank at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the trip blank at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the trip blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated trip blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the trip blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the trip blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated trip blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < trip blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the trip blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ trip blank concentration or ≥ 2X the trip blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Trip Blank Exceptions:

None

2.2.3 Field Blanks

2.2.3.1 Soil

A field blank was included in each VOC sample shipment.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the field blank at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the field blank at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the field blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated field blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the field blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the field blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated field blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < field blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the field blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ field blank concentration or ≥ 2X the field blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Field Blank Exceptions:

None

2.2.4 Equipment Blanks

2.2.4.1 Groundwater

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the equipment blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the equipment blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < equipment blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the equipment blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ equipment blank concentration or ≥ 2X the equipment blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Equipment Blank Exceptions:

None

2.2.4.2 Soil

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the equipment blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the equipment blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < equipment blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the equipment blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ equipment blank concentration or ≥ 2X the equipment blank concentration for common laboratory contaminants (acetone, methylene chloride, 2-butanone).

Equipment Blank Exceptions:

None

2.3 System Monitoring Compounds

2.3.1 Groundwater

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample purging.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

2.3.2 Soil

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample purging.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

2.3.3 Soil Gas

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample purging.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

2.4 Laboratory Control Samples

2.4.1 Groundwater

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

2.4.2 Soil

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

2.4.3 Soil Gas

LCS/LCSD were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
LCS/LCSD recoveries were within the specified QC limits.	Yes ☐	No ☒

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

LCS ID	Compound	LCS %R	LCSD %R	LCS Control Limits	RPD	RPD Control Limits
VN21K09A	1,4-Dichlorobenzene	134	138	70-134	3	0-20
VN21K10B	1,4-Dichlorobenzene	137	131	70-134	4	0-20

Data Qualification:

No qualification necessary as all associated samples are non-detect for 1,4-Dichlorobenzene.

2.5 Matrix Spike/Matrix Spike Duplicate Analysis

2.5.1 Groundwater

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or trip blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

None

2.5.2 Soil

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or trip blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

None

2.6 Internal Standards

2.6.1 Groundwater

Internal standards were added to all samples and blanks.	Yes ☒	No ☐
The area response of each internal standard compound in all samples and blanks is within 50–200% of the area response of the same internal standard from the associated opening CCV or the mid-point standard from the associated ICAL.	Yes ☒	No ☐
The RT of each internal standard compound in the samples and blanks does not vary more than ± 10.0 seconds from the RT of the same internal standard compound in the associated opening CCV or mid-point standard from the associated ICAL.	Yes ☒	No ☐

Validation Guidelines:

If an internal standard area count for a sample or blank was outside the control limits of the area for the associated standard (50–200%), positive results for compounds quantitated using that internal standard were qualified as estimated (J); non-detects were qualified as estimated (UJ). Non-detect target compounds associated with extremely low area counts were qualified as unusable (R).

If the RT difference for a sample or blank was outside the control limits (± 10.0 seconds) from the RT of the same internal standard compound in the associated CCV or ICAL mid-point standard, the chromatographic profile of the sample was examined to determine if any false positives or negatives exist.

IS Exceptions:

None

2.6.2 Soil

Internal standards were added to all samples and blanks.	Yes ☒	No ☐
The area response of each internal standard compound in all samples and blanks is within 50–200% of the area response of the same internal standard from the associated opening CCV or the mid-point standard from the associated ICAL.	Yes ☒	No ☐
The RT of each internal standard compound in the samples and blanks does not vary more than ± 10.0 seconds from the RT of the same internal standard compound in the associated opening CCV or mid-point standard from the associated ICAL.	Yes ☒	No ☐

Validation Guidelines:

If an internal standard area count for a sample or blank was outside the control limits of the area for the associated standard (50–200%), positive results for compounds quantitated using that internal standard were qualified as estimated (J); non-detects were qualified as estimated (UJ). Non-detect target compounds associated with extremely low area counts were qualified as unusable (R).

If the RT difference for a sample or blank was outside the control limits (± 10.0 seconds) from the RT of the same internal standard compound in the associated CCV or ICAL mid-point standard, the chromatographic profile of the sample was examined to determine if any false positives or negatives exist.

IS Exceptions:

None

2.7 Compound Quantitation Limits

RLs for the VOC analyses were as required by the DCQAP.	Yes ☐	No ☒

Compound Quantitation Limits Exceptions:

Soil Gas: All samples analyzed at a dilution, resulting in elevated reporting limits.

Soil: All samples analyzed at a dilution, resulting in elevated reporting limits.

3.0 Semi-Volatile Organic Fraction

The laboratory data summary report is provided in Appendix 1. The validated groundwater SVOC data are summarized in Table 3. The validated soil SVOC data are summarized in Table 2. The validated soil gas SVOC data are summarized in Table 4.

3.1 Technical Holding Time and Sample Preservation

Samples were received by the laboratory in proper condition with shipping container temperatures at ≤ 6°C (but not frozen) upon receipt.	Yes ☒	No ☐	NA ☐
Samples were protected from light and stored at ≤ 6°C (but not frozen) from the time of collection until extraction.	Yes ☒	No ☐	NA ☐
Aqueous samples were extracted within 7 days of collection.	Yes ☒	No ☐	NA ☐
Non-aqueous samples were extracted within 14 days of collection.	Yes ☒	No ☐	NA ☐
Extracts were analyzed within 40 days of extraction.	Yes ☒	No ☐	NA ☐

Validation Guidelines:

If the technical holding time was exceeded, detects were qualified as estimated (J) and non-detects as estimated (UJ).

Holding Time/ Preservation Exceptions:

None

3.2 Blanks

3.2.1 Method Blanks

3.2.1.1 Groundwater

A method (extraction) blank was prepared and analyzed as part of each analytical batch of up to 20 samples.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Method Blank Exceptions:

None

3.2.1.2 Soil

A method (extraction) blank was prepared and analyzed as part of each analytical batch of up to 20 samples.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Method Blank Exceptions:

None

3.2.1.3 Soil Gas

A method (extraction) blank was prepared and analyzed as part of each analytical batch of up to 20 samples.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration or ≥ 2X the method blank concentration for common laboratory contaminants (phthalates).

Method Blank Exceptions:

None

3.2.2 Equipment Blanks

3.2.2.1 Groundwater

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blank at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blank at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the equipment blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the equipment blank concentration for common laboratory contaminants (phthalates).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < equipment blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the equipment blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ equipment blank concentration or ≥ 2X the equipment blank concentration for common laboratory contaminants (phthalates).

Equipment Blank Exceptions:

None

3.2.2.2 Soil

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blank at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blank at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the equipment blank concentration was <RL and the associated sample concentrations were either ≥ RL or ≥ 2X the equipment blank concentration for common laboratory contaminants (phthalates).

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < equipment blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the equipment blank concentration was ≥RL and the associated sample concentrations were ≥ RL and ≥ equipment blank concentration or ≥ 2X the equipment blank concentration for common laboratory contaminants (phthalates).

Equipment Blank Exceptions:

None

3.3 System Monitoring Compounds

3.3.1 Groundwater

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample extraction.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

3.3.2 Soil

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample extraction.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐

Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

3.3.3 Soil Gas

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample extraction.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

3.4 Laboratory Control Samples

3.4.1 Groundwater

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

3.4.2 Soil

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

3.4.3 Soil Gas

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

3.5 Matrix Spike/Matrix Spike Duplicate Analysis

3.5.1 Groundwater

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☐	No ☒
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

Sample ID	Compound	MS %R	MSD %R	MS Control Limits	RPD	RPD Control Limits
GW-TMW-1(20')	Pyrene	53	56	55-113	4	0-24

Data Qualification:

Compound	Sample ID	Lab Result (µg/L)	Qualified Result (µg/L)
Pyrene	GW-TMW-1(20')	5.0 U	5.0 UJ

3.5.2 Soil

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☐	No ☒

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

Sample ID	Compound	MS %R	MSD %R	MS Control Limits	RPD	RPD Control Limits
SB-GP-1(8-10')	Acenaphthene	81	49	46-111	49	0-31
	Pyrene	76	46	40-124	48	0-33

Data Qualification:

No qualification necessary as SB-GP-1(8-10') is non-detect for acenaphthene and pyrene.

3.6 Internal Standards

3.6.1 Groundwater

Internal standards were added to all samples and blanks.	Yes ☒	No ☐
The area response of each internal standard compound in all samples and blanks is within 50–200% of the area response of the same internal standard from the associated opening CCV or the mid-point standard from the associated ICAL.	Yes ☒	No ☐
The RT of each internal standard compound in the samples and blanks does not vary more than ± 10.0 seconds from the RT of the same internal standard compound in the associated opening CCV or mid-point standard from the associated ICAL.	Yes ☒	No ☐

Validation Guidelines:

If an internal standard area count for a sample or blank was outside the control limits of the area for the associated standard (50–200%), positive results for compounds quantitated using that internal standard were qualified as estimated (J); non-detects were qualified as estimated (UJ). Non-detect target compounds associated with extremely low area counts were qualified as unusable (R).

If the RT difference for a sample or blank was outside the control limits (± 10.0 seconds) from the RT of the same internal standard compound in the associated CCV or ICAL mid-point standard, the chromatographic profile of the sample was examined to determine if any false positives or negatives exist.

IS Exceptions:

None

3.6.2 Soil

Internal standards were added to all samples and blanks.	Yes ☒	No ☐
The area response of each internal standard compound in all samples and blanks is within 50–200% of the area response of the same internal standard from the associated opening CCV or the mid-point standard from the associated ICAL.	Yes ☒	No ☐
The RT of each internal standard compound in the samples and blanks does not vary more than ± 10.0 seconds from the RT of the same internal standard compound in the associated opening CCV or mid-point standard from the associated ICAL.	Yes ☒	No ☐

Validation Guidelines:

If an internal standard area count for a sample or blank was outside the control limits of the area for the associated standard (50–200%), positive results for compounds quantitated using that internal standard were qualified as estimated (J); non-detects were qualified as estimated (UJ). Non-detect target compounds associated with extremely low area counts were qualified as unusable (R).

If the RT difference for a sample or blank was outside the control limits (± 10.0 seconds) from the RT of the same internal standard compound in the associated CCV or ICAL mid-point standard, the chromatographic profile of the sample was examined to determine if any false positives or negatives exist.

IS Exceptions:

None

3.7 Compound Quantitation Limits

RLs for the SVOC analyses were as required by the DCQAP.	Yes ☐ No ☒

Compound Quantitation Limits Exceptions:

Soil: SB-GP-6(0.5-2.5') was analyzed at a dilution, resulting in elevated reporting limits for all analytes.

4.0 Polychlorinated Biphenyls (Aroclors)

The laboratory data summary report is provided in Appendix 1. The validated groundwater PCB data are summarized in Table 3. The validated soil PCB data are summarized in Table 2.

4.1 Technical Holding Time and Sample Preservation

Samples were received by the laboratory in proper condition with shipping container temperatures at ≤ 6°C (but not frozen) upon receipt.	Yes ☒	No ☐	NA ☐
Samples were protected from light and stored at ≤ 6°C (but not frozen) from the time of collection until extraction.	Yes ☒	No ☐	NA ☐
Aqueous samples were extracted within 7 days of collection.	Yes ☒	No ☐	NA ☐
Non-aqueous samples were extracted within 14 days of collection.	Yes ☒	No ☐	NA ☐
Extracts were analyzed within 40 days of extraction.	Yes ☒	No ☐	NA ☐

Validation Guidelines:

If the technical holding time was exceeded, detects were qualified as estimated (J) and non-detects as estimated (UJ).

Holding Time/ Preservation Exceptions:

None

4.2 Blanks

4.2.1 Method Blanks

4.2.1.1 Groundwater

A method (extraction) blank was prepared and analyzed as part of each analytical batch of up to 20 samples.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were ≥ RL.

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥ RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration.

Method Blank Exceptions:

None

4.2.1.2 Soil

A method (extraction) blank was prepared and analyzed as part of each analytical batch of up to 20 samples.	Yes ☒	No ☐
Target compounds were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒
Target compounds were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated method blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the method blank concentration was <RL and the associated sample concentrations were ≥ RL.

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated method blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < method blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the method blank concentration was ≥ RL and the associated sample concentrations were ≥ RL and ≥ method blank concentration.

Method Blank Exceptions:

None

4.2.2 Equipment Blanks

4.2.2.1 Soil

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blank at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blank at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Compounds detected in samples at concentrations <RL that were also detected at concentrations <RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Professional judgement was used in qualifying data when the equipment blank concentration was <RL and the associated sample concentrations were ≥ RL.

Compounds detected in samples at concentrations <RL that were detected at concentrations ≥ RL in the associated equipment blank were qualified as non-detect (U) at the RL.

Compounds detected in samples at concentrations ≥ RL but < equipment blank concentration were reported at the sample result and qualified as non-detect (U) or unusable (R).

Professional judgement was used in qualifying data when the equipment blank concentration was ≥RL and the associated sample concentrations were ≥ RL.

Equipment Blank Exceptions:

None

4.3 System Monitoring Compounds

4.3.1 Groundwater

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample extraction.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

4.3.2 Soil

All samples were spiked with system monitoring compounds (surrogate compounds) prior to sample extraction.	Yes ☒	No ☐	NA ☐
System monitoring compound recoveries were within the established QC limits.	Yes ☒	No ☐	NA ☐
Samples with system monitoring compound recoveries outside the established QC limits were reanalyzed to confirm non-compliance due to sample matrix, not lab deficiencies.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

If system monitoring compound recoveries were greater than the upper QC limit, detected compounds were qualified as estimated (J); non-detects were not qualified.

If a system monitoring compound had a recovery greater than or equal to 10%, but less than the lower QC limit, detected compounds were qualified as estimated (J); non-detects were qualified as estimated (UJ).

If a system monitoring compound had a recovery of less than 10%, detected compounds were qualified as estimated (J); non-detects were qualified as unusable (R).

Surrogate Exceptions:

None

4.4 Laboratory Control Samples

4.4.1 Groundwater

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☒	NA ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☐	No ☐	NA ☒
LCS recoveries were within the specified QC limits.	Yes ☒	No ☒	NA ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

4.4.2 Soil

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The LCS were spiked with the same compounds at the same concentration as the matrix spike samples.	Yes ☒	No ☐
LCS recoveries were within the specified QC limits.	Yes ☒	No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS compounds was outside QC limits high, results for detected compounds were qualified as estimated (J), biased high; non-detects were not qualified.

When recovery of the LCS compounds was outside QC limits low, results for detected compounds were qualified as estimated (J), biased low; non-detects were rejected (R).

LCS Exceptions:

None

4.5 Matrix Spike/Matrix Spike Duplicate Analysis

4.5.1 Groundwater

MS/MSD samples were analyzed at the required frequency.	Yes ☐	No ☐	NA ☒
Samples identified as field blanks were used for spiked sample analysis.	Yes ☐	No ☐	NA ☒
MS/MSD recoveries are within the established QC limits.	Yes ☐	No ☐	NA ☒
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☐	No ☐	NA ☒

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

The sample submitted was a quality control sample only. The analytical batch contained the appropriate MS/MSD analysis

4.5.2 Soil

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

Data are not qualified based solely on the MS/MSD data. In the absence of compelling information to the contrary, data for the native sample used for the MS/MSD were qualified as follows:

When %R or RPD exceeded the upper control limit, detected spiked compounds were qualified as estimated (J); non-detects were not qualified.

When %R > 20% but < the lower acceptance limit, detected spiked compounds were qualified estimated (J); non-detects were qualified as estimated (UJ).

When %R < the lower acceptance limit and < 20%, detected spiked compounds were qualified as estimated (J); non-detects were qualified as unusable (UR).

MS/MSD Exceptions:

None

4.6 Compound Quantitation Limits

RLs for the PCBs analyses were as required by the DCQAP.	Yes ☒	No ☐

Compound Quantitation Limits Exceptions:

None

5.0 Metals Fraction

The laboratory data summary report is provided in Appendix 1. The validated groundwater metals data are summarized in Table 3. The validated soil metals data are summarized in Table 2.

5.1 ICP-AES/ICP-MS Metals

5.1.1 Technical Holding Time and Sample Preservation

ICP-AES or ICP-MS samples were preserved with nitric acid to pH ≤ 2.	Yes ☒	No ☐	NA ☐
ICP-AES or ICP-MS metals were analyzed within the 180-day holding time.	Yes ☒	No ☐	NA ☐

Validation Guidelines:

If samples were not preserved in the field to pH ≤ 2 and the lab did not preserve the samples upon receipt, detects > MDL but < RL and non-detects were qualified as unusable (R); detects > RL were qualified as estimated (J).

If samples were properly preserved and analyzed outside the holding time, detects were qualified as estimated (J); non-detects were qualified as unusable (R).

Holding Time/ Preservation Exceptions:

None

5.1.2 Blanks

5.1.2.1 Method Blanks

5.1.2.1.1 Groundwater

A method blank was prepared and analyzed as part of each QC batch.	Yes ☒	No ☐
The target analytes were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒
The target analytes were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

If the method blank had a concentration > MDL but < RL, all associated results < RL were reported as non-detect (U) at the RL.

Results > RL but < 10X the amount in the method blank were qualified as non-detect (U).

If the method blank had a negative result whose absolute value was > RL, all samples reported below 10X the RL were qualified as estimated (J).

Method Blank Exceptions:

None

5.1.2.1.2 Soil

A method blank was prepared and analyzed as part of each QC batch.	Yes ☒	No ☐
The target analytes were detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒
The target analytes were detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒

Validation Guidelines:

No qualification was necessary when a compound was detected in the method blank but not in the sample.

If the method blank had a concentration > MDL but < RL, all associated results < RL were reported as non-detect (U) at the RL.

Results > RL but < 10X the amount in the method blank were qualified as non-detect (U).

If the method blank had a negative result whose absolute value was > RL, all samples reported below 10X the RL were qualified as estimated (J).

Method Blank Exceptions:

None

5.1.2.2 Equipment Blanks

5.1.2.2.1 Groundwater

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

Compounds detected in samples that were also detected in the associated equipment blank were qualified estimated (J) when the sample concentration was less than five times the blank concentration.

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Equipment Blank Exceptions:

None

5.1.2.2.2 Soil

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☒	No ☐	NA ☐

Validation Guidelines:

Compounds detected in samples that were also detected in the associated equipment blank were qualified estimated (J) when the sample concentration was less than five times the blank concentration.

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

Equipment Blank Exceptions:

Blank Number	Compound	Concentration (µg/L)
SB-QCEB-02	Copper	21
	Lead	6.6
SB-QCEB-02	Zinc	52

Data Qualification:

Compound	Sample ID	Lab Result (µg/kg)	Qualified Result (µg/kg)
Copper	SB-GP-7(1-3')	1.6	1.6 J
Lead	SB-GP-7(1-3')	1.7	1.7 J
Zinc	SB-GP-4(2-4')	5.0	5.0 J
	SB-GP-5(1-3')	4.8	4.8 J
	SB-GP-6(0.5-2.5')	13	13 J
	SB-GP-7(1-3')	4.8	4.8 J
	SB-GP-5(1-3')D	4.2	4.2 J

5.1.3 Laboratory Control Samples

5.1.3.1 Groundwater

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒ No ☐
The LCS were spiked with the target analytes at the same concentration as the matrix spike samples.	Yes ☒ No ☐
LCS recoveries were within the specified QC limits.	Yes ☒ No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS was outside QC limits high, detected results were qualified as estimated (J); non-detects were not qualified.

When recovery of the LCS fell within the range of 50–79%, detected results were qualified as estimated (J) and non-detects as estimated (UJ).

When recovery of the LCS was < 50%, detected results were qualified as estimated (J); non-detects were qualified as unusable (R).

LCS Exceptions:

None

5.1.3.2 Soil

LCS were prepared and analyzed as part of each analytical batch.	Yes ☒ No ☐
The LCS were spiked with the target analytes at the same concentration as the matrix spike samples.	Yes ☒ No ☐
LCS recoveries were within the specified QC limits.	Yes ☒ No ☐

Validation Guidelines:

The LCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the LCS was outside QC limits high, detected results were qualified as estimated (J); non-detects were not qualified.

When recovery of the LCS fell within the range of 50–79%, detected results were qualified as estimated (J) and non-detects as estimated (UJ).

When recovery of the LCS was < 50%, detected results were qualified as estimated (J); non-detects were qualified as unusable (R).

LCS Exceptions:

None

5.1.4 Matrix Spike/Matrix Spike Duplicate Analysis

5.1.4.1 Groundwater

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or equipment blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

If MS/MSD recoveries were outside control limits high, detected results were qualified as estimated (J); non-detects were not qualified.

If MS/MSD recoveries were outside control limits low, detected results were qualified as estimated (J); non-detects were qualified as estimated (UJ). Post-digestion spike data were evaluated to determine the need for data qualification when MS/MSD recoveries were < 50%R.

When the original sample concentration was ≥ 4X the spike amount, data was reported unflagged, even if the %R did not meet acceptance criteria.

MS/MSD Exceptions:

None

5.1.4.2 Soil

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or equipment blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

If MS/MSD recoveries were outside control limits high, detected results were qualified as estimated (J); non-detects were not qualified.

If MS/MSD recoveries were outside control limits low, detected results were qualified as estimated (J); non-detects were qualified as estimated (UJ). Post-digestion spike data were evaluated to determine the need for data qualification when MS/MSD recoveries were < 50%R.

When the original sample concentration was ≥ 4X the spike amount, data was reported unflagged, even if the %R did not meet acceptance criteria.

MS/MSD Exceptions:

None

5.1.5 Quantitation Limits

RLs for metals were as required by the DCQAP.	Yes ☐	No ☒	

Quantitation Limits Exceptions:

All samples were analyzed at a dilution for arsenic, cadmium, selenium, silver and reporting limits for these analytes are elevated.

5.2 Mercury

The laboratory data summary report is provided in Appendix 1. The validated mercury data are summarized in Table 3.

5.2.1 Technical Holding Time and Sample Preservation

Samples were preserved with BrCl or HCl solution or were analyzed within 48 hours of collection.	Yes ☐	No ☐	NA ☒
Samples were oxidized in the sample bottle and preserved within 28 days of collection.	Yes ☒	No ☐	NA ☐
Preserved samples were analyzed within 90 days of collection.	Yes ☒	No ☐	NA ☐

Validation Guidelines:

If samples were not preserved in accordance with one of the conditions noted above, non-detects and detects > MDL but < RL were qualified as unusable (R); detects > RL were qualified as estimated (J).

If samples were properly preserved but analyzed outside the holding time, detects were qualified as estimated (J); non-detects were qualified as unusable (R).

Holding Time/Preservation Exceptions:

None

5.2.2 Blanks

5.2.2.1 Method Blanks

5.2.2.1.1 Groundwater

A minimum of 3 method blanks were analyzed per analytical batch.	Yes ☒	No ☐
Mercury was detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒
Mercury was detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒

Validation Guidelines:

If mercury was detected in a method blank at a concentration > MDL but < RL, associated results < RL were reported as non-detect (U) at the RL.

If mercury was detected in a method blank at a concentration > RL, all associated results were qualified as rejected (R).

In instances where more than one blank was associated with a sample, qualification was based on a comparison with the associated blank having the highest concentration of a contaminant.

Method Blank Exceptions:

None

5.2.2.1.2 Soil

A minimum of 3 method blanks were analyzed per analytical batch.	Yes ☒	No ☐
Mercury was detected in the method blanks at concentrations above the RL.	Yes ☐	No ☒
Mercury was detected in the method blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒

Validation Guidelines:

If mercury was detected in a method blank at a concentration > MDL but < RL, associated results < RL were reported as non-detect (U) at the RL.

If mercury was detected in a method blank at a concentration > RL, all associated results were qualified as rejected (R).

In instances where more than one blank was associated with a sample, qualification was based on a comparison with the associated blank having the highest concentration of a contaminant.

Method Blank Exceptions:

None

5.2.2.2 Equipment Blanks

5.2.2.2.1 Groundwater

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

If mercury was detected in an equipment blank at a concentration > MDL but < RL, all associated results < RL were reported as non-detect (U) at the RL.

Professional judgement was used in qualifying sample results >RL but < equipment blank concentration.

Professional judgement was used in qualifying sample results >RL and > equipment blank concentration.

Equipment Blank Exceptions:

None

5.2.2.2.2 Soil

Equipment blanks were prepared at the frequency dictated by the DCQAP.	Yes ☒	No ☐	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the MDL but below the RL.	Yes ☐	No ☒	NA ☐
Target compounds were detected in the equipment blanks at concentrations above the RL.	Yes ☐	No ☒	NA ☐

Validation Guidelines:

No qualification was necessary when a compound was detected in the equipment blank but not in the sample.

If mercury was detected in an equipment blank at a concentration > MDL but < RL, all associated results < RL were reported as non-detect (U) at the RL.

Professional judgement was used in qualifying sample results >RL but < equipment blank concentration.

Professional judgement was used in qualifying sample results >RL and > equipment blank concentration.

Equipment Blank Exceptions:

None

5.2.3 Quality Control Samples

5.2.3.1 Groundwater

A QCS was prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The QCS was spiked with mercury at the same concentration as the matrix spike samples.	Yes ☒	No ☐
QCS %R was within 77 – 123%.	Yes ☒	No ☐

Validation Guidelines:

The QCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the QCS was >123%, detected results were qualified as estimated (J); non-detects were not qualified.

When recovery of the QCS fell within the range of 50–76%, detected results were qualified as estimated (J) and non-detects as estimated (UJ).

When recovery of the QCS was < 50%, detected results were qualified as estimated (J); non-detects were qualified as unusable (R).

QCS Exceptions:

None

5.2.3.2 Soil

A QCS was prepared and analyzed as part of each analytical batch.	Yes ☒	No ☐
The QCS was spiked with mercury at the same concentration as the matrix spike samples.	Yes ☒	No ☐
QCS %R was within 77 – 123%.	Yes ☒	No ☐

Validation Guidelines:

The QCS is the primary demonstration of the laboratory's ability to analyze samples with qualitative and quantitative accuracy. When recovery of the QCS was >123%, detected results were qualified as estimated (J); non-detects were not qualified.

When recovery of the QCS fell within the range of 50–76%, detected results were qualified as estimated (J) and non-detects as estimated (UJ).

When recovery of the QCS was < 50%, detected results were qualified as estimated (J); non-detects were qualified as unusable (R).

QCS Exceptions:

None

5.2.4 Matrix Spike/Matrix Spike Duplicate Analysis

5.2.4.1 Groundwater

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or equipment blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

If MS/MSD recoveries were outside control limits high, detected results were qualified as estimated (J); non-detects were not qualified.

If MS/MSD recoveries were outside control limits low, detected results were qualified as estimated (J); non-detects were qualified as estimated (UJ).

When the original sample concentration was ≥ 4X the spike amount, data was reported unflagged, even if the %R did not meet acceptance criteria.

MS/MSD Exceptions:

None

5.2.4.2 Soil

MS/MSD samples were analyzed at the required frequency.	Yes ☒	No ☐
Samples identified as field blanks or equipment blanks were used for spiked sample analysis.	Yes ☐	No ☒
MS/MSD recoveries are within the established QC limits.	Yes ☒	No ☐
The RPD of the concentrations measured for the MS/MSD pairs is within the established QC limits.	Yes ☒	No ☐

Validation Guidelines:

If MS/MSD recoveries were outside control limits high, detected results were qualified as estimated (J); non-detects were not qualified.

If MS/MSD recoveries were outside control limits low, detected results were qualified as estimated (J); non-detects were qualified as estimated (UJ).

When the original sample concentration was ≥ 4X the spike amount, data was reported unflagged, even if the %R did not meet acceptance criteria.

MS/MSD Exceptions:

None

5.2.5 Quantitation Limits

RL for mercury was as required by the DCQAP.	Yes ☒	No ☐

Quantitation Limits Exceptions:

None

6.0 Reconciliation with Data Quality Objectives

6.1 Overall Precision

RPD for field duplicates is within the project control limits (± 30%).	Yes ☐	No ☒

The mean RPD for all field duplicates was calculated to provide an evaluation of the overall variability attributable to sample collection procedures, sample matrix, and laboratory procedures used. Calculation of field duplicate RPD included only values for field duplicate data that were greater than or equal to five times the RL for the analysis.

The calculated mean RPD for all field duplicates was outside project control limits at 55%. The overall precision goal for the project was not achieved.

6.2 Overall Accuracy/Bias

System monitoring compound (surrogate) recoveries were met for 75% of the samples.	Yes ☒	No ☐
LCS recoveries were met for all samples.	Yes ☐	No ☒
MS/MSD recoveries were met for 75% of the samples.	Yes ☒	No ☐

With 100% of the system monitoring compound recoveries, 100% LCS recoveries for groundwater and soil, 99% LCS recoveries for soil gas, and 97% MS/MSD recoveries acceptable, the overall accuracy goal for the project was achieved.

6.3 Overall Sample Representativeness

Field duplicates were acceptable for at least 75% of the analyses.	Yes ☒	No ☐

The RPD for the field duplicate data meeting the five times RL criterion was acceptable for 100% of the soil analyses and was not acceptable for 100% of the groundwater analyses; the sample representativeness goal for the project was achieved.

6.4 Overall Sensitivity and Quantitation Limits

The quantitation limits specified in the DCQAP were met for all samples.	Yes ☐	No ☒

Refer to Sections 2.7, 3.7, 4.6, 5.1.5, 5.2.5.

6.5 Overall Completeness

Total data points generated	1,705
Data points available for use	1,705
At least 90% of the data are determined to be valid.	Yes ☒ No ☐

The completeness objective for the task was met and sufficient data are available to support decision-making.

6.6 Overall Comparability

Comparability was satisfied for the analytical work completed for the associated task.	Yes ☒	No ☐

The laboratory utilized the procedures for sample preparation and analysis presented in the DCQAP.

6.7 Data Limitations and Actions

U-qualified results may not be usable when greater than a screening level.

UJ-qualified results are usable as non-detects with the understanding that the quantitation limit is estimated and may be higher; caution should be used when evaluating against screening levels.

J-qualified data are usable as detects at the reported concentration with the understanding that the result is estimated.

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Muskegon, MI 49444-2673

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21J1205

8260

Data Package

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General Outline for Organics Data Deliverables

1) **Data Review Sheet**

2) **Manual Integration Narratives Sheet**

3) **Extraction Logs and or Balance Logs**

4) **Instrument Run Logbook----(Chronological Order)**

GC/MS Data
Surrogate Data
Method Blank Summary (VOA)
Tune Data
Calibration Verification Data
Internal Standards Data
All raw data as applicable

GC Data
Calibration Verification
Column Breakdown Data
All raw data as applicable

5) **Calibration Curves-----By Date**

Trace Analytical Laboratories, Inc. **GC/MS Data Review** Trace I.D. No. 21 J1205

Analyst Review	**624.1**	**625.1**	**8260D**	**8260D****	**8270D**	**8270D****
Calibration Curve is valid			X			
Sample preparation information is correct and complete						
*BFB/DFTPP tune passes criteria						
Minimum RSD pass criteria						
80% of compounds pass 20% criteria						
Method and reagent blank frequency and QC criteria have been met						
All samples analyzed within 12-hours of the tune or method blank (EPA 624/625)						
All sample hold times are met for analysis						
Internal Standard QC criteria in control or narrated						
Surrogate recoveries in control or narrated						
All compounds are quantitated within the curve						
LCS MS/MSD are in control or qualified and narrated						
Second Source Standard within control limits						
Method, Instrument, Reagents, Standards identified						
Primary sample qualifiers have been added as needed						
Data has been entered into LIMS						
Initial CCV passes with a ±20% recovery and the 12 hour and ending CCV pass with a ±50% recovery (DOD Only)			DOD Only	DOD Only	DOD Only	DOD Only
Notations/Comments/Batch Numbers: T116243	Sign & Date		BM 11-30-21			
Manager Review						
Appropriate SOPs have been followed						
Extraction date, analyst initials, and analysis date are correct						
Analyses match Chain-of-Custody						
Calibration data/curve are scientifically sound, appropriate, and documented						
Second Source Standard in control						
Quantitative results and detection limits reviewed						
Detection limit multiplier is correct						
QC issues explained and set to report, if necessary						
Significant figures are correct						
Quantitation report data matches LIMS data						
Extraction amount in LIMS matches Extraction Log	----		----			
Extraction hold times were met	----		----			
Analyst review has been checked						
Analysis is approved for release to reporting						
Notations/Comments:	Sign & Date		11/30/21			

* Circle the tune criteria that applies ** Column for 100% review of data.

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Manual Integration Narratives

(Reason and Rationale)

Narrative Number

M-01 An incorrect peak was integrated by the computer software. The analyst identified the correct peak and integrated it manually.

M-02 A high amount of baseline interference caused a poor integration. The analyst manually integrated the peak by including/excluding any additional baseline.

M-03 The integration did not begin or end at the valley point. The analyst manually integrated the peak so that the integration began or ended at the valley point.

M-04 The entire peak was not integrated. The analyst manually integrated the peak so as to include its entire area.

M-05 The reference time for the peak of interest had shifted and the peak was not integrated by the computer software. The analyst identified the shifted peak and integrated it manually.

M-06 An interfering shoulder peak was integrated initially. The analyst manually integrated to remove the interfering shoulder peak.

PREPARATION BENCH SHEET

T116243

Trace Analytical Laboratories, Inc.

Matrix: Solid **Prepared using: Volatile GC-MS - EPA 5035A** **nted: 11/30/2021 10:33:01AM**

Lab Number	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
21J1205-01 D *VOC 8260 MDEQ + List*	10/29/21 22:50	10.8	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-02 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.47	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-03 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.83	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-04 B *VOC 8260 MDEQ + List*	10/29/21 22:50	11.31	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-05 B *VOC 8260 MDEQ + List*	10/29/21 22:50	11.01	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-09 A *VOC 8260 MDEQ + List*	10/29/21 22:50	10	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-10 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.41	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
T116243-BLK1	10/29/21 22:50	10	10				
T116243-BS1	10/29/21 22:50	10	10	21J2836		100	
T116243-MS1	10/29/21 22:50	10.8	10	21J2836	21J1205-01	103.78	
T116243-MSD1	10/29/21 22:50	10.8	10	21J2836	21J1205-01	103.78	

Trixie 10/29/21 B

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

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21J1205

8260

Raw Data

SEQUENCE LOG INSTRUMENT: TRIXIE

Date: 10-29-21 / 10-30-21

Data Path: T102921

LIMS Batch: T116242, 243, 245 / Sequence 1K01002

Tune Passes: Y or N CCV Passes: Y or N 1K01004

Bromoform Test Passes: Y or N

Comments:

Analyst: BAL

Curve Date: 10-28-21

Logbook Review
Date: 11/3/21 Initials: NW

File Name	Run Method	Analytical Method			Sample ID	Dilution	Time	IS	Surr	pH<2	Additional Information
		8260D	624.1	524.2				P=Pass / F=Fail			
T102924	8260013	X			50ng BFB 1029		2312				
-25					CCV 1029		2341	P	P		
-26					BS 1029		017				
-27					CCB 1029		054				
-28					MB 1029		130				
-29					21J1202 - 04		206			P	
-30					21J1202 -02		242				
-31					21J1202 -03		318				
-32					21J1202 -05		355				
-33					21J1202 -06		431				
-34					21J1202 -07		507				
35					21J1205 - 09	50	544			NA	
36					21J1205 -02		621				
37					21J1206 -03		657				
38					21J1205 -04		733				
39					21J1205 -05		809				
40					21J1205 -10		846				
41					21J1205 -01		922				
42					21J1205 -01MS		958				
43					21J1205 -01MSD		1034				

BAL 11-1-21

CCV Internal Std Ranges:

Fluorobenzene: 66 627090 - 2508358

Chlorobenzene d5: 261579 - 1046396

1,4-Dichlorobenzene d4: 33 8800 - 135220

Standard ID: 21J2871

CCV: 25µL: of the above std into 50mLs DI H_2O

BS: 10µL: of the above std into 50mLs DI H_2O

Spike ID: NA

ICV: 10µL of the above std into 50mLs DI H_2O

Bromoform ID: 21J1906

Bromoform: 10µL of the above std into 50mLs DI H_2O

BFB ID: 21J0158

50ng BFB: 25µL of the above std into 50mLs DI H_2O

25ng BFB: 12.5µL of the above std into 50mLs of DI H_2O

IS/Surr. ID: 21A0409

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Sequence: 1K01004
Matrix: Solid

SDG:
Project: QC Grant Phase IIs
Instrument: TRIXIE
Calibration: UNASSIGNED

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (T116243-BS1)			Lab File ID: T102926.D		Analyzed: 10/30/21 00:17			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*
Blank (T116243-BLK1)			Lab File ID: T102928.D		Analyzed: 10/30/21 01:30			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*
CL-QCFB (21J1205-09)			Lab File ID: T102935.D		Analyzed: 10/30/21 05:44			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.64		17.6400	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.4		20.4000	+/-1.0	*
CL-SB-GP-4 (2-4') I (21J1205-02)			Lab File ID: T102936.D		Analyzed: 10/30/21 06:21			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.64		17.6400	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.4		20.4000	+/-1.0	*
CL-SB-GP-5 (1-3') I (21J1205-03)			Lab File ID: T102937.D		Analyzed: 10/30/21 06:57			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.64		17.6400	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.4		20.4000	+/-1.0	*
CL-SB-GP-6 (0.5-2.5') I (21J1205-04)			Lab File ID: T102938.D		Analyzed: 10/30/21 07:33			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.4		20.4000	+/-1.0	*
CL-SB-GP-7 (1-3') I (21J1205-05)			Lab File ID: T102939.D		Analyzed: 10/30/21 08:09			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*

SURROGATE STANDARD RECOVERY AND RT SUMMARY
EPA 8260D

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Sequence: 1K01004
Matrix: Solid

SDG:
Project: OC Grant Phase IIs
Instrument: TRIXIE
Calibration: UNASSIGNED

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
CL-SB-GP-5 (1-3') D (21J1205-10)			Lab File ID: T102940.D		Analyzed: 10/30/21 08:46			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.5		13.5000	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*
CL-SB-GP-1 (8-10') I/MS/MSD (21J1205-01)			Lab File ID: T102941.D		Analyzed: 10/30/21 09:22			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.5		10.5000	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*
Matrix Spike (T116243-MS1)			Lab File ID: T102942.D		Analyzed: 10/30/21 09:58			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.51		13.5100	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*
Matrix Spike Dup (T116243-MSD1)			Lab File ID: T102943.D		Analyzed: 10/30/21 10:34			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.51		10.5100	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.5		13.5000	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.39		20.3900	+/-1.0	*

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Sequence: 1K01004
Matrix: Solid

SDG:
Project: OC Grant Phase IIs
Instrument: TRIXIE
Calibration: UNASSIGNED

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1K01004-CCV1)			Lab File ID: T102925.D			Analyzed: 10/29/21 23:41			
Fluorobenzene	1254179	11.26				50 - 200	11.2600	+/-0.50	*
Chlorobenzene-d5	523198	15.71				50 - 200	15.7100	+/-0.50	*
1,4-Dichlorobenzene-d4	677600	19.78				50 - 200	19.7800	+/-0.50	*
LCS (T116243-BS1)			Lab File ID: T102926.D			Analyzed: 10/30/21 00:17			
Fluorobenzene	1289451	11.25	1254179	11.26	103	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	520524	15.7	523198	15.71	99	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	670466	19.78	677600	19.78	99	50 - 200	0.0000	+/-0.50	
Blank (T116243-BLK1)			Lab File ID: T102928.D			Analyzed: 10/30/21 01:30			
Fluorobenzene	1309233	11.26	1254179	11.26	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	528882	15.7	523198	15.71	101	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	661710	19.78	677600	19.78	98	50 - 200	0.0000	+/-0.50	
CL-QCFB (21J1205-09)			Lab File ID: T102935.D			Analyzed: 10/30/21 05:44			
Fluorobenzene	1065686	11.24	1254179	11.26	85	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	441890	15.69	523198	15.71	84	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	602592	19.78	677600	19.78	89	50 - 200	0.0000	+/-0.50	
CL-SB-GP-4 (2-4') I (21J1205-02)			Lab File ID: T102936.D			Analyzed: 10/30/21 06:21			
Fluorobenzene	1019514	11.23	1254179	11.26	81	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	417402	15.69	523198	15.71	80	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	596237	19.78	677600	19.78	88	50 - 200	0.0000	+/-0.50	
CL-SB-GP-5 (1-3') I (21J1205-03)			Lab File ID: T102937.D			Analyzed: 10/30/21 06:57			
Fluorobenzene	983594	11.23	1254179	11.26	78	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	405406	15.69	523198	15.71	77	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	576534	19.78	677600	19.78	85	50 - 200	0.0000	+/-0.50	
CL-SB-GP-6 (0.5-2.5') I (21J1205-04)			Lab File ID: T102938.D			Analyzed: 10/30/21 07:33			
Fluorobenzene	994352	11.24	1254179	11.26	79	50 - 200	-0.0200	+/-0.50	
Chlorobenzene-d5	414616	15.7	523198	15.71	79	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	578594	19.78	677600	19.78	85	50 - 200	0.0000	+/-0.50	
CL-SB-GP-7 (1-3') I (21J1205-05)			Lab File ID: T102939.D			Analyzed: 10/30/21 08:09			
Fluorobenzene	1020781	11.23	1254179	11.26	81	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	422525	15.69	523198	15.71	81	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	569920	19.77	677600	19.78	84	50 - 200	-0.0100	+/-0.50	
CL-SB-GP-5 (1-3') D (21J1205-10)			Lab File ID: T102940.D			Analyzed: 10/30/21 08:46			
Fluorobenzene	1022810	11.23	1254179	11.26	82	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	427515	15.69	523198	15.71	82	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	599979	19.78	677600	19.78	89	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

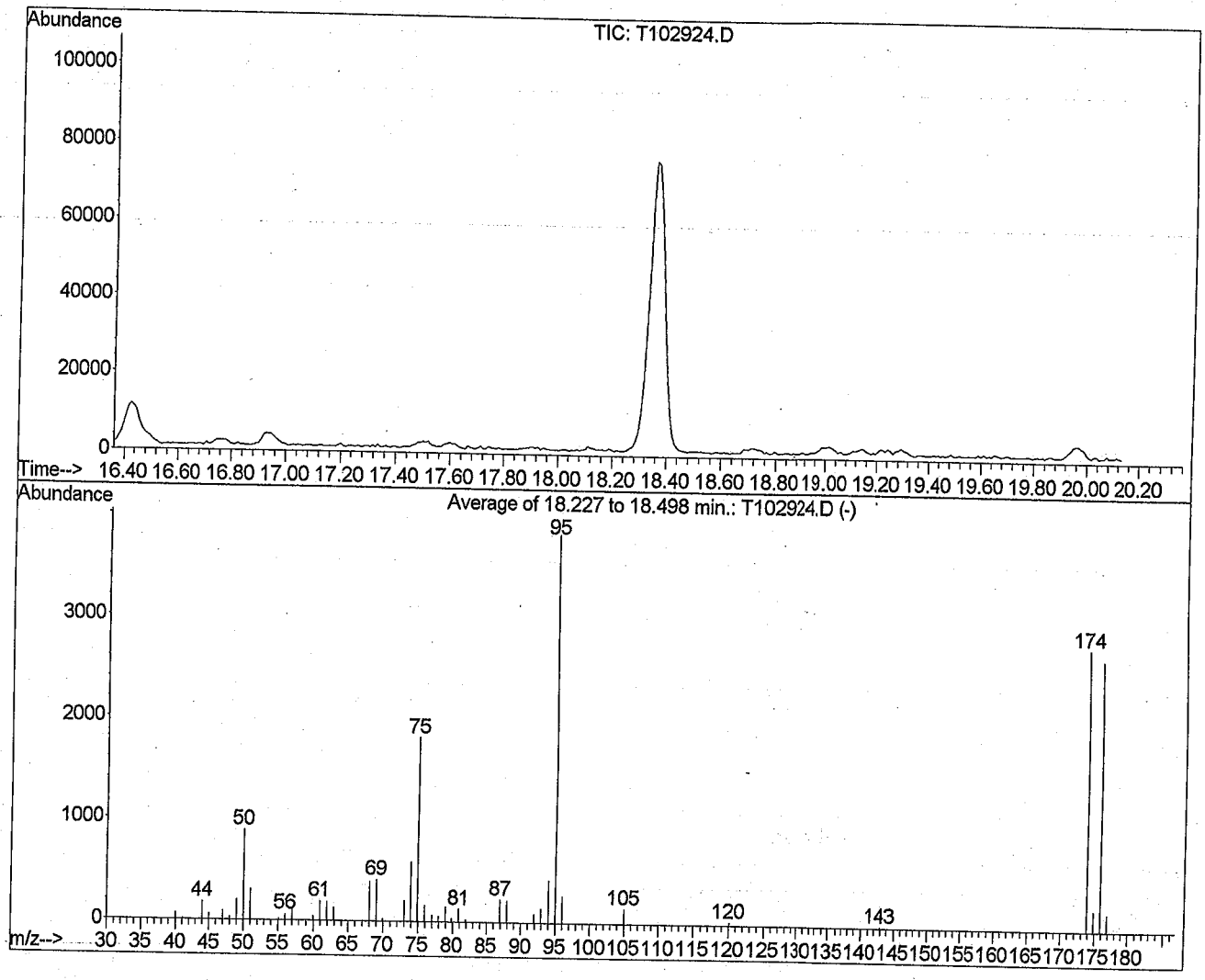
Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K01004
Instrument: TRIXIE
Matrix: Solid
Calibration: UNASSIGNED

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CL-SB-GP-1 (8-10') I/MS/MSD (21J1205-01)			Lab File ID: T102941.D			Analyzed: 10/30/21 09:22			
Fluorobenzene	1025413	11.23	1254179	11.26	82	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	423561	15.69	523198	15.71	81	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	588510	19.78	677600	19.78	87	50 - 200	0.0000	+/-0.50	
Matrix Spike (T116243-MS1)			Lab File ID: T102942.D			Analyzed: 10/30/21 09:58			
Fluorobenzene	1035154	11.23	1254179	11.26	83	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	431224	15.69	523198	15.71	82	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	592107	19.77	677600	19.78	87	50 - 200	-0.0100	+/-0.50	
Matrix Spike Dup (T116243-MSD1)			Lab File ID: T102943.D			Analyzed: 10/30/21 10:34			
Fluorobenzene	1017965	11.23	1254179	11.26	81	50 - 200	-0.0300	+/-0.50	
Chlorobenzene-d5	428710	15.69	523198	15.71	82	50 - 200	-0.0200	+/-0.50	
1,4-Dichlorobenzene-d4	598372	19.78	677600	19.78	88	50 - 200	0.0000	+/-0.50	

BFB

Data File : C:\HPCHEM\1\DATA\T102921\T102924.D
Acq On : 29 Oct 2021 11:12 pm
Sample : 50NG BFB1029B
Misc :
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST

Vial: 24
Operator: BA
Inst : Trixie
Multiplr: 1.00



Spectrum Information: Average of 18.227 to 18.498 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.1	885	PASS
75	95	30	60	47.2	1812	PASS
95	174	50	200	138.1	3836	PASS
96	95	5	9	7.0	267	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	72.4	2778	PASS
175	174	5	9	7.2	199	PASS
176	174	95	105	96.0	2668	PASS
177	176	5	10	6.2	166	PASS

T102924.D 8260D13.M Mon Nov 01 13:41:14 2021

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1254179	30.00 ug/L	0.00 99.00%
48) Chlorobenzene-d5	15.71	82	523198	30.00 ug/L	0.00 98.64%
70) 1,4-Dichlorobenzene-d4	19.78	150	677600	30.00 ug/L	0.00 100.13%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	447806	29.74 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.13%		
50) Toluene-d8	13.53	98	1125050	30.51 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.70%		
71) 4-Bromofluorobenzene	17.63	174	398795	29.97 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.90%		
84) 1,2-Dichlorobenzene-d4	20.40	115	249218	29.21 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 97.37%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	108702	48.13 ug/L	98
3) Chloromethane	6.34	50	141022	49.18 ug/L	100
4) Vinyl chloride	6.49	62	100761	48.16 ug/L	99
5) Bromomethane	6.94	94	77848	48.98 ug/L #	98
6) Chloroethane	7.05	64	83592	49.56 ug/L	96
7) Acrolein	7.47	56	10885	48.17 ug/L	99
8) Trichlorofluoromethane	7.53	101	118341	50.13 ug/L	99
9) Acetone	7.55	43	51659	51.20 ug/L	92
10) Diethyl ether	7.74	59	92478	48.86 ug/L	97
11) Acrylonitrile	8.02	53	59243	52.21 ug/L	97
12) t-Butanol	8.00	59	61920	218.26 ug/L #	90
13) 1,1-Dichloroethene	8.06	61	149152	50.66 ug/L	97
14) MethylAcetate	8.09	43	140194	47.40 ug/L #	96
15) Freon 113	8.13	101	80357	50.07 ug/L	95
16) Iodomethane	8.19	142	82367	49.69 ug/L	85
17) Methylene Chloride	8.26	84	110193	48.65 ug/L	93
18) Carbon disulfide	8.55	76	293136	50.51 ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	148916	49.88 ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.84	73	245183	46.08 ug/L	95
21) Vinyl acetate	8.99	43	332942	50.30 ug/L	98
22) 1,1-Dichloroethane	9.07	63	191679	50.09 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.32	43	80630	48.32 ug/L	97
24)	Diisopropyl ether	9.42	45	444642	49.27 ug/L	97
25)	cis-1,2-Dichloroethene	9.69	61	153744	49.55 ug/L	95
26)	2,2-Dichloropropane	9.87	77	92114	40.44 ug/L	100
27)	t-Butyl ethyl ether	9.84	59	326404	48.67 ug/L	99
28)	Chloroform	9.90	83	161698	49.85 ug/L	98
29)	Bromochloromethane	9.92	130	65365	52.08 ug/L	76
30)	Tetrahydrofuran	10.17	72	16104	49.42 ug/L	92
32)	1,1,1-Trichloroethane	10.63	97	114670	49.56 ug/L	99
33)	1,2-Dichloroethane	10.63	62	139777	48.60 ug/L	98
34)	1,1-Dichloropropene	10.84	75	123885	49.72 ug/L	96
35)	Benzene	11.03	78	362181	49.23 ug/L	98
36)	Carbon tetrachloride	11.07	117	88093	50.07 ug/L	98
37)	Cyclohexane	11.09	84	128648	49.92 ug/L	93
38)	t-Amyl methyl ether	11.21	43	114537	47.38 ug/L	91
39)	Heptane	11.67	43	105014	42.01 ug/L	96
40)	1,2-Dichloropropane	11.85	63	116316	49.15 ug/L	95
41)	Trichloroethene	11.89	130	82867	51.67 ug/L #	86
42)	Dibromomethane	11.96	93	77188	52.88 ug/L #	85
43)	Bromodichloromethane	12.05	83	117939	50.31 ug/L	99
44)	2-Chloroethyl vinyl ether	12.41	63	17054	64.96 ug/L	98
45)	Methylcyclohexane	12.58	55	120979	48.09 ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	171756	49.11 ug/L	95
47)	cis-1,3-Dichloropropene	12.79	75	157877	48.13 ug/L	97
49)	trans-1,3-Dichloropropene	13.37	75	129379	48.26 ug/L	95
51)	1,1,2-Trichloroethane	13.62	83	80616	48.22 ug/L	95
52)	Toluene	13.64	91	350302	50.09 ug/L	98
53)	2-Hexanone	13.86	43	113406	49.53 ug/L #	98
54)	1,3-Dichloropropane	13.95	76	165207	50.17 ug/L	92
55)	Butyl acetate	14.34	43	235887	49.44 ug/L	93
56)	Dibromochloromethane	14.41	129	84065	50.12 ug/L #	96
57)	1,2-Dibromoethane	14.74	107	94837	50.14 ug/L #	97
58)	Tetrachloroethene	14.82	131	53795	51.27 ug/L #	91
59)	Chlorobenzene	15.76	112	220354	50.42 ug/L #	87
60)	1,1,1,2-Tetrachloroethane	15.76	131	70244	50.83 ug/L #	87
61)	Ethylbenzene	16.04	91	373531	50.80 ug/L	96
62)	m,p-Xylenes	16.22	106	274320	103.68 ug/L	86
63)	Styrene	16.78	104	227089	52.92 ug/L	91
64)	Bromoform	16.83	173	52769	50.94 ug/L	100
65)	o-Xylene	16.88	106	133475	52.65 ug/L	82
66)	1,1,2,2-Tetrachloroethane	17.18	83	130643	50.26 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.39	110	31710	51.77 ug/L	98
68)	trans-1,4-Dichloro-2-buten	17.40	53	28903	46.60 ug/L #	96
69)	Isopropylbenzene	17.57	105	325030	50.57 ug/L	95
72)	Bromobenzene	17.98	158	79768	50.62 ug/L	88
73)	n-Propylbenzene	18.28	91	402794	49.11 ug/L	94
74)	2-Chlorotoluene	18.40	91	225207	48.29 ug/L #	86
75)	4-Chlorotoluene	18.49	91	208127	45.77 ug/L #	82
76)	1,3,5-Trimethylbenzene	18.57	105	255734	50.86 ug/L	91
77)	tert-Butylbenzene	19.23	91	174757	50.06 ug/L #	81
78)	1,2,4-Trimethylbenzene	19.24	120	135623	51.04 ug/L	86
79)	sec-Butylbenzene	19.64	105	303658	50.32 ug/L	96
80)	1,3-Dichlorobenzene	19.70	146	134984	48.75 ug/L	93
81)	1,4-Dichlorobenzene	19.83	146	139638	49.39 ug/L #	63
82)	p-Isopropyltoluene	19.88	119	244497	50.78 ug/L	94
83)	1,2,3-Trimethylbenzene	20.00	105	268966	50.97 ug/L	93
85)	1,2-Dichlorobenzene	20.44	146	131489	48.58 ug/L #	95
86)	n-Butylbenzene	20.59	91	237576	48.57 ug/L	97
87)	Hexachloroethane	21.44	117	51657	49.16 ug/L	90
88)	1,2-Dibromo-3-chloropropan	21.44	155	14812	49.44 ug/L	88
89)	1,2,4-Trichlorobenzene	23.55	180	77352	50.91 ug/L #	87
90)	Naphthalene	23.84	128	220069	51.42 ug/L #	95
91)	Hexachlorobutadiene	24.22	225	26995	49.07 ug/L	92
92)	1,2,3-Trichlorobenzene	24.37	180	71402	51.50 ug/L	92
93)	2-Methylnaphthalene	26.11	142	83192	53.97 ug/L	95
94)	1-Methylnaphalene	26.55	142	71488	54.17 ug/L	95

(#) = qualifier out of range (m) = manual integration

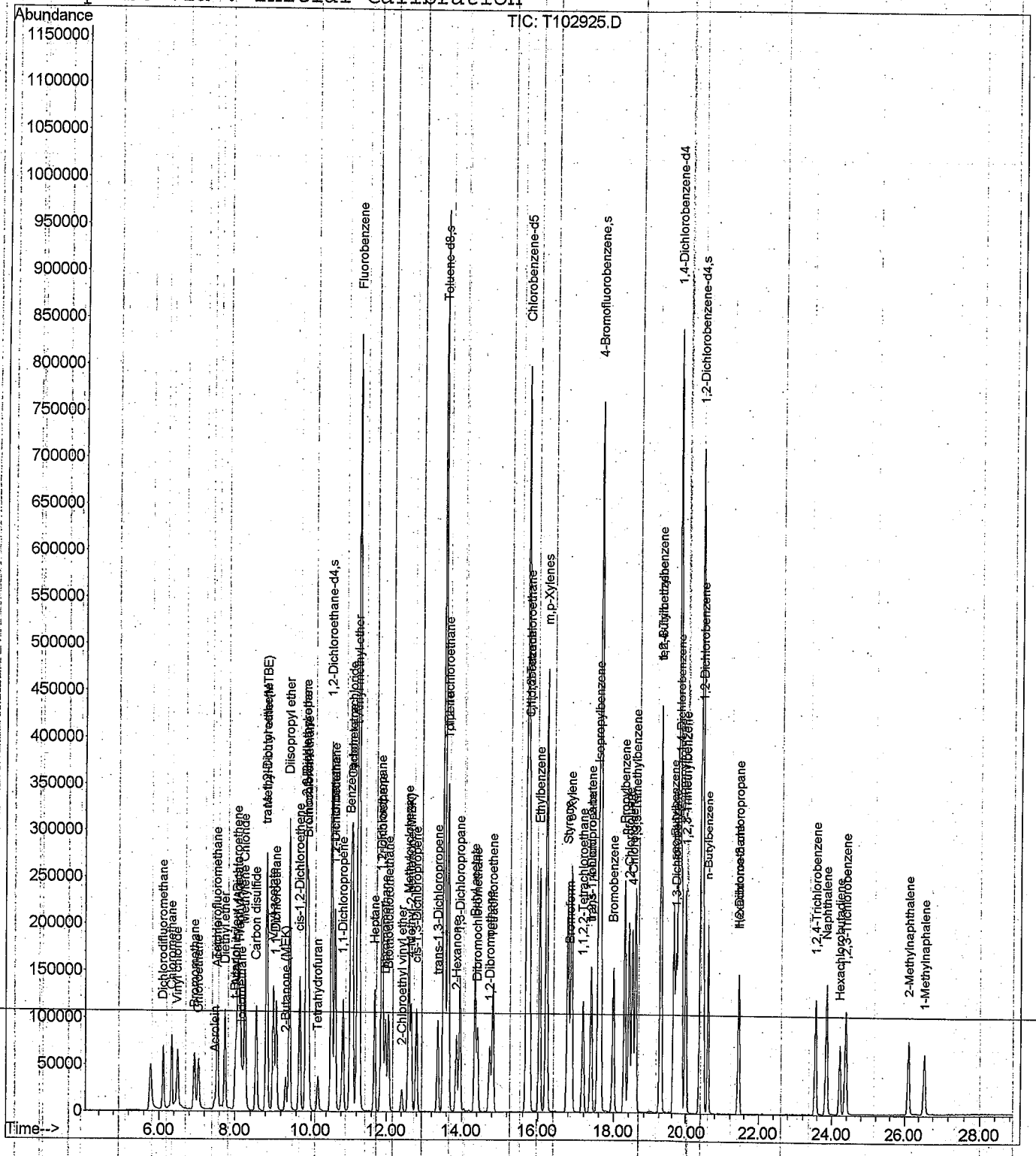
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D
Acq On : 29 Oct 2021 11:41 pm
Sample : CCV1029B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 25
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D
Acq On : 29 Oct 2021 11:41 pm
Sample : CCV1029B
Misc :
MS Integration Params: RTEINT.P

Vial: 25
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene	1.000	1.000	0.0	99	0.00
2		Dichlorodifluoromethane	0.054	0.052	3.7	92	0.00
3		Chloromethane	0.077	0.067	13.0	100	0.00
4		Vinyl chloride	0.050	0.048	4.0	103	0.00
5		Bromomethane	0.040	0.037	7.5	107	0.00
6		Chloroethane	0.040	0.040	0.0	100	0.00
7		Acrolein	0.005	0.005	0.0	97	0.00
8		Trichlorofluoromethane	0.056	0.057	-1.8	96	0.00
9		Acetone	0.024	0.025	-4.2	105	0.00
10		Diethyl ether	0.045	0.044	2.2	90	0.00
11		Acrylonitrile	0.027	0.028	-3.7	99	0.00
12		t-Butanol	0.007	0.006	14.3	83	0.00
13		1,1-Dichloroethene	0.070	0.071	-1.4	97	0.00
14		MethylAcetate	0.071	0.067	5.6	95	0.00
15		Freon 113	0.038	0.038	0.0	96	0.00
16		Iodomethane	0.030	0.039	-30.0#	112	0.00
17		Methylene Chloride	0.054	0.053	1.9	101	0.00
18		Carbon disulfide	0.139	0.140	-0.7	98	0.00
19		trans-1,2-Dichloroethene	0.071	0.071	0.0	96	0.00
20		Methyl-t-butyl ether(MTBE)	0.127	0.117	7.9	87	0.00
21		Vinyl acetate	0.158	0.159	-0.6	100	0.00
22		1,1-Dichloroethane	0.092	0.092	0.0	98	0.00
23		2-Butanone (MEK)	0.040	0.039	2.5	93	0.00
24		Diisopropyl ether	0.216	0.213	1.4	95	0.00
25		cis-1,2-Dichloroethene	0.074	0.074	0.0	97	0.00
26		2,2-Dichloropropane	0.054	0.044	18.5	79	0.00
27		t-Butyl ethyl ether	0.160	0.156	2.5	91	0.00
28		Chloroform	0.078	0.077	1.3	97	0.00
29		Bromochloromethane	0.030	0.031	-3.3	100	0.00
30		Tetrahydrofuran	0.008	0.008	0.0	98	0.00
31	s	1,2-Dichloroethane-d4	0.360	0.357	0.8	97	0.00
32		1,1,1-Trichloroethane	0.055	0.055	0.0	95	0.00
33		1,2-Dichloroethane	0.069	0.067	2.9	96	0.00
34		1,1-Dichloropropene	0.060	0.059	1.7	95	0.00
35		Benzene	0.176	0.173	1.7	96	0.00
36		Carbon tetrachloride	0.042	0.042	0.0	95	0.00
37		Cyclohexane	0.062	0.062	0.0	97	0.00
38		t-Amyl methyl ether	0.058	0.055	5.2	93	0.00
39		Heptane	0.060	0.050	16.7	84	0.00
40		1,2-Dichloropropane	0.057	0.056	1.8	99	0.00
41		Trichloroethene	0.038	0.040	-5.3	99	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D
Acq On : 29 Oct 2021 11:41 pm
Sample : CCV1029B
Misc :
MS Integration Params: RTEINT.P

Vial: 25
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42		Dibromomethane	0.035	0.037	-5.7	98	0.00
43		Bromodichloromethane	0.056	0.056	0.0	95	0.00
44		2-Chloroethyl vinyl ether	0.005	0.008	-60.0#	125	0.00
45		Methylcyclohexane	0.060	0.058	3.3	93	0.00
46		4-Methyl-2-pentanone(MIBK)	0.084	0.082	2.4	95	0.00
47		cis-1,3-Dichloropropene	0.078	0.076	2.6	92	0.00
48		Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
49		trans-1,3-Dichloropropene	0.154	0.148	3.9	92	0.00
50	s	Toluene-d8	2.114	2.150	-1.7	100	0.00
51		1,1,2-Trichloroethane	0.096	0.092	4.2	98	0.00
52		Toluene	0.401	0.402	-0.2	98	0.00
53		2-Hexanone	0.131	0.130	0.8	96	0.00
54		1,3-Dichloropropane	0.189	0.189	0.0	97	0.00
55		Butyl acetate	0.274	0.271	1.1	95	0.00
56		Dibromochloromethane	0.096	0.096	0.0	95	0.00
57		1,2-Dibromoethane	0.108	0.109	-0.9	97	0.00
58		Tetrachloroethene	0.060	0.062	-3.3	98	0.00
59		Chlorobenzene	0.251	0.253	-0.8	99	0.00
60		1,1,1,2-Tetrachloroethane	0.079	0.081	-2.5	97	0.00
61		Ethylbenzene	0.422	0.428	-1.4	97	0.00
62		m,p-Xylenes	0.152	0.157	-3.3	97	0.00
63		Styrene	0.246	0.260	-5.7	98	0.00
64		Bromoform	0.059	0.061	-3.4	94	0.00
65		o-Xylene	0.145	0.153	-5.5	99	0.00
66		1,1,2,2-Tetrachloroethane	0.149	0.150	-0.7	98	0.00
67		1,2,3-Trichloropropane	0.035	0.036	-2.9	99	0.00
68		trans-1,4-Dichloro-2-butene	0.036	0.033	8.3	89	0.00
69		Isopropylbenzene	0.369	0.373	-1.1	97	0.00
70		1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00
71	s	4-Bromofluorobenzene	0.589	0.589	0.0	101	0.00
72		Bromobenzene	0.070	0.071	-1.4	100	0.00
73		n-Propylbenzene	0.363	0.357	1.7	96	0.00
74		2-Chlorotoluene	0.206	0.199	3.4	90	0.00
75		4-Chlorotoluene	0.201	0.184	8.5	80	0.00
76		1,3,5-Trimethylbenzene	0.223	0.226	-1.3	97	0.00
77		tert-Butylbenzene	0.155	0.155	0.0	95	0.00
78		1,2,4-Trimethylbenzene	0.118	0.120	-1.7	96	0.00
79		sec-Butylbenzene	0.267	0.269	-0.7	96	0.00
80		1,3-Dichlorobenzene	0.123	0.120	2.4	95	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D
Acq On : 29 Oct 2021 11:41 pm
Sample : CCV1029B
Misc :
MS Integration Params: RTEINT.P

Vial: 25
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81		1,4-Dichlorobenzene	0.125	0.124	0.8	97	0.00
82		p-Isopropyltoluene	0.213	0.216	-1.4	97	0.00
83		1,2,3-Trimethylbenzene	0.234	0.238	-1.7	96	0.00
84	s	1,2-Dichlorobenzene-d4	0.378	0.368	2.6	98	0.00
85		1,2-Dichlorobenzene	0.120	0.116	3.3	97	0.00
86		n-Butylbenzene	0.217	0.210	3.2	93	0.00
87		Hexachloroethane	0.047	0.046	2.1	92	0.00
88		1,2-Dibromo-3-chloropropane	0.013	0.013	0.0	96	0.00
89		1,2,4-Trichlorobenzene	0.067	0.068	-1.5	99	0.00
90		Naphthalene	0.189	0.195	-3.2	98	0.00
91		Hexachlorobutadiene	0.024	0.024	0.0	94	0.00
92		1,2,3-Trichlorobenzene	0.061	0.063	-3.3	100	0.00
93		2-Methylnaphthalene	0.068	0.074	-8.8	97	0.00
94		1-Methylnaphalene	0.058	0.063	-8.6	97	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.25	96	1289451	30.00 ug/L	-0.01 101.78%
48) Chlorobenzene-d5	15.70	82	520524	30.00 ug/L	0.00 98.14%
70) 1,4-Dichlorobenzene-d4	19.78	150	670466	30.00 ug/L	0.00 99.08%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	445315	28.76 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 95.87%		
50) Toluene-d8	13.52	98	1107939	30.20 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.67%		
71) 4-Bromofluorobenzene	17.63	174	399467	30.34 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 101.13%		
84) 1,2-Dichlorobenzene-d4	20.39	115	253919	30.08 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 100.27%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.10	85	42287	18.21 ug/L	99
3) Chloromethane	6.34	50	57269	19.43 ug/L	99
4) Vinyl chloride	6.48	62	41580	19.33 ug/L	94
5) Bromomethane	6.94	94	32790	21.54 ug/L #	97
6) Chloroethane	7.04	64	33744	19.46 ug/L	96
7) Acrolein	7.47	56	4547	19.57 ug/L	90
8) Trichlorofluoromethane	7.53	101	47612	19.62 ug/L	99
9) Acetone	7.55	43	22092	21.30 ug/L	93
10) Diethyl ether	7.73	59	38782	19.93 ug/L	96
11) Acrylonitrile	8.02	53	24142	20.69 ug/L	97
12) t-Butanol	8.00	59	30883	105.88 ug/L #	91
13) 1,1-Dichloroethene	8.06	61	60450	19.97 ug/L	97
14) MethylAcetate	8.09	43	61040	20.07 ug/L #	98
15) Freon 113	8.13	101	32738	19.84 ug/L	95
16) Iodomethane	8.18	142	25895	20.66 ug/L #	83
17) Methylene Chloride	8.25	84	44633	19.17 ug/L	93
18) Carbon disulfide	8.55	76	116075	19.45 ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	60148	19.60 ug/L	95
20) Methyl-t-butyl ether(MTBE)	8.83	73	110386	20.18 ug/L	95
21) Vinyl acetate	9.00	43	134948	19.83 ug/L	98
22) 1,1-Dichloroethane	9.07	63	77144	19.61 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.33	43	33568	19.57 ug/L	96
24)	Diisopropyl ether	9.42	45	181611	19.57 ug/L	98
25)	cis-1,2-Dichloroethene	9.68	61	61355	19.23 ug/L	94
26)	2,2-Dichloropropane	9.87	77	38650	16.51 ug/L	98
27)	t-Butyl ethyl ether	9.85	59	137303	19.91 ug/L	99
28)	Chloroform	9.90	83	66168	19.84 ug/L	97
29)	Bromochloromethane	9.92	130	26394	20.46 ug/L	77
30)	Tetrahydrofuran	10.17	72	6781	20.24 ug/L	87
32)	1,1,1-Trichloroethane	10.62	97	46704	19.63 ug/L	98
33)	1,2-Dichloroethane	10.63	62	57039	19.29 ug/L	99
34)	1,1-Dichloropropene	10.83	75	50862	19.85 ug/L	96
35)	Benzene	11.04	78	148409	19.62 ug/L	98
36)	Carbon tetrachloride	11.08	117	35131	19.42 ug/L	97
37)	Cyclohexane	11.09	84	52204	19.70 ug/L	94
38)	t-Amyl methyl ether	11.21	43	48013	19.32 ug/L #	81
39)	Heptane	11.68	43	40958	15.93 ug/L	95
40)	1,2-Dichloropropane	11.85	63	47913	19.69 ug/L	94
41)	Trichloroethene	11.88	130	33906	20.56 ug/L #	88
42)	Dibromomethane	11.96	93	31811	21.20 ug/L	86
43)	Bromodichloromethane	12.04	83	46772	19.41 ug/L	99
44)	2-Chloroethyl vinyl ether	12.40	63	5080	21.79 ug/L	99
45)	Methylcyclohexane	12.59	55	49738	19.23 ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	70083	19.49 ug/L	95
47)	cis-1,3-Dichloropropene	12.79	75	63614	18.86 ug/L	97
49)	trans-1,3-Dichloropropene	13.36	75	51989	19.49 ug/L #	95
51)	1,1,2-Trichloroethane	13.62	83	32750	19.69 ug/L	95
52)	Toluene	13.64	91	142516	20.48 ug/L	98
53)	2-Hexanone	13.85	43	46630	20.47 ug/L #	96
54)	1,3-Dichloropropane	13.95	76	67316	20.55 ug/L	92
55)	Butyl acetate	14.35	43	95574	20.14 ug/L	93
56)	Dibromochloromethane	14.41	129	33854	20.29 ug/L #	95
57)	1,2-Dibromoethane	14.73	107	38732	20.58 ug/L #	97
58)	Tetrachloroethene	14.81	131	22169	21.24 ug/L #	90
59)	Chlorobenzene	15.76	112	90242	20.75 ug/L	93
60)	1,1,1,2-Tetrachloroethane	15.77	131	28307	20.59 ug/L #	86
61)	Ethylbenzene	16.04	91	151329	20.69 ug/L	95
62)	m,p-Xylenes	16.21	106	111200	42.25 ug/L	86
63)	Styrene	16.77	104	90560	21.21 ug/L	91
64)	Bromoform	16.83	173	20837	20.22 ug/L	99
65)	o-Xylene	16.87	106	53474	21.20 ug/L	84
66)	1,1,2,2-Tetrachloroethane	17.18	83	54176	20.95 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

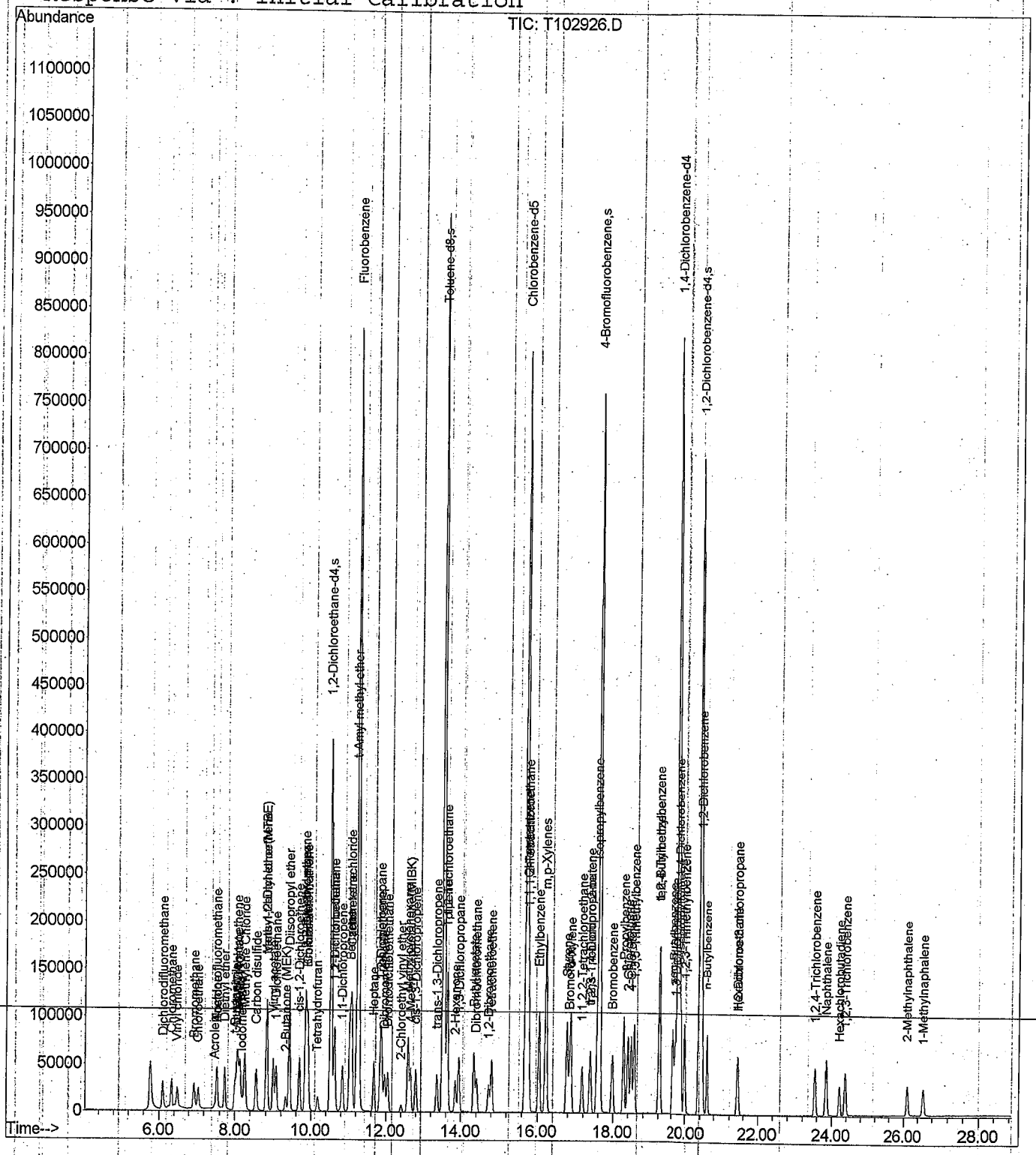
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.39	110	13316	21.85 ug/L	95
68)	trans-1,4-Dichloro-2-buten	17.39	53	11688	18.94 ug/L	97
69)	Isopropylbenzene	17.58	105	130635	20.43 ug/L	95
72)	Bromobenzene	17.98	158	32344	20.74 ug/L	88
73)	n-Propylbenzene	18.28	91	163648	20.17 ug/L	94
74)	2-Chlorotoluene	18.40	91	90501	19.61 ug/L #	86
75)	4-Chlorotoluene	18.49	91	86741	19.28 ug/L #	82
76)	1,3,5-Trimethylbenzene	18.57	105	101801	20.46 ug/L	91
77)	tert-Butylbenzene	19.22	91	70361	20.37 ug/L #	80
78)	1,2,4-Trimethylbenzene	19.24	120	55009	20.92 ug/L	85
79)	sec-Butylbenzene	19.64	105	122184	20.46 ug/L	96
80)	1,3-Dichlorobenzene	19.71	146	57119	20.85 ug/L #	89
81)	1,4-Dichlorobenzene	19.83	146	58411	20.88 ug/L #	66
82)	p-Isopropyltoluene	19.87	119	98927	20.77 ug/L	95
83)	1,2,3-Trimethylbenzene	20.00	105	110349	21.13 ug/L	93
85)	1,2-Dichlorobenzene	20.44	146	54931	20.51 ug/L #	96
86)	n-Butylbenzene	20.60	91	97024	20.05 ug/L	97
87)	Hexachloroethane	21.45	117	20022	19.26 ug/L	86
88)	1,2-Dibromo-3-chloropropan	21.45	155	6140	20.71 ug/L	89
89)	1,2,4-Trichlorobenzene	23.55	180	32090	21.34 ug/L #	87
90)	Naphthalene	23.85	128	94433	22.30 ug/L #	94
91)	Hexachlorobutadiene	24.22	225	11796	21.67 ug/L	91
92)	1,2,3-Trichlorobenzene	24.38	180	30126	21.96 ug/L	93
93)	2-Methylnaphthalene	26.11	142	34477	22.60 ug/L #	95
94)	1-Methylnaphalene	26.55	142	30637	23.46 ug/L #	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1309233	30.00 ug/L	0.00 103.34%
48) Chlorobenzene-d5	15.70	82	528882	30.00 ug/L	0.00 99.72%
70) 1,4-Dichlorobenzene-d4	19.78	150	661710	30.00 ug/L	0.00 97.78%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	456233	29.02 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.73%		
50) Toluene-d8	13.52	98	1133647	30.41 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.37%		
71) 4-Bromofluorobenzene	17.63	174	405816	31.23 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 104.10%		
84) 1,2-Dichlorobenzene-d4	20.39	115	256782	30.82 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.35	50	636	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.95	94	680	2.88 ug/L #	57
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.54	43	467	0.44 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.10	43	286	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	857	N.D.	
18) Carbon disulfide	8.55	76	1328	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23) 2-Butanone (MEK)	9.41	43	392	N.D.	
24) Diisopropyl ether	0.00	45	0	N.D.	
25) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26) 2,2-Dichloropropane	0.00	77	0	N.D.	
27) t-Butyl ethyl ether	0.00	59	0	N.D.	
28) Chloroform	0.00	83	0	N.D.	
29) Bromochloromethane	0.00	130	0	N.D.	
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
33) 1,2-Dichloroethane	10.56	62	77	N.D.	
34) 1,1-Dichloropropene	10.84	75	130	N.D.	
35) Benzene	11.04	78	253	N.D.	
36) Carbon tetrachloride	0.00	117	0	N.D.	
37) Cyclohexane	11.09	84	273	N.D.	
38) t-Amyl methyl ether	11.25	43	395	N.D.	
39) Heptane	11.68	43	580	N.D.	
40) 1,2-Dichloropropane	0.00	63	0	N.D.	
41) Trichloroethene	0.00	130	0	N.D.	
42) Dibromomethane	0.00	93	0	N.D.	
43) Bromodichloromethane	0.00	83	0	N.D.	
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.60	55	463	N.D.	
46) 4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49) trans-1,3-Dichloropropene	13.53	75	317	N.D.	
51) 1,1,2-Trichloroethane	13.60	83	124	N.D.	
52) Toluene	13.64	91	521	N.D.	
53) 2-Hexanone	13.52	43	7458	3.22 ug/L #	1
54) 1,3-Dichloropropane	0.00	76	0	N.D.	
55) Butyl acetate	0.00	43	0	N.D.	
56) Dibromochloromethane	0.00	129	0	N.D.	
57) 1,2-Dibromoethane	0.00	107	0	N.D.	
58) Tetrachloroethene	0.00	131	0	N.D.	
59) Chlorobenzene	15.76	112	409	N.D.	
60) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61) Ethylbenzene	16.04	91	1072	N.D.	
62) m,p-Xylenes	16.21	106	640	N.D.	
63) Styrene	16.77	104	366	N.D.	
64) Bromoform	0.00	173	0	N.D.	
65) o-Xylene	16.87	106	127	N.D.	
66) 1,1,2,2-Tetrachloroethane	17.19	83	68	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

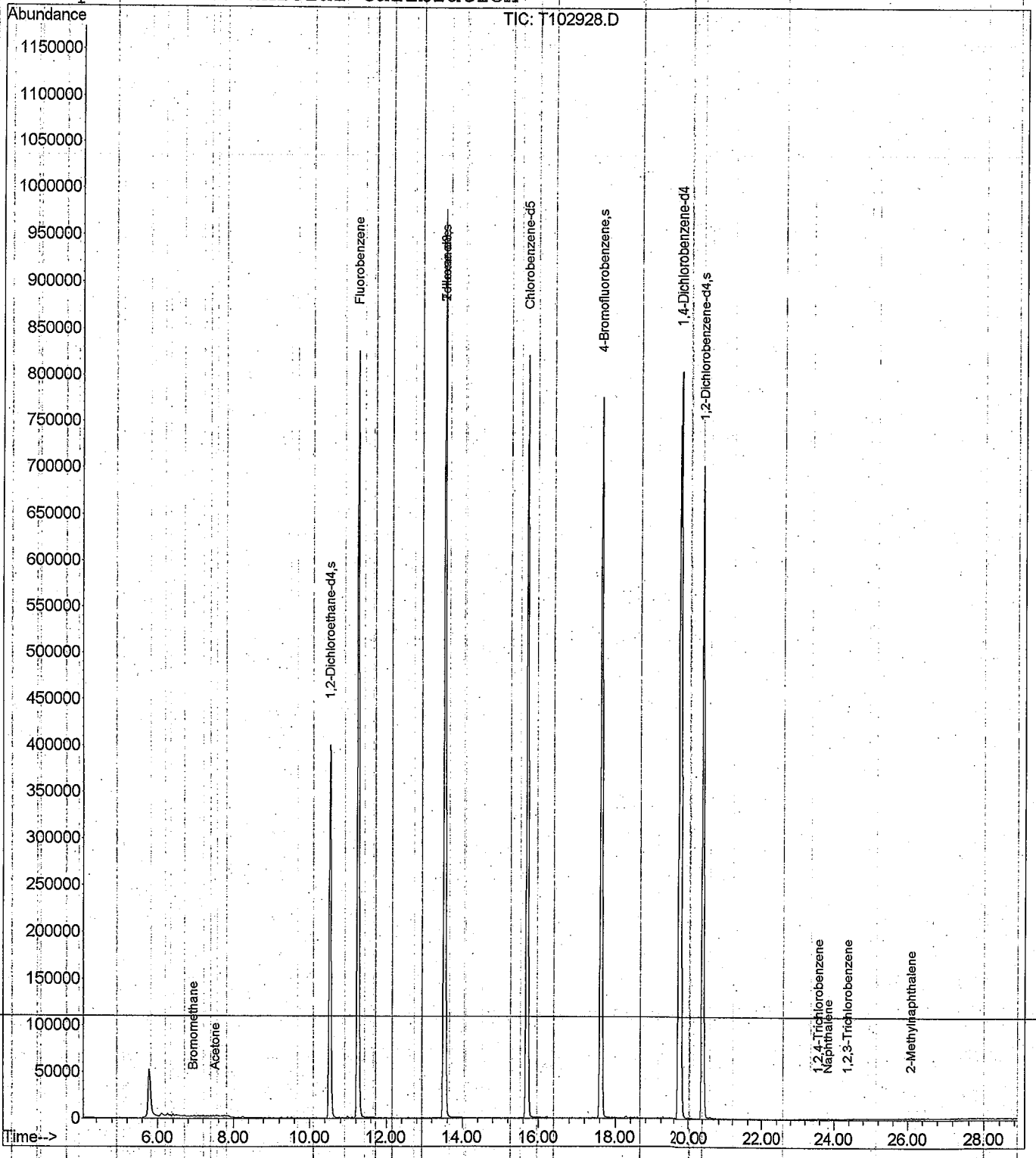
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.64	110	60	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	1811	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.29	91	1601	N.D.	
74)	2-Chlorotoluene	18.39	91	926	N.D.	
75)	4-Chlorotoluene	18.49	91	1110	N.D.	
76)	1,3,5-Trimethylbenzene	18.56	105	831	N.D.	
77)	tert-Butylbenzene	19.22	91	581	N.D.	
78)	1,2,4-Trimethylbenzene	19.23	120	391	N.D.	
79)	sec-Butylbenzene	19.65	105	1259	N.D.	
80)	1,3-Dichlorobenzene	19.71	146	654	N.D.	
81)	1,4-Dichlorobenzene	19.83	146	796	N.D.	
82)	p-Isopropyltoluene	19.87	119	1057	N.D.	
83)	1,2,3-Trimethylbenzene	20.00	105	951	N.D.	
85)	1,2-Dichlorobenzene	20.44	146	816	N.D.	
86)	n-Butylbenzene	20.61	91	1370	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	658	0.44 ug/L #	37
90)	Naphthalene	23.85	128	1871	0.45 ug/L #	68
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.38	180	566	0.42 ug/L #	42
93)	2-Methylnaphthalene	26.10	142	682	0.45 ug/L #	77
94)	1-Methylnaphalene	26.56	142	515	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



PREPARATION BENCH SHEET

T116243

Trace Analytical Laboratories, Inc.

Matrix: Solid **Prepared using: Volatile GC-MS - EPA 5035A** **rinted: 11/5/2021 12:03:28PM**

Lab Number	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
21J1205-01 D *VOC 8260 MDEQ + List*	10/29/21 22:50	10.8	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-02 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.47	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-03 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.83	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-04 B *VOC 8260 MDEQ + List*	10/29/21 22:50	11.31	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-05 B *VOC 8260 MDEQ + List*	10/29/21 22:50	11.01	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-09 A *VOC 8260 MDEQ + List*	10/29/21 22:50	10	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
21J1205-10 B *VOC 8260 MDEQ + List*	10/29/21 22:50	10.41	10	Fishbeck			Level IV with Forms must sequence iLevel IV with Forms must sequence in LIMS
T116243-BLK1	10/29/21 22:50	10	10				
T116243-BS1	10/29/21 22:50	10	10	21J2836		100	
T116243-MS1	10/29/21 22:50	10.8	10	21J2836	21J1205-01	103.78	
T116243-MSD1	10/29/21 22:50	10.8	10	21J2836	21J1205-01	103.78	

Trixie 10/29/21 B

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

TRACE
ANALYTICAL LABORATORIES, INC.

Lab Weight Check – Methanol/DI Water Preserved Soils

Trace ID: 21J1205 Sample Weight Checked By YH

Date: 10/29/21 Balance ID: 14

Sample #	Weight of VOA and MeOH or DI (g) Use only for MeOH Calculation QEC Weight	Weight of VOA and MeOH or DI (g) 2nd weight on vial TRACE Weight	Weight of VOA, MeOH or DI & Soil (g) FINAL Weight	Bottle and MeOH or DI LIMS#	Amount of Soil added (g) (FINAL Wt - TRACE Wt)	Volume of MeOH (QEC-TRACE)/0.792 subtract this value from 10
-01D	33.67	33.63	44.43	21I0305	10.8	10
-01E	33.62	33.60	43.84	21I0305	10.24	
-01F	33.82	33.62	43.60	21I0305	9.98	
-02B	33.81	33.79	44.26	21I0305	10.47	
-03B	33.79	33.77	44.60	21I0305	10.83	
-04B	33.46	33.43	44.74	21I0305	11.31	
-05B	33.59	33.54	44.55	21I0305	11.01	
-09A	not available	not available	37.59	not available	N/A	N/A
-10B	33.69	33.64	44.05	21I0305	10.41	10

Form 70-N.3
Effective 6/20/19

F:\Support Documentation Worksheets\70-Sample Receiving\70-N.3 Lab Weight Check for Methanol Preserved Soils.doc

ANALYSIS SEQUENCE

1K01004

Instrument: TRIXIE

Calibnration ID: UNASSIGNED

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client
1K01004-TUN1	QC		1			21I0206	
1K01004-CCV1	QC		2		21K0109	21I0206	
T116243-BS1	QC		3			21I0206	
T116243-BLK1	QC		4			21I0206	
21J1205-09	VOC 8260 MDEQ + List	A	5			21I0206	Fishbeck
21J1205-02	VOC 8260 MDEQ + List	B	6			21I0206	Fishbeck
21J1205-03	VOC 8260 MDEQ + List	B	7			21I0206	Fishbeck
21J1205-04	VOC 8260 MDEQ + List	B	8			21I0206	Fishbeck
21J1205-05	VOC 8260 MDEQ + List	B	9			21I0206	Fishbeck
21J1205-10	VOC 8260 MDEQ + List	B	10			21I0206	Fishbeck
21J1205-01	VOC 8260 MDEQ + List	D	11			21I0206	Fishbeck
T116243-MS1	QC		12			21I0206	
T116243-MSD1	QC		13			21I0206	

Samples Loaded By _____ Date _____

Data Processed By _____ Date _____

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102935.D Vial: 35
Acq On : 30 Oct 2021 5:44 am Operator: BAG
Sample : 21J1205-09 Inst : Trixie
Misc : Con. A 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.24	96	1065686	30.00 ug/L	-0.02 84.12%
48) Chlorobenzene-d5	15.69	82	441890	30.00 ug/L	-0.01 83.31%
70) 1,4-Dichlorobenzene-d4	19.78	150	602592	30.00 ug/L	0.00 89.05%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	372922	29.14 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.13%		
50) Toluene-d8	13.51	98	943087	30.28 ug/L	-0.01
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.93%		
71) 4-Bromofluorobenzene	17.64	174	351536	29.71 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.03%		
84) 1,2-Dichlorobenzene-d4	20.40	115	235122	30.99 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.30%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.30	50	1344	0.55 ug/L #	80
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	7.01	94	55	FO ~~2.53~~ ug/L #	12
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.52	43	1522	1.78 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.08	43	533	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	8.15	142	504	H ~~8.18~~ ug/L #	25
17) Methylene Chloride	8.21	84	645	N.D.	
18) Carbon disulfide	8.50	76	146	N.D.	
19) trans-1,2-Dichloroethene	8.64	61	604	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102935.D Vial: 35
Acq On : 30 Oct 2021 5:44 am Operator: BAG
Sample : 21J1205-09 Inst : Trixie
Misc : Con. A 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.32	43	1390	0.98 ug/L #	62
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	0.00	62	0	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.22	78	2002	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.95	84	1714	0.78 ug/L #	7
38)	t-Amyl methyl ether	11.24	43	288	N.D.	
39)	Heptane	11.66	43	131	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	0.00	55	0	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.50	75	219	N.D.	
51)	1,1,2-Trichloroethane	13.50	83	835	0.59 ug/L #	1
52)	Toluene	0.00	91	0	N.D.	
53)	2-Hexanone	13.50	43	6540	~~3.38~~ ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.03	91	133	N.D.	
62)	m,p-Xylenes	0.00	106	0	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102935.D Vial: 35
Acq On : 30 Oct 2021 5:44 am Operator: BAG
Sample : 21J1205-09 Inst : Trixie
Misc : Con. A 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	132	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.27	91	355	N.D.	
74)	2-Chlorotoluene	18.27	91	355	N.D.	
75)	4-Chlorotoluene	18.27	91	355	N.D.	
76)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
77)	tert-Butylbenzene	19.22	91	60	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.63	105	317	N.D.	
80)	1,3-Dichlorobenzene	19.83	146	63	N.D.	
81)	1,4-Dichlorobenzene	19.83	146	63	N.D.	
82)	p-Isopropyltoluene	19.87	119	192	N.D.	
83)	1,2,3-Trimethylbenzene	20.01	105	124	N.D.	
85)	1,2-Dichlorobenzene	20.44	146	68	N.D.	
86)	n-Butylbenzene	20.60	91	401	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	77	N.D.	
90)	Naphthalene	23.84	128	710	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.38	180	59	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

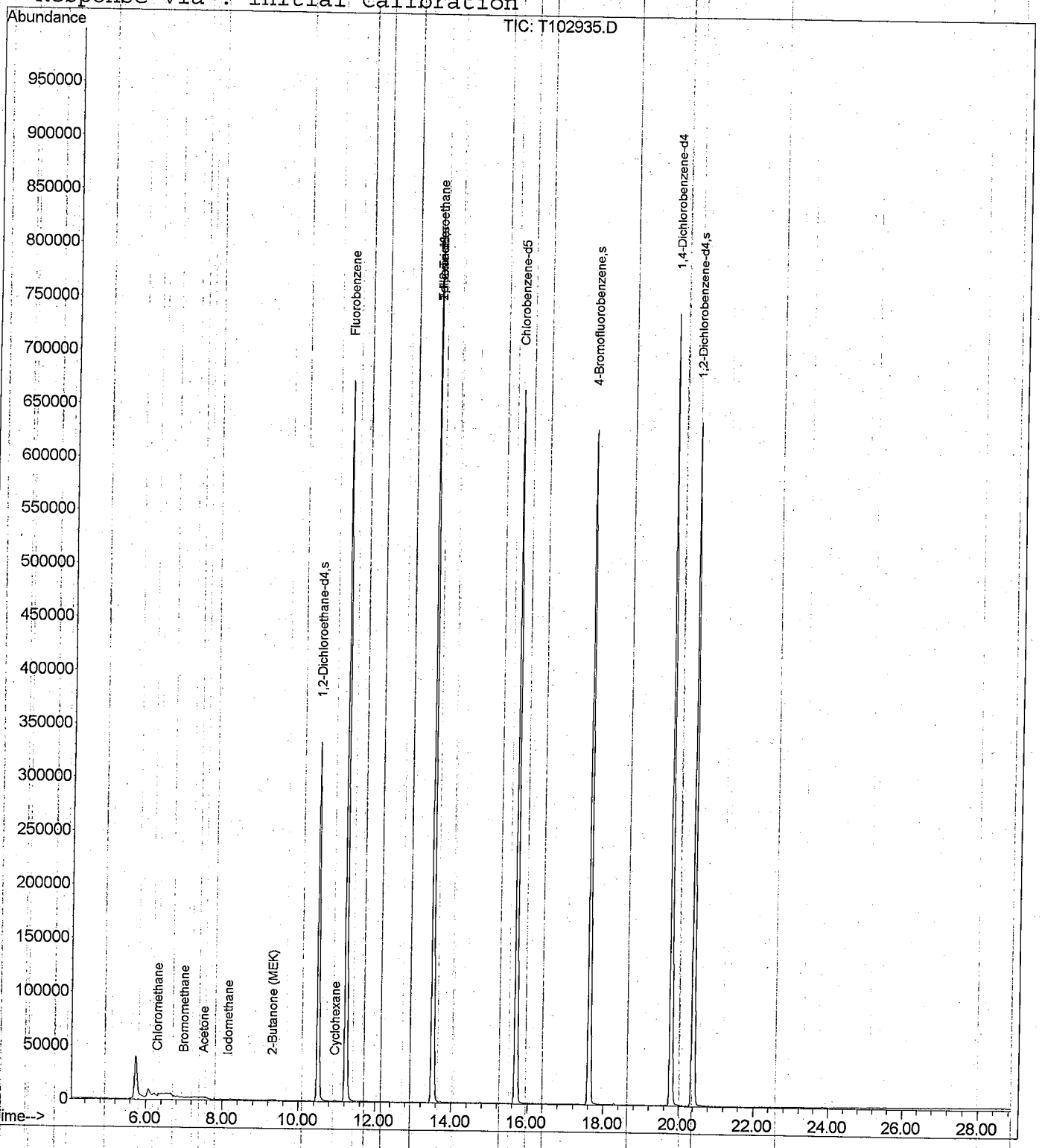
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102935.D
Acq On : 30 Oct 2021 5:44 am
Sample : 21J1205-09
Misc : Con. A 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 35
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102936.D Vial: 36
Acq On : 30 Oct 2021 6:21 am Operator: BAG
Sample : 21J1205-02 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1019514	30.00 ug/L	-0.03
48) Chlorobenzene-d5	15.69	82	417402	30.00 ug/L	80.48% -0.01
70) 1,4-Dichlorobenzene-d4	19.78	150	596237	30.00 ug/L	78.70% 0.00
					88.11%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	350476	28.63 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 95.43%		
50) Toluene-d8	13.51	98	898444	30.54 ug/L	-0.01
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.80%		
71) 4-Bromofluorobenzene	17.64	174	344867	29.46 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 98.20%		
84) 1,2-Dichlorobenzene-d4	20.40	115	230331	30.68 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.27%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.37	50	254	N.D.	
4) Vinyl chloride	6.42	62	66	N.D.	
5) Bromomethane	6.94	94	154	~~2.61~~ ug/L #	12
6) Chloroethane	7.04	64	123	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.53	43	724	0.88 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.07	43	611	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	8.14	142	298	~~8.06~~ ug/L #	25
17) Methylene Chloride	8.21	84	637	N.D.	
18) Carbon disulfide	8.49	76	201	N.D.	
19) trans-1,2-Dichloroethene	8.60	61	485	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102936.D Vial: 36
Acq On : 30 Oct 2021 6:21 am Operator: BAG
Sample : 21J1205-02 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.32	43	2169	1.60 ug/L #	62
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.54	62	60	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.23	78	1880	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.96	84	1751	0.84 ug/L #	6
38)	t-Amyl methyl ether	11.23	43	418	N.D.	
39)	Heptane	0.00	43	0	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	0.00	55	0	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.51	75	84	N.D.	
51)	1,1,2-Trichloroethane	13.51	83	833	0.62 ug/L #	1
52)	Toluene	13.63	91	58	N.D.	
53)	2-Hexanone	13.51	43	6272	pp ~~3.43~~ ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.03	91	60	N.D.	
62)	m,p-Xylenes	0.00	106	0	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102936.D Vial: 36
Acq On : 30 Oct 2021 6:21 am Operator: BAG
Sample : 21J1205-02 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	60	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	328	N.D.	
74)	2-Chlorotoluene	18.49	91	59	N.D.	
75)	4-Chlorotoluene	18.49	91	59	N.D.	
76)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.65	105	214	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	19.86	119	189	N.D.	
83)	1,2,3-Trimethylbenzene	19.65	105	214	N.D.	
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.60	91	326	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.85	128	549	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

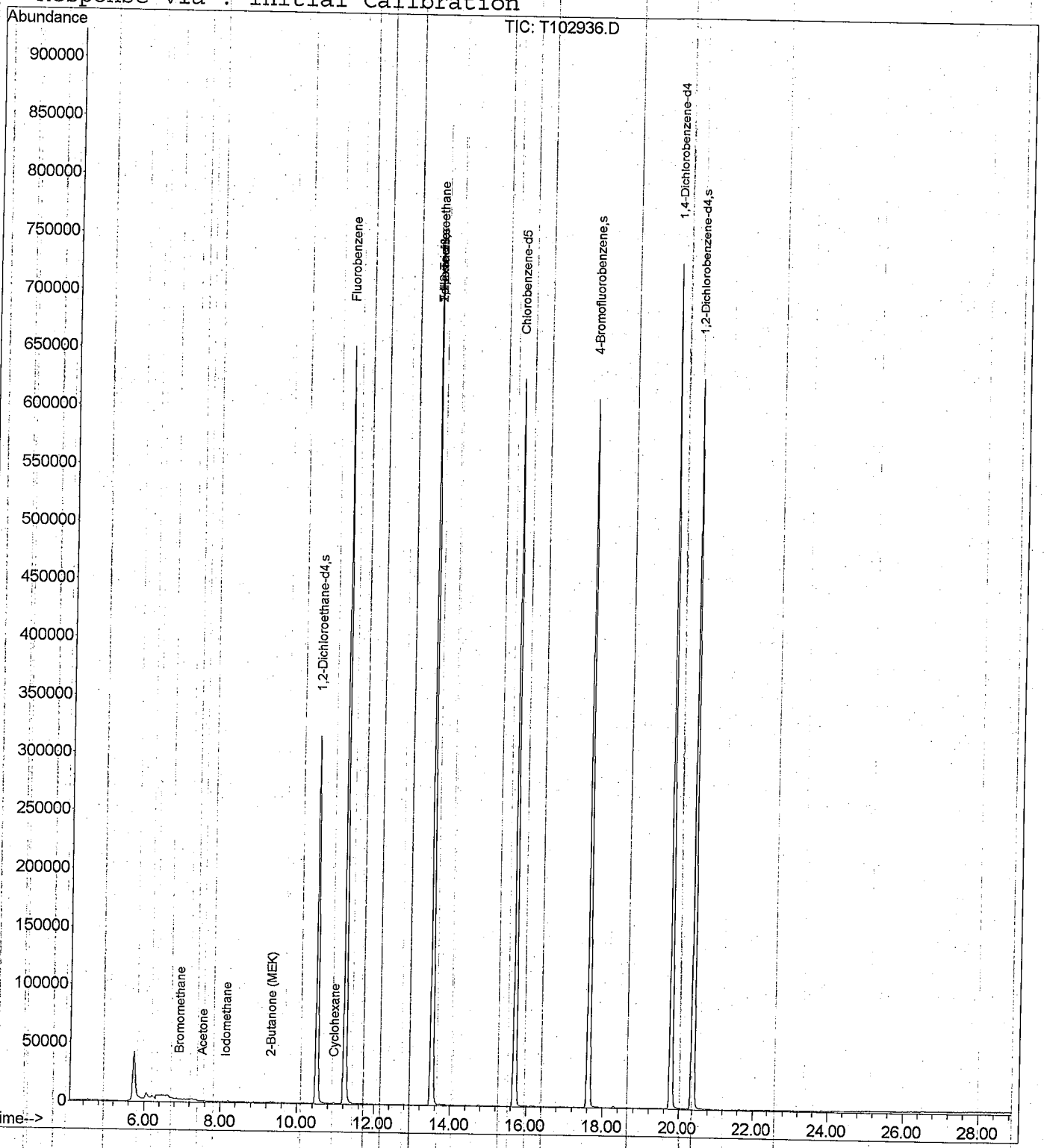
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102936.D
Acq On : 30 Oct 2021 6:21 am
Sample : 21J1205-02
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 36
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102937.D Vial: 37
Acq On : 30 Oct 2021 6:57 am Operator: BAG
Sample : 21J1205-03 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	983594	30.00 ug/L	-0.03 77.64%
48) Chlorobenzene-d5	15.69	82	405406	30.00 ug/L	-0.01 76.44%
70) 1,4-Dichlorobenzene-d4	19.78	150	576534	30.00 ug/L	0.00 85.20%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	345252	29.23 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.43%		
50) Toluene-d8	13.51	98	874106	30.59 ug/L	-0.01
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.97%		
71) 4-Bromofluorobenzene	17.64	174	333338	29.45 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 98.17%		
84) 1,2-Dichlorobenzene-d4	20.40	115	224521	30.93 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.10%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.30	50	1244	0.56 ug/L #	73
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.91	94	89	~~2.56~~ ug/L #	12
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.51	43	434	0.55 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.07	43	727	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	8.14	142	121	~~7.96~~ ug/L #	25
17) Methylene Chloride	8.21	84	606	N.D.	
18) Carbon disulfide	8.49	76	140	N.D.	
19) trans-1,2-Dichloroethene	8.64	61	936	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102937.D Vial: 37
Acq On : 30 Oct 2021 6:57 am Operator: BAG
Sample : 21J1205-03 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23) 2-Butanone (MEK)	9.32	43	2349	1.79 ug/L #	68
24) Diisopropyl ether	0.00	45	0	N.D.	
25) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26) 2,2-Dichloropropane	0.00	77	0	N.D.	
27) t-Butyl ethyl ether	0.00	59	0	N.D.	
28) Chloroform	0.00	83	0	N.D.	
29) Bromochloromethane	0.00	130	0	N.D.	
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
33) 1,2-Dichloroethane	10.53	62	150	N.D.	
34) 1,1-Dichloropropene	0.00	75	0	N.D.	
35) Benzene	11.22	78	1930	N.D.	
36) Carbon tetrachloride	0.00	117	0	N.D.	
37) Cyclohexane	10.96	84	1703	0.84 ug/L #	8
38) t-Amyl methyl ether	11.23	43	280	N.D.	
39) Heptane	11.67	43	72	N.D.	
40) 1,2-Dichloropropane	0.00	63	0	N.D.	
41) Trichloroethene	0.00	130	0	N.D.	
42) Dibromomethane	0.00	93	0	N.D.	
43) Bromodichloromethane	0.00	83	0	N.D.	
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	0.00	55	0	N.D.	
46) 4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49) trans-1,3-Dichloropropene	13.52	75	124	N.D.	
51) 1,1,2-Trichloroethane	13.51	83	757	0.58 ug/L #	1
52) Toluene	0.00	91	0	N.D.	
53) 2-Hexanone	13.51	43	6185	~~3.49~~ ug/L #	1
54) 1,3-Dichloropropane	0.00	76	0	N.D.	
55) Butyl acetate	0.00	43	0	N.D.	
56) Dibromochloromethane	0.00	129	0	N.D.	
57) 1,2-Dibromoethane	0.00	107	0	N.D.	
58) Tetrachloroethene	0.00	131	0	N.D.	
59) Chlorobenzene	0.00	112	0	N.D.	
60) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61) Ethylbenzene	16.20	91	306	N.D.	
62) m,p-Xylenes	0.00	106	0	N.D.	
63) Styrene	0.00	104	0	N.D.	
64) Bromoform	0.00	173	0	N.D.	
65) o-Xylene	0.00	106	0	N.D.	
66) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102937.D Vial: 37
Acq On : 30 Oct 2021 6:57 am Operator: BAG
Sample : 21J1205-03 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.64	105	555	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.29	91	225	N.D.	
74)	2-Chlorotoluene	18.29	91	225	N.D.	
75)	4-Chlorotoluene	18.29	91	225	N.D.	
76)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.65	105	215	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	19.88	119	78	N.D.	
83)	1,2,3-Trimethylbenzene	19.65	105	215	N.D.	
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.61	91	385	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.85	128	420	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

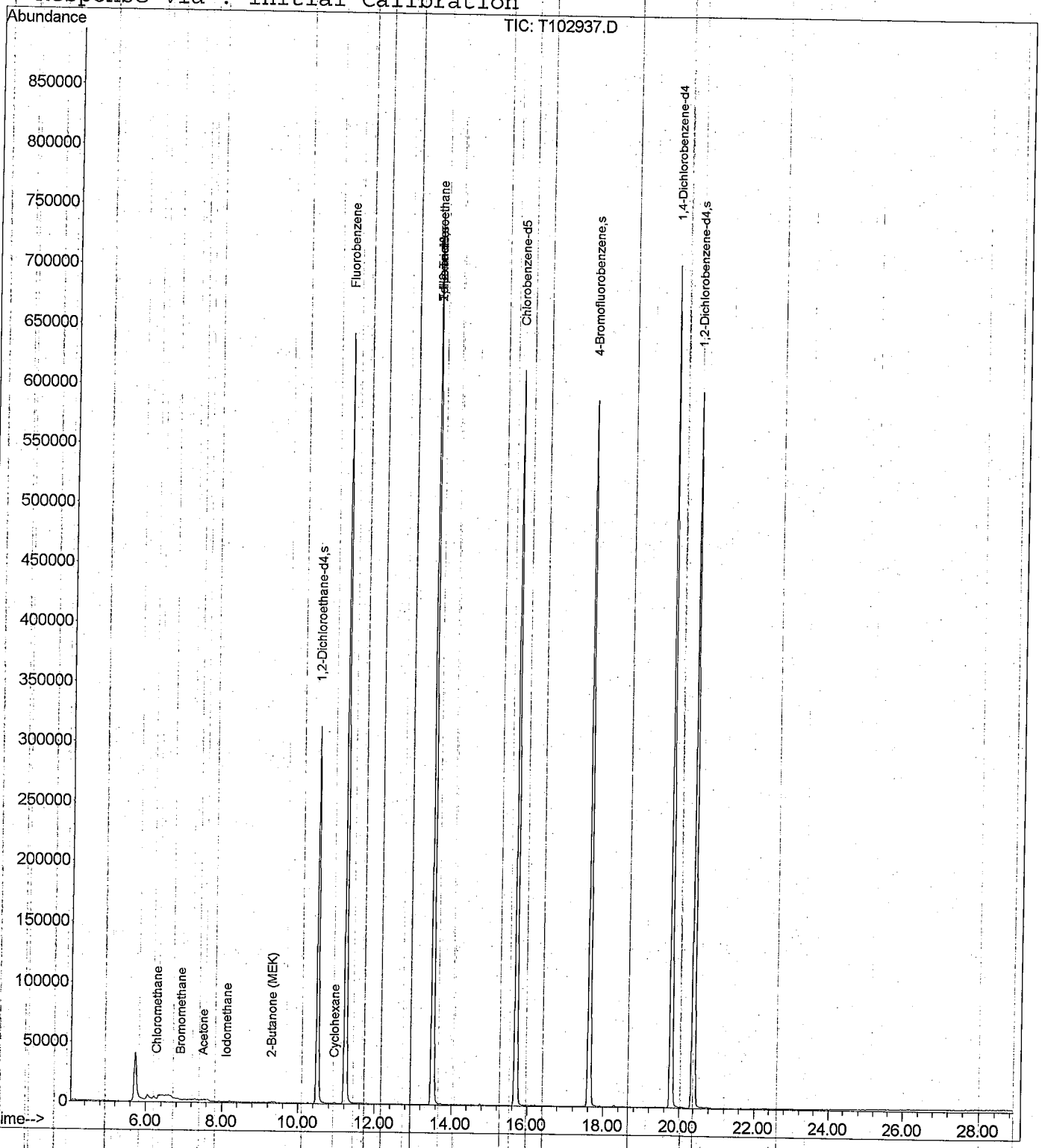
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102937.D
Acq On : 30 Oct 2021 6:57 am
Sample : 21J1205-03
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 37
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D Vial: 38
Acq On : 30 Oct 2021 7:33 am Operator: BAG
Sample : 21J1205-04 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.24	96	994352	30.00 ug/L	-0.03
48) Chlorobenzene-d5	15.70	82	414616	30.00 ug/L	78.49% 0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	578594	30.00 ug/L	78.17% 0.00
					85.50%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	346858	29.05 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.83%		
50) Toluene-d8	13.51	98	874210	29.92 ug/L	-0.02
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.73%		
71) 4-Bromofluorobenzene	17.63	174	331485	29.18 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 97.27%		
84) 1,2-Dichlorobenzene-d4	20.40	115	228683	31.39 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.63%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.31	50	1928	0.85 ug/L #	78
4) Vinyl chloride	6.50	62	60	N.D.	
5) Bromomethane	7.01	94	74	~~2.55~~ ug/L #	12
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	7.61	56	367	~~2.05~~ ug/L #	1
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.53	43	3592	4.49 ug/L #	77
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	8.07	59	58	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.07	43	3859	1.65 ug/L #	88
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.23	84	456	N.D.	
18) Carbon disulfide	8.52	76	202	N.D.	
19) trans-1,2-Dichloroethene	8.61	61	542	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	9.08	43	3425	0.65 ug/L #	93
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D Vial: 38
Acq On : 30 Oct 2021 7:33 am Operator: BAG
Sample : 21J1205-04 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.31	43	4748	3.59 ug/L	94
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	0.00	62	0	N.D.	
34)	1,1-Dichloropropene	11.02	75	59	N.D.	
35)	Benzene	11.02	78	9706	1.66 ug/L #	91
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	11.06	84	11625	5.69 ug/L #	22
38)	t-Amyl methyl ether	11.24	43	476	N.D.	
39)	Heptane	11.65	43	12398	6.25 ug/L	94
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	12.57	63	360	5.79 ug/L #	1
45)	Methylcyclohexane	12.57	55	48566	24.35 ug/L	97
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	372	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.51	75	165	N.D.	
51)	1,1,2-Trichloroethane	13.52	83	762	0.58 ug/L #	1
52)	Toluene	13.63	91	89103	16.08 ug/L	99
53)	2-Hexanone	13.87	43	345	N.D.	
54)	1,3-Dichloropropane	13.63	76	342	N.D.	
55)	Butyl acetate	14.51	43	543	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	15.48	112	1018	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	21517	3.69 ug/L	95
62)	m,p-Xylenes	16.21	106	33191	15.83 ug/L	87
63)	Styrene	16.87	104	968	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	16.87	106	21866	10.88 ug/L	78
66)	1,1,2,2-Tetrachloroethane	17.58	83	1232	0.60 ug/L #	26

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D Vial: 38
Acq On : 30 Oct 2021 7:33 am Operator: BAG
Sample : 21J1205-04 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	17.68	53	505	1.03 ug/L #	34
69)	Isopropylbenzene	17.57	105	5416	1.06 ug/L	94
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	9630	1.38 ug/L	96
74)	2-Chlorotoluene	18.43	91	2137	0.54 ug/L #	49
75)	4-Chlorotoluene	18.43	91	2137	0.55 ug/L #	49
76)	1,3,5-Trimethylbenzene	18.57	105	7075	1.65 ug/L	94
77)	tert-Butylbenzene	19.24	91	3329	1.12 ug/L #	88
78)	1,2,4-Trimethylbenzene	19.24	120	14067	6.20 ug/L	94
79)	sec-Butylbenzene	19.63	105	1702	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	19.88	119	2628	0.64 ug/L	93
83)	1,2,3-Trimethylbenzene	20.00	105	23257	5.16 ug/L	93
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.59	91	4762	1.14 ug/L #	85
87)	Hexachloroethane	21.49	117	380	0.42 ug/L #	26
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.84	128	57814	15.82 ug/L #	95
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	26.10	142	21882	16.62 ug/L	96
94)	1-Methylnaphalene	26.55	142	12095	10.73 ug/L	96

(#) = qualifier out of range (m) = manual integration

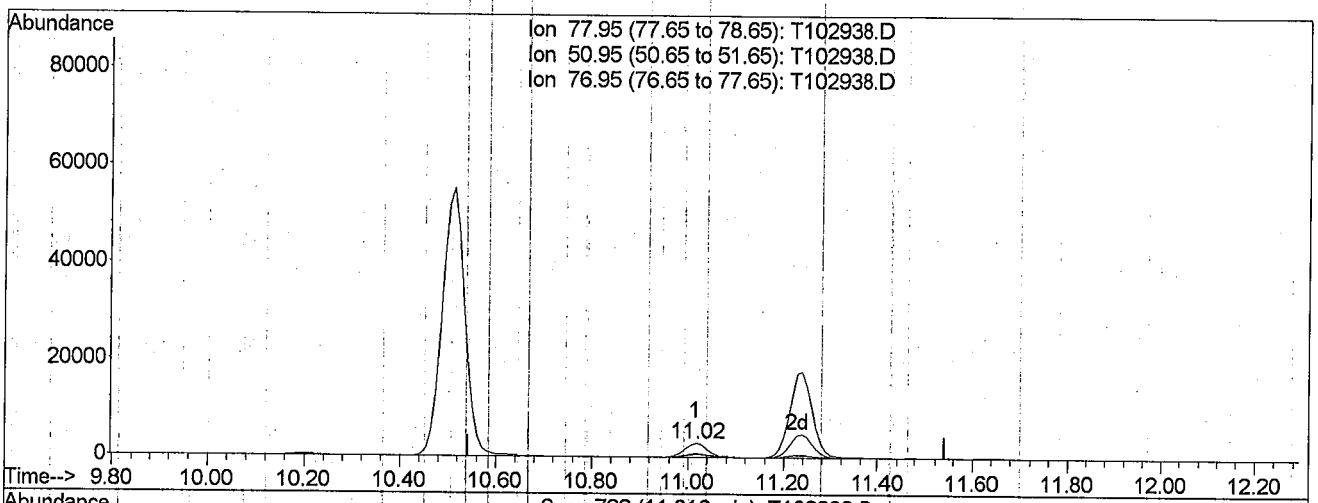
Quantitation Report (Qedit)

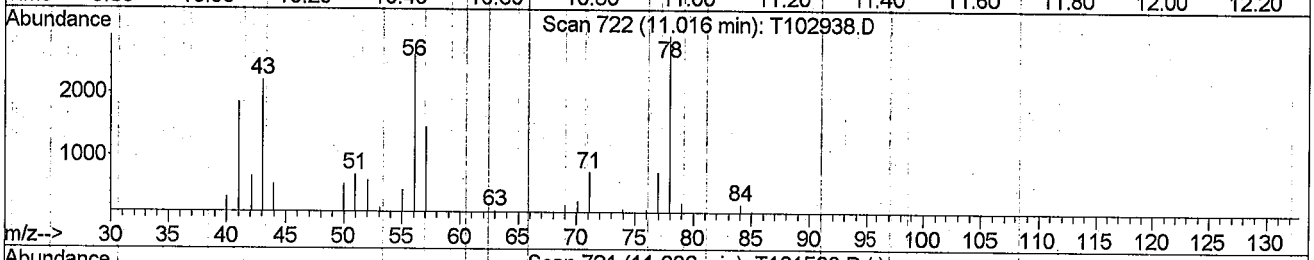
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:38 2021

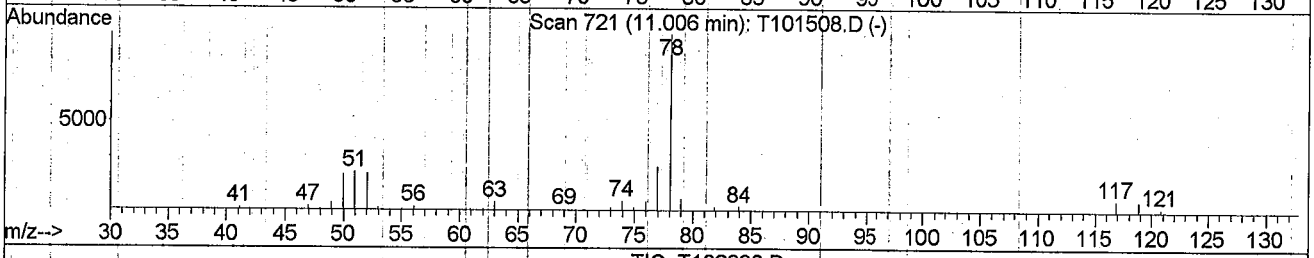
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(35) Benzene

11.02min 1.66ug/L

response 9706

Ion	Exp%	Act%
77.95	100	100
50.95	23.20	29.47#
76.95	24.70	27.06
0.00	0.00	0.00

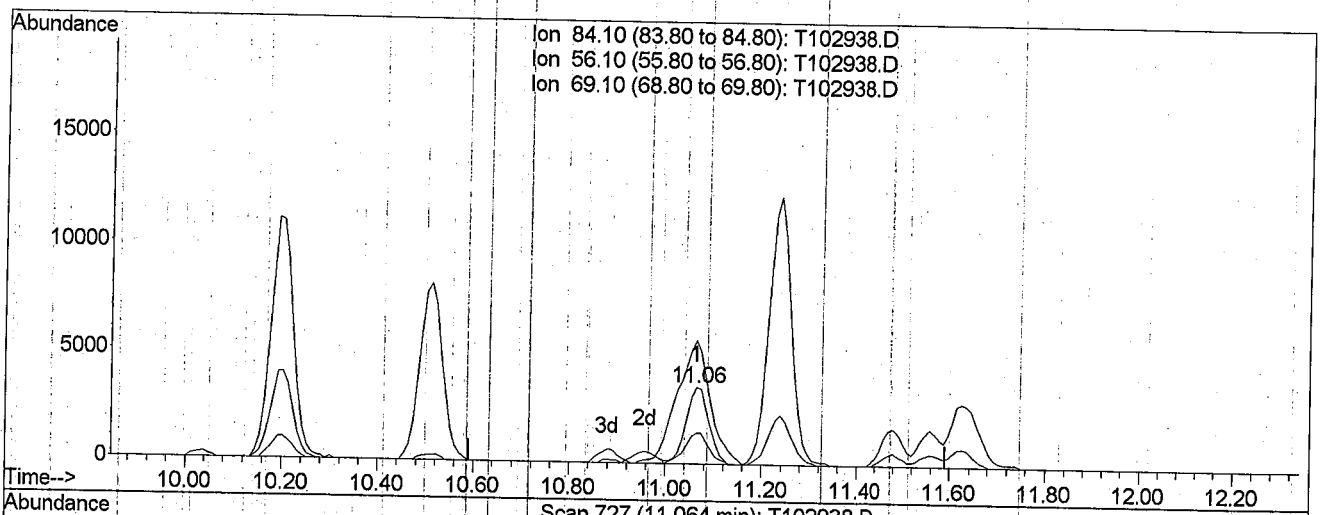
Quantitation Report (Qedit)

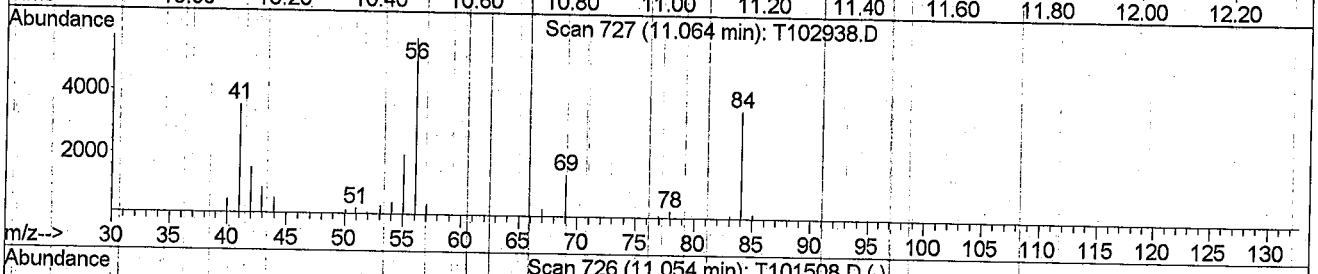
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

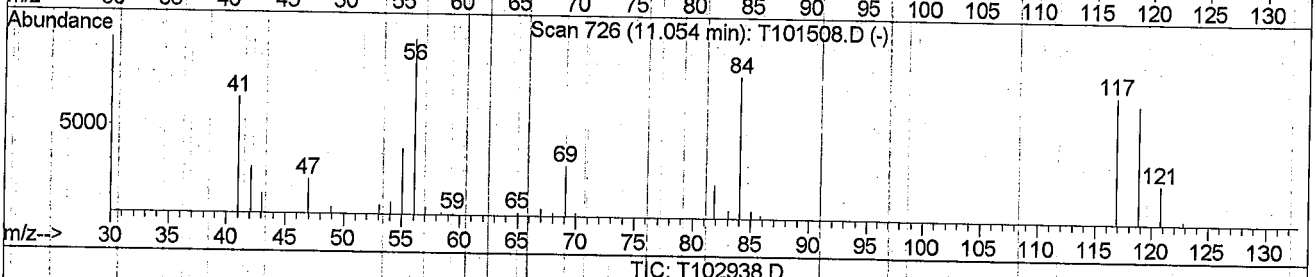
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(37) Cyclohexane

11.06min 5.69ug/L

response 11625

Ion	Exp%	Act%
84.10	100	100
56.10	126.70	234.00#
69.10	33.20	42.76#
0.00	0.00	0.00

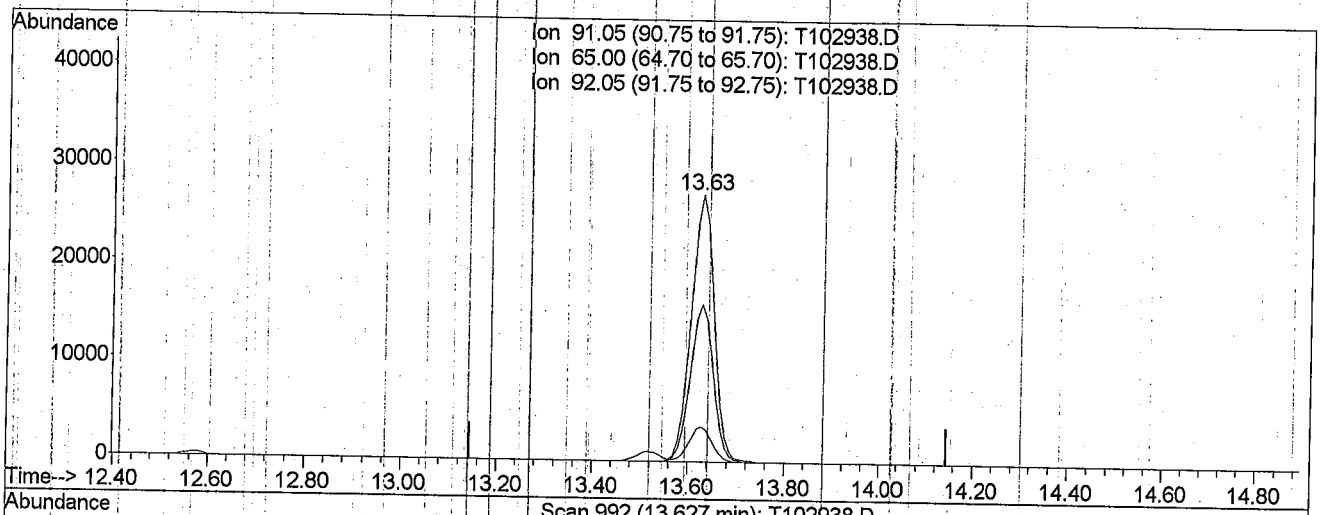
Quantitation Report (Qedit)

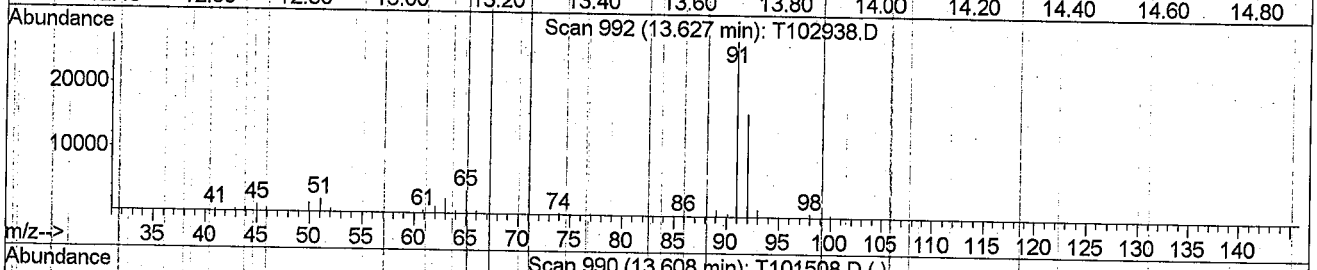
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

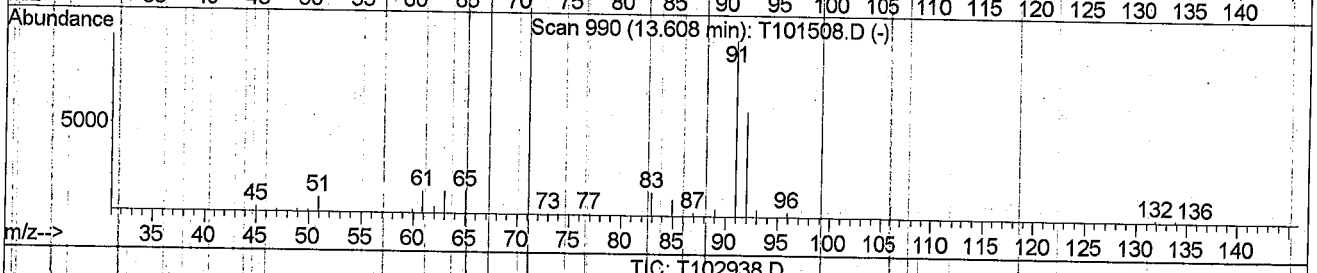
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(52) Toluene

13.63min 16.08ug/L

response 89103

Ion	Exp%	Act%
91.05	100	100
65.00	13.60	13.46
92.05	58.00	59.29
0.00	0.00	0.00

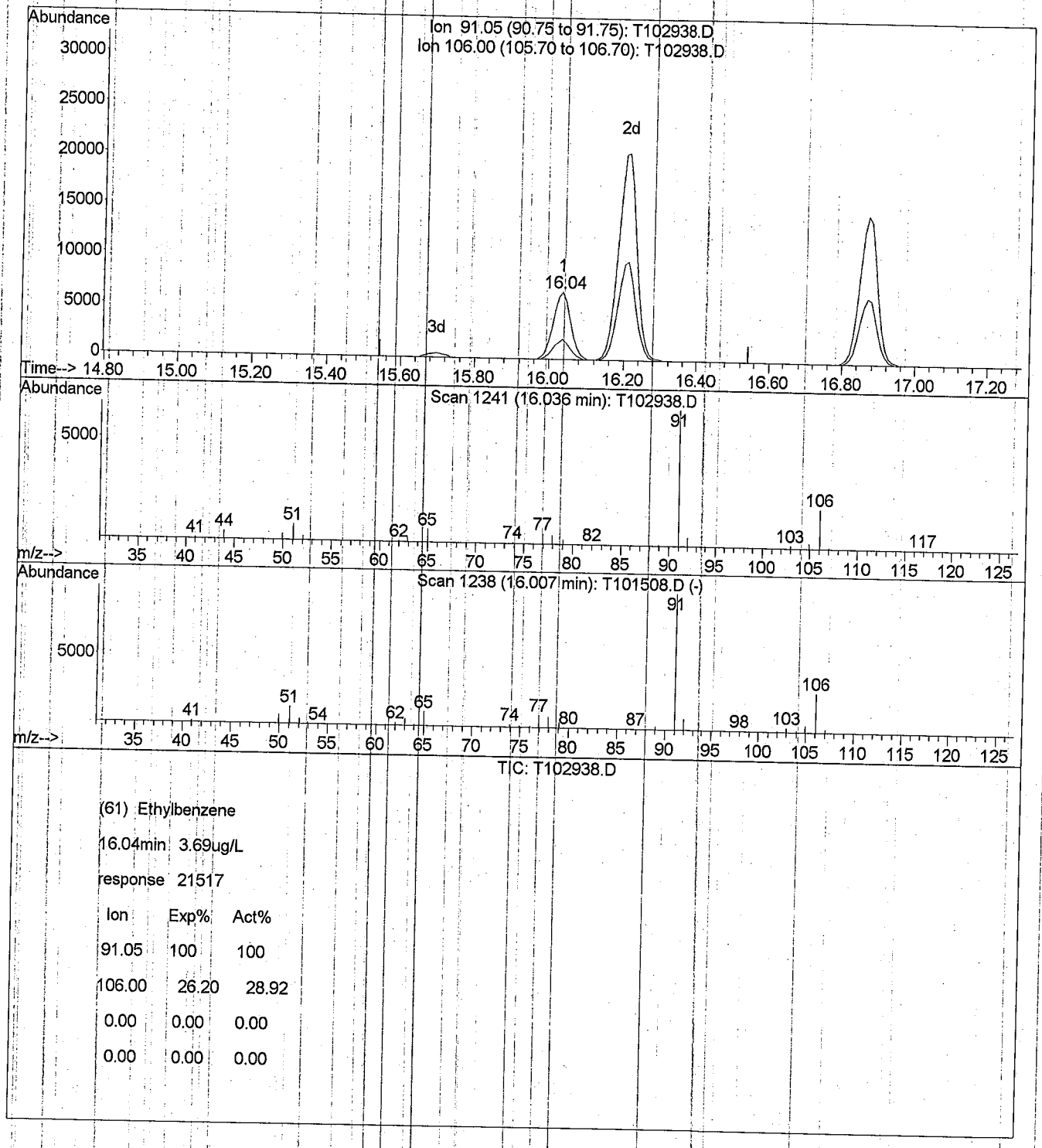
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration



(61) Ethylbenzene

16.04min 3.69ug/L

response 21517

Ion	Exp%	Act%
91.05	100	100
106.00	26.20	28.92
0.00	0.00	0.00
0.00	0.00	0.00

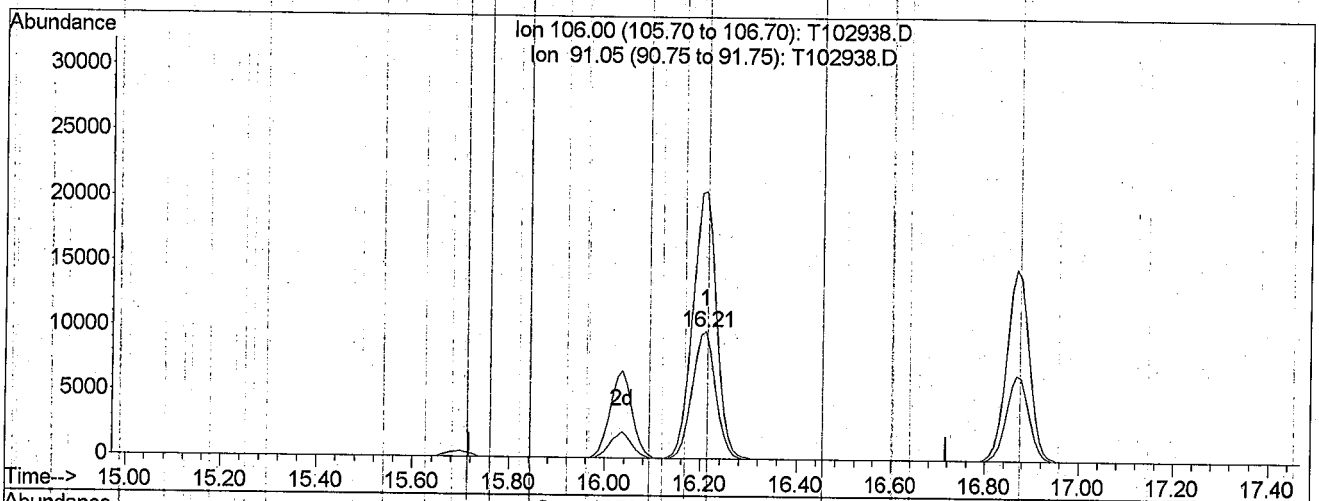
Quantitation Report (Qedit)

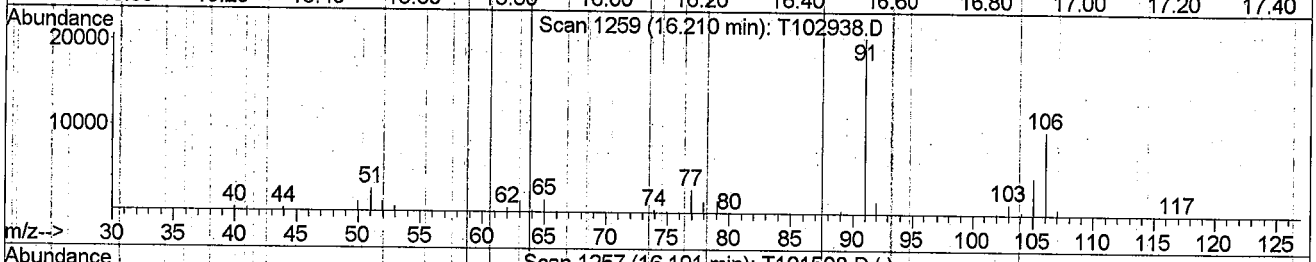
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

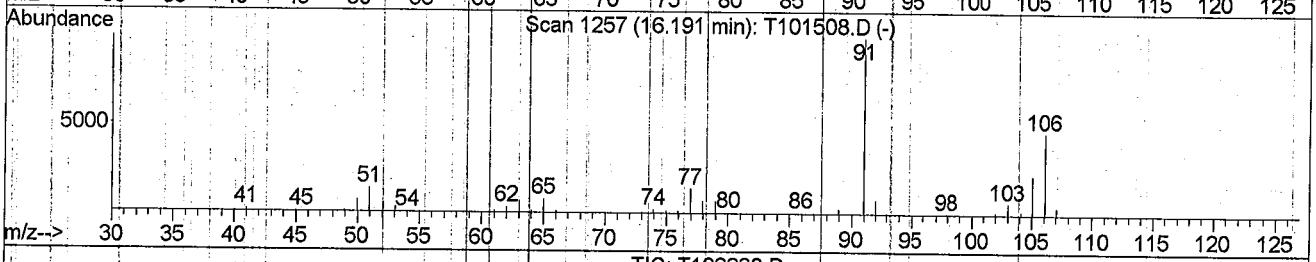
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(62) m,p-Xylenes

16.21min 15.83ug/L

response 33191

Ion	Exp%	Act%
106.00	100	100
91.05	236.40	213.72
0.00	0.00	0.00
0.00	0.00	0.00

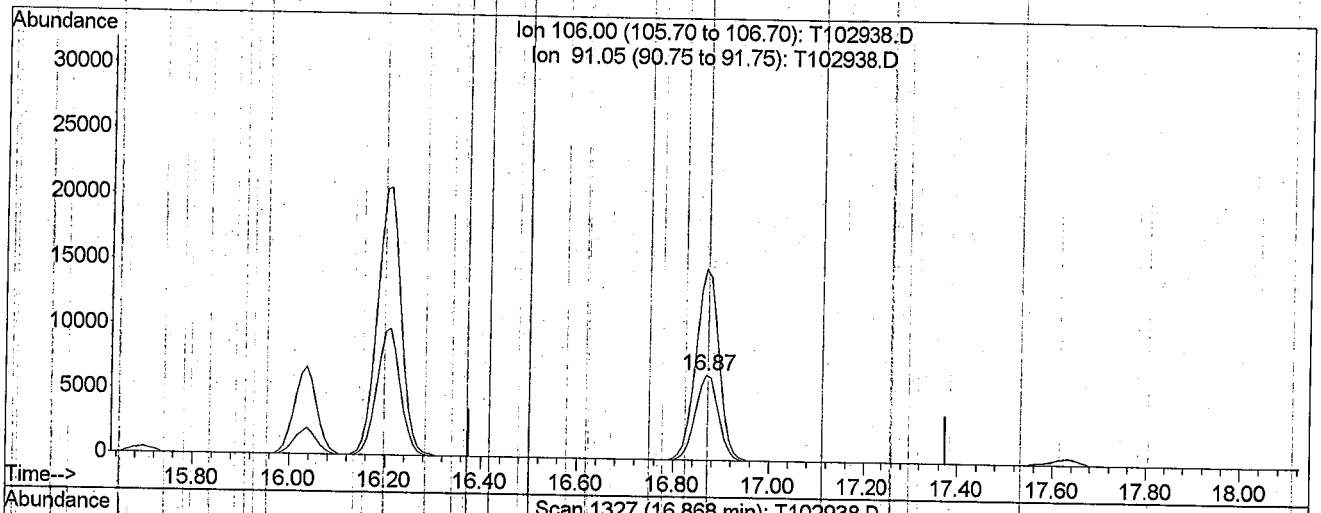
Quantitation Report (Qedit)

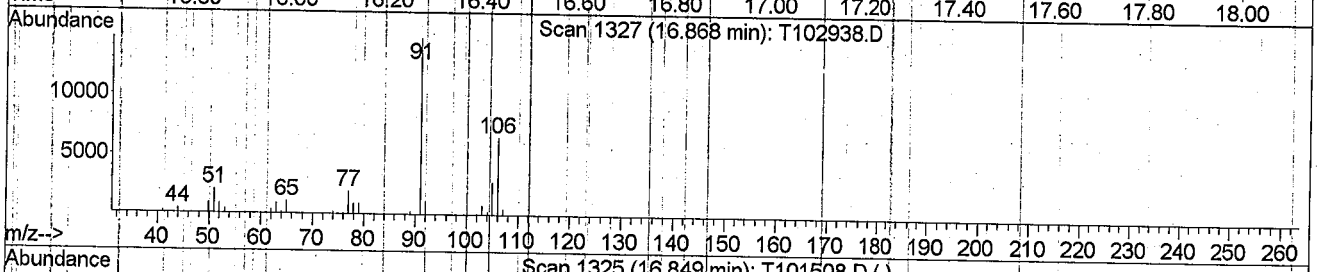
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
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Quant Time: Nov 1 11:47 2021

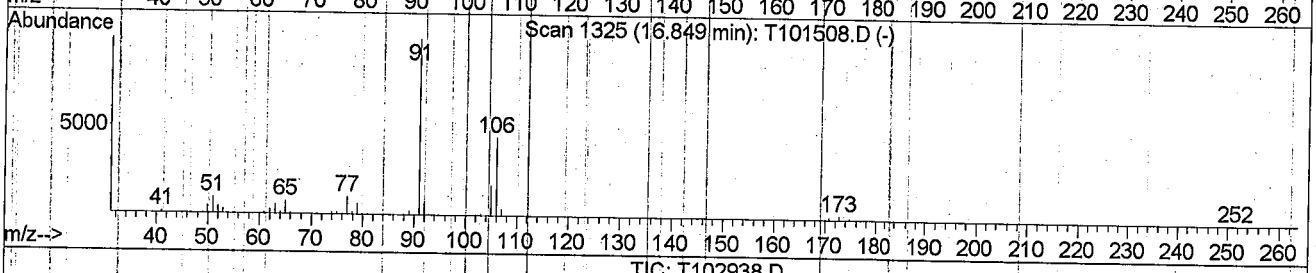
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(65) o-Xylene

16.87min 10.88ug/L

response 21866

Ion	Exp%	Act%
106.00	100	100
91.05	264.90	225.00
0.00	0.00	0.00
0.00	0.00	0.00

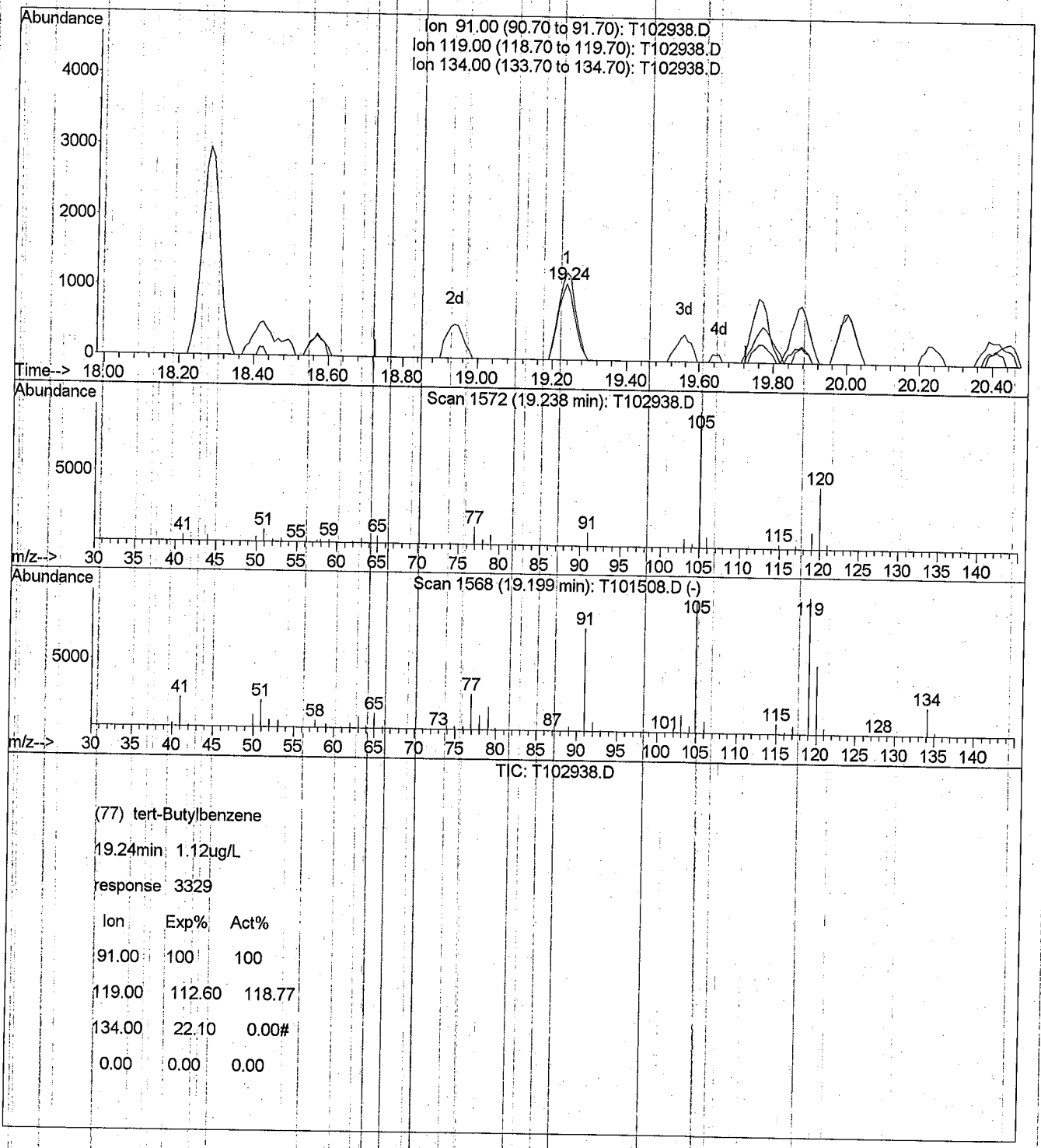
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration



TIC: T102938.D

(77) tert-Butylbenzene

19.24min 1.12ug/L

response 3329

Ion	Exp%	Act%
91.00	100	100
119.00	112.60	118.77
134.00	22.10	0.00#
0.00	0.00	0.00

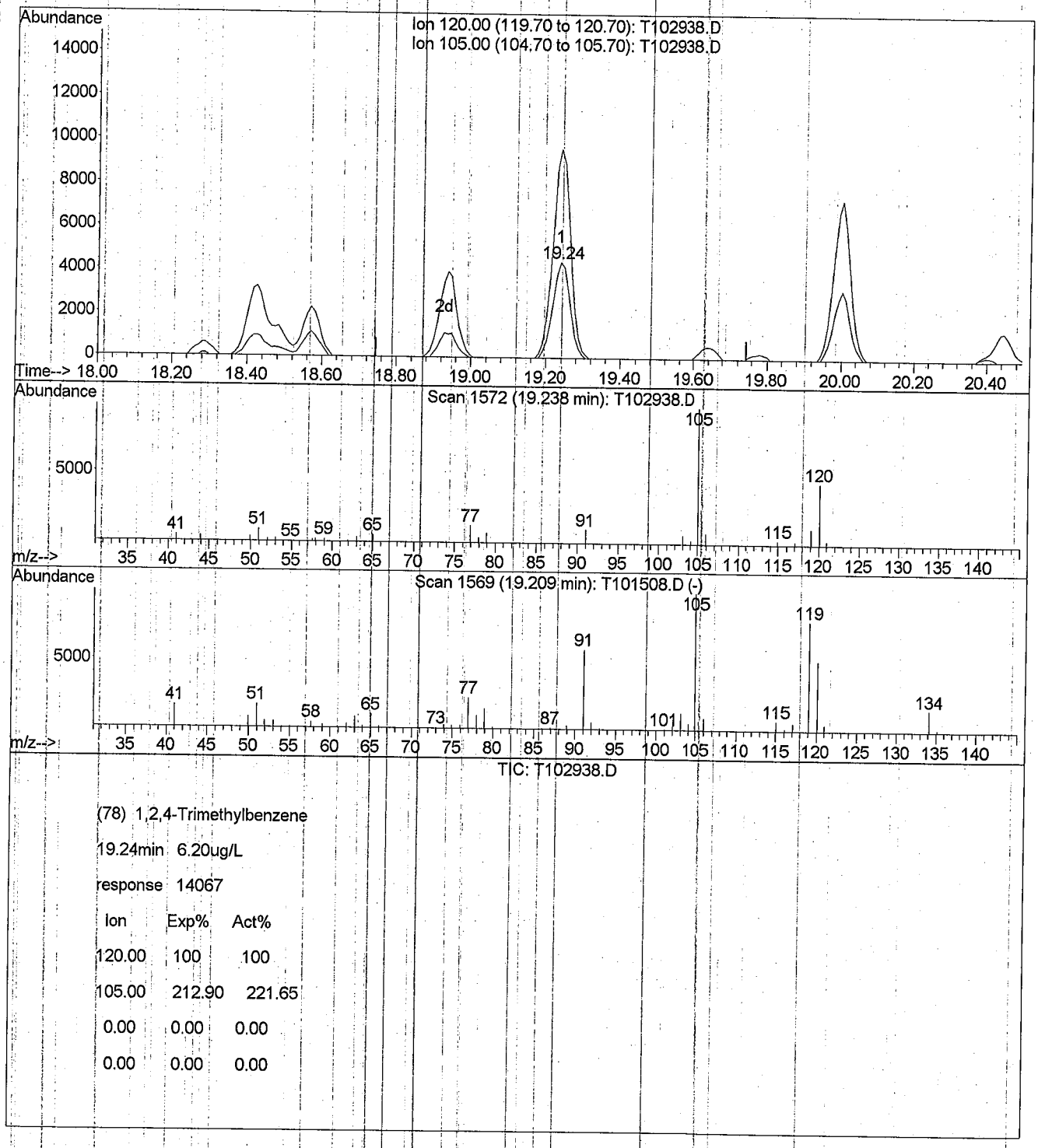
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration



(78) 1,2,4-Trimethylbenzene

19.24min 6.20ug/L

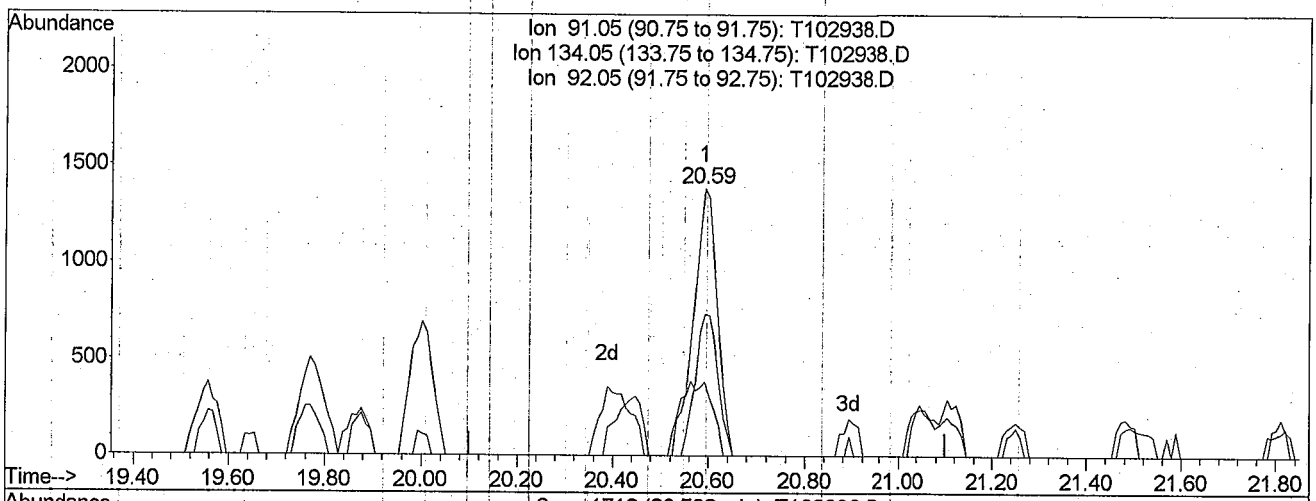
response 14067

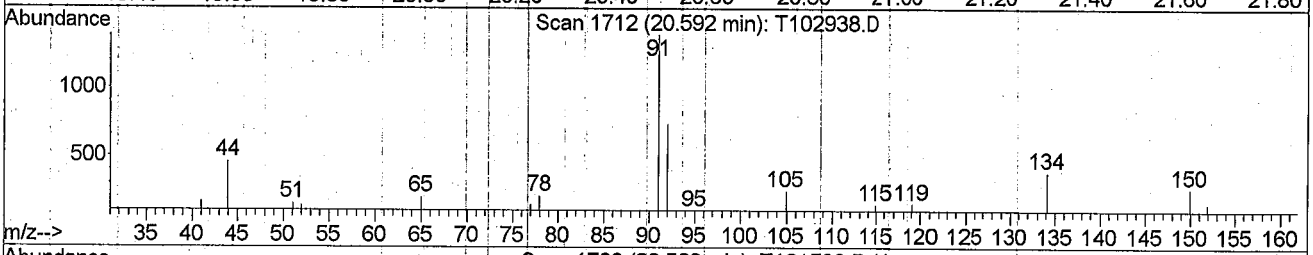
Ion	Exp%	Act%
120.00	100	100
105.00	212.90	221.65
0.00	0.00	0.00
0.00	0.00	0.00

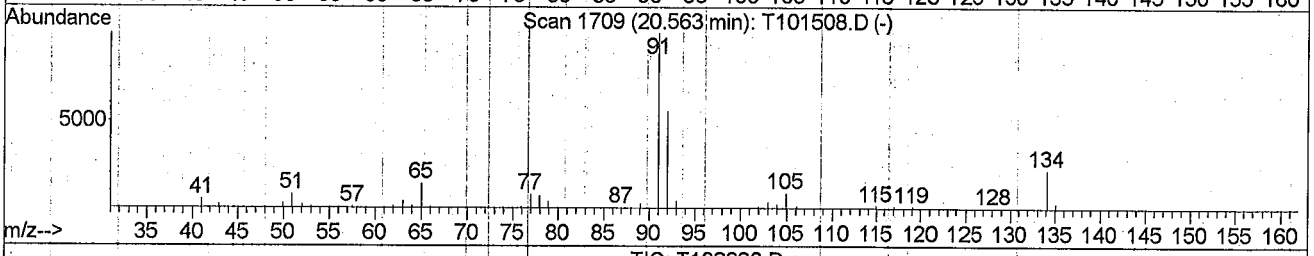
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D Vial: 38
Acq On : 30 Oct 2021 7:33 am Operator: BAG
Sample : 21J1205-04 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(86) n-Butylbenzene

20.59min 1.14ug/L

response 4762

Ion	Exp%	Act%
91.05	100	100
134.05	17.90	0.00#
92.05	55.10	50.42
0.00	0.00	0.00

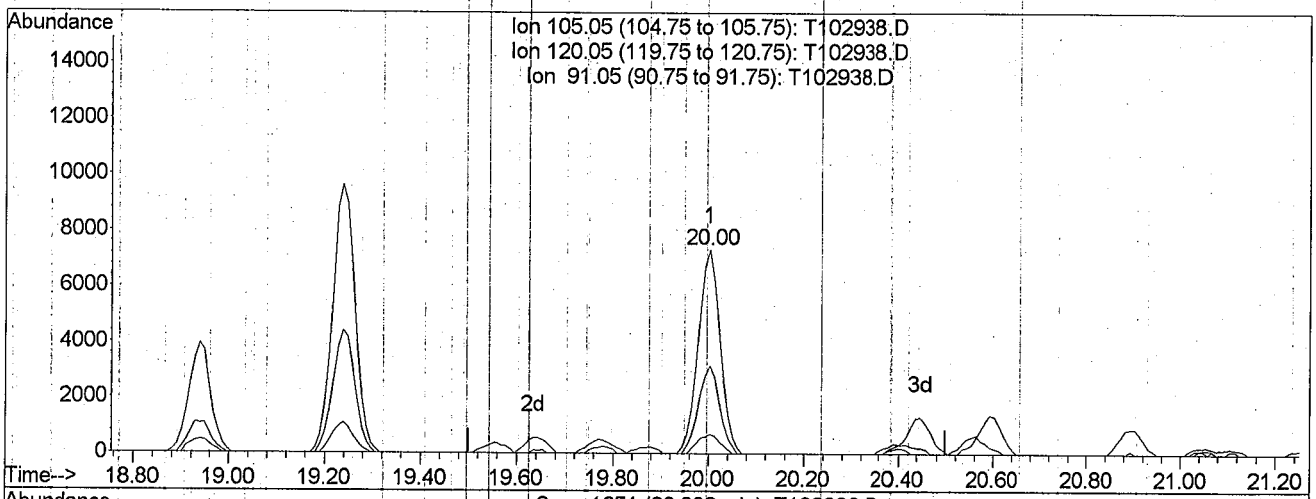
Quantitation Report (Qedit)

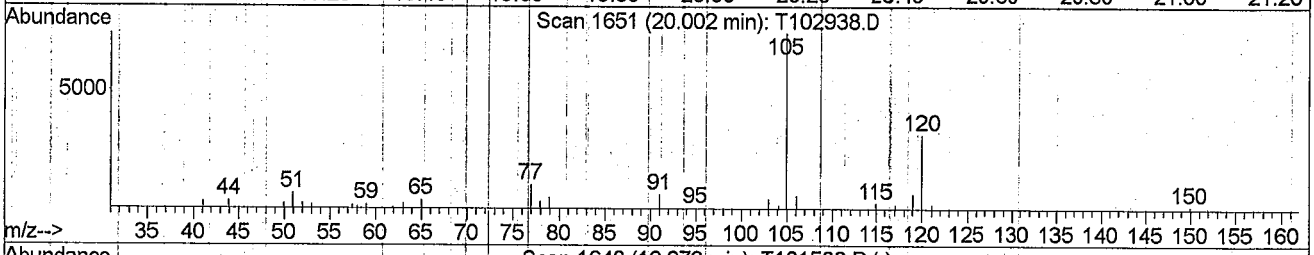
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

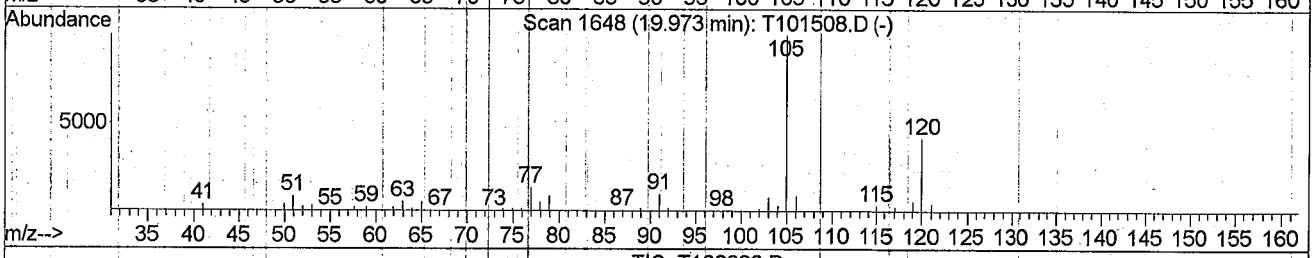
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(83) 1,2,3-Trimethylbenzene

20.00min 5.16ug/L

response 23257

Ion	Exp%	Act%
105.05	100	100
120.05	37.20	41.77
91.05	11.30	9.69
0.00	0.00	0.00

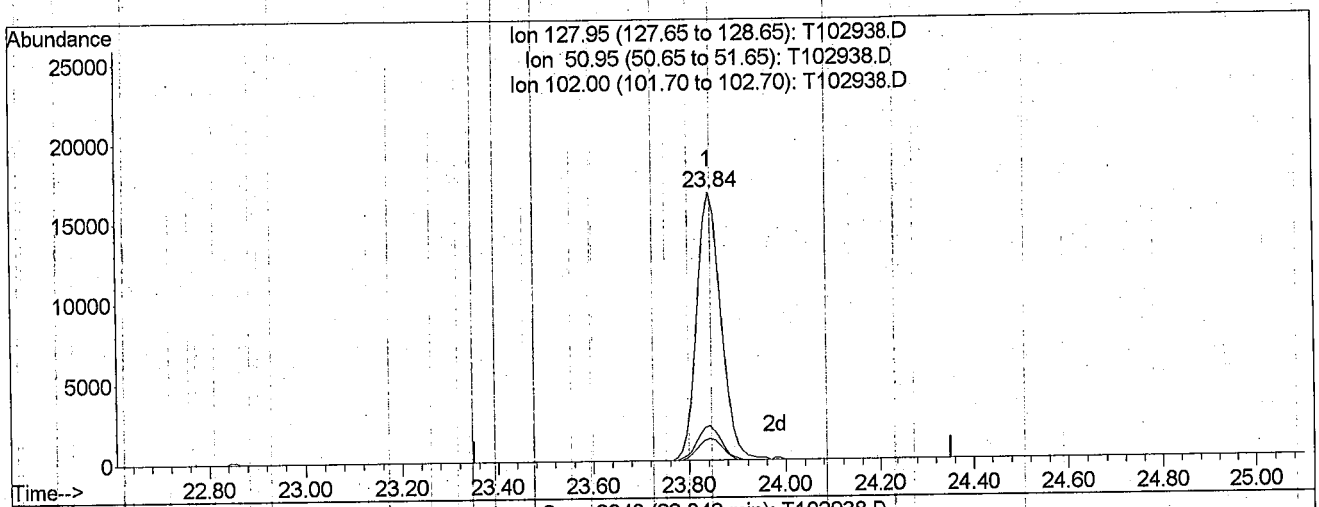
Quantitation Report (Qedit)

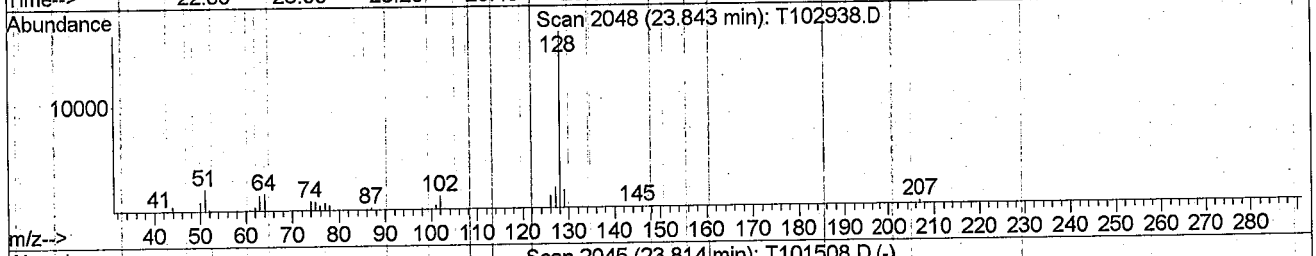
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

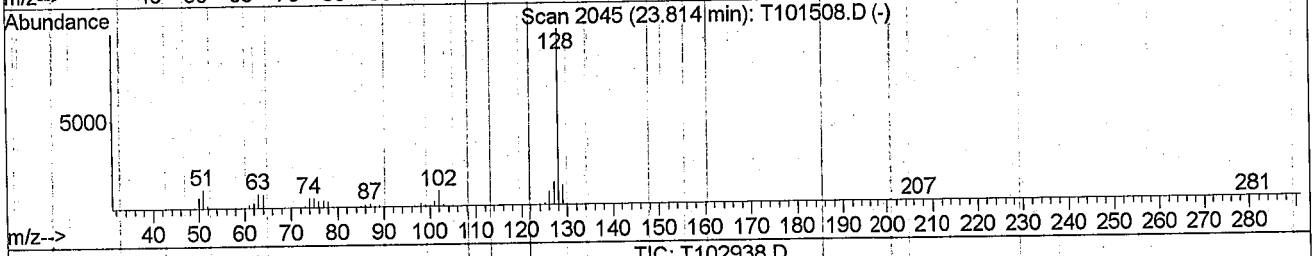
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(90) Naphthalene

23.84min 15.82ug/L

response 57814

Ion	Exp%	Act%
127.95	100	100
50.95	14.40	12.66
102.00	10.50	8.11#
0.00	0.00	0.00

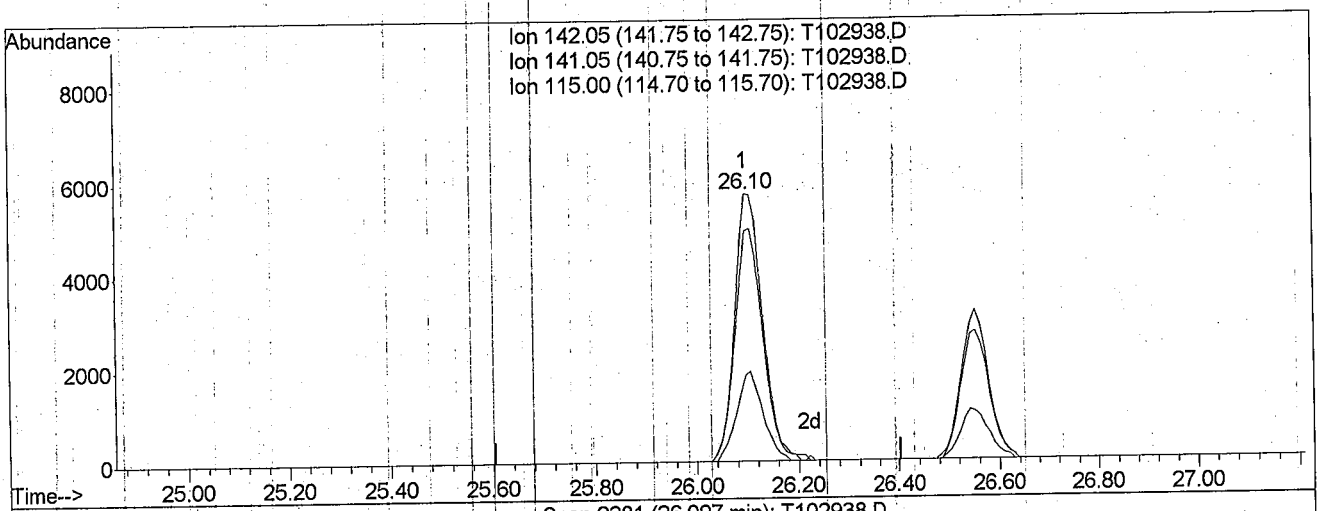
Quantitation Report (Qedit)

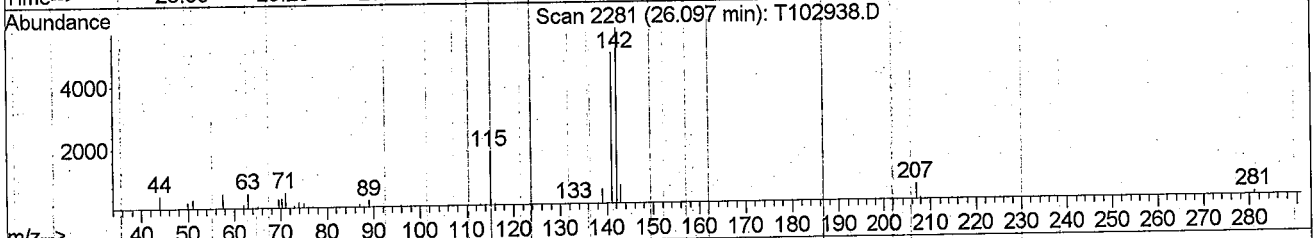
Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 11:47 2021

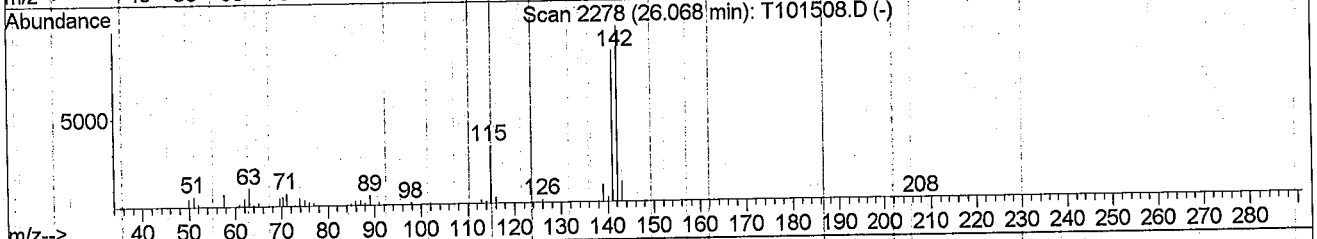
Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration







TIC: T102938.D

(93) 2-Methylnaphthalene

26.10min 16.62ug/L

response 21882

Ion	Exp%	Act%
142.05	100	100
141.05	87.60	87.82
115.00	38.50	31.84
0.00	0.00	0.00

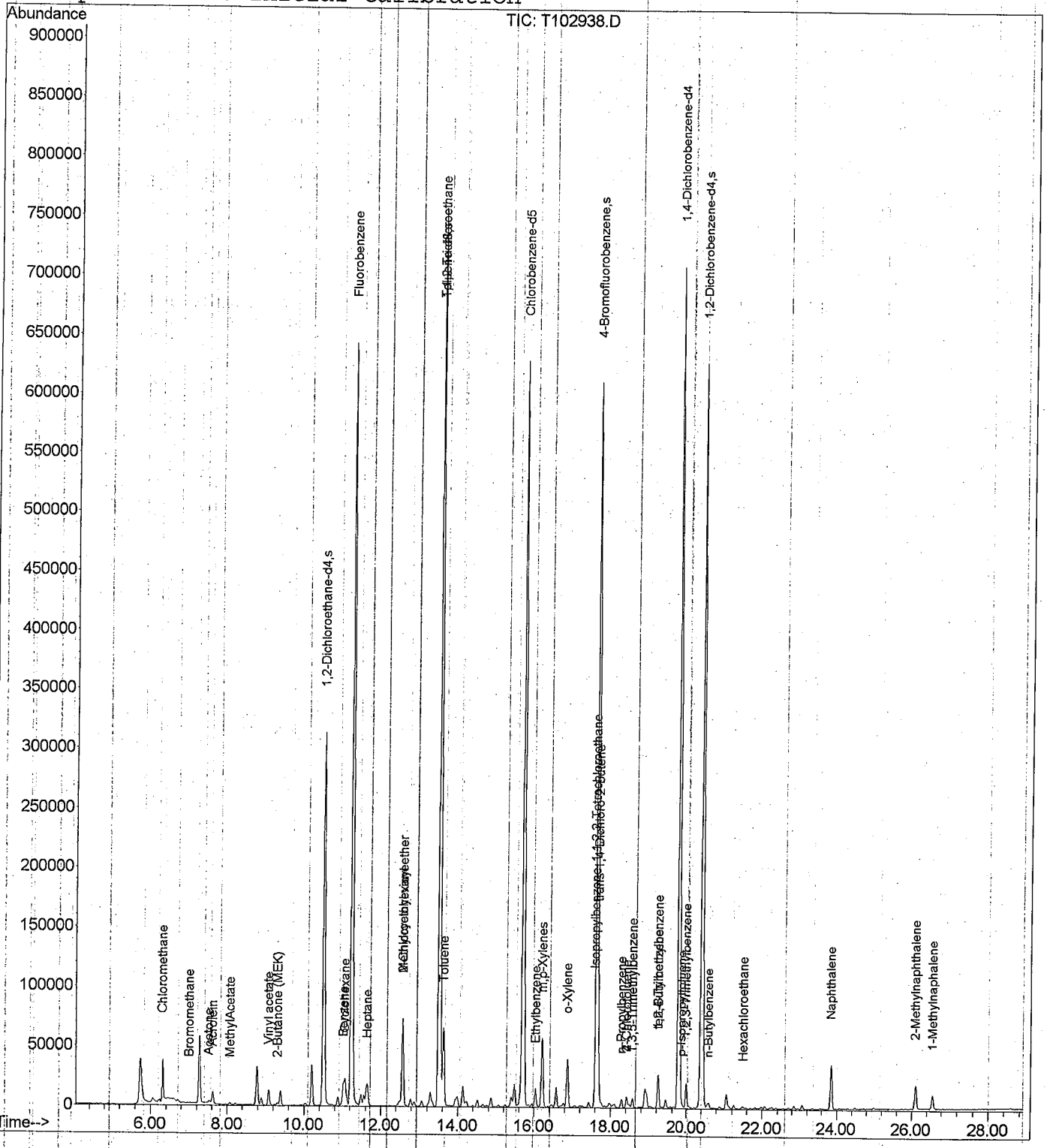
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102938.D
Acq On : 30 Oct 2021 7:33 am
Sample : 21J1205-04
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 38
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102939.D Vial: 39
Acq On : 30 Oct 2021 8:09 am Operator: BAG
Sample : 21J1205-05 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1020781	30.00 ug/L	-0.03
48) Chlorobenzene-d5	15.69	82	422525	30.00 ug/L	80.58% -0.01
70) 1,4-Dichlorobenzene-d4	19.77	150	569920	30.00 ug/L	79.66% -0.01
					84.22%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	355882	29.04 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.80%		
50) Toluene-d8	13.52	98	891426	29.94 ug/L	-0.01
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.80%		
71) 4-Bromofluorobenzene	17.63	174	335332	29.97 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.90%		
84) 1,2-Dichlorobenzene-d4	20.39	115	224317	31.26 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.20%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.30	50	1391	0.60 ug/L #	83
4) Vinyl chloride	6.55	62	58	N.D.	
5) Bromomethane	6.83	94	775	0.36 ug/L #	75
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.53	43	419	0.51 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.07	43	593	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.22	84	582	N.D.	
18) Carbon disulfide	0.00	76	0	N.D.	
19) trans-1,2-Dichloroethene	8.61	61	949	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102939.D Vial: 39
Acq On : 30 Oct 2021 8:09 am Operator: BAG
Sample : 21J1205-05 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.31	43	1264	0.93 ug/L #	74
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.54	62	74	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.02	78	58	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.95	84	1713	0.82 ug/L #	8
38)	t-Amyl methyl ether	11.22	43	325	N.D.	
39)	Heptane	11.65	43	197	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.56	55	404	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.52	75	205	N.D.	
51)	1,1,2-Trichloroethane	13.52	83	756	0.56 ug/L #	1
52)	Toluene	13.63	91	1014	N.D.	
53)	2-Hexanone	13.51	43	6329	~~3.42~~ ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.02	91	278	N.D.	
62)	m,p-Xylenes	16.21	106	405	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102939.D Vial: 39
Acq On : 30 Oct 2021 8:09 am Operator: BAG
Sample : 21J1205-05 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.63	105	637	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	281	N.D.	
74)	2-Chlorotoluene	18.28	91	281	N.D.	
75)	4-Chlorotoluene	18.28	91	281	N.D.	
76)	1,3,5-Trimethylbenzene	18.58	105	72	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	19.22	120	60	N.D.	
79)	sec-Butylbenzene	19.65	105	63	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	19.87	119	133	N.D.	
83)	1,2,3-Trimethylbenzene	20.00	105	389	N.D.	
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.60	91	301	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.84	128	2425	0.67 ug/L #	83
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	26.10	142	1156	0.89 ug/L #	90
94)	1-Methylnaphalene	26.55	142	691	0.62 ug/L #	70

(#) = qualifier out of range (m) = manual integration

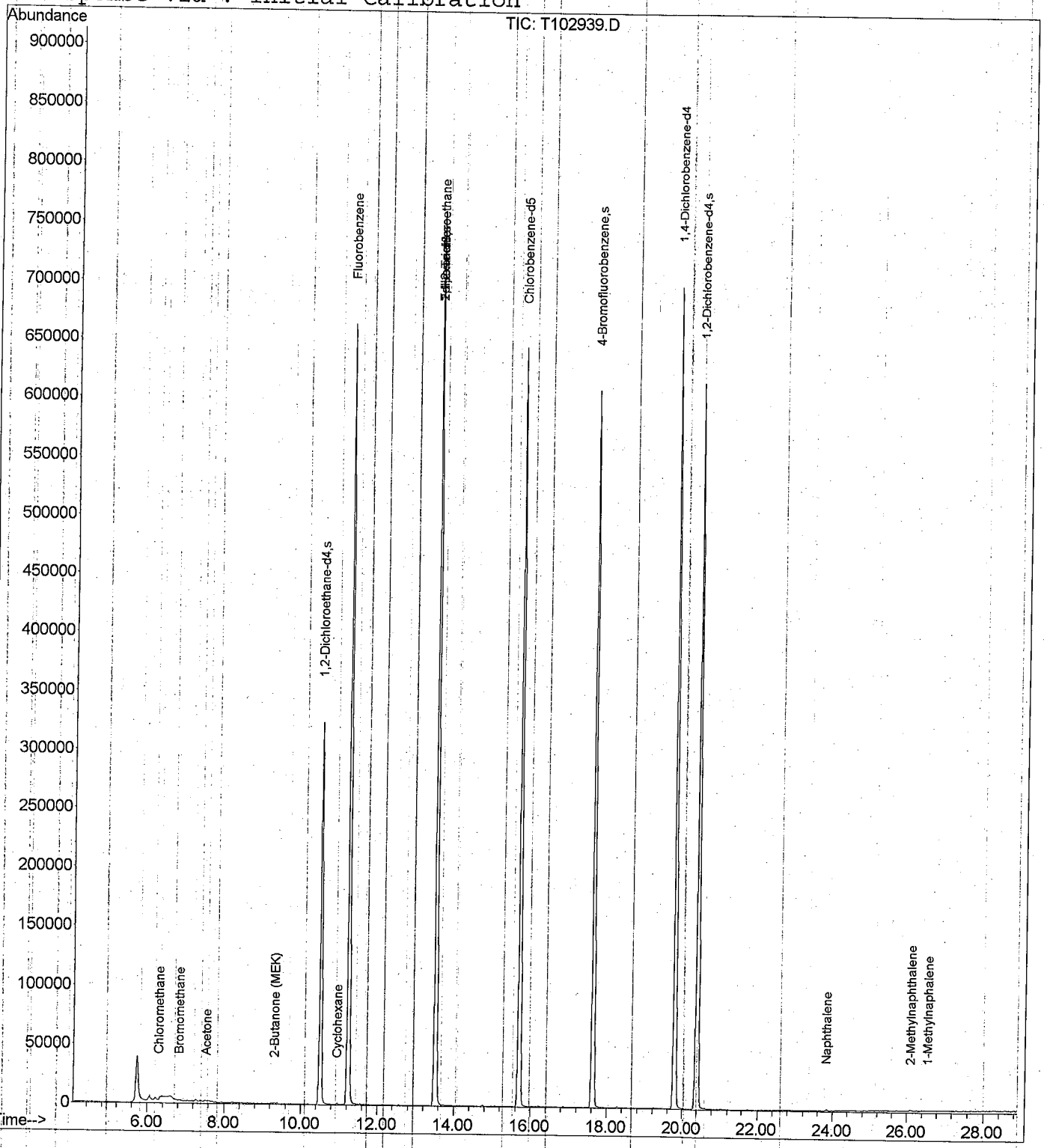
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102939.D
Acq On : 30 Oct 2021 8:09 am
Sample : 21J1205-05
Misc : Con. B 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 39
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102940.D Vial: 40
Acq On : 30 Oct 2021 8:46 am Operator: BAG
Sample : 21J1205-10 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1022810	30.00 ug/L	-0.03 80.74%
48) Chlorobenzene-d5	15.69	82	427515	30.00 ug/L	-0.01 80.60%
70) 1,4-Dichlorobenzene-d4	19.78	150	599979	30.00 ug/L	0.00 88.66%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	361059	29.40 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 98.00%		
50) Toluene-d8	13.50	98	908374	30.15 ug/L	-0.02
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.50%		
71) 4-Bromofluorobenzene	17.63	174	349513	29.67 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 98.90%		
84) 1,2-Dichlorobenzene-d4	20.39	115	231105	30.59 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 101.97%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.30	50	1291	0.55 ug/L #	60
4) Vinyl chloride	6.40	62	63	N.D.	
5) Bromomethane	6.98	94	51	H ~~2.53~~ ug/L #	12
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.52	43	800	0.97 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.06	43	817	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.20	84	527	N.D.	
18) Carbon disulfide	0.00	76	0	N.D.	
19) trans-1,2-Dichloroethene	8.64	61	750	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102940.D Vial: 40
Acq On : 30 Oct 2021 8:46 am Operator: BAG
Sample : 21J1205-10 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.31	43	2144	1.58 ug/L #	83
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	0.00	62	0	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.22	78	1766	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.95	84	1730	0.82 ug/L #	12
38)	t-Amyl methyl ether	11.22	43	324	N.D.	
39)	Heptane	11.66	43	62	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.55	55	62	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.50	75	120	N.D.	
51)	1,1,2-Trichloroethane	13.51	83	886	0.65 ug/L #	1
52)	Toluene	13.61	91	61	N.D.	
53)	2-Hexanone	0.00	43	0	N.D.	
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.21	91	222	N.D.	
62)	m,p-Xylenes	0.00	106	0	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102940.D Vial: 40
Acq On : 30 Oct 2021 8:46 am Operator: BAG
Sample : 21J1205-10 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

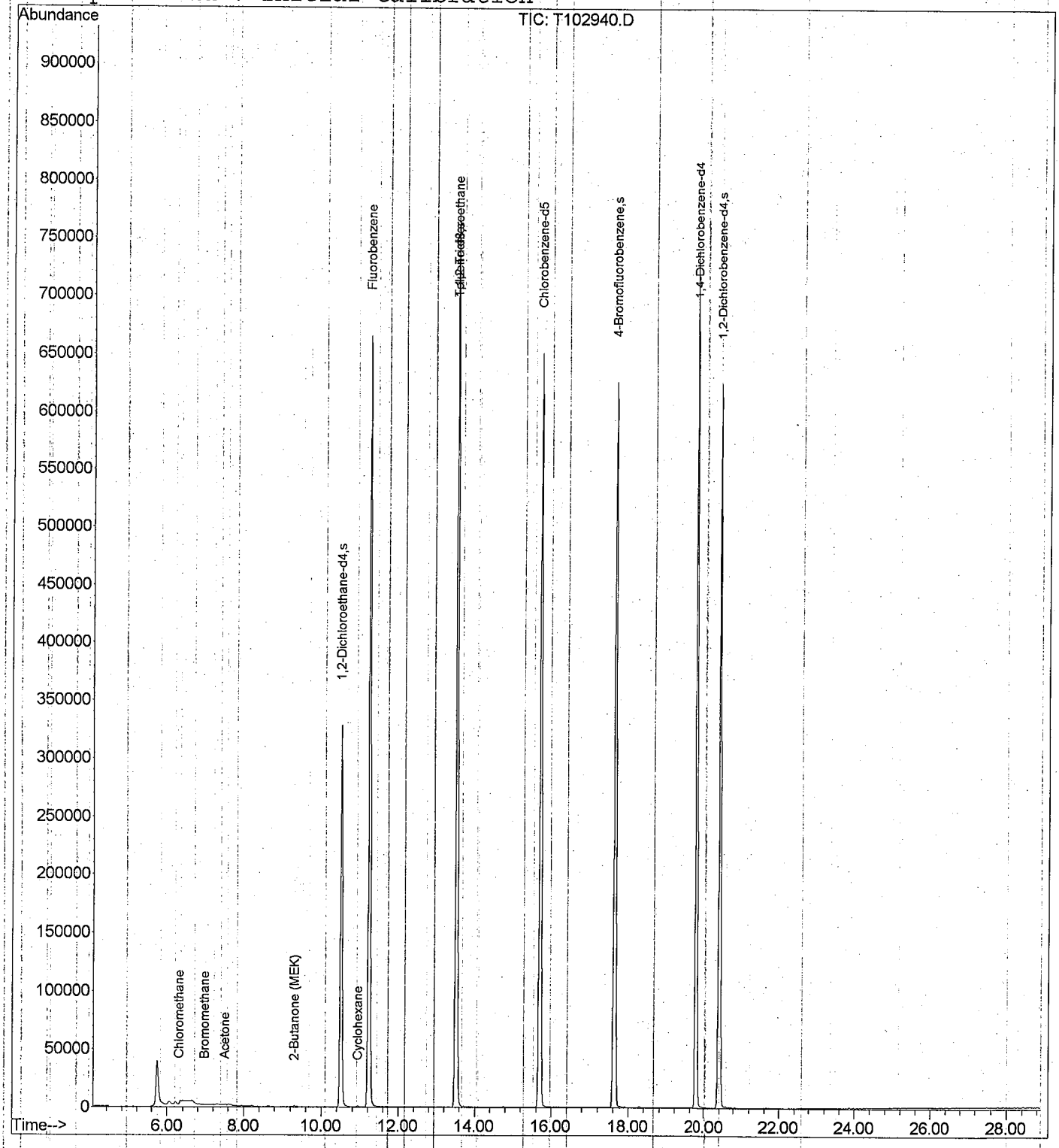
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.63	105	555	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.27	91	59	N.D.	
74)	2-Chlorotoluene	18.27	91	59	N.D.	
75)	4-Chlorotoluene	18.27	91	59	N.D.	
76)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.64	105	69	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	0.00	119	0	N.D.	
83)	1,2,3-Trimethylbenzene	19.64	105	69	N.D.	
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.59	91	208	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.85	128	799	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102940.D Vial: 40
Acq On : 30 Oct 2021 8:46 am Operator: BAG
Sample : 21J1205-10 Inst : Trixie
Misc : Con. B 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102941.D Vial: 41
Acq On : 30 Oct 2021 9:22 am Operator: BAG
Sample : 21J1205-01 Inst : Trixie
Misc : Con. D 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1025413	30.00 ug/L	-0.04 80.94%
48) Chlorobenzene-d5	15.69	82	423561	30.00 ug/L	-0.02 79.86%
70) 1,4-Dichlorobenzene-d4	19.78	150	588510	30.00 ug/L	0.00 86.97%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.50	65	353205	28.69 ug/L	-0.04
Spiked Amount 30.000	Range 68 - 133		Recovery = 95.63%		
50) Toluene-d8	13.51	98	896562	30.04 ug/L	-0.02
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.13%		
71) 4-Bromofluorobenzene	17.63	174	340046	29.43 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 98.10%		
84) 1,2-Dichlorobenzene-d4	20.39	115	231676	31.27 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.23%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.41	50	337	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.84	94	381	2.77 ug/L #	65
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.51	43	490	0.59 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.05	43	387	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.21	84	590	N.D.	
18) Carbon disulfide	0.00	76	0	N.D.	
19) trans-1,2-Dichloroethene	8.65	61	719	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	9.22	43	397	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102941.D Vial: 41
Acq On : 30 Oct 2021 9:22 am Operator: BAG
Sample : 21J1205-01 Inst : Trixie
Misc : Con. D 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.30	43	1342	0.98 ug/L #	62
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	0.00	62	0	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.23	78	1903	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.95	84	1697	0.81 ug/L #	3
38)	t-Amyl methyl ether	11.23	43	309	N.D.	
39)	Heptane	0.00	43	0	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	0.00	55	0	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.51	75	71	N.D.	
51)	1,1,2-Trichloroethane	13.50	83	738	0.55 ug/L #	1
52)	Toluene	0.00	91	0	N.D.	
53)	2-Hexanone	13.51	43	6434	~~3.47~~ ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	15.69	91	1508	N.D.	
62)	m,p-Xylenes	0.00	106	0	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102941.D Vial: 41
Acq On : 30 Oct 2021 9:22 am Operator: BAG
Sample : 21J1205-01 Inst : Trixie
Misc : Con. D 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

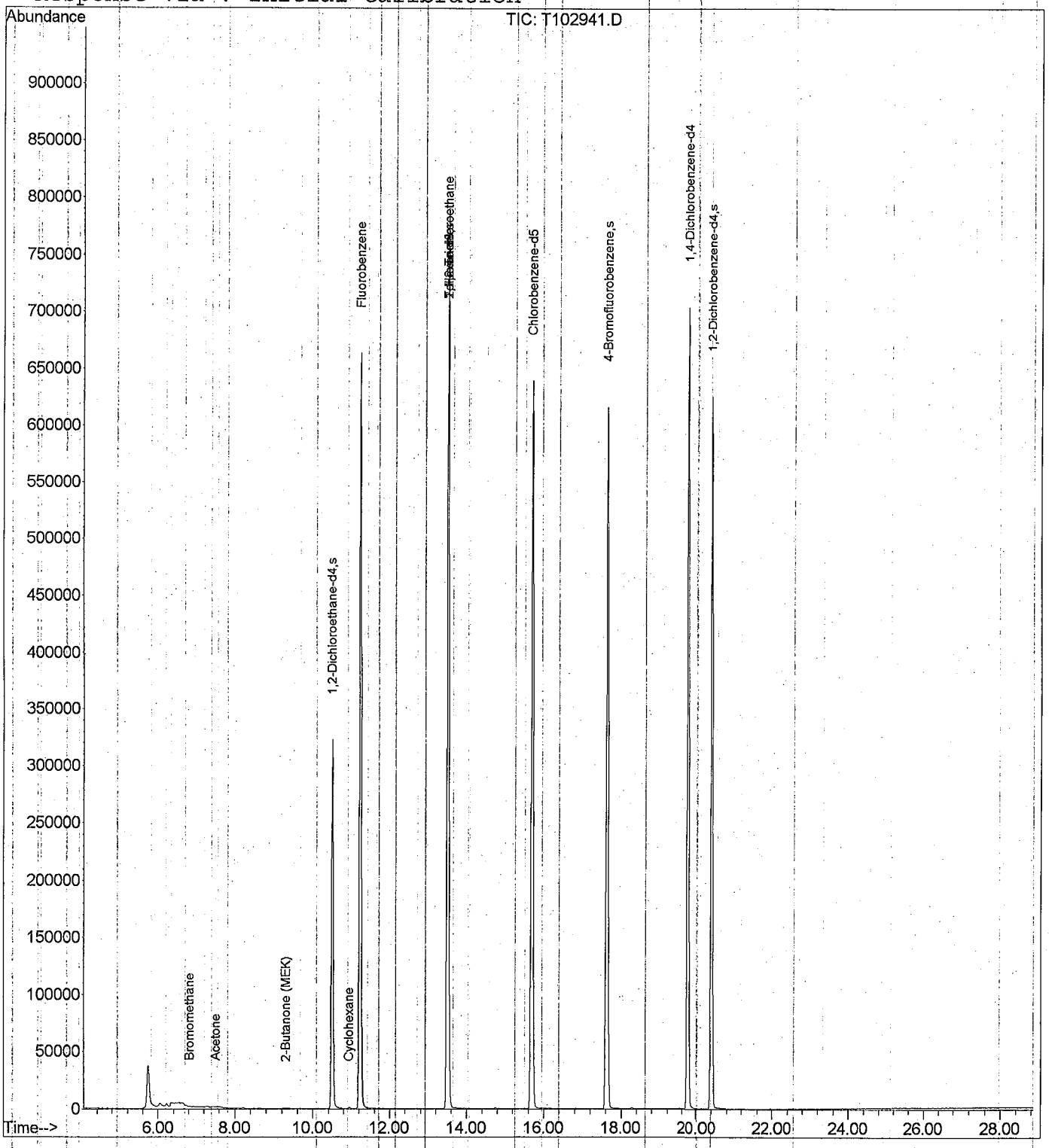
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.63	105	609	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	63	N.D.	
74)	2-Chlorotoluene	18.28	91	63	N.D.	
75)	4-Chlorotoluene	18.28	91	63	N.D.	
76)	1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.63	105	64	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	0.00	119	0	N.D.	
83)	1,2,3-Trimethylbenzene	19.63	105	64	N.D.	
85)	1,2-Dichlorobenzene	0.00	146	0	N.D.	
86)	n-Butylbenzene	20.60	91	143	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.85	128	429	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102941.D Vial: 41
Acq On : 30 Oct 2021 9:22 am Operator: BAG
Sample : 21J1205-01 Inst : Trixie
Misc : Con. D 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102942.D Vial: 42
Acq On : 30 Oct 2021 9:58 am Operator: BAG
Sample : 21J1205-01MS Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1035154	30.00 ug/L	-0.03 81.71%
48) Chlorobenzene-d5	15.69	82	431224	30.00 ug/L	-0.01 81.30%
70) 1,4-Dichlorobenzene-d4	19.77	150	592107	30.00 ug/L	-0.01 87.50%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	362432	29.16 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.20%		
50) Toluene-d8	13.51	98	916923	30.17 ug/L	-0.02
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.57%		
71) 4-Bromofluorobenzene	17.63	174	339204	29.18 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 97.27%		
84) 1,2-Dichlorobenzene-d4	20.39	115	230592	30.93 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.10%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.07	85	31325	16.81 ug/L	99
3) Chloromethane	6.30	50	44507	18.81 ug/L	99
4) Vinyl chloride	6.40	62	5791	3.35 ug/L	98
5) Bromomethane	6.83	94	9609	9.45 ug/L	98
6) Chloroethane	6.96	64	19415	13.95 ug/L	95
7) Acrolein	7.43	56	2960	15.87 ug/L #	77
8) Trichlorofluoromethane	7.46	101	33406	17.15 ug/L	100
9) Acetone	7.53	43	14491	17.40 ug/L	90
10) Diethyl ether	7.69	59	29910	19.15 ug/L	99
11) Acrylonitrile	7.99	53	17140	18.30 ug/L	98
12) t-Butanol	8.01	59	7391	31.56 ug/L #	83
13) 1,1-Dichloroethene	8.01	61	44634	18.37 ug/L	97
14) MethylAcetate	8.06	43	47543	19.47 ug/L #	99
15) Freon 113	8.08	101	24013	18.13 ug/L	94
16) Iodomethane	8.14	142	11643	15.04 ug/L #	84
17) Methylene Chloride	8.21	84	33051	17.68 ug/L	95
18) Carbon disulfide	8.50	76	82522	17.23 ug/L	100
19) trans-1,2-Dichloroethene	8.78	61	46610	18.92 ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.81	73	83434	19.00 ug/L	95
21) Vinyl acetate	8.97	43	104404	19.11 ug/L	99
22) 1,1-Dichloroethane	9.04	63	60117	19.04 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102942.D Vial: 42
Acq On : 30 Oct 2021 9:58 am Operator: BAG
Sample : 21J1205-01MS Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.31	43	26337	19.12 ug/L	94
24)	Diisopropyl ether	9.39	45	138928	18.65 ug/L	99
25)	cis-1,2-Dichloroethene	9.66	61	47936	18.72 ug/L	95
26)	2,2-Dichloropropane	9.84	77	28866	15.36 ug/L	100
27)	t-Butyl ethyl ether	9.82	59	109065	19.70 ug/L	97
28)	Chloroform	9.87	83	50354	18.81 ug/L	98
29)	Bromochloromethane	9.89	130	20068	19.37 ug/L #	77
30)	Tetrahydrofuran	10.16	72	5074	18.87 ug/L	91
32)	1,1,1-Trichloroethane	10.59	97	34688	18.16 ug/L	97
33)	1,2-Dichloroethane	10.60	62	44150	18.60 ug/L	99
34)	1,1-Dichloropropene	10.81	75	39099	19.01 ug/L	96
35)	Benzene	11.01	78	116697	19.22 ug/L	99
36)	Carbon tetrachloride	11.05	117	25766	17.74 ug/L	98
37)	Cyclohexane	11.06	84	39766	18.70 ug/L	93
38)	t-Amyl methyl ether	11.19	43	37885	18.99 ug/L #	79
39)	Heptane	11.65	43	33143	16.06 ug/L	98
40)	1,2-Dichloropropane	11.83	63	37841	19.37 ug/L	93
41)	Trichloroethene	11.86	130	26250	19.83 ug/L #	87
42)	Dibromomethane	11.94	93	24446	20.29 ug/L #	85
43)	Bromodichloromethane	12.03	83	35288	18.24 ug/L	99
44)	2-Chloroethyl vinyl ether	12.38	63	6577	32.58 ug/L	99
45)	Methylcyclohexane	12.57	55	39583	19.06 ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.64	43	51220	17.74 ug/L	93
47)	cis-1,3-Dichloropropene	12.77	75	49656	18.34 ug/L	98
49)	trans-1,3-Dichloropropene	13.35	75	39229	17.75 ug/L #	96
51)	1,1,2-Trichloroethane	13.60	83	25525	18.52 ug/L	97
52)	Toluene	13.62	91	112003	19.43 ug/L	98
53)	2-Hexanone	13.87	43	36051	19.10 ug/L #	97
54)	1,3-Dichloropropane	13.93	76	53451	19.69 ug/L	97
55)	Butyl acetate	14.34	43	74782	19.02 ug/L	93
56)	Dibromochloromethane	14.41	129	24329	17.60 ug/L #	96
57)	1,2-Dibromoethane	14.72	107	29862	19.15 ug/L #	97
58)	Tetrachloroethene	14.80	131	17235	19.93 ug/L #	90
59)	Chlorobenzene	15.75	112	71447	19.83 ug/L	95
60)	1,1,1,2-Tetrachloroethane	15.76	131	21812	19.15 ug/L #	87
61)	Ethylbenzene	16.03	91	115961	19.14 ug/L	95
62)	m,p-Xylenes	16.20	106	87267	40.02 ug/L	85
63)	Styrene	16.78	104	72518	20.50 ug/L	92
64)	Bromoform	16.83	173	14851	17.39 ug/L	100
65)	o-Xylene	16.86	106	42610	20.39 ug/L	83
66)	1,1,2,2-Tetrachloroethane	17.18	83	43790	20.44 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102942.D Vial: 42
Acq On : 30 Oct 2021 9:58 am Operator: BAG
Sample : 21J1205-01MS Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

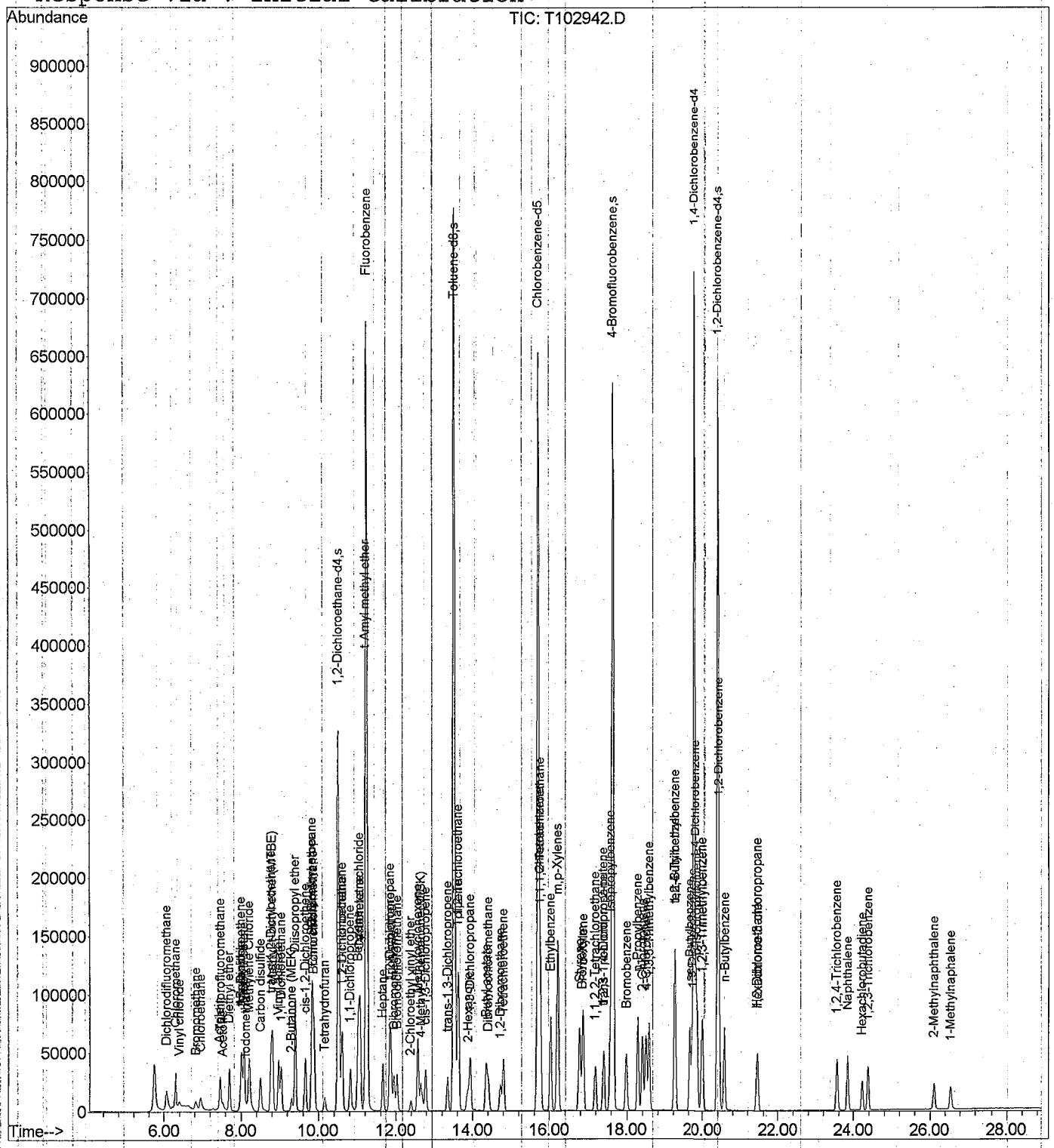
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.39	110	10367	20.54 ug/L	99
68)	trans-1,4-Dichloro-2-buten	17.39	53	9551	18.68 ug/L	96
69)	Isopropylbenzene	17.57	105	103697	19.57 ug/L	95
72)	Bromobenzene	17.98	158	26300	19.10 ug/L	89
73)	n-Propylbenzene	18.27	91	131712	18.38 ug/L	94
74)	2-Chlorotoluene	18.39	91	80892	19.85 ug/L	91
75)	4-Chlorotoluene	18.49	91	91928	23.13 ug/L	98
76)	1,3,5-Trimethylbenzene	18.57	105	83334	18.97 ug/L	91
77)	tert-Butylbenzene	19.22	91	56369	18.48 ug/L #	79
78)	1,2,4-Trimethylbenzene	19.23	120	44723	19.26 ug/L	85
79)	sec-Butylbenzene	19.64	105	98154	18.61 ug/L	96
80)	1,3-Dichlorobenzene	19.71	146	47643	19.69 ug/L #	89
81)	1,4-Dichlorobenzene	19.83	146	48787	19.75 ug/L #	65
82)	p-Isopropyltoluene	19.87	119	81453	19.36 ug/L	94
83)	1,2,3-Trimethylbenzene	20.00	105	90824	19.70 ug/L	93
85)	1,2-Dichlorobenzene	20.44	146	47364	20.03 ug/L #	96
86)	n-Butylbenzene	20.60	91	81399	19.05 ug/L	97
87)	Hexachloroethane	21.45	117	15813	17.22 ug/L #	83
88)	1,2-Dibromo-3-chloropropan	21.45	155	4678	17.87 ug/L	87
89)	1,2,4-Trichlorobenzene	23.55	180	26955	20.30 ug/L #	87
90)	Naphthalene	23.84	128	74351	19.88 ug/L #	95
91)	Hexachlorobutadiene	24.21	225	9532	19.83 ug/L	91
92)	1,2,3-Trichlorobenzene	24.37	180	24684	20.38 ug/L	92
93)	2-Methylnaphthalene	26.10	142	24488	18.18 ug/L #	94
94)	1-Methylnaphalene	26.55	142	21143	18.33 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102942.D Vial: 42
Acq On : 30 Oct 2021 9:58 am Operator: BAG
Sample : 21J1205-01MS Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102943.D Vial: 43
Acq On : 30 Oct 2021 10:34 am Operator: BAG
Sample : 21J1205-01MSD Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.23	96	1017965	30.00 ug/L	-0.03 80.35%
48) Chlorobenzene-d5	15.69	82	428710	30.00 ug/L	-0.01 80.83%
70) 1,4-Dichlorobenzene-d4	19.78	150	598372	30.00 ug/L	0.00 88.42%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.51	65	358879	29.36 ug/L	-0.03
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.87%		
50) Toluene-d8	13.50	98	893171	29.56 ug/L	-0.02
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.53%		
71) 4-Bromofluorobenzene	17.63	174	337737	28.75 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 95.83%		
84) 1,2-Dichlorobenzene-d4	20.39	115	229920	30.52 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 101.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.07	85	29418	16.05 ug/L	98
3) Chloromethane	6.30	50	42366	18.21 ug/L	98
4) Vinyl chloride	6.39	62	5087	3.00 ug/L	91
5) Bromomethane	6.83	94	12772	11.89 ug/L	98
6) Chloroethane	6.95	64	19087	13.94 ug/L	93
7) Acrolein	7.43	56	2982	16.26 ug/L	86
8) Trichlorofluoromethane	7.46	101	32320	16.87 ug/L	99
9) Acetone	7.53	43	14588	17.81 ug/L #	90
10) Diethyl ether	7.70	59	30891	20.11 ug/L	98
11) Acrylonitrile	7.99	53	17598	19.11 ug/L	97
12) t-Butanol	8.01	59	7386	32.08 ug/L #	83
13) 1,1-Dichloroethene	8.01	61	44520	18.63 ug/L	97
14) MethylAcetate	8.07	43	47431	19.76 ug/L #	99
15) Freon 113	8.08	101	23689	18.19 ug/L	95
16) Iodomethane	8.14	142	14571	16.99 ug/L #	83
17) Methylene Chloride	8.21	84	33257	18.09 ug/L	95
18) Carbon disulfide	8.50	76	83144	17.65 ug/L	100
19) trans-1,2-Dichloroethene	8.77	61	46730	19.28 ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.81	73	85075	19.70 ug/L	95
21) Vinyl acetate	8.97	43	103363	19.24 ug/L	99
22) 1,1-Dichloroethane	9.04	63	60627	19.52 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102943.D Vial: 43
Acq On : 30 Oct 2021 10:34 am Operator: BAG
Sample : 21J1205-01MSD Inst : Trixie
Misc : Con. F 1mL:50mL=50x Multiplr: 50.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.31	43	27423	20.25 ug/L	98
24)	Diisopropyl ether	9.40	45	144515	19.73 ug/L	98
25)	cis-1,2-Dichloroethene	9.65	61	48921	19.43 ug/L	95
26)	2,2-Dichloropropane	9.84	77	28678	15.51 ug/L	100
27)	t-Butyl ethyl ether	9.83	59	110940	20.38 ug/L	98
28)	Chloroform	9.87	83	51274	19.48 ug/L	98
29)	Bromochloromethane	9.89	130	20345	19.97 ug/L #	77
30)	Tetrahydrofuran	10.16	72	4840	18.30 ug/L	98
32)	1,1,1-Trichloroethane	10.59	97	35628	18.97 ug/L	97
33)	1,2-Dichloroethane	10.60	62	44947	19.26 ug/L	100
34)	1,1-Dichloropropene	10.82	75	39605	19.58 ug/L	96
35)	Benzene	11.01	78	120007	20.10 ug/L	99
36)	Carbon tetrachloride	11.05	117	26171	18.33 ug/L	98
37)	Cyclohexane	11.06	84	40087	19.17 ug/L	93
38)	t-Amyl methyl ether	11.19	43	39060	19.91 ug/L	83
39)	Heptane	11.65	43	32298	15.92 ug/L	96
40)	1,2-Dichloropropane	11.83	63	38341	19.96 ug/L	94
41)	Trichloroethene	11.86	130	26800	20.59 ug/L #	89
42)	Dibromomethane	11.94	93	24512	20.69 ug/L #	85
43)	Bromodichloromethane	12.02	83	35551	18.68 ug/L	99
44)	2-Chloroethyl vinyl ether	12.38	63	6910	34.52 ug/L	98
45)	Methylcyclohexane	12.57	55	39728	19.45 ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.64	43	50972	17.96 ug/L	92
47)	cis-1,3-Dichloropropene	12.78	75	50551	18.99 ug/L	97
49)	trans-1,3-Dichloropropene	13.35	75	40593	18.48 ug/L #	95
51)	1,1,2-Trichloroethane	13.60	83	25746	18.79 ug/L	97
52)	Toluene	13.62	91	114794	20.03 ug/L	98
53)	2-Hexanone	13.87	43	36412	19.41 ug/L #	96
54)	1,3-Dichloropropane	13.93	76	53385	19.78 ug/L	97
55)	Butyl acetate	14.35	43	76113	19.47 ug/L	93
56)	Dibromochloromethane	14.40	129	24928	18.14 ug/L #	96
57)	1,2-Dibromoethane	14.72	107	30847	19.90 ug/L #	98
58)	Tetrachloroethene	14.80	131	17871	20.79 ug/L #	91
59)	Chlorobenzene	15.75	112	73896	20.63 ug/L	93
60)	1,1,1,2-Tetrachloroethane	15.76	131	22335	19.72 ug/L #	88
61)	Ethylbenzene	16.03	91	122726	20.37 ug/L	95
62)	m,p-Xylenes	16.20	106	89342	41.21 ug/L	86
63)	Styrene	16.77	104	76406	21.73 ug/L	90
64)	Bromoform	16.83	173	15117	17.81 ug/L	99
65)	o-Xylene	16.86	106	43631	21.00 ug/L	83
66)	1,1,2,2-Tetrachloroethane	17.18	83	44386	20.84 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102943.D
Acq On : 30 Oct 2021 10:34 am
Sample : 21J1205-01MSD
Misc : Con. F 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 43
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.39	110	10897	21.71 ug/L	96
68)	trans-1,4-Dichloro-2-buten	17.40	53	9913	19.51 ug/L	96
69)	Isopropylbenzene	17.57	105	106574	20.24 ug/L	95
72)	Bromobenzene	17.98	158	26802	19.26 ug/L	89
73)	n-Propylbenzene	18.27	91	136021	18.78 ug/L	94
74)	2-Chlorotoluene	18.40	91	82659	20.07 ug/L	91
75)	4-Chlorotoluene	18.49	91	93858	23.37 ug/L	98
76)	1,3,5-Trimethylbenzene	18.56	105	86146	19.40 ug/L	91
77)	tert-Butylbenzene	19.22	91	58593	19.01 ug/L #	80
78)	1,2,4-Trimethylbenzene	19.23	120	47107	20.07 ug/L	83
79)	sec-Butylbenzene	19.64	105	102246	19.19 ug/L	96
80)	1,3-Dichlorobenzene	19.71	146	50026	20.46 ug/L #	89
81)	1,4-Dichlorobenzene	19.83	146	51513	20.63 ug/L #	65
82)	p-Isopropyltoluene	19.87	119	84927	19.98 ug/L	94
83)	1,2,3-Trimethylbenzene	20.00	105	94654	20.31 ug/L	93
85)	1,2-Dichlorobenzene	20.44	146	48946	20.48 ug/L #	96
86)	n-Butylbenzene	20.60	91	85653	19.83 ug/L	98
87)	Hexachloroethane	21.45	117	16340	17.61 ug/L #	83
88)	1,2-Dibromo-3-chloropropan	21.45	155	4667	17.64 ug/L	90
89)	1,2,4-Trichlorobenzene	23.55	180	28580	21.30 ug/L #	86
90)	Naphthalene	23.84	128	79716	21.09 ug/L #	94
91)	Hexachlorobutadiene	24.22	225	10527	21.67 ug/L	92
92)	1,2,3-Trichlorobenzene	24.37	180	26453	21.61 ug/L	92
93)	2-Methylnaphthalene	26.10	142	27844	20.45 ug/L	94
94)	1-Methylnaphalene	26.54	142	24523	21.04 ug/L #	94

(#) = qualifier out of range (m) = manual integration

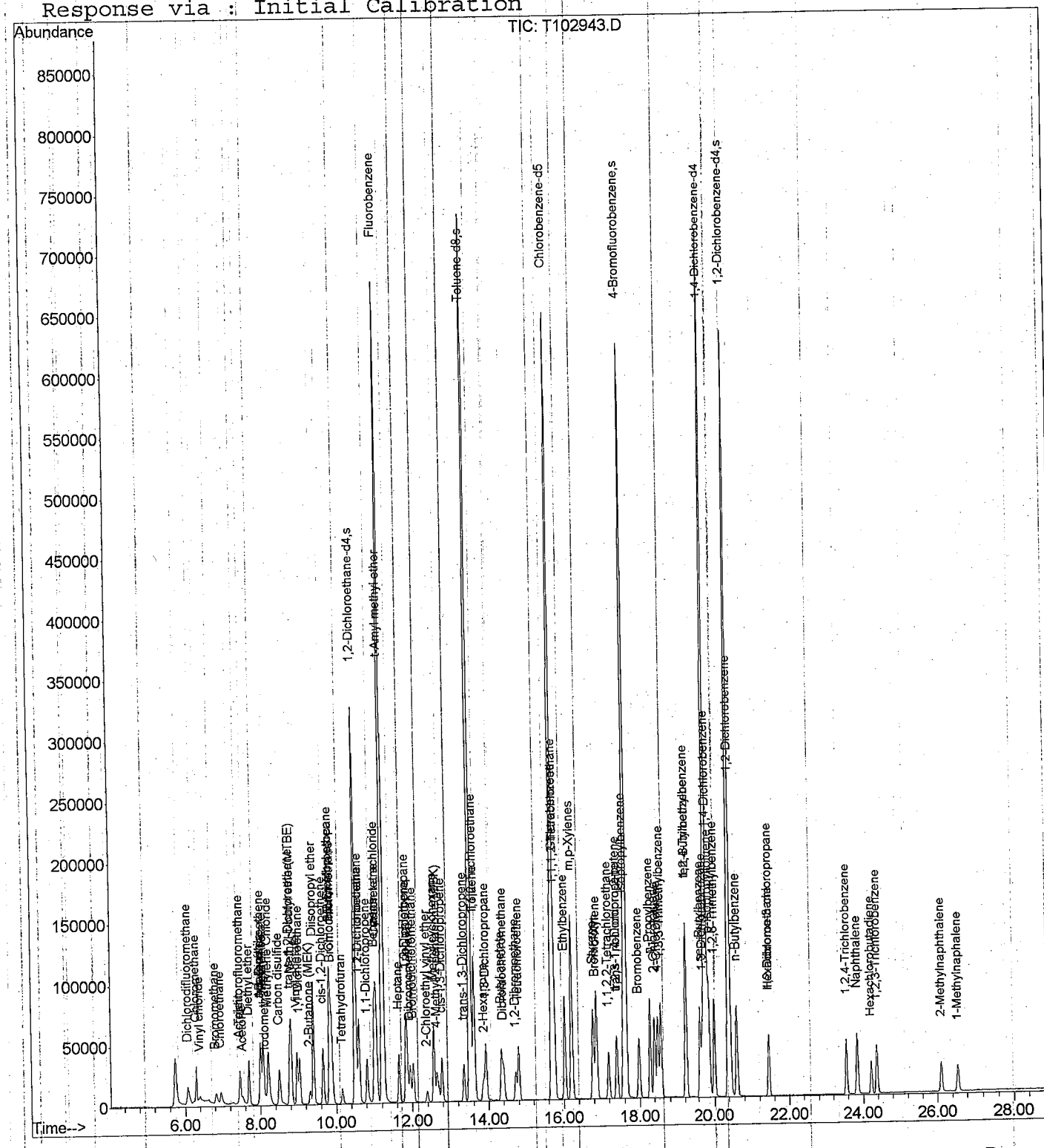
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102943.D
Acq On : 30 Oct 2021 10:34 am
Sample : 21J1205-01MSD
Misc : Con. F 1mL:50mL=50x
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 43
Operator: BAG
Inst : Trixie
Multiplr: 50.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



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Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1205

8260

Calibration

SEQUENCE LOG INSTRUMENT: TRIXIE

Date: 10-28-21
Data Path: T102821
LIMS Batch: T116221
Tune Passes (Y) or N CCV Passes (Y) or N
Bromoform Test Passes (Y) or N
Comments:

Analyst: dar
Curve Date: 10-28-21

Logbook Review
Date: 11/3/21 Initials: MW

File Name	Run Method	Analytical Method 8260D	624.1	524.2	Sample ID	Dilution	Time	IS (P=Pass / F=Fail)	Surr (P=Pass / F=Fail)	pH<2	Additional Information
T102801	8260013	X			50ng BFB 1028		1154			NA	
2					0SP		1238	P	P		
3					1P		1314				
4					5P ~~10P~~		1351				
5					10P ~~20P~~		1428				
6				BFB 10-29-21	20P ~~50P~~		1504				
7					50P ~~100P~~		1540				
8					100P		1617				
9					5A		1653				
10					200P		1730				
11					10A		1807				
12					ICV		1843				
13					25A		1919				
14					50A		1955				
15					100A		2032				
16					200A		2108				
17					400A		2144				
18					MB		2220				
19					21J0350-01		2257				
20					Closing CCV		2333				
21					CCB		009				
22					LOD 5		046				
23					LOD 1		122				
24					LOD 04		158				

BFB 10-29-21

CCV Internal Std Ranges:
Fluorobenzene: 633437 - 2533736
Chlorobenzene d5: 265196 - 1060782
1,4-Dichlorobenzene d4: 398360 - 1354478

Standard ID: 21J2836
CCV: 25µL: of the above std into 50mLs DI H_2O
BS: 10µL: of the above std into 50mLs DI H_2O
Spike ID: 21J2835
ICV: 10µL of the above std into 50mLs DI H_2O

Bromoform ID: 21I1406
Bromoform: 10µL of the above std into 50mLs DI H_2O
BFB ID: 21J0150B
50ng BFB: 25µL of the above std into 50mLs DI H_2O
25ng BFB: 12.5µL of the above std into 50mLs of DI H_2O
IS/Surr. ID: 21A0409

Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

* 200 ppb removed from VC -846 10-29-21

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

	Compound	0.5	5	10	50	1	100	200	Avg	%RSD
		20								
1)	Fluorobenzene	ISTD								
2)	Dichlorodifluor	0.048	0.054	0.056	0.053	0.056	0.056	0.054		5.20
		0.055								
3)	Chloromethane	0.119	0.068	0.071	0.066	0.087	0.069	0.069	-----	
		0.069								
							L	M= 0.069	R=1.000	
								B= -0.000		
4)	Vinyl chloride	0.060	0.048	0.052	0.046	0.055	0.040	*	0.050	13.18
		0.050								
5)	Bromomethane	0.086	0.028	0.031	0.034	0.032	0.037	0.040	-----	
		0.033								
							L	M= 0.040	R=0.998	
								B= -0.004		
6)	Chloroethane	0.040	0.041	0.040	0.043	0.040	0.039	0.040		3.75
		0.040								
7)	Acrolein	0.005	0.006	0.005		0.005	0.005	0.005		3.16
		0.005								
8)	Trichlorofluoro	0.051	0.057	0.058	0.057	0.057	0.057	0.056		4.22
		0.058								
9)	Acetone	0.028	0.024	0.023		0.022	0.023	0.024		7.93
		0.024								
10)	Diethyl ether	0.037	0.046	0.046	0.048	0.046	0.046	0.046	0.045	7.37
		0.047								
11)	Acrylonitrile	0.023	0.027	0.027	0.028	0.028	0.028	0.028	0.027	7.00
		0.028								
12)	t-Butanol	0.004	0.007	0.007	0.007	0.007	0.008		0.007	17.65
		0.007								
13)	1,1-Dichloroeth	0.064	0.072	0.073	0.069	0.072	0.071	0.070		4.43
		0.073								
14)	MethylAcetate	0.073	0.068	0.070	0.081	0.067	0.067	0.071		6.92
		0.070								
15)	Freon 113	0.035	0.039	0.040	0.039	0.039	0.038	0.038		4.47
		0.039								
16)	Iodomethane	0.012	0.019	0.035		0.043	0.046	-----		
		0.026								
							L	M= 0.047	R=0.997	
								B= -0.014		
17)	Methylene Chlor	0.053	0.052	0.052	0.070	0.051	0.050	0.054		13.02
		0.052								
18)	Carbon disulfid	0.125	0.137	0.142	0.142	0.142	0.143	0.139		4.51
		0.140								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
19)		trans-1,2-Dichl	0.065	0.072	0.073	0.071	0.073	0.072	0.071		3.81
			0.073								
20)		Methyl-t-butyl	0.113	0.125	0.124	0.133	0.129	0.133	0.130	0.127	5.20
			0.132								
21)		Vinyl acetate	0.156	0.156	0.158		0.159	0.159	0.158		1.07
			0.161								
22)		1,1-Dichloroeth	0.088	0.091	0.093	0.092	0.092	0.092	0.092		2.06
			0.093								
23)		2-Butanone (MEK	0.042	0.039	0.041		0.039	0.038	0.040		3.42
			0.041								
24)		Diisopropyl eth	0.210	0.215	0.221	0.212	0.217	0.217	0.216		1.81
			0.219								
25)		cis-1,2-Dichlor	0.070	0.073	0.075	0.077	0.075	0.074	0.074		2.99
			0.075								
26)		2,2-Dichloropro	0.053	0.056	0.055	0.056	0.054	0.051	0.054		3.46
			0.056								
27)		t-Butyl ethyl e	0.149	0.153	0.170	0.151	0.171	0.167	0.160		5.92
			0.162								
28)		Chloroform	0.073	0.076	0.079	0.079	0.079	0.078	0.077	0.078	3.14
			0.080								
29)		Bromochlorometh	0.030	0.030	0.031	0.029	0.031	0.029	0.030		3.22
			0.031								
30)		Tetrahydrofuran	0.007	0.008	0.008		0.008	0.008	0.008		2.56
			0.008								
31)	s	1,2-Dichloroeth	0.363	0.365	0.357	0.364	0.364	0.351	0.352	0.360	1.66
			0.364								
32)		1,1,1-Trichloro	0.051	0.055	0.057	0.055	0.056	0.055	0.055		3.54
			0.057								
33)		1,2-Dichloroeth	0.070	0.067	0.069	0.069	0.073	0.067	0.066	0.069	3.50
			0.070								
34)		1,1-Dichloropro	0.056	0.059	0.062	0.058	0.062	0.061	0.060		3.82
			0.060								
35)		Benzene	0.166	0.173	0.178	0.183	0.179	0.176	0.176		3.09
			0.177								
36)		Carbon tetrachl	0.038	0.042	0.044	0.039	0.045	0.044	0.042		6.34
			0.043								
37)		Cyclohexane	0.057	0.062	0.063	0.059	0.064	0.064	0.062		4.46
			0.062								
~~38)~~		~~t-Amyl methyl e~~	~~0.057~~	~~0.057~~	~~0.058~~		~~0.059~~	~~0.058~~	~~0.058~~		~~1.22~~
			0.058								
39)		Heptane	0.057	0.059	0.059	0.072	0.058	0.056	0.060		8.99
			0.058								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
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Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
40)		1,2-Dichloropro		0.055	0.056	0.056	0.058	0.057	0.056	0.057	1.88
			0.057								
41)		Trichloroethene		0.036	0.039	0.040	0.035	0.040	0.040	0.038	5.88
			0.040								
42)		Dibromomethane	0.026	0.035	0.037	0.037	0.031	0.038	0.037	0.035	11.55
			0.037								
43)		Bromodichlorome		0.054	0.056	0.059	0.051	0.058	0.058	0.056	4.94
			0.057								
44)		2-Chloroethyl v		0.002	0.003	0.006		0.006		-----	
			0.005								
								L	M=	0.007	R=0.998
									B=	-0.001	
45)		Methylcyclohexa		0.055	0.061	0.062	0.062	0.062	0.060	0.060	4.20
			0.060								
46)		4-Methyl-2-pent		0.083	0.082	0.086		0.084	0.082	0.084	1.86
			0.085								
47)		cis-1,3-Dichlor		0.074	0.078	0.081	0.074	0.082	0.081	0.078	4.23
			0.080								
48)		Chlorobenzene-d5		----------ISTD----------							
49)		trans-1,3-Dichl		0.143	0.152	0.159	0.145	0.162	0.158	0.154	4.74
			0.157								
50)	s	Toluene-d8	2.118	2.094	2.127	2.119	2.102	2.167	2.054	2.114	1.54
			2.132								
51)		1,1,2-Trichloro	0.103	0.094	0.094	0.093	0.105	0.094	0.089	0.096	5.68
			0.094								
52)		Toluene		0.380	0.404	0.406	0.405	0.414	0.391	0.401	2.88
			0.408								
53)		2-Hexanone		0.127	0.129	0.134		0.135	0.129	0.131	2.34
			0.133								
54)		1,3-Dichloropro		0.188	0.190	0.192	0.183	0.192	0.185	0.189	1.90
			0.192								
55)		Butyl acetate		0.264	0.267	0.282	0.264	0.288	0.271	0.274	3.45
			0.280								
56)		Dibromochlorome		0.091	0.095	0.101	0.088	0.102	0.100	0.096	5.60
			0.098								
57)		1,2-Dibromoetha		0.105	0.108	0.111	0.104	0.112	0.109	0.108	2.87
			0.110								
~~58)~~		~~Tetrachloroethe~~		~~0.056~~	~~0.062~~	~~0.062~~	~~0.056~~	~~0.063~~	~~0.060~~	~~0.060~~	~~4.87~~
			0.062								
59)		Chlorobenzene		0.238	0.253	0.252	0.248	0.255	0.252	0.251	2.46
			0.256								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
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Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
60)		1,1,1,2-Tetrach	0.075	0.080	0.082	0.071	0.083	0.082	0.079		5.67
			0.082								
61)		Ethylbenzene	0.383	0.424	0.434	0.412	0.442	0.430	0.422		4.65
			0.427								
62)		m,p-Xylenes	0.141	0.153	0.159	0.142	0.159	0.152	0.152		4.97
			0.156								
63)		Styrene	0.227	0.245	0.262	0.209	0.267	0.258	0.246		8.53
			0.254								
64)		Bromoform	0.057	0.058	0.064	0.049	0.065	0.063	0.059		9.05
			0.061								
65)		o-Xylene	0.137	0.146	0.153	0.134	0.152	0.146	0.145		4.92
			0.150								
66)		1,1,2,2-Tetrach	0.153	0.148	0.149	0.150	0.149	0.149	0.141	0.149	2.45
			0.153								
67)		1,2,3-Trichloro	0.037	0.037	0.036	0.029	0.036	0.034	0.035		8.33
			0.037								
68)		trans-1,4-Dichl	0.034	0.034	0.037		0.037	0.035	0.036		3.60
			0.036								
69)		Isopropylbenzen	0.339	0.364	0.379	0.389	0.378	0.364	0.369		4.30
			0.368								
70)		1,4-Dichlorobenzene-d	ISTD								
71)	s	4-Bromofluorobe	0.606	0.605	0.606	0.585	0.607	0.573	0.543	0.589	3.81
			0.586								
72)		Bromobenzene	0.070	0.071	0.071	0.068	0.071	0.067	0.070		2.40
			0.071								
73)		n-Propylbenzene	0.340	0.375	0.371	0.361	0.371	0.355	0.363		3.35
			0.368								
74)		2-Chlorotoluene	0.194	0.204	0.221	0.239	0.197	0.185	0.206		8.89
			0.205								
75)		4-Chlorotoluene	0.181	0.195	0.232	0.233	0.196	0.176	0.201		11.19
			0.196								
76)		1,3,5-Trimethyl	0.211	0.229	0.233	0.214	0.229	0.211	0.223		4.51
			0.231								
77)		tert-Butylbenze	0.150	0.162	0.162	0.154	0.156	0.140	0.155		5.09
			0.158								
78)		1,2,4-Trimethyl	0.113	0.120	0.125	0.111	0.122	0.111	0.118		4.94
			0.121								
79)		sec-Butylbenzen	0.253	0.273	0.280	0.265	0.277	0.250	0.267		4.41
			0.272								
80)		1,3-Dichloroben	0.121	0.125	0.125	0.129	0.120	0.112	0.123		4.52
			0.125								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files
0.5 =T102802.D 5 =T102804.D 10 =T102805.D
50 =T102807.D 1 =T102803.D 100 =T102808.D
200 =T102810.D 20 =T102806.D =

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
81)		1,4-Dichloroben	0.125	0.130	0.128	0.133	0.120	0.112	0.125		5.73
			0.128								
82)		p-Isopropyltolu	0.205	0.219	0.224	0.213	0.217	0.195	0.213		4.71
			0.220								
83)		1,2,3-Trimethyl	0.225	0.243	0.248	0.226	0.237	0.212	0.234		5.58
			0.245								
84)	s	1,2-Dichloroben	0.395	0.390	0.392	0.377	0.394	0.355	0.334	0.378	5.81
			0.385								
85)		1,2-Dichloroben	0.121	0.124	0.120	0.132	0.114	0.106	0.120		6.82
			0.122								
86)		n-Butylbenzene	0.208	0.224	0.227	0.221	0.220	0.196	0.217		5.06
			0.221								
87)		Hexachloroethan	0.044	0.046	0.050	0.042	0.050	0.046	0.047		6.36
			0.048								
88)		1,2-Dibromo-3-c	0.012	0.013	0.014		0.014	0.013	0.013		5.25
			0.014								
89)		1,2,4-Trichloro	0.064	0.067	0.069	0.064	0.071	0.066	0.067		4.51
			0.070								
90)		Naphthalene	0.170	0.182	0.198		0.206	0.187	0.189		6.67
			0.192								
91)		Hexachlorobutad	0.025	0.026	0.025	0.022	0.024	0.023	0.024		5.78
			0.026								
92)		1,2,3-Trichloro	0.057	0.060	0.064		0.065	0.060	0.061		4.88
			0.063								
93)		2-Methylnaphtha	0.051	0.059	0.076		0.082	0.075	0.068		17.20
			0.067								
94)		1-Methylnaphale	0.046	0.052	0.065		0.068	0.061	0.058		14.10
			0.058								

Total Average %RSD 5.28

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D
Acq On : 28 Oct 2021 12:38 pm
Sample : 05P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.25	96	1178224	30.00 ug/L	-0.01
48) Chlorobenzene-d5	15.69	82	478339	30.00 ug/L	-0.01
70) 1,4-Dichlorobenzene-d4	19.77	150	566608	30.00 ug/L	-0.01
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	427720	30.23 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 100.77%		
50) Toluene-d8	13.52	98	1013272	30.06 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.20%		
71) 4-Bromofluorobenzene	17.63	174	343516	30.88 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.93%		
84) 1,2-Dichlorobenzene-d4	20.39	115	223564	31.34 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.47%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	905	0.43 ug/L #	37
3) Chloromethane	6.33	50	2346	0.87 ug/L #	87
4) Vinyl chloride	6.49	62	1182	0.60 ug/L #	1
5) Bromomethane	6.94	94	1683	3.57 ug/L #	40
6) Chloroethane	7.04	64	1080	0.68 ug/L #	69
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	7.53	101	1105	0.50 ug/L #	81
9) Acetone	7.55	43	922	0.97 ug/L #	66
10) Diethyl ether	7.73	59	733	0.41 ug/L #	11
11) Acrylonitrile	8.00	53	443	0.42 ug/L #	86
12) t-Butanol	7.99	59	437	1.64 ug/L #	14
13) 1,1-Dichloroethene	8.06	61	1309	0.47 ug/L	96
14) MethylAcetate	8.09	43	1817	0.65 ug/L #	63
15) Freon 113	8.13	101	705	0.47 ug/L #	82
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	1586	0.75 ug/L	95
18) Carbon disulfide	8.54	76	2933	0.54 ug/L #	86
19) trans-1,2-Dichloroethene	8.80	61	1319	0.47 ug/L #	88
20) Methyl-t-butyl ether(MTBE)	8.83	73	2226	0.45 ug/L #	92
21) Vinyl acetate	8.99	43	2911	0.47 ug/L #	82
22) 1,1-Dichloroethane	9.08	63	1684	0.47 ug/L	92
23) 2-Butanone (MEK)	9.32	43	908	0.58 ug/L #	62
24) Diisopropyl ether	9.41	45	4153	0.49 ug/L #	85
25) cis-1,2-Dichloroethene	9.68	61	1328	0.46 ug/L	96
26) 2,2-Dichloropropane	9.86	77	991	0.46 ug/L #	59
27) t-Butyl ethyl ether	9.84	59	2655	0.42 ug/L	95
28) Chloroform	9.90	83	1428	0.47 ug/L #	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D
Acq On : 28 Oct 2021 12:38 pm
Sample : 05P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	365	0.31 ug/L #	53
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	10.62	97	993	0.46 ug/L #	53
33) 1,2-Dichloroethane	10.63	62	1375	0.51 ug/L #	42
34) 1,1-Dichloropropene	10.84	75	1071	0.46 ug/L #	85
35) Benzene	11.04	78	3433	0.50 ug/L	95
36) Carbon tetrachloride	11.07	117	645	0.39 ug/L #	84
37) Cyclohexane	11.08	84	1156	0.48 ug/L #	96
38) t-Amyl methyl ether	11.20	43	1630	0.72 ug/L #	1
39) Heptane	11.67	43	1344	0.57 ug/L #	96
40) 1,2-Dichloropropane	11.84	63	964	0.43 ug/L #	83
41) Trichloroethene	11.89	130	663	0.44 ug/L #	88
42) Dibromomethane	11.96	93	518	0.38 ug/L #	82
43) Bromodichloromethane	12.04	83	871	0.40 ug/L #	95
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.59	55	1196	0.51 ug/L #	86
46) 4-Methyl-2-pentanone(MIBK)	12.64	43	1406	0.43 ug/L #	77
47) cis-1,3-Dichloropropene	12.79	75	1229	0.40 ug/L #	76
49) trans-1,3-Dichloropropene	13.35	75	992	0.40 ug/L #	59
51) 1,1,2-Trichloroethane	13.61	83	825	0.54 ug/L #	46
52) Toluene	13.63	91	3174	0.50 ug/L #	97
53) 2-Hexanone	13.85	43	970	0.46 ug/L #	82
54) 1,3-Dichloropropane	13.95	76	1310	0.44 ug/L	89
55) Butyl acetate	14.35	43	2114	0.48 ug/L #	86
56) Dibromochloromethane	14.41	129	613	0.40 ug/L #	77
57) 1,2-Dibromoethane	14.73	107	662	0.38 ug/L #	95
58) Tetrachloroethene	14.81	131	423	0.44 ug/L #	82
59) Chlorobenzene	15.75	112	1949	0.49 ug/L #	20
60) 1,1,1,2-Tetrachloroethane	15.76	131	465	0.37 ug/L #	27
61) Ethylbenzene	16.03	91	3317	0.49 ug/L	97
62) m,p-Xylenes	16.21	106	2230	0.92 ug/L	92
63) Styrene	16.78	104	1595	0.41 ug/L	88
64) Bromoform	16.81	173	360	0.38 ug/L #	27
65) o-Xylene	16.87	106	1103	0.48 ug/L	82
66) 1,1,2,2-Tetrachloroethane	17.18	83	1221	0.51 ug/L #	81
67) 1,2,3-Trichloropropane	0.00	110	0	N.D.	
68) trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69) Isopropylbenzene	17.58	105	3511	0.60 ug/L #	90
72) Bromobenzene	17.97	158	564	0.43 ug/L	81
73) n-Propylbenzene	18.27	91	3642	0.53 ug/L	100
74) 2-Chlorotoluene	18.39	91	2158	0.55 ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D
Acq On : 28 Oct 2021 12:38 pm
Sample : 05P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75)	4-Chlorotoluene	18.49	91	2243	0.59 ug/L	93
76)	1,3,5-Trimethylbenzene	18.56	105	2082	0.50 ug/L	97
77)	tert-Butylbenzene	19.21	91	1375	0.47 ug/L #	78
78)	1,2,4-Trimethylbenzene	19.23	120	964	0.43 ug/L	97
79)	sec-Butylbenzene	19.64	105	2514	0.50 ug/L #	92
80)	1,3-Dichlorobenzene	19.71	146	1163	0.50 ug/L #	29
81)	1,4-Dichlorobenzene	19.82	146	1277	0.54 ug/L #	29
82)	p-Isopropyltoluene	19.87	119	2096	0.52 ug/L #	86
83)	1,2,3-Trimethylbenzene	20.00	105	2236	0.51 ug/L #	92
85)	1,2-Dichlorobenzene	20.43	146	1232	0.54 ug/L #	25
86)	n-Butylbenzene	20.59	91	2173	0.53 ug/L	98
87)	Hexachloroethane	21.45	117	309	0.35 ug/L #	40
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	545	0.43 ug/L #	51
90)	Naphthalene	23.84	128	1574	0.44 ug/L #	68
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.37	180	534	0.46 ug/L #	42
93)	2-Methylnaphthalene	26.11	142	308	0.24 ug/L #	77
94)	1-Methylnaphalene	26.54	142	183	0.17 ug/L #	14

(#) = qualifier out of range (m) = manual integration

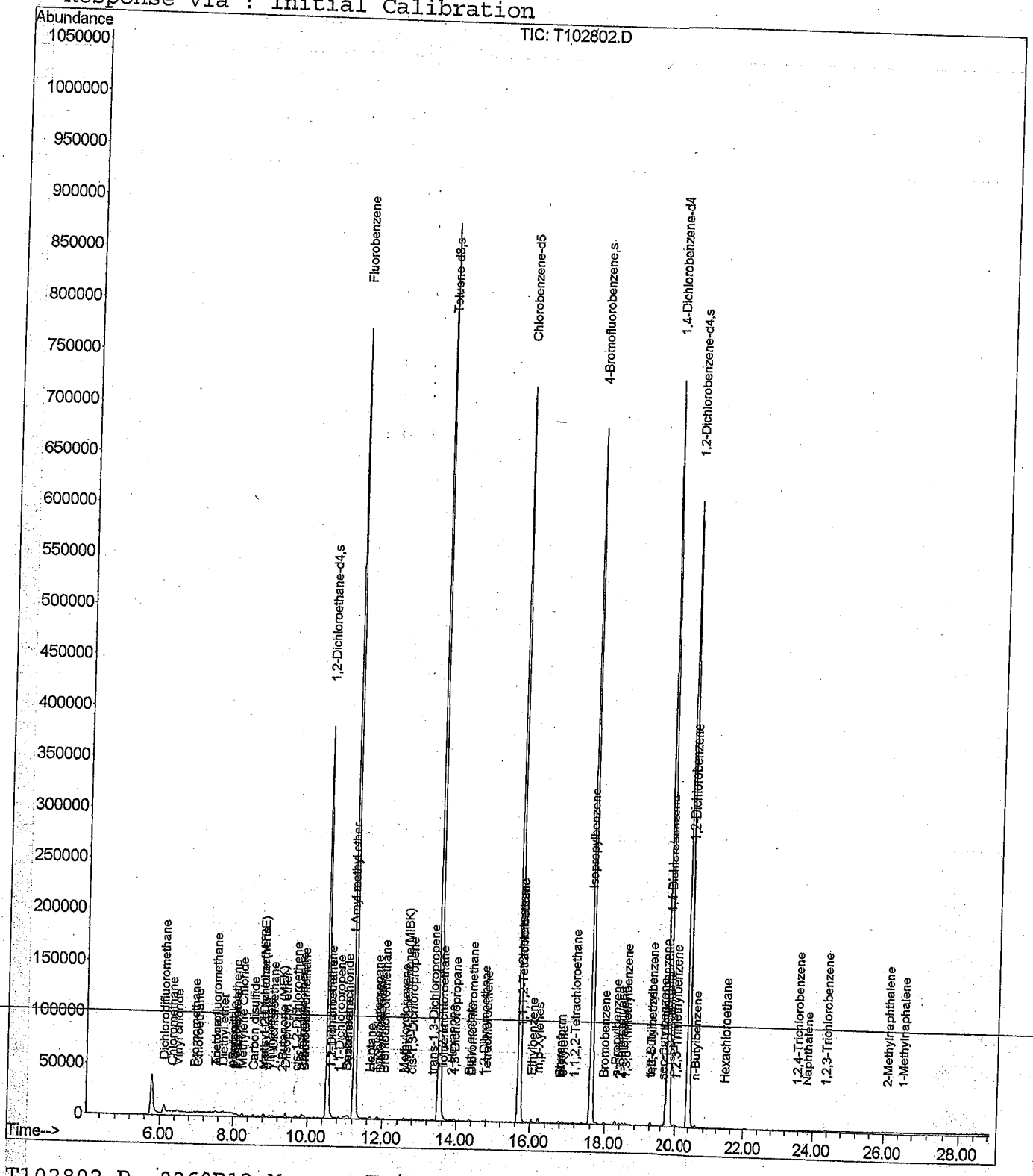
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D
Acq On : 28 Oct 2021 12:38 pm
Sample : 05P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D
Acq On : 28 Oct 2021 1:14 pm
Sample : 1P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.26	96	1183681	30.00 ug/L	0.00
48) Chlorobenzene-d5	15.70	82	487824	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	588645	30.00 ug/L	0.00
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	431361	30.35 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.17%		
50) Toluene-d8	13.53	98	1025469	29.83 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.43%		
71) 4-Bromofluorobenzene	17.63	174	357247	30.91 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.03%		
84) 1,2-Dichlorobenzene-d4	20.40	115	231913	31.29 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.30%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	2101	0.99 ug/L #	74
3) Chloromethane	6.33	50	3416	1.26 ug/L	96
4) Vinyl chloride	6.49	62	2180	1.10 ug/L #	23
5) Bromomethane	6.92	94	1246	3.28 ug/L #	94
6) Chloroethane	7.04	64	1708	1.07 ug/L #	77
7) Acrolein	7.47	56	165	0.77 ug/L #	58
8) Trichlorofluoromethane	7.53	101	2231	1.00 ug/L #	97
9) Acetone	7.54	43	2142	2.25 ug/L #	86
10) Diethyl ether	7.73	59	1803	1.01 ug/L #	72
11) Acrylonitrile	8.03	53	1088	1.02 ug/L #	91
12) t-Butanol	8.01	59	1293	4.83 ug/L #	78
13) 1,1-Dichloroethene	8.05	61	2714	0.98 ug/L	96
14) MethylAcetate	8.09	43	3190	1.14 ug/L #	83
15) Freon 113	8.13	101	1538	1.02 ug/L	93
16) Iodomethane	8.19	142	185	7.98 ug/L #	25
17) Methylene Chloride	8.25	84	2765	1.29 ug/L	99
18) Carbon disulfide	8.55	76	5594	1.02 ug/L	98
19) trans-1,2-Dichloroethene	8.81	61	2820	1.00 ug/L	99
20) Methyl-t-butyl ether(MTBE)	8.84	73	5079	1.01 ug/L	97
21) Vinyl acetate	9.00	43	6011	0.96 ug/L	97
22) 1,1-Dichloroethane	9.07	63	3637	1.01 ug/L	96
23) 2-Butanone (MEK)	9.32	43	1904	1.21 ug/L #	71
24) Diisopropyl ether	9.42	45	8372	0.98 ug/L	91
25) cis-1,2-Dichloroethene	9.68	61	3056	1.04 ug/L	98
26) 2,2-Dichloropropane	9.87	77	2195	1.02 ug/L	93
27) t-Butyl ethyl ether	9.84	59	5951	0.94 ug/L	97
28) Chloroform	9.89	83	3123	1.02 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D
Acq On : 28 Oct 2021 1:14 pm
Sample : 1P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.91	130	1131	0.95 ug/L #	84
30) Tetrahydrofuran	10.18	72	185	0.60 ug/L #	1
32) 1,1,1-Trichloroethane	10.63	97	2170	0.99 ug/L	97
33) 1,2-Dichloroethane	10.63	62	2898	1.07 ug/L #	42
34) 1,1-Dichloropropene	10.84	75	2288	0.97 ug/L	93
35) Benzene	11.03	78	7229	1.04 ug/L	99
36) Carbon tetrachloride	11.07	117	1555	0.94 ug/L #	92
37) Cyclohexane	11.09	84	2347	0.96 ug/L	88
38) t-Amyl methyl ether	11.21	43	2775	1.22 ug/L #	1
39) Heptane	11.68	43	2830	1.20 ug/L #	92
40) 1,2-Dichloropropane	11.85	63	2302	1.03 ug/L #	89
41) Trichloroethene	11.89	130	1373	0.91 ug/L	92
42) Dibromomethane	11.96	93	1239	0.90 ug/L #	79
43) Bromodichloromethane	12.05	83	2001	0.90 ug/L #	97
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.58	55	2459	1.04 ug/L	95
46) 4-Methyl-2-pentanone(MIBK)	12.65	43	3349	1.01 ug/L #	89
47) cis-1,3-Dichloropropene	12.79	75	2930	0.95 ug/L	93
49) trans-1,3-Dichloropropene	13.36	75	2364	0.95 ug/L #	91
51) 1,1,2-Trichloroethane	13.62	83	1709	1.10 ug/L #	44
52) Toluene	13.64	91	6589	1.01 ug/L	98
53) 2-Hexanone	13.87	43	2045	0.96 ug/L #	82
54) 1,3-Dichloropropane	13.95	76	2983	0.97 ug/L	99
55) Butyl acetate	14.34	43	4292	0.96 ug/L	95
56) Dibromochloromethane	14.41	129	1423	0.91 ug/L #	84
57) 1,2-Dibromoethane	14.74	107	1686	0.96 ug/L #	92
58) Tetrachloroethene	14.81	131	903	0.92 ug/L	86
59) Chlorobenzene	15.76	112	4028	0.99 ug/L #	20
60) 1,1,1,2-Tetrachloroethane	15.75	131	1160	0.90 ug/L #	73
61) Ethylbenzene	16.04	91	6693	0.98 ug/L	98
62) m,p-Xylenes	16.21	106	4627	1.88 ug/L	91
63) Styrene	16.78	104	3404	0.85 ug/L	93
64) Bromoform	16.83	173	796	0.82 ug/L #	90
65) o-Xylene	16.88	106	2180	0.92 ug/L	89
66) 1,1,2,2-Tetrachloroethane	17.18	83	2416	1.00 ug/L #	95
67) 1,2,3-Trichloropropane	17.39	110	468	0.82 ug/L #	61
~~68) trans-1,4-Dichloro-2-buten~~	~~17.40~~	~~53~~	~~463~~	~~0.80 ug/L #~~	~~34~~
69) Isopropylbenzene	17.57	105	6319	1.05 ug/L	99
72) Bromobenzene	17.98	158	1331	0.97 ug/L	96
73) n-Propylbenzene	18.29	91	7080	0.99 ug/L	98
74) 2-Chlorotoluene	18.40	91	4693	1.16 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D
Acq On : 28 Oct 2021 1:14 pm
Sample : 1P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	4566	1.16 ug/L	92
76) 1,3,5-Trimethylbenzene	18.57	105	4205	0.96 ug/L	95
77) tert-Butylbenzene	19.23	91	3013	0.99 ug/L	83
78) 1,2,4-Trimethylbenzene	19.24	120	2186	0.95 ug/L	84
79) sec-Butylbenzene	19.64	105	5206	0.99 ug/L #	94
80) 1,3-Dichlorobenzene	19.71	146	2528	1.05 ug/L #	29
81) 1,4-Dichlorobenzene	19.83	146	2605	1.06 ug/L #	29
82) p-Isopropyltoluene	19.88	119	4187	1.00 ug/L #	91
83) 1,2,3-Trimethylbenzene	20.00	105	4428	0.97 ug/L #	93
85) 1,2-Dichlorobenzene	20.44	146	2588	1.10 ug/L #	25
86) n-Butylbenzene	20.59	91	4331	1.02 ug/L	98
87) Hexachloroethane	21.44	117	824	0.90 ug/L	88
88) 1,2-Dibromo-3-chloropropan	21.45	155	60	0.23 ug/L #	1
89) 1,2,4-Trichlorobenzene	23.55	180	1247	0.94 ug/L #	73
90) Naphthalene	23.84	128	3293	0.89 ug/L #	85
91) Hexachlorobutadiene	24.22	225	432	0.90 ug/L #	32
92) 1,2,3-Trichlorobenzene	24.38	180	1088	0.90 ug/L #	58
93) 2-Methylnaphthalene	26.11	142	822	0.61 ug/L #	76
94) 1-Methylnaphalene	26.55	142	684	0.60 ug/L #	81

(#) = qualifier out of range (m) = manual integration

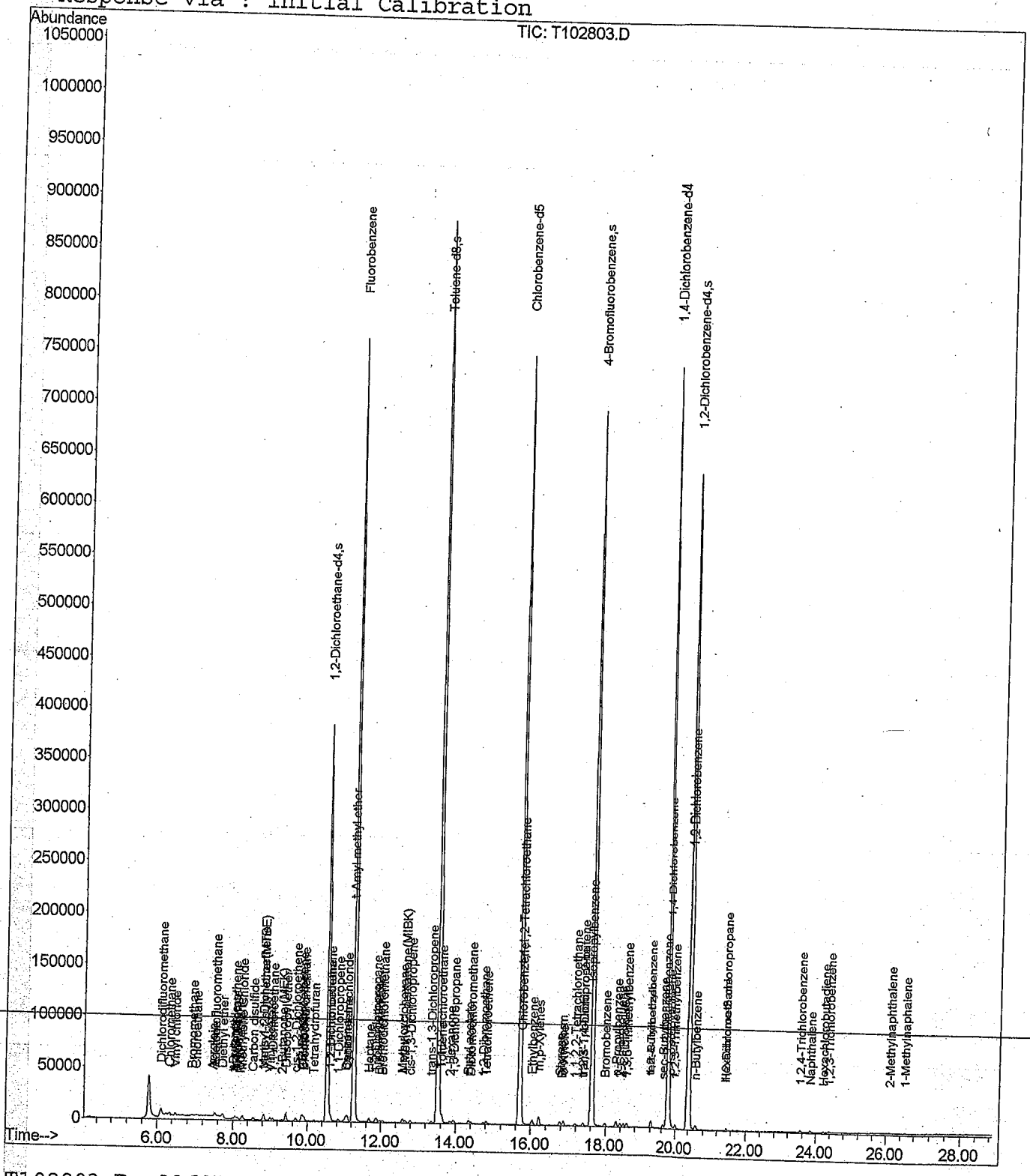
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D
Acq On : 28 Oct 2021 1:14 pm
Sample : LP1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D
Acq On : 28 Oct 2021 1:51 pm
Sample : 5P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.25	96	1182141	30.00	ug/L	-0.01
48) Chlorobenzene-d5	15.70	82	490874	30.00	ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.77	150	595701	30.00	ug/L	-0.01
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	431915	30.43	ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.43%			
50) Toluene-d8	13.53	98	1028102	29.72	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.07%			
71) 4-Bromofluorobenzene	17.63	174	360597	30.83	ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.77%			
84) 1,2-Dichlorobenzene-d4	20.39	115	232244	30.96	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.10	85	9474	4.45	ug/L #	97
3) Chloromethane	6.34	50	13323	4.93	ug/L	99
4) Vinyl chloride	6.48	62	9374	4.75	ug/L #	87
5) Bromomethane	6.93	94	5474	5.96	ug/L #	97
6) Chloroethane	7.04	64	7845	4.93	ug/L #	93
7) Acrolein	7.47	56	1067	5.01	ug/L #	82
8) Trichlorofluoromethane	7.53	101	10084	4.53	ug/L	99
9) Acetone	7.54	43	5441	5.72	ug/L	96
10) Diethyl ether	7.73	59	9047	5.07	ug/L	95
11) Acrylonitrile	8.01	53	5380	5.03	ug/L	99
12) t-Butanol	7.99	59	6976	26.09	ug/L #	88
13) 1,1-Dichloroethene	8.06	61	12614	4.55	ug/L	96
14) MethylAcetate	8.09	43	14362	5.15	ug/L #	99
15) Freon 113	8.13	101	6822	4.51	ug/L	96
16) Iodomethane	8.18	142	2335	9.14	ug/L #	82
17) Methylene Chloride	8.24	84	10417	4.88	ug/L	96
18) Carbon disulfide	8.54	76	24668	4.51	ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	12898	4.58	ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.83	73	24578	4.90	ug/L	98
21) Vinyl acetate	9.00	43	30782	4.93	ug/L	99
22) 1,1-Dichloroethane	9.08	63	17244	4.78	ug/L	99
23) 2-Butanone (MEK)	9.32	43	8203	5.22	ug/L	100
24) Diisopropyl ether	9.41	45	41315	4.86	ug/L	98
25) cis-1,2-Dichloroethene	9.69	61	13822	4.73	ug/L	96
26) 2,2-Dichloropropane	9.87	77	10384	4.84	ug/L	95
27) t-Butyl ethyl ether	9.85	59	29381	4.65	ug/L	98
28) Chloroform	9.90	83	14888	4.87	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D
Acq On : 28 Oct 2021 1:51 pm
Sample : SP1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	5814	4.91 ug/L	82
30) Tetrahydrofuran	10.17	72	1473	4.80 ug/L	100
32) 1,1,1-Trichloroethane	10.62	97	10108	4.63 ug/L	96
33) 1,2-Dichloroethane	10.62	62	13185	4.86 ug/L	99
34) 1,1-Dichloropropene	10.84	75	10961	4.67 ug/L	97
35) Benzene	11.04	78	32648	4.71 ug/L	99
36) Carbon tetrachloride	11.08	117	7400	4.46 ug/L	97
37) Cyclohexane	11.09	84	11153	4.59 ug/L	96
38) t-Amyl methyl ether	11.21	43	11301	4.96 ug/L #	45
39) Heptane	11.68	43	11178	4.74 ug/L	98
40) 1,2-Dichloropropane	11.85	63	10892	4.88 ug/L	94
41) Trichloroethene	11.88	130	6997	4.63 ug/L	92
42) Dibromomethane	11.96	93	6907	5.02 ug/L	88
43) Bromodichloromethane	12.05	83	10673	4.83 ug/L	100
44) 2-Chloroethyl vinyl ether	12.41	63	335	5.44 ug/L #	48
45) Methylcyclohexane	12.59	55	10804	4.56 ug/L	97
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	16319	4.95 ug/L	97
47) cis-1,3-Dichloropropene	12.79	75	14530	4.70 ug/L	98
49) trans-1,3-Dichloropropene	13.36	75	11676	4.64 ug/L	97
51) 1,1,2-Trichloroethane	13.61	83	7666	4.89 ug/L #	45
52) Toluene	13.64	91	31097	4.74 ug/L	98
53) 2-Hexanone	13.85	43	10406	4.84 ug/L #	91
54) 1,3-Dichloropropane	13.94	76	15361	4.97 ug/L	97
55) Butyl acetate	14.34	43	21620	4.83 ug/L	94
56) Dibromochloromethane	14.42	129	7443	4.73 ug/L #	95
57) 1,2-Dibromoethane	14.73	107	8589	4.84 ug/L #	95
58) Tetrachloroethene	14.81	131	4622	4.70 ug/L	92
59) Chlorobenzene	15.76	112	19474	4.75 ug/L #	60
60) 1,1,1,2-Tetrachloroethane	15.77	131	6099	4.70 ug/L #	88
61) Ethylbenzene	16.04	91	31299	4.54 ug/L	97
62) m,p-Xylenes	16.22	106	23013	9.27 ug/L	88
63) Styrene	16.78	104	18552	4.61 ug/L	92
64) Bromoform	16.82	173	4681	4.82 ug/L	99
65) o-Xylene	16.87	106	11240	4.73 ug/L	86
66) 1,1,2,2-Tetrachloroethane	17.17	83	12106	4.96 ug/L	99
67) 1,2,3-Trichloropropane	17.40	110	3009	5.24 ug/L	99
68) trans-1,4-Dichloro-2-buten	17.40	53	2822	4.85 ug/L #	93
69) Isopropylbenzene	17.58	105	27735	4.60 ug/L	96
72) Bromobenzene	17.99	158	6933	5.00 ug/L	90
73) n-Propylbenzene	18.29	91	33784	4.69 ug/L	96
74) 2-Chlorotoluene	18.40	91	19219	4.69 ug/L #	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D
Acq On : 28 Oct 2021 1:51 pm
Sample : 5P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	17941	4.49 ug/L #	83
76) 1,3,5-Trimethylbenzene	18.58	105	20900	4.73 ug/L	94
77) tert-Butylbenzene	19.22	91	14853	4.84 ug/L	86
78) 1,2,4-Trimethylbenzene	19.23	120	11204	4.80 ug/L	84
79) sec-Butylbenzene	19.64	105	25099	4.73 ug/L	97
80) 1,3-Dichlorobenzene	19.71	146	12030	4.94 ug/L #	66
81) 1,4-Dichlorobenzene	19.83	146	12410	4.99 ug/L #	29
82) p-Isopropyltoluene	19.87	119	20332	4.80 ug/L	95
83) 1,2,3-Trimethylbenzene	20.00	105	22306	4.81 ug/L	93
85) 1,2-Dichlorobenzene	20.44	146	12034	5.06 ug/L #	53
86) n-Butylbenzene	20.60	91	20632	4.80 ug/L	98
87) Hexachloroethane	21.45	117	4338	4.70 ug/L	95
88) 1,2-Dibromo-3-chloropropan	21.45	155	1203	4.57 ug/L	93
89) 1,2,4-Trichlorobenzene	23.55	180	6336	4.74 ug/L #	87
90) Naphthalene	23.85	128	16902	4.49 ug/L	97
91) Hexachlorobutadiene	24.22	225	2436	5.04 ug/L	92
92) 1,2,3-Trichlorobenzene	24.37	180	5641	4.63 ug/L	92
93) 2-Methylnaphthalene	26.11	142	5052	3.73 ug/L	95
94) 1-Methylnaphalene	26.56	142	4582	3.95 ug/L	95

(#) = qualifier out of range (m) = manual integration

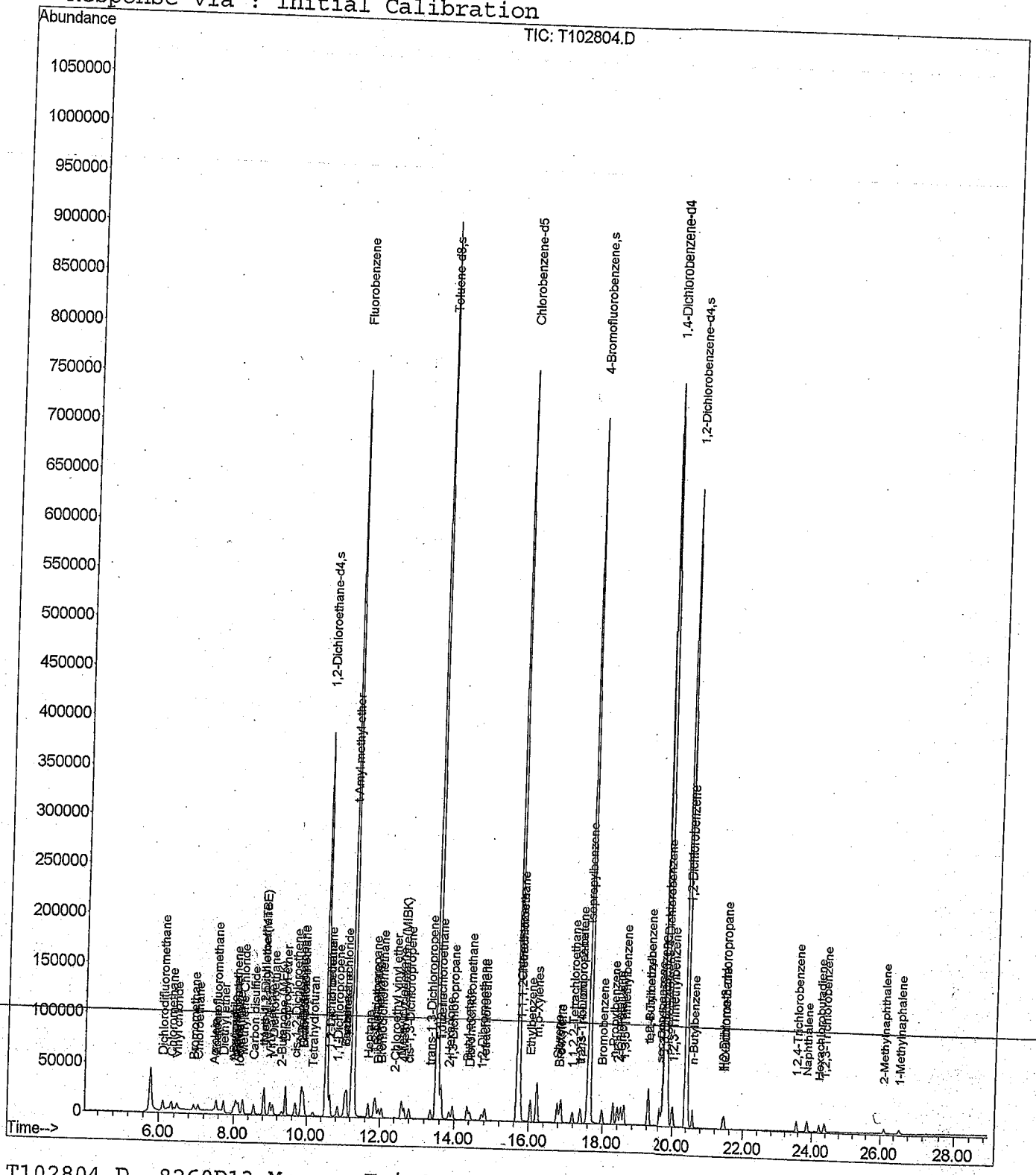
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D
Acq On : 28 Oct 2021 1:51 pm
Sample : 5P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D
Acq On : 28 Oct 2021 2:28 pm
Sample : 10P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 5
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.25	96	1219396	30.00 ug/L	-0.01
48) Chlorobenzene-d5	15.70	82	498648	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	613861	30.00 ug/L	-0.01
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	435673	29.76 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.20%		
50) Toluene-d8	13.53	98	1060732	30.18 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.60%		
71) 4-Bromofluorobenzene	17.63	174	371979	30.86 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.87%		
84) 1,2-Dichlorobenzene-d4	20.40	115	240389	31.10 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.67%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.10	85	22095	10.06 ug/L	99
3) Chloromethane	6.33	50	28846	10.35 ug/L	100
4) Vinyl chloride	6.49	62	21058	10.35 ug/L #	85
5) Bromomethane	6.93	94	12620	10.25 ug/L #	97
6) Chloroethane	7.05	64	16825	10.26 ug/L	95
7) Acrolein	7.47	56	2316	10.54 ug/L	93
8) Trichlorofluoromethane	7.53	101	23248	10.13 ug/L	100
9) Acetone	7.54	43	9925	10.12 ug/L	95
10) Diethyl ether	7.73	59	18575	10.09 ug/L	99
11) Acrylonitrile	8.01	53	11061	10.03 ug/L	97
12) t-Butanol	7.99	59	13876	50.31 ug/L #	87
13) 1,1-Dichloroethene	8.06	61	29132	10.18 ug/L	98
14) MethylAcetate	8.09	43	27587	9.59 ug/L #	97
15) Freon 113	8.13	101	15692	10.06 ug/L	96
16) Iodomethane	8.19	142	7553	11.82 ug/L #	84
17) Methylene Chloride	8.26	84	21040	9.55 ug/L	95
18) Carbon disulfide	8.55	76	55855	9.90 ug/L	99
19) trans-1,2-Dichloroethene	8.82	61	29083	10.02 ug/L	97
20) Methyl-t-butyl ether(MTBE)	8.84	73	50264	9.72 ug/L	96
21) Vinyl acetate	9.00	43	63582	9.88 ug/L	99
22) 1,1-Dichloroethane	9.07	63	37145	9.98 ug/L	99
23) 2-Butanone (MEK)	9.32	43	15773	9.72 ug/L	100
24) Diisopropyl ether	9.42	45	87483	9.97 ug/L	100
25) cis-1,2-Dichloroethene	9.69	61	29729	9.86 ug/L	96
26) 2,2-Dichloropropane	9.87	77	22806	10.30 ug/L	97
27) t-Butyl ethyl ether	9.85	59	62034	9.51 ug/L	98
28) Chloroform	9.90	83	32153	10.20 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D
Acq On : 28 Oct 2021 2:28 pm
Sample : 10P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 5
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	12161	9.97 ug/L	84
30) Tetrahydrofuran	10.17	72	3110	9.82 ug/L	93
32) 1,1,1-Trichloroethane	10.63	97	22499	10.00 ug/L	97
33) 1,2-Dichloroethane	10.63	62	27953	10.00 ug/L	96
34) 1,1-Dichloropropene	10.84	75	24021	9.91 ug/L	96
35) Benzene	11.04	78	70484	9.85 ug/L	98
36) Carbon tetrachloride	11.08	117	17081	9.99 ug/L	98
37) Cyclohexane	11.09	84	25120	10.03 ug/L	93
38) t-Amyl methyl ether	11.22	43	23064	9.81 ug/L #	71
39) Heptane	11.68	43	23914	9.84 ug/L	98
40) 1,2-Dichloropropane	11.85	63	22820	9.92 ug/L	94
41) Trichloroethene	11.88	130	15720	10.08 ug/L #	91
42) Dibromomethane	11.96	93	15034	10.59 ug/L	88
43) Bromodichloromethane	12.05	83	22825	10.01 ug/L	99
44) 2-Chloroethyl vinyl ether	12.41	63	1089	8.17 ug/L #	70
45) Methylcyclohexane	12.59	55	24664	10.08 ug/L	99
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	33262	9.78 ug/L	97
47) cis-1,3-Dichloropropene	12.79	75	31552	9.89 ug/L	97
49) trans-1,3-Dichloropropene	13.36	75	25253	9.88 ug/L	96
51) 1,1,2-Trichloroethane	13.61	83	15564	9.77 ug/L	92
52) Toluene	13.64	91	67125	10.07 ug/L	98
53) 2-Hexanone	13.86	43	21508	9.86 ug/L #	91
54) 1,3-Dichloropropane	13.94	76	31611	10.07 ug/L	95
55) Butyl acetate	14.35	43	44352	9.75 ug/L	94
56) Dibromochloromethane	14.41	129	15712	9.83 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	17948	9.96 ug/L #	98
58) Tetrachloroethene	14.81	131	10368	10.37 ug/L #	92
59) Chlorobenzene	15.76	112	42122	10.11 ug/L	93
60) 1,1,1,2-Tetrachloroethane	15.77	131	13319	10.11 ug/L #	88
61) Ethylbenzene	16.04	91	70473	10.06 ug/L	97
62) m,p-Xylenes	16.22	106	50786	20.14 ug/L	87
63) Styrene	16.78	104	40642	9.94 ug/L	93
64) Bromoform	16.84	173	9661	9.78 ug/L	100
65) o-Xylene	16.87	106	24311	10.06 ug/L	86
66) 1,1,2,2-Tetrachloroethane	17.17	83	24709	9.97 ug/L	100
67) 1,2,3-Trichloropropane	17.39	110	6103	10.45 ug/L	99
68) trans-1,4-Dichloro-2-buten	17.40	53	5601	9.48 ug/L	98
69) Isopropylbenzene	17.58	105	60537	9.88 ug/L	95
72) Bromobenzene	17.99	158	14515	10.17 ug/L	91
73) n-Propylbenzene	18.29	91	76726	10.33 ug/L	95
74) 2-Chlorotoluene	18.40	91	41736	9.88 ug/L #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D
Acq On : 28 Oct 2021 2:28 pm
Sample : 10P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 5
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	39999	9.71 ug/L #	84
76) 1,3,5-Trimethylbenzene	18.58	105	46821	10.28 ug/L	92
77) tert-Butylbenzene	19.23	91	33132	10.48 ug/L	85
78) 1,2,4-Trimethylbenzene	19.24	120	24557	10.20 ug/L	87
79) sec-Butylbenzene	19.64	105	55888	10.22 ug/L	96
80) 1,3-Dichlorobenzene	19.71	146	25665	10.23 ug/L #	63
81) 1,4-Dichlorobenzene	19.83	146	26621	10.39 ug/L #	59
82) p-Isopropyltoluene	19.87	119	44754	10.26 ug/L	95
83) 1,2,3-Trimethylbenzene	20.00	105	49701	10.40 ug/L	94
85) 1,2-Dichlorobenzene	20.44	146	25272	10.31 ug/L #	81
86) n-Butylbenzene	20.60	91	45831	10.34 ug/L	98
87) Hexachloroethane	21.45	117	9436	9.91 ug/L	90
88) 1,2-Dibromo-3-chloropropan	21.44	155	2700	9.95 ug/L	88
89) 1,2,4-Trichlorobenzene	23.55	180	13621	9.90 ug/L #	88
90) Naphthalene	23.85	128	37328	9.63 ug/L #	95
91) Hexachlorobutadiene	24.23	225	5279	10.59 ug/L	93
92) 1,2,3-Trichlorobenzene	24.37	180	12370	9.85 ug/L	94
93) 2-Methylnaphthalene	26.10	142	11995	8.59 ug/L	96
94) 1-Methylnaphalene	26.56	142	10639	8.90 ug/L	96

(#) = qualifier out of range (m) = manual integration

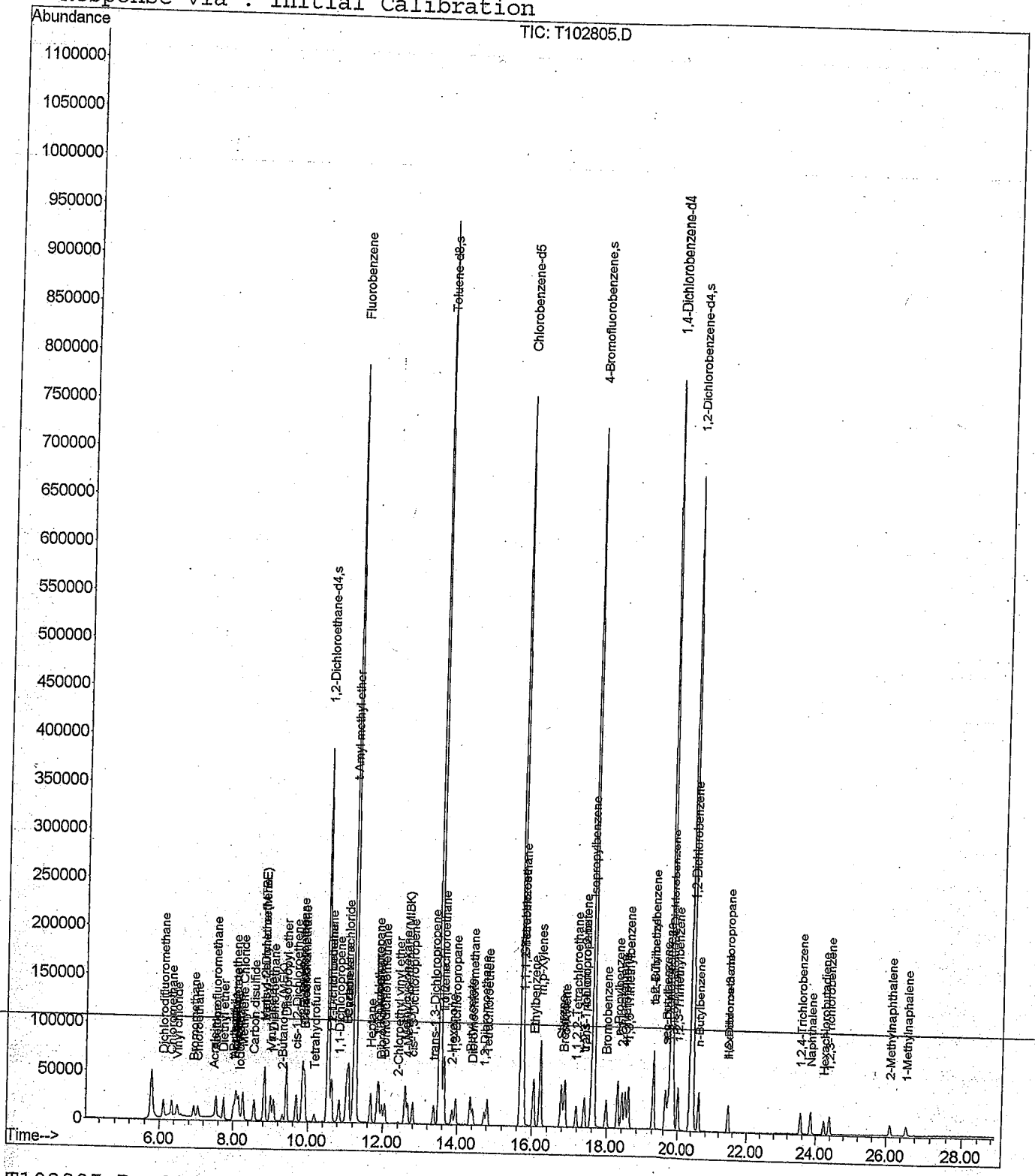
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D
Acq On : 28 Oct 2021 2:28 pm
Sample : 10P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 5
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D
Acq On : 28 Oct 2021 3:04 pm
Sample : 20P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.26	96	1229188	30.00 ug/L	0.00
48) Chlorobenzene-d5	15.71	82	507825	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	641128	30.00 ug/L	0.00
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	447963	30.35 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.17%		
50) Toluene-d8	13.53	98	1082721	30.25 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.83%		
71) 4-Bromofluorobenzene	17.63	174	375790	29.85 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.50%		
84) 1,2-Dichlorobenzene-d4	20.40	115	247059	30.61 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.03%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.10	85	44851	20.26 ug/L	99
3) Chloromethane	6.34	50	56813	20.22 ug/L	100
4) Vinyl chloride	6.49	62	40660	19.83 ug/L	99
5) Bromomethane	6.94	94	26885	18.88 ug/L #	97
6) Chloroethane	7.05	64	32477	19.65 ug/L	96
7) Acrolein	7.47	56	4464	20.16 ug/L	84
8) Trichlorofluoromethane	7.53	101	47178	20.39 ug/L	99
9) Acetone	7.54	43	20063	20.29 ug/L	94
10) Diethyl ether	7.74	59	38283	20.64 ug/L	98
11) Acrylonitrile	8.02	53	23036	20.71 ug/L	97
12) t-Butanol	8.00	59	28857	103.79 ug/L #	90
13) 1,1-Dichloroethene	8.06	61	59492	20.62 ug/L	97
14) MethylAcetate	8.09	43	56996	19.66 ug/L #	97
15) Freon 113	8.13	101	31933	20.30 ug/L	95
16) Iodomethane	8.19	142	21087	18.80 ug/L	86
17) Methylene Chloride	8.26	84	42274	19.04 ug/L	94
18) Carbon disulfide	8.55	76	115076	20.23 ug/L	100
19) trans-1,2-Dichloroethene	8.82	61	59728	20.41 ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.84	73	108035	20.72 ug/L	95
21) Vinyl acetate	9.00	43	131546	20.28 ug/L	99
22) 1,1-Dichloroethane	9.08	63	76425	20.38 ug/L	100
23) 2-Butanone (MEK)	9.32	43	33217	20.31 ug/L	99
24) Diisopropyl ether	9.42	45	179172	20.26 ug/L	98
25) cis-1,2-Dichloroethene	9.69	61	61493	20.22 ug/L	96
26) 2,2-Dichloropropane	9.87	77	45766	20.50 ug/L	95
27) t-Butyl ethyl ether	9.85	59	132596	20.17 ug/L	99
28) Chloroform	9.90	83	65716	20.67 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D
Acq On : 28 Oct 2021 3:04 pm
Sample : 20P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	25360	20.62 ug/L	82
30) Tetrahydrofuran	10.17	72	6500	20.35 ug/L	91
32) 1,1,1-Trichloroethane	10.63	97	46772	20.62 ug/L	98
33) 1,2-Dichloroethane	10.64	62	57032	20.23 ug/L	99
34) 1,1-Dichloropropene	10.84	75	48971	20.05 ug/L	97
35) Benzene	11.04	78	144759	20.08 ug/L	99
36) Carbon tetrachloride	11.08	117	35051	20.33 ug/L	98
37) Cyclohexane	11.09	84	50956	20.18 ug/L	94
38) t-Amyl methyl ether	11.22	43	47309	19.97 ug/L	84
39) Heptane	11.68	43	47279	19.30 ug/L	96
40) 1,2-Dichloropropane	11.86	63	47097	20.31 ug/L	94
41) Trichloroethene	11.89	130	32404	20.62 ug/L #	90
42) Dibromomethane	11.96	93	30628	21.41 ug/L	88
43) Bromodichloromethane	12.05	83	47004	20.46 ug/L	100
44) 2-Chloroethyl vinyl ether	12.41	63	4363	20.04 ug/L	99
45) Methylcyclohexane	12.59	55	49382	20.03 ug/L	99
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	69647	20.32 ug/L	96
47) cis-1,3-Dichloropropene	12.79	75	65491	20.37 ug/L	97
49) trans-1,3-Dichloropropene	13.37	75	53028	20.38 ug/L	96
51) 1,1,2-Trichloroethane	13.62	83	31917	19.67 ug/L	97
52) Toluene	13.65	91	138148	20.35 ug/L	99
53) 2-Hexanone	13.86	43	44916	20.21 ug/L #	96
54) 1,3-Dichloropropane	13.96	76	65002	20.34 ug/L	93
55) Butyl acetate	14.35	43	94674	20.45 ug/L	94
56) Dibromochloromethane	14.41	129	33222	20.40 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	37305	20.32 ug/L #	98
58) Tetrachloroethene	14.82	131	20877	20.50 ug/L #	92
59) Chlorobenzene	15.76	112	86785	20.46 ug/L	94
60) 1,1,1,2-Tetrachloroethane	15.76	131	27723	20.67 ug/L #	88
61) Ethylbenzene	16.05	91	144467	20.24 ug/L	96
62) m,p-Xylenes	16.22	106	105332	41.02 ug/L	86
63) Styrene	16.78	104	86055	20.66 ug/L	93
64) Bromoform	16.83	173	20513	20.40 ug/L	99
65) o-Xylene	16.88	106	50840	20.66 ug/L	86
66) 1,1,2,2-Tetrachloroethane	17.18	83	51714	20.50 ug/L	99
67) 1,2,3-Trichloropropane	17.39	110	12484	21.00 ug/L	99
68) trans-1,4-Dichloro-2-buten	17.41	53	12221	20.30 ug/L	97
69) Isopropylbenzene	17.58	105	124537	19.96 ug/L	95
72) Bromobenzene	17.99	158	30490	20.45 ug/L	90
73) n-Propylbenzene	18.29	91	157475	20.29 ug/L	95
74) 2-Chlorotoluene	18.40	91	87696	19.87 ug/L #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D
Acq On : 28 Oct 2021 3:04 pm
Sample : 20P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	83929	19.51 ug/L #	84
76) 1,3,5-Trimethylbenzene	18.57	105	98698	20.75 ug/L	92
77) tert-Butylbenzene	19.23	91	67600	20.47 ug/L #	83
78) 1,2,4-Trimethylbenzene	19.24	120	51559	20.51 ug/L	87
79) sec-Butylbenzene	19.64	105	116188	20.35 ug/L	96
80) 1,3-Dichlorobenzene	19.71	146	53483	20.41 ug/L #	91
81) 1,4-Dichlorobenzene	19.84	146	54870	20.51 ug/L #	65
82) p-Isopropyltoluene	19.88	119	93840	20.60 ug/L	95
83) 1,2,3-Trimethylbenzene	20.00	105	104644	20.96 ug/L	94
85) 1,2-Dichlorobenzene	20.45	146	52151	20.37 ug/L #	96
86) n-Butylbenzene	20.60	91	94670	20.46 ug/L	98
87) Hexachloroethane	21.45	117	20399	20.52 ug/L	93
88) 1,2-Dibromo-3-chloropropan	21.45	155	5885	20.76 ug/L	89
89) 1,2,4-Trichlorobenzene	23.55	180	30082	20.92 ug/L #	88
90) Naphthalene	23.84	128	82189	20.30 ug/L #	95
91) Hexachlorobutadiene	24.23	225	10902	20.95 ug/L	91
92) 1,2,3-Trichlorobenzene	24.37	180	26861	20.48 ug/L	94
93) 2-Methylnaphthalene	26.11	142	28680	19.66 ug/L	96
94) 1-Methylnaphalene	26.56	142	24660	19.75 ug/L	96

(#) = qualifier out of range (m) = manual integration

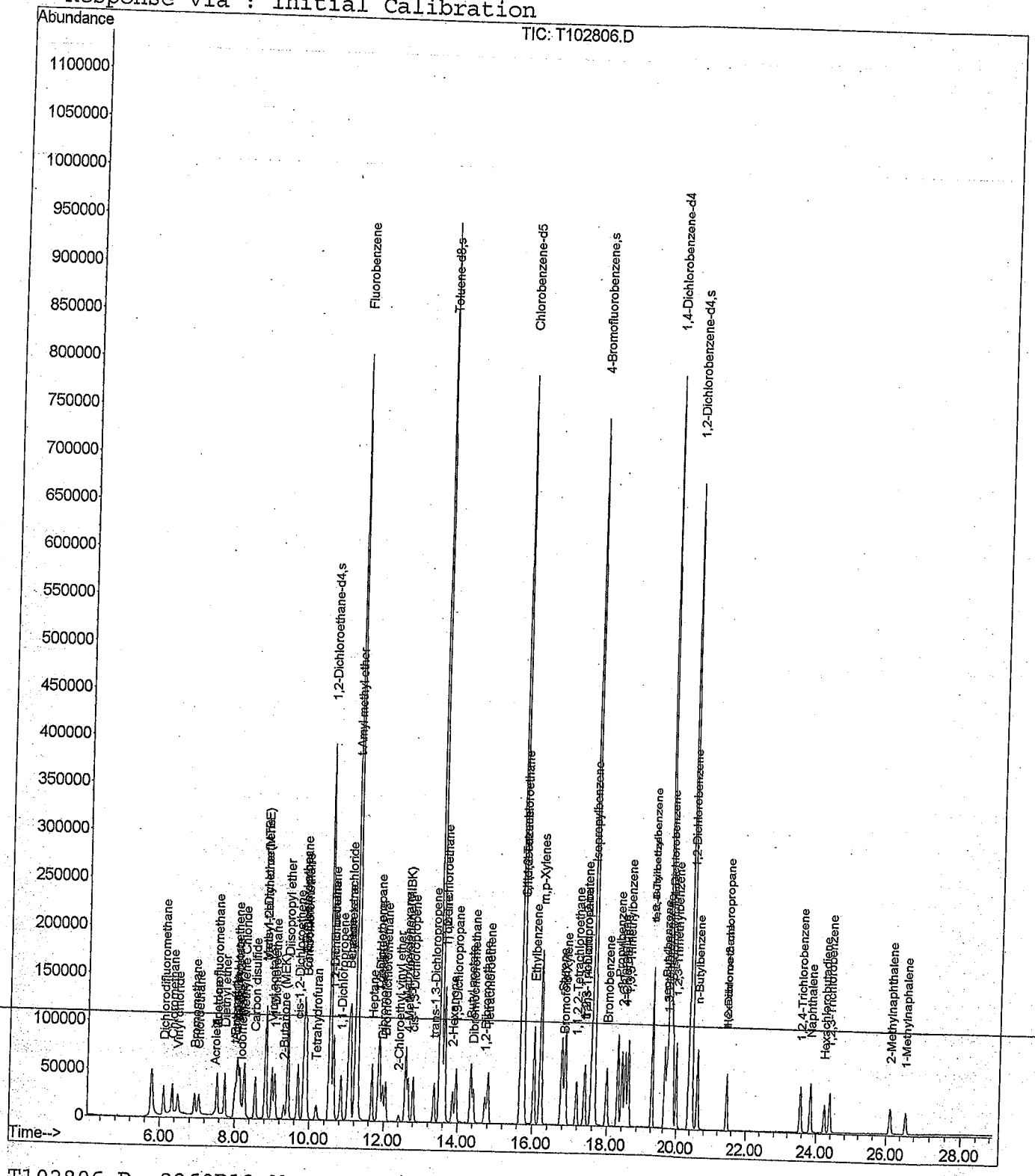
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D
Acq On : 28 Oct 2021 3:04 pm
Sample : 29P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D
Acq On : 28 Oct 2021 3:40 pm
Sample : 50P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 7
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.27	96	1266868	30.00 ug/L	0.00
48) Chlorobenzene-d5	15.71	82	530391	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.79	150	676719	30.00 ug/L	0.00
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.54	65	461533	30.34 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.13%		
50) Toluene-d8	13.53	98	1124108	30.07 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.23%		
71) 4-Bromofluorobenzene	17.64	174	396130	29.81 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.37%		
84) 1,2-Dichlorobenzene-d4	20.40	115	255290	29.96 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 99.87%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	118732	52.05 ug/L	99
3) Chloromethane	6.34	50	140369	48.47 ug/L	100
4) Vinyl chloride	6.49	62	97531	46.14 ug/L	97
5) Bromomethane	6.94	94	72448	45.32 ug/L #	97
6) Chloroethane	7.05	64	83413	48.96 ug/L	96
7) Acrolein	7.47	56	11192	49.03 ug/L	96
8) Trichlorofluoromethane	7.53	101	122990	51.58 ug/L	99
9) Acetone	7.55	43	48599	47.68 ug/L #	90
10) Diethyl ether	7.73	59	102382	53.56 ug/L	96
11) Acrylonitrile	8.02	53	59780	52.15 ug/L	97
12) t-Butanol	8.01	59	74605	260.34 ug/L #	90
13) 1,1-Dichloroethene	8.06	61	153190	51.51 ug/L	97
14) MethylAcetate	8.09	43	143701	48.10 ug/L #	97
15) Freon 113	8.13	101	83944	51.78 ug/L	95
16) Iodomethane	8.19	142	73593	44.86 ug/L	85
17) Methylene Chloride	8.26	84	109123	47.70 ug/L	94
18) Carbon disulfide	8.56	76	299764	51.14 ug/L	100
19) trans-1,2-Dichloroethene	8.82	61	154849	51.35 ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.84	73	280254	52.14 ug/L	95
21) Vinyl acetate	9.00	43	334362	50.01 ug/L	99
22) 1,1-Dichloroethane	9.08	63	195932	50.69 ug/L	100
23) 2-Butanone (MEK)	9.33	43	86661	51.41 ug/L	97
24) Diisopropyl ether	9.43	45	467076	51.23 ug/L	97
25) cis-1,2-Dichloroethene	9.70	61	158377	50.53 ug/L	96
26) 2,2-Dichloropropane	9.87	77	117093	50.90 ug/L	95
27) t-Butyl ethyl ether	9.85	59	359682	53.09 ug/L	98
28) Chloroform	9.90	83	166011	50.67 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D
Acq On : 28 Oct 2021 3:40 pm
Sample : 50P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 7
Operator: BAG
Inst. : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	65490	51.66 ug/L	80
30) Tetrahydrofuran	10.18	72	16459	50.01 ug/L	91
32) 1,1,1-Trichloroethane	10.63	97	120277	51.46 ug/L	98
33) 1,2-Dichloroethane	10.64	62	145354	50.04 ug/L	98
34) 1,1-Dichloropropene	10.85	75	130211	51.73 ug/L	97
35) Benzene	11.04	78	376668	50.69 ug/L	98
36) Carbon tetrachloride	11.08	117	92848	52.25 ug/L	98
37) Cyclohexane	11.09	84	133249	51.19 ug/L	92
38) t-Amyl methyl ether	11.22	43	122694	50.25 ug/L	90
39) Heptane	11.68	43	125078	49.53 ug/L	96
40) 1,2-Dichloropropane	11.86	63	118076	49.40 ug/L	95
41) Trichloroethene	11.89	130	83762	51.71 ug/L #	88
42) Dibromomethane	11.97	93	78942	53.54 ug/L	86
43) Bromodichloromethane	12.05	83	123547	52.17 ug/L	99
44) 2-Chloroethyl vinyl ether	12.41	63	13664	52.39 ug/L	97
45) Methylcyclohexane	12.59	55	130510	51.35 ug/L	100
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	180907	51.20 ug/L	95
47) cis-1,3-Dichloropropene	12.80	75	171500	51.76 ug/L	97
49) trans-1,3-Dichloropropene	13.36	75	140612	51.74 ug/L	96
51) 1,1,2-Trichloroethane	13.63	83	82514	48.68 ug/L	96
52) Toluene	13.64	91	358803	50.61 ug/L	99
53) 2-Hexanone	13.86	43	118504	51.05 ug/L	99
54) 1,3-Dichloropropane	13.95	76	169583	50.80 ug/L	91
55) Butyl acetate	14.35	43	248974	51.48 ug/L	94
56) Dibromochloromethane	14.42	129	88891	52.27 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	98119	51.17 ug/L #	99
58) Tetrachloroethene	14.82	131	54728	51.46 ug/L #	91
59) Chlorobenzene	15.76	112	222667	50.25 ug/L	88
60) 1,1,1,2-Tetrachloroethane	15.77	131	72106	51.46 ug/L #	88
61) Ethylbenzene	16.04	91	383629	51.47 ug/L	96
62) m,p-Xylenes	16.22	106	281448	104.93 ug/L	86
63) Styrene	16.78	104	231835	53.29 ug/L	92
64) Bromoform	16.84	173	56175	53.49 ug/L	99
65) o-Xylene	16.88	106	134878	52.48 ug/L	84
66) 1,1,2,2-Tetrachloroethane	17.19	83	132921	50.45 ug/L	100
67) 1,2,3-Trichloropropane	17.40	110	31898	51.37 ug/L	94
68) trans-1,4-Dichloro-2-buten	17.41	53	32310	51.39 ug/L #	94
69) Isopropylbenzene	17.58	105	334719	51.37 ug/L	95
72) Bromobenzene	17.99	158	79897	50.77 ug/L	90
73) n-Propylbenzene	18.29	91	418897	51.14 ug/L	94
74) 2-Chlorotoluene	18.40	91	227411	48.83 ug/L #	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D
Acq On : 28 Oct 2021 3:40 pm
Sample : 50P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 7
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	224507	49.43 ug/L #	87
76) 1,3,5-Trimethylbenzene	18.58	105	262860	52.34 ug/L	92
77) tert-Butylbenzene	19.23	91	183363	52.60 ug/L #	81
78) 1,2,4-Trimethylbenzene	19.25	120	141502	53.32 ug/L	86
79) sec-Butylbenzene	19.65	105	316112	52.45 ug/L	96
80) 1,3-Dichlorobenzene	19.71	146	141420	51.14 ug/L #	91
81) 1,4-Dichlorobenzene	19.84	146	144446	51.16 ug/L #	64
82) p-Isopropyltoluene	19.87	119	252614	52.54 ug/L	95
83) 1,2,3-Trimethylbenzene	20.00	105	279274	52.99 ug/L	93
85) 1,2-Dichlorobenzene	20.45	146	135685	50.20 ug/L #	96
86) n-Butylbenzene	20.60	91	255567	52.32 ug/L	98
87) Hexachloroethane	21.45	117	56278	53.63 ug/L	92
88) 1,2-Dibromo-3-chloropropan	21.45	155	15472	51.71 ug/L	89
89) 1,2,4-Trichlorobenzene	23.56	180	77970	51.38 ug/L #	88
90) Naphthalene	23.85	128	223752	52.35 ug/L	95
91) Hexachlorobutadiene	24.23	225	28604	52.07 ug/L	93
92) 1,2,3-Trichlorobenzene	24.37	180	71647	51.75 ug/L	93
93) 2-Methylnaphthalene	26.10	142	85676	55.65 ug/L	95
94) 1-Methylnaphalene	26.56	142	73706	55.92 ug/L	96

(#) = qualifier out of range (m) = manual integration

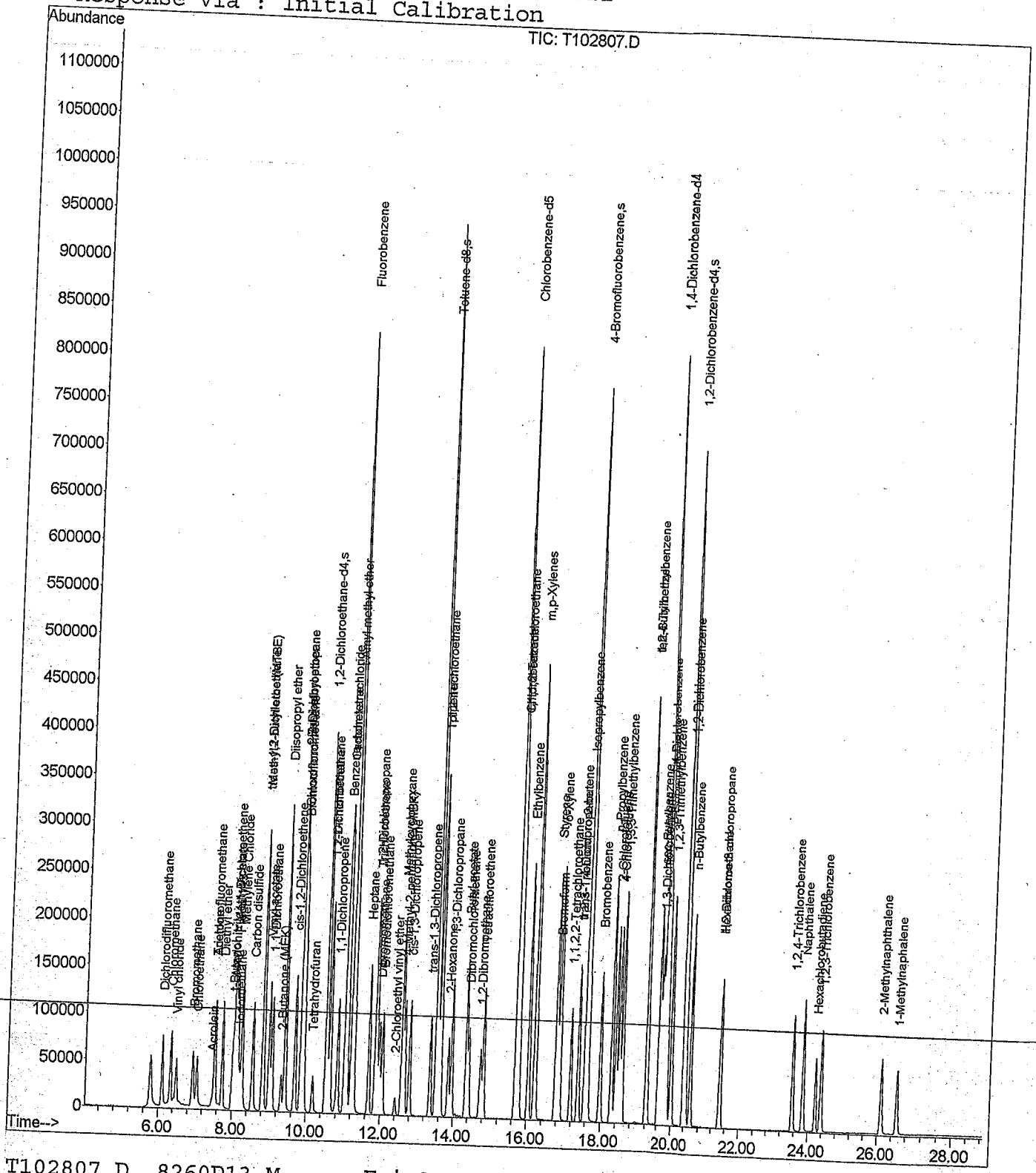
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D
Acq On : 28 Oct 2021 3:40 pm
Sample : 50P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 7
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D
Acq On : 28 Oct 2021 4:17 pm
Sample : 100P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.26	96	1239901	30.00	ug/L	0.00
48) Chlorobenzene-d5	15.71	82	514791	30.00	ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.79	150	668878	30.00	ug/L	0.00
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	434848	29.21	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.37%			
50) Toluene-d8	13.53	98	1115337	30.74	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.47%			
71) 4-Bromofluorobenzene	17.64	174	383482	29.20	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 97.33%			
84) 1,2-Dichlorobenzene-d4	20.40	115	237744	28.23	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 94.10%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.10	85	230112	103.06	ug/L	98
3) Chloromethane	6.33	50	283759	100.10	ug/L	100
4) Vinyl chloride	6.48	62	164144	79.35	ug/L	98
5) Bromomethane	6.93	94	154851	96.03	ug/L #	98
6) Chloroethane	7.04	64	165110	99.02	ug/L	96
7) Acrolein	7.47	56	22244	99.57	ug/L	96
8) Trichlorofluoromethane	7.53	101	236302	101.25	ug/L	99
9) Acetone	7.54	43	92537	92.77	ug/L #	89
10) Diethyl ether	7.74	59	190433	101.78	ug/L	95
11) Acrylonitrile	8.02	53	116842	104.15	ug/L	96
12) t-Butanol	8.00	59	175216	624.73	ug/L #	85
13) 1,1-Dichloroethene	8.06	61	298784	102.65	ug/L	97
14) MethylAcetate	8.09	43	278609	95.28	ug/L #	96
15) Freon 113	8.13	101	162648	102.51	ug/L	95
16) Iodomethane	8.19	142	176168	98.34	ug/L #	85
17) Methylene Chloride	8.25	84	210313	93.92	ug/L	93
18) Carbon disulfide	8.55	76	588274	102.54	ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	301855	102.27	ug/L	95
20) Methyl-t-butyl ether(MTBE)	8.84	73	549437	104.44	ug/L	94
21) Vinyl acetate	9.00	43	659009	100.71	ug/L	98
22) 1,1-Dichloroethane	9.07	63	380289	100.53	ug/L	100
23) 2-Butanone (MEK)	9.32	43	162912	98.75	ug/L	96
~~24) Diisopropyl ether~~	~~9.42~~	~~45~~	~~898248~~	~~100.67~~	~~ug/L~~	~~96~~
25) cis-1,2-Dichloroethene	9.69	61	307922	100.39	ug/L	95
26) 2,2-Dichloropropane	9.87	77	225239	100.03	ug/L	95
27) t-Butyl ethyl ether	9.84	59	707563	106.71	ug/L	99
28) Chloroform	9.90	83	324113	101.07	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D
Acq On : 28 Oct 2021 4:17 pm
Sample : 100P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	127892	103.08 ug/L	79
30) Tetrahydrofuran	10.17	72	33119	102.81 ug/L	89
32) 1,1,1-Trichloroethane	10.63	97	232656	101.71 ug/L	99
33) 1,2-Dichloroethane	10.63	62	277653	97.66 ug/L	99
34) 1,1-Dichloropropene	10.84	75	256716	104.21 ug/L	96
35) Benzene	11.04	78	737892	101.46 ug/L	98
36) Carbon tetrachloride	11.08	117	184818	106.26 ug/L	98
37) Cyclohexane	11.09	84	266379	104.56 ug/L	94
38) t-Amyl methyl ether	11.22	43	242658	101.53 ug/L	92
39) Heptane	11.68	43	240892	97.47 ug/L	96
40) 1,2-Dichloropropane	11.86	63	235923	100.85 ug/L	94
41) Trichloroethene	11.89	130	166540	105.04 ug/L #	89
42) Dibromomethane	11.96	93	155379	107.67 ug/L	87
43) Bromodichloromethane	12.05	83	238903	103.08 ug/L	99
44) 2-Chloroethyl vinyl ether	12.41	63	26292	98.96 ug/L	98
45) Methylcyclohexane	12.59	55	254637	102.38 ug/L	99
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	348541	100.80 ug/L	94
47) cis-1,3-Dichloropropene	12.80	75	338172	104.29 ug/L	97
49) trans-1,3-Dichloropropene	13.37	75	277709	105.29 ug/L	95
51) 1,1,2-Trichloroethane	13.62	83	161368	98.09 ug/L	93
52) Toluene	13.65	91	709671	103.12 ug/L	98
53) 2-Hexanone	13.86	43	231632	102.82 ug/L	99
54) 1,3-Dichloropropane	13.96	76	329227	101.60 ug/L	90
55) Butyl acetate	14.35	43	493659	105.16 ug/L	93
56) Dibromochloromethane	14.42	129	175169	106.13 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	192285	103.31 ug/L #	98
58) Tetrachloroethene	14.82	131	107573	104.20 ug/L #	91
59) Chlorobenzene	15.76	112	437228	101.67 ug/L #	85
60) 1,1,1,2-Tetrachloroethane	15.77	131	142658	104.91 ug/L #	87
61) Ethylbenzene	16.05	91	758599	104.86 ug/L	95
62) m,p-Xylenes	16.22	106	546796	210.04 ug/L	87
63) Styrene	16.78	104	458566	108.61 ug/L	92
64) Bromoform	16.84	173	111093	108.98 ug/L	100
65) o-Xylene	16.88	106	260167	104.30 ug/L	85
66) 1,1,2,2-Tetrachloroethane	17.19	83	256454	100.28 ug/L	100
67) 1,2,3-Trichloropropane	17.40	110	62215	103.23 ug/L	93
68) trans-1,4-Dichloro-2-buten	17.41	53	63627	104.27 ug/L #	92
69) Isopropylbenzene	17.58	105	648607	102.56 ug/L	95
72) Bromobenzene	17.99	158	157329	101.14 ug/L	90
73) n-Propylbenzene	18.29	91	826757	102.12 ug/L	94
74) 2-Chlorotoluene	18.41	91	439503	95.47 ug/L #	84

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D
Acq On : 28 Oct 2021 4:17 pm
Sample : 100P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	437645	97.49 ug/L #	86
76) 1,3,5-Trimethylbenzene	18.58	105	511530	103.06 ug/L	92
77) tert-Butylbenzene	19.23	91	348754	101.21 ug/L #	80
78) 1,2,4-Trimethylbenzene	19.25	120	272447	103.86 ug/L	86
79) sec-Butylbenzene	19.64	105	617594	103.67 ug/L	95
80) 1,3-Dichlorobenzene	19.71	146	268396	98.20 ug/L	91
81) 1,4-Dichlorobenzene	19.84	146	268411	96.17 ug/L #	87
82) p-Isopropyltoluene	19.88	119	483214	101.68 ug/L	94
83) 1,2,3-Trimethylbenzene	20.00	105	529440	101.64 ug/L	93
85) 1,2-Dichlorobenzene	20.45	146	254887	95.41 ug/L #	93
86) n-Butylbenzene	20.60	91	489569	101.40 ug/L	97
87) Hexachloroethane	21.45	117	111137	107.15 ug/L	89
88) 1,2-Dibromo-3-chloropropan	21.45	155	31096	105.15 ug/L	87
89) 1,2,4-Trichlorobenzene	23.56	180	158600	105.74 ug/L #	88
90) Naphthalene	23.85	128	460154	108.92 ug/L	95
91) Hexachlorobutadiene	24.23	225	54215	99.84 ug/L	92
92) 1,2,3-Trichlorobenzene	24.37	180	144965	105.93 ug/L	94
93) 2-Methylnaphthalene	26.11	142	182924	120.22 ug/L	96
94) 1-Methylnaphalene	26.56	142	151356	116.19 ug/L	96

(#) = qualifier out of range (m) = manual integration

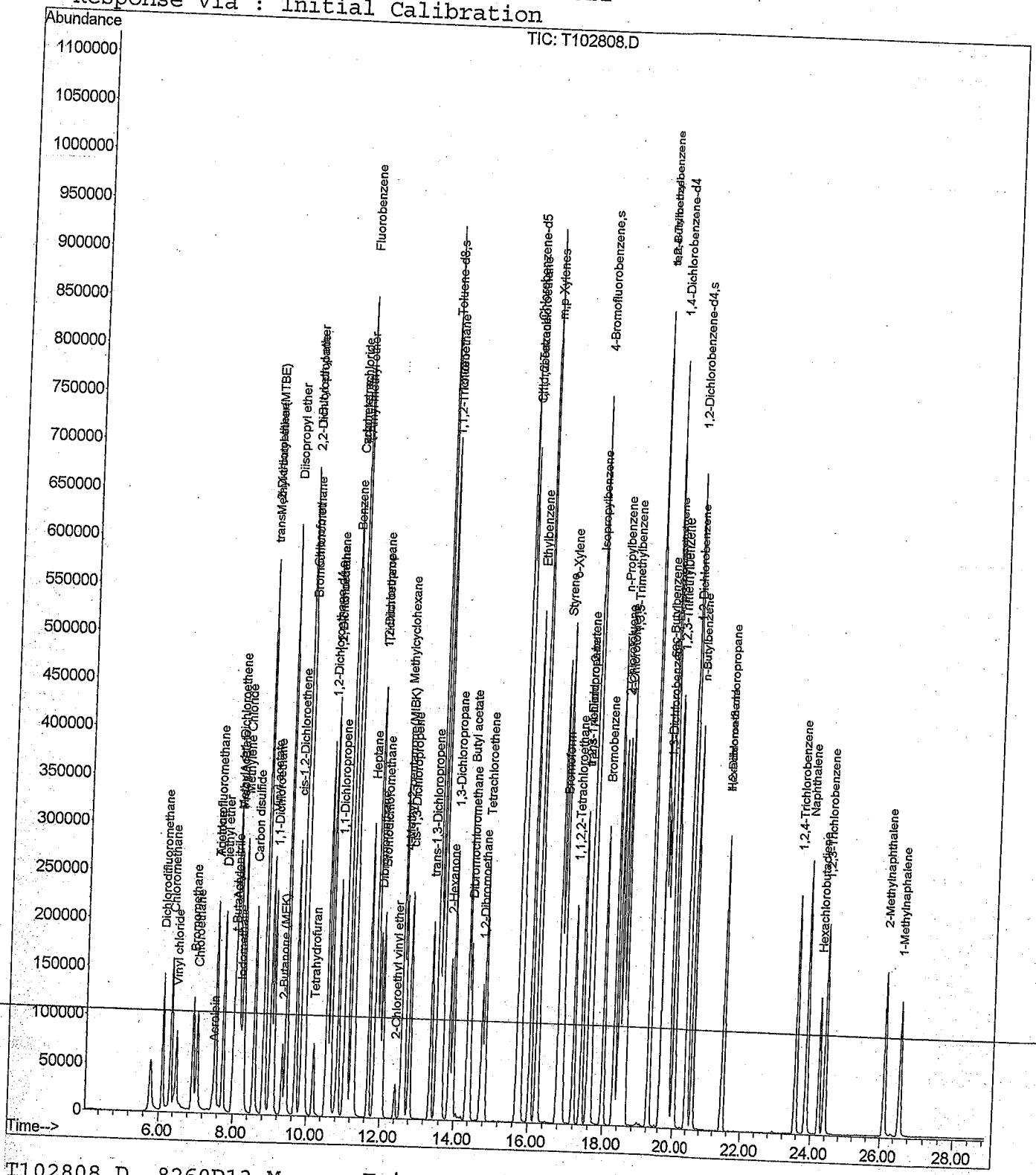
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D
Acq On : 28 Oct 2021 4:17 pm
Sample : 100P1023
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D
Acq On : 28 Oct 2021 5:30 pm
Sample : 200P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 10
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.26	96	1308737	30.00 ug/L	0.00
48) Chlorobenzene-d5	15.70	82	552880	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	726498	30.00 ug/L	0.00
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.54	65	460934	29.33 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.77%		
50) Toluene-d8	13.54	98	1135557	29.14 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 97.13%		
71) 4-Bromofluorobenzene	17.64	174	394656	27.67 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 92.23%		
84) 1,2-Dichlorobenzene-d4	20.40	115	242485	26.51 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 88.37%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	486956	206.63 ug/L	98
3) Chloromethane	6.34	50	599293	200.29 ug/L	99
4) Vinyl chloride	6.46	62	209423	95.91 ug/L	99
5) Bromomethane	6.93	94	350757	203.21 ug/L #	97
6) Chloroethane	7.04	64	338772	192.48 ug/L	96
7) Acrolein	7.47	56	45267	191.97 ug/L	97
8) Trichlorofluoromethane	7.53	101	500355	203.12 ug/L	99
9) Acetone	7.55	43	198117	188.17 ug/L #	90
10) Diethyl ether	7.73	59	403359	204.25 ug/L	95
11) Acrylonitrile	8.02	53	242646	204.91 ug/L	96
12) t-Butanol	8.00	59	197406	666.82 ug/L #	83
13) 1,1-Dichloroethene	8.06	61	619982	201.80 ug/L	96
14) MethylAcetate	8.09	43	582640	188.77 ug/L #	96
15) Freon 113	8.13	101	335404	200.27 ug/L	95
16) Iodomethane	8.19	142	399101	202.04 ug/L #	85
17) Methylene Chloride	8.25	84	439575	185.98 ug/L	93
18) Carbon disulfide	8.55	76	1243786	205.39 ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	629323	202.01 ug/L	95
20) Methyl-t-butyl ether(MTBE)	8.83	73	1136598	204.69 ug/L	94
21) Vinyl acetate	9.00	43	1386560	200.76 ug/L	98
22) 1,1-Dichloroethane	9.08	63	798611	200.01 ug/L	100
23) 2-Butanone (MEK)	9.33	43	332401	190.89 ug/L	96
~~24) Diisopropyl ether~~	~~9.42~~	~~45~~	~~1892552~~	~~200.95 ug/L~~	~~97~~
25) cis-1,2-Dichloroethene	9.69	61	647442	199.98 ug/L	95
26) 2,2-Dichloropropane	9.87	77	445891	187.62 ug/L	95
27) t-Butyl ethyl ether	9.85	59	1457963	208.32 ug/L	99
28) Chloroform	9.90	83	671313	198.33 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D
Acq On : 28 Oct 2021 5:30 pm
Sample : 200P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 10
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	254214	194.12 ug/L	78
30) Tetrahydrofuran	10.18	72	68898	202.63 ug/L	87
32) 1,1,1-Trichloroethane	10.62	97	483774	200.36 ug/L	99
33) 1,2-Dichloroethane	10.63	62	571803	190.54 ug/L	98
34) 1,1-Dichloropropene	10.84	75	532056	204.61 ug/L	96
35) Benzene	11.04	78	1534047	199.84 ug/L	97
36) Carbon tetrachloride	11.08	117	384938	209.68 ug/L	98
37) Cyclohexane	11.09	84	557203	207.21 ug/L	94
38) t-Amyl methyl ether	11.21	43	508641	201.63 ug/L	91
39) Heptane	11.68	43	489406	187.60 ug/L	95
40) 1,2-Dichloropropane	11.85	63	488449	197.81 ug/L	94
41) Trichloroethene	11.89	130	349212	208.68 ug/L #	87
42) Dibromomethane	11.97	93	324241	212.86 ug/L #	86
43) Bromodichloromethane	12.05	83	504517	206.23 ug/L	100
44) 2-Chloroethyl vinyl ether	12.40	63	51982	181.72 ug/L	98
45) Methylcyclohexane	12.59	55	521284	198.56 ug/L	99
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	718211	196.78 ug/L	94
47) cis-1,3-Dichloropropene	12.80	75	703297	205.48 ug/L	97
49) trans-1,3-Dichloropropene	13.37	75	583923	206.13 ug/L	95
51) 1,1,2-Trichloroethane	13.62	83	329314	186.40 ug/L	91
52) Toluene	13.64	91	1439635	194.79 ug/L	98
53) 2-Hexanone	13.86	43	477077	197.17 ug/L	99
54) 1,3-Dichloropropane	13.95	76	680922	195.66 ug/L	90
55) Butyl acetate	14.35	43	998451	198.05 ug/L	92
56) Dibromochloromethane	14.42	129	366746	206.90 ug/L #	96
57) 1,2-Dibromoethane	14.73	107	403095	201.65 ug/L #	98
58) Tetrachloroethene	14.82	131	222807	200.96 ug/L #	91
59) Chlorobenzene	15.77	112	929217	201.19 ug/L #	83
60) 1,1,1,2-Tetrachloroethane	15.77	131	302700	207.26 ug/L #	87
61) Ethylbenzene	16.04	91	1585479	204.06 ug/L	95
62) m,p-Xylenes	16.22	106	1121841	401.25 ug/L	85
63) Styrene	16.78	104	951259	209.78 ug/L	91
64) Bromoform	16.83	173	230941	210.95 ug/L	100
65) o-Xylene	16.88	106	536309	200.19 ug/L	84
66) 1,1,2,2-Tetrachloroethane	17.18	83	520999	189.69 ug/L	100
67) 1,2,3-Trichloropropane	17.40	110	126632	195.64 ug/L	92
68) ~~trans-1,4-Dichloro-2-buten~~	~~17.40~~	~~53~~	~~130679~~	~~199.39 ug/L #~~	~~89~~
69) Isopropylbenzene	17.58	105	1340138	197.30 ug/L	94
72) Bromobenzene	17.99	158	324650	192.16 ug/L	88
73) n-Propylbenzene	18.29	91	1720032	195.60 ug/L	94
74) 2-Chlorotoluene	18.40	91	895468	179.09 ug/L #	84

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D
Acq On : 28 Oct 2021 5:30 pm
Sample : 200P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 10
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.50	91	853194	174.99 ug/L #	83
76) 1,3,5-Trimethylbenzene	18.58	105	1023495	189.85 ug/L	91
77) tert-Butylbenzene	19.23	91	677547	181.04 ug/L #	78
78) 1,2,4-Trimethylbenzene	19.24	120	537551	188.68 ug/L	85
79) sec-Butylbenzene	19.65	105	1210673	187.11 ug/L	95
80) 1,3-Dichlorobenzene	19.84	146	541501	182.40 ug/L	95
81) 1,4-Dichlorobenzene	19.84	146	540281	178.23 ug/L	95
82) p-Isopropyltoluene	19.88	119	944080	182.90 ug/L	93
83) 1,2,3-Trimethylbenzene	20.01	105	1028176	181.73 ug/L	93
85) 1,2-Dichlorobenzene	20.44	146	511111	176.14 ug/L #	91
86) n-Butylbenzene	20.60	91	947685	180.71 ug/L	97
87) Hexachloroethane	21.45	117	224514	199.30 ug/L	87
88) 1,2-Dibromo-3-chloropropan	21.45	155	62192	193.61 ug/L #	85
89) 1,2,4-Trichlorobenzene	23.56	180	321175	197.15 ug/L #	87
90) Naphthalene	23.85	128	906519	197.56 ug/L #	95
91) Hexachlorobutadiene	24.22	225	111138	188.44 ug/L	91
92) 1,2,3-Trichlorobenzene	24.38	180	288727	194.25 ug/L	93
93) 2-Methylnaphthalene	26.11	142	363489	219.93 ug/L	95
94) 1-Methylnaphalene	26.56	142	297829	210.49 ug/L #	95

(#) = qualifier out of range (m) = manual integration

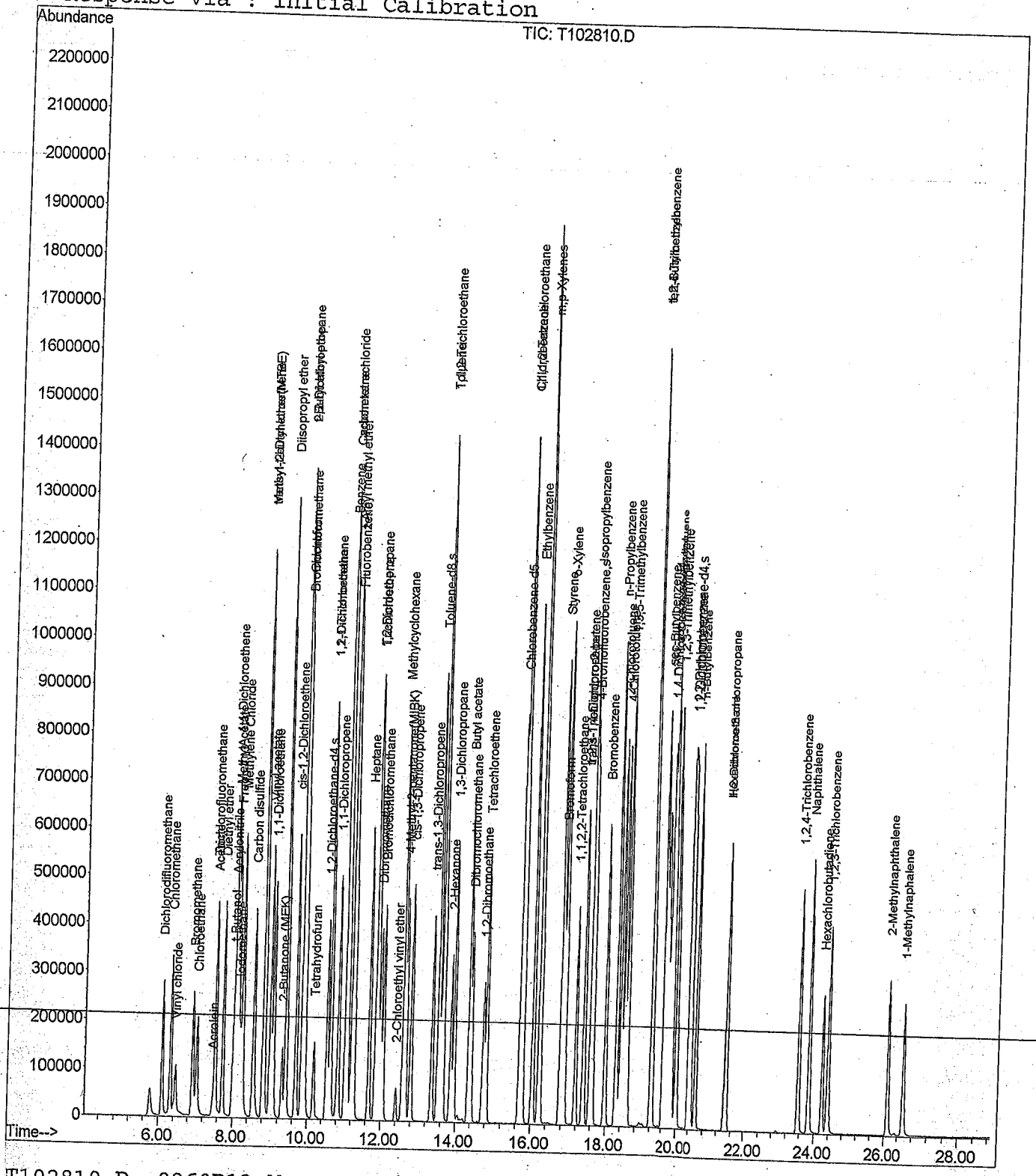
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D
Acq On : 28 Oct 2021 5:30 pm
Sample : 200P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 10
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D
Acq On : 28 Oct 2021 6:43 pm
Sample : ICV1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 12
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.26	96	1358350	30.00 ug/L	0.00
48) Chlorobenzene-d5	15.70	82	553362	30.00 ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	687114	30.00 ug/L	-0.01
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	480905	29.49 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 98.30%		
50) Toluene-d8	13.53	98	1197748	30.71 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.37%		
71) 4-Bromofluorobenzene	17.63	174	415380	30.79 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.63%		
84) 1,2-Dichlorobenzene-d4	20.40	115	258607	29.89 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 99.63%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.11	85	91978	37.60 ug/L	98
3) Chloromethane	6.34	50	134025	43.16 ug/L	100
4) Vinyl chloride	6.49	62	95743	42.25 ug/L	94
5) Bromomethane	6.94	94	84911	49.31 ug/L #	97
6) Chloroethane	7.05	64	78002	42.70 ug/L	96
7) Acrolein	7.47	56	190	0.78 ug/L #	1
8) Trichlorofluoromethane	7.53	101	109695	42.90 ug/L	99
9) Acetone	7.55	43	72276	66.14 ug/L	91
10) Diethyl ether	7.56	59	768	0.37 ug/L #	59
11) Acrylonitrile	8.02	53	62849	51.14 ug/L	97
12) t-Butanol	8.00	59	84739	275.79 ug/L #	86
13) 1,1-Dichloroethene	8.06	61	168973	52.99 ug/L	97
14) MethylAcetate	8.09	43	55464	17.31 ug/L #	98
15) Freon 113	8.13	101	85766	49.34 ug/L	95
16) Iodomethane	8.19	142	68549	40.01 ug/L #	84
17) Methylene Chloride	8.26	84	119537	48.73 ug/L	93
18) Carbon disulfide	8.56	76	324507	51.63 ug/L	100
19) trans-1,2-Dichloroethene	8.82	61	169970	52.57 ug/L	95
20) Methyl-t-butyl ether(MTBE)	8.84	73	249632	43.31 ug/L	94
21) Vinyl acetate	9.00	43	335849	46.85 ug/L	98
22) 1,1-Dichloroethane	9.08	63	211020	50.92 ug/L	100
23) 2-Butanone (MEK)	9.32	43	104306	57.71 ug/L	94
24) Diisopropyl ether	9.43	45	463834	47.45 ug/L	97
25) cis-1,2-Dichloroethene	9.69	61	174659	51.98 ug/L	95
26) 2,2-Dichloropropane	9.87	77	120181	48.72 ug/L	96
27) t-Butyl ethyl ether	9.85	59	355624	48.96 ug/L	99
28) Chloroform	9.90	83	178767	50.89 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D
Acq On : 28 Oct 2021 6:43 pm
Sample : ICV1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 12
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	71455	52.57 ug/L #	78
30) Tetrahydrofuran	10.18	72	17733	50.25 ug/L	88
32) 1,1,1-Trichloroethane	10.63	97	121731	48.57 ug/L	98
33) 1,2-Dichloroethane	10.63	62	153374	49.24 ug/L	99
34) 1,1-Dichloropropene	10.84	75	133469	49.45 ug/L	96
35) Benzene	11.04	78	408918	51.32 ug/L	98
36) Carbon tetrachloride	11.08	117	99167	52.04 ug/L	98
37) Cyclohexane	11.09	84	140934	50.49 ug/L	93
38) t-Amyl methyl ether	11.22	43	121639	46.46 ug/L	89
39) Heptane	11.68	43	2182	0.81 ug/L #	92
40) 1,2-Dichloropropane	11.85	63	131774	51.42 ug/L	94
41) Trichloroethene	11.89	130	92360	53.18 ug/L #	89
42) Dibromomethane	11.96	93	84901	53.70 ug/L #	86
43) Bromodichloromethane	12.05	83	136423	53.73 ug/L	99
44) 2-Chloroethyl vinyl ether	12.41	63	5866	23.48 ug/L	98
45) Methylcyclohexane	12.59	55	2809	1.03 ug/L #	93
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	179038	47.26 ug/L	92
47) cis-1,3-Dichloropropene	12.79	75	180081	50.69 ug/L	97
49) trans-1,3-Dichloropropene	13.36	75	155132	54.71 ug/L	95
51) 1,1,2-Trichloroethane	13.61	83	89926	50.86 ug/L	93
52) Toluene	13.64	91	387594	52.40 ug/L	98
53) 2-Hexanone	13.86	43	134266	55.44 ug/L #	99
54) 1,3-Dichloropropane	13.95	76	175823	50.48 ug/L	92
55) Butyl acetate	14.35	43	130122	25.79 ug/L	93
56) Dibromochloromethane	14.42	129	93154	52.51 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	105618	52.79 ug/L #	98
58) Tetrachloroethene	14.81	131	59443	53.57 ug/L #	91
59) Chlorobenzene	15.76	112	241749	52.30 ug/L #	87
60) 1,1,1,2-Tetrachloroethane	15.77	131	77501	53.02 ug/L #	88
61) Ethylbenzene	16.04	91	414267	53.27 ug/L	96
62) m,p-Xylenes	16.22	106	290550	103.83 ug/L	87
63) Styrene	16.78	104	246593	54.33 ug/L	91
64) Bromoform	16.84	173	59661	54.45 ug/L	99
65) o-Xylene	16.87	106	144423	53.86 ug/L	83
66) 1,1,2,2-Tetrachloroethane	17.18	83	139065	50.59 ug/L	100
67) 1,2,3-Trichloropropane	17.39	110	33669	51.97 ug/L	94
68) trans-1,4-Dichloro-2-buten	17.40	53	34199	52.14 ug/L #	93
69) Isopropylbenzene	17.58	105	360126	52.97 ug/L	95
72) Bromobenzene	17.99	158	82430	51.59 ug/L	89
73) n-Propylbenzene	18.29	91	437319	52.58 ug/L	94
74) 2-Chlorotoluene	18.40	91	241632	51.10 ug/L #	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D
Acq On : 28 Oct 2021 6:43 pm
Sample : ICV1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 12
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
75) 4-Chlorotoluene	18.49	91	238395	51.70 ug/L #	83
76) 1,3,5-Trimethylbenzene	18.58	105	279477	54.81 ug/L	92
77) tert-Butylbenzene	19.23	91	188358	53.21 ug/L #	81
78) 1,2,4-Trimethylbenzene	19.23	120	145300	53.92 ug/L	86
79) sec-Butylbenzene	19.64	105	335393	54.81 ug/L	96
80) 1,3-Dichlorobenzene	19.71	146	149722	53.32 ug/L #	91
81) 1,4-Dichlorobenzene	19.83	146	147316	51.38 ug/L #	63
82) p-Isopropyltoluene	19.87	119	260996	53.46 ug/L	94
83) 1,2,3-Trimethylbenzene	20.00	105	284879	53.24 ug/L	93
85) 1,2-Dichlorobenzene	20.44	146	139294	50.75 ug/L #	95
86) n-Butylbenzene	20.60	91	247071	49.81 ug/L	97
87) Hexachloroethane	21.45	117	52082	48.88 ug/L	92
88) 1,2-Dibromo-3-chloropropan	21.45	155	15971	52.57 ug/L	86
89) 1,2,4-Trichlorobenzene	23.55	180	82883	53.79 ug/L #	87
90) Naphthalene	23.84	128	237850	54.81 ug/L #	95
91) Hexachlorobutadiene	24.23	225	30208	54.15 ug/L	93
92) 1,2,3-Trichlorobenzene	24.37	180	76185	54.19 ug/L	93
93) 2-Methylnaphthalene	26.11	142	4958	3.17 ug/L	97
94) 1-Methylnaphalene	26.55	142	4854	3.63 ug/L	97

(#) = qualifier out of range (m) = manual integration

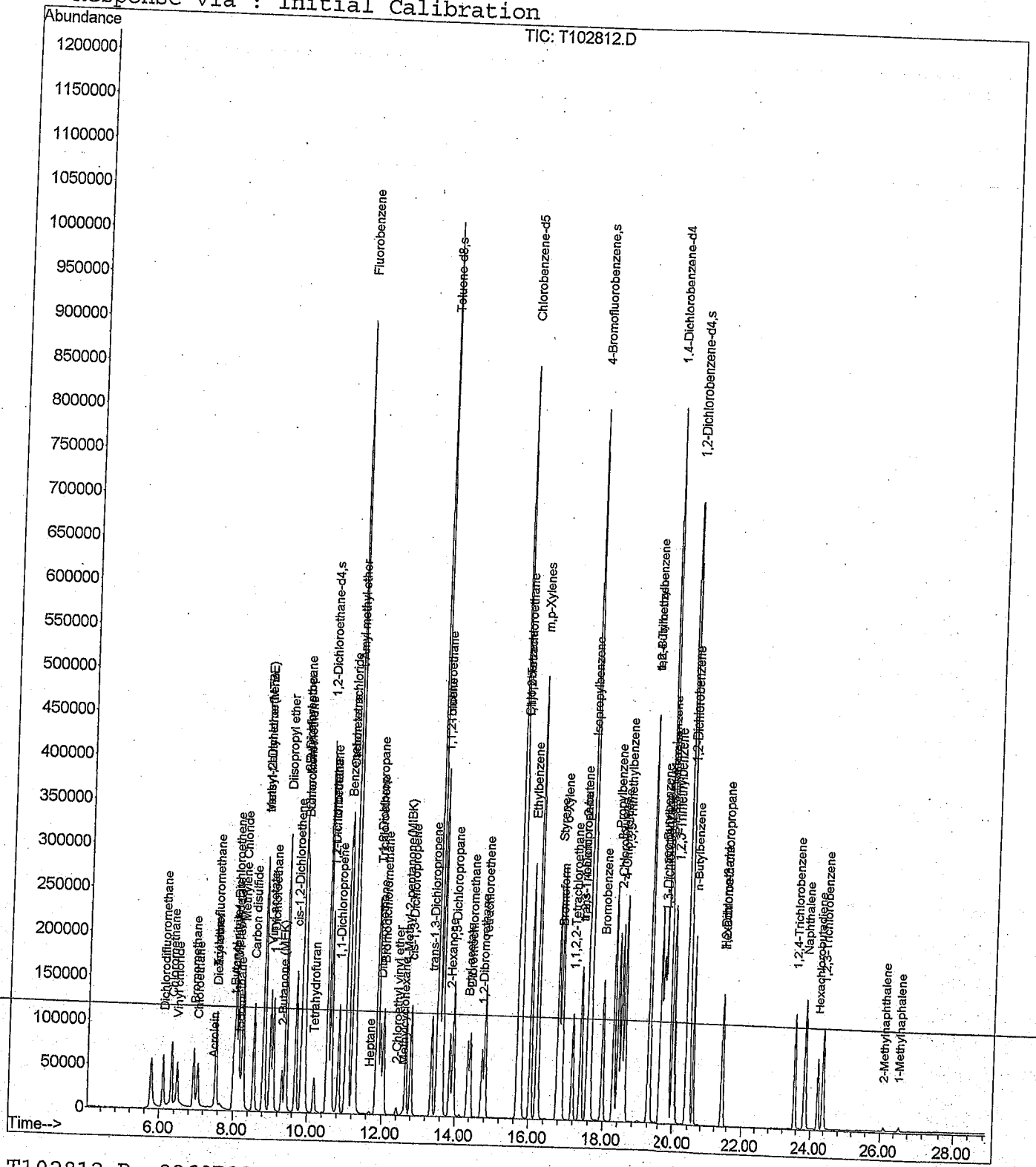
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D
Acq On : 28 Oct 2021 6:43 pm
Sample : ICV1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 12
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Fluorobenzene	30.000	30.000	0.0	107	0.12
2		Dichlorodifluoromethane	50.000	37.604	24.8	77	0.09
3		Chloromethane	50.000	43.159	13.7	95	0.09
4		Vinyl chloride	50.000	42.248	15.5	98	0.09
5		Bromomethane	50.000	49.311	1.4	117	0.09
6		Chloroethane	50.000	42.700	14.6	94	0.09
7		Acrolein	50.000	0.776	98.4#	2	0.10
8		Trichlorofluoromethane	50.000	42.905	14.2	89	0.10
9		Acetone	50.000	66.140	-32.3#	148	0.10
10		Diethyl ether	50.000	0.375	99.3#	1	-0.08
11		Acrylonitrile	50.000	51.135	-2.3	105	0.11
12		t-Butanol	250.000	275.788	-10.3	114	0.11
13		1,1-Dichloroethene	50.000	52.990	-6.0	110	0.10
14		MethylAcetate	50.000	17.314	65.4#	38	0.10
15		Freon 113	50.000	49.340	1.3	102	0.10
16		Iodomethane	50.000	40.008	20.0	93	0.10
17		Methylene Chloride	50.000	48.729	2.5	110	0.10
18		Carbon disulfide	50.000	51.630	-3.3	108	0.11
19		trans-1,2-Dichloroethene	50.000	52.567	-5.1	110	0.11
20		Methyl-t-butyl ether(MTBE)	50.000	43.315	13.4	89	0.10
21		Vinyl acetate	50.000	46.851	6.3	100	0.11
22		1,1-Dichloroethane	50.000	50.919	-1.8	108	0.11
23		2-Butanone (MEK)	50.000	57.712	-15.4	120	0.10
24		Diisopropyl ether	50.000	47.451	5.1	99	0.11
25		cis-1,2-Dichloroethene	50.000	51.977	-4.0	110	0.11
26		2,2-Dichloropropane	50.000	48.721	2.6	103	0.11
27		t-Butyl ethyl ether	50.000	48.956	2.1	99	0.11
28		Chloroform	50.000	50.885	-1.8	108	0.11
29		Bromochloromethane	50.000	52.570	-5.1	109	0.11
30		Tetrahydrofuran	50.000	50.249	-0.5	108	0.12
31	s	1,2-Dichloroethane-d4	30.000	29.485	1.7	104	0.11
32		1,1,1-Trichloroethane	50.000	48.575	2.8	101	0.11
33		1,2-Dichloroethane	50.000	49.242	1.5	106	0.11
34		1,1-Dichloropropene	50.000	49.454	1.1	103	0.11
35		Benzene	50.000	51.325	-2.7	109	0.12
36		Carbon tetrachloride	50.000	52.045	-4.1	107	0.12
37		Cyclohexane	50.000	50.495	-1.0	106	0.11
38		t-Amyl methyl ether	50.000	46.458	7.1	99	0.12
39		Heptane	50.000	0.806	98.4#	2	0.11
40		1,2-Dichloropropane	50.000	51.415	-2.8	112	0.12
41		Trichloroethene	50.000	53.176	-6.4	110	0.12

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42		Dibromomethane	50.000	53.700	-7.4	108	0.11
43		Bromodichloromethane	50.000	53.729	-7.5	110	0.11
44		2-Chloroethyl vinyl ether	50.000	23.480	53.0#	43	0.11
45		Methylcyclohexane	50.000	1.031	97.9#	2	0.12
46		4-Methyl-2-pentanone(MIBK)	50.000	47.263	5.5	99	0.12
47		cis-1,3-Dichloropropene	50.000	50.692	-1.4	105	0.11
48		Chlorobenzene-d5	30.000	30.000	0.0	104	0.12
49		trans-1,3-Dichloropropene	50.000	54.715	-9.4	110	0.11
50	s	Toluene-d8	30.000	30.713	-2.4	107	0.11
51		1,1,2-Trichloroethane	50.000	50.855	-1.7	109	0.11
52		Toluene	50.000	52.397	-4.8	108	0.12
53		2-Hexanone	50.000	55.443	-10.9	113	0.11
54		1,3-Dichloropropane	50.000	50.479	-1.0	104	0.12
55		Butyl acetate	50.000	25.788	48.4#	52	0.12
56		Dibromochloromethane	50.000	52.506	-5.0	105	0.12
57		1,2-Dibromoethane	50.000	52.791	-5.6	108	0.12
58		Tetrachloroethene	50.000	53.568	-7.1	109	0.11
59		Chlorobenzene	50.000	52.296	-4.6	109	0.12
60		1,1,1,2-Tetrachloroethane	50.000	53.019	-6.0	107	0.12
61		Ethylbenzene	50.000	53.273	-6.5	108	0.12
62		m,p-Xylenes	100.000	103.831	-3.8	103	0.11
63		Styrene	50.000	54.333	-8.7	106	0.12
64		Bromoform	50.000	54.449	-8.9	106	0.12
65		o-Xylene	50.000	53.861	-7.7	107	0.11
66		1,1,2,2-Tetrachloroethane	50.000	50.587	-1.2	105	0.12
67		1,2,3-Trichloropropane	50.000	51.972	-3.9	106	0.11
68		trans-1,4-Dichloro-2-butene	50.000	52.136	-4.3	106	0.11
69		Isopropylbenzene	50.000	52.974	-5.9	108	0.12
70		1,4-Dichlorobenzene-d4	30.000	30.000	0.0	102	0.11
71	s	4-Bromofluorobenzene	30.000	30.788	-2.6	105	0.11
72		Bromobenzene	50.000	51.585	-3.2	103	0.12
73		n-Propylbenzene	50.000	52.582	-5.2	104	0.12
74		2-Chlorotoluene	50.000	51.096	-2.2	97	0.02
75		4-Chlorotoluene	50.000	51.697	-3.4	91	0.11
76		1,3,5-Trimethylbenzene	50.000	54.811	-9.6	106	0.12
77		tert-Butylbenzene	50.000	53.214	-6.4	103	0.11
78		1,2,4-Trimethylbenzene	50.000	53.923	-7.8	103	0.11
79		sec-Butylbenzene	50.000	54.806	-9.6	106	0.11
80		1,3-Dichlorobenzene	50.000	53.324	-6.6	106	0.11

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

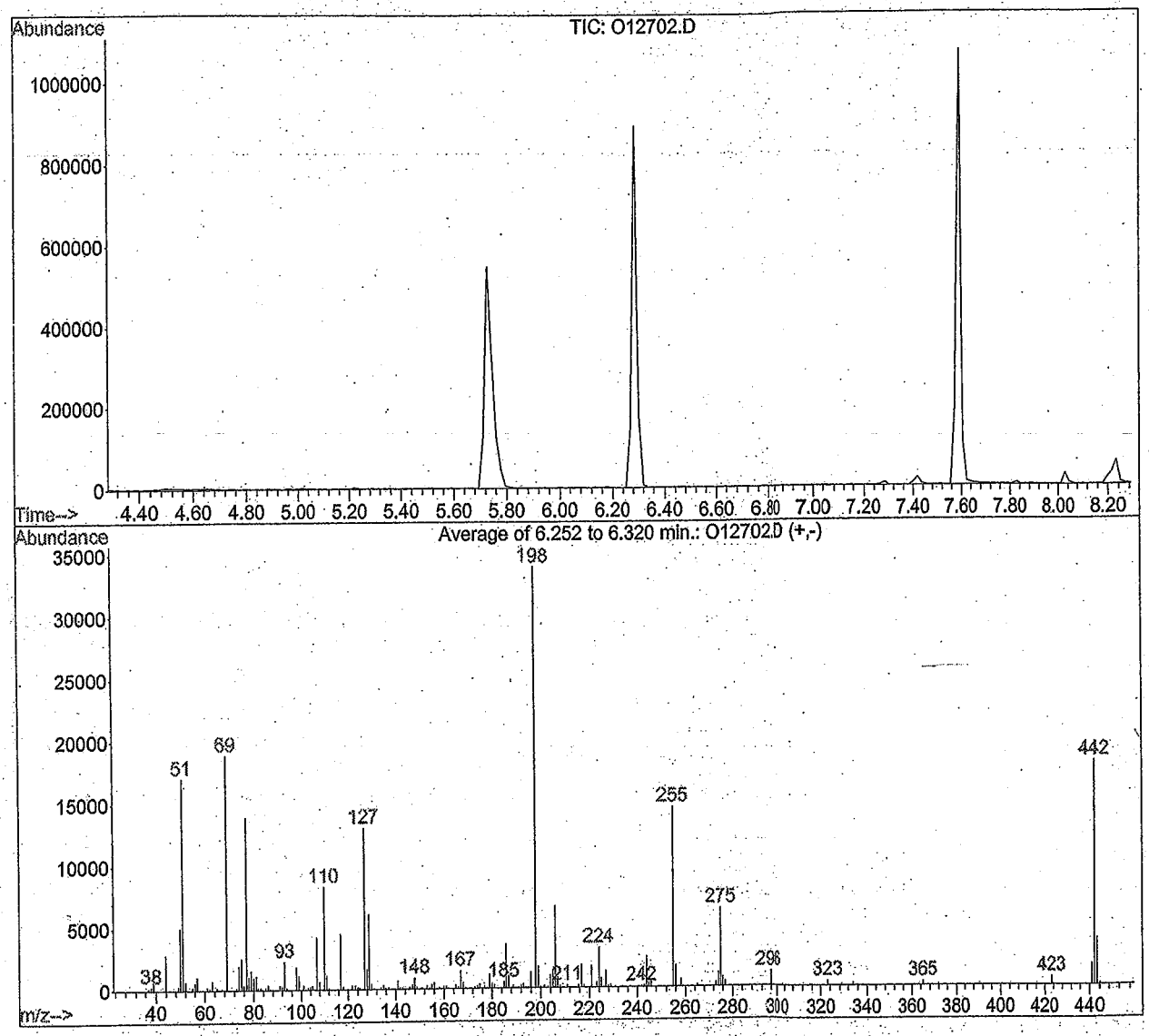
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81		1,4-Dichlorobenzene	50.000	51.383	-2.8	102	0.11
82		p-Isopropyltoluene	50.000	53.461	-6.9	103	0.11
83		1,2,3-Trimethylbenzene	50.000	53.238	-6.5	102	0.11
84	s	1,2-Dichlorobenzene-d4	30.000	29.892	0.4	101	0.11
85		1,2-Dichlorobenzene	50.000	50.755	-1.5	103	0.11
86		n-Butylbenzene	50.000	49.815	0.4	97	0.11
87		Hexachloroethane	50.000	48.883	2.2	93	0.11
88		1,2-Dibromo-3-chloropropane	50.000	52.570	-5.1	103	0.11
89		1,2,4-Trichlorobenzene	50.000	53.794	-7.6	106	0.10
90		Naphthalene	50.000	54.806	-9.6	106	0.10
91		Hexachlorobutadiene	50.000	54.154	-8.3	106	0.11
92		1,2,3-Trichlorobenzene	50.000	54.193	-8.4	106	0.11
93		2-Methylnaphthalene	50.000	3.172	93.7#	6	0.13
94		1-Methylnaphalene	50.000	3.627	92.7#	7	0.12

DFTPP

Data File : C:\OTIS\01-27-21\012702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00



Spectrum Information: Average of 6.252 to 6.320 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	50.2	17069	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	38.4	13059	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	34009	PASS
199	198	5	9	5.1	1734	PASS
275	198	10	60	18.7	6375	PASS
365	198	1	100	1.1	368	PASS
441	442	0.01	24	9.6	1732	PASS
442	198	50	100	53.3	18114	PASS
443	442	15	24	21.2	3842	PASS

012702.D DFTPPOT.M Wed Jan 27 10:07:24 2021

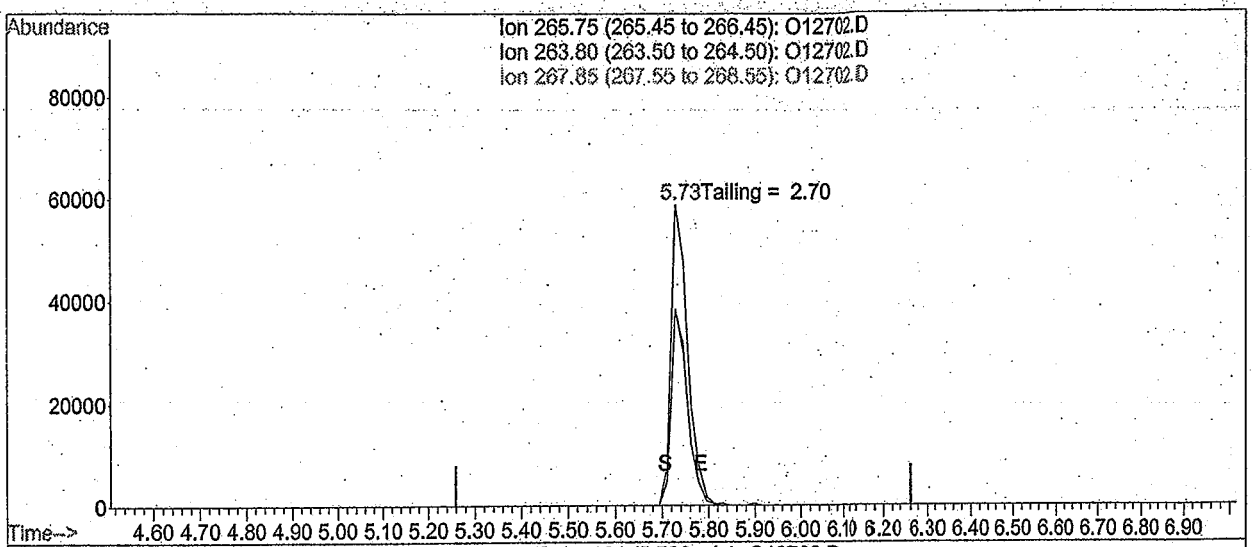
Quantitation Report (Qedit)

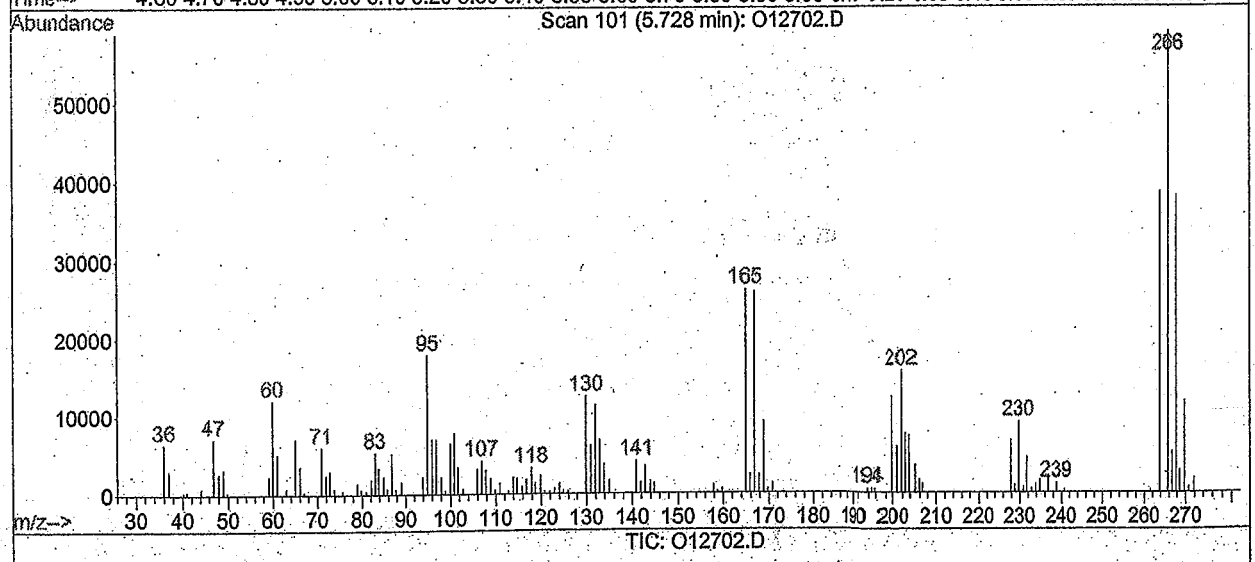
Data File : C:\OTIS\O1-27-21\O12702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:03 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Tue Jan 26 10:30:06 2021
Response via : Single Level Calibration





TIC: O12702.D

(4) PENTACHLOROPHENOL

5.73min 0.00ng

response 145538

Ion	Exp%	Act%
265.75	100	100
263.80	62.70	65.40
267.85	64.30	64.75
0.00	0.00	0.00

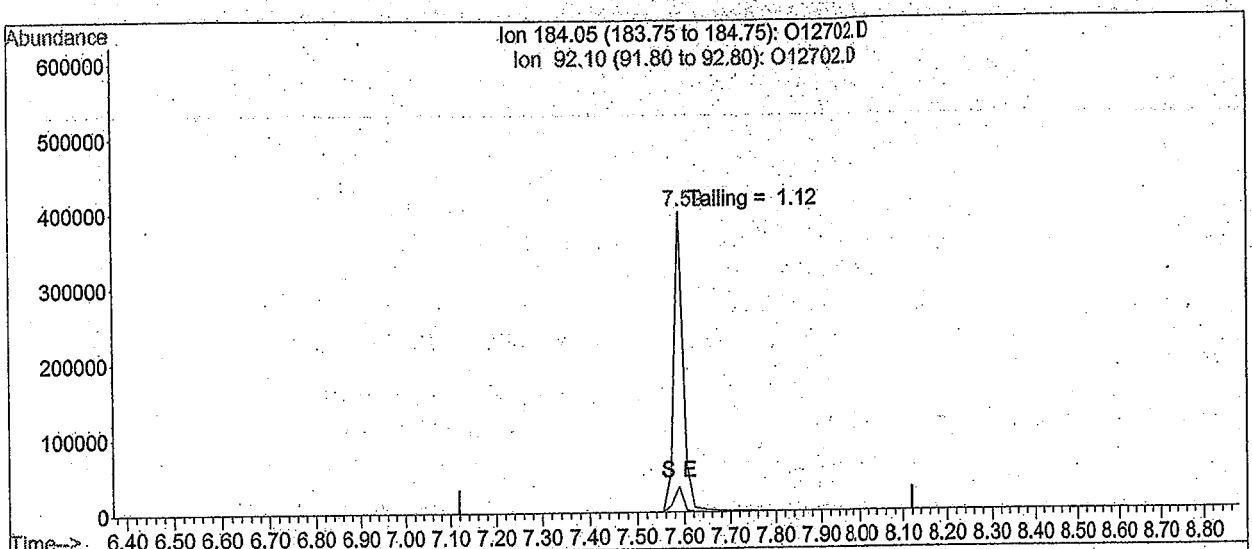
Quantitation Report (Qedit)

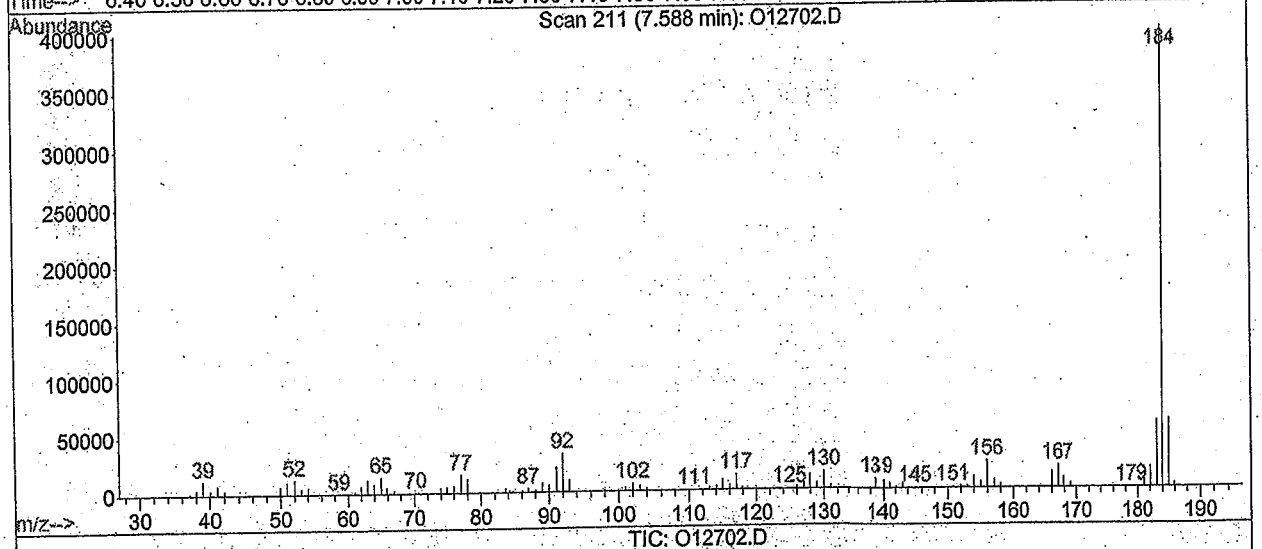
Data File : C:\OTIS\01-27-21\012702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:03 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Tue Jan 26 10:30:06 2021
Response via : Single Level Calibration





TIC: 012702.D

(5) BENZIDINE

7.59min 0.00ng

response 554421

Ion	Exp%	Act%
184.05	100	100
92.10	16.50	8.36#
0.00	0.00	0.00
0.00	0.00	0.00

DDT BREAKDOWN REPORT

Data File Path	C:\OTIS\01-27-21\
Date Acquired	1/27/1921 9:54
Acq. Method File	DFTPP0T
Sample Name	50ng DFTPP STD. / 21A1904
Instrument Name	OTIS
Data File Name	O12702.D

Name	Ret Time	Target Response
DDE	7.83	837
DDD	8.23	14218
DDT	8.60	232655

Total Area Count	247710
DDT Breakdown %	6%

Response Factor Report OTIS

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration

Calibration Files
120 =012709.D 100 =012708.D 80 =012707.D
50 =012706.D 20 =012705.D 5 =012704.D

		Compound	120	100	80	50	20	5	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	T	N-Nitrosodimethylam	0.794	0.829	0.799	0.830	0.762	0.850	0.811	3.93
3)	T	Pyridine	1.290	1.376	1.321	1.345	1.330	1.275	1.323	2.78
4)	S	2-Fluorophenol	1.149	1.209	1.142	1.219	1.194	1.215	1.188	2.89
5)	T	Aniline	1.747	1.800	1.747	1.832	1.842	2.044	1.836	5.99
6)	M	bis(2-Chloroethyl)e		1.228	1.197	1.277	1.239	1.146	1.226	3.93
7)	S	Phenol-d5	1.509	1.573	1.574	1.560	1.510	1.500	1.538	2.29
8)	M	2-Chlorophenol	1.209	1.241	1.209	1.262	1.204	1.264	1.232	2.24
9)	C	Phenol	1.630	1.659	1.657	1.681	1.666	1.676	1.661	1.09
10)	M	1,3-Dichlorobenzene	1.322	1.346	1.295	1.346	1.384	1.439	1.355	3.72
11)	C	1,4-Dichlorobenzene	1.400	1.434	1.346	1.404	1.453	1.527	1.427	4.25
12)	M	1,2-Dichlorobenzene	1.285	1.312	1.263	1.317	1.317	1.489	1.331	6.04
13)		Benzyl Alcohol	0.819	0.894	0.845	0.826	0.832		0.843	3.54
14)	M	bis(2-Chloroisoprop	1.770	1.827	1.872	1.933	1.799	2.028	1.871	5.12
15)		2-Methylphenol (o-C	0.974	1.033	1.030	1.092	1.028	1.034	1.032	3.62
16)		3,4-Methylphenol(m,	1.547	1.574	1.503	1.597	1.558	1.638	1.570	2.93
17)	M	N-Nitroso-di-n-prop	0.857	0.882	0.891	0.867	0.832	0.797	0.854	4.04
18)	M	Hexachloroethane	0.601	0.620	0.628	0.619	0.618	0.615	0.617	1.45
19)	I	Naphthalene-d8	ISTD							
20)	S	Nitrobenzene-d5	0.386	0.371	0.398	0.363	0.342	0.337	0.366	6.56
21)	M	Nitrobenzene		0.375	0.370	0.357	0.377	0.349	0.362	3.65
22)	M	Isophorone	0.695	0.671	0.714	0.685	0.705	0.668	0.690	2.65
23)	T	N-Ethylaniline	0.682	0.649	0.667	0.600	0.643	0.670	0.652	4.46
24)	C	2-Nitrophenol	0.215	0.206	0.204	0.183	0.165	0.152	0.187	13.40
25)	M	2,4-Dimethylphenol	0.320	0.304	0.332	0.310	0.313	0.310	0.315	3.21
26)	M	bis(2-Chloroethoxy)	0.447	0.426	0.441	0.407	0.442	0.413	0.429	3.84
27)		Benzoic Acid	0.231	0.215	0.226	0.199	0.167		0.208	12.39
28)	M	1,2,4-Trichlorobenz	0.394	0.380	0.386	0.388	0.392	0.374	0.386	1.91
29)	C	2,4-Dichlorophenol	0.328	0.314	0.346	0.321	0.308	0.299	0.319	5.09
30)	M	Naphthalene	1.043	0.987	1.103	0.970	0.972	1.027	1.017	5.09
31)		4-Chloroaniline	0.472	0.457	0.473	0.439	0.448	0.459	0.458	2.93
32)	C	Hexachlorobutadiene		0.219	0.251	0.226	0.226	0.202	0.228	7.45
33)	C	4-Chloro-3-methylph	0.330	0.321	0.341	0.320	0.320	0.313	0.324	3.08
34)		2-Methylnaphthalene	0.667	0.648	0.678	0.638	0.679	0.647	0.660	2.67
35)	I	Acenaphthene-d10	ISTD							
36)		1,2,4,5-Tetrachloro		0.646	0.629	0.645	0.680	0.660	0.648	2.99
37)		Hexachlorocyclopent	0.366	0.387	0.406	0.384	0.405	0.363	0.385	4.77
38)	C	2,4,6-Trichlorophen	0.426	0.432	0.457	0.436	0.446	0.469	0.444	3.65
39)		2,4,5-Trichlorophen	0.454	0.463	0.457	0.484	0.501	0.451	0.468	4.22
40)	S	2-Fluorobiphenyl	1.341	1.365	1.390	1.321	1.381	1.348	1.358	1.91
41)	M	2-Chloronaphthalene	1.080	1.087	1.120	1.045	1.157	1.132	1.103	3.68
42)		2-Nitroaniline	0.370	0.382	0.364	0.362	0.336		0.363	4.63
43)	M	Dimethylphthalate	1.215	1.239	1.269	1.193	1.318	1.348	1.264	4.74
44)	M	Acenaphthylene	1.627	1.645	1.712	1.654	1.657	1.791	1.681	3.64
45)	M	2,6-Dinitrotoluene	0.300	0.302	0.298	0.300	0.268	0.232	0.283	9.99
46)		3-Nitroaniline	0.331	0.340	0.332	0.287	0.288		0.315	8.21
47)	C	Acenaphthene	0.975	0.993	0.940	0.940	1.017	1.003	0.978	3.34
48)		Dibenzofuran	1.576	1.597	1.667	1.569	1.607	1.563	1.596	2.40
49)	M	2,4-Dinitrotoluene	0.410	0.440	0.437	0.408	0.360	0.263	0.386	17.35
50)	M	4-Nitrophenol	0.280	0.306	0.299	0.291	0.261		0.287	6.12
51)	M	2,4-Dinitrophenol	0.194	0.200	0.185	0.156	0.109		0.169	22.17
52)	M	Diethylphthalate	1.264	1.299	1.292	1.223	1.284	1.267	1.272	2.14
53)	M	Fluorene	1.189	1.222	1.295	1.141	1.259	1.192	1.217	4.53

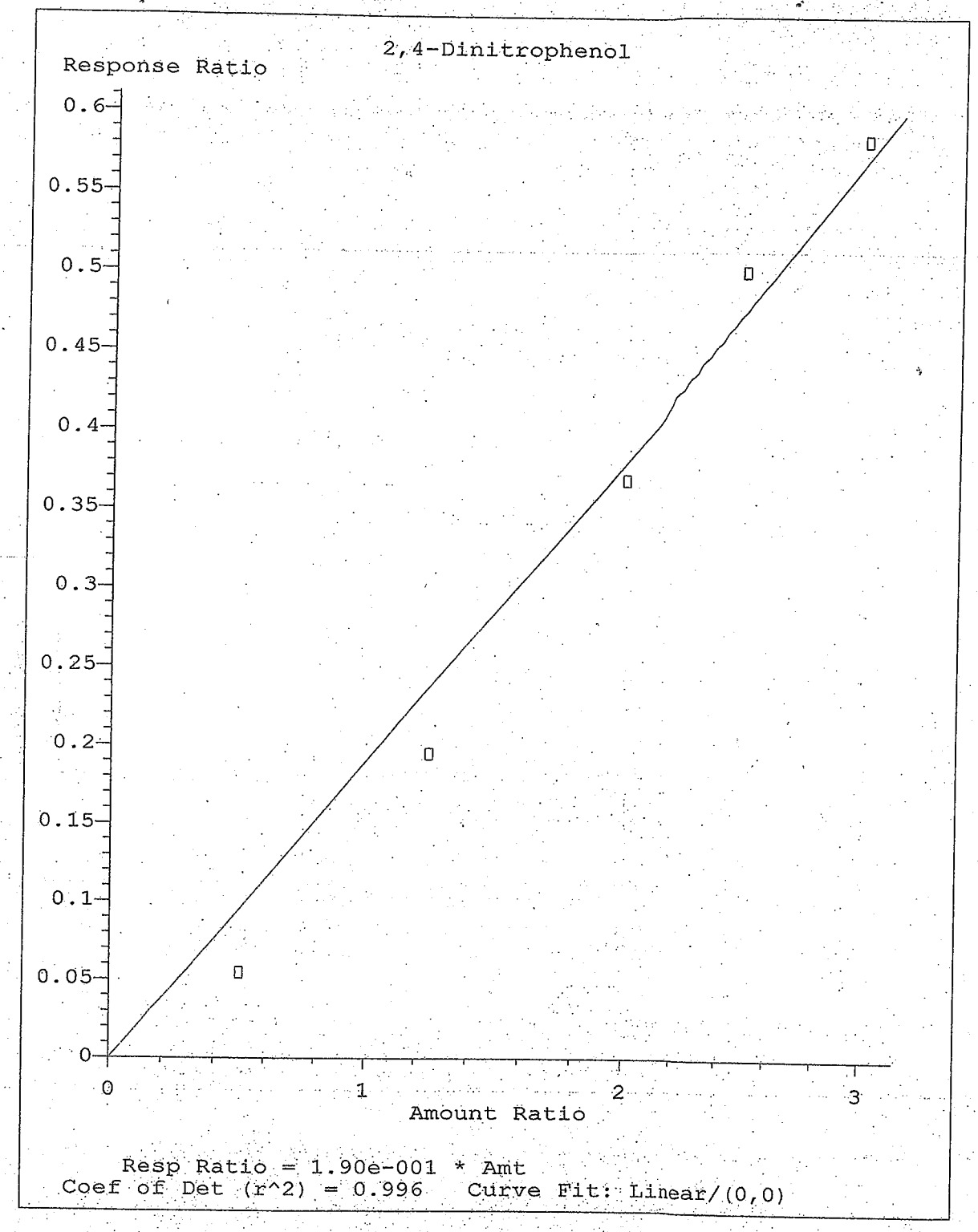
(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration

Calibration Files
120 =012709.D 100 =012708.D 80 =012707.D
50 =012706.D 20 =012705.D 5 =012704.D

		Compound	120	100	80	50	20	5	Avg	%RSD
54)	M	4-Chlorophenyl-phen	0.657	0.680	0.671	0.671	0.694	0.663	0.673	1.96
55)		4-Nitroaniline	0.332	0.331	0.322	0.301	0.308		0.319	4.40
56)	I	Phenanthrene-d10	ISTD							
57)	M	4,6-Dinitro-2-methy	0.160	0.159	0.141	0.126	0.100		0.137	18.26
58)	C	N-Nitrosodiphenylam	0.435	0.434	0.426	0.422	0.438	0.445	0.433	1.93
59)		1,2-Diphenylhydrazi	0.803	0.794	0.818	0.701	0.739	0.718	0.762	6.43
60)	S	2,4,6-Tribromopheno	0.130	0.127	0.131	0.123	0.121	0.108	0.123	6.99
61)	M	4-Bromophenyl-pheny	0.225	0.213	0.216	0.215	0.224	0.228	0.220	2.83
62)	M	Hexachlorobenzene	0.245	0.249	0.244	0.232	0.238	0.234	0.241	2.85
63)	C	Pentachlorophenol	0.175	0.178	0.171	0.167	0.153		0.169	5.93
64)	M	Phenanthrene		1.041	1.038	0.970	0.948	1.015	0.993	4.39
65)	M	Anthracene	1.043	1.067	1.062	0.988	0.987	1.081	1.038	3.93
66)		Carbazole	0.926	0.927	0.886	0.830	0.858	0.889	0.886	4.30
67)	M	Di-n-butylphthalate	1.329	1.337	1.324	1.277	1.166	1.281	1.285	4.96
68)	I	Chrysene-d12	ISTD							
69)	C	Fluoranthene		1.438	1.440	1.354	1.317	1.392	1.388	3.45
70)		Benzidine	0.770	0.726	0.773	0.718	0.722		0.742	3.67
71)	M	Pyrene	1.462	1.462	1.462	1.334	1.373	1.423	1.419	3.85
72)	S	Terphenyl-d14	0.696	0.699	0.695	0.643	0.683	0.681	0.683	3.07
73)	M	Butylbenzylphthalat	0.704	0.714	0.678	0.640	0.658	0.634	0.671	4.94
74)	M	Benzo(a)anthracene		1.344	1.298	1.197	1.286	1.347	1.305	4.63
75)	M	Chrysene		1.333	1.265	1.184	1.249	1.300	1.271	4.09
76)		3,3'-Dichlorobenzid	0.547	0.544	0.508	0.471	0.478		0.509	7.03
77)	M	bis(2-Ethylhexyl)ph		1.008	1.019	0.926	0.986	1.018	0.976	5.29
78)	C	Di-n-octylphthalate	1.856	1.854	1.762	1.733	1.597	1.692	1.749	5.68
79)	I	Perylene-d12	ISTD							
80)	M	Benzo(b)fluoranthen		1.272	1.262	1.108	1.193	1.182	1.167	9.26
81)	M	Benzo(k)fluoranthen		1.056	1.101	1.078	1.106	1.136	1.104	3.18
82)	C	Benzo(a)pyrene		1.074	1.109	0.999	1.098	1.044	1.047	5.67
83)	M	Indeno(1,2,3-cd)pyr		1.021	1.053	0.983	1.074	1.071	1.021	5.84
84)	M	Dibenzo(a,h)anthrac		1.031	1.060	0.985	1.064	1.034	1.026	3.47
85)	M	Benzo(g,h,i)perylen		0.968	1.021	0.967	1.074	1.028	1.007	4.15

(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: C:\HPCHEM\1\METHODS\TBNA.M
Calibration Table Last Updated: Wed Jan 27 16:22:52 2021

Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	160446	40.00	ng/ml	-0.03
19) Naphthalene-d8	15.31	136	548778	40.00	ng/ml	-0.05
35) Acenaphthene-d10	20.71	164	352664	40.00	ng/ml	-0.05
56) Phenanthrene-d10	25.32	188	668490	40.00	ng/ml	-0.03
68) Chrysene-d12	33.66	240	524807	40.00	ng/ml	-0.07
79) Perylene-d12	38.01	264	589865	40.00	ng/ml	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	8.14	112	3802	0.83	mg/L	-0.05
Spiked Amount 100.000	Range 20 - 53		Recovery = 0.83%#			
7) Phenol-d5	10.69	99	5898	0.94	mg/L	-0.09
Spiked Amount 100.000	Range 11 - 40		Recovery = 0.94%#			
20) Nitrobenzene-d5	13.20	82	4251	0.93	mg/L	-0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 0.93%#			
40) 2-Fluorobiphenyl	18.73	172	11973	1.26	mg/L	-0.07
Spiked Amount 100.000	Range 36 - 119		Recovery = 1.26%#			
60) 2,4,6-Tribromophenol	23.16	330	1910	0.94	mg/L	-0.07
Spiked Amount 100.000	Range 30 - 105		Recovery = 0.94%#			
72) Terphenyl-d14	30.46	244	10025	1.46	mg/L	-0.07
Spiked Amount 100.000	Range 37 - 109		Recovery = 1.46%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.81	42	2676	1.10	mg/L #	70
3) Pyridine	4.89	79	4221	0.63	mg/L	86
5) Aniline	10.71	93	7378	0.92	mg/L #	87
6) bis(2-Chloroethyl)ether	10.96	93	5083	0.96	mg/L #	92
8) 2-Chlorophenol	11.00	128	4017	0.85	mg/L #	90
9) Phenol	10.73	94	6386	0.97	mg/L #	53
10) 1,3-Dichlorobenzene	11.44	146	4810	1.00	mg/L #	95
11) 1,4-Dichlorobenzene	11.66	146	5593	1.09	mg/L #	94
12) 1,2-Dichlorobenzene	12.06	146	4166	0.88	mg/L #	92
13) Benzyl Alcohol	12.06	108	2644	0.80	mg/L #	84
14) bis(2-Chloroisopropyl)ethe	12.50	45	8220m	0.83	mg/L	
15) 2-Methylphenol (o-Cresol)	12.44	107	3540	0.84	mg/L	91
16) 3,4-Methylphenol(m,p Creso	12.89	107	5608	0.94	mg/L #	60
17) N-Nitroso-di-n-propylamine	12.87	70	2320	0.64	mg/L #	58
18) Hexachloroethane	13.03	117	2169	0.99	mg/L #	55
21) Nitrobenzene	13.25	77	4758	1.09	mg/L	91
22) Isophorone	14.01	82	10150	1.20	mg/L #	84
23) N-Ethylaniline	14.14	106	8663	1.34	mg/L	94
24) 2-Nitrophenol	14.21	139	2005	0.93	mg/L #	84
25) 2,4-Dimethylphenol	14.48	122	3738	1.15	mg/L #	74
26) bis(2-Chloroethoxy)methane	14.79	93	5893	1.07	mg/L #	87
27) Benzoic Acid	14.63	122	320m	0.13	mg/L	
28) 1,2,4-Trichlorobenzene	15.17	180	5696	1.98	mg/L #	80
29) 2,4-Dichlorophenol	14.94	162	3657	1.33	mg/L	88
30) Naphthalene	15.36	128	13843	1.23	mg/L #	91
31) 4-Chloroaniline	15.63	127	6604	1.32	mg/L #	78
32) Hexachlorobutadiene	15.85	225	3307	2.37	mg/L	95
33) 4-Chloro-3-methylphenol	17.20	107	4095	1.37	mg/L #	82
34) 2-Methylnaphthalene	17.51	142	8252	1.25	mg/L	95
36) 1,2,4,5-Tetrachlorobenzene	18.03	216	5555	1.42	mg/L #	77
37) Hexachlorocyclopentadiene	18.03	237	2257	0.94	mg/L #	78
38) 2,4,6-Trichlorophenol	18.44	196	2487m	0.92	mg/L	

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	18.51	196	3357	1.14 mg/L #	85
41)	2-Chloronaphthalene	18.98	162	9063	1.07 mg/L #	85
42)	2-Nitroaniline	19.37	65	1346	0.33 mg/L #	81
43)	Dimethylphthalate	20.10	163	10843	1.19 mg/L #	81
44)	Acenaphthylene	20.23	152	14353	0.98 mg/L #	93
45)	2,6-Dinitrotoluene	20.20	165	1726	0.74 mg/L #	32
46)	3-Nitroaniline	20.67	138	1769	0.52 mg/L	99
47)	Acenaphthene	20.79	154	7842	0.95 mg/L #	84
48)	Dibenzofuran	21.35	168	12674	1.07 mg/L #	77
49)	2,4-Dinitrotoluene	21.43	165	1856	0.59 mg/L #	99
50)	4-Nitrophenol	21.31	65	1539	0.54 mg/L	86
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	22.35	149	10808	1.07 mg/L	97
53)	Fluorene	22.41	166	11788	1.30 mg/L	89
54)	4-Chlorophenyl-phenylether	22.55	204	5238	1.35 mg/L #	84
55)	4-Nitroaniline	22.55	138	1637	0.49 mg/L #	86
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	22.92	169	6333	0.93 mg/L	91
59)	1,2-Diphenylhydrazine	23.02	77	11983	0.65 mg/L #	85
61)	4-Bromophenyl-phenylether	24.05	248	3554	1.11 mg/L	92
62)	Hexachlorobenzene	24.09	284	3893	1.11 mg/L #	88
63)	Pentachlorophenol	24.76	266	1895	0.83 mg/L #	85
64)	Phenanthrene	25.37	178	15819	1.12 mg/L #	93
65)	Anthracene	25.53	178	16661	1.12 mg/L #	86
66)	Carbazole	26.12	167	15404	1.07 mg/L #	79
67)	Di-n-butylphthalate	27.54	149	20392	0.88 mg/L #	93
69)	Fluoranthene	29.06	202	18221	1.44 mg/L #	78
70)	Benzidine	29.67	184	17997	2.62 mg/L #	92
71)	Pyrene	29.74	202	18775	1.38 mg/L #	69
73)	Butylbenzylphthalate	32.24	149	7366	0.87 mg/L #	71
74)	Benzo(a)anthracene	33.61	228	17813m	1.38 mg/L	
75)	Chrysene	33.73	228	17012	1.34 mg/L	94
76)	3,3'-Dichlorobenzidine	33.71	252	13986	2.60 mg/L #	90
77)	bis(2-Ethylhexyl)phthalate	34.29	149	11790	0.99 mg/L #	78
78)	Di-n-octylphthalate	36.33	149	19702	0.86 mg/L	95
80)	Benzo(b)fluoranthene	36.91	252	14489m	1.06 mg/L	
81)	Benzo(k)fluoranthene	36.99	252	16965	1.40 mg/L	94
82)	Benzo(a)pyrene	37.80	252	14117m	1.13 mg/L	
83)	Indeno(1,2,3-cd)pyrene	41.02	276	13580m	1.13 mg/L	
84)	Dibenzo(a,h)anthracene	41.15	278	14480	1.28 mg/L #	80
85)	Benzo(g,h,i)perylene	41.86	276	14531	1.27 mg/L #	76

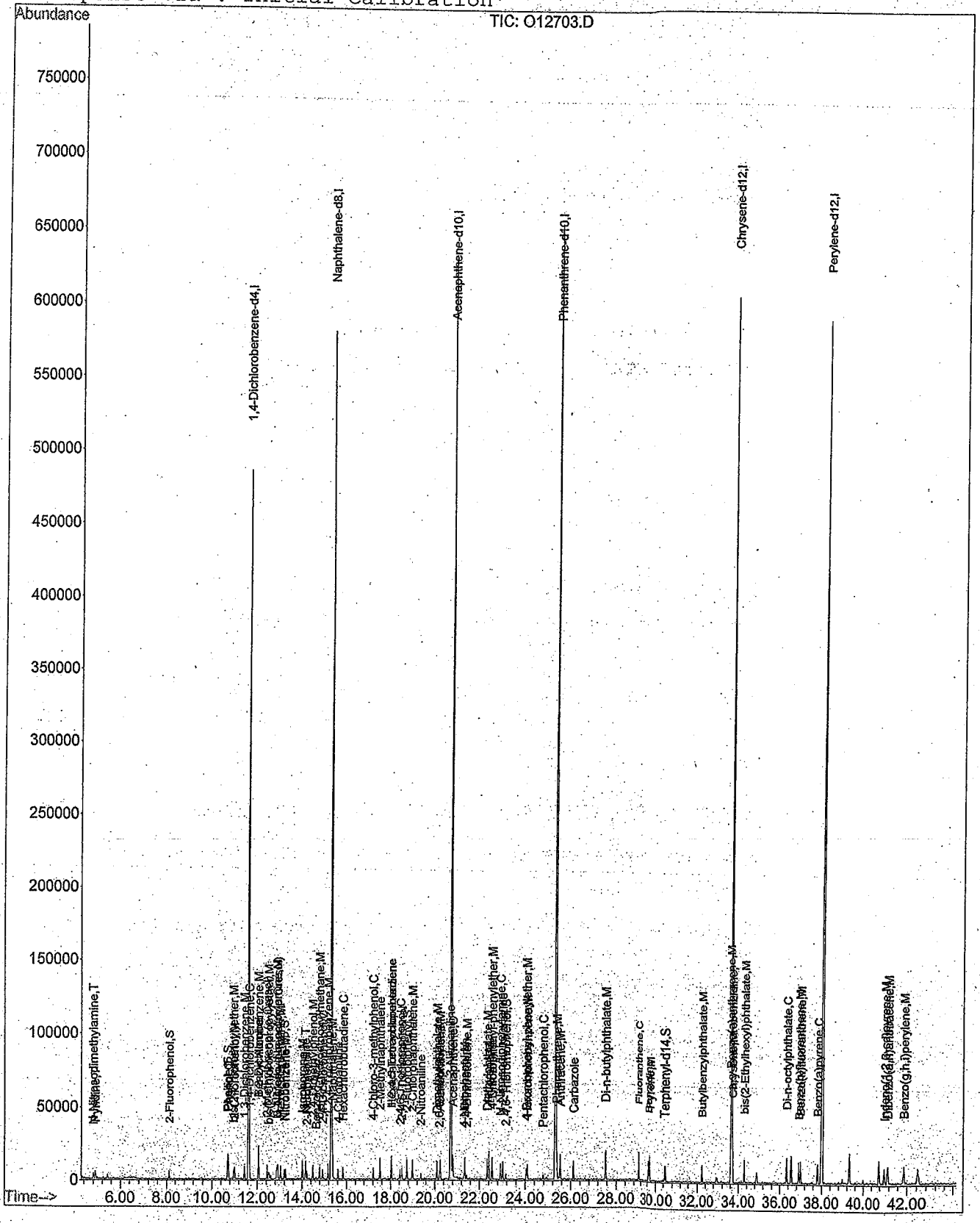
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:02:15 2021
Response via : Initial Calibration

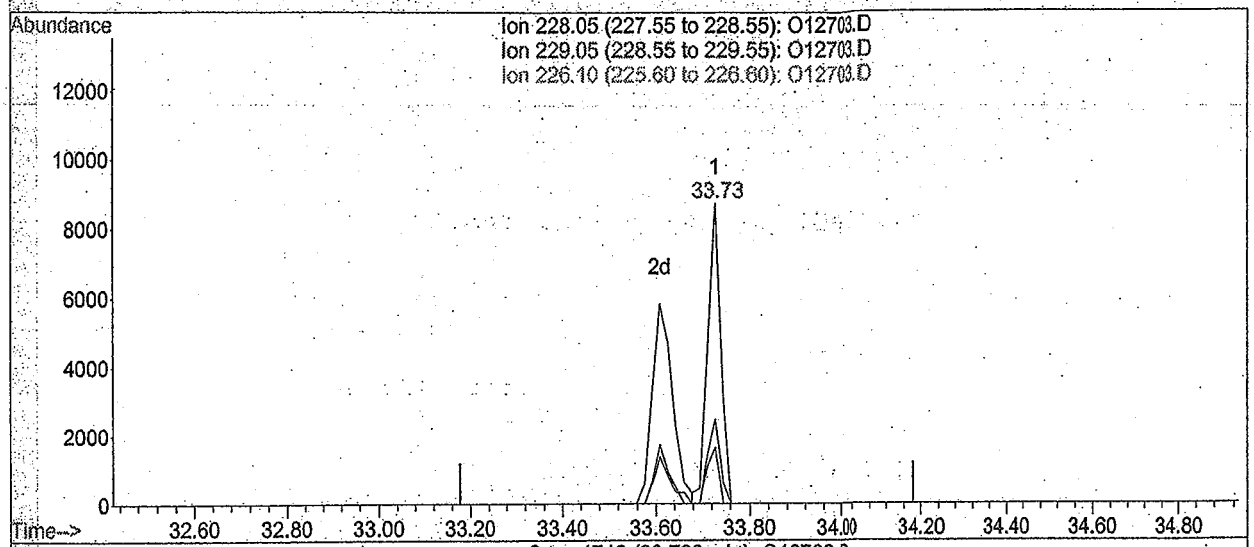


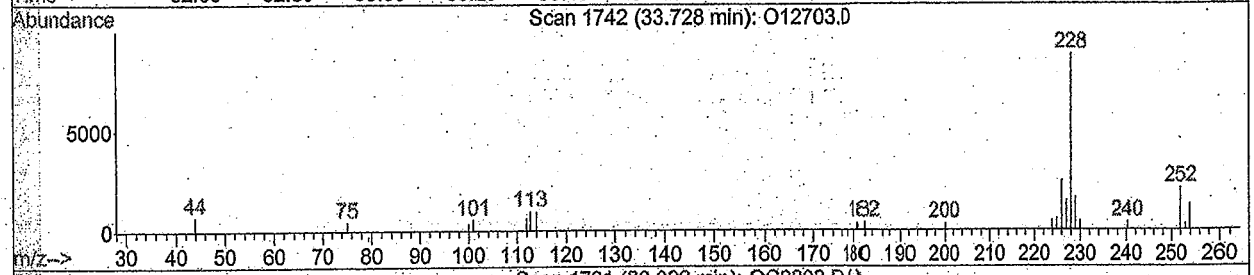
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:58 2021

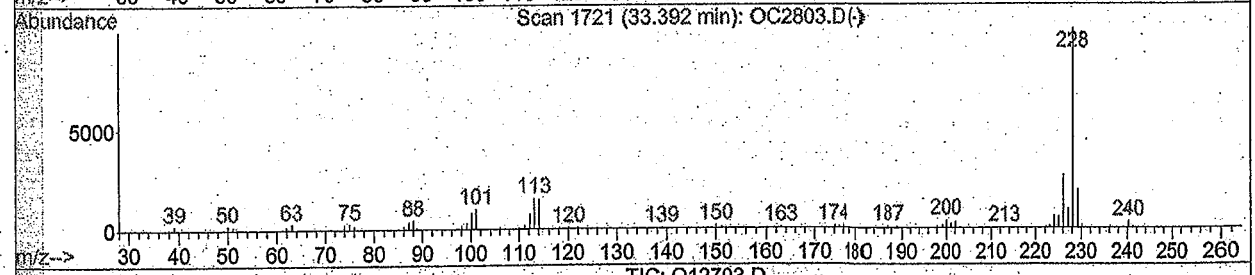
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(74) Benzo(a)anthracene (M)

33.73min 1.32mg/L

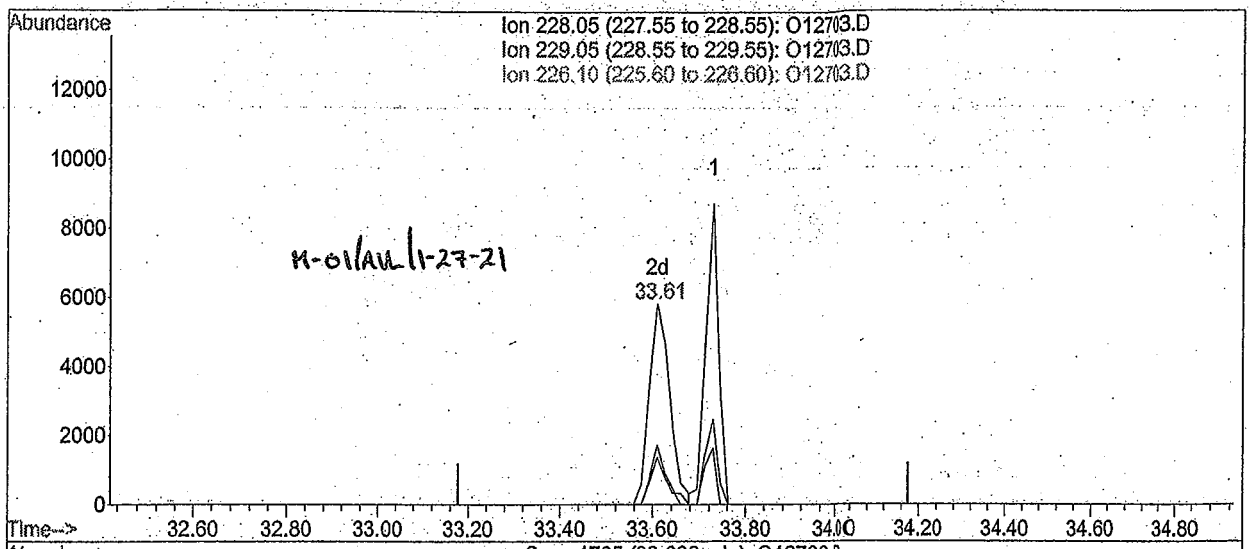
response 17012

BEFORE

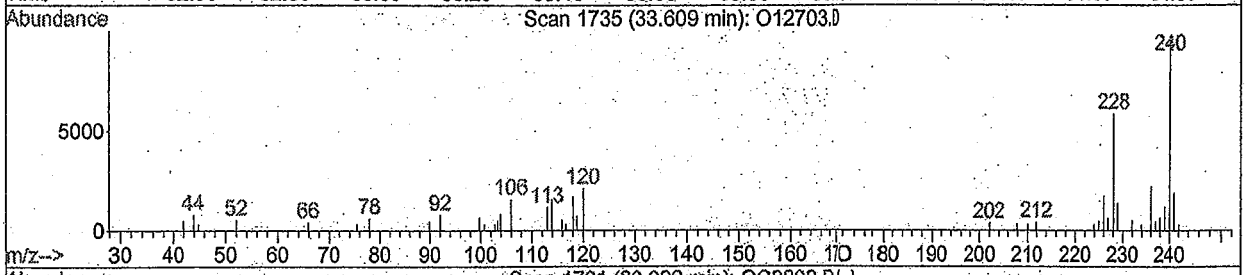
Ion	Exp%	Act%
228.05	100	100
229.05	19.60	18.70
226.10	27.20	28.28
0.00	0.00	0.00

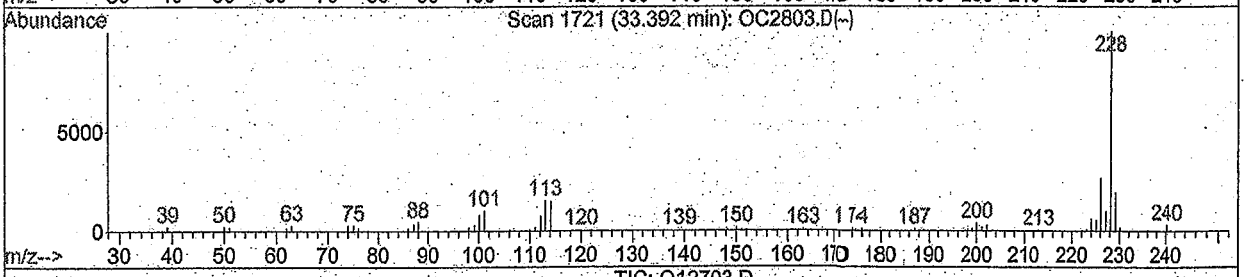
Data File : C:\OTIS\O1-27-21\O12703.D Vial: 3
Acq On : 27 Jan 2021 10:12 am Operator: AVL
Sample : 1ppm BNA CALB / 21A1827 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration



M-01/AVL 1-27-21





TIC: O12703.D

(74) Benzo(a)anthracene (M)

33.61min 1.38mg/L m

response 17813

Ion	Exp%	Act%
228.05	100	100
229.05	19.60	23.53#
226.10	27.20	29.60
0.00	0.00	0.00

AFTER

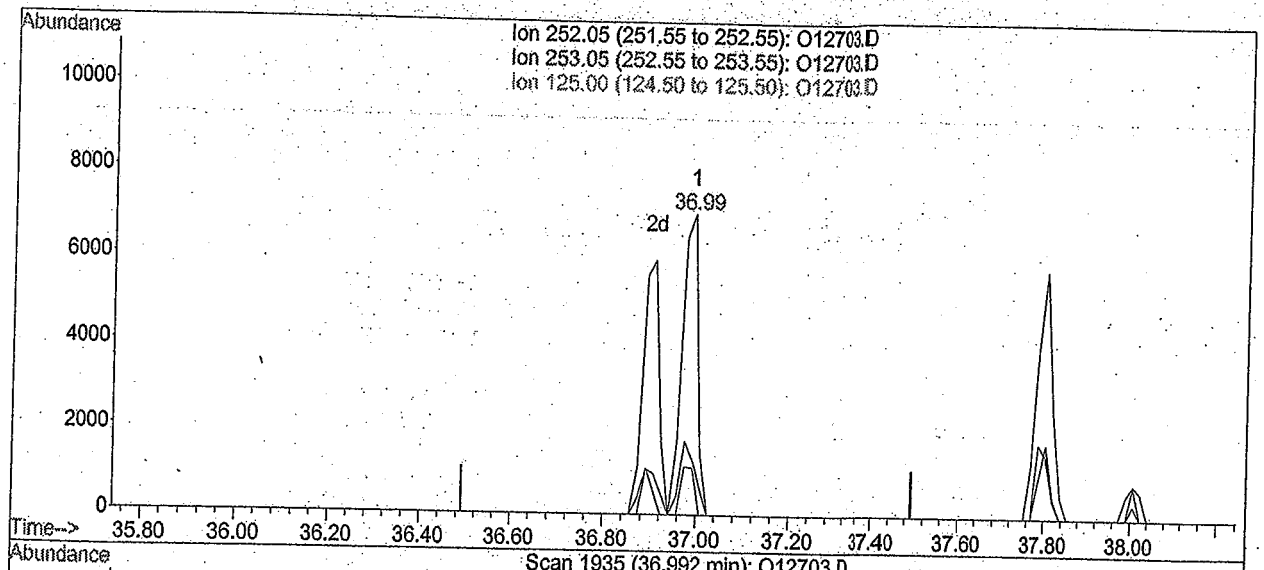
Quantitation Report (Qedit)

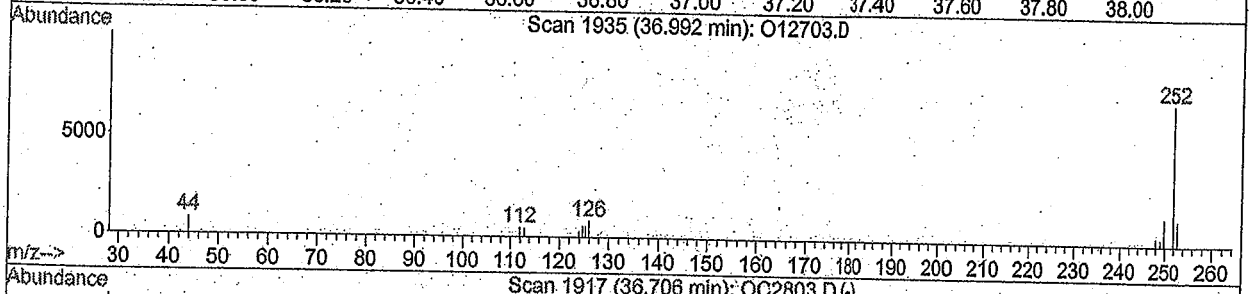
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

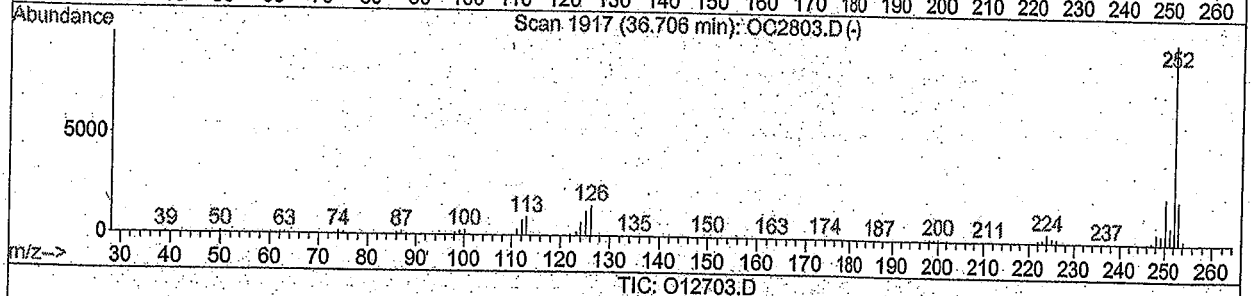
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(80) Benzo(b)fluoranthene (M)

36.99min 1.24mg/L

response 16965

BEFORE

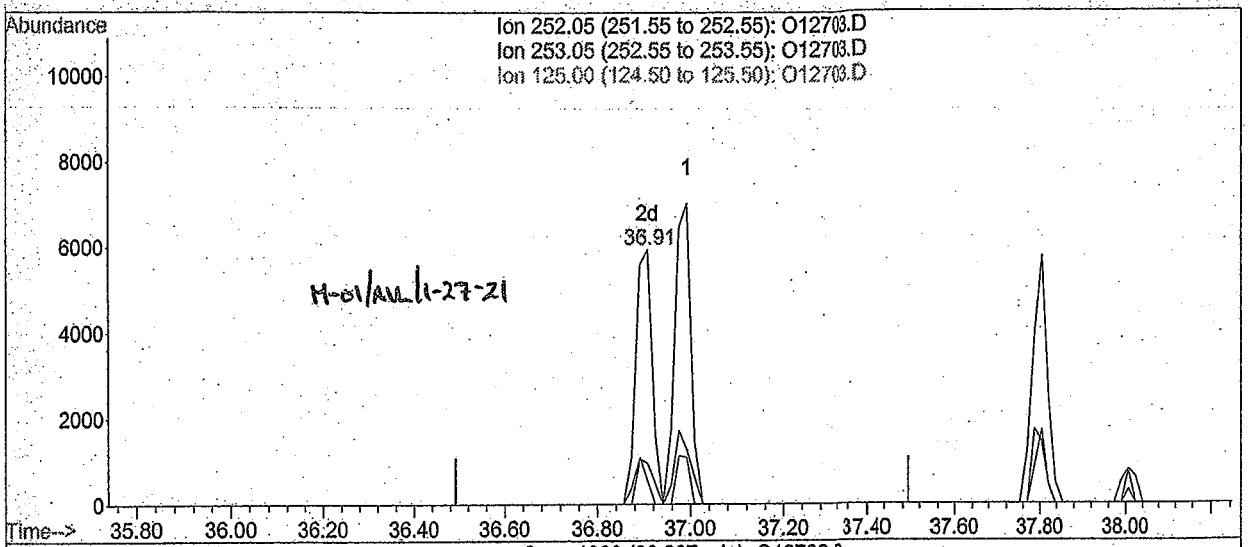
Ion	Exp%	Act%
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253.05	22.40	18.22
125.00	25.50	15.58#
0.00	0.00	0.00

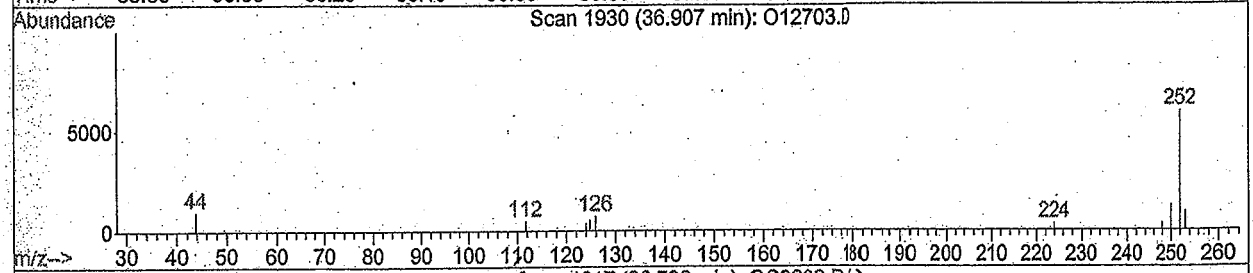
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

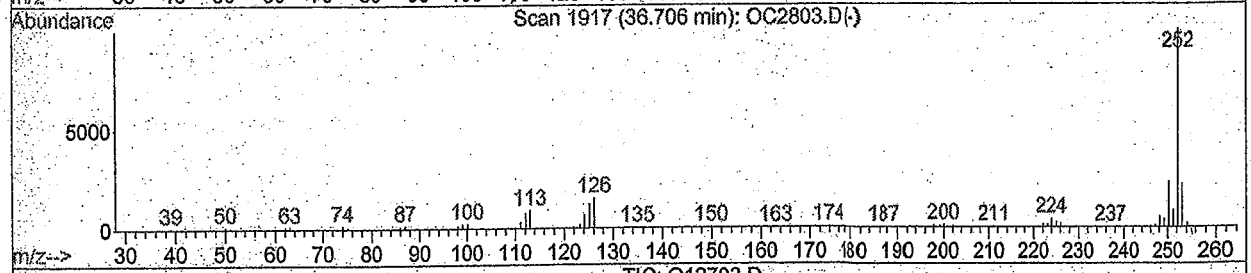
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(80) Benzo(b)fluoranthene (M)

36.91min 1.06mg/L m

response 14489

AFTER

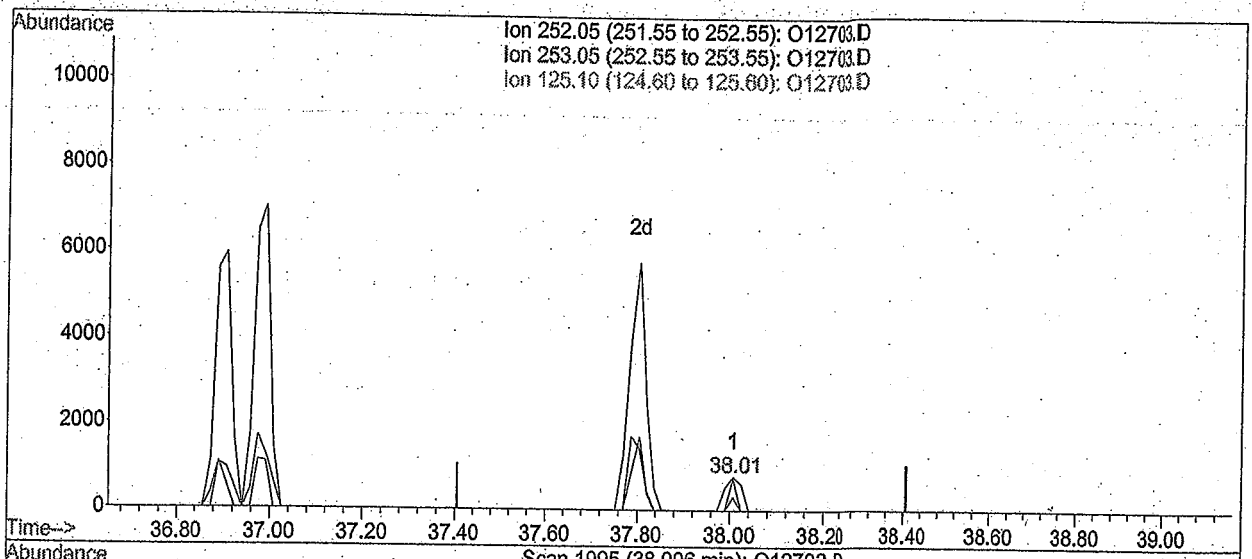
Ion	Exp%	Act%
252.05	100	100
253.05	22.40	16.03#
125.00	25.50	9.22#
0.00	0.00	0.00

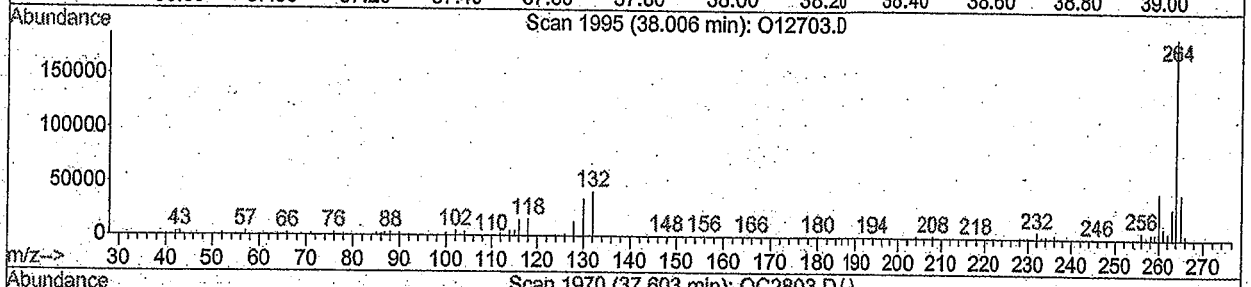
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

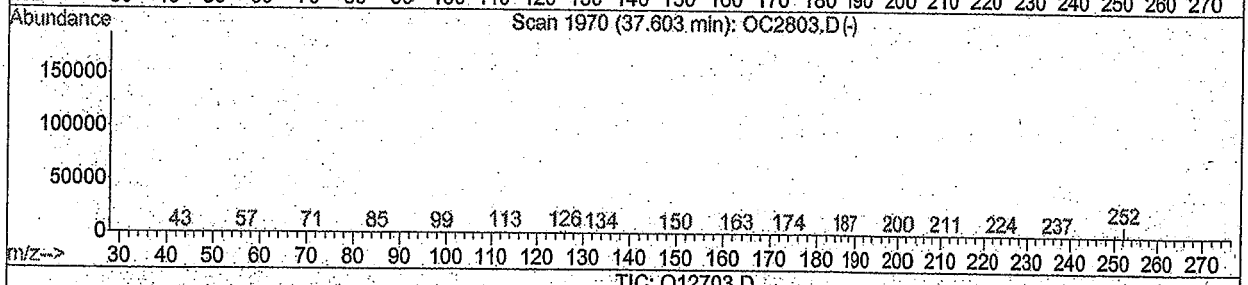
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(82) Benzo(a)pyrene (C)

38.01min 0.16mg/L

response 1971

BEFORE

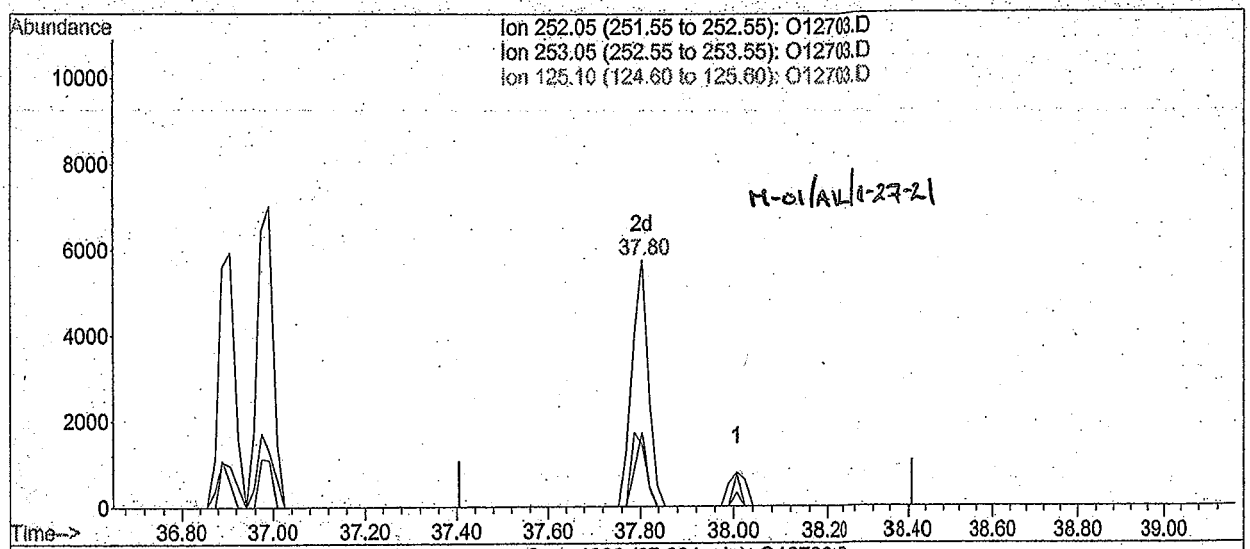
Ion	Exp%	Act%
252.05	100	100
253.05	21.70	40.68#
125.10	28.10	95.72#
0.00	0.00	0.00

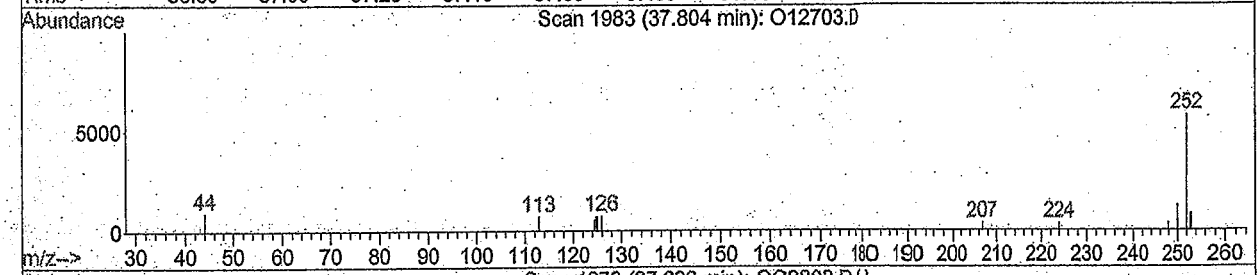
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

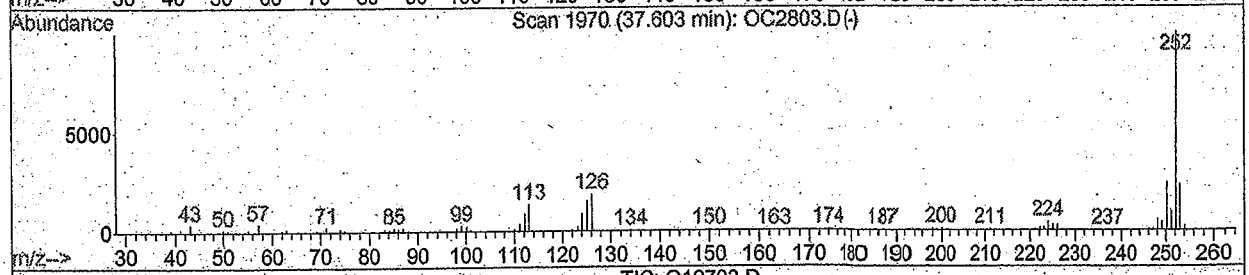
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(82) Benzo(a)pyrene (C)

37.80min 1.13mg/L m

response 14117

AFTER

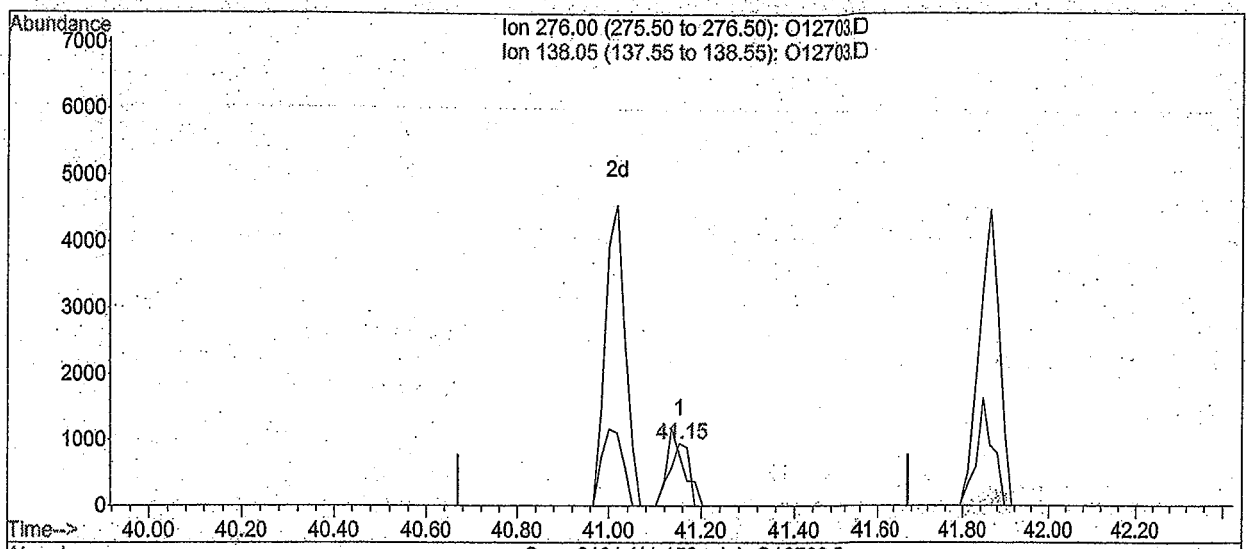
Ion	Exp%	Act%
252.05	100	100
253.05	21.70	14.95#
125.10	28.10	12.60#
0.00	0.00	0.00

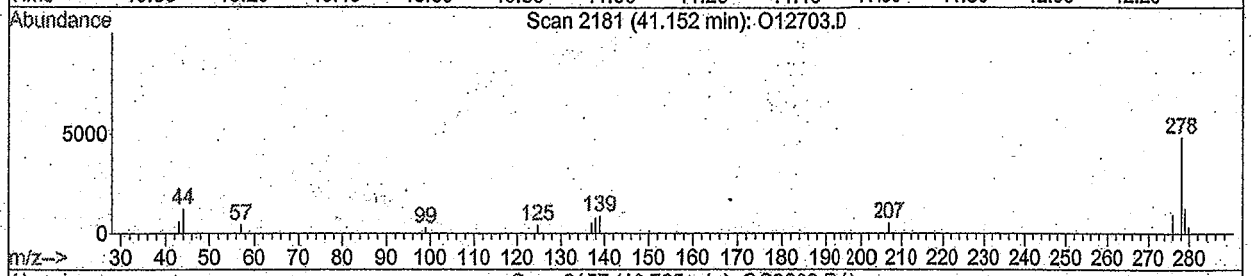
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

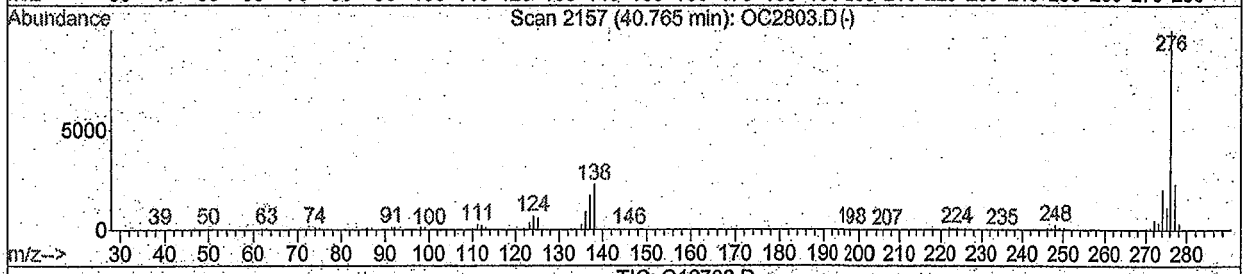
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(83) Indeno(1,2,3-cd)pyrene (M)

41.15min 0.23mg/L

response 2800

Ion	Exp%	Act%
276.00	100	100
138.05	40.70	82.42#
0.00	0.00	0.00
0.00	0.00	0.00

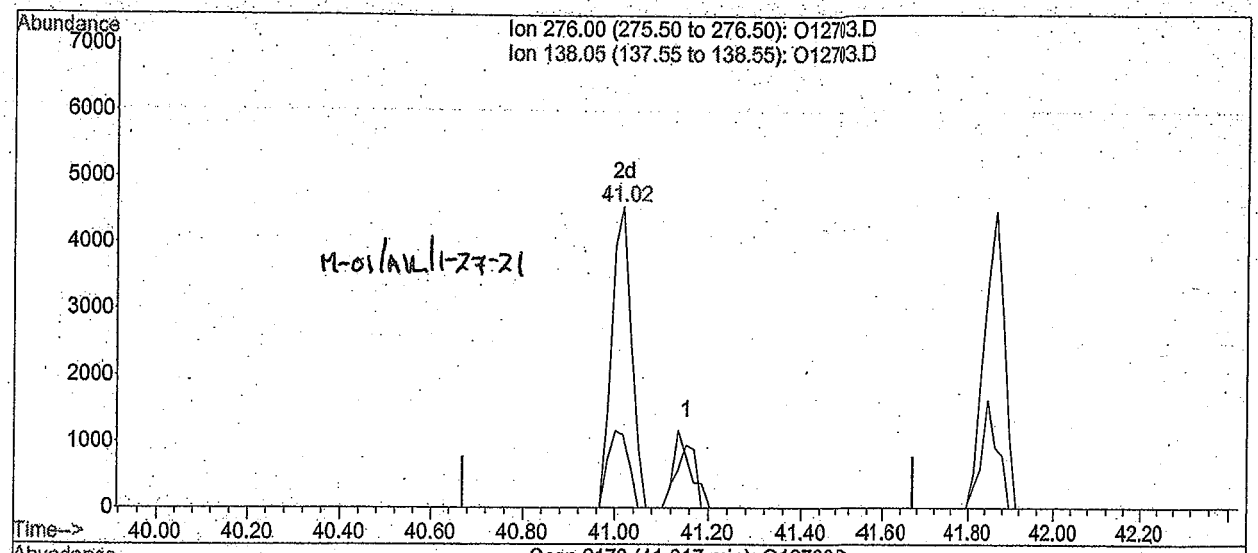
BEFORE

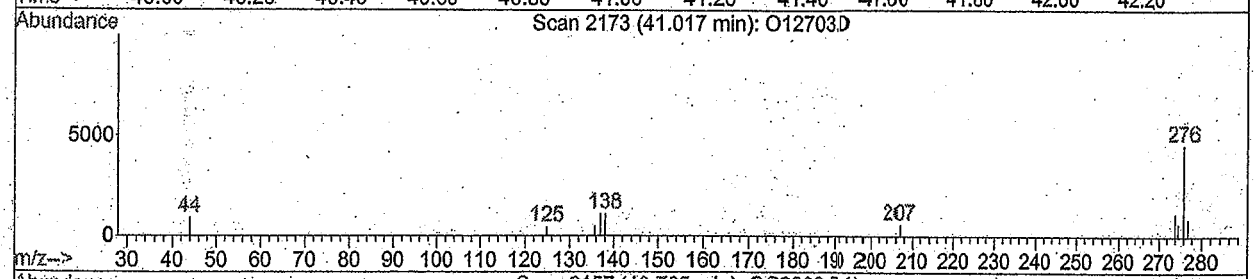
Quantitation Report (QedIt)

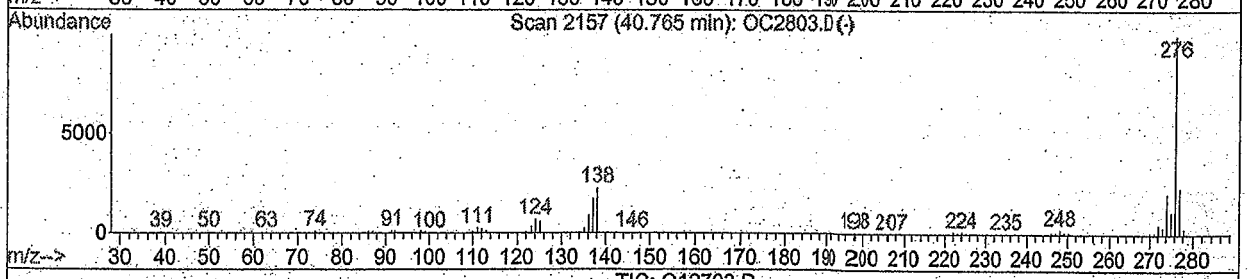
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(83) Indeno(1,2,3-cd)pyrene (M)

41.02min 1.13mg/L m

response 13580

AFTER

Ion	Exp%	Act%
276.00	100	100
138.05	40.70	24.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.61	152	156751	40.00	ng/ml	-0.05
19) Naphthalene-d8	15.32	136	558020	40.00	ng/ml	-0.05
35) Acenaphthene-d10	20.71	164	335831	40.00	ng/ml	-0.05
56) Phenanthrene-d10	25.31	188	627963	40.00	ng/ml	-0.05
68) Chrysene-d12	33.67	240	516476	40.00	ng/ml	-0.06
79) Perylene-d12	38.01	264	581586	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.13	112	23800	5.32	mg/L	-0.06
Spiked Amount 100.000	Range 20 - 53		Recovery = 5.32%#			
7) Phenol-d5	10.70	99	29382	4.80	mg/L	-0.08
Spiked Amount 100.000	Range 11 - 40		Recovery = 4.80%#			
20) Nitrobenzene-d5	13.20	82	23519	5.04	mg/L	-0.06
Spiked Amount 100.000	Range 36 - 103		Recovery = 5.04%#			
40) 2-Fluorobiphenyl	18.73	172	56603	6.23	mg/L	-0.06
Spiked Amount 100.000	Range 36 - 119		Recovery = 6.23%#			
60) 2,4,6-Tribromophenol	23.16	330	8452	4.45	mg/L	-0.06
Spiked Amount 100.000	Range 30 - 105		Recovery = 4.45%#			
72) Terphenyl-d14	30.47	244	43944	6.52	mg/L	-0.06
Spiked Amount 100.000	Range 37 - 109		Recovery = 6.52%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.80	42	16662	7.02	mg/L #	51
3) Pyridine	4.86	79	24987	3.85	mg/L	99
5) Aniline	10.72	93	40054	5.13	mg/L #	76
6) bis(2-Chloroethyl)ether	10.97	93	22460	4.16	mg/L	93
8) 2-Chlorophenol	11.00	128	24769	5.38	mg/L #	86
9) Phenol	10.73	94	32831	5.11	mg/L #	82
10) 1,3-Dichlorobenzene	11.44	146	28193	5.98	mg/L	95
11) 1,4-Dichlorobenzene	11.66	146	29914	5.97	mg/L	99
12) 1,2-Dichlorobenzene	12.07	146	29167	6.33	mg/L	96
13) Benzyl Alcohol	12.07	108	14166	4.41	mg/L	85
14) bis(2-Chloroisopropyl)ethe	12.53	45	39739m	4.08	mg/L	
15) 2-Methylphenol (o-Cresol)	12.44	107	20260	4.92	mg/L #	94
16) 3,4-Methylphenol(m,p Creso	12.90	107	32100	5.48	mg/L	92
17) N-Nitroso-di-n-propylamine	12.88	70	15623	4.41	mg/L #	80
18) Hexachloroethane	13.03	117	12052	5.60	mg/L #	70
21) Nitrobenzene	13.25	77	24342	5.14	mg/L #	94
22) Isophorone	14.01	82	46617	5.41	mg/L	94
23) N-Ethylaniline	14.15	106	46736	7.08	mg/L	94
24) 2-Nitrophenol	14.20	139	10579	4.83	mg/L #	89
25) 2,4-Dimethylphenol	14.47	122	21602	6.54	mg/L	90
26) bis(2-Chloroethoxy)methane	14.78	93	28819	5.16	mg/L #	89
27) Benzoic Acid	14.72	122	7915m	3.09	mg/L	
28) 1,2,4-Trichlorobenzene	15.18	180	26097	8.94	mg/L #	90
29) 2,4-Dichlorophenol	14.93	162	20880	7.46	mg/L	98
30) Naphthalene	15.37	128	71668	6.25	mg/L #	94
31) 4-Chloroaniline	15.62	127	32012	6.30	mg/L	95
32) Hexachlorobutadiene	15.84	225	14112	7.69	mg/L	96
33) 4-Chloro-3-methylphenol	17.21	107	21835	7.20	mg/L	99
34) 2-Methylnaphthalene	17.52	142	45155	6.74	mg/L	100
36) 1,2,4,5-Tetrachlorobenzene	18.02	216	27713	6.80	mg/L	98
37) Hexachlorocyclopentadiene	18.04	237	15229	6.68	mg/L #	88
38) 2,4,6-Trichlorophenol	18.43	196	19676	7.67	mg/L	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	18.51	196	18923m	6.72 mg/L	
41)	2-Chloronaphthalene	18.99	162	47538	5.89 mg/L #	92
42)	2-Nitroaniline	19.38	65	11363	2.94 mg/L	93
43)	Dimethylphthalate	20.10	163	56582	6.51 mg/L	99
44)	Acenaphthylene	20.24	152	75202	5.39 mg/L	99
45)	2,6-Dinitrotoluene	20.22	165	9740	4.36 mg/L #	85
46)	3-Nitroaniline	20.68	138	11240	3.45 mg/L	91
47)	Acenaphthene	20.80	154	42099	5.37 mg/L	94
48)	Dibenzofuran	21.35	168	65599	5.81 mg/L	99
49)	2,4-Dinitrotoluene	21.44	165	11023	3.70 mg/L #	84
50)	4-Nitrophenol	21.32	65	9538m	3.54 mg/L	
51)	2,4-Dinitrophenol	21.02	184	2885	1.87 mg/L #	42
52)	Diethylphthalate	22.35	149	53204	5.55 mg/L #	93
53)	Fluorene	22.42	166	50040	5.79 mg/L	96
54)	4-Chlorophenyl-phenylether	22.56	204	27824	7.51 mg/L #	89
55)	4-Nitroaniline	22.56	138	10985	3.49 mg/L #	77
57)	4,6-Dinitro-2-methylphenol	22.67	198	5122	2.32 mg/L #	69
58)	N-Nitrosodiphenylamine	22.93	169	34933	5.44 mg/L	92
59)	1,2-Diphenylhydrazine	23.01	77	56351	3.25 mg/L #	92
61)	4-Bromophenyl-phenylether	24.04	248	17911	5.98 mg/L #	89
62)	Hexachlorobenzene	24.09	284	18339	5.58 mg/L #	90
63)	Pentachlorophenol	24.77	266	11024	5.16 mg/L	96
64)	Phenanthrene	25.38	178	79639	5.81 mg/L	97
65)	Anthracene	25.53	178	84816	6.09 mg/L #	87
66)	Carbazole	26.12	167	69761	5.16 mg/L #	86
67)	Di-n-butylphthalate	27.54	149	100521	4.61 mg/L	99
69)	Fluoranthene	29.07	202	89898	6.58 mg/L #	78
70)	Benzidine	29.68	184	95177	14.09 mg/L #	87
71)	Pyrene	29.73	202	91873	6.87 mg/L #	70
73)	Butylbenzylphthalate	32.23	149	40930	4.90 mg/L #	91
74)	Benzo(a)anthracene	33.62	228	86956	6.40 mg/L	96
75)	Chrysene	33.73	228	83945	6.24 mg/L	93
76)	3,3'-Dichlorobenzidine	33.72	252	64757	12.24 mg/L #	89
77)	bis(2-Ethylhexyl)phthalate	34.28	149	65737	5.40 mg/L #	88
78)	Di-n-octylphthalate	36.32	149	109253	4.83 mg/L #	94
80)	Benzo(b)fluoranthene	36.91	252	85898	6.14 mg/L #	82
81)	Benzo(k)fluoranthene	37.00	252	82598	6.40 mg/L #	94
82)	Benzo(a)pyrene	37.81	252	75879	5.93 mg/L #	82
83)	Indeno(1,2,3-cd)pyrene	41.02	276	77853	6.28 mg/L #	76
84)	Dibenzo(a,h)anthracene	41.16	278	75159	6.25 mg/L #	80
85)	Benzo(g,h,i)perylene	41.87	276	74740	6.22 mg/L #	77

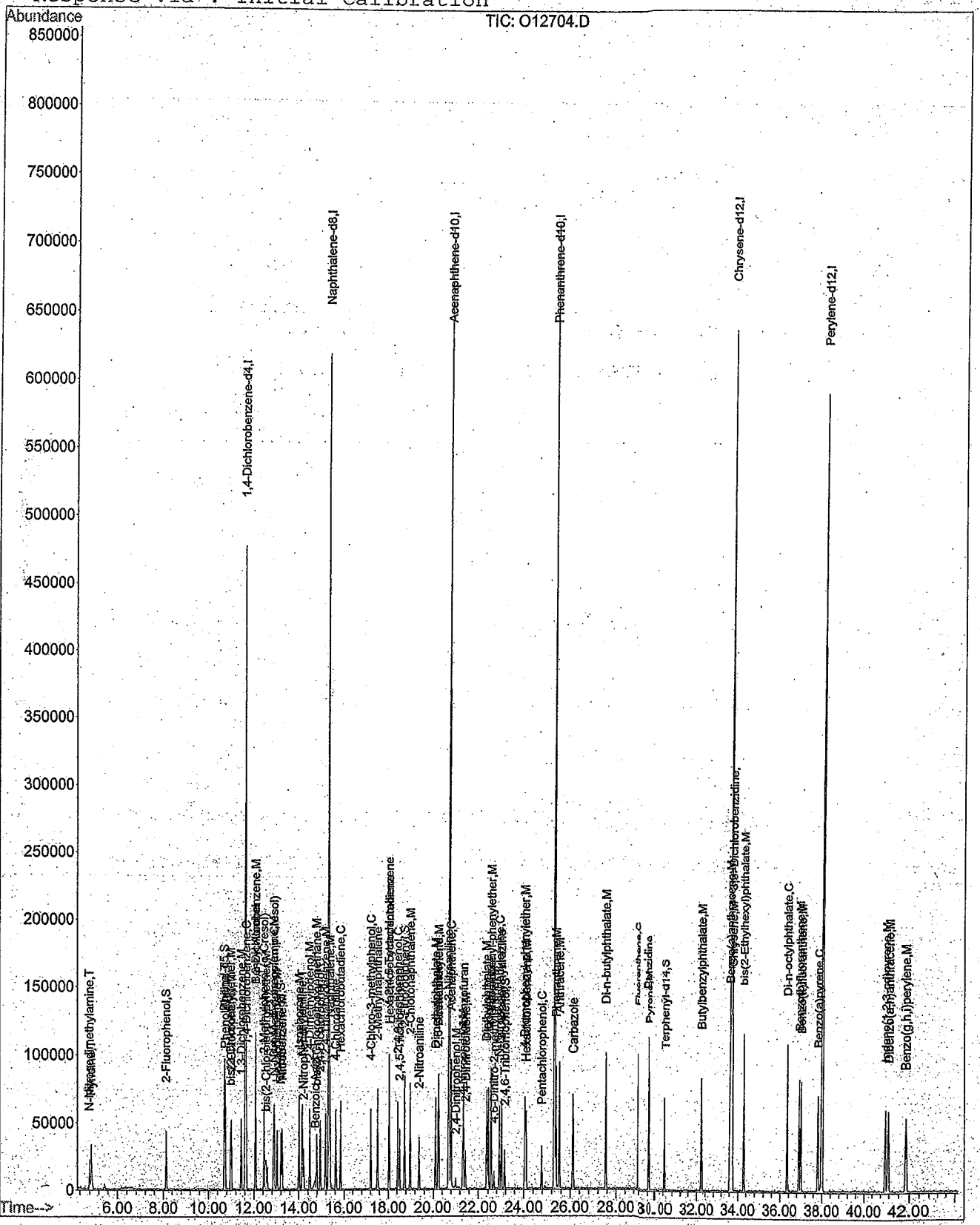
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration



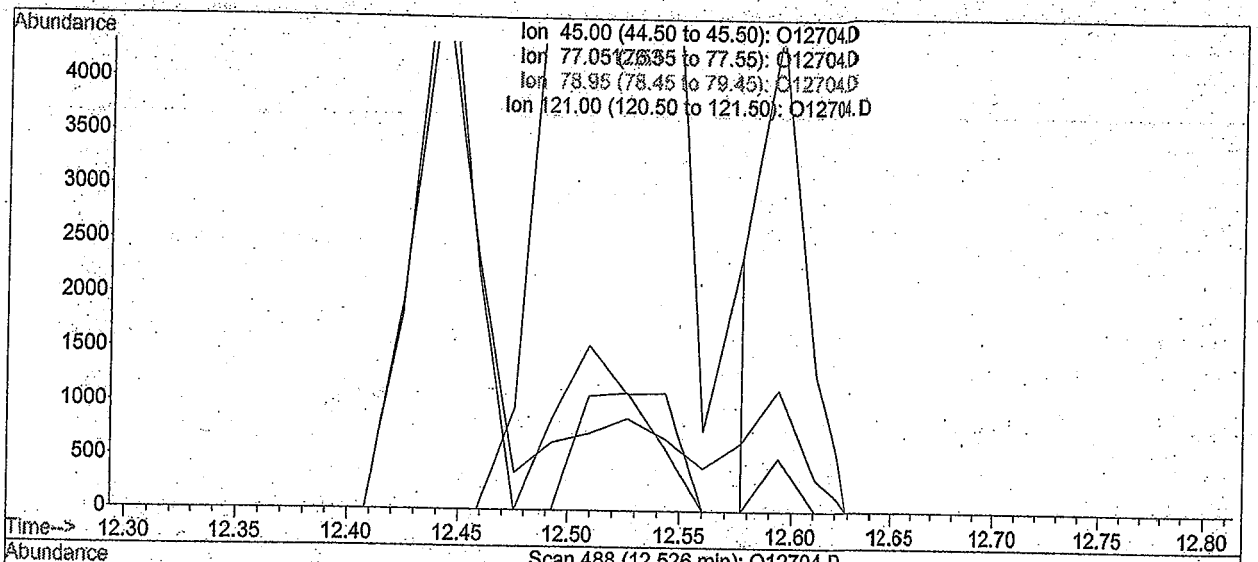
Quantitation Report (Qedit)

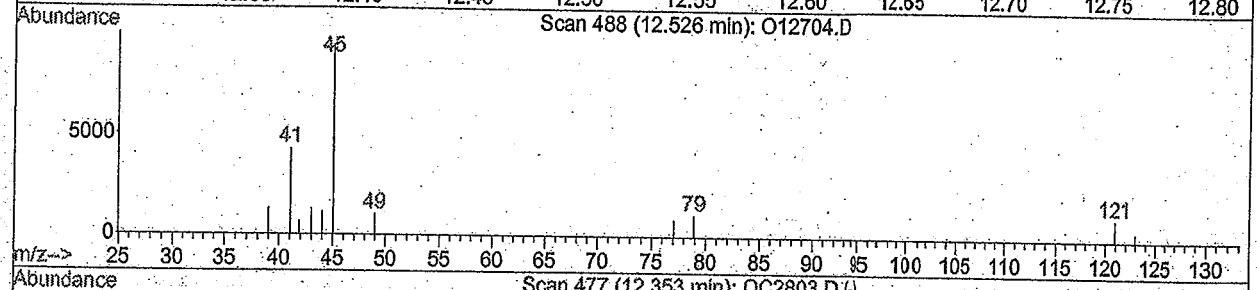
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:50 2021

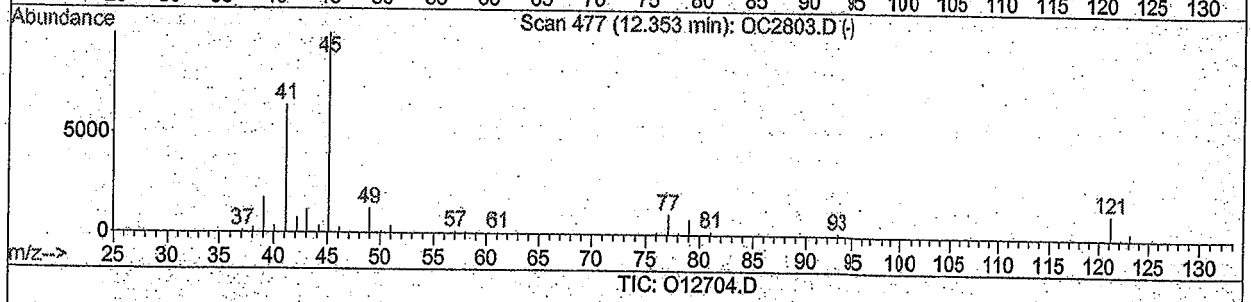
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(14) bis(2-Chloroisopropyl)ether (M)

12.53min 3.49mg/L

response 33933

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	9.15
78.95	8.00	11.70#
121.00	13.30	11.56

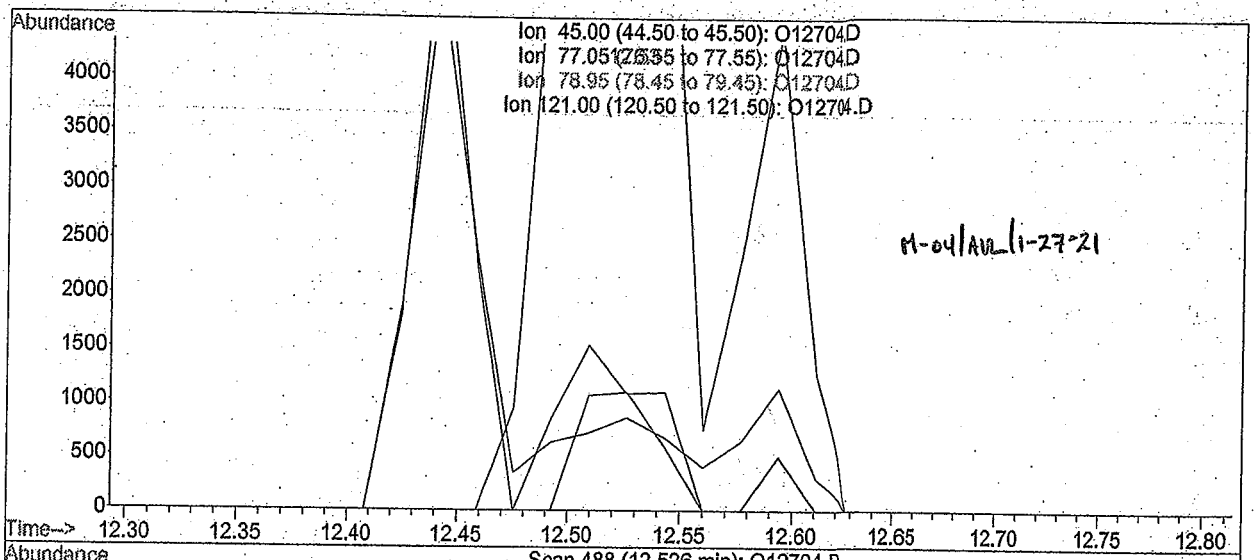
Quantitation Report (Qedit)

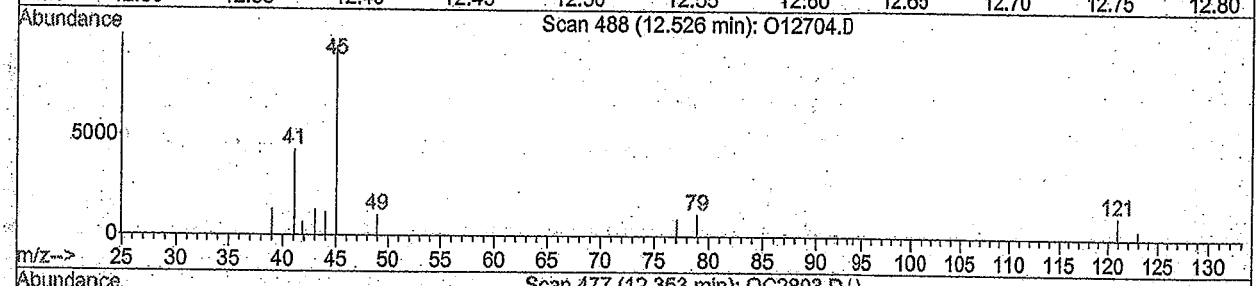
Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:51 2021

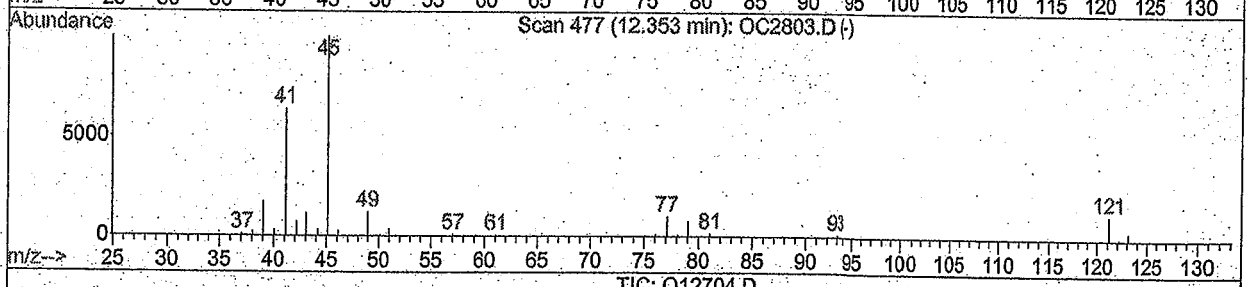
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(14) bis(2-Chloroisopropyl)ether (M)

12.53min 4.08mg/L m

response 39739

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	9.15
78.95	8.00	11.70#
121.00	13.30	11.56

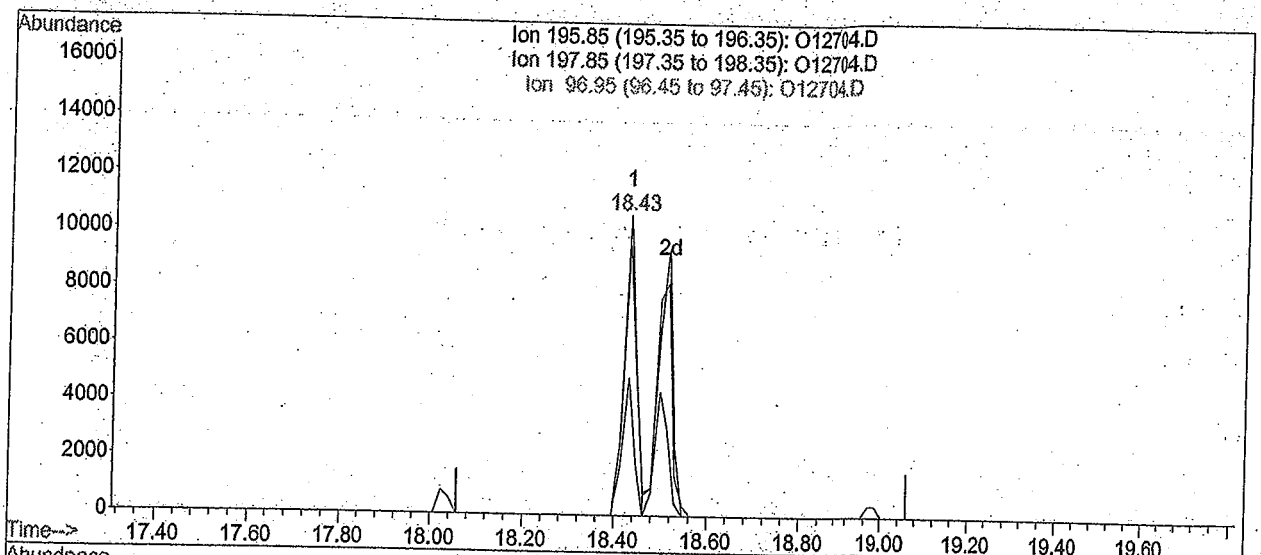
Quantitation Report (Qedit)

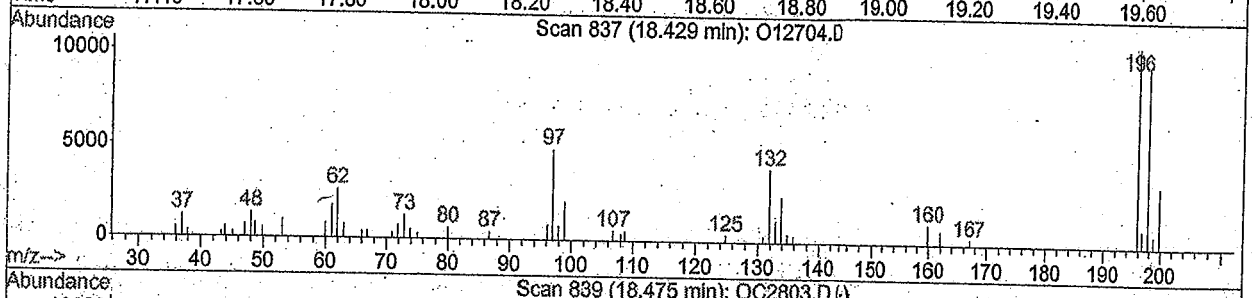
Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

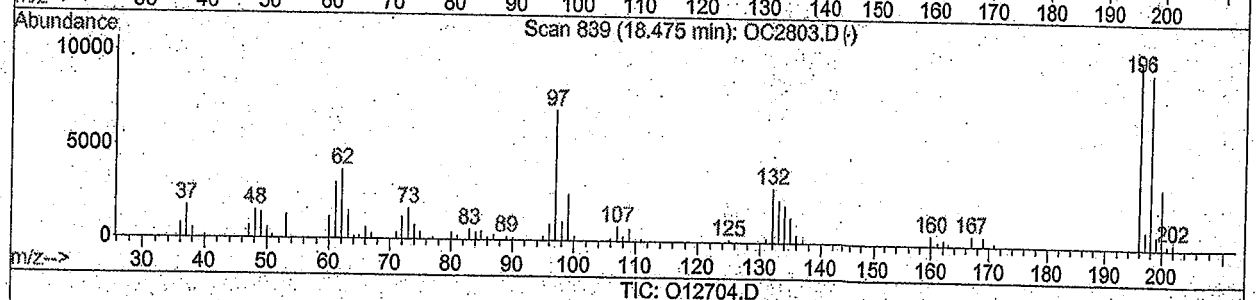
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(39) 2,4,5-Trichlorophenol

18.43min 6.99mg/L

response 19676

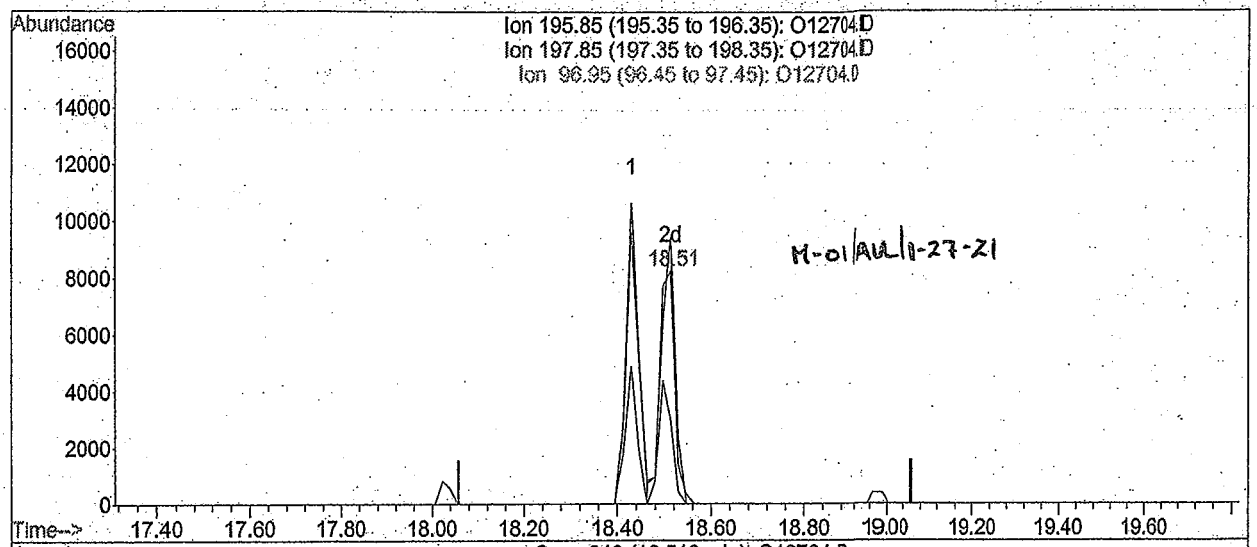
Ion	Exp%	Act%
195.85	100	100
197.85	95.20	90.23
96.95	55.30	45.94
0.00	0.00	0.00

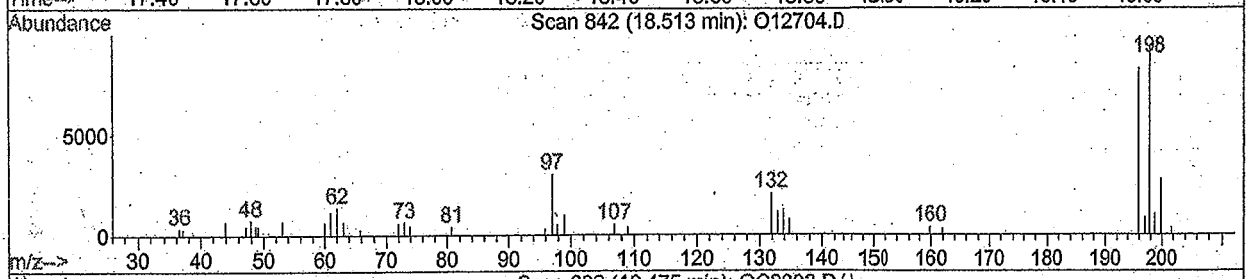
BEFORE

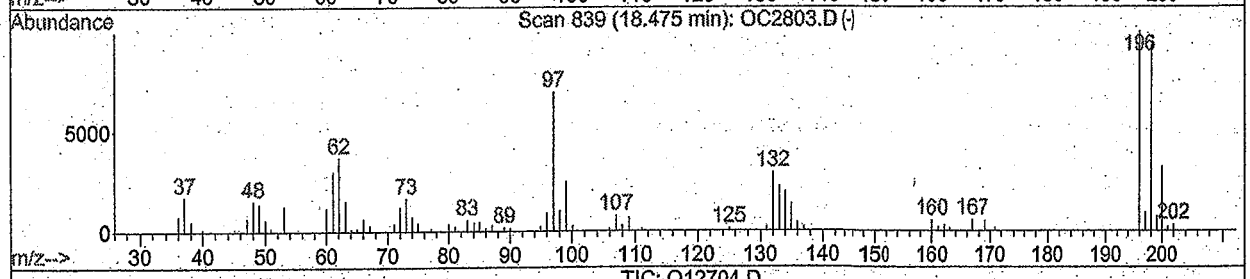
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(39) 2,4,5-Trichlorophenol

18.51min 6.72mg/L m

response 18923

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	114.57#
96.95	55.30	36.72#
0.00	0.00	0.00

AFTER

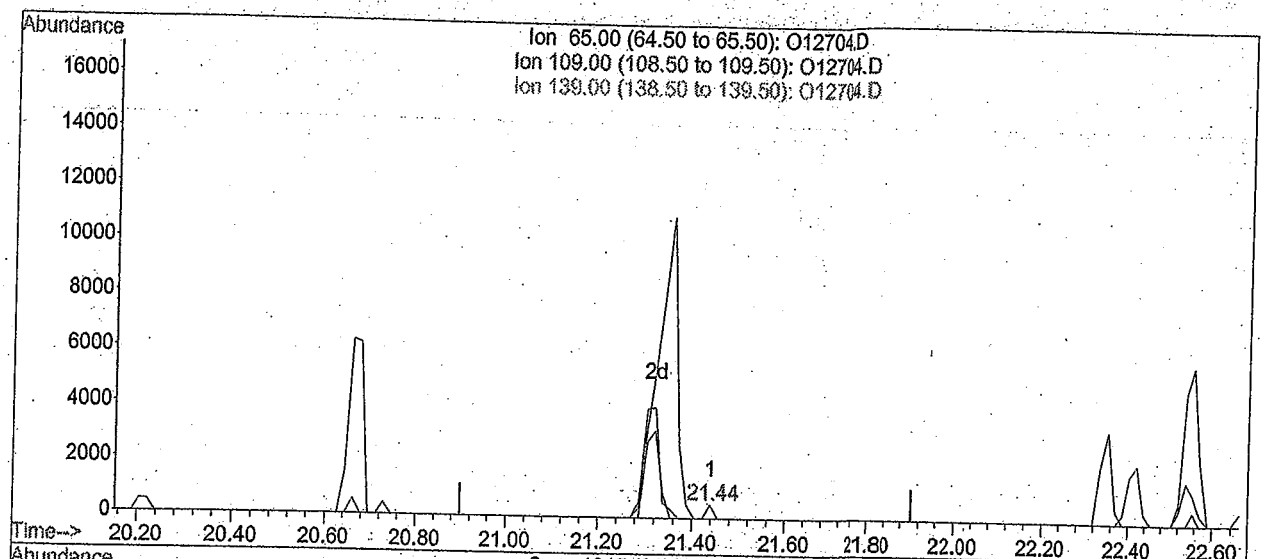
Quantitation Report (Qedit)

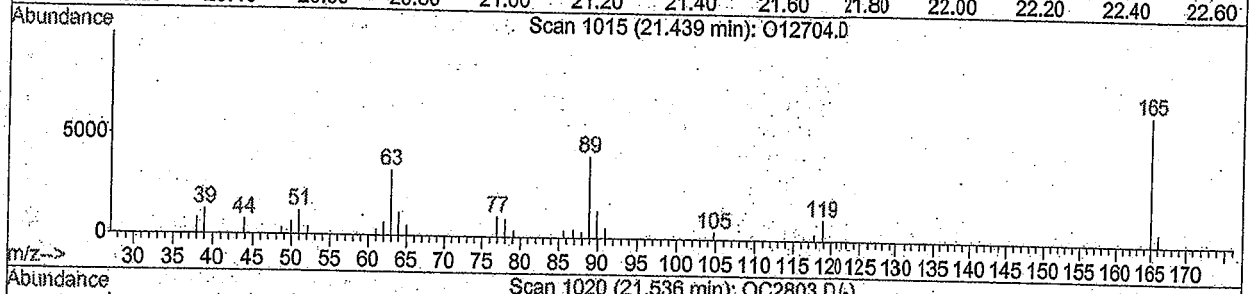
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

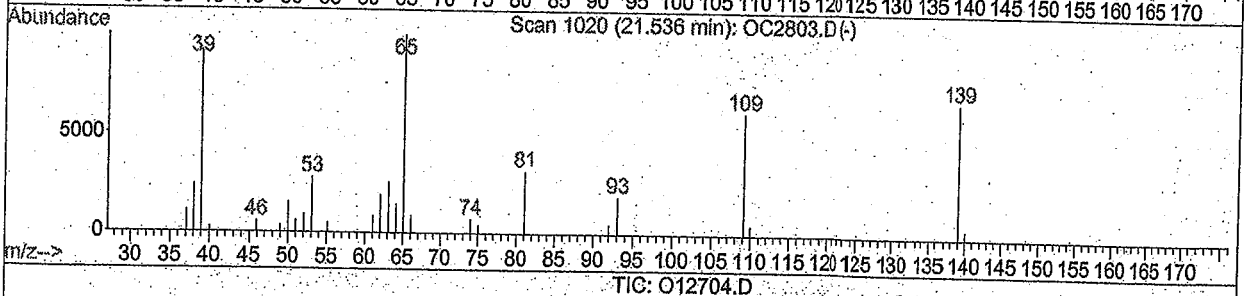
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(50) 4-Nitrophenol (M)

21.44min 0.19mg/L

response 511

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	0.00#
139.00	102.40	0.00#
0.00	0.00	0.00

BEFORE

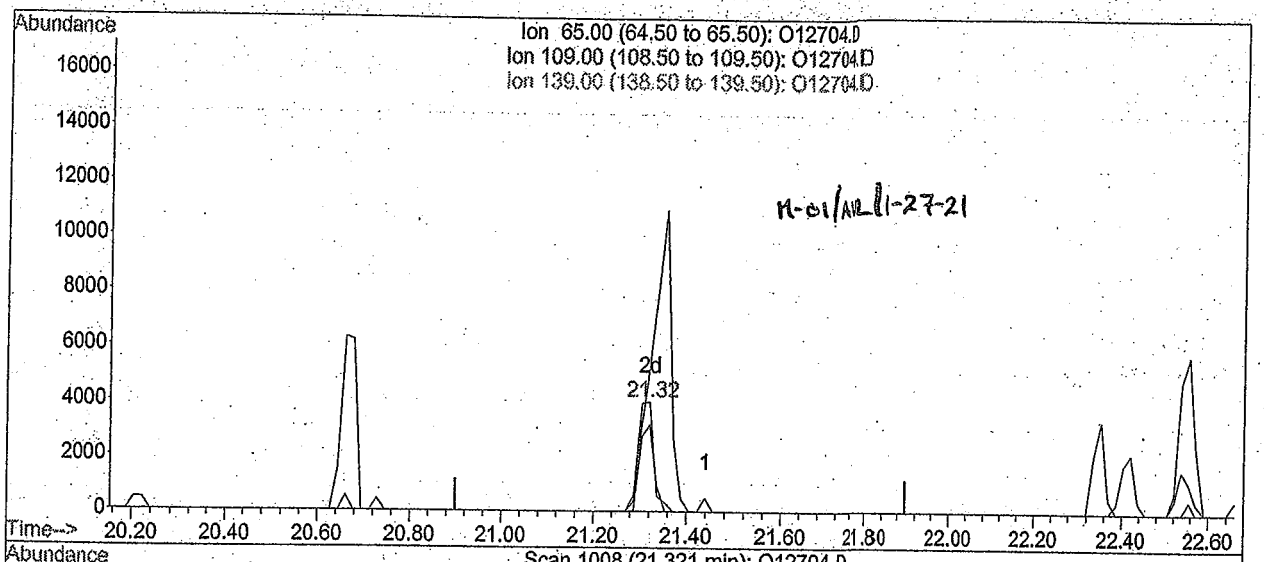
Quantitation Report (Qedit)

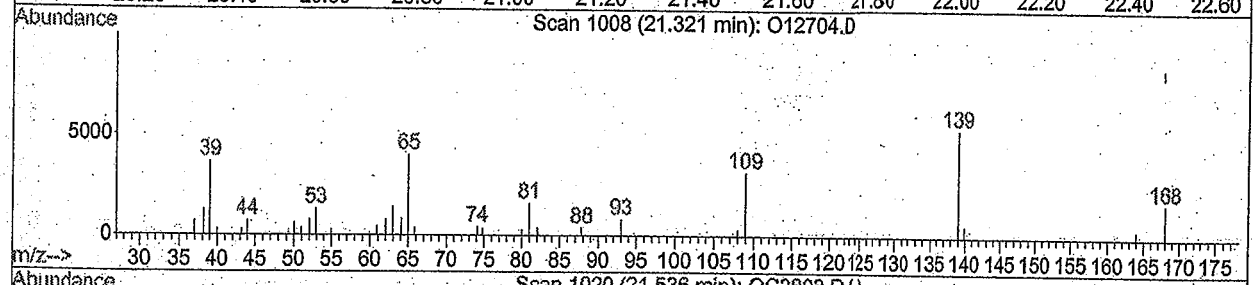
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

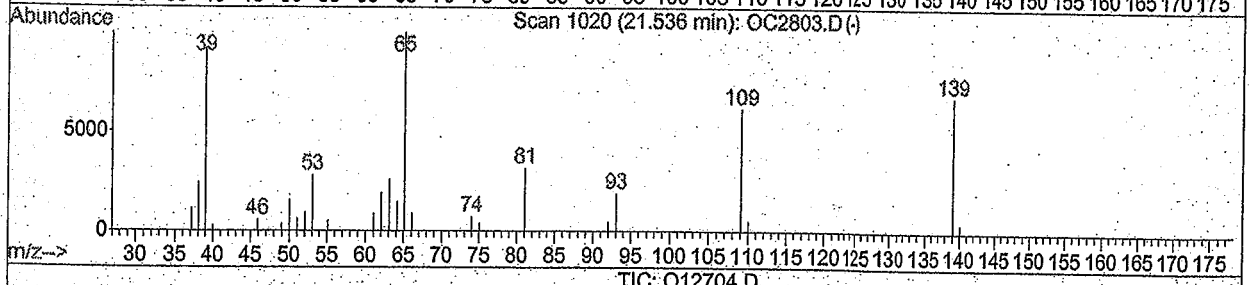
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(50) 4-Nitrophenol (M)

21.32min 3.54mg/L m

response 9538

AFTER

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	79.40#
139.00	102.40	133.04#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	170420	40.00	ng/ml	-0.03
19) Naphthalene-d8	15.33	136	593202	40.00	ng/ml	-0.03
35) Acenaphthene-d10	20.72	164	350881	40.00	ng/ml	-0.03
56) Phenanthrene-d10	25.32	188	660998	40.00	ng/ml	-0.03
68) Chrysene-d12	33.68	240	545704	40.00	ng/ml	-0.05
79) Perylene-d12	38.02	264	597786	40.00	ng/ml	-0.05
System Monitoring Compounds						
4) 2-Fluorophenol	8.14	112	101780	20.18	mg/L	-0.05
Spiked Amount 100.000	Range 20 - 53		Recovery = 20.18%			
7) Phenol-d5	10.71	99	128683	19.17	mg/L	-0.07
Spiked Amount 100.000	Range 11 - 40		Recovery = 19.17%			
20) Nitrobenzene-d5	13.21	82	101454	20.23	mg/L	-0.05
Spiked Amount 100.000	Range 36 - 103		Recovery = 20.23%#			
40) 2-Fluorobiphenyl	18.74	172	242245	24.28	mg/L	-0.05
Spiked Amount 100.000	Range 36 - 119		Recovery = 24.28%#			
60) 2,4,6-Tribromophenol	23.17	330	39908	20.24	mg/L	-0.05
Spiked Amount 100.000	Range 30 - 105		Recovery = 20.24%#			
72) Terphenyl-d14	30.48	244	186270	24.96	mg/L	-0.05
Spiked Amount 100.000	Range 37 - 109		Recovery = 24.96%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.81	42	64918	22.69	mg/L #	68
3) Pyridine	4.86	79	113348	16.38	mg/L	92
5) Aniline	10.73	93	156954	18.40	mg/L	91
6) bis(2-Chloroethyl)ether	10.98	93	105586	18.36	mg/L	95
8) 2-Chlorophenol	11.01	128	102622	19.93	mg/L	98
9) Phenol	10.76	94	141932	19.92	mg/L #	91
10) 1,3-Dichlorobenzene	11.44	146	117895	22.19	mg/L	96
11) 1,4-Dichlorobenzene	11.67	146	123783	21.93	mg/L	95
12) 1,2-Dichlorobenzene	12.06	146	112211	21.30	mg/L	93
13) Benzyl Alcohol	12.10	108	70906	20.28	mg/L	91
14) bis(2-Chloroisopropyl)ethe	12.54	45	153256m	14.98	mg/L	
15) 2-Methylphenol (o-Cresol)	12.45	107	87554	19.39	mg/L	94
16) 3,4-Methylphenol(m,p Creso	12.93	107	132794	20.18	mg/L	97
17) N-Nitroso-di-n-propylamine	12.89	70	70917	18.67	mg/L #	81
18) Hexachloroethane	13.03	117	52645	21.98	mg/L #	87
21) Nitrobenzene	13.26	77	111778	21.91	mg/L	97
22) Isophorone	14.04	82	209128	22.42	mg/L #	90
23) N-Ethylaniline	14.16	106	190585	25.23	mg/L #	93
24) 2-Nitrophenol	14.21	139	49034	20.63	mg/L #	74
25) 2,4-Dimethylphenol	14.50	122	92800	24.73	mg/L	99
26) bis(2-Chloroethoxy)methane	14.80	93	131008	21.68	mg/L #	98
27) Benzoic Acid	14.89	122	49669m	18.25	mg/L	
28) 1,2,4-Trichlorobenzene	15.17	180	116143	33.03	mg/L #	95
29) 2,4-Dichlorophenol	14.96	162	91396	27.82	mg/L #	87
30) Naphthalene	15.38	128	288329	22.61	mg/L #	94
31) 4-Chloroaniline	15.63	127	132761	23.23	mg/L	98
32) Hexachlorobutadiene	15.85	225	67029	30.82	mg/L	99
33) 4-Chloro-3-methylphenol	17.22	107	94874	26.83	mg/L	93
34) 2-Methylnaphthalene	17.53	142	201386	26.54	mg/L	99
36) 1,2,4,5-Tetrachlorobenzene	18.03	216	119285	26.07	mg/L	98
37) Hexachlorocyclopentadiene	18.05	237	71053	27.68	mg/L	94
38) 2,4,6-Trichlorophenol	18.44	196	78318m	26.31	mg/L	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) 2,4,5-Trichlorophenol	18.52	196	87824m	27.49 mg/L	
41) 2-Chloronaphthalene	19.00	162	202914	23.22 mg/L	97
42) 2-Nitroaniline	19.39	65	58994	14.62 mg/L	96
43) Dimethylphthalate	20.11	163	231216	24.15 mg/L #	96
44) Acenaphthylene	20.25	152	290621	19.50 mg/L	95
45) 2,6-Dinitrotoluene	20.23	165	47039	20.12 mg/L	97
46) 3-Nitroaniline	20.69	138	50508	14.83 mg/L #	83
47) Acenaphthene	20.81	154	178492	21.31 mg/L	96
48) Dibenzofuran	21.36	168	281987	23.08 mg/L	97
49) 2,4-Dinitrotoluene	21.45	165	63148	20.79 mg/L #	92
50) 4-Nitrophenol	21.33	65	45741m	16.27 mg/L	
51) 2,4-Dinitrophenol	21.03	184	19138	11.85 mg/L #	52
52) Diethylphthalate	22.36	149	225206	21.95 mg/L	95
53) Fluorene	22.43	166	220915	23.61 mg/L	98
54) 4-Chlorophenyl-phenylether	22.55	204	121825	28.87 mg/L	98
55) 4-Nitroaniline	22.60	138	53992	16.41 mg/L #	68
57) 4,6-Dinitro-2-methylphenol	22.70	198	32908	14.16 mg/L #	70
58) N-Nitrosodiphenylamine	22.94	169	144921	21.02 mg/L	90
59) 1,2-Diphenylhydrazine	23.04	77	244334	14.18 mg/L #	84
61) 4-Bromophenyl-phenylether	24.05	248	74024	22.71 mg/L #	88
62) Hexachlorobenzene	24.10	284	78783	22.52 mg/L	96
63) Pentachlorophenol	24.76	266	50423	22.41 mg/L	97
64) Phenanthrene	25.39	178	313195	20.99 mg/L	98
65) Anthracene	25.54	178	326170	21.39 mg/L #	92
66) Carbazole	26.13	167	283603	19.61 mg/L #	84
67) Di-n-butylphthalate	27.55	149	385436	16.83 mg/L #	97
69) Fluoranthene	29.08	202	359294	23.42 mg/L #	80
70) Benzidine	29.70	184	393790	55.17 mg/L #	88
71) Pyrene	29.75	202	374585	24.97 mg/L #	73
73) Butylbenzylphthalate	32.26	149	179512	20.20 mg/L #	76
74) Benzo(a)anthracene	33.63	228	350896	23.25 mg/L	97
75) Chrysene	33.76	228	340776	22.82 mg/L	96
76) 3,3'-Dichlorobenzidine	33.74	252	260601	46.60 mg/L #	92
77) bis(2-Ethylhexyl)phthalate	34.29	149	269087	20.50 mg/L #	92
78) Di-n-octylphthalate	36.33	149	435664	18.01 mg/L	98
80) Benzo(b)fluoranthene	36.92	252	356586	23.75 mg/L #	86
81) Benzo(k)fluoranthene	37.03	252	330450m	23.84 mg/L	
82) Benzo(a)pyrene	37.84	252	328201	24.06 mg/L #	82
83) Indeno(1,2,3-cd)pyrene	41.07	276	321025	23.99 mg/L #	73
84) Dibenzo(a,h)anthracene	41.20	278	317882	24.36 mg/L #	82
85) Benzo(g,h,i)perylene	41.93	276	321080	24.77 mg/L #	79

(#) = qualifier out of range (m) = manual integration

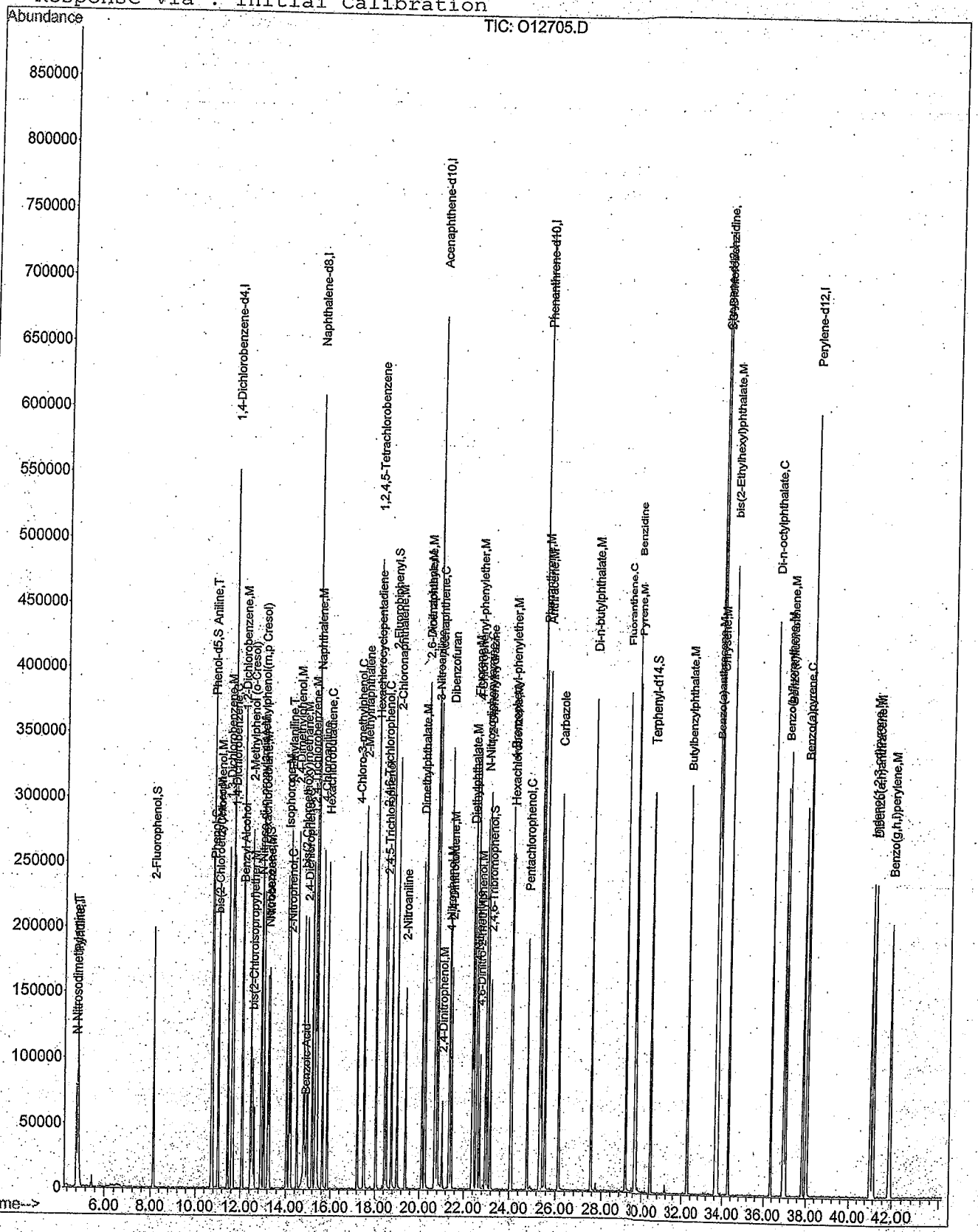
Quantitation Report

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration



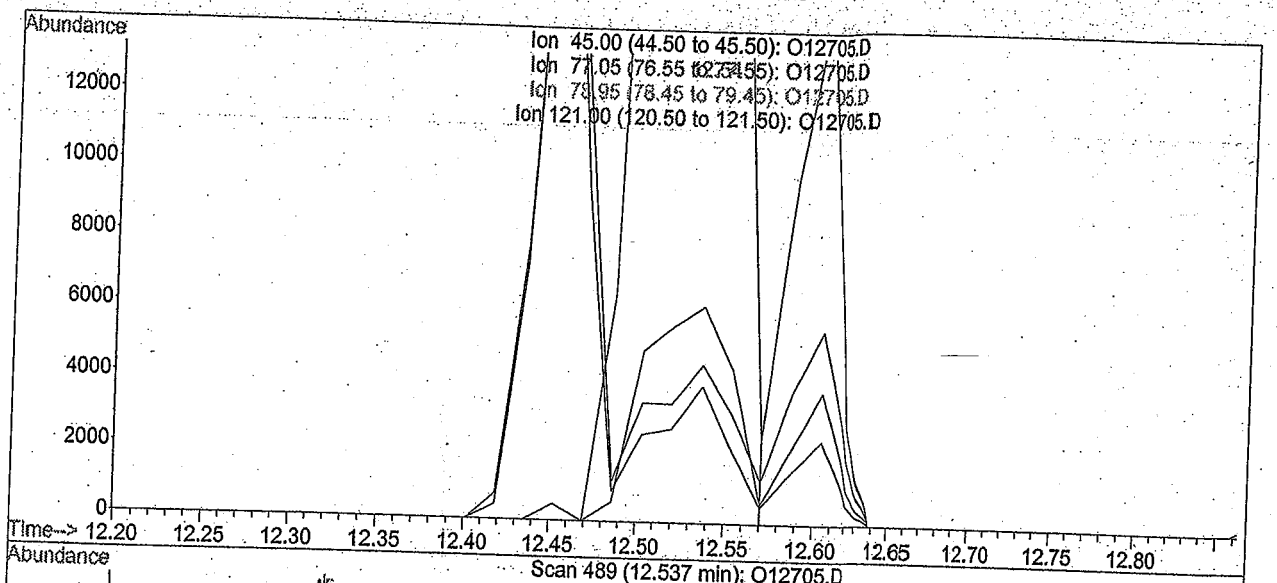
Quantitation Report (Qedit)

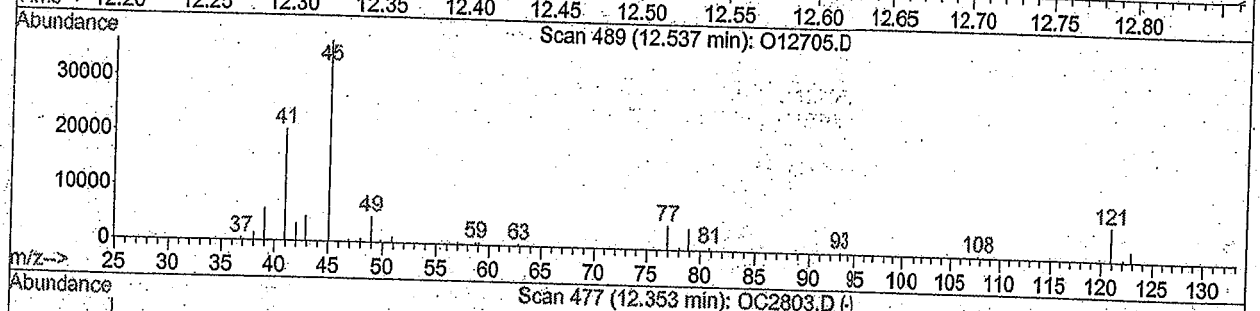
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:44 2021

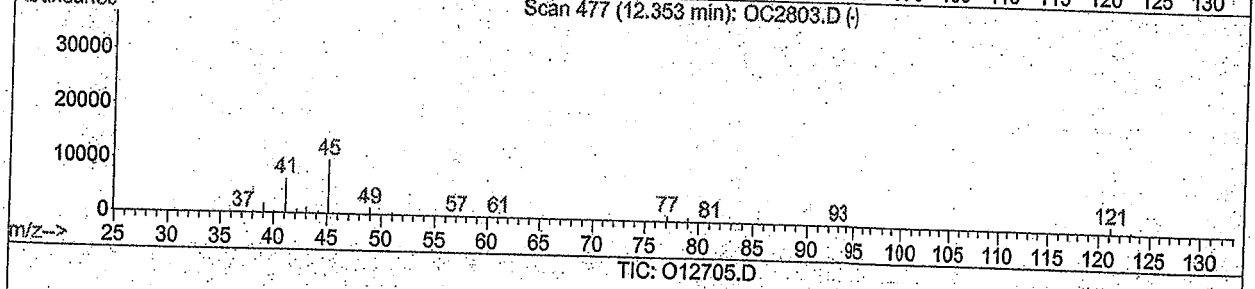
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(14) bis(2-Chloroisopropyl)ether (M)

12.54min 12.35mg/L

response 126324

BEFORE

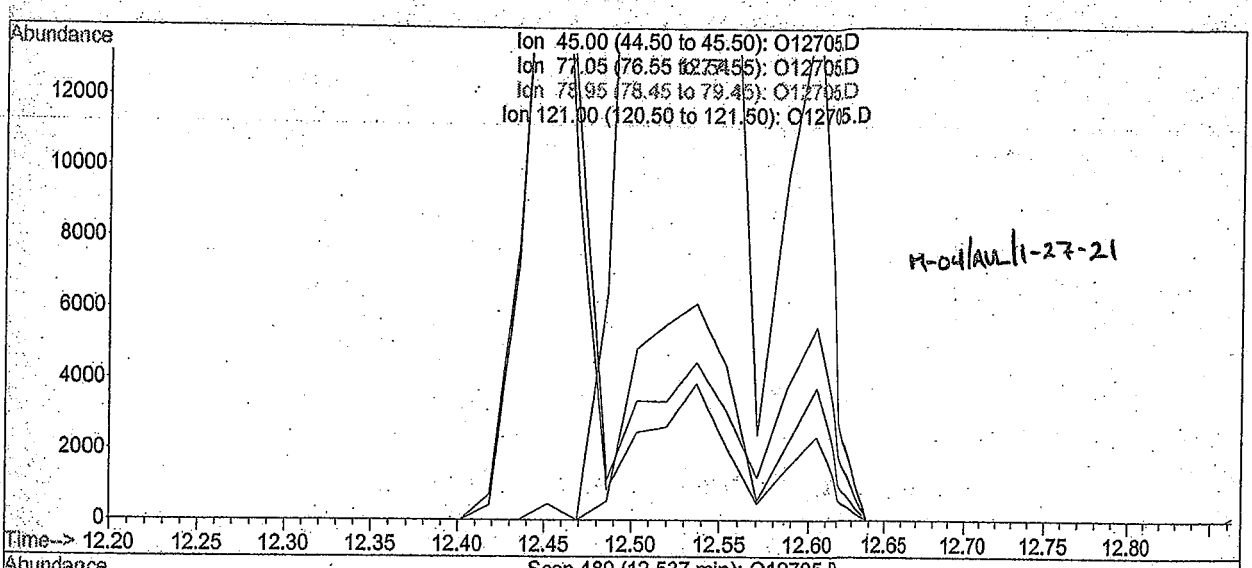
Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.23#
78.95	8.00	10.58#
121.00	13.30	16.74#

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:48 2021

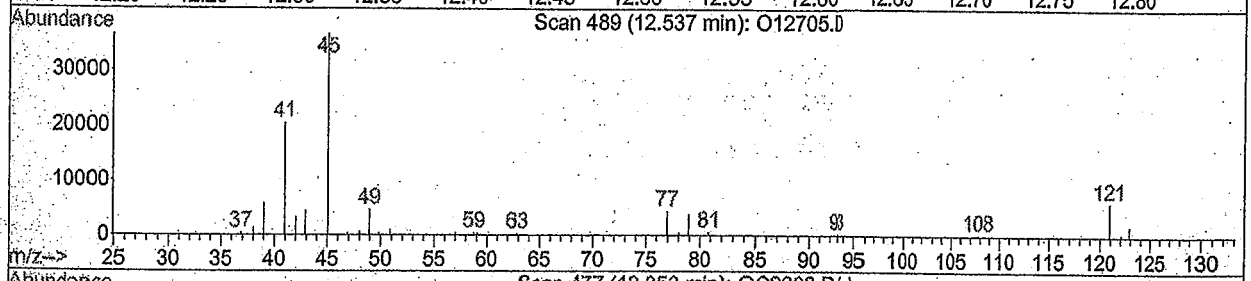
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

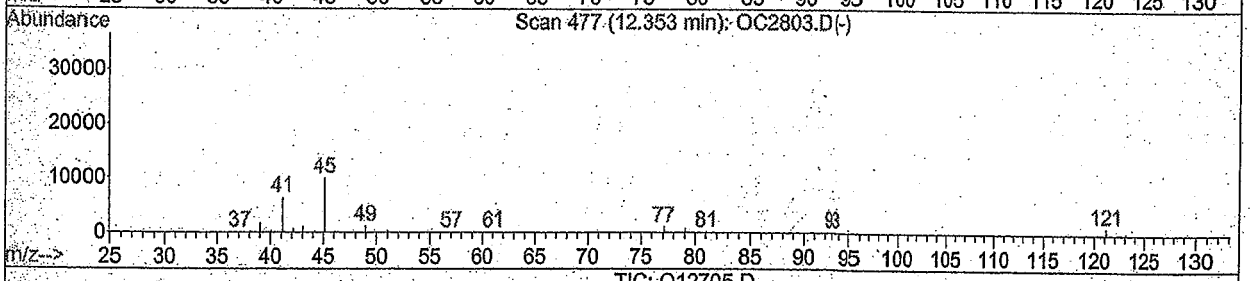
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration



M-04/AVL/1-27-21





TIC: O12705.D

(14) bis(2-Chloroisopropyl)ether (M)

12.54min 14.98mg/L m

response 153256

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.23#
78.95	8.00	10.58#
121.00	13.30	16.74#

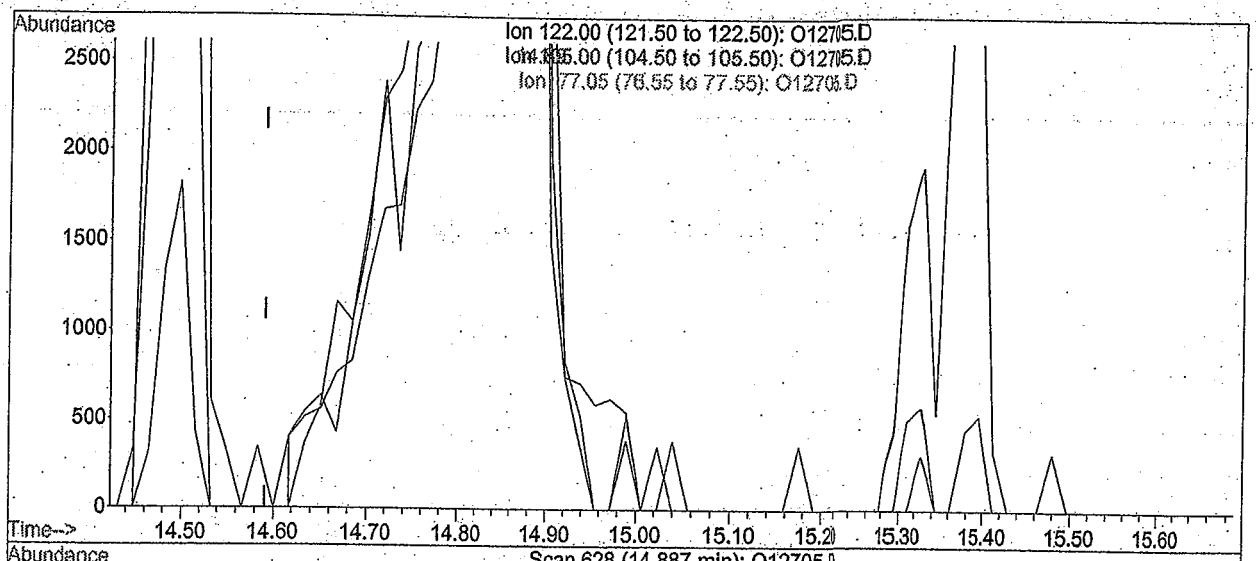
Quantitation Report (Qedit)

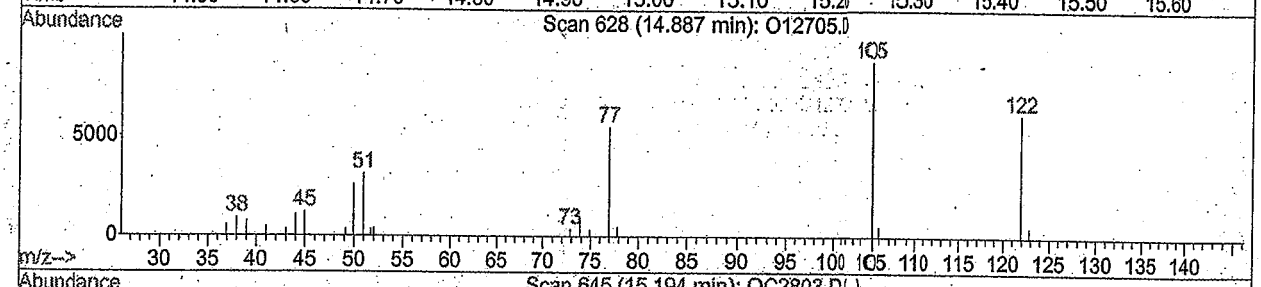
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:48 2021

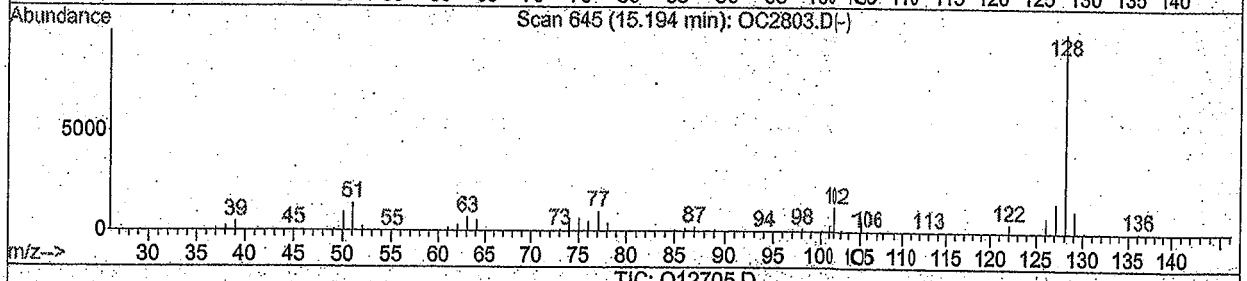
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(27) Benzoic Acid

14.89min 18.10mg/L

response 49261

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	142.74#
77.05	93.20	89.74
0.00	0.00	0.00

BEFORE

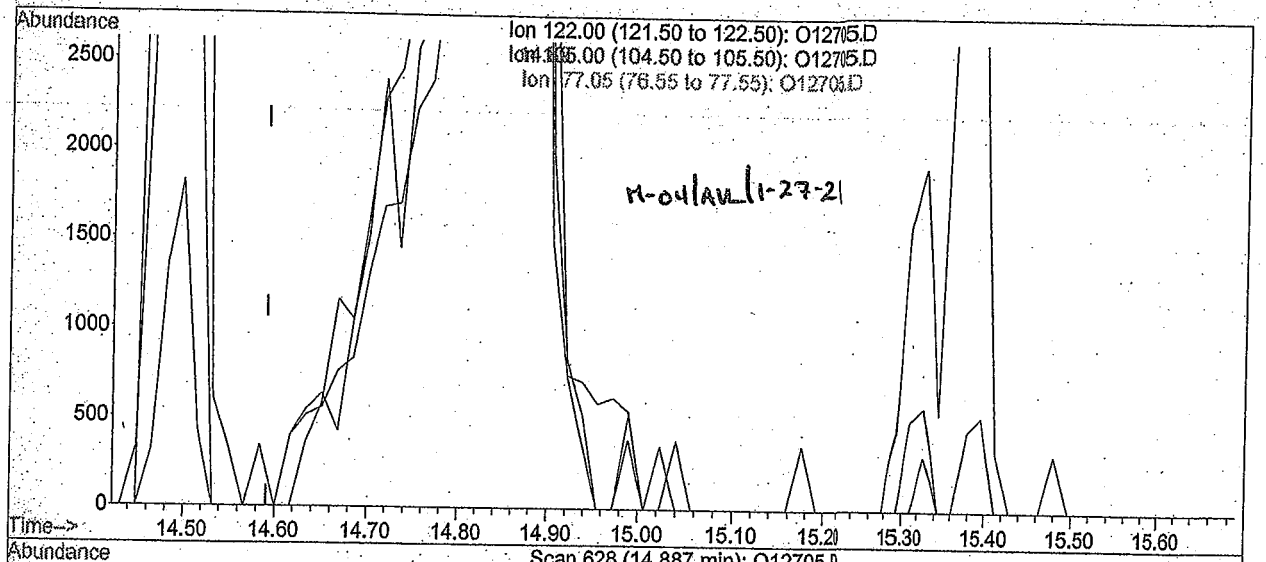
Quantitation Report (Qedit)

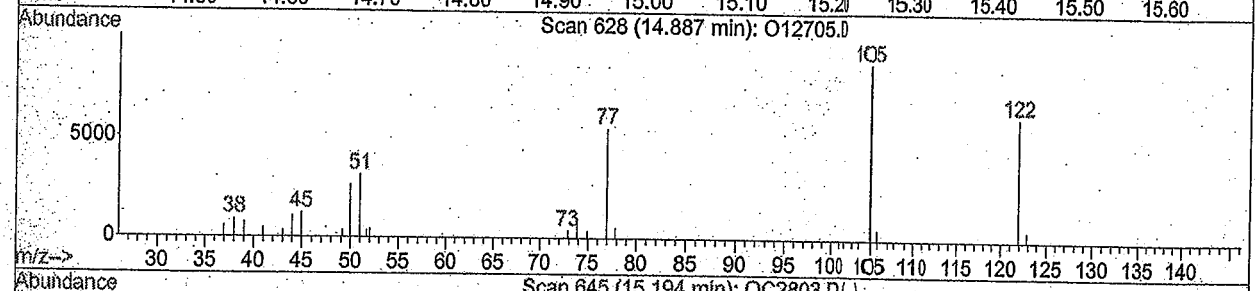
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

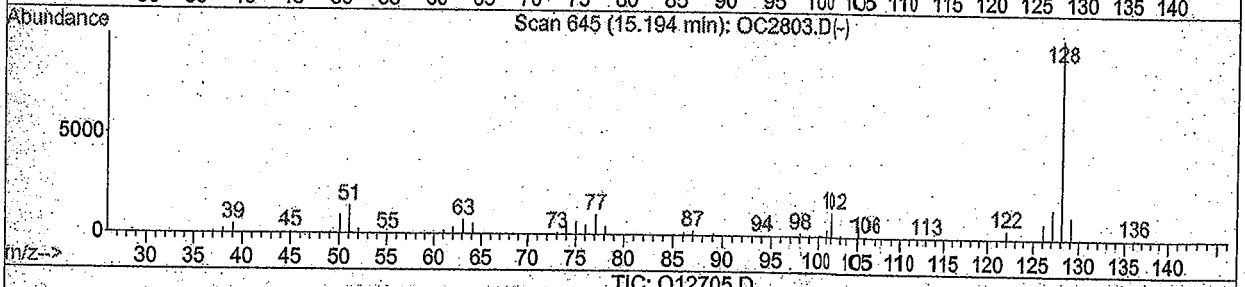
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(27) Benzoic Acid

14.89min 18.25mg/L m

response 49669

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	142.74#
77.05	93.20	89.74
0.00	0.00	0.00

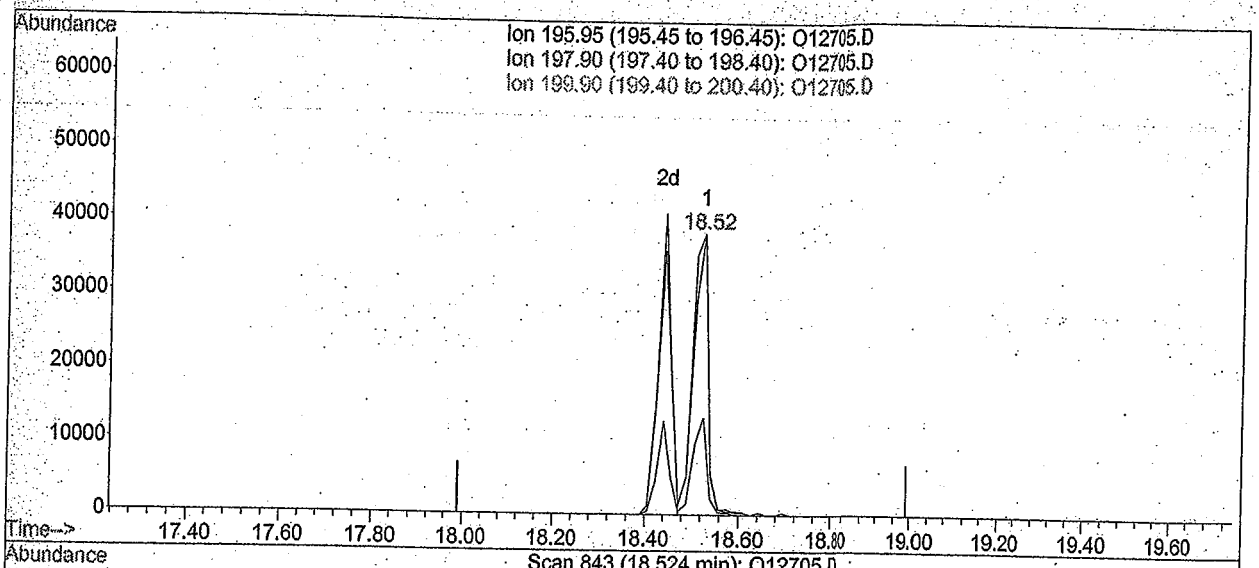
Quantitation Report (Qedit)

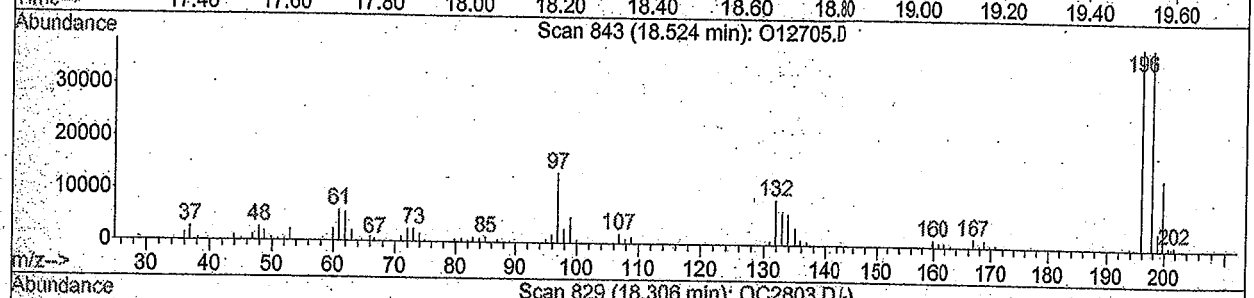
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

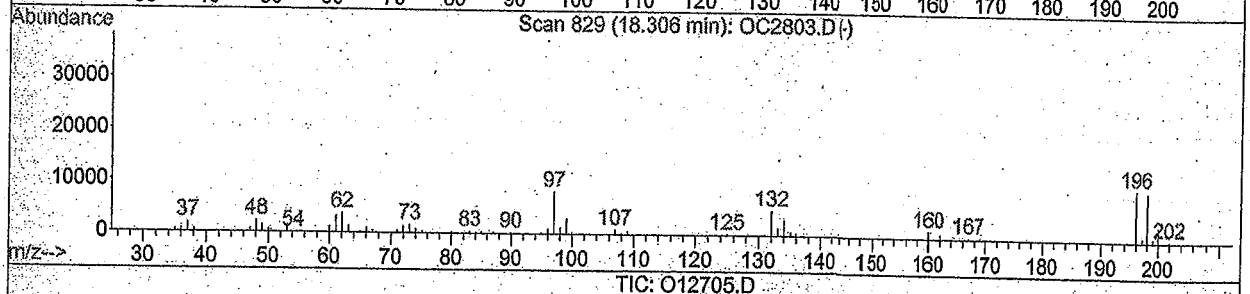
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(38) 2,4,6-Trichlorophenol (C)

18.52min 29.62mg/L

response 88175

Ion	Exp%	Act%
195.95	100	100
197.90	95.20	99.54
199.90	30.30	34.81
0.00	0.00	0.00

BEFORE

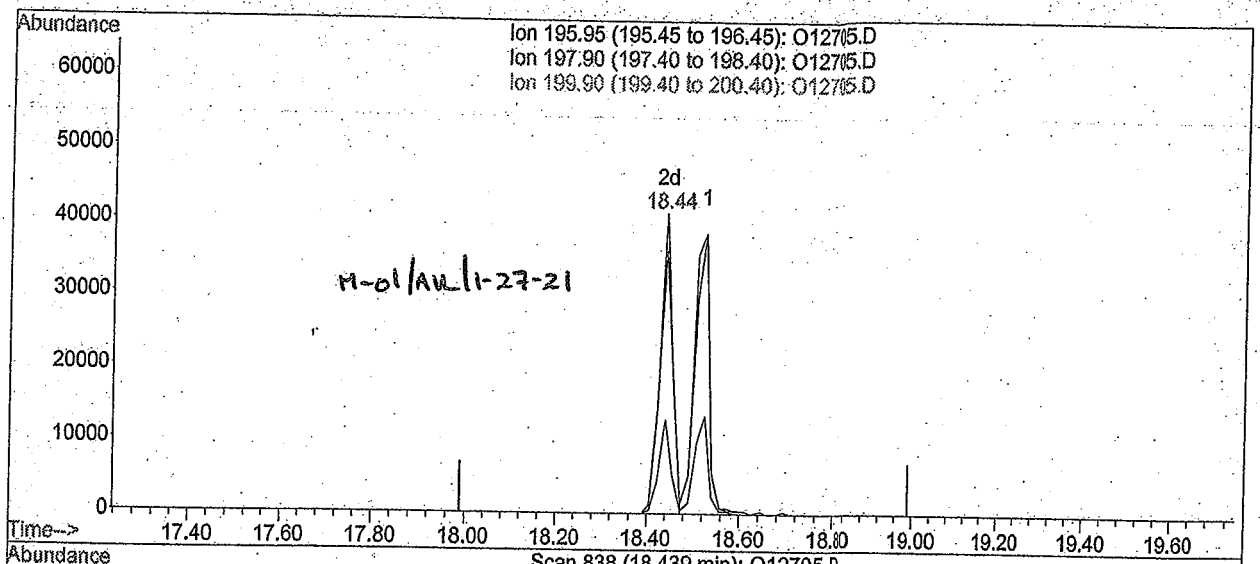
Quantitation Report (Qedit)

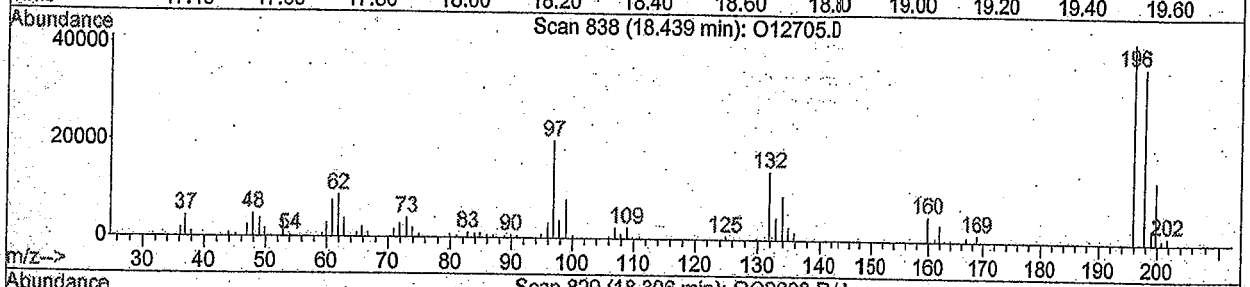
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

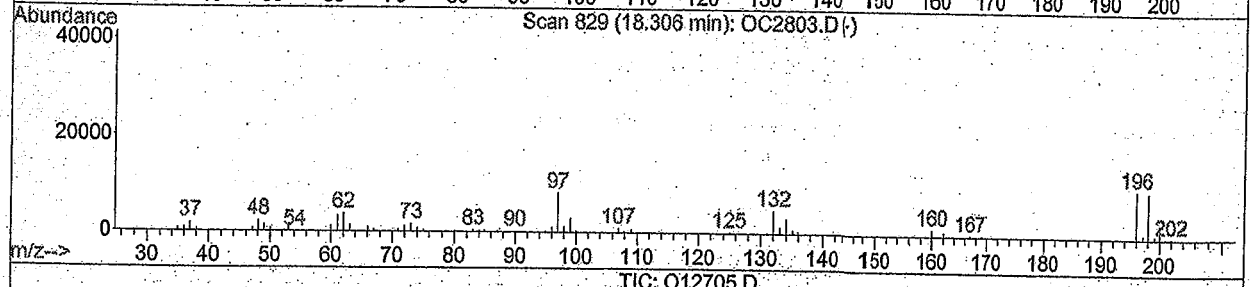
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(38) 2,4,6-Trichlorophenol (C)

18.44min 26.31mg/L m

response 78318

AFTER

Ion	Exp%	Act%
195.95	100	100
197.90	95.20	87.66
199.90	30.30	31.24
0.00	0.00	0.00

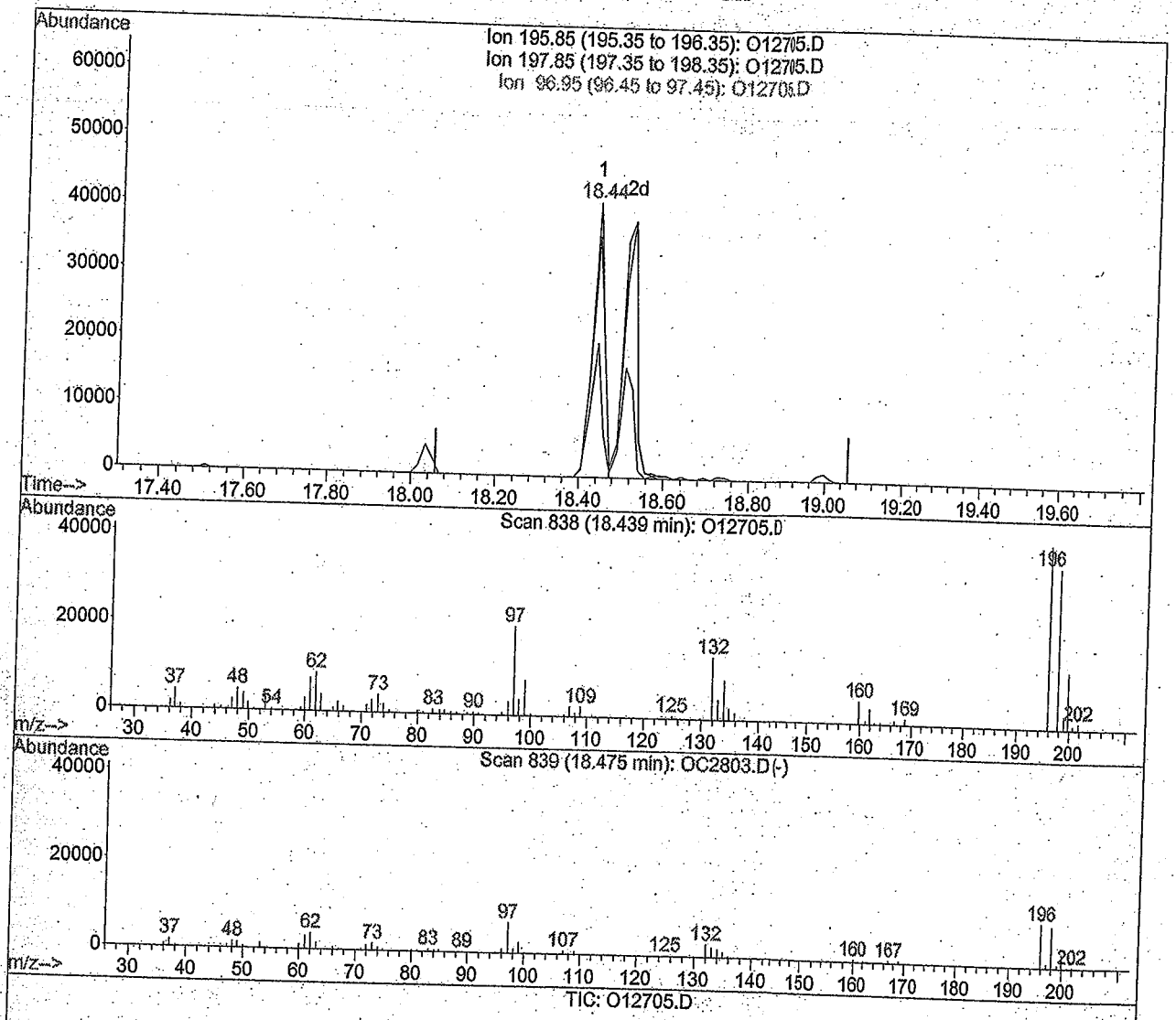
Quantitation Report (Qedit)

Data File : C:\OTIS\01-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration



(39) 2,4,5-Trichlorophenol

18.44min 24.51mg/L

response 78318

BEFORE

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	87.66
96.95	55.30	48.94
0.00	0.00	0.00

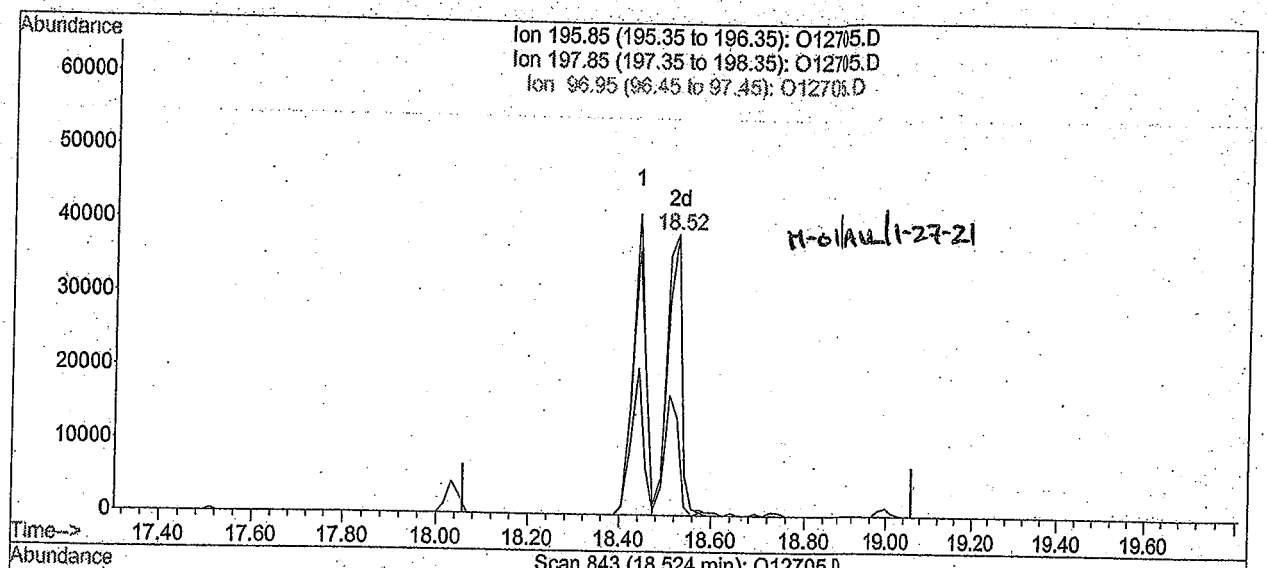
Quantitation Report (Qedit)

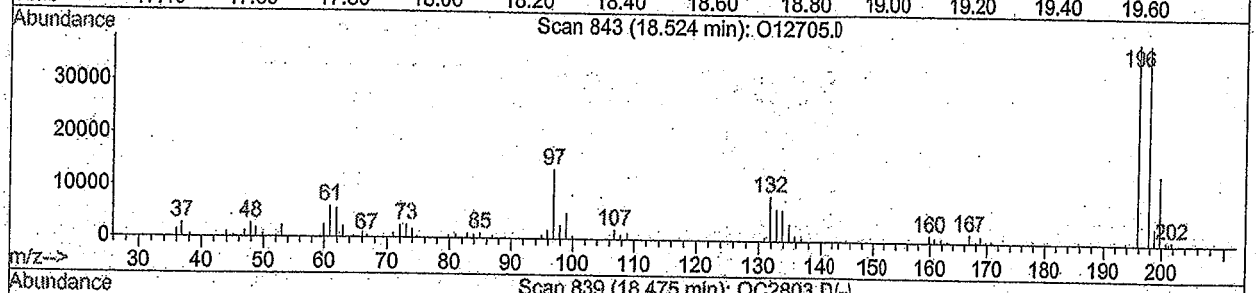
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

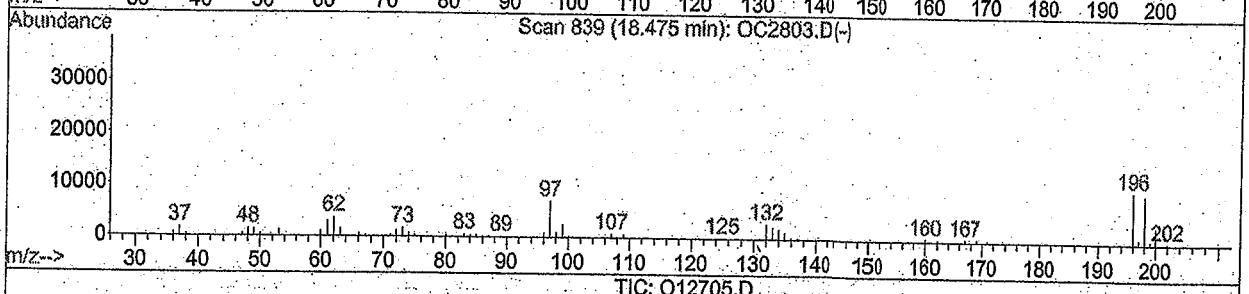
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(39) 2,4,5-Trichlorophenol

18.52min 27.49mg/L m

response 87824

AFTER

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	99.54
96.95	55.30	34.81#
0.00	0.00	0.00

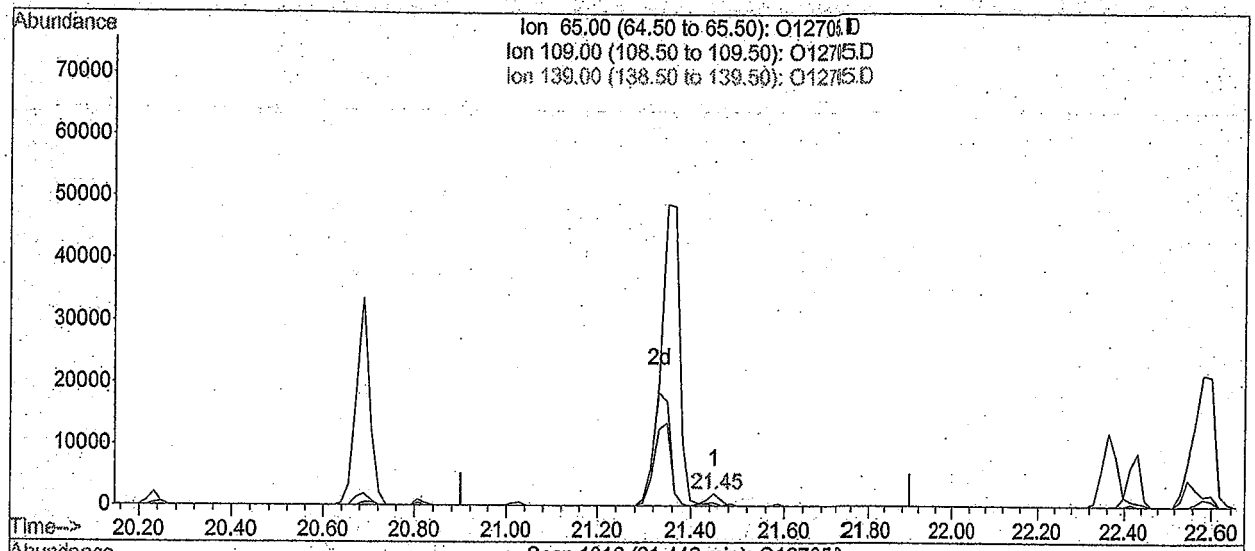
Quantitation Report (Quan)

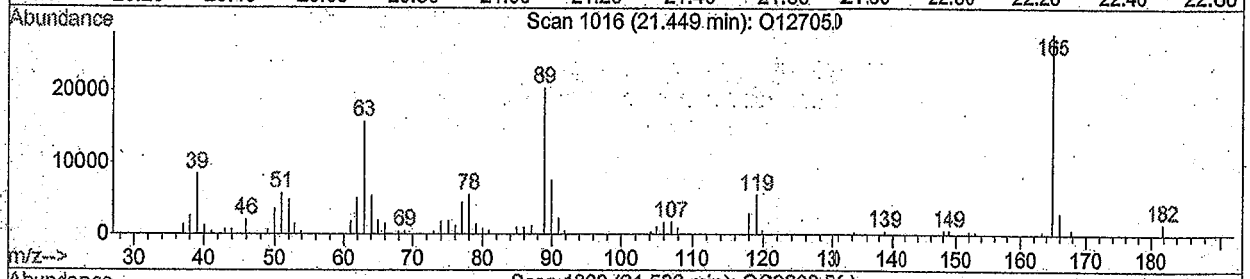
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

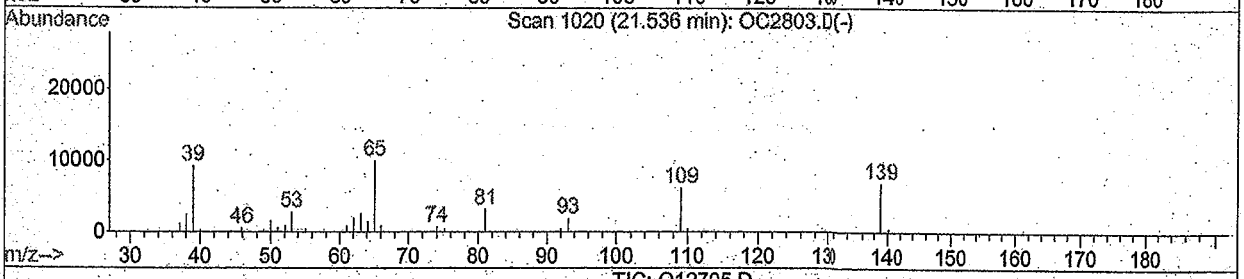
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(50) 4-Nitrophenol (M)

21.45min 1.51mg/L

response 4254

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	0.00#
139.00	102.40	26.78#
0.00	0.00	0.00

BEFORE

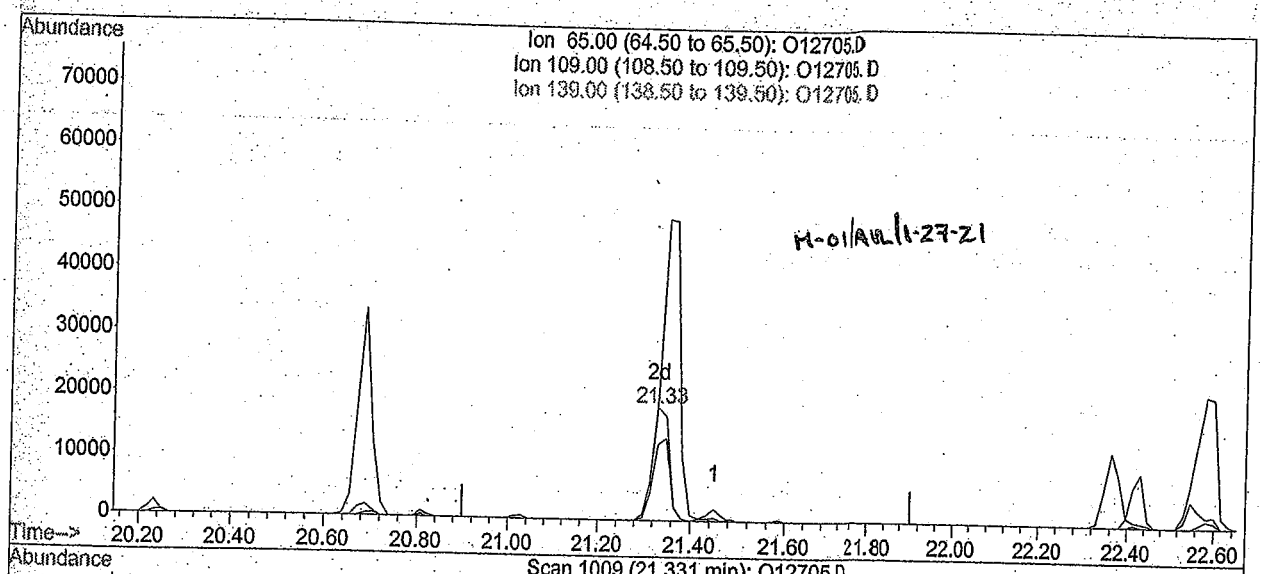
Quantitation Report (Qedit)

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

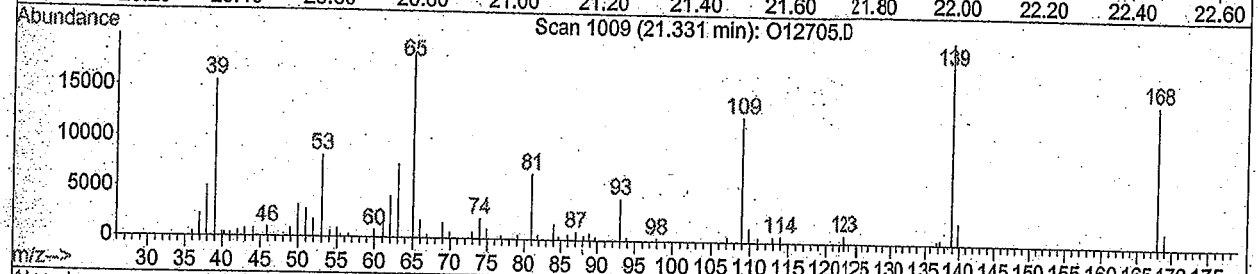
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

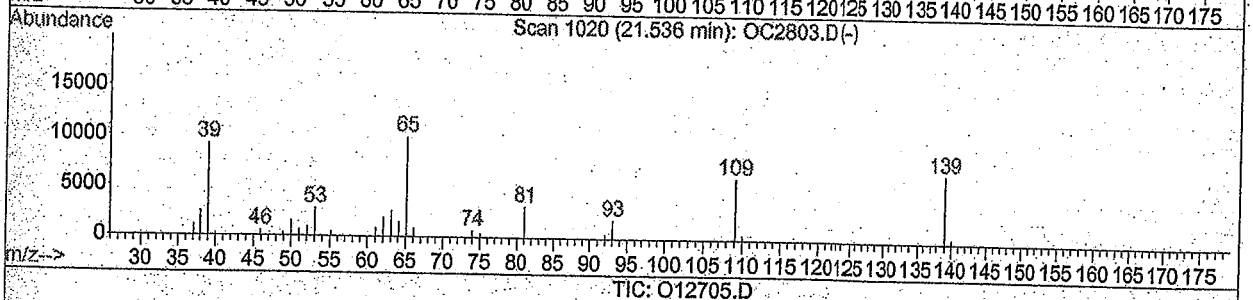
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration



M-01/AVL/1-27-21





TIC: O12705.D

(50) 4-Nitrophenol (M)

21.33min 16.27mg/L m

response 45741

AFTER

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	67.81#
139.00	102.40	108.60
0.00	0.00	0.00

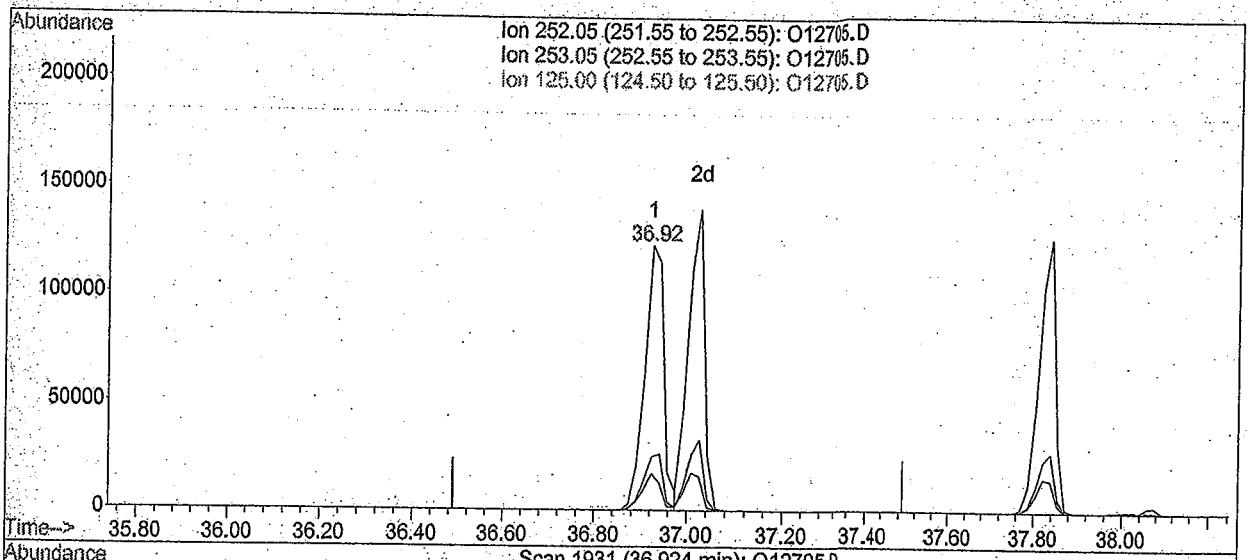
Quantitation Report (Qedit)

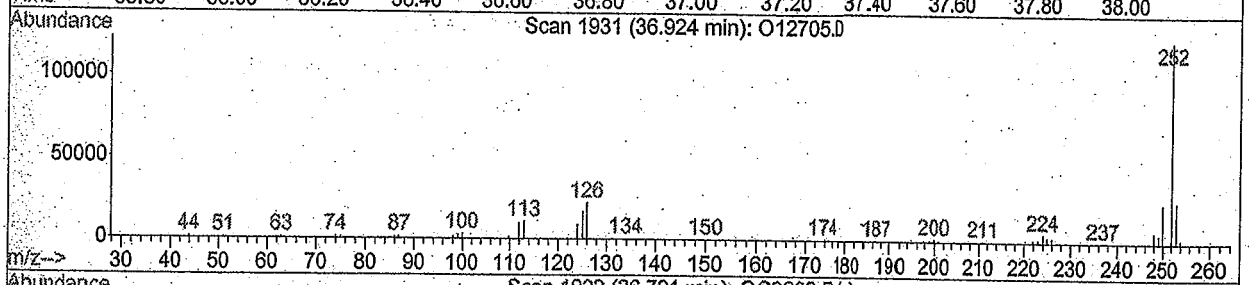
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

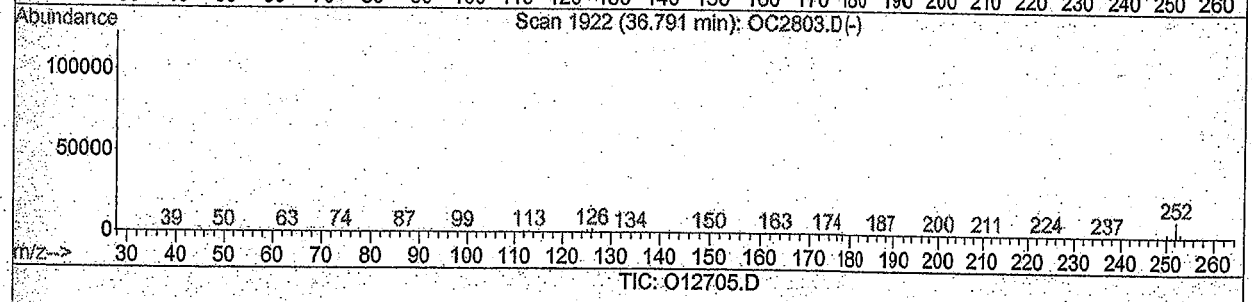
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(81) Benzo(k)fluoranthene (M)

36.92min 25.72mg/L

response 356586

BEFORE

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	20.34
125.00	17.20	13.92
0.00	0.00	0.00

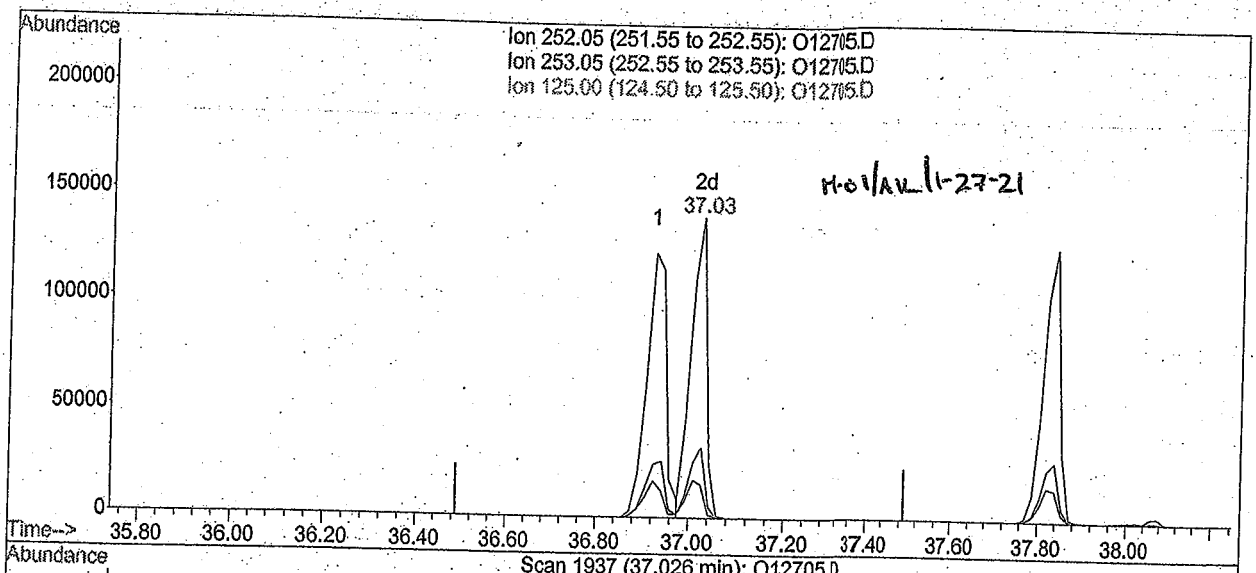
Quantitation Report (Qedit)

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

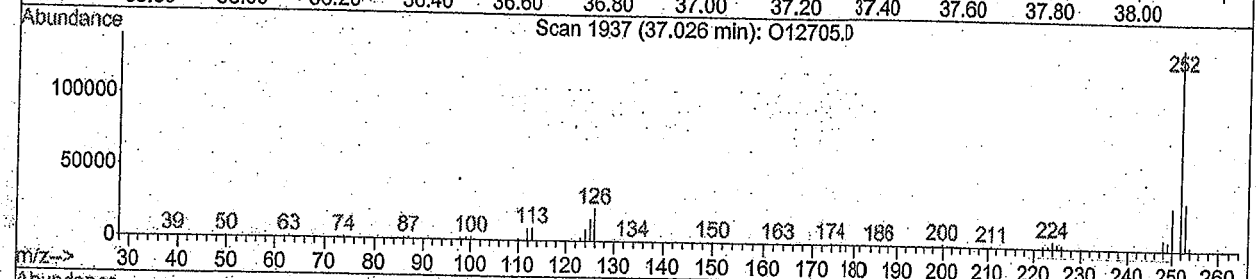
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

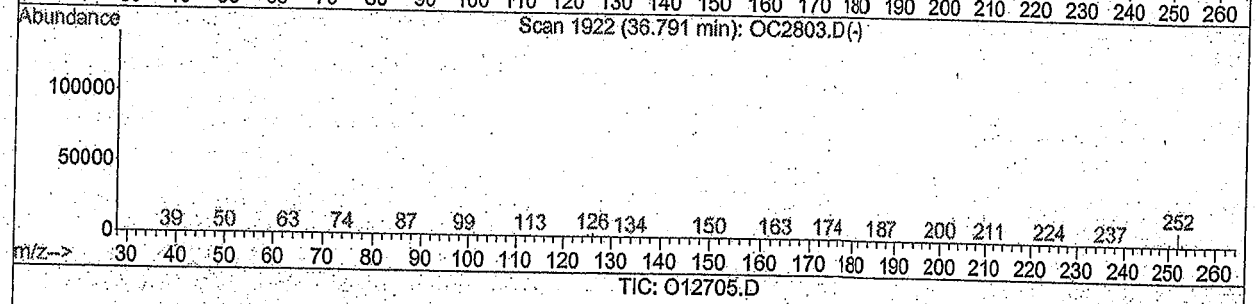
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration



M-01/AVL 1-27-21





TIC: O12705.D

(81) Benzo(k)fluoranthene (M)

37.03min 23.84mg/L m

response 330450

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	23.59
125.00	17.20	11.22#
0.00	0.00	0.00

AFTER

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	165034	40.00	ng/ml	0.00
19) Naphthalene-d8	15.33	136	588206	40.00	ng/ml	0.00
35) Acenaphthene-d10	20.72	164	358339	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.32	188	677785	40.00	ng/ml	0.00
68) Chrysene-d12	33.69	240	565738	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	617325	40.00	ng/ml	0.02
System Monitoring Compounds						
4) 2-Fluorophenol	8.16	112	251557	50.75	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 50.75%			
7) Phenol-d5	10.74	99	321833	49.61	mg/L	0.03
Spiked Amount 100.000	Range 11 - 40		Recovery = 49.61%#			
20) Nitrobenzene-d5	13.23	82	266962	53.05	mg/L	0.02
Spiked Amount 100.000	Range 36 - 103		Recovery = 53.05%			
40) 2-Fluorobiphenyl	18.76	172	591603	55.27	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 55.27%			
60) 2,4,6-Tribromophenol	23.19	330	103844	51.34	mg/L	0.02
Spiked Amount 100.000	Range 30 - 105		Recovery = 51.34%			
72) Terphenyl-d14	30.50	244	454749	56.01	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 56.01%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.83	42	171178	59.38	mg/L #	60
3) Pyridine	4.88	79	277472	42.62	mg/L	98
5) Aniline	10.74	93	377988	46.19	mg/L #	85
6) bis(2-Chloroethyl)ether	11.01	93	263389	48.12	mg/L	93
8) 2-Chlorophenol	11.03	128	260344	51.64	mg/L	93
9) Phenol	10.80	94	346834	49.74	mg/L #	88
10) 1,3-Dichlorobenzene	11.45	146	277752m	52.55	mg/L	
11) 1,4-Dichlorobenzene	11.67	146	289634	51.59	mg/L #	96
12) 1,2-Dichlorobenzene	12.08	146	271779	51.95	mg/L	95
13) Benzyl Alcohol	12.11	108	170406	49.44	mg/L	94
14) bis(2-Chloroisopropyl)ethe	12.55	45	398694m	42.30	mg/L	
15) 2-Methylphenol (o-Cresol)	12.47	107	225185	51.50	mg/L	92
16) 3,4-Methylphenol(m,p Creso	12.96	107	329364	51.20	mg/L	97
17) N-Nitroso-di-n-propylamine	12.93	70	178800	49.18	mg/L #	86
18) Hexachloroethane	13.04	117	127784	53.59	mg/L #	57
21) Nitrobenzene	13.30	77	262619	50.65	mg/L #	88
22) Isophorone	14.08	82	503436	52.94	mg/L #	91
23) N-Ethylaniline	14.18	106	441321	55.67	mg/L	95
24) 2-Nitrophenol	14.23	139	134458	55.80	mg/L #	88
25) 2,4-Dimethylphenol	14.52	122	227746	57.87	mg/L	90
26) bis(2-Chloroethoxy)methane	14.82	93	299446	48.90	mg/L #	91
27) Benzoic Acid	15.07	122	145971m	52.91	mg/L	
28) 1,2,4-Trichlorobenzene	15.19	180	284943	71.96	mg/L	96
29) 2,4-Dichlorophenol	14.97	162	235680	66.38	mg/L	92
30) Naphthalene	15.40	128	712948	54.40	mg/L	94
31) 4-Chloroaniline	15.65	127	322525	54.69	mg/L	94
32) Hexachlorobutadiene	15.85	225	166160	67.72	mg/L	96
33) 4-Chloro-3-methylphenol	17.24	107	235024	62.26	mg/L	98
34) 2-Methylnaphthalene	17.53	142	468811	58.31	mg/L	94
36) 1,2,4,5-Tetrachlorobenzene	18.05	216	289101	57.44	mg/L	97
37) Hexachlorocyclopentadiene	18.05	237	172035	60.58	mg/L	97
38) 2,4,6-Trichlorophenol	18.46	196	195421	59.72	mg/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) 2,4,5-Trichlorophenol	18.52	196	216719	61.15 mg/L	96
41) 2-Chloronaphthalene	19.01	162	467943	50.47 mg/L	99
42) 2-Nitroaniline	19.42	65	161941	40.90 mg/L	95
43) Dimethylphthalate	20.15	163	534546	52.09 mg/L #	95
44) Acenaphthylene	20.27	152	740687	48.37 mg/L	99
45) 2,6-Dinitrotoluene	20.27	165	134484	55.79 mg/L #	87
46) 3-Nitroaniline	20.72	138	128462	38.18 mg/L #	69
47) Acenaphthene	20.82	154	421099	48.26 mg/L	96
48) Dibenzofuran	21.38	168	702955	54.44 mg/L #	83
49) 2,4-Dinitrotoluene	21.48	165	182716	58.43 mg/L #	85
50) 4-Nitrophenol	21.38	65	130182	46.20 mg/L #	1
51) 2,4-Dinitrophenol	21.06	184	69884	43.90 mg/L #	41
52) Diethylphthalate	22.40	149	548015	51.12 mg/L #	89
53) Fluorene	22.45	166	510959	51.32 mg/L	99
54) 4-Chlorophenyl-phenylether	22.57	204	300527	63.77 mg/L	96
55) 4-Nitroaniline	22.65	138	134616	40.73 mg/L #	78
57) 4,6-Dinitro-2-methylphenol	22.74	198	107131	46.77 mg/L #	81
58) N-Nitrosodiphenylamine	22.97	169	357233	49.75 mg/L	97
59) 1,2-Diphenylhydrazine	23.06	77	594058	35.72 mg/L #	84
61) 4-Bromophenyl-phenylether	24.07	248	182131	52.84 mg/L	96
62) Hexachlorobenzene	24.12	284	196742	53.70 mg/L	96
63) Pentachlorophenol	24.78	266	141080	58.24 mg/L	98
64) Phenanthrene	25.41	178	821449	52.61 mg/L	97
65) Anthracene	25.56	178	837327	52.57 mg/L #	93
66) Carbazole	26.15	167	703261	47.29 mg/L #	88
67) Di-n-butylphthalate	27.57	149	1081684	46.85 mg/L #	98
69) Fluoranthene	29.09	202	957492	57.24 mg/L #	80
70) Benzidine	29.72	184	1015843	127.20 mg/L #	87
71) Pyrene	29.77	202	943407	57.43 mg/L #	72
73) Butylbenzylphthalate	32.26	149	452775	48.67 mg/L #	96
74) Benzo(a)anthracene	33.64	228	846249	51.84 mg/L	99
75) Chrysene	33.78	228	837006	51.91 mg/L	95
76) 3,3'-Dichlorobenzidine	33.76	252	665576	110.53 mg/L #	94
77) bis(2-Ethylhexyl)phthalate	34.30	149	654785	47.85 mg/L #	91
78) Di-n-octylphthalate	36.35	149	1225318	49.16 mg/L	99
80) Benzo(b)fluoranthene	36.96	252	855348	52.58 mg/L #	88
81) Benzo(k)fluoranthene	37.06	252	831659m	55.88 mg/L	
82) Benzo(a)pyrene	37.87	252	770844	52.46 mg/L #	84
83) Indeno(1,2,3-cd)pyrene	41.12	276	758736	52.37 mg/L #	70
84) Dibenzo(a,h)anthracene	41.25	278	759819	53.57 mg/L #	80
85) Benzo(g,h,i)perylene	41.98	276	746121	52.92 mg/L #	82

(#) = qualifier out of range (m) = manual integration

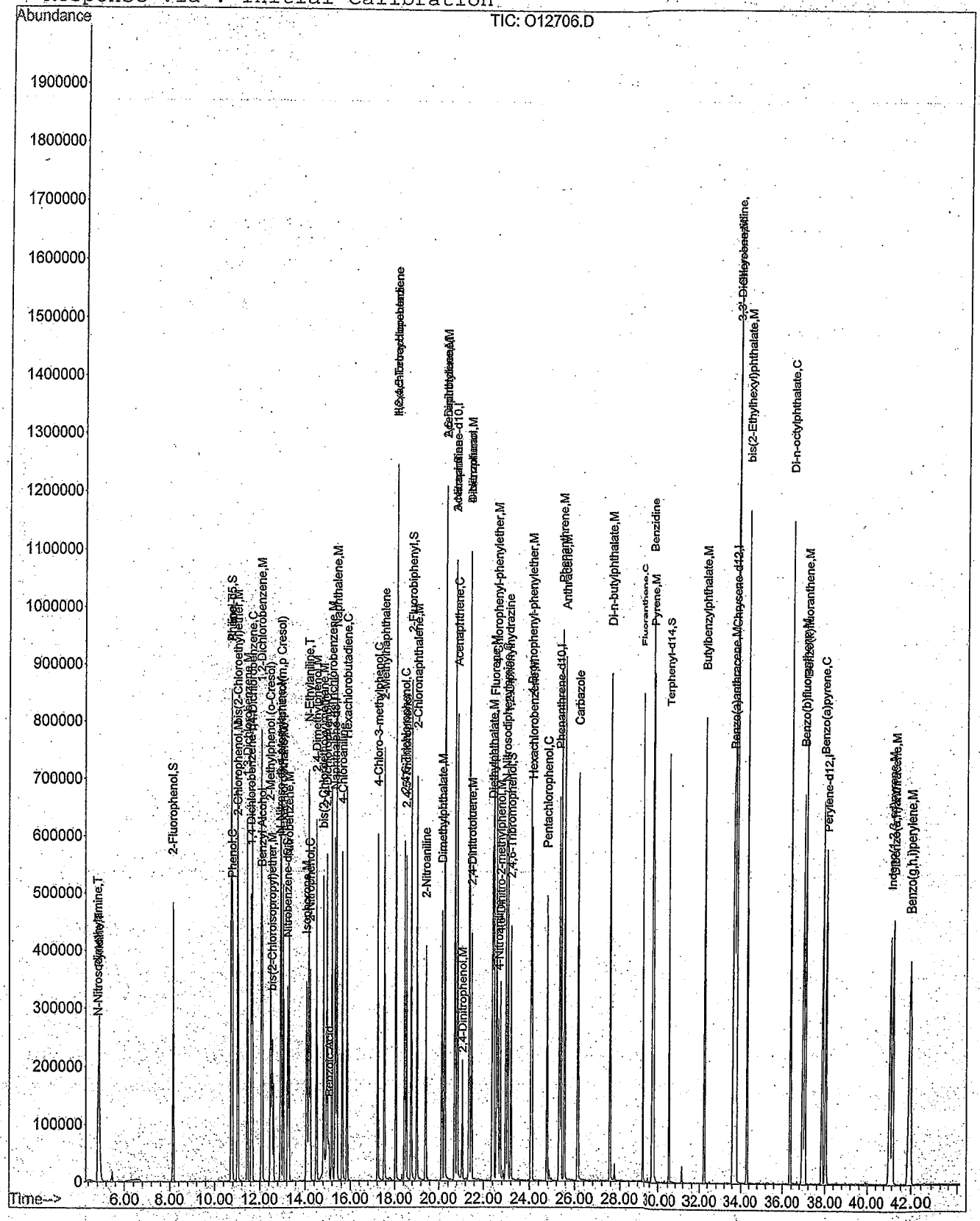
Quantitation Report

Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration



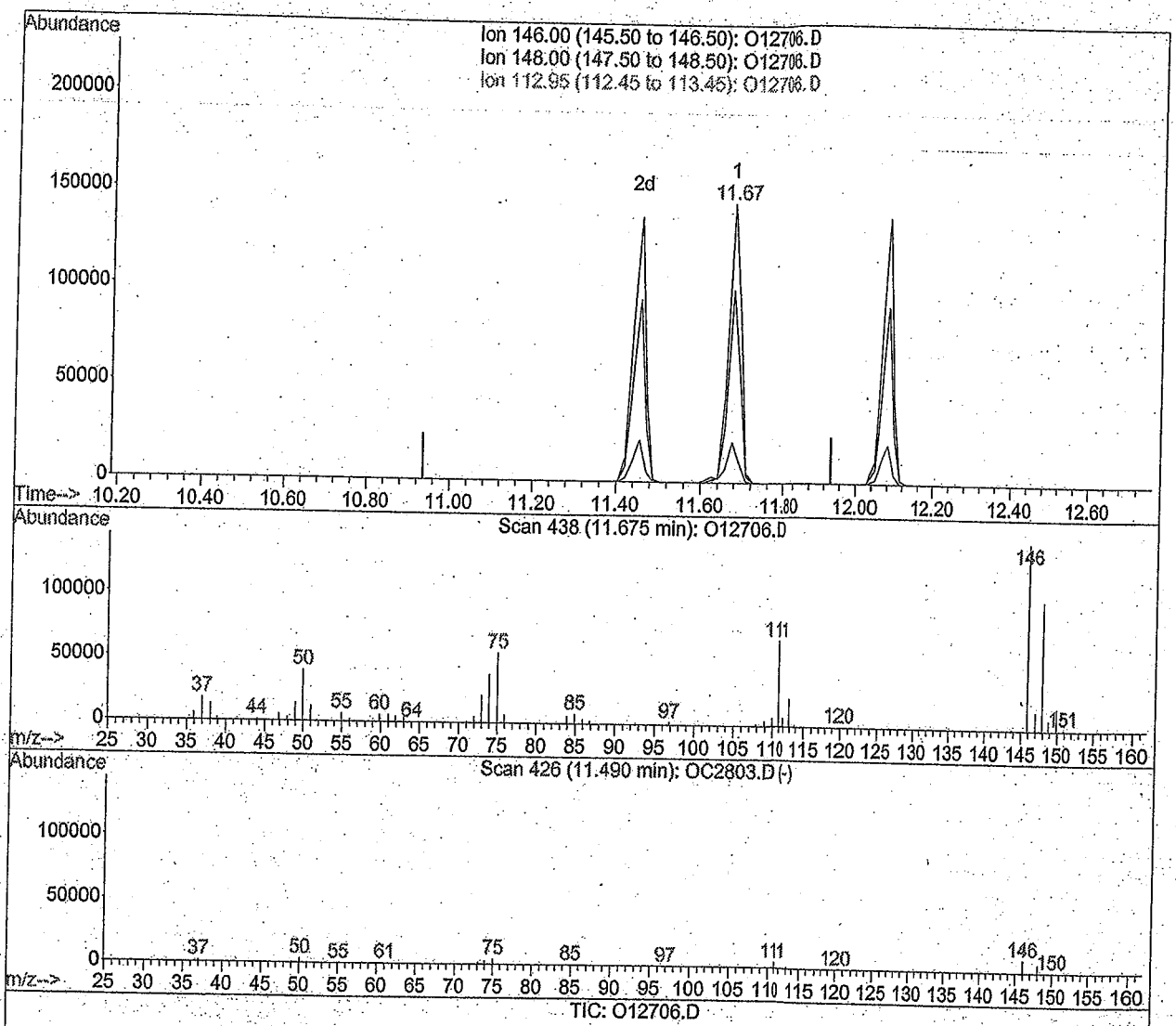
Quantitation Report (Qedit)

Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:37 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration



(10) 1,3-Dichlorobenzene (M)

11.67min 54.80mg/L

response 289634

BEFORE

Ion	Exp%	Act%
146.00	100	100
148.00	63.30	69.06
112.95	12.70	14.65
0.00	0.00	0.00

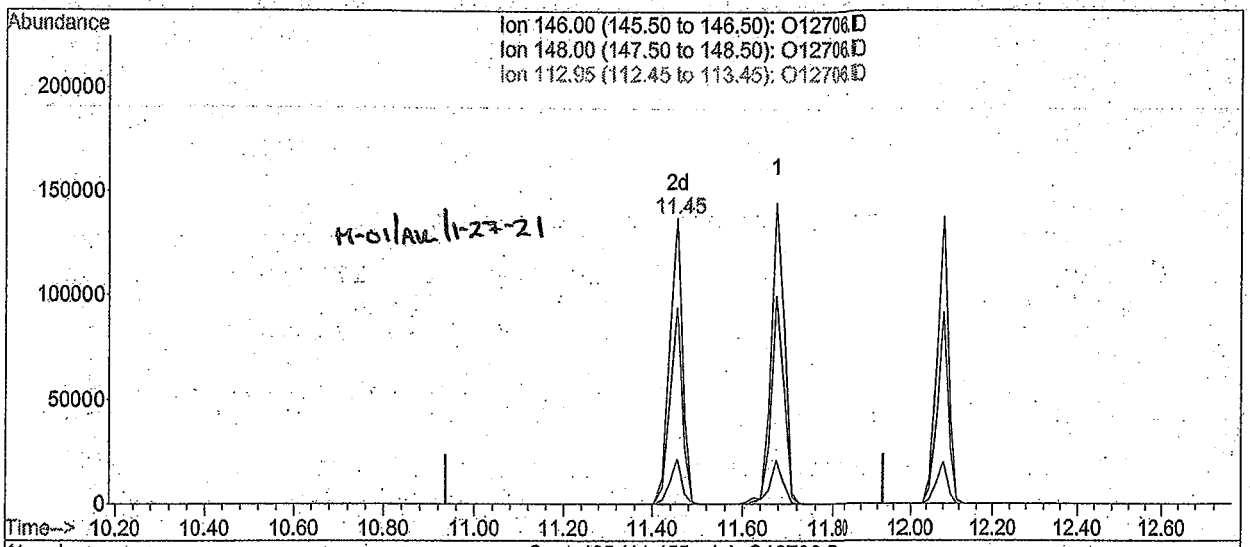
Quantitation Report (Qedit)

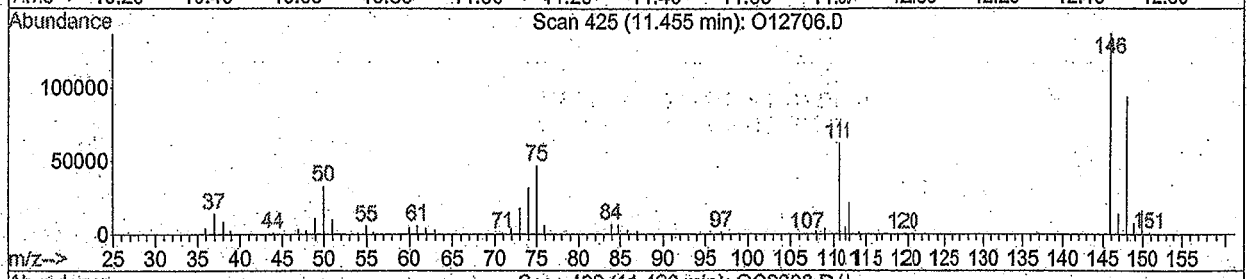
Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

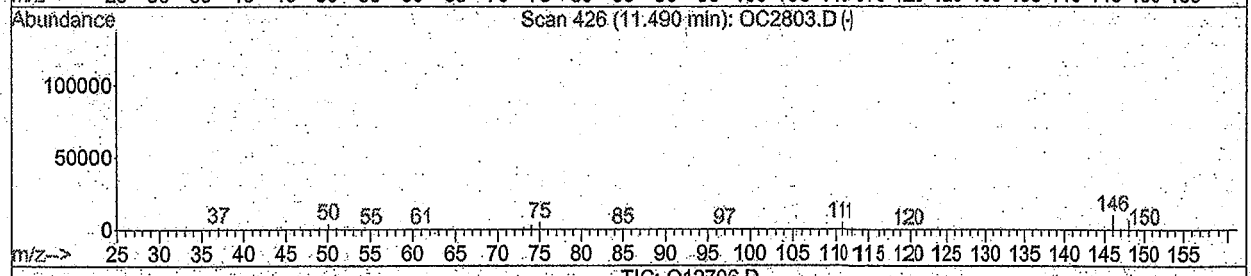
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(10) 1,3-Dichlorobenzene (M)

11.45min 52.55mg/L m

response 277752

AFTER

Ion	Exp%	Act%
146.00	100	100
148.00	63.30	68.87
112.95	12.70	15.86#
0.00	0.00	0.00

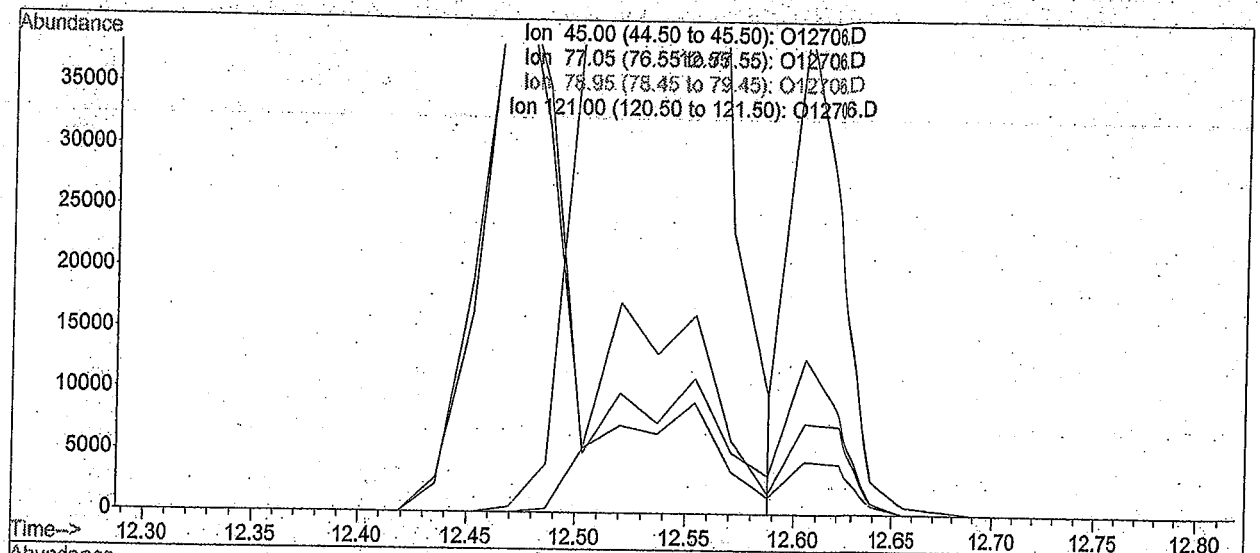
Quantitation Report (Qedit)

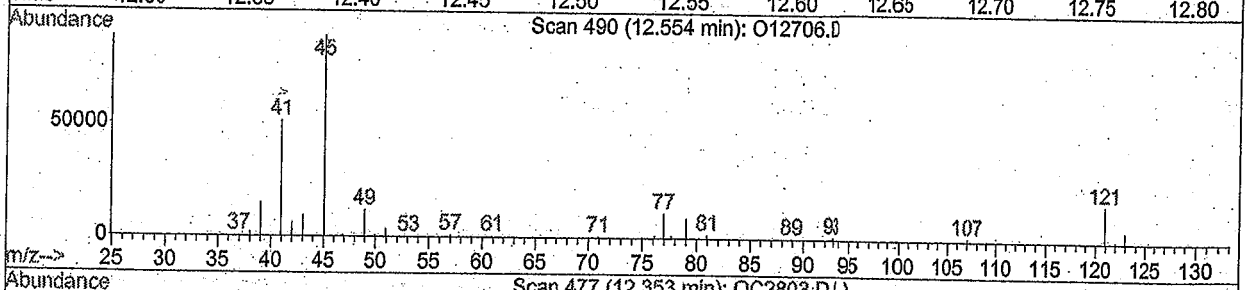
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

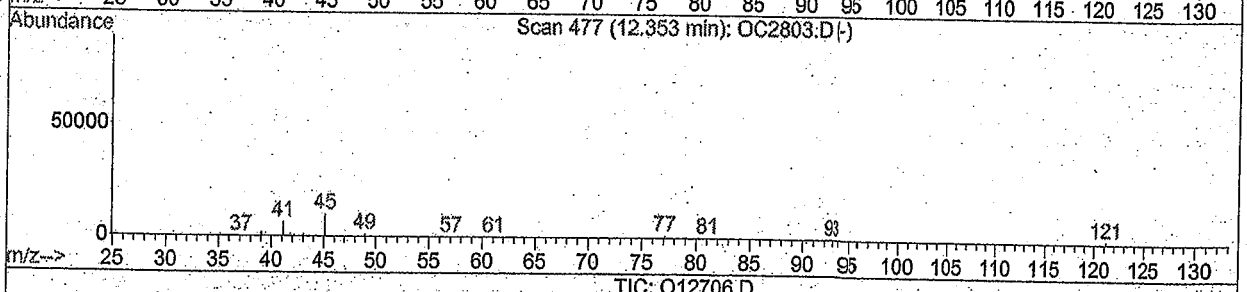
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(14) bis(2-Chloroisopropyl)ether (M)

12.55min 35.00mg/L

response 329906

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.52#
78.95	8.00	10.27#
121.00	13.30	18.39#

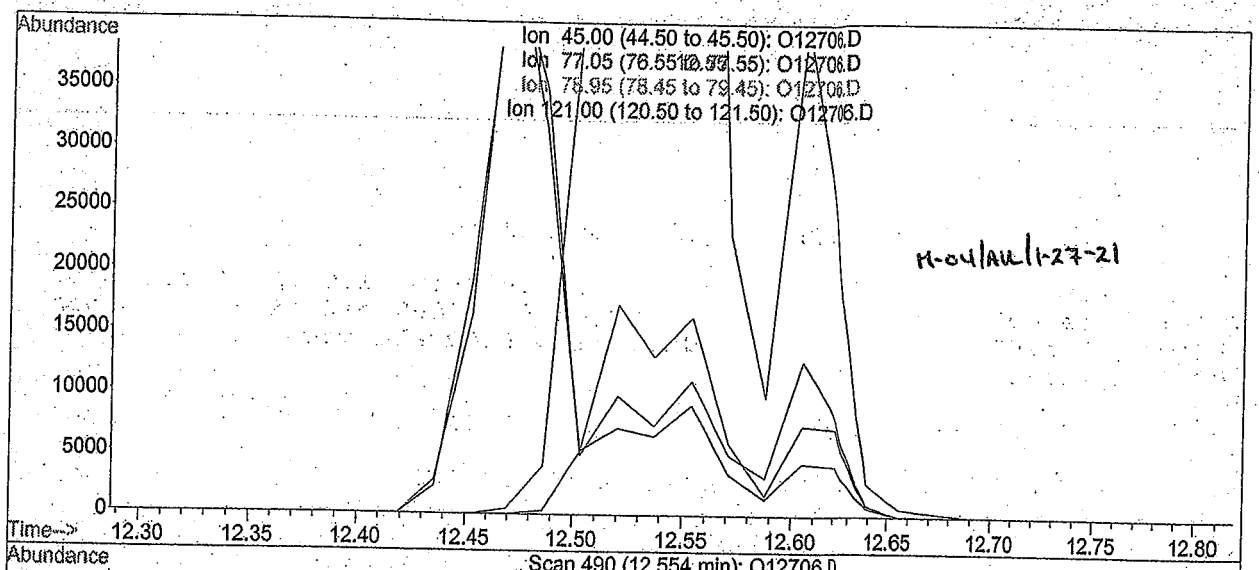
Quantitation Report (Qedit)

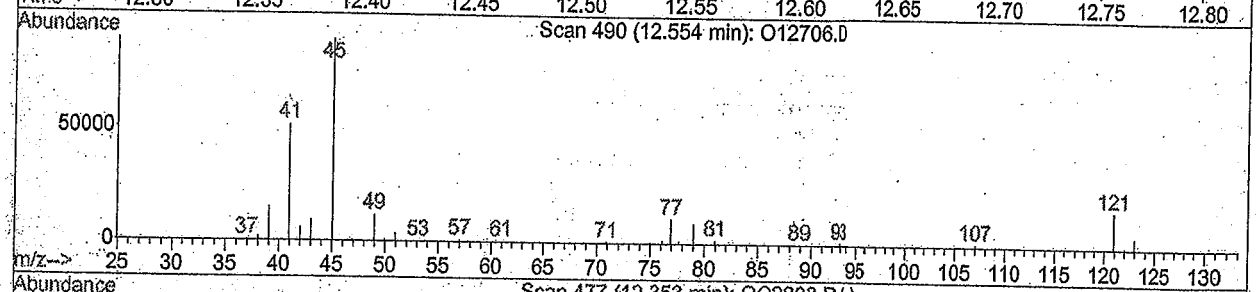
Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

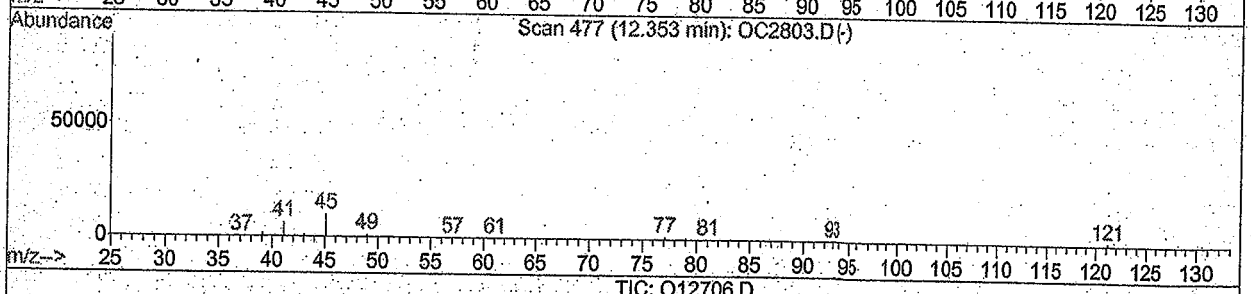
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(14) bis(2-Chloroisopropyl)ether (M)

12.55min 42.30mg/L m

response 398694

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.52#
78.95	8.00	10.27#
121.00	13.30	18.39#

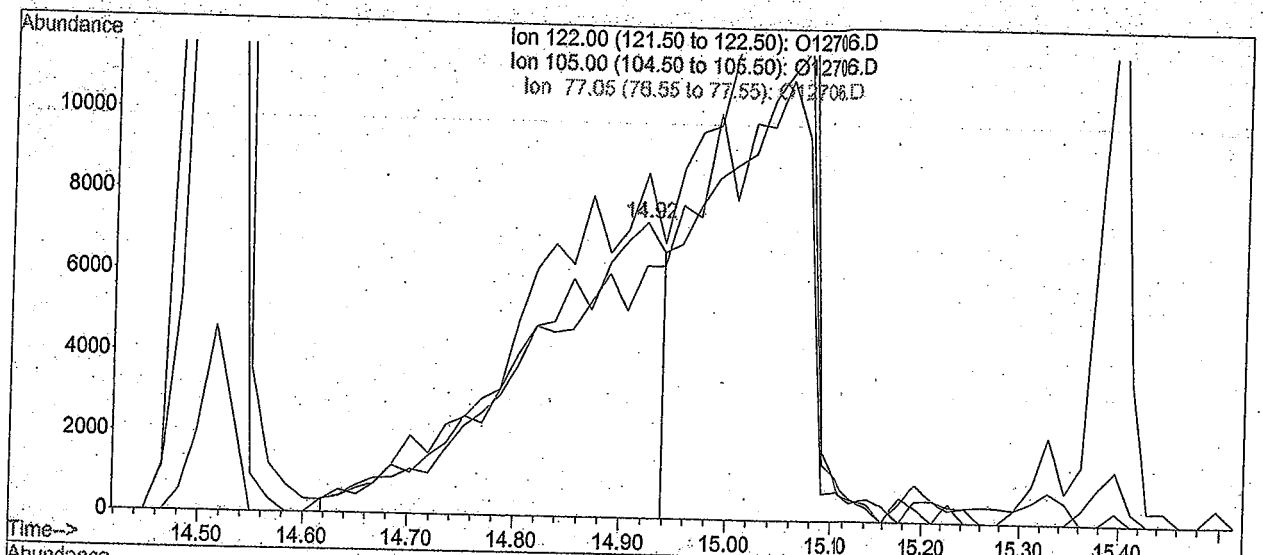
Qualitation Report (Qedit)

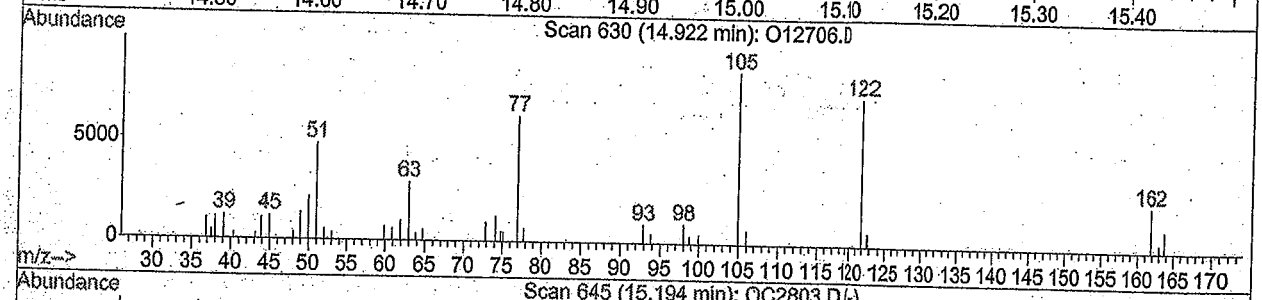
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

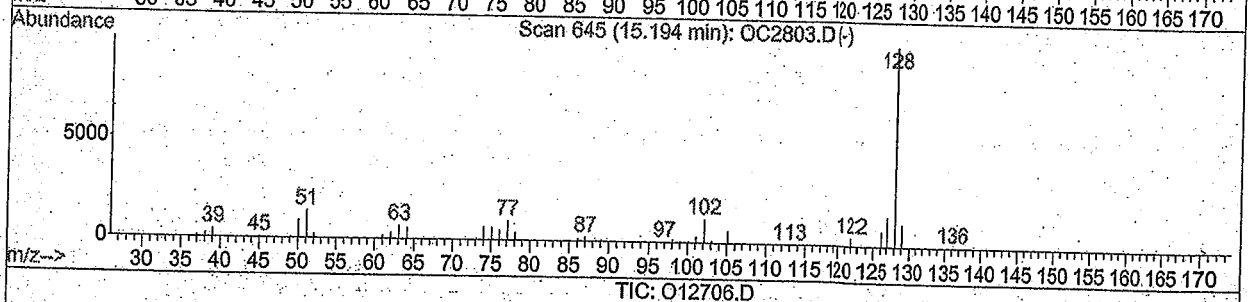
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(27) Benzoic Acid

14.92min 24.33mg/L

response 67125

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	116.62
77.05	93.20	85.24
0.00	0.00	0.00

BEFORE

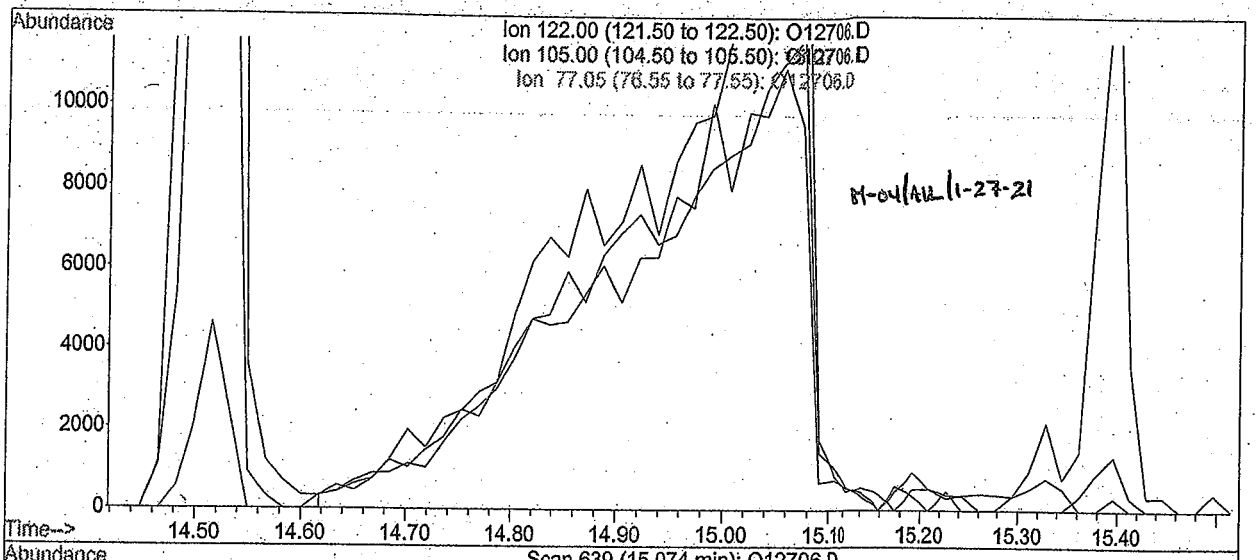
Quantitation Report (Qedit)

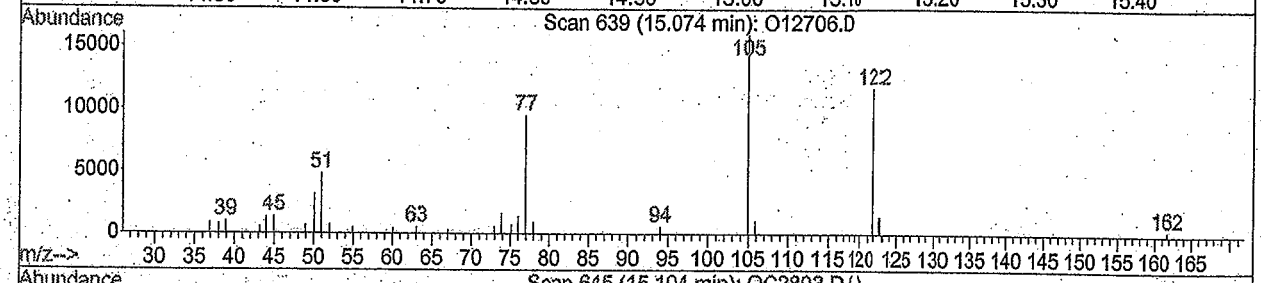
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

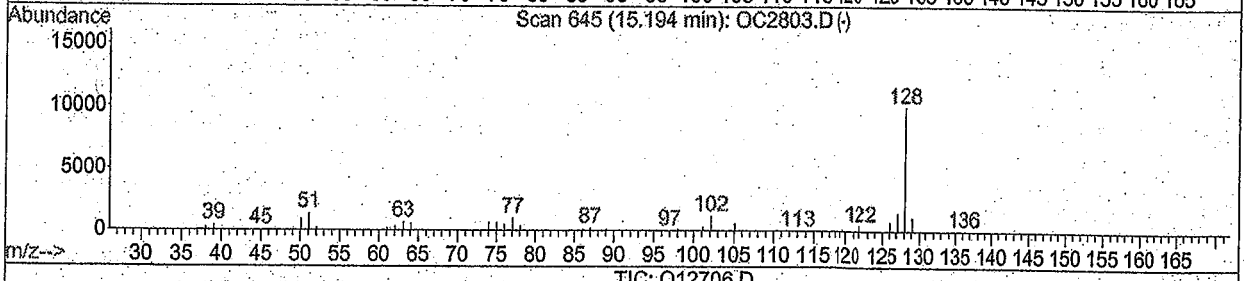
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(27) Benzoic Acid

15.07min 52.91mg/L m

response 145971

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	136.87
77.05	93.20	81.43
0.00	0.00	0.00

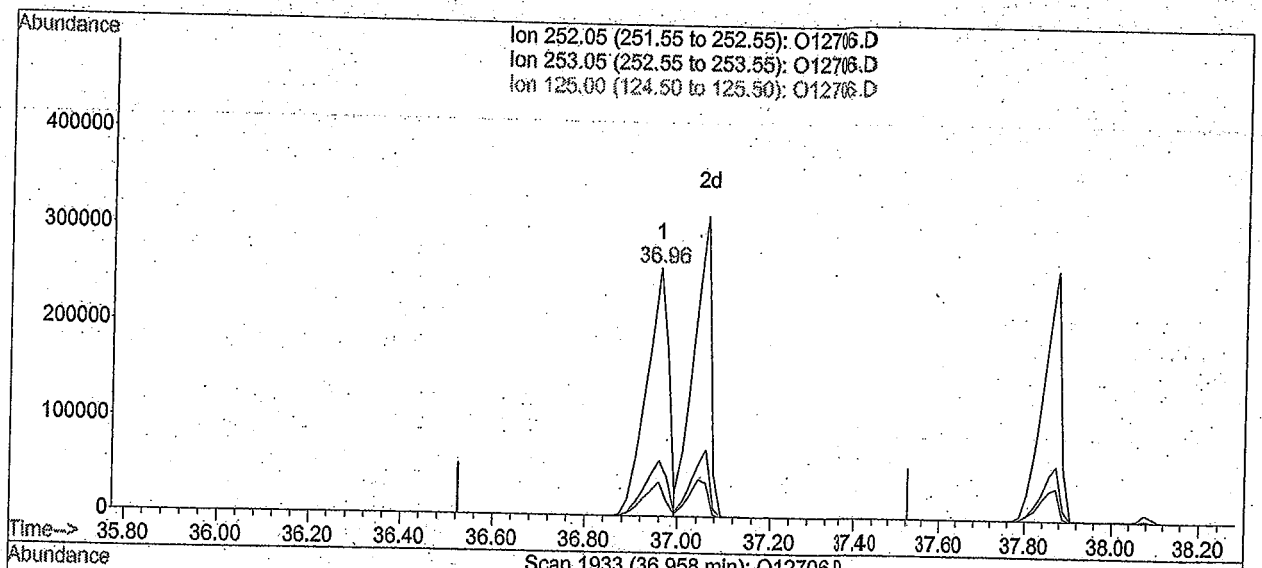
Quantitation Report (Qedit)

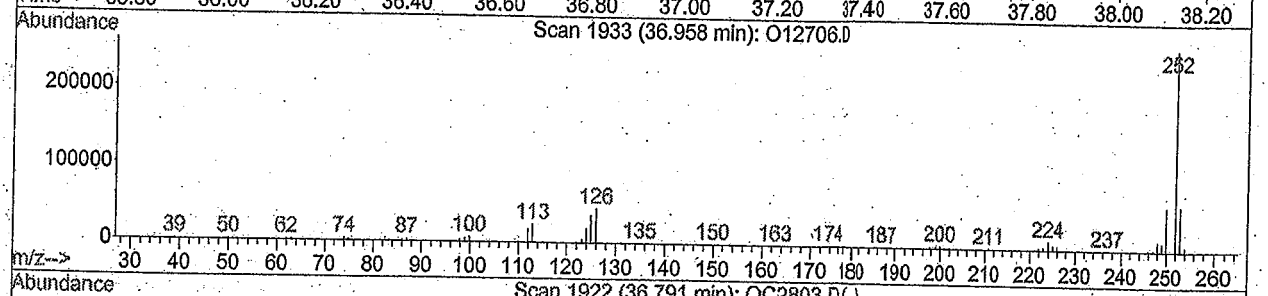
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

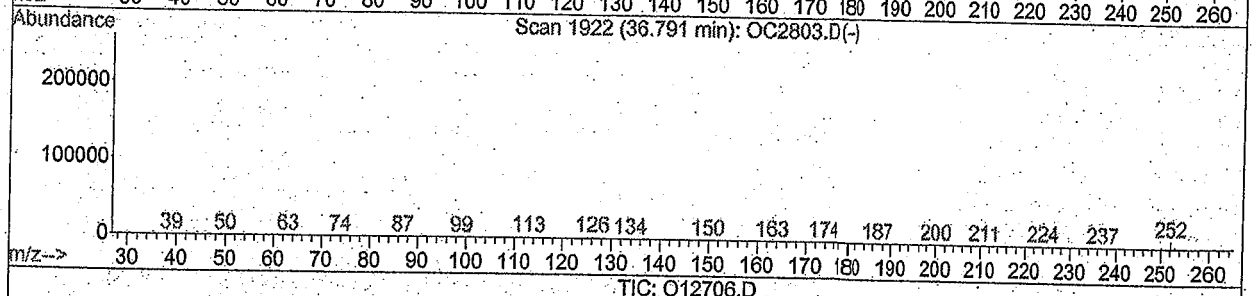
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(81) Benzo(k)fluoranthene (M)

36.96min 57.47mg/L

response 855348

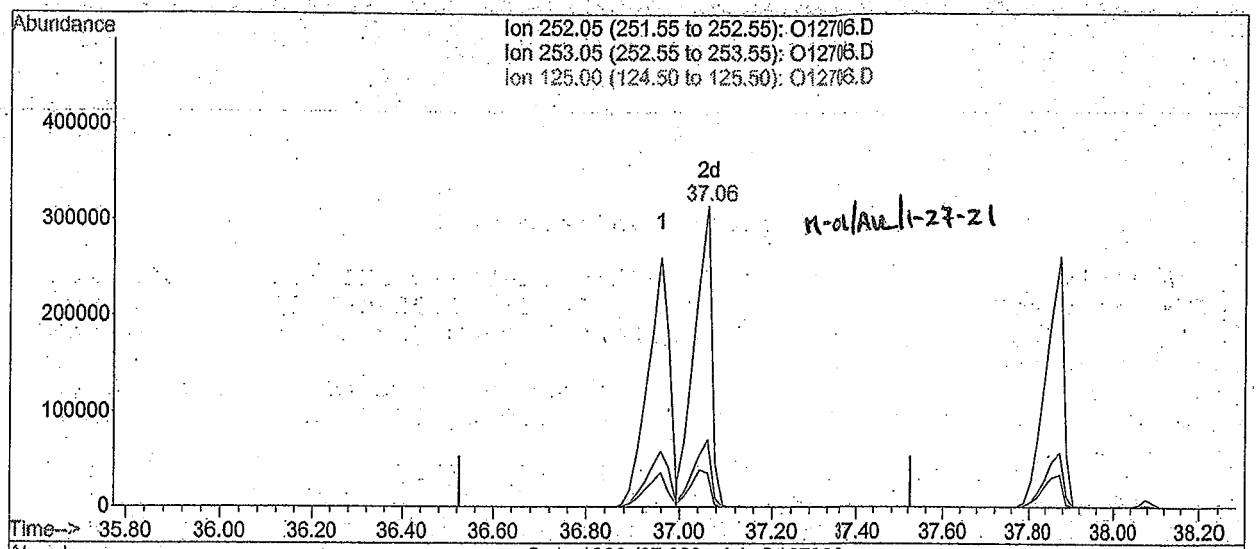
BEFORE

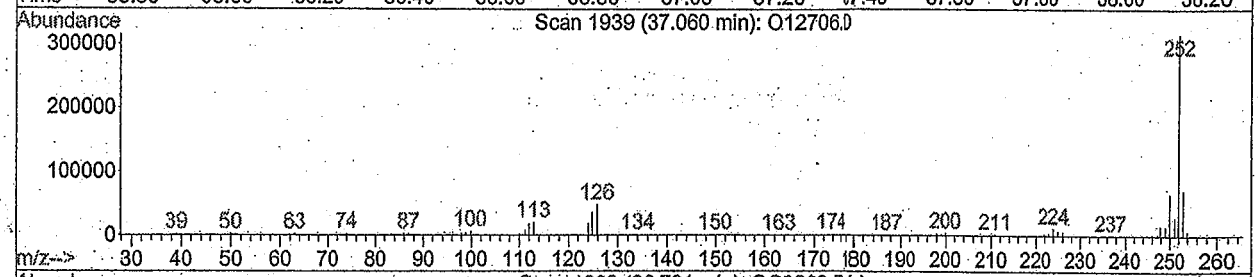
Ion	Exp%	Act%
252.05	100	100
253.05	21.80	22.41
125.00	17.20	13.86
0.00	0.00	0.00

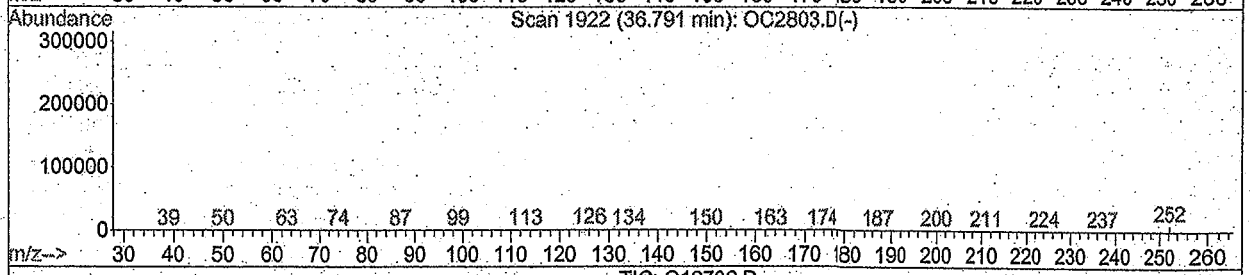
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(81) Benzo(k)fluoranthene (M)

37.06min 55.88mg/L m

response 831659

AFTER

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	22.43
125.00	17.20	11.28#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	171496	40.00	ng/ml	0.02
19) Naphthalene-d8	15.35	136	562187	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	361387	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	672138	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	554290	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	608832	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.16	112	391563	75.07	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 75.07%#			
7) Phenol-d5	10.78	99	539998	80.12	mg/L	0.04
Spiked Amount 100.000	Range 11 - 40		Recovery = 80.12%#			
20) Nitrobenzene-d5	13.25	82	447905	91.98	mg/L	0.02
Spiked Amount 100.000	Range 36 - 103		Recovery = 91.98%			
40) 2-Fluorobiphenyl	18.76	172	1004779	89.63	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 89.63%			
60) 2,4,6-Tribromophenol	23.21	330	176491	88.02	mg/L	0.02
Spiked Amount 100.000	Range 30 - 105		Recovery = 88.02%			
72) Terphenyl-d14	30.52	244	770733	93.34	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 93.34%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.84	42	273883	86.75	mg/L	90
3) Pyridine	4.88	79	453128	69.15	mg/L	89
5) Aniline	10.76	93	599278	71.28	mg/L	97
6) bis(2-Chloroethyl)ether	11.03	93	410691	73.43	mg/L	98
8) 2-Chlorophenol	11.05	128	414727	78.25	mg/L	93
9) Phenol	10.81	94	568462	77.46	mg/L	90
10) 1,3-Dichlorobenzene	11.46	146	444290	79.09	mg/L	99
11) 1,4-Dichlorobenzene	11.69	146	461781	77.78	mg/L	97
12) 1,2-Dichlorobenzene	12.08	146	433156	78.13	mg/L	95
13) Benzyl Alcohol	12.15	108	289681	79.93	mg/L	97
14) bis(2-Chloroisopropyl)ethe	12.56	45	642227	68.06	mg/L	97
15) 2-Methylphenol (o-Cresol)	12.49	107	353189	77.16	mg/L	95
16) 3,4-Methylphenol(m,p Creso	12.98	107	515519	75.68	mg/L	95
17) N-Nitroso-di-n-propylamine	12.96	70	305503	81.38	mg/L	99
18) Hexachloroethane	13.05	117	215550	85.06	mg/L	92
21) Nitrobenzene	13.32	77	415504	83.13	mg/L	93
22) Isophorone	14.13	82	802602	86.59	mg/L	97
23) N-Ethylaniline	14.20	106	749521	94.81	mg/L	95
24) 2-Nitrophenol	14.25	139	229810	96.61	mg/L	99
25) 2,4-Dimethylphenol	14.53	122	373578	95.14	mg/L	97
26) bis(2-Chloroethoxy)methane	14.84	93	496028	84.44	mg/L	95
27) Benzoic Acid	15.18	122	254350m	94.46	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	434458	103.25	mg/L	98
29) 2,4-Dichlorophenol	14.99	162	388625	105.83	mg/L	97
30) Naphthalene	15.41	128	1240631	96.36	mg/L	98
31) 4-Chloroaniline	15.67	127	531809	91.50	mg/L	99
32) Hexachlorobutadiene	15.87	225	282071	107.53	mg/L	97
33) 4-Chloro-3-methylphenol	17.26	107	383787	99.79	mg/L	96
34) 2-Methylnaphthalene	17.54	142	762555	94.63	mg/L	94
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	454325	84.94	mg/L	98
37) Hexachlorocyclopentadiene	18.07	237	293525	96.97	mg/L	100
38) 2,4,6-Trichlorophenol	18.47	196	330332	94.42	mg/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	18.54	196	330449	87.31 mg/L	96
41)	2-Chloronaphthalene	19.03	162	809371	85.09 mg/L	94
42)	2-Nitroaniline	19.44	65	263044	68.67 mg/L	97
43)	Dimethylphthalate	20.17	163	917551	86.79 mg/L	97
44)	Acenaphthylene	20.28	152	1237625	79.78 mg/L	98
45)	2,6-Dinitrotoluene	20.28	165	215412	86.15 mg/L	92
46)	3-Nitroaniline	20.76	138	240079	74.71 mg/L #	77
47)	Acenaphthene	20.84	154	679049	77.02 mg/L	93
48)	Dibenzofuran	21.40	168	1204667	89.67 mg/L	93
49)	2,4-Dinitrotoluene	21.52	165	315590	97.30 mg/L #	92
50)	4-Nitrophenol	21.42	65	215977	77.28 mg/L #	31
51)	2,4-Dinitrophenol	21.08	184	133404	85.12 mg/L #	82
52)	Diethylphthalate	22.42	149	933635	85.24 mg/L	94
53)	Fluorene	22.47	166	936304	91.20 mg/L	95
54)	4-Chlorophenyl-phenylether	22.58	204	485036	95.06 mg/L	96
55)	4-Nitroaniline	22.70	138	232570	72.15 mg/L	96
57)	4,6-Dinitro-2-methylphenol	22.77	198	190015	85.09 mg/L #	88
58)	N-Nitrosodiphenylamine	22.99	169	573226	79.68 mg/L	96
59)	1,2-Diphenylhydrazine	23.07	77	1099683	71.47 mg/L	99
61)	4-Bromophenyl-phenylether	24.09	248	290798	83.41 mg/L	96
62)	Hexachlorobenzene	24.14	284	328634	88.81 mg/L	98
63)	Pentachlorophenol	24.80	266	230181	91.91 mg/L	96
64)	Phenanthrene	25.43	178	1395048	87.84 mg/L	99
65)	Anthracene	25.58	178	1427497	88.82 mg/L	99
66)	Carbazole	26.17	167	1190767	81.00 mg/L	98
67)	Di-n-butylphthalate	27.57	149	1779442	78.65 mg/L	99
69)	Fluoranthene	29.11	202	1596633	91.93 mg/L	99
70)	Benzidine	29.74	184	1714335	203.63 mg/L	98
71)	Pyrene	29.79	202	1620652	95.83 mg/L	98
73)	Butylbenzylphthalate	32.27	149	752147	81.90 mg/L	86
74)	Benzo(a)anthracene	33.66	228	1438576	87.06 mg/L	98
75)	Chrysene	33.81	228	1401850	85.74 mg/L	98
76)	3,3'-Dichlorobenzidine	33.80	252	1126503	184.52 mg/L	91
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1130052	84.13 mg/L #	97
78)	Di-n-octylphthalate	36.37	149	1953116	79.62 mg/L	100
80)	Benzo(b)fluoranthene	36.99	252	1536906	92.53 mg/L	98
81)	Benzo(k)fluoranthene	37.09	252	1340128	87.87 mg/L	96
82)	Benzo(a)pyrene	37.89	252	1350855	90.90 mg/L	98
83)	Indeno(1,2,3-cd)pyrene	41.15	276	1281944	87.17 mg/L	100
84)	Dibenzo(a,h)anthracene	41.29	278	1291057	89.28 mg/L	97
85)	Benzo(g,h,i)perylene	42.03	276	1242721	86.30 mg/L	96

(#) = qualifier out of range (m) = manual integration

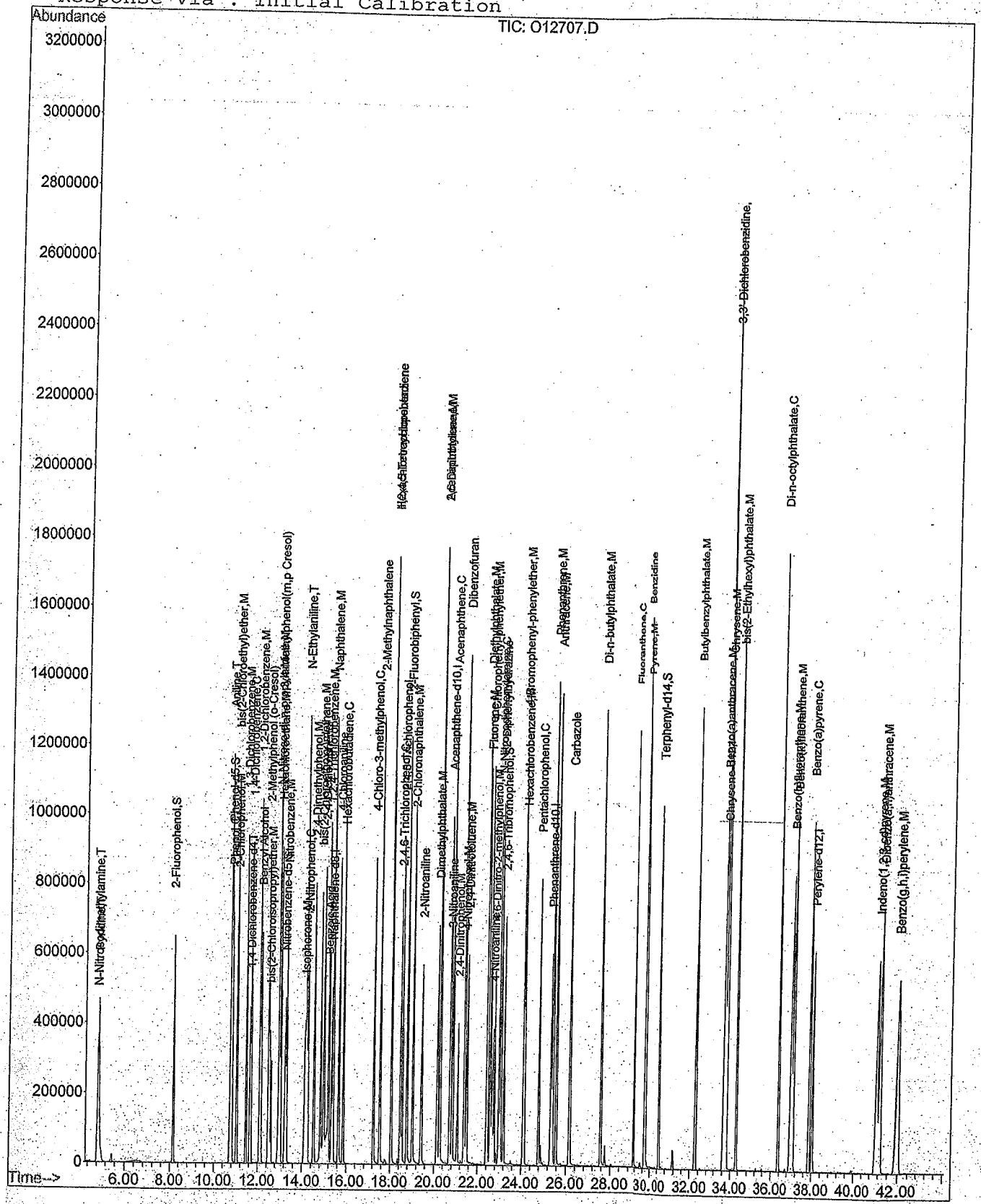
Quantitation Report

Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

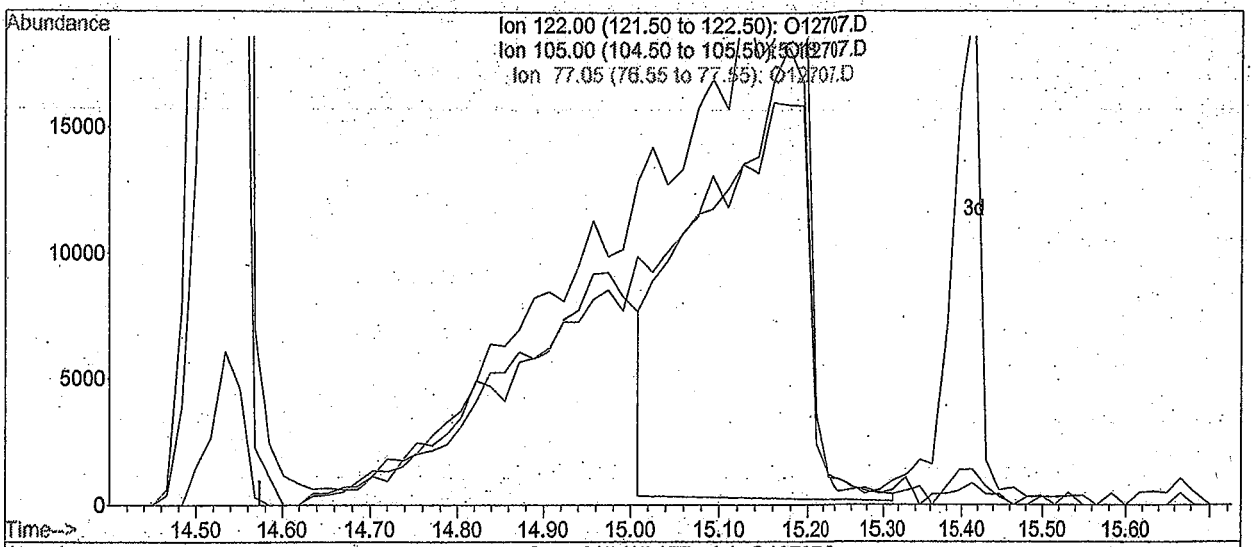
Quant Results File: TBNA.RES

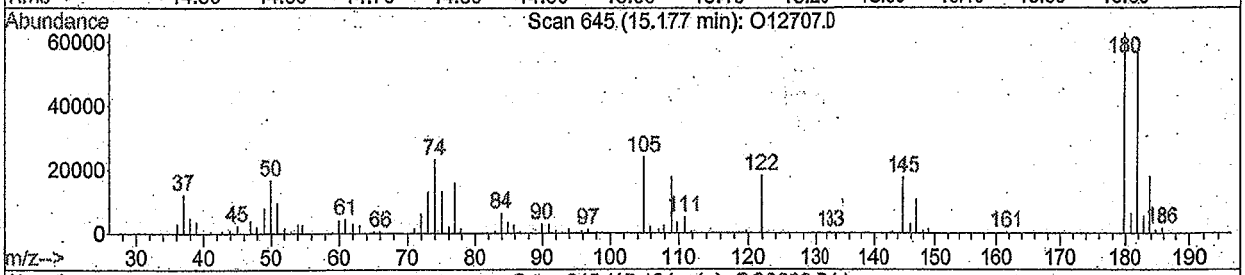
Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration

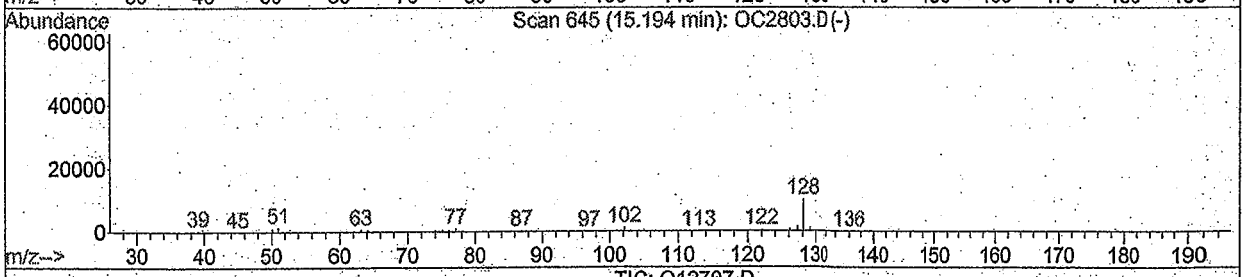


Data File : C:\OTIS\O1-27-21\O12707.D Vial: 7
Acq On : 27 Jan 2021 1:47 pm Operator: AVL
Sample : 80ppm BNA CALB / 21A1818 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 14:31 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Multiple Level Calibration







TIC: O12707.D

(27) Benzoic Acid

15.18min 55.70mg/L

response 149995

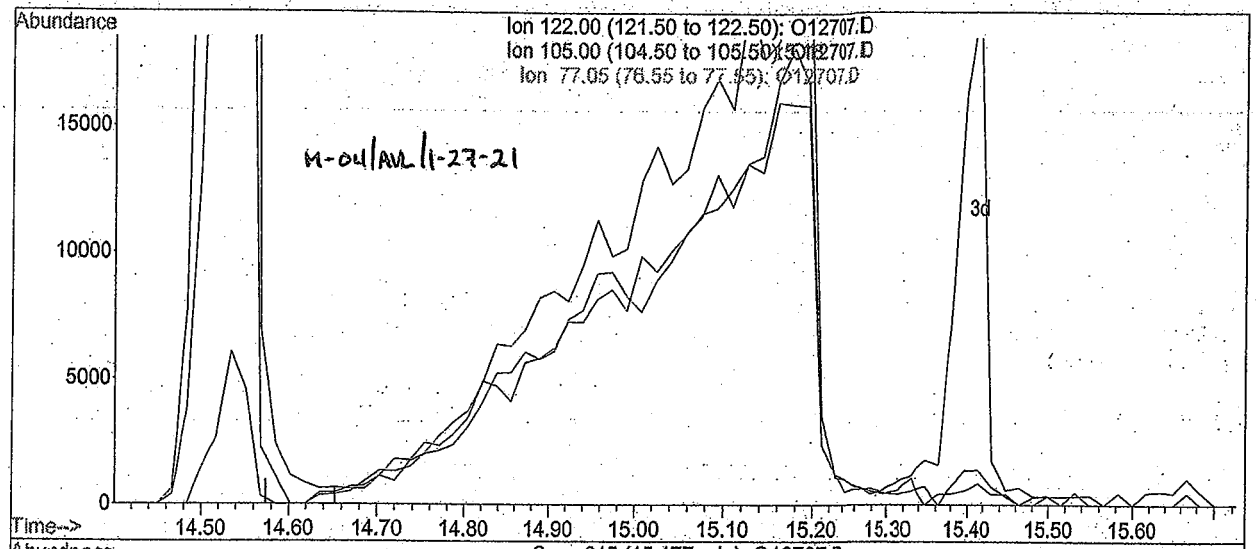
BEFORE

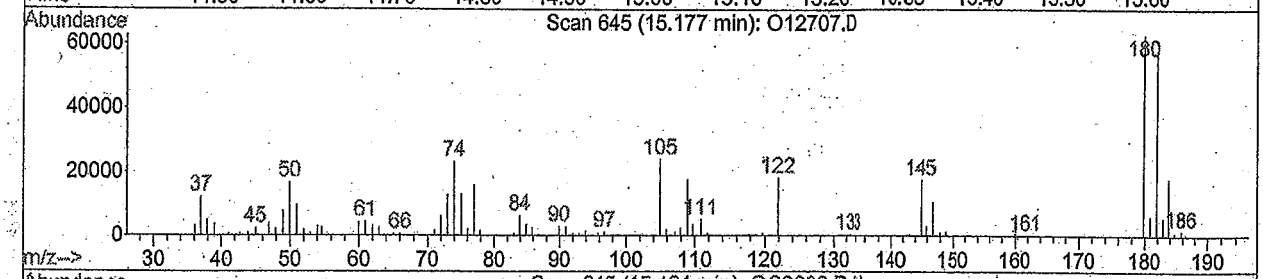
Ion	Exp%	Act%
122.00	100	100
105.00	136.90	131.98
77.05	81.40	87.50
0.00	0.00	0.00

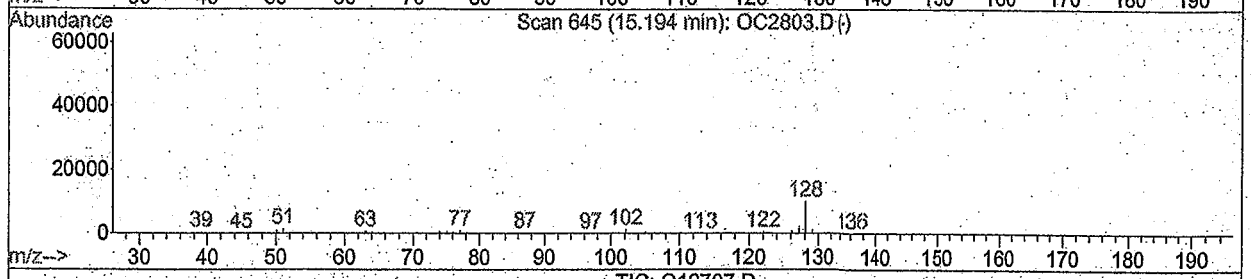
Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Multiple Level Calibration







TIC: O12707.D

(27) Benzoic Acid

15.18min 94.46mg/L m

response 254350

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	131.98
77.05	81.40	87.50
0.00	0.00	0.00

AFTER

Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	171159	40.00	ng/ml	0.02
19) Naphthalene-d8	15.35	136	601595	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	364054	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	661448	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	540985	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	610776	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.17	112	517491	100.61	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 100.61%#			
7) Phenol-d5	10.80	99	673270	100.51	mg/L	0.05
Spiked Amount 100.000	Range 11 - 40		Recovery = 100.51%#			
20) Nitrobenzene-d5	13.26	82	558278	104.29	mg/L	0.03
Spiked Amount 100.000	Range 36 - 103		Recovery = 104.29%#			
40) 2-Fluorobiphenyl	18.78	172	1242746	106.15	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 106.15%			
60) 2,4,6-Tribromophenol	23.23	330	210483	105.55	mg/L	0.03
Spiked Amount 100.000	Range 30 - 105		Recovery = 105.55%#			
72) Terphenyl-d14	30.52	244	945682	111.94	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 111.94%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.86	42	354732	109.37	mg/L	95
3) Pyridine	4.88	79	588928	94.42	mg/L	90
5) Aniline	10.76	93	770358	93.99	mg/L	98
6) bis(2-Chloroethyl)ether	11.03	93	525632	97.21	mg/L	95
8) 2-Chlorophenol	11.05	128	530843	100.42	mg/L #	91
9) Phenol	10.83	94	709873	97.55	mg/L	98
10) 1,3-Dichlorobenzene	11.47	146	575768	101.80	mg/L	94
11) 1,4-Dichlorobenzene	11.69	146	613632	102.80	mg/L	93
12) 1,2-Dichlorobenzene	12.10	146	561534	100.49	mg/L	97
13) Benzyl Alcohol	12.17	108	382414	105.69	mg/L	89
14) bis(2-Chloroisopropyl)ethe	12.57	45	781826m	86.86	mg/L	
15) 2-Methylphenol (o-Cresol)	12.50	107	441858	97.43	mg/L	95
16) 3,4-Methylphenol(m,p Creso	12.99	107	673716	99.79	mg/L	91
17) N-Nitroso-di-n-propylamine	12.98	70	377205	101.22	mg/L	95
18) Hexachloroethane	13.05	117	265148	103.21	mg/L	88
21) Nitrobenzene	13.33	77	564178	104.78	mg/L	92
22) Isophorone	14.14	82	1009258	99.71	mg/L	98
23) N-Ethylaniline	14.20	106	976301	109.78	mg/L	94
24) 2-Nitrophenol	14.26	139	309731	117.15	mg/L	93
25) 2,4-Dimethylphenol	14.55	122	456983	103.87	mg/L	96
26) bis(2-Chloroethoxy)methane	14.85	93	641187	100.98	mg/L	96
27) Benzoic Acid	15.26	122	323737m	109.12	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	571159	115.86	mg/L	95
29) 2,4-Dichlorophenol	15.01	162	472537	110.75	mg/L	95
30) Naphthalene	15.41	128	1484486	103.03	mg/L	98
31) 4-Chloroaniline	15.67	127	687642	106.39	mg/L	97
32) Hexachlorobutadiene	15.87	225	329810	104.46	mg/L	91
33) 4-Chloro-3-methylphenol	17.26	107	482106	109.97	mg/L	100
34) 2-Methylnaphthalene	17.54	142	974688	106.98	mg/L	93
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	587537	104.39	mg/L	99
37) Hexachlorocyclopentadiene	18.07	237	352259	109.29	mg/L	96
38) 2,4,6-Trichlorophenol	18.47	196	392966	105.72	mg/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.56	196	421086	106.81	mg/L		97
41)	2-Chloronaphthalene	19.03	162	988904	101.56	mg/L		92
42)	2-Nitroaniline	19.45	65	347708	95.17	mg/L		98
43)	Dimethylphthalate	20.18	163	1128061	102.92	mg/L		99
44)	Acenaphthylene	20.28	152	1497336	96.40	mg/L		99
45)	2,6-Dinitrotoluene	20.30	165	275054	108.19	mg/L		90
46)	3-Nitroaniline	20.77	138	309099	98.83	mg/L	#	74
47)	Acenaphthene	20.86	154	903908	102.44	mg/L		93
48)	Dibenzofuran	21.40	168	1453041	104.42	mg/L		92
49)	2,4-Dinitrotoluene	21.54	165	400415	118.90	mg/L	#	93
50)	4-Nitrophenol	21.43	65	278047	101.75	mg/L	#	23
51)	2,4-Dinitrophenol	21.10	184	182088	117.18	mg/L	#	81
52)	Diethylphthalate	22.43	149	1182504	105.58	mg/L		95
53)	Fluorene	22.47	166	1112603	104.27	mg/L		97
54)	4-Chlorophenyl-phenylether	22.58	204	618781	113.70	mg/L		97
55)	4-Nitroaniline	22.74	138	301598	96.53	mg/L		93
57)	4,6-Dinitro-2-methylphenol	22.79	198	262164	120.37	mg/L		98
58)	N-Nitrosodiphenylamine	23.01	169	718207	101.11	mg/L		89
59)	1,2-Diphenylhydrazine	23.07	77	1313316	91.89	mg/L		95
61)	4-Bromophenyl-phenylether	24.09	248	351965	101.12	mg/L	#	90
62)	Hexachlorobenzene	24.16	284	412251	110.32	mg/L	#	85
63)	Pentachlorophenol	24.82	266	295055	115.00	mg/L		92
64)	Phenanthrene	25.42	178	1720897	107.46	mg/L		99
65)	Anthracene	25.59	178	1763956	108.16	mg/L		99
66)	Carbazole	26.19	167	1533351	105.74	mg/L		98
67)	Di-n-butylphthalate	27.59	149	2210653	101.04	mg/L		100
69)	Fluoranthene	29.13	202	1944489	108.59	mg/L		98
70)	Benzidine	29.75	184	1964689	222.33	mg/L		99
71)	Pyrene	29.81	202	1977288	113.63	mg/L		99
73)	Butylbenzylphthalate	32.29	149	965777	107.27	mg/L	#	82
74)	Benzo(a)anthracene	33.68	228	1818265	107.90	mg/L		98
75)	Chrysene	33.83	228	1802862	109.43	mg/L		98
76)	3,3'-Dichlorobenzidine	33.81	252	1470478	237.57	mg/L		95
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1363830	103.26	mg/L		96
78)	Di-n-octylphthalate	36.38	149	2507529	105.36	mg/L		99
80)	Benzo(b)fluoranthene	37.01	252	1941621	111.63	mg/L		99
81)	Benzo(k)fluoranthene	37.09	252	1612790	101.05	mg/L		97
82)	Benzo(a)pyrene	37.91	252	1640074	105.67	mg/L		97
83)	Indeno(1,2,3-cd)pyrene	41.17	276	1559427	102.36	mg/L		97
84)	Dibenzo(a,h)anthracene	41.31	278	1574957	104.04	mg/L		94
85)	Benzo(g,h,i)perylene	42.07	276	1478561	98.77	mg/L		98

(#) = qualifier out of range (m) = manual integration

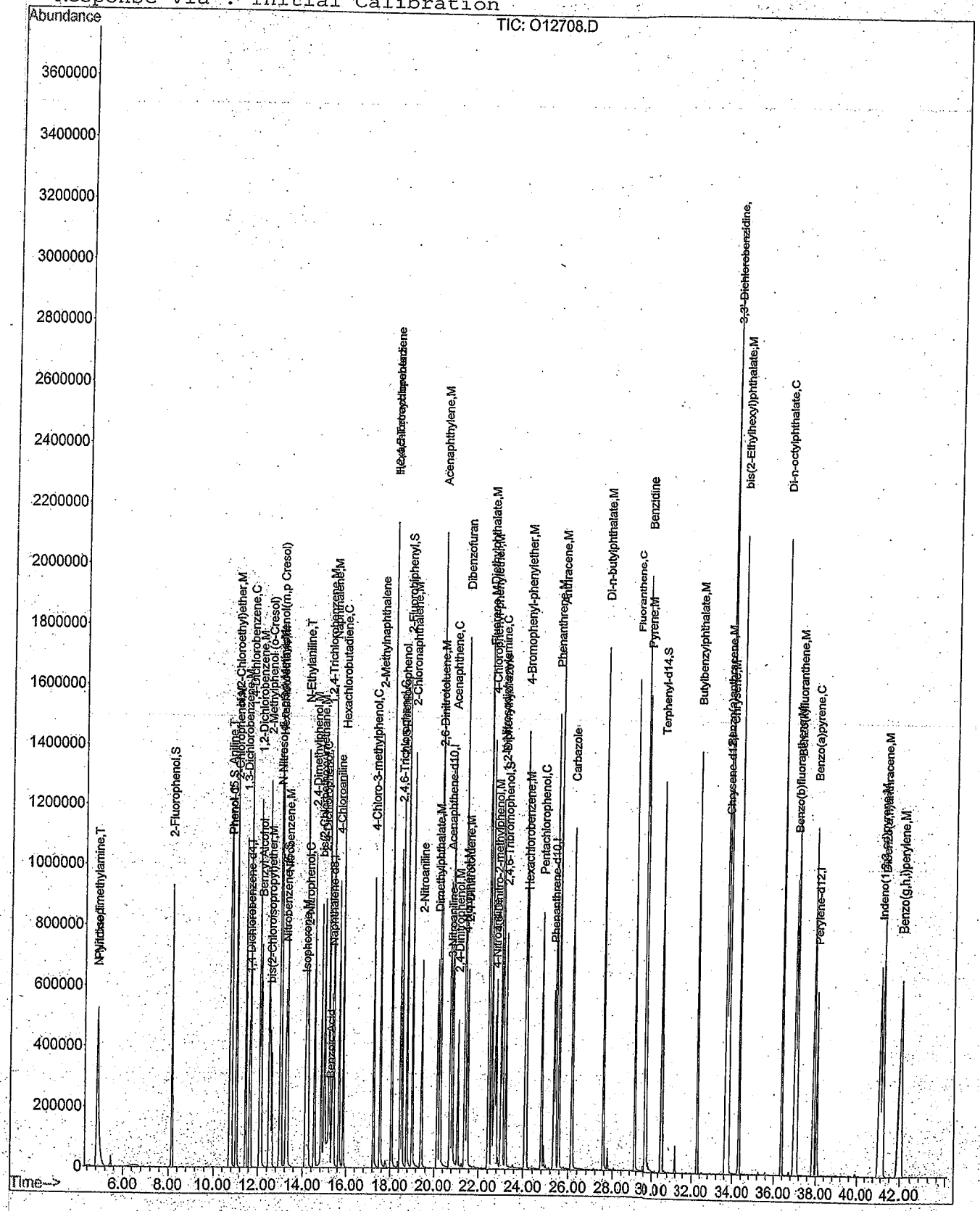
Quantitation Report

Data File : C:\OTIS\01-27-21\012708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration

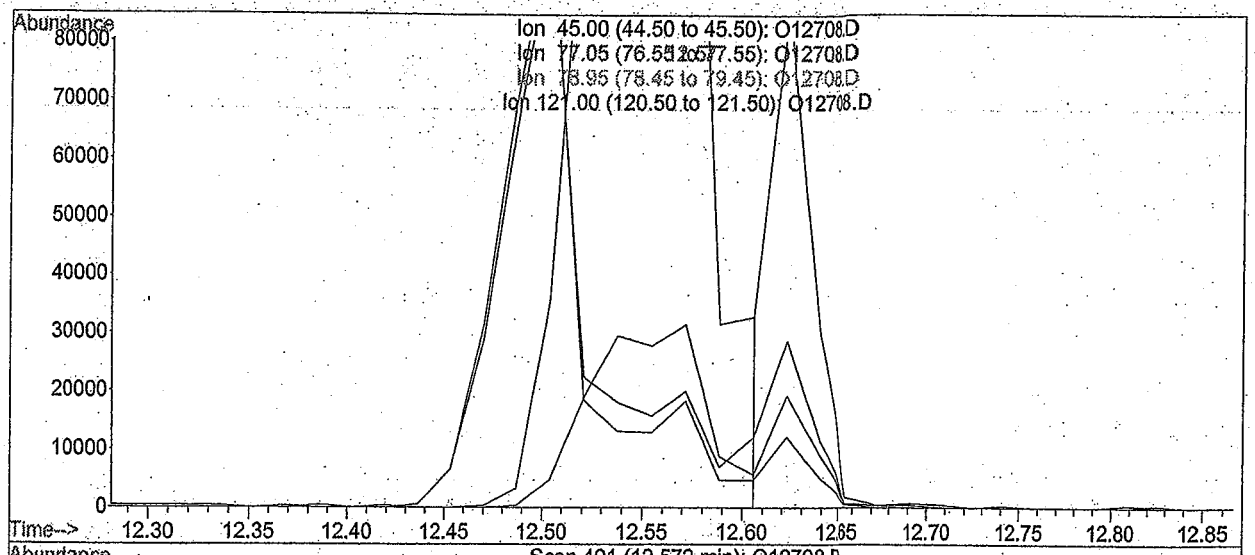


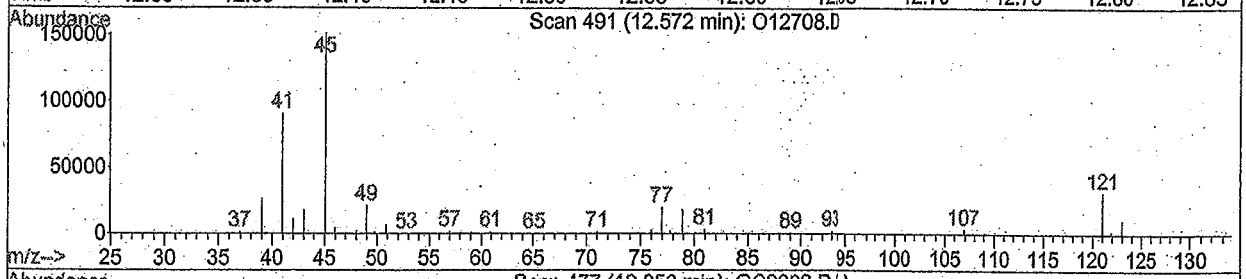
Quantitation Report (Qedit)

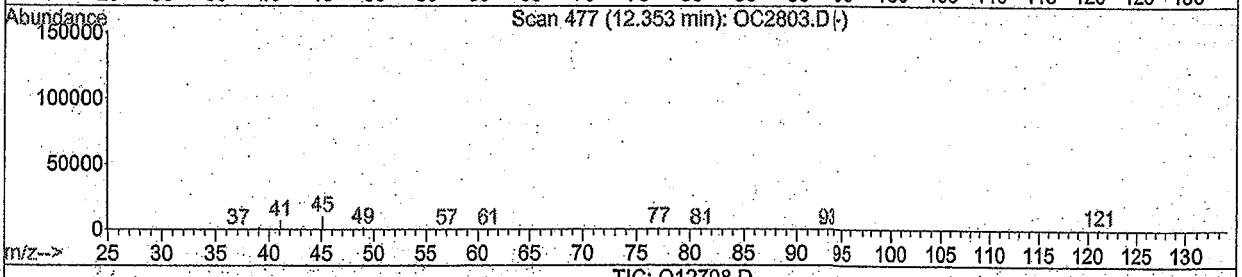
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Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:25 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 73.41mg/L

response 660805

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	13.22
78.95	10.30	12.12
121.00	18.40	20.82

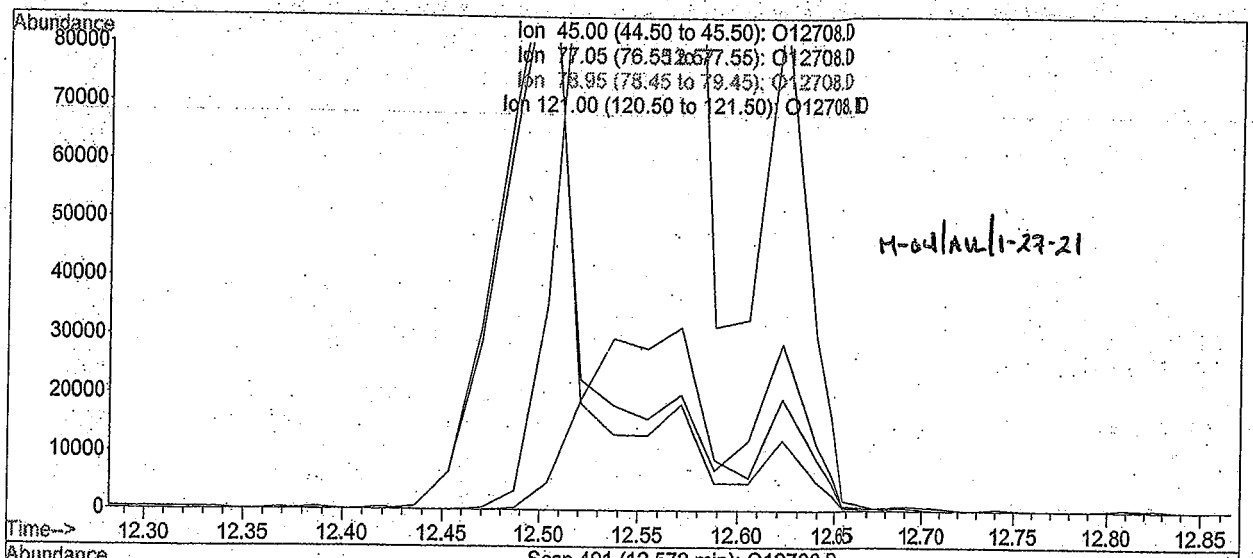
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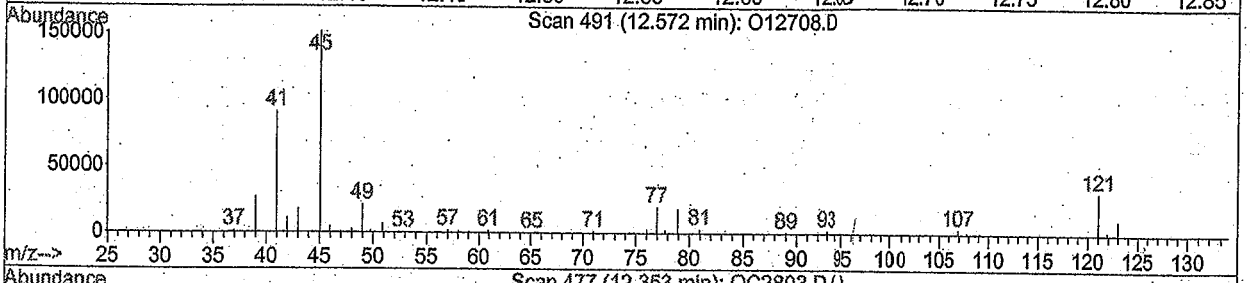
Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

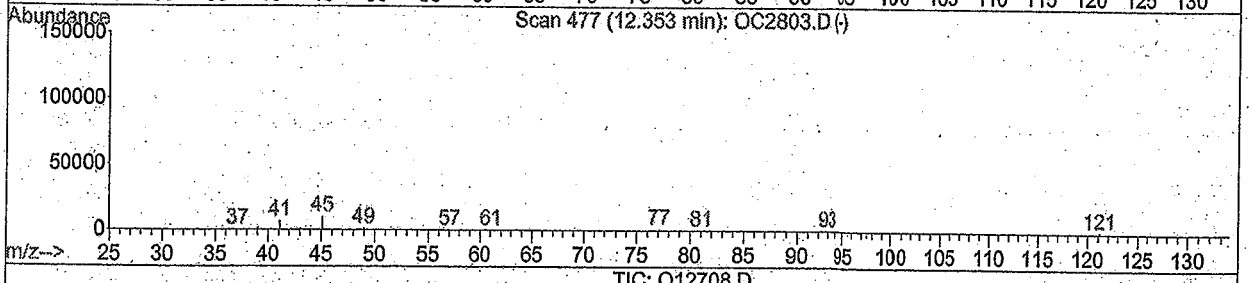
Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 86.86mg/L m

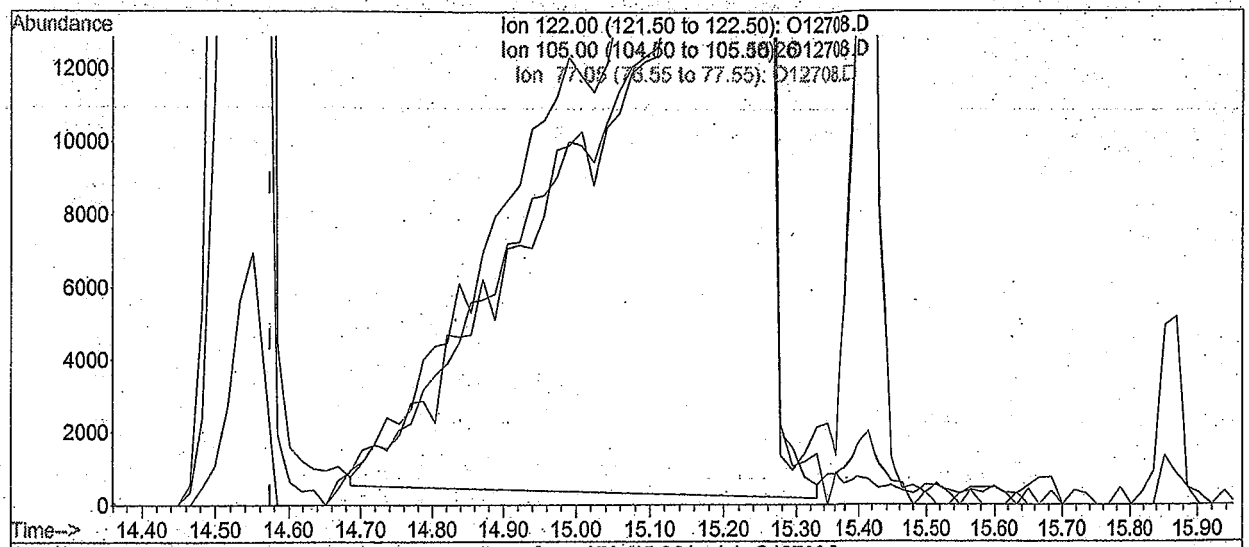
response 781826

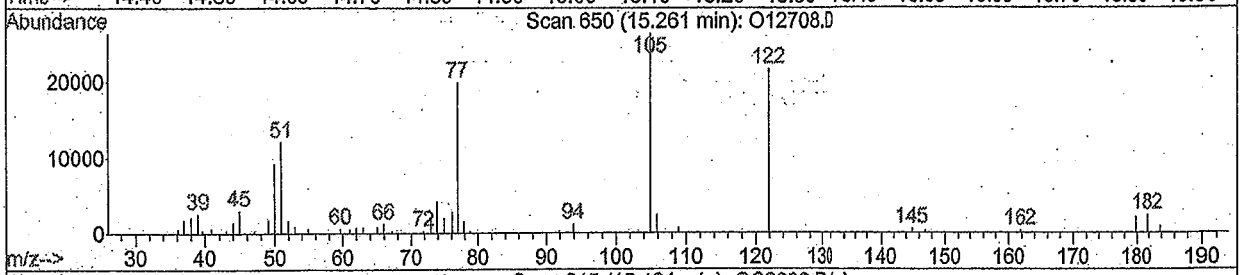
AFTER

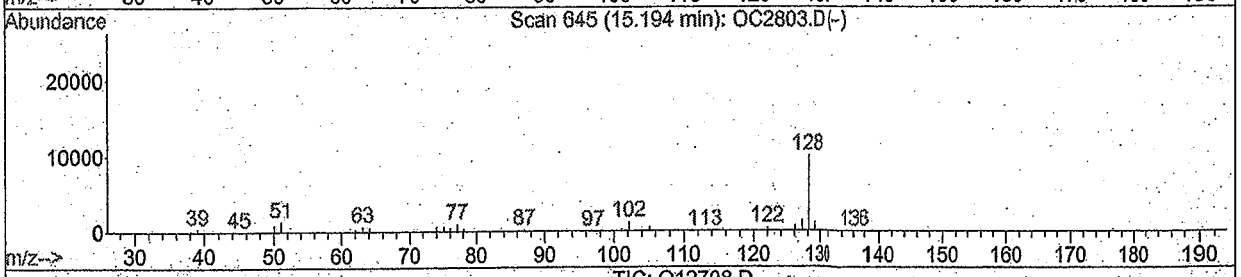
Ion	Exp%	Act%
45.00	100	100
77.05	12.50	13.22
78.95	10.30	12.12
121.00	18.40	20.82

Data File : C:\OTIS\O1-27-21\O12708.D Vial: 8
Acq On : 27 Jan 2021 2:41 pm Operator: AVL
Sample : 100ppm BNA CALB / 21A1816 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(27) Benzoic Acid

15.26min 110.85mg/L

response 328865

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.49
77.05	81.40	91.85
0.00	0.00	0.00

BEFORE

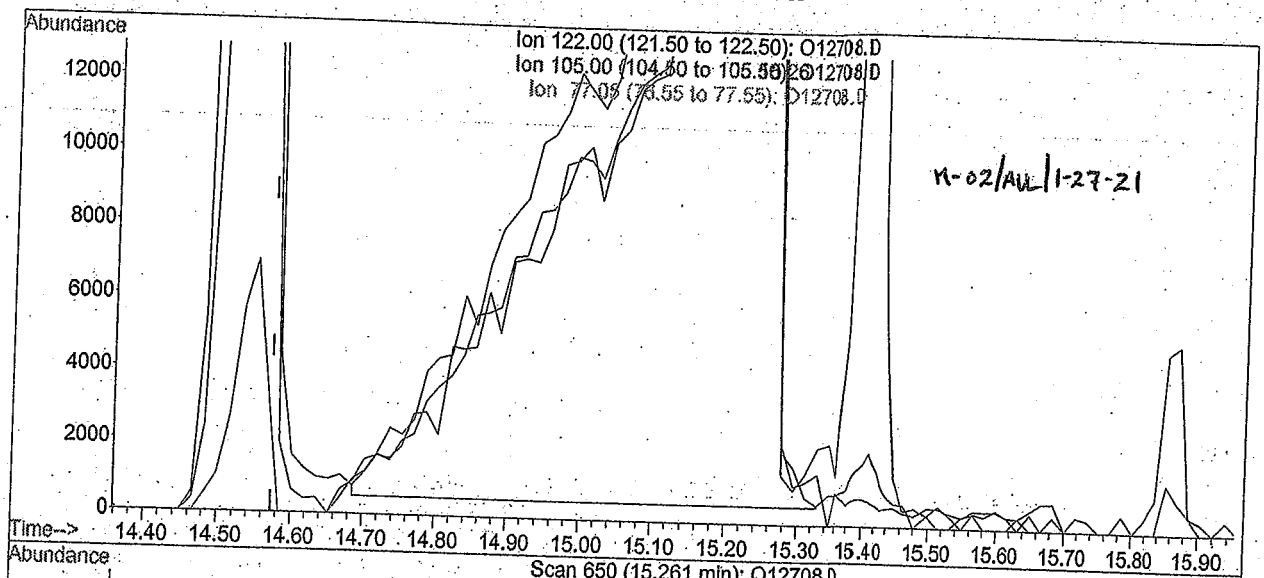
Quantitation Report (Qedit)

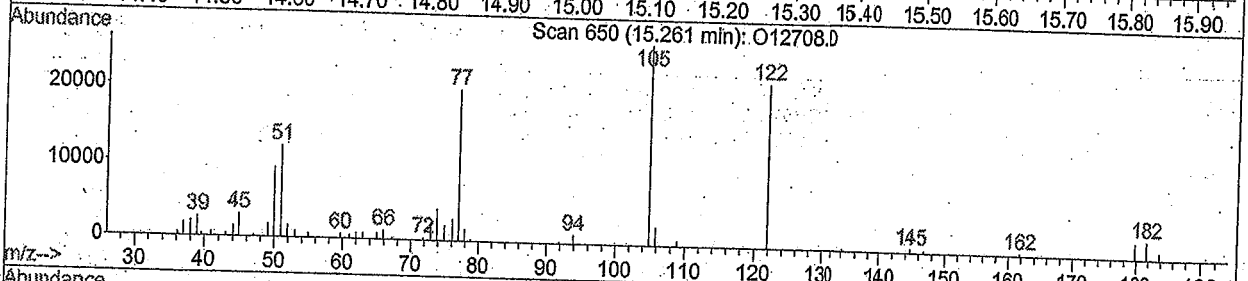
Data File : C:\OTIS\01-27-21\012708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

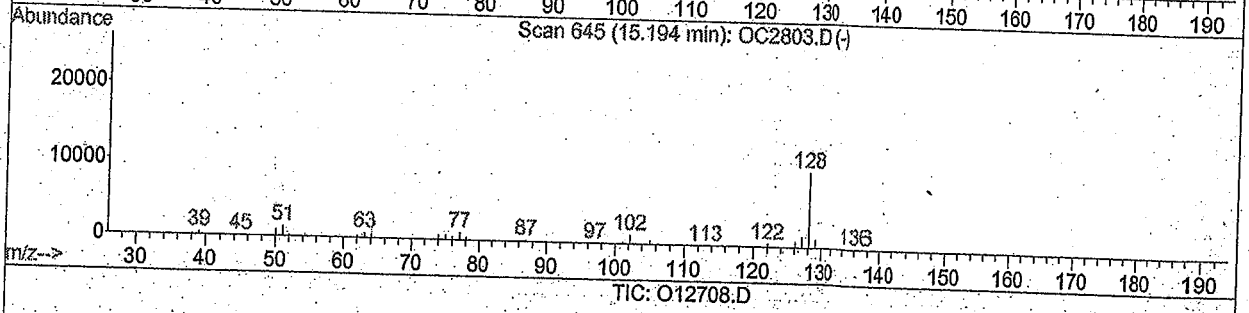
Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: 012708.D

(27) Benzoic Acid

15.26min 109.12mg/L m

response 323737

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.49
77.05	81.40	91.85
0.00	0.00	0.00

Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	152077	40.00	ng/ml	0.02
19) Naphthalene-d8	15.34	136	499534	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	316211	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	556243	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	452453	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	514686	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.17	112	524173	115.04	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 115.04%#			
7) Phenol-d5	10.80	99	688335	116.18	mg/L	0.05
Spiked Amount 100.000	Range 11 - 40		Recovery = 116.18%#			
20) Nitrobenzene-d5	13.26	82	578338	129.04	mg/L	0.03
Spiked Amount 100.000	Range 36 - 103		Recovery = 129.04%#			
40) 2-Fluorobiphenyl	18.78	172	1272374	120.96	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 120.96%#			
60) 2,4,6-Tribromophenol	23.23	330	216314	127.58	mg/L	0.03
Spiked Amount 100.000	Range 30 - 105		Recovery = 127.58%#			
72) Terphenyl-d14	30.51	244	945188	127.97	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 127.97%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.86	42	362333	121.37	mg/L	94
3) Pyridine	4.88	79	588381	111.19	mg/L	90
5) Aniline	10.76	93	797184	111.47	mg/L	99
6) bis(2-Chloroethyl)ether	11.03	93	536714	115.16	mg/L	96
8) 2-Chlorophenol	11.05	128	551650	117.09	mg/L #	91
9) Phenol	10.83	94	743596	115.69	mg/L	92
10) 1,3-Dichlorobenzene	11.47	146	603020	118.34	mg/L	93
11) 1,4-Dichlorobenzene	11.69	146	638679	118.47	mg/L	91
12) 1,2-Dichlorobenzene	12.10	146	586308	116.75	mg/L	95
13) Benzyl Alcohol	12.16	108	373597	115.26	mg/L	94
14) bis(2-Chloroisopropyl)ethe	12.57	45	807388m	106.48	mg/L	
15) 2-Methylphenol (o-Cresol)	12.50	107	444310	111.17	mg/L	90
16) 3,4-Methylphenol(m,p Creso	12.99	107	705760	117.58	mg/L	91
17) N-Nitroso-di-n-propylamine	12.98	70	391214	119.33	mg/L	99
18) Hexachloroethane	13.04	117	274254	118.37	mg/L	89
21) Nitrobenzene	13.33	77	593283	131.08	mg/L	98
22) Isophorone	14.16	82	1041267	122.95	mg/L	94
23) N-Ethylaniline	14.21	106	1022509	132.96	mg/L	93
24) 2-Nitrophenol	14.26	139	321549	141.93	mg/L	97
25) 2,4-Dimethylphenol	14.55	122	480213	127.10	mg/L	96
26) bis(2-Chloroethoxy)methane	14.85	93	669783	127.17	mg/L	94
27) Benzoic Acid	15.24	122	346275m	138.07	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	590106	133.18	mg/L	96
29) 2,4-Dichlorophenol	15.01	162	491551	131.13	mg/L	96
30) Naphthalene	15.41	128	1562978	127.63	mg/L	99
31) 4-Chloroaniline	15.68	127	707044	128.26	mg/L	93
32) Hexachlorobutadiene	15.87	225	345729	121.64	mg/L	93
33) 4-Chloro-3-methylphenol	17.26	107	493850	129.10	mg/L	99
34) 2-Methylnaphthalene	17.54	142	999877	127.20	mg/L	92
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	595648	116.23	mg/L	97
37) Hexachlorocyclopentadiene	18.07	237	347661	118.62	mg/L	96
38) 2,4,6-Trichlorophenol	18.47	196	404269	119.94	mg/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	18.56	196	430581	120.79 mg/L	98
41)	2-Chloronaphthalene	19.03	162	1024282	119.25 mg/L	93
42)	2-Nitroaniline	19.45	65	351001	115.59 mg/L	99
43)	Dimethylphthalate	20.18	163	1153027	117.92 mg/L	98
44)	Acenaphthylene	20.28	152	1543379	115.54 mg/L	98
45)	2,6-Dinitrotoluene	20.30	165	284819	127.79 mg/L	94
46)	3-Nitroaniline	20.77	138	313857	120.41 mg/L #	78
47)	Acenaphthene	20.86	154	925047	120.10 mg/L	94
48)	Dibenzofuran	21.40	168	1494908	121.30 mg/L	88
49)	2,4-Dinitrotoluene	21.53	165	389364	129.50 mg/L	99
50)	4-Nitrophenol	21.43	65	265634	113.60 mg/L #	23
51)	2,4-Dinitrophenol	21.09	184	184205	136.33 mg/L #	79
52)	Diethylphthalate	22.43	149	1199139	121.08 mg/L	95
53)	Fluorene	22.46	166	1128095	118.91 mg/L	96
54)	4-Chlorophenyl-phenylether	22.58	204	623363	124.11 mg/L	97
55)	4-Nitroaniline	22.74	138	314489	121.21 mg/L #	86
57)	4,6-Dinitro-2-methylphenol	22.79	198	266320	142.85 mg/L	99
58)	N-Nitrosodiphenylamine	23.01	169	725361	120.39 mg/L	92
59)	1,2-Diphenylhydrazine	23.07	77	1339786	119.14 mg/L	93
61)	4-Bromophenyl-phenylether	24.09	248	374811	126.19 mg/L #	91
62)	Hexachlorobenzene	24.16	284	408916	125.48 mg/L #	91
63)	Pentachlorophenol	24.82	266	291323	128.61 mg/L	94
64)	Phenanthrene	25.42	178	1698228	123.01 mg/L	99
65)	Anthracene	25.59	178	1741131	122.76 mg/L	98
66)	Carbazole	26.19	167	1545984	125.36 mg/L	97
67)	Di-n-butylphthalate	27.59	149	2217443	123.11 mg/L	99
69)	Fluoranthene	29.13	202	1938281	123.43 mg/L	97
70)	Benzidine	29.75	184	2089760	266.74 mg/L	99
71)	Pyrene	29.80	202	1984770	129.84 mg/L	99
73)	Butylbenzylphthalate	32.29	149	955912	125.49 mg/L #	82
74)	Benzo(a)anthracene	33.68	228	1770430	119.95 mg/L	98
75)	Chrysene	33.83	228	1776953	123.58 mg/L	99
76)	3,3'-Dichlorobenzidine	33.81	252	1485674	271.18 mg/L	95
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1365767	123.70 mg/L	95
78)	Di-n-octylphthalate	36.38	149	2519848	126.52 mg/L	100
80)	Benzo(b)fluoranthene	37.03	252	2165713	144.28 mg/L	98
81)	Benzo(k)fluoranthene	37.11	252	1356778m	95.47 mg/L	
82)	Benzo(a)pyrene	37.91	252	1678302	124.59 mg/L	97
83)	Indeno(1,2,3-cd)pyrene	41.17	276	1563395	119.06 mg/L	96
84)	Dibenzo(a,h)anthracene	41.30	278	1632495	123.66 mg/L	96
85)	Benzo(g,h,i)perylene	42.07	276	1505059	116.13 mg/L	99

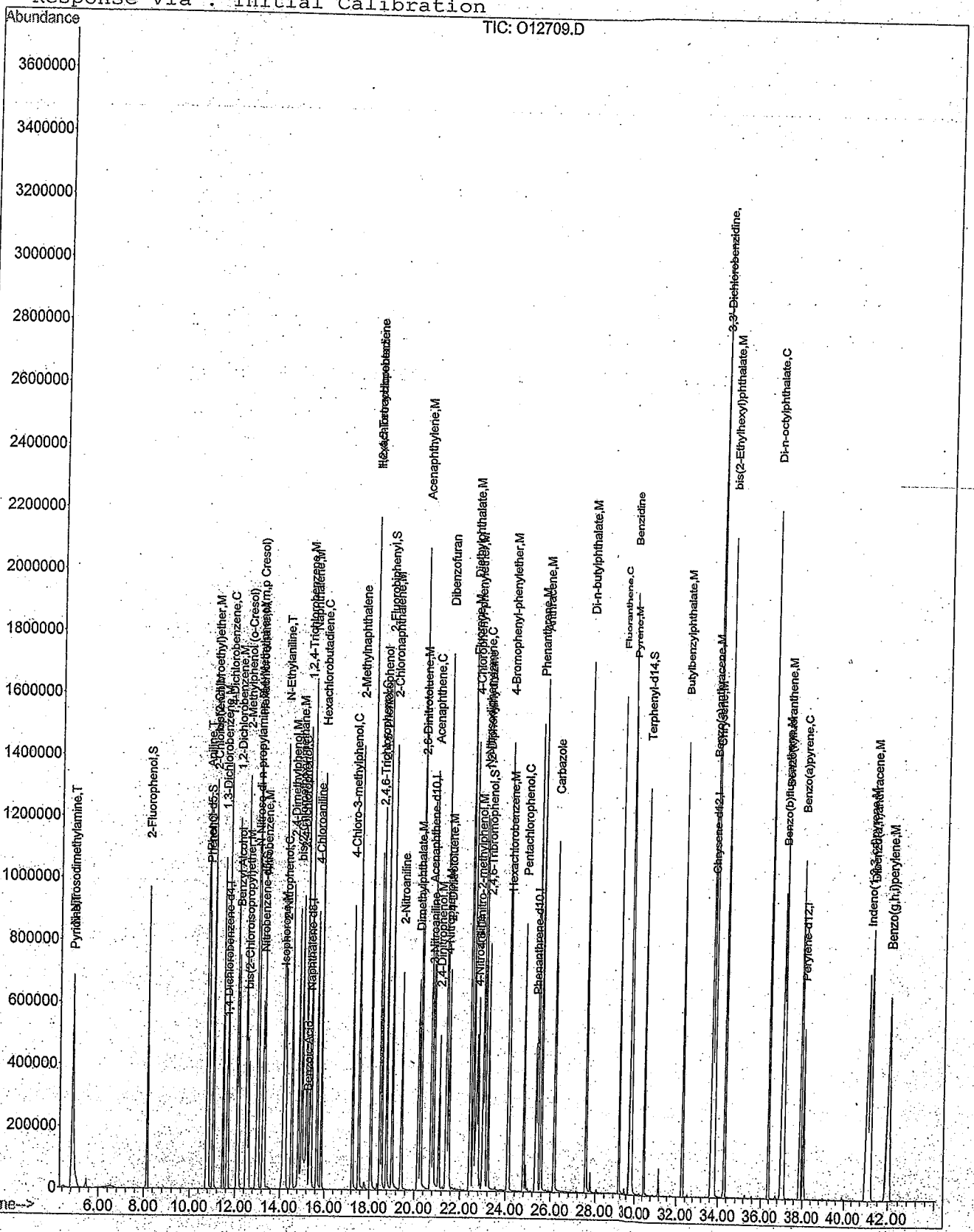
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:22:52 2021
Response via : Initial Calibration

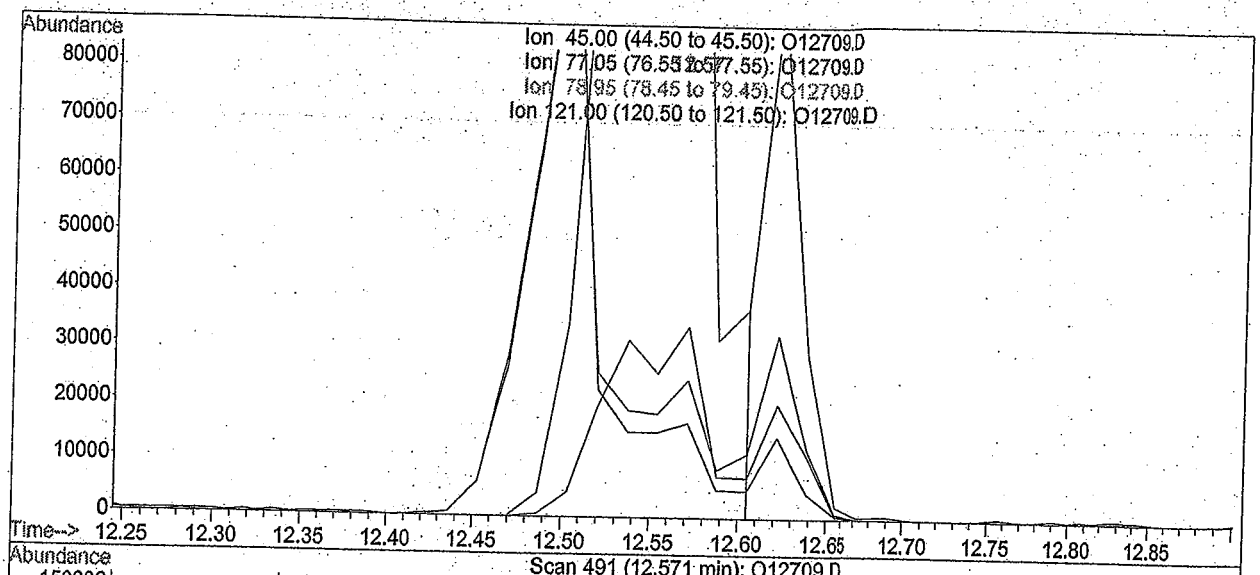


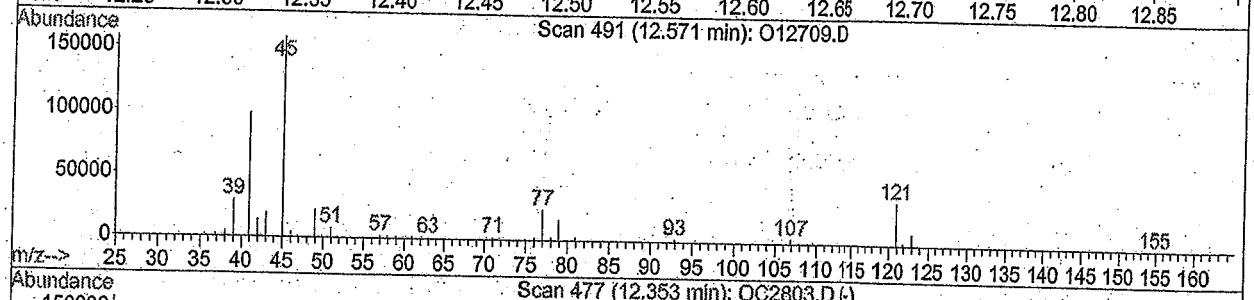
Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:19 2021

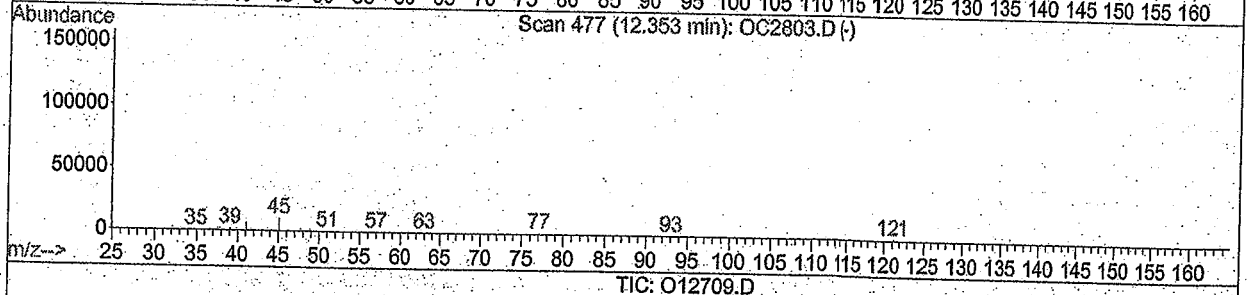
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 89.91mg/L

response 681766

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	15.50#
78.95	10.30	10.64
121.00	18.40	21.51

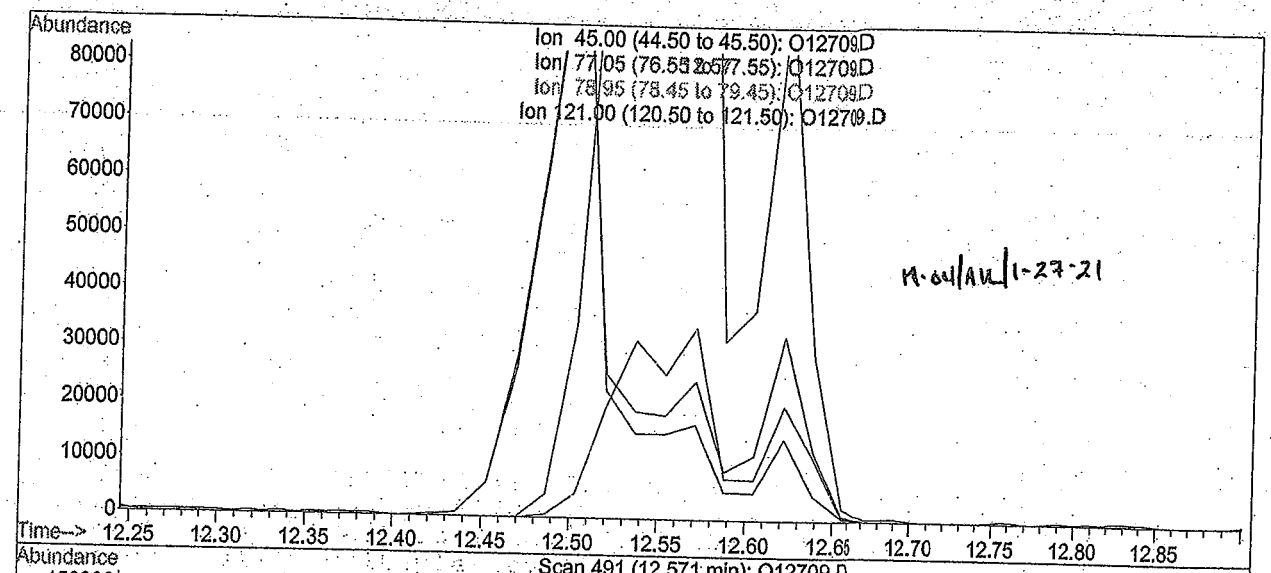
Integration Report (Quant)

Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:20 2021

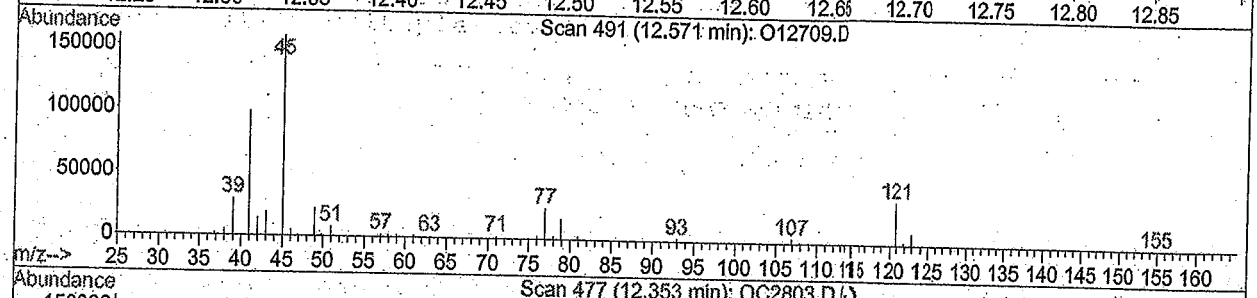
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

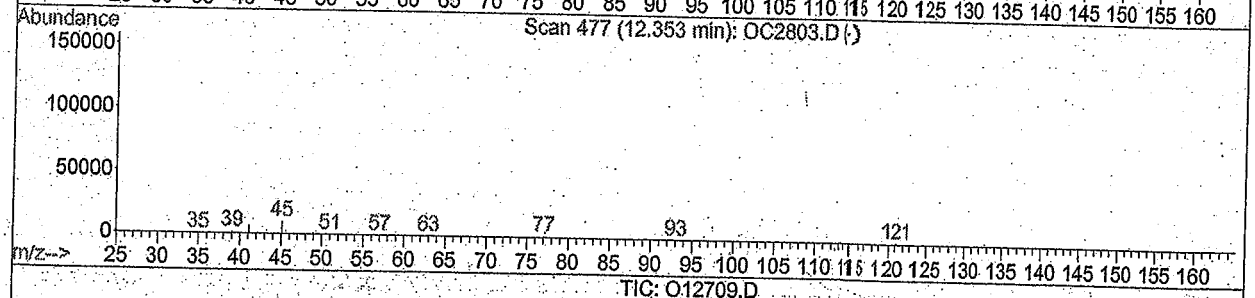
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration



M.Ou/AVL 1-27-21





TIC: O12709.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 106.48mg/L m

response 807388

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	15.50#
78.95	10.30	10.64
121.00	18.40	21.51

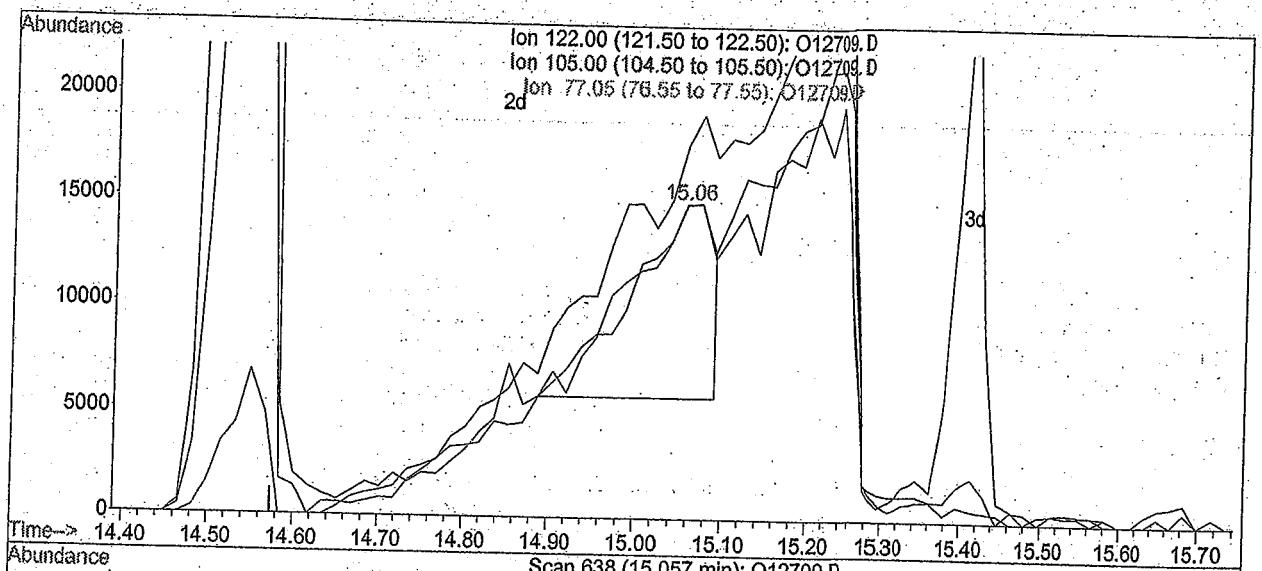
Quantitation Report (Qedit)

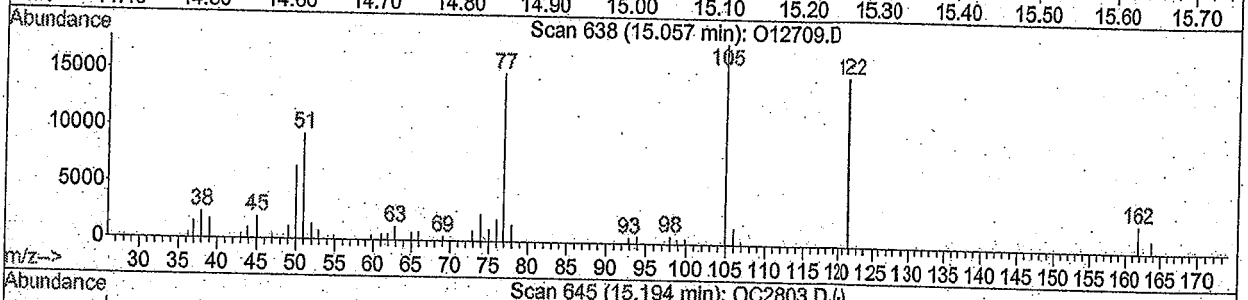
Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:20 2021

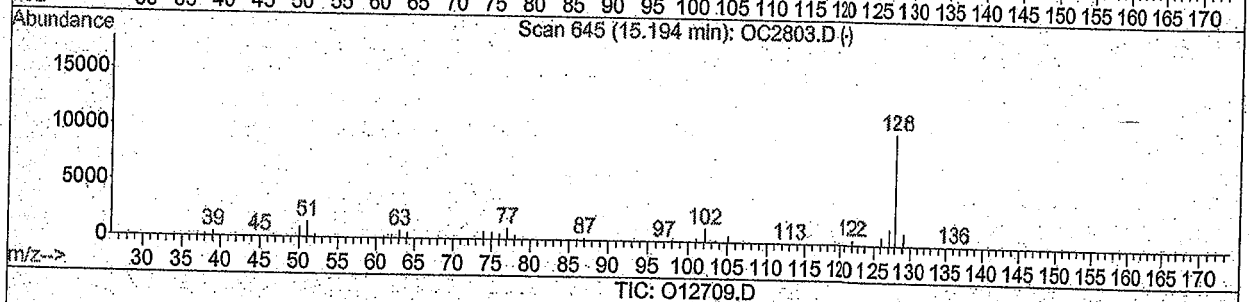
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(27) Benzoic Acid

15.06min 24.37mg/L

response 61118

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	118.91
77.05	81.40	99.55#
0.00	0.00	0.00

BEFORE

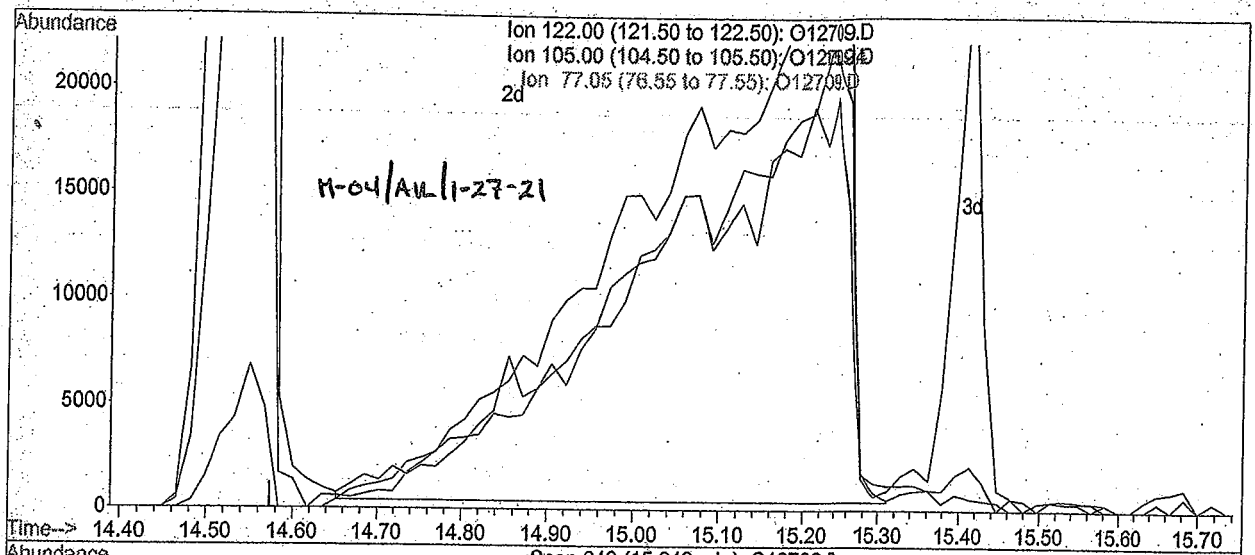
Quantitation Report (Qedit)

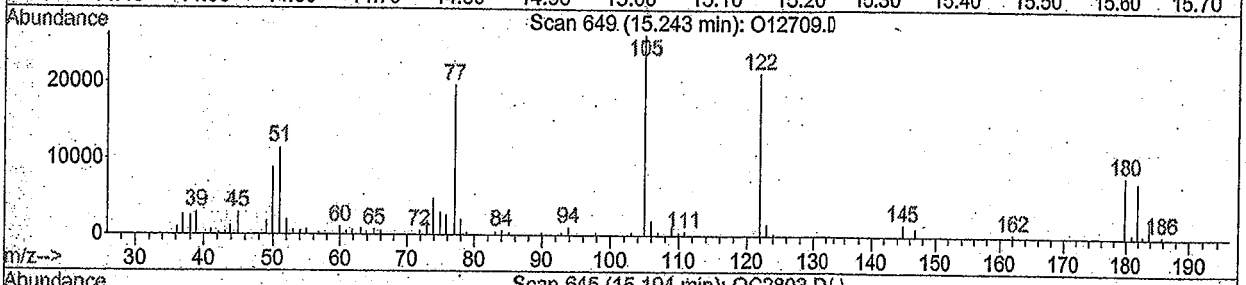
Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

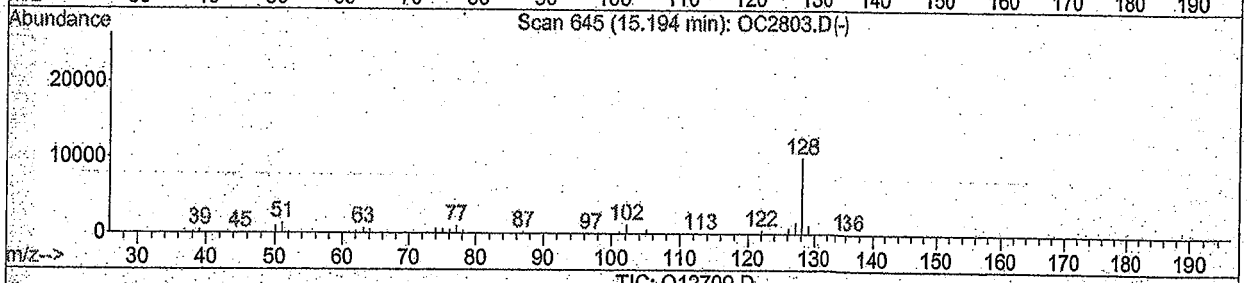
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(27) Benzoic Acid

15.24min 138.07mg/L m

response 346275

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	123.29
77.05	81.40	92.03
0.00	0.00	0.00

Initial Calibration Verification Summary Report (Semi-Volatile)

Std. Lot ID : 18J2412/16G2005
Analytical Batch: O127021
Analysis Date : 1-27-21/1-28-21
Instrument: OTIS

Analyst Initials: AVL
Method: 8270E/625
Curve Analysis Date: 1-27-21

Multiplier: 1 1

Compound Name	Blank Conc. ug/L	Spike Added ug/L	SCV Spk Added ug/L	SCV Results ug/L	SCV Final ug/L	SCV %Rec		%Rec
N-Nitrosodimethylamine	0	100	100	103	103	103		70-130
Pyridine	0	100	100	96	96	96		70-130
Aniline	0	100	100	97	97	97		70-130
bis(2-Chloroethyl)ether	0	100	100	93	93	93		70-130
2-Chlorophenol	0	100	100	99	99	99		70-130
Phenol	0	100	100	96	96	96		70-130
1,3-Dichlorobenzene	0	100	100	99	99	99		70-130
1,4-Dichlorobenzene	0	100	100	95	95	95		70-130
1,2-Dichlorobenzene	0	100	100	99	99	99		70-130
Benzyl Alcohol	0	100	100	100	100	100		70-130
bis(2-Chloroisopropyl)ethe	0	100	100	107	107	107		70-130
2-Methylphenol (o-Cresol)	0	100	100	95	95	95		70-130
3,4-Methylphenol(m,p Creso	0	100	100	81	81	81		70-130
N-Nitroso-di-n-propylamine	0	100	100	109	109	109		70-130
Hexachloroethane	0	100	100	102	102	102		70-130
Nitrobenzene	0	100	100	92	92	92		70-130
Isophorone	0	100	100	96	96	96		70-130
2-Nitrophenol	0	100	100	106	106	106		70-130
2,4-Dimethylphenol	0	100	100	94	94	94		70-130
bis(2-Chloroethoxy)methane	0	100	100	102	102	102		70-130
Benzoic Acid	0	100	100	94	94	94		70-130
1,2,4-Trichlorobenzene	0	100	100	98	98	98		70-130
2,4-Dichlorophenol	0	100	100	97	97	97		70-130
Naphthalene	0	100	100	99	99	99		70-130
4-Chloroaniline	0	100	100	94	94	94		70-130
Hexachlorobutadiene	0	100	100	98	98	98		70-130
4-Chloro-3-methylphenol	0	100	100	90	90	90		70-130
2-Methylnaphthalene	0	100	100	97	97	97		70-130
Hexachlorocyclopentadiene	0	100	100	80	80	80		70-130
2,4,6-Trichlorophenol	0	100	100	93	93	93		70-130
2,4,5-Trichlorophenol	0	100	100	93	93	93		70-130
2-Chloronaphthalene	0	100	100	97	97	97		70-130
2-Nitroaniline	0	100	100	105	105	105		70-130
Dimethylphthalate	0	100	100	94	94	94		70-130
Acenaphthylene	0	100	100	99	99	99		70-130
2,6-Dinitrotoluene	0	100	100	120	120	120		70-130
3-Nitroaniline	0	100	100	103	103	103		70-130
Acenaphthene	0	100	100	99	99	99		70-130
Dibenzofuran	0	100	100	99	99	99		70-130
2,4-Dinitrotoluene	0	100	100	109	109	109		70-130
4-Nitrophenol	0	100	100	105	105	105		70-130
2,4-Dinitrophenol	0	100	100	98	98	98		70-130
Diethylphthalate	0	100	100	95	95	95		70-130
Fluorene	0	100	100	100	100	100		70-130
4-Chlorophenyl-phenylether	0	100	100	95	95	95		70-130

Initial Calibration Verification Summary Report (Semi-Volatile)

Std. Lot ID : 18J2412/16G2005
Analytical Batch: O127021
Analysis Date : 1-27-21/1-28-21

Analyst Initials: AVL
Method: 8270E/625
Curve Analysis Date: 1-27-21

Multiplier: 1 1

Compound Name	Blank Conc. ug/L	Spike Added ug/L	LCS Spk Added ug/L	LCS Results ug/L	LCS Final ug/L	LCS %Rec		%Rec
4-Nitroaniline	0	100	100	103	103	**103**		70-130
4,6-Dinitro-2-methylphenol	0	100	100	108	108	**108**		70-130
N-Nitrosodiphenylamine#	0	100	100	72	72	**72**		70-130
1,2-Diphenylhydrazine	0	100	100	98	98	**98**		70-130
4-Bromophenyl-phenylether	0	100	100	83	83	**83**		70-130
Hexachlorobenzene	0	100	100	95	95	**95**		70-130
Pentachlorophenol	0	100	100	112	112	**112**		70-130
Phenanthrene	0	100	100	102	102	**102**		70-130
Anthracene	0	100	100	98	98	**98**		70-130
Carbazole	0	100	100	104	104	**104**		70-130
Di-n-butylphthalate	0	100	100	91	91	**91**		70-130
Fluoranthene	0	100	100	104	104	**104**		70-130
Benzidine	0	100	100	81	81	**81**		70-130
Pyrene	0	100	100	105	105	**105**		70-130
Butylbenzylphthalate	0	100	100	100	100	**100**		70-130
Benzo(a)anthracene	0	100	100	102	102	**102**		70-130
Chrysene	0	100	100	101	101	**101**		70-130
3,3'-Dichlorobenzidine	0	100	100	92	92	**92**		70-130
bis(2-Ethylhexyl)phthalate	0	100	100	105	105	**105**		70-130
Di-n-octylphthalate	0	100	100	104	104	**104**		70-130
Benzo(b)fluoranthene	0	100	100	101	101	**101**		70-130
Benzo(k)fluoranthene	0	100	100	102	102	**102**		70-130
Benzo(a)pyrene	0	100	100	101	101	**101**		70-130
Indeno(1,2,3-cd)pyrene	0	100	100	93	93	**93**		70-130
Dibenzo(a,h)anthracene	0	100	100	98	98	**98**		70-130
Benzo(g,h,i)perylene	0	100	100	94	94	**94**		70-130

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.63	152	197958	40.00	ng/ml	0.00
19) Naphthalene-d8	15.33	136	608008	40.00	ng/ml	0.00
35) Acenaphthene-d10	20.75	164	410683	40.00	ng/ml	0.02
56) Phenanthrene-d10	25.35	188	769477	40.00	ng/ml	0.02
68) Chrysene-d12	33.72	240	618128	40.00	ng/ml	0.02
79) Perylene-d12	38.05	264	671757	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	mg/L	
Spiked Amount 100.000	Range 20 - 53		Recovery =	0.00%#		
7) Phenol-d5	0.00	99	0	0.00	mg/L	
Spiked Amount 100.000	Range 11 - 40		Recovery =	0.00%#		
20) Nitrobenzene-d5	0.00	82	0d	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 103		Recovery =	0.00%#		
40) 2-Fluorobiphenyl	0.00	172	0d	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 119		Recovery =	0.00%#		
60) 2,4,6-Tribromophenol	0.00	330	0	0.00	mg/L	
Spiked Amount 100.000	Range 30 - 105		Recovery =	0.00%#		
72) Terphenyl-d14	0.00	244	0	0.00	mg/L	
Spiked Amount 100.000	Range 37 - 109		Recovery =	0.00%#		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.85	42	412287	102.77	mg/L	92
3) Pyridine	4.87	79	625308	95.51	mg/L	89
5) Aniline	10.77	93	880901	96.97	mg/L	93
6) bis(2-Chloroethyl)ether	11.02	93	561738	92.59	mg/L	98
8) 2-Chlorophenol	11.04	128	601774	98.73	mg/L #	89
9) Phenol	10.82	94	791350	96.24	mg/L	97
10) 1,3-Dichlorobenzene	11.46	146	663969	99.00	mg/L	90
11) 1,4-Dichlorobenzene	11.68	146	672477	95.20	mg/L	87
12) 1,2-Dichlorobenzene	12.09	146	650046	98.72	mg/L	89
13) Benzyl Alcohol	12.15	108	416000	99.71	mg/L	92
14) bis(2-Chloroisopropyl)ethe	12.56	45	989889	106.88	mg/L	96
15) 2-Methylphenol (o-Cresol)	12.49	107	485844	95.17	mg/L	92
16) 3,4-Methylphenol(m,p Creso	13.00	107	631793	81.33	mg/L #	89
17) N-Nitroso-di-n-propylamine	12.97	70	459342	108.64	mg/L	95
18) Hexachloroethane	13.03	117	310033	101.55	mg/L #	75
21) Nitrobenzene	13.30	77	573296	91.97	mg/L	98
22) Isophorone	14.13	82	1143097	96.37	mg/L	96
23) N-Ethylaniline	0.00	106	0	N.D.	d	
24) 2-Nitrophenol	14.25	139	343319	106.48	mg/L	96
25) 2,4-Dimethylphenol	14.56	122	509083	94.02	mg/L	94
26) bis(2-Chloroethoxy)methane	14.86	93	754734	102.18	mg/L	96
27) Benzoic Acid	15.27	122	336267m	94.12	mg/L	
28) 1,2,4-Trichlorobenzene	15.20	180	648474	97.79	mg/L	97
29) 2,4-Dichlorophenol	15.01	162	533691	97.17	mg/L	92
30) Naphthalene	15.42	128	1729015	98.83	mg/L	98
31) 4-Chloroaniline	15.67	127	736344	93.50	mg/L	98
32) Hexachlorobutadiene	15.86	225	382627	97.75	mg/L	96
33) 4-Chloro-3-methylphenol	17.26	107	500563	89.82	mg/L	98
34) 2-Methylnaphthalene	17.55	142	1098566	96.83	mg/L	93
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	18.06	237	315006	79.64	mg/L	95
38) 2,4,6-Trichlorophenol	18.46	196	426563	93.49	mg/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.55	196	445755	92.74 mg/L		98
41)	2-Chloronaphthalene	19.02	162	1097982	96.93 mg/L		94
42)	2-Nitroaniline	19.46	65	389997	104.71 mg/L		90
43)	Dimethylphthalate	20.22	163	1221511	94.13 mg/L		96
44)	Acenaphthylene	20.29	152	1700597	98.53 mg/L		99
45)	2,6-Dinitrotoluene	20.31	165	350350	120.37 mg/L		96
46)	3-Nitroaniline	20.80	138	334845	103.38 mg/L		86
47)	Acenaphthene	20.86	154	997566	99.34 mg/L	#	93
48)	Dibenzofuran	21.41	168	1618567	98.75 mg/L		89
49)	2,4-Dinitrotoluene	21.56	165	432359	109.03 mg/L	#	99
50)	4-Nitrophenol	21.46	65	310977	105.49 mg/L	#	26
51)	2,4-Dinitrophenol	21.12	184	191331	97.95 mg/L	#	87
52)	Diethylphthalate	22.44	149	1245651	95.41 mg/L		95
53)	Fluorene	22.47	166	1244428	99.63 mg/L		96
54)	4-Chlorophenyl-phenylether	22.59	204	657143	95.15 mg/L		92
55)	4-Nitroaniline	22.74	138	337931	103.31 mg/L		92
57)	4,6-Dinitro-2-methylphenol	22.81	198	283578	107.52 mg/L	#	79
58)	N-Nitrosodiphenylamine	23.01	169	1103595	132.36 mg/L		93
59)	1,2-Diphenylhydrazine	23.08	77	1443181	98.42 mg/L		93
61)	4-Bromophenyl-phenylether	24.09	248	350478	82.76 mg/L	#	90
62)	Hexachlorobenzene	24.15	284	440222	95.15 mg/L	#	90
63)	Pentachlorophenol	24.82	266	364193	112.25 mg/L		96
64)	Phenanthrene	25.43	178	1942457	101.71 mg/L		99
65)	Anthracene	25.60	178	1949562	97.64 mg/L		98
66)	Carbazole	26.19	167	1771431	103.93 mg/L		97
67)	Di-n-butylphthalate	27.58	149	2250880	91.02 mg/L		98
69)	Fluoranthene	29.13	202	2234957	104.17 mg/L		96
70)	Benzidine	29.73	184	930952	81.21 mg/L		98
71)	Pyrene	29.81	202	2295005	104.63 mg/L	#	93
73)	Butylbenzylphthalate	32.28	149	1032985	99.55 mg/L		89
74)	Benzo(a)anthracene	33.68	228	2048248	101.58 mg/L		97
75)	Chrysene	33.84	228	1985400	101.07 mg/L		99
76)	3,3'-Dichlorobenzidine	33.79	252	722823	91.82 mg/L		92
77)	bis(2-Ethylhexyl)phthalate	34.33	149	1585809	105.13 mg/L	#	98
78)	Di-n-octylphthalate	36.37	149	2809315	103.94 mg/L		100
80)	Benzo(b)fluoranthene	37.02	252	1986109	101.38 mg/L		96
81)	Benzo(k)fluoranthene	37.10	252	1893231m	102.07 mg/L		
82)	Benzo(a)pyrene	37.91	252	1774975	100.95 mg/L		98
83)	Indeno(1,2,3-cd)pyrene	41.16	276	1587864	92.65 mg/L		93
84)	Dibenzo(a,h)anthracene	41.31	278	1685481	97.82 mg/L		96
85)	Benzo(g,h,i)perylene	42.07	276	1583401	93.61 mg/L		99

(#) = qualifier out of range (m) = manual integration

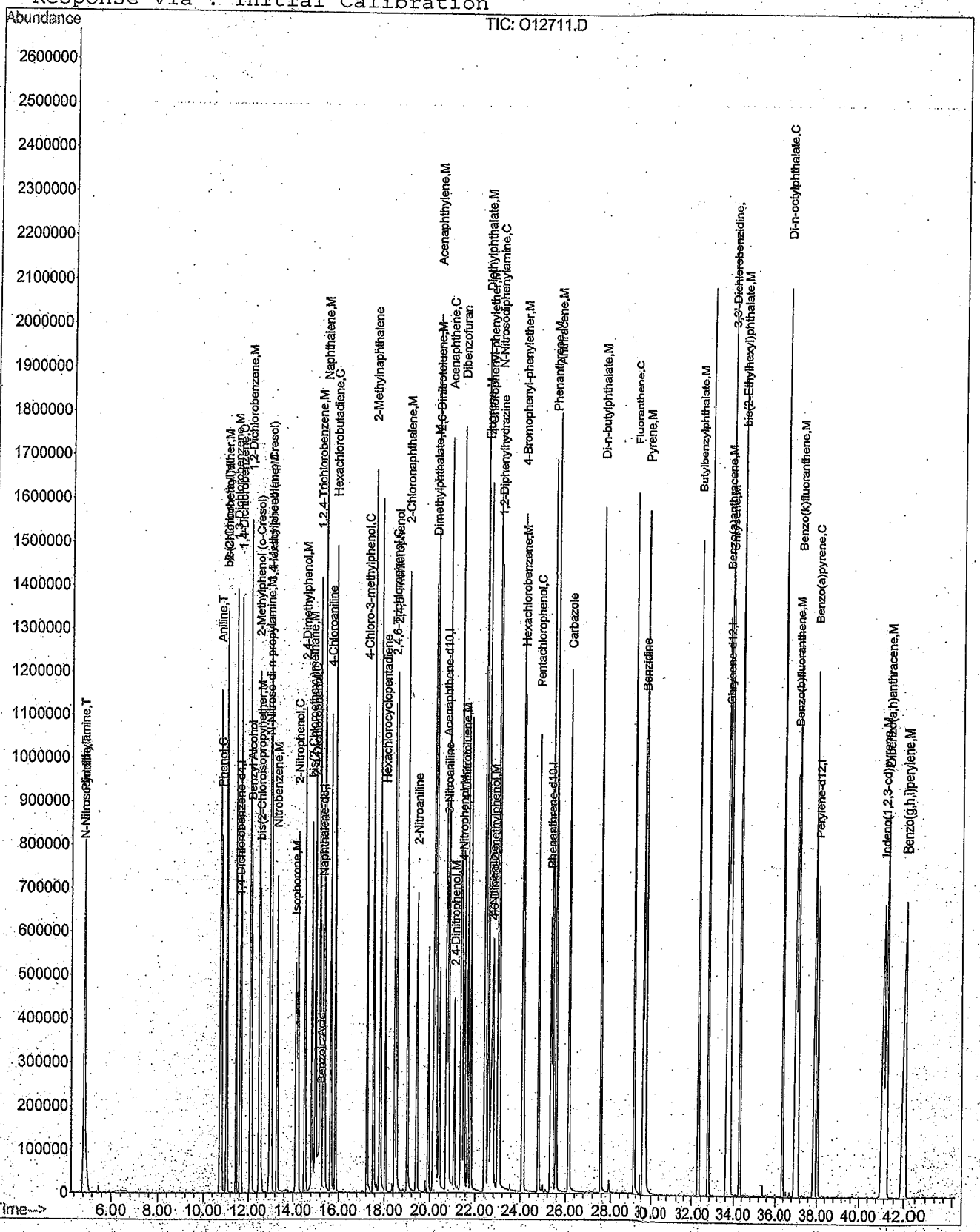
Quantitation Report

Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration

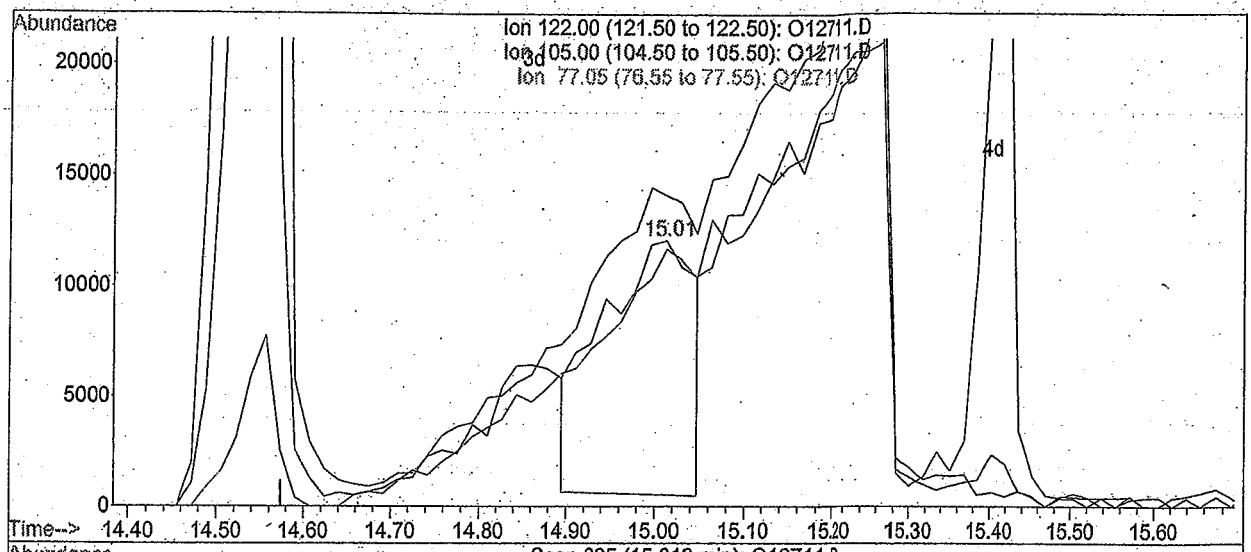


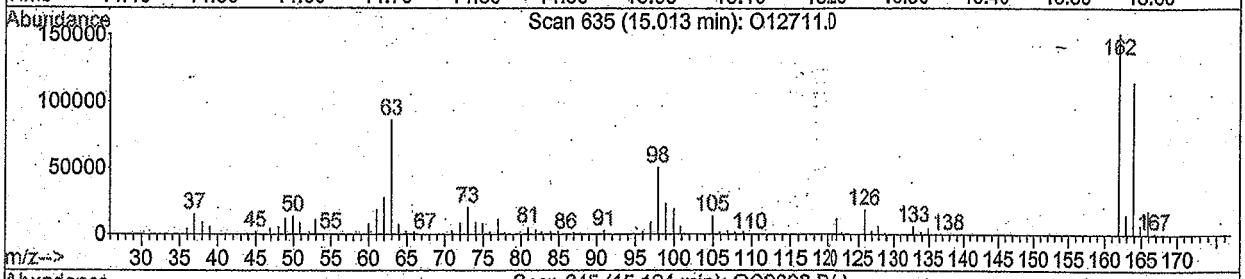
Quantitation Report (Qedit)

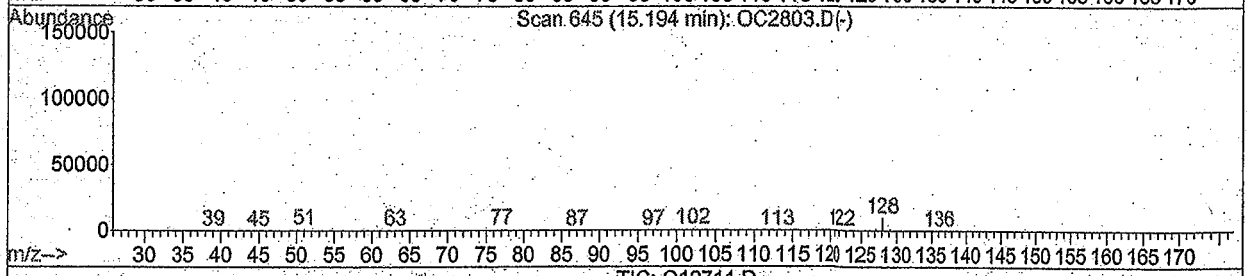
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Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:17 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: O12711.D

(27) Benzoic Acid

15.01min 23.49mg/L

response 83904

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	116.73
77.05	81.40	96.89
0.00	0.00	0.00

BEFORE

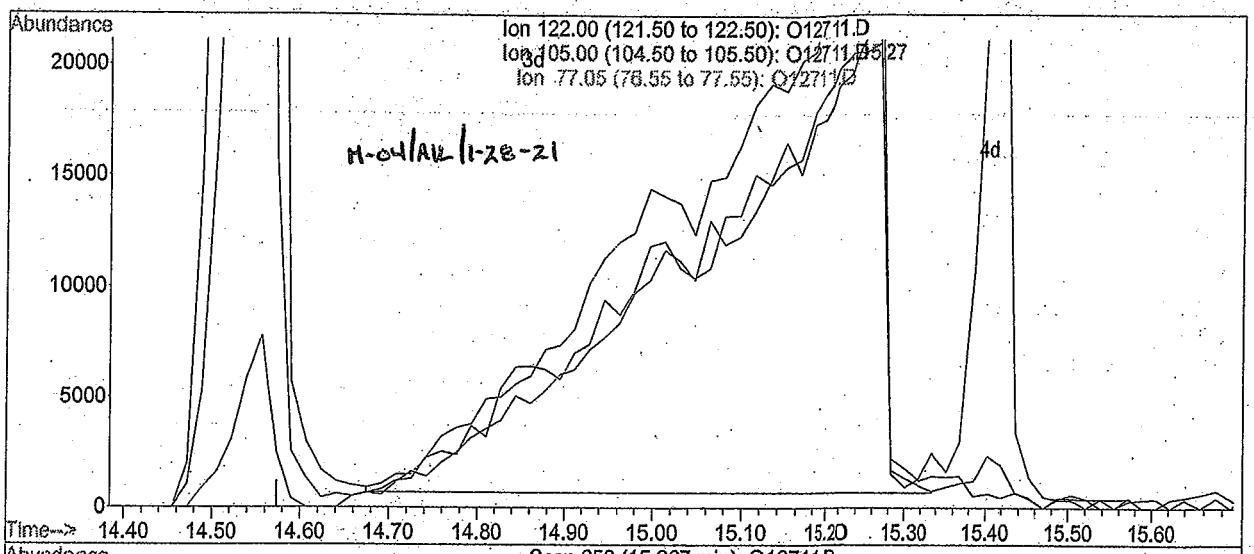
Quantitation Report (QedIt)

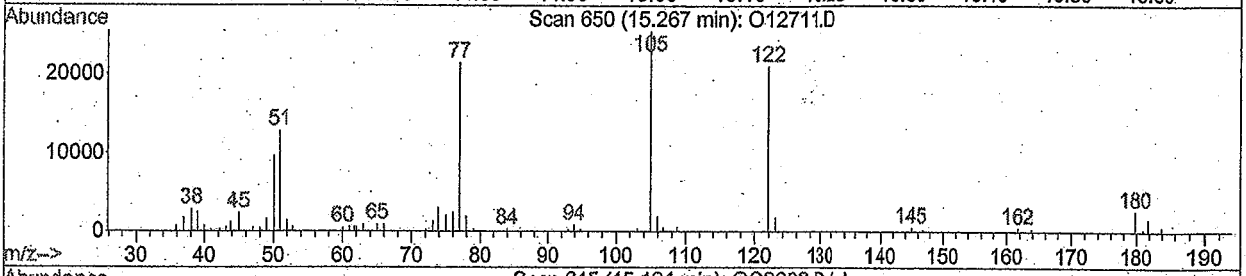
Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:18 2021

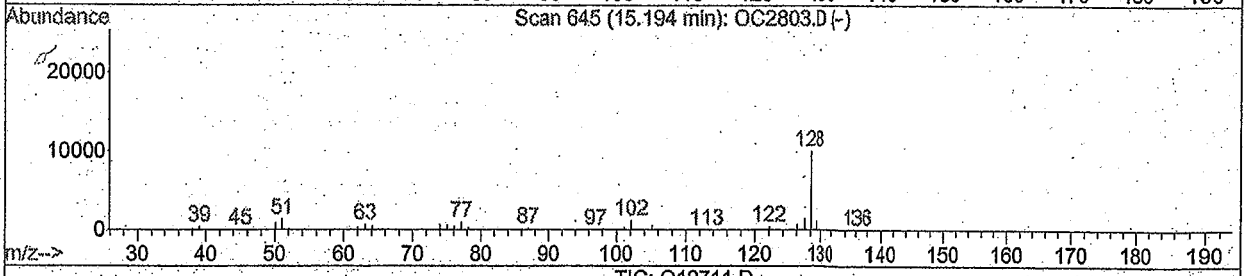
Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: O12711.D

(27) Benzoic Acid

15.27min 94.12mg/L m

response 336267

AFTER

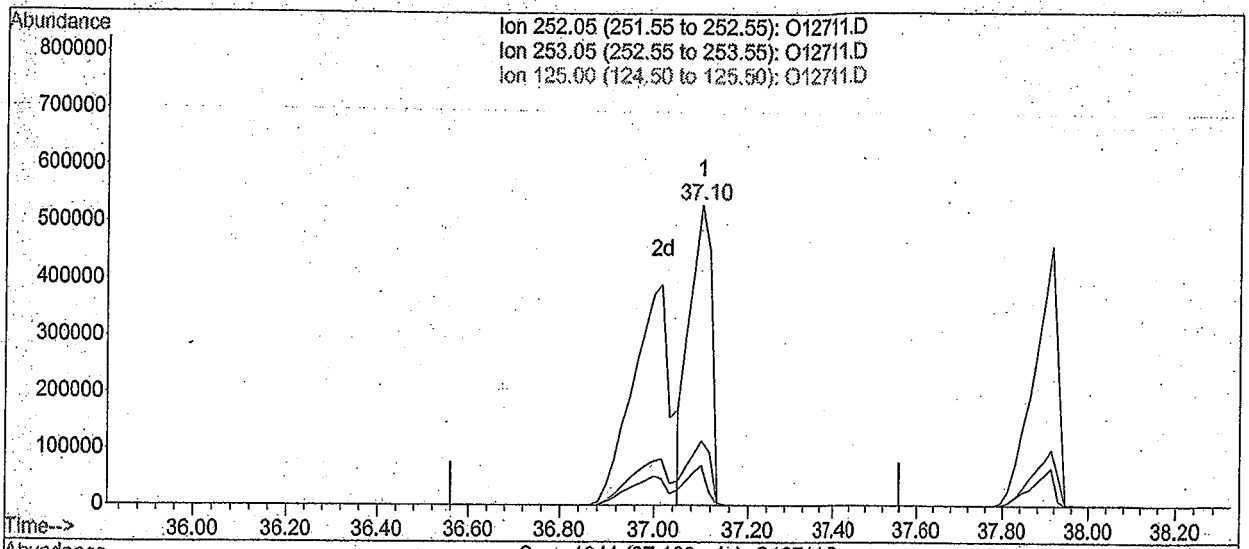
Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.15
77.05	81.40	101.87#
0.00	0.00	0.00

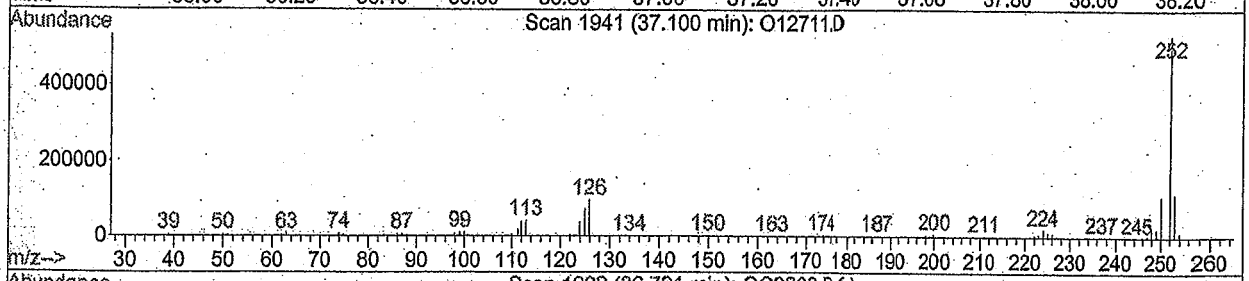
Quantitation Report (Qedit)

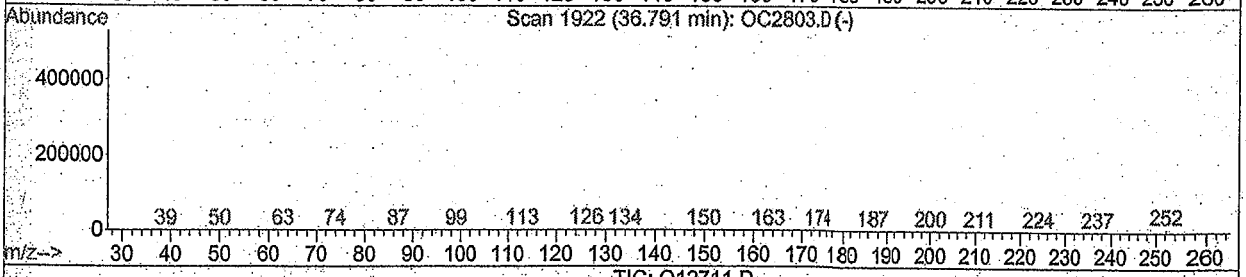
Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:19 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: 012711.D

(81) Benzo(k)fluoranthene (M)

37.10min 92.44mg/L

response 1714668

Ion	Exp%	Act%
252.05	100	100
253.05	22.40	21.60
125.00	11.30	13.33
0.00	0.00	0.00

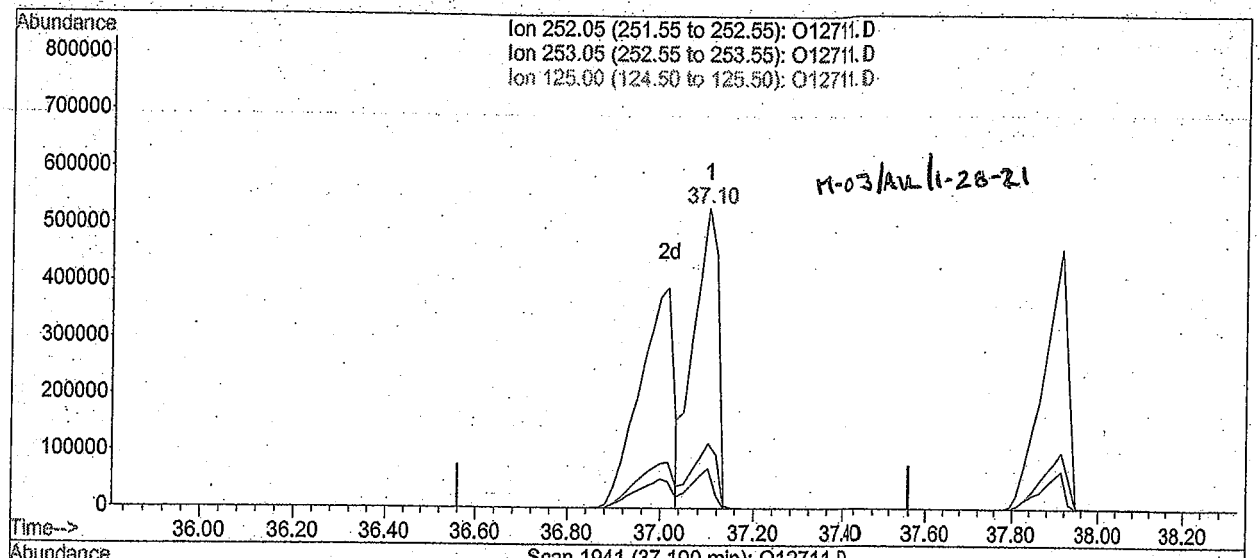
BEFORE

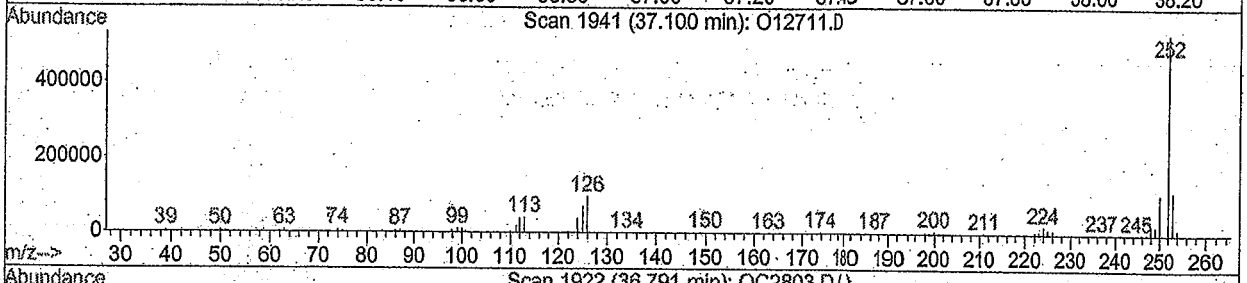
Quantitation Report (QedIt)

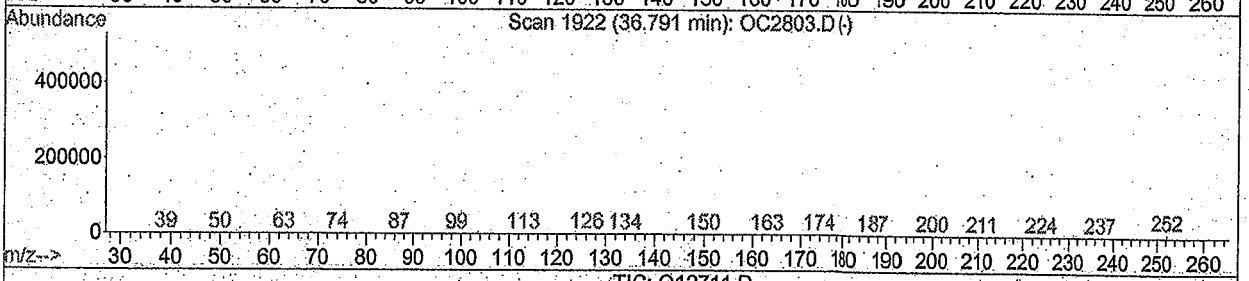
Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: 012711.D

(81) Benzo(k)fluoranthene (M)

37.10min 102.07mg/L m

response 1893231

AFTER

Ion	Exp%	Act%
252.05	100	100
253.05	22.40	21.60
125.00	11.30	13.33
0.00	0.00	0.00

(Not Reviewed)

Data File : C:\OTIS\01-28-21\012804.D
Acq On : 28 Jan 2021 11:58 am
Sample : 100ppm N-Ndpa ICV / 16G2005
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.61	152	150158	40.00	ng/ml	-0.02
19) Naphthalene-d8	15.29	136	502926	40.00	ng/ml	-0.04
35) Acenaphthene-d10	20.69	164	316263	40.00	ng/ml	-0.04
56) Phenanthrene-d10	25.30	188	588316	40.00	ng/ml	-0.02
68) Chrysene-d12	33.64	240	464857	40.00	ng/ml	-0.05
79) Perylene-d12	37.99	264	496929	40.00	ng/ml	-0.05

System Monitoring Compounds					
4) 2-Fluorophenol	0.00	112	0	0.00	mg/L
Spiked Amount 100.000	Range 20 - 53		Recovery = 0.00%#		
7) Phenol-d5	0.00	99	0	0.00	mg/L
Spiked Amount 100.000	Range 11 - 40		Recovery = 0.00%#		
20) Nitrobenzene-d5	0.00	82	0	0.00	mg/L
Spiked Amount 100.000	Range 36 - 103		Recovery = 0.00%#		
40) 2-Fluorobiphenyl	0.00	172	0	0.00	mg/L
Spiked Amount 100.000	Range 36 - 119		Recovery = 0.00%#		
60) 2,4,6-Tribromophenol	0.00	330	0	0.00	mg/L
Spiked Amount 100.000	Range 30 - 105		Recovery = 0.00%#		
72) Terphenyl-d14	0.00	244	0	0.00	mg/L
Spiked Amount 100.000	Range 37 - 109		Recovery = 0.00%#		

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.
3) Pyridine	0.00	79	0	N.D.
5) Aniline	0.00	93	0	N.D.
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.
8) 2-Chlorophenol	0.00	128	0	N.D.
9) Phenol	0.00	94	0	N.D.
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.
13) Benzyl Alcohol	0.00	108	0	N.D.
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.
18) Hexachloroethane	0.00	117	0	N.D.
21) Nitrobenzene	0.00	77	0	N.D.
22) Isophorone	0.00	82	0	N.D.
23) N-Ethylaniline	0.00	106	0	N.D.
24) 2-Nitrophenol	0.00	139	0	N.D.
25) 2,4-Dimethylphenol	0.00	122	0	N.D.
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.
27) Benzoic Acid	0.00	122	0	N.D.
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.
29) 2,4-Dichlorophenol	0.00	162	0	N.D.
30) Naphthalene	0.00	128	0	N.D.
31) 4-Chloroaniline	0.00	127	0	N.D.
32) Hexachlorobutadiene	0.00	225	0	N.D.
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.
34) 2-Methylnaphthalene	0.00	142	0	N.D.
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-28-21\012804.D
Acq On : 28 Jan 2021 11:58 am
Sample : 100ppm N-Ndpa ICV / 16G2005
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.70	154	505	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	22.92	138	584	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	22.94	169	460173	72.19 mg/L	97
59)	1,2-Diphenylhydrazine	22.94	77	53856	4.80 mg/L #	53
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	25.63	178	3206	N.D.	
65)	Anthracene	25.63	178	3206	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	0.00	184	0	N.D.	
71)	Pyrene	0.00	202	0	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.64	228	1063	N.D.	
75)	Chrysene	33.64	228	1063	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.99	252	1059	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\01-28-21\012804.D
Acq On : 28 Jan 2021 11:58 am
Sample : 100ppm N-Ndpa ICV / 16G2005
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

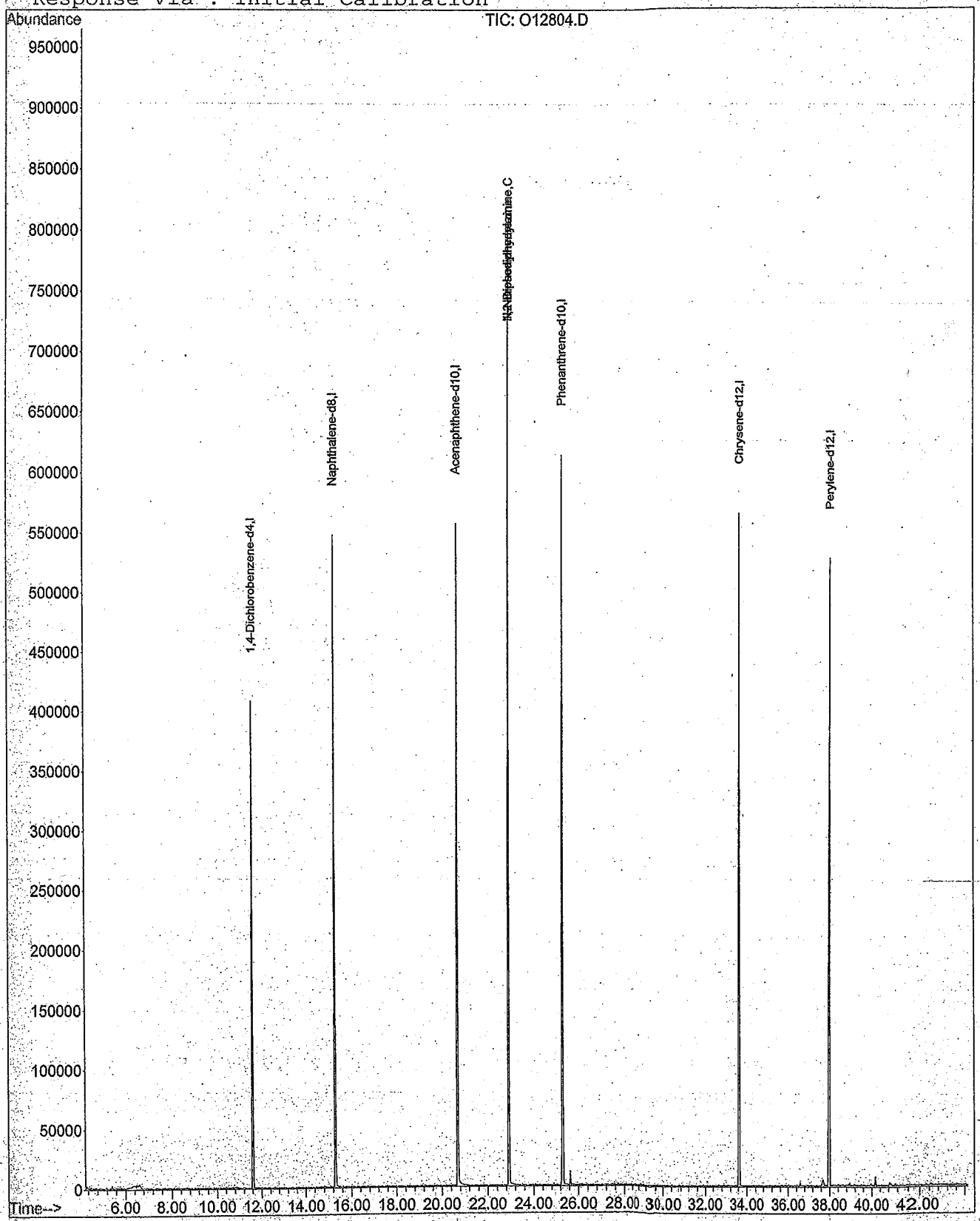
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) 2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41) 2-Chloronaphthalene	0.00	162	0	N.D.	
42) 2-Nitroaniline	0.00	65	0	N.D.	
43) Dimethylphthalate	0.00	163	0	N.D.	
44) Acenaphthylene	0.00	152	0	N.D.	
45) 2,6-Dinitrotoluene	0.00	165	0	N.D.	
46) 3-Nitroaniline	0.00	138	0	N.D.	
47) Acenaphthene	20.70	154	505	N.D.	
48) Dibenzofuran	0.00	168	0	N.D.	
49) 2,4-Dinitrotoluene	0.00	165	0	N.D.	
50) 4-Nitrophenol	0.00	65	0	N.D.	
51) 2,4-Dinitrophenol	0.00	184	0	N.D.	
52) Diethylphthalate	0.00	149	0	N.D.	
53) Fluorene	0.00	166	0	N.D.	
54) 4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55) 4-Nitroaniline	22.92	138	584	N.D.	
57) 4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58) N-Nitrosodiphenylamine	22.94	169	460173	72.19 mg/L	97
59) 1,2-Diphenylhydrazine	22.94	77	53856	4.80 mg/L #	53
61) 4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62) Hexachlorobenzene	0.00	284	0	N.D.	
63) Pentachlorophenol	0.00	266	0	N.D.	
64) Phenanthrene	25.63	178	3206	N.D.	
65) Anthracene	25.63	178	3206	N.D.	
66) Carbazole	0.00	167	0	N.D.	
67) Di-n-butylphthalate	0.00	149	0	N.D.	
69) Fluoranthene	0.00	202	0	N.D.	
70) Benzidine	0.00	184	0	N.D.	
71) Pyrene	0.00	202	0	N.D.	
73) Butylbenzylphthalate	0.00	149	0	N.D.	
74) Benzo(a)anthracene	33.64	228	1063	N.D.	
75) Chrysene	33.64	228	1063	N.D.	
76) 3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77) bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78) Di-n-octylphthalate	0.00	149	0	N.D.	
80) Benzo(b)fluoranthene	0.00	252	0	N.D.	
81) Benzo(k)fluoranthene	0.00	252	0	N.D.	
82) Benzo(a)pyrene	37.99	252	1059	N.D.	
83) Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84) Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85) Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-28-21\012804.D
Acq On : 28 Jan 2021 11:58 am
Sample : 100ppm N-Ndpa ICV / 16G2005
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration



Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1205

Metals

Data Package

Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673

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General Outline for Metals Raw Data Deliverables

1) **Data Review Sheet**

2) **Preservation verification – If applicable (Sample Log In Checklist)**

3) **Analytical Parameter**

4) **Digestion Logs**

5) **Raw Data-----In the order by analysis date:**
   - Daily Tune (if applicable)
   - Instrument Data which includes the following:
     - Calibration, ICV, CCVs, Blanks, Batch QC, Samples, and Low Level Verifications as applicable

Trace Analytical Laboratories, Inc. **Metals Data Review** Trace I.D. No. 21J1205

Analyst Review	1631	1631 *	7470/1	7470/1 *	6010	6010 *	6020	6020 *
Calibration Curve is valid			✓		✓			
Sample preparation information is correct and complete							✓	
LCS MS/MSDs are within established control limits								
Blanks are within established control limits								
Second Source Standard within control limits								
Qualifiers have been added, where appropriate								
Copies of digestion logs and run logs are included								
Analyst's initials and analysis date are on bench sheet								
Quantitative results are correct and complete								
RPDs have been calculated where appropriate								
Method, Instrument, Reagents, Standards identified								
Reporting limits have been adjusted where necessary								
Samples were diluted to within LDR or Curve, as necessary								
Internal Standards are within established limits	---	---	---	---				
PDS performed for ICP-MS, where applicable	---	---	---	---	---	---		
CCV and CCB run every 10-samples			✓		✓			
Instrument Tuning is based on 5 consecutive runs	---	---	---	---	---	---		
Notations/Comments: Sign & Date			MH 11/30/21		11/30/21		11-30-21	
Manager Review								
Appropriate SOPs have been followed			✓		✓		✓	
Digestion date, analyst initials, and analysis date are correct								
Analyses match Chain-of-Custody								
Calibration data are scientifically sound, appropriate, and documented								
Second Source Standard in control								
Quantitative results, reporting limits, and detection limits reviewed								
Detection limit multiplier is correct								
QC issues explained and set to report, if necessary								
Significant figures are correct								
Instrument report data matches LIMS data								
Digestion amount in LIMS matches Digestion Log								
Method numbers are correct								
Samples were diluted to within LDR or Curve, as necessary								
Internal Standards are within established limits								
PDS performed for ICP-MS, where applicable			NA		NA		NA	
CCV and CCB run every 10-samples			✓		✓		✓	
Analyst review has been checked			✓		✓		✓	
Analysis is approved for release to reporting			✓		✓		✓	
Notations/Comments: Sign & Date			CWP 11/30/21		CWP 11/30/21		CWP 11/30/21	

* Column for 100% review of data.

Form 10-AX.0
Effective 7/8/16

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Muskegon, MI 49444-2673

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21J1205

Mercury

Raw Data

EPA 7471 PREPARATION BENCH SHEET

T116323

Prepared using: Metals - EPA 7471B Prep **Matrix: Solid** **Analyst:** MH **Analysis Date:** 11/2/21 **Printed: 11/2/2021 10:23:19AM**

Digestion Start Time: 15:47 Stop Time: 16:17

Hot Block Temperature: 95.0 °C (95 ± 3°C)

Hg CIS: 21J2829 Hg CVIS: 21J2830

Daily Calibration Digested: (Y) or N

Env. Express Hot Block (#2) S/N: 8211CECW3499.

Balance: Mettler PG503-5, S/N: 1119022310 Thermometer S/N: 031513

Reviewer Initals: [illegible]

Review Date: 11/2/21

Pipettes Used:

Dig 100.2 ✓ Dig 1000.3 ✓

Dig 5000.2 ✓ Dig 10ml.2 ___

Standard	Description	Volume
21D2209	100ml Digestion Tubes	NA mls
21H0406	Hydroxylamine Sulfate Solution	6.0 mls
21I0837	Potassium Permanganate Solution	15.0 mls
21I1407	Hydrochloric Acid - lot 4121030	3.75 mls
21I2309	Nitric Acid 61160	1.25 mls

	KMnO4 Additions	Purple Color after Digestion?		WO Due Date
21J1205-01 C CL-SB-GP-1 (8-10') I/MS/MSD Inital: 0.633 g Final 100 mls Hg	15.0 mls	(Y) or N	Fishbeck Level IV with Forms must sequence in LIMS	11/05/21
21J1205-02 A CL-SB-GP-4 (2-4') I Inital: 0.561 g Final 100 mls Hg	15.0 mls	(Y) or N	Fishbeck Level IV with Forms must sequence in LIMS	11/05/21
21J1205-03 A CL-SB-GP-5 (1-3') I Inital: 0.676 g Final 100 mls Hg	15.0 mls	(Y) or N	Fishbeck Level IV with Forms must sequence in LIMS	11/05/21
21J1205-04 A CL-SB-GP-6 (0.5-2.5') I Inital: 0.592 g Final 100 mls Hg	15.0 mls	(Y) or N	Fishbeck Level IV with Forms must sequence in LIMS	11/05/21

EPA 7471 PREPARATION BENCH SHEET

T116323

Prepared using: Metals - EPA 7471B Prep **Matrix: Solid** **Analyst:** MH **Analysis Date:** 11/2/21 **Printed: 11/2/2021 10:23:19AM**

Digestion Start Time: 15:47 Stop Time: 16:17

Hot Block Temperature: 95.0 °C (95 ± 3°C)

Hg CIS: 21J2829 Hg CVIS: 21J2830

Daily Calibration Digested: (Y) or N

Env. Express Hot Block #2, S/N: 8211CECW3499.

Balance: Mettler PG503-5, S/N: 1119022310 Thermometer S/N: 031513

Reviewer Initals:

Review Date: 11/2/21

Pipettes Used:

Dig 100.2 ✓ Dig 1000.3 ✓

Dig 5000.2 ✓ Dig 10ml.2 ___

Standard	Description	Volume
21D2209	100ml Digestion Tubes	NA mls
21H0406	Hydroxylamine Sulfate Solution	10.0 mls
21I0837	Potassium Permanganate Solution	15.0 mls
21I1407	Hydrochloric Acid - lot 4121030	3.75 mls
21I2309	Nitric Acid 61160	1.25 mls

		KMnO4 Additions	Purple Color after Digestion?		WO Due Date
21J1205-05 A	CL-SB-GP-7 (1-3') I			Fishbeck	11/05/21
Inital: 0.521 g Final 100 mls Hg		15.0 mls	(Y) or N	Level IV with Forms must sequence in LIMS	
21J1205-10 A	CL-SB-GP-5 (1-3') D			Fishbeck	11/05/21
Inital: 0.5 g Final 100 mls Hg		15.0 mls	(Y) or N	Level IV with Forms must sequence in LIMS	
T116323-BLK1	Blank			Spike Standard	Spike Amount (ul)
Inital: 0.5 g Final 100 mls		15.0 mls	(Y) or N		
T116323-BS1	LCS			Spike Standard	Spike Amount (ul)
Inital: 0.5 g Final 100 mls		15.0 mls	(Y) or N	21H3115	400
T116323-MS1	Matrix Spike [21J1205-01]			Spike Standard	Spike Amount (ul)
Inital: 0.541 g Final 100 mls		15.0 mls	(Y) or N	21H3115	400
T116323-MSD1	Matrix Spike Dup [21J1205-01]			Spike Standard	Spike Amount (ul)
Inital: 0.579 g Final 100 mls		15.0 mls	(Y) or N	21H3115	400

Mercury Run Logsheet

Method(s):
__ EPA 245.1
__ EPA 7470A
_X_ EPA 7471B

Instrument Information:
- QuickTrace Mercury Analyzer M-7600 (S/N: US19270021R) with CETAC ASX-280 Autosampler (S/N: 032065A280)

Analyst Initials:	MRH
Date:	11-03-21
Batch / Sequence (es):	T116322 / T116323 / HG110321C

Stannous Chloride LIMS ID:	21J2120

Review Date:	11/4/21
Reviewer Initials:	CDD
Comments:	SEQUENCE: 11K09003 CALIBRATION: 211005

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7471B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Instrument ID: CETAC

Control Limt: +/- 10.00%

SDG:

Project: OC Grant Phase IIs

Calibration: 2111005

Sequence: 1K09003

Lab Sample ID	Analyte	True	Found	%R	Units	Method
1K09003-ICV1	Mercury	2.50	2.55	102	ug/L	EPA 7471B
1K09003-CCV1	Mercury	2.50	2.55	102	ug/L	EPA 7471B
1K09003-CCV2	Mercury	2.50	2.56	102	ug/L	EPA 7471B

* Values outside of QC limits

BLANKS
EPA 7471B

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Instrument ID: CETAC
Project: OC Grant Phase IIs
Sequence: 1K09003
Calibration: 2111005

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1K09003-ICB1	Mercury	0.0110	0.20	ug/L		EPA 7471B
T116323-BLK1	Mercury	0.0062	0.050	mg/kg wet		EPA 7471B
1K09003-CCB1	Mercury	0.011	0.20	ug/L		EPA 7471B
1K09003-CCB2	Mercury	0.011	0.20	ug/L		EPA 7471B

METHOD BLANK DATA SHEET
EPA 7471B

Laboratory:	Trace Analytical Laboratories, Inc.			SDG:	
Client:	Fishbeck			Project:	OC Grant Phase IIs
Matrix:	Solid	Laboratory ID:	T116323-BLK1	File ID:	HG110321C-017
Prepared:	11/02/21 15:47	Preparation:	EPA 7471B Prep	Initial/Final:	0.5 g / 100 mL
Analyzed:	11/03/21 13:47	Instrument:	CETAC		
Batch:	T116323	Sequence:	1K09003	Calibration:	2111005

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
7439-97-6	Mercury	0.050	U

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY
EPA 7471B

CL-SB-GP-1 (8-10') I/MS/MSD

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Matrix: Solid
Batch: T116323
Laboratory ID: T116323-MS1
Preparation: EPA 7471B Prep
Initial/Final: 0.541 g / 100 mL
Source Sample Name: CL-SB-GP-1 (8-10') I/MS/MSD

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. #	QC LIMITS REC.
Mercury	0.766	0	0.757	99	80 - 120

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Mercury	0.716	0.716	100	1	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
EPA 7471B

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Matrix:	Solid		
Batch:	T116323	Laboratory ID:	T116323-BS1
Preparation:	EPA 7471B Prep	Initial/Final:	0.5 g / 100 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Mercury	0.800	0.790	99	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

PREPARATION BATCH SUMMARY
EPA 7471B

Laboratory: Trace Analytical Laboratories, Inc. SDG:

Client: Fishbeck Project: OC Grant Phase IIs

Batch: T116323 Batch Matrix: Solid Preparation: EPA 7471B Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	HG110321C-023	11/02/21 15:47	Level IV with Forms must sequence in LIMS
CL-SB-GP-4 (2-4') I	21J1205-02	HG110321C-024	11/02/21 15:47	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') I	21J1205-03	HG110321C-025	11/02/21 15:47	Level IV with Forms must sequence in LIMS
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	HG110321C-026	11/02/21 15:47	Level IV with Forms must sequence in LIMS
CL-SB-GP-7 (1-3') I	21J1205-05	HG110321C-027	11/02/21 15:47	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') D	21J1205-10	HG110321C-028	11/02/21 15:47	Level IV with Forms must sequence in LIMS
Blank	T116323-BLK1	HG110321C-017	11/02/21 15:47	
LCS	T116323-BS1	HG110321C-018	11/02/21 15:47	
CL-SB-GP-1 (8-10') I/MS/MSD	T116323-MS1	HG110321C-021	11/02/21 15:47	
CL-SB-GP-1 (8-10') I/MS/MSD	T116323-MSD1	HG110321C-022	11/02/21 15:47	

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 7471B

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K09003	Instrument:	CETAC
Matrix:	Solid	Calibration:	2111005

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
cal blank	1K09003-CAL1	HG110321C-001	11/03/21 13:08
0.05ppb	1K09003-CAL2	HG110321C-002	11/03/21 13:11
0.2ppb	1K09003-CAL3	HG110321C-003	11/03/21 13:13
1.0ppb	1K09003-CAL4	HG110321C-004	11/03/21 13:15
2.5ppb	1K09003-CAL5	HG110321C-005	11/03/21 13:18
8.0ppb	1K09003-CAL6	HG110321C-006	11/03/21 13:20
Initial Cal Check	1K09003-ICV1	HG110321C-007	11/03/21 13:24
cal blank	1K09003-ICB1	HG110321C-008	11/03/21 13:26
Blank	T116323-BLK1	HG110321C-017	11/03/21 13:47
LCS	T116323-BS1	HG110321C-018	11/03/21 13:49
Calibration Check	1K09003-CCV1	HG110321C-019	11/03/21 13:52
Calibration Blank	1K09003-CCB1	HG110321C-020	11/03/21 13:54
CL-SB-GP-1 (8-10') I/MS/MSD	T116323-MS1	HG110321C-021	11/03/21 13:56
CL-SB-GP-1 (8-10') I/MS/MSD	T116323-MSD1	HG110321C-022	11/03/21 13:58
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	HG110321C-023	11/03/21 14:01
CL-SB-GP-4 (2-4') I	21J1205-02	HG110321C-024	11/03/21 14:03
CL-SB-GP-5 (1-3') I	21J1205-03	HG110321C-025	11/03/21 14:05
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	HG110321C-026	11/03/21 14:08
CL-SB-GP-7 (1-3') I	21J1205-05	HG110321C-027	11/03/21 14:10
CL-SB-GP-5 (1-3') D	21J1205-10	HG110321C-028	11/03/21 14:12
Calibration Check	1K09003-CCV2	HG110321C-029	11/03/21 14:14
Calibration Blank	1K09003-CCB2	HG110321C-030	11/03/21 14:17

Report Generated By Teledyne Leeman QuickTrace

Analyst: laboffice

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\HG110321C.wszf

Creation Date: 11/3/2021 11:46:47 AM

Comment:

Results

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual Flags	% Recovery
Calibration Blank		STD	11/03/21 01:08:54 pm	0.000	380	7.36		N/A
Replicates	372.2	344.1	403.5	401.1				
Standard #1		STD	11/03/21 01:11:11 pm	0.050	981	2.33	23.46%	N/A
Replicates	996.1	979.8	998.6	949.0				
Standard #2		STD	11/03/21 01:13:28 pm	0.200	2541	1.29	0.22%	N/A
Replicates	2504.7	2523.7	2557.5	2577.3				
Standard #3		STD	11/03/21 01:15:45 pm	1.000	11572	0.95	0.35%	N/A
Replicates	11427.5	11549.8	11633.0	11678.4				
Standard #4		STD	11/03/21 01:18:03 pm	2.500	28016	0.91	-1.37%	N/A
Replicates	27700.5	27953.6	28107.0	28304.0				
Standard #5		STD	11/03/21 01:20:20 pm	8.000	90366	0.75	0.13%	N/A
Replicates	89502.3	90192.9	90692.1	91077.7				

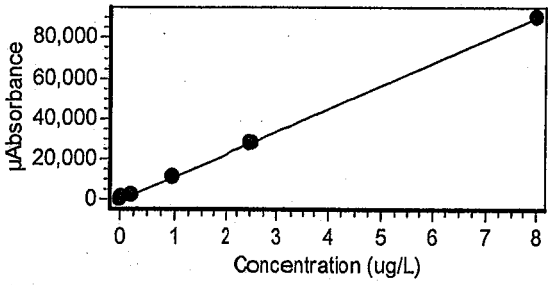
Calibration

Equation: Abs = 11245.671x + 286.665

R2: 0.99997 RSE: 13.57%

SEE: 217.2051

Flags:



CVS		ICV	11/03/21 01:24:35 pm	2.550	29012	1.33		102.17
Replicates	28542.0	28879.9	29214.9	29409.1				
ICB		ICB	11/03/21 01:26:52 pm	0.011	407	13.62		N/A
Replicates	407.1	415.5	421.1	383.9				
T116322-BLK1		UNK	11/03/21 01:29:08 pm	0.011	408	15.14		N/A
Replicates	427.0	392.1	392.9	421.3				
T116322-BS1		UNK	11/03/21 01:31:25 pm	4.150	46996	0.86		N/A
Replicates	46485.2	46877.6	47216.6	47403.0				
T116322-MS1		UNK	11/03/21 01:33:42 pm	4.040	45721	0.95		N/A
Replicates	45167.6	45603.9	45955.7	46155.1				
T116322-MSD1		UNK	11/03/21 01:35:59 pm	3.920	44408	0.96		N/A
Replicates	43877.8	44273.7	44631.9	44848.3				
21J0999-10		UNK	11/03/21 01:38:16 pm	0.025	563	1.63		N/A
Replicates	561.3	556.8	565.0	567.0				

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual Flags	% Recovery
21J0999-12	UNK	11/03/21 01:40:33 pm	0.022	533	7.45		N/A
Replicates	507.7	551.0	532.2	539.6			
21J0999-13	UNK	11/03/21 01:42:51 pm	0.295	3603	0.42		N/A
Replicates	3582.7	3614.2	3608.0	3605.4			
21J1093-01	UNK	11/03/21 01:45:08 pm	0.149	1965	2.04		N/A
Replicates	1920.3	1962.0	1977.0	2001.8			
T116323-BLK1	UNK	11/03/21 01:47:26 pm	0.031	634	4.53		N/A
Replicates	623.6	644.6	618.4	650.8			
T116323-BS1	UNK	11/03/21 01:49:44 pm	3.950	44691	0.93		N/A
Replicates	44163.6	44579.4	44913.0	45109.6			
CCV	CCV	11/03/21 01:52:01 pm	2.550	28950	1.02		101.95
Replicates	28592.1	28850.8	29096.0	29259.8			
CCB	CCB	11/03/21 01:54:18 pm	0.011	405	19.09		N/A
Replicates	406.1	429.0	410.8	374.6			
T116323-MS1	UNK	11/03/21 01:56:36 pm	3.950	44668	0.97		N/A
Replicates	44118.4	44556.0	44884.8	45111.0			
T116323-MSD1	UNK	11/03/21 01:58:54 pm	4.000	45289	0.96		N/A
Replicates	44740.0	45178.2	45504.2	45734.8			
21J1205-01	UNK	11/03/21 02:01:10 pm	0.020	516	6.17		N/A
Replicates	509.7	518.9	533.3	500.1			
21J1205-02	UNK	11/03/21 02:03:27 pm	0.037	703	5.93		N/A
Replicates	681.5	708.3	687.3	736.1			
21J1205-03	UNK	11/03/21 02:05:44 pm	0.038	714	2.58		N/A
Replicates	712.5	698.5	720.3	723.1			
21J1205-04	UNK	11/03/21 02:08:01 pm	0.235	2929	0.73		N/A
Replicates	2907.5	2922.8	2932.2	2953.6			
21J1205-05	UNK	11/03/21 02:10:18 pm	0.061	978	1.10		N/A
Replicates	966.8	981.8	983.8	978.2			
21J1205-10	UNK	11/03/21 02:12:35 pm	0.037	705	2.40		N/A
Replicates	695.7	705.0	719.4	701.8			
CCV	CCV	11/03/21 02:14:53 pm	2.560	29043	1.28		102.28
Replicates	28578.4	28929.6	29253.4	29409.2			
CCB	CCB	11/03/21 02:17:09 pm	0.011	415	13.25		N/A
Replicates	393.8	424.4	432.0	408.8			

Analysis Parameters

Instrument M-7600 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	30.00	100.00	46.00	4	1.25	50	253.65

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
15.00	20.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow, gas off, lamp off

Action Thresholds

Smart Rinse: 100000

Abort on Over-range: 1000000

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. ofDetermination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99000

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ug/L)
0.0500

Failure flag: Q

Error action for manually inserted QC: Repeat, flag and continue

ICB

Concentration (ug/L)
0.0500

Failure flag: Z

Error action for manually inserted QC: Repeat, flag and continue

CCV

Concentration (ug/L)	Low Limit %	High Limit %
2.5000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ug/L)	Low Limit %	High Limit %
2.5000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673

TRACE
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21J1205

6010

Raw Data

EPA 3015A/3051 PREPARATION BENCH SHEET

T116316

Prepared using: Metals - EPA 3051 Matrix: Solid

Analyst: MH **Analysis Date:** 11/2/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: DIG1000.3 ✓ DIG100.2 ____

Acid Volumes: Nitric 9.0 mls HCL 3.0 mls

Reviewer Initals: CRD Review Date: 11/02/21

Standard	Description
21D2031	50ml Digestion Tubes
21I1407	Hydrochloric Acid - lot 41210:
21I2309	Nitric Acid 61160

Printed: 11/2/2021 10:12:42AM

			WO Due Date	Pos.
21J1205-01 C	CL-SB-GP-1 (8-10') I/MS/MSD	Fishbeck	11/05/21	
Inital: 0.988 g/ml Final 50 mls				9
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-02 A	CL-SB-GP-4 (2-4') I	Fishbeck	11/05/21	
Inital: 0.999 g/ml Final 50 mls				10
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-03 A	CL-SB-GP-5 (1-3') I	Fishbeck	11/05/21	
Inital: 0.952 g/ml Final 50 mls				11
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-04 A	CL-SB-GP-6 (0.5-2.5') I	Fishbeck	11/05/21	
Inital: 0.937 g/ml Final 50 mls				12
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	

EPA 3015A/3051 PREPARATION BENCH SHEET

T116316

Prepared using: Metals - EPA 3051 Matrix: Solid

Analyst: LyMcH **Analysis Date:** 11/2/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: DIG1000.3 ✓ DIG100.2 ____

Acid Volumes: Nitric 90 mls HCL 30 mls

Reviewer Initals CLD Review Date: 11/02/21

Standard	Description
21D2031	50ml Digestion Tubes
21I1407	Hydrochloric Acid - lot 41210
21I2309	Nitric Acid 61160

Printed: 11/2/2021 10:12:42AM

WO Due Date | Pos.

21J1205-05 A CL-SB-GP-7 (1-3') I — Fishbeck — 11/05/21

Inital: 0.936 g/ml Final 50 mls

by 6010B Ba Cr Pb Cu Zn — Level IV with Forms must sequence in LIMS

by 6020 As Cd Se Ag — Level IV with Forms must sequence in LIMS

13

21J1205-10 A CL-SB-GP-5 (1-3') D — Fishbeck — 11/05/21

Inital: 1.078 g/ml Final 50 mls

by 6010B Ba Cr Pb Cu Zn — Level IV with Forms must sequence in LIMS

by 6020 As Cd Se Ag — Level IV with Forms must sequence in LIMS

14

T116316-BLK1 Blank — Spike Standard — Spike Amount (ul)

T116316-Blk2

Inital: 1.0 g/ml Final 50 mls

15

T116316-BS1 LCS — Spike Standard: 21K0111 — Spike Amount (ul): 500

T116316-BS2

Inital: 1.0 g/ml Final 50 mls

16

T116316-MS1 Matrix Spike [21J1205-01] — Spike Standard: 21K0111 — Spike Amount (ul): 500

T116316-MS2

Inital: 0.969 g/ml Final 50 mls

17

T116316-MSD1 Matrix Spike Dup [21J1205-01] — Spike Standard: 21K0111 — Spike Amount (ul): 500

T116316-MSD2

Inital: 0.970 g/ml Final 50 mls

18

ICP Run Logsheet – EPA 6010D Solid

Instrument Information:

- Varian 720-ES ICP-OES with Varian SPS 3 Autosampler (S/N: EL06033903)

Analyst Initials:	DC
Date:	11-04-21
Batch / Sequence(s):	T116316/ 110421B

LIMS IDs

Calibration Blank:	21I0919
Calibration STD:	21I2105
Ag Calibration STD:	21I1410
ICV / ICV-10,000ppb:	21I0202 / 21J1506
Ag ICV:	21F2116
SIC:	21H2301
LLOQ	21I2108
LDR/LDR Si/S	21G0108 / 21H1007
MID LEVEL/CCV:	21H1909
MID LEVEL/CCV Ag:	21I0411
CAL Si/S:	21G0106
MID LEVEL/CCV Si/S:	21H2001
LLOQ Si/S	21I0836
ICV Si/S	21E0604
Internal Standard:	21J0610

Review Date:	11/05/21
Reviewer Initials:	CKD
Analyst's comments:	Seq. 1K04002 CAL 2111003

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Instrument ID: Varian 720
Calibration: 2111003
Control Limt: +/- 10.00%
Sequence: 1K04002

Lab Sample ID	Analyte	True	Found	%R	Units	Method
1K04002-ICV1	Barium	1000	1020	102	ug/L	EPA 6010D
	Chromium	1000	1010	101	ug/L	EPA 6010D
	Copper	1000	1010	101	ug/L	EPA 6010D
	Lead	1000	1010	101	ug/L	EPA 6010D
	Zinc	1000	1010	101	ug/L	EPA 6010D
1K04002-CCV1	Barium	1000	1010	101	ug/L	EPA 6010D
	Chromium	1000	1000	100	ug/L	EPA 6010D
	Copper	1000	1010	101	ug/L	EPA 6010D
	Lead	1000	1020	102	ug/L	EPA 6010D
	Zinc	1000	1000	100	ug/L	EPA 6010D
1K04002-CCV2	Barium	1000	998	100	ug/L	EPA 6010D
	Chromium	1000	994	99	ug/L	EPA 6010D
	Copper	1000	984	98	ug/L	EPA 6010D
	Lead	1000	996	100	ug/L	EPA 6010D
	Zinc	1000	990	99	ug/L	EPA 6010D

* Values outside of QC limits

BLANKS
EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Instrument ID: Varian 720
Project: OC Grant Phase IIs
Sequence: 1K04002
Calibration: 2111003

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1K04002-ICB1	Barium	-0.0992	20	ug/L		EPA 6010D
	Chromium	-0.00482	20	ug/L		EPA 6010D
	Copper	-0.0298	10	ug/L		EPA 6010D
	Lead	-0.991	20	ug/L		EPA 6010D
	Zinc	-0.0228	20	ug/L		EPA 6010D
T116316-BLK2	Barium	0.0056	1.0	mg/kg dry		EPA 6010D
	Chromium	0.0014	2.0	mg/kg dry		EPA 6010D
	Copper	-0.0019	1.0	mg/kg dry		EPA 6010D
	Lead	0.0098	1.0	mg/kg dry		EPA 6010D
	Zinc	-0.035	1.0	mg/kg dry		EPA 6010D
1K04002-CCB1	Barium	-0.15	20	ug/L		EPA 6010D
	Chromium	0.19	20	ug/L		EPA 6010D
	Copper	0.0093	10	ug/L		EPA 6010D
	Lead	-1.3	20	ug/L		EPA 6010D
	Zinc	0.046	20	ug/L		EPA 6010D
1K04002-CCB2	Barium	-0.15	20	ug/L		EPA 6010D
	Chromium	0.19	20	ug/L		EPA 6010D
	Copper	0.0093	10	ug/L		EPA 6010D
	Lead	-0.28	20	ug/L		EPA 6010D
	Zinc	0.13	20	ug/L		EPA 6010D

METHOD BLANK DATA SHEET
EPA 6010D

Laboratory:	Trace Analytical Laboratories, Inc.			SDG:	
Client:	Fishbeck			Project:	OC Grant Phase IIs
Matrix:	Solid	Laboratory ID:	T116316-BLK2	File ID:	110421B-011
Prepared:	11/02/21 10:12	Preparation:	EPA 3051	Initial/Final:	1 g / 50 mL
Analyzed:	11/04/21 12:11	Instrument:	Varian 720		
Batch:	T116316	Sequence:	1K04002	Calibration:	2111003

CAS NO.	COMPOUND	CONC. (mg/kg dry)	Q
7440-39-3	Barium	1.0	U
7440-47-3	Chromium	2.0	U
7440-50-8	Copper	1.0	U
7439-92-1	Lead	1.0	U
7440-66-6	Zinc	1.0	U

ICP INTERFERENCE CHECK SAMPLE

EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc.

SDG:

Client: Fishbeck

Project: OC Grant Phase IIs

Instrument ID: Varian 720

Calibration: 2111003

Sequence: 1K04002

Lab Sample ID	Analyte	True	Found	%R	Units
1K04002-IFA1	Barium		-0.07		ug/L
	Chromium		0.12		ug/L
	Copper		0.16		ug/L
	Lead		1.11		ug/L
	Zinc		1.88		ug/L

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY
EPA 6010D

CL-SB-GP-1 (8-10') I/MS/MSI

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Matrix:	Solid		
Batch:	T116316	Laboratory ID:	T116316-MS2
Preparation:	EPA 3051	Initial/Final:	0.969 g / 50 mL

Source Sample Name: CL-SB-GP-1 (8-10') I/MS/MSD

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. #	QC LIMITS REC.
Barium	41.3	2.45	41.6	95	75 - 125
Chromium	41.3	2.10	41.0	94	75 - 125
Copper	41.3	0.782	38.8	92	75 - 125
Lead	41.3	0.681	39.5	94	75 - 125
Zinc	41.3	15.1	52.8	91	75 - 125

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Barium	41.2	41.5	95	0.07	20	75 - 125
Chromium	41.2	40.7	94	0.9	20	75 - 125
Copper	41.2	38.8	92	0.2	20	75 - 125
Lead	41.2	39.5	94	0.08	20	75 - 125
Zinc	41.2	53.4	93	2	20	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SERIAL DILUTION

EPA 6010D

CL-SB-GP-1 (8-10') I/MS/MSD

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Matrix: Solid
Sequence: 1K04002
Preparation: T116316
Source Sample Name: CL-SB-GP-1 (8-10') I/MS/MSD

SDG:
Project: OC Grant Phase IIs
Laboratory ID: 1K04002-SRD1
Lab Source ID: 21J1205-01
Initial/Final: 0.988 / 50
% Solids: 96.48

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method	QC Limits % Difference
Barium	2.45		ND				EPA 6010D	10
Chromium	2.10		ND				EPA 6010D	10
Copper	<		ND				EPA 6010D	10
Lead	<		ND				EPA 6010D	10
Zinc	15.1		15.5		2		EPA 6010D	10

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
EPA 6010D

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Matrix:	Solid		
Batch:	T116316	Laboratory ID:	T116316-BS2
Preparation:	EPA 3051	Initial/Final:	1 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg dry)	LCS CONCENTRATION (mg/kg dry)	LCS % REC. #	QC LIMITS REC.
Barium	40.0	37.9	95	80 - 120
Chromium	40.0	37.7	94	80 - 120
Copper	40.0	36.8	92	80 - 120
Lead	40.0	37.3	93	80 - 120
Zinc	40.0	37.2	93	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

PREPARATION BATCH SUMMARY
EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc. SDG:

Client: Fishbeck Project: OC Grant Phase IIs

Batch: T116316 Batch Matrix: Solid Preparation: EPA 3051

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	110421B-015	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-4 (2-4') I	21J1205-02	110421B-017	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') I	21J1205-03	110421B-018	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	110421B-019	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-7 (1-3') I	21J1205-05	110421B-020	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') D	21J1205-10	110421B-023	11/02/21 10:12	Level IV with Forms must sequence in LIMS
Blank	T116316-BLK2	110421B-011	11/02/21 10:12	
LCS	T116316-BS2	110421B-012	11/02/21 10:12	
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MS2	110421B-013	11/02/21 10:12	
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MSD2	110421B-014	11/02/21 10:12	

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 6010D

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K04002	Instrument:	Varian 720
Matrix:	Solid	Calibration:	2111003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
CAL STD	1K04002-CAL2	110421B-002	11/04/21 11:51
Secondary Cal Check	1K04002-SCV1	110421B-003	11/04/21 11:53
ICS A	1K04002-IFA1	110421B-005	11/04/21 11:57
Initial Cal Blank	1K04002-ICB1	110421B-006	11/04/21 12:00
LICV	1K04002-LCV1	110421B-007	11/04/21 12:02
MID RANGE	1K04002-HCV1	110421B-008	11/04/21 12:04
ICV	1K04002-ICV1	110421B-010	11/04/21 12:08
Blank	T116316-BLK2	110421B-011	11/04/21 12:11
LCS	T116316-BS2	110421B-012	11/04/21 12:13
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MS2	110421B-013	11/04/21 12:15
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MSD2	110421B-014	11/04/21 12:17
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	110421B-015	11/04/21 12:20
CL-SB-GP-1 (8-10') I/MS/MSD	1K04002-SRD1	110421B-016	11/04/21 12:22
CL-SB-GP-4 (2-4') I	21J1205-02	110421B-017	11/04/21 12:24
CL-SB-GP-5 (1-3') I	21J1205-03	110421B-018	11/04/21 12:27
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	110421B-019	11/04/21 12:29
CL-SB-GP-7 (1-3') I	21J1205-05	110421B-020	11/04/21 12:31
CCV 16	1K04002-CCV1	110421B-021	11/04/21 12:34
CCB	1K04002-CCB1	110421B-022	11/04/21 12:36
CCB	1K04002-CCB2	110421B-022	11/04/21 12:36
CL-SB-GP-5 (1-3') D	21J1205-10	110421B-023	11/04/21 12:38
CCV 8	1K04002-CCV2	110421B-024	11/04/21 12:40
CCB	1K04002-CCB2	110421B-025	11/04/21 12:42

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Calibration: 2111003
Laboratory ID: 1K04002-LCV1
Sequence: 1K04002
Standard ID: 21I2108

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Barium	20.0	19.7	-1.4	
Chromium	10.0	9.55	-4.5	
Copper	4.00	4.35	8.7	
Lead	25.0	25.3	1.4	
Zinc	15.0	17.4	16.0	

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6010D

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Calibration: 2111003
Laboratory ID: 1K04002-HCV1
Sequence: 1K04002
Standard ID: 21G0108

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Barium	25000	23900	-4.5	
Chromium	25000	24200	-3.1	
Copper	25000	24800	-0.9	
Lead	25000	24500	-1.8	
Zinc	25000	23500	-6.2	

* Values outside of QC limits

110421B@720/725/730/735-ES@Quant@. All Data Report 11/4/2021, 12:44:34 PM

Blank (Blk) **11/4/2021, 11:49:14 AM** **Rack 2, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ce 418.659	0.000000	ug/L	17.365	12.0	145.078
Ba 233.527	0.0000	ug/L	2.246	6.8	32.8979
Co 228.615	0.0000	ug/L	9.707	30.2	32.1540
Cr 267.716	0.000000	ug/L	3.701	35.8	10.3369
Cu 327.395	0.000000	ug/L	14.167	40.3	35.1328
Mo 202.032	0.000000	ug/L	1.684	25.8	6.53482
Ni 231.604	0.000000	ug/L	5.082	39.2	12.9647
Pb 220.353	0.000000	ug/L	8.242	61.0	13.5164
V 292.401	0.000000	ug/L	16.731	90.9	18.4085
Zn 213.857	0.000000	ug/L	2.713	3.9	69.2944

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0000	154517	2596.351	1.7

CAL STD (Std) **11/4/2021, 11:51:24 AM** **Rack 2, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ce 418.659	1000.00	ug/L	301.855	1.6	19266.7
Ba 233.527	2000.00	ug/L	3370.292	2.4	138719
Co 228.615	2000.00	ug/L	200.972	1.0	19338.6
Cr 267.716	2000.00	ug/L	1467.019	1.2	120470
Cu 327.395	2000.00	ug/L	1983.078	1.9	106225
Mo 202.032	2000.00	ug/L	327.597	1.4	23947.4
Ni 231.604	2000.00	ug/L	126.615	0.9	14047.0
Pb 220.353	2000.00	ug/L	107.599	1.5	7068.94
V 292.401	2000.00	ug/L	643.593	1.1	59267.3
Zn 213.857	2000.00	ug/L	846.090	1.4	61961.5

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9743	150553	1228.567	0.8

Ce 418.659 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		145.078	0.000000	0.000000	-	-
CAL STD		19266.7	1000.00	1000.00	0.000000	0.0

Curve Type: Linear Equation: y = 19.1 x + 145.1

Ba 233.527 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		32.8979	0.0000	0.0000	-	-
CAL STD		138719	2000.00	2000.00	0.0000	0.0

Curve Type: Linear Equation: y = 69.3 x + 32.9

Co 228.615 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		32.1540	0.0000	0.0000	-	-
CAL STD		19338.6	2000.00	2000.00	0.0000	0.0

Curve Type: Linear Equation: y = 9.7 x + 32.2

Cr 267.716 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		10.3369	0.000000	0.000000	-	-
CAL STD		120470	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 60.2 x + 10.3

Cu 327.395 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		35.1328	0.000000	0.000000	-	-
CAL STD		106225	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 53.1 x + 35.1

Mo 202.032 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.53482	0.000000	0.000000	-	-
CAL STD		23947.4	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 12.0 x + 6.5

Ni 231.604 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		12.9647	0.000000	0.000000	-	-
CAL STD		14047.0	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 7.0 x + 13.0

Pb 220.353 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		13.5164	0.000000	0.000000	-	-
CAL STD		7068.94	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 3.5 x + 13.5

V 292.401 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		18.4085	0.000000	0.000000	-	-

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
CAL STD		59267.3	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 29.6 x + 18.4

Zn 213.857 Calibration (ug/L) **11/4/2021, 11:51:24 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		69.2944	0.000000	0.000000	-	-
CAL STD		61961.5	2000.00	2000.00	0.000000	0.0

Curve Type: Linear Equation: y = 30.9 x + 69.3

ICV 6010 (ICV) 1K04002-ICV1 **11/4/2021, 11:53:34 AM** **Rack 2, Tube 3**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	-0.478487	ug/L	0.259536	54.2	135.929	Y 371.029	-
Ba 233.527	1005.40	ug/L	8.6429	0.9	69750.8	Y 371.029	100.54021
Co 228.615	992.835	ug/L	3.6506	0.4	9616.22	Y 371.029	99.28348
Cr 267.716	1010.24	ug/L	9.58584	0.9	60857.0	Y 371.029	101.02434
Cu 327.395	1009.65	ug/L	9.88875	1.0	53642.5	Y 371.029	100.96483
Mo 202.032	1029.52	ug/L	9.59663	0.9	12330.4	Y 371.029	102.95229
Ni 231.604	995.941	ug/L	9.42870	0.9	7001.51	Y 371.029	99.59413
Pb 220.353	1017.62	ug/L	8.56329	0.8	3603.40	Y 371.029	101.76241
V 292.401	992.226	ug/L	7.94836	0.8	29412.6	Y 371.029	99.22264
Zn 213.857	999.803	ug/L	10.9013	1.1	31009.3	Y 371.029	99.98034

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9984	154277	646.528	0.4

ICV 10,000 (ICV) **11/4/2021, 11:55:44 AM** **Rack 2, Tube 4**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	-1.47487	ug/L	0.349529	23.7	116.877	Y 371.029	-
Ba 233.527	0.1096	ug/L	0.2059	187.8	40.5003	Y 371.029	-
Co 228.615	-0.0197	ug/L	0.7400	3765.4	31.9643	Y 371.029	-
Cr 267.716	0.385362	ug/L	0.203377	52.8	33.5472	Y 371.029	-
Cu 327.395	-0.035725	ug/L	0.216638	606.4	33.2360	Y 371.029	-
Mo 202.032	0.838130	ug/L	0.469125	56.0	16.5676	Y 371.029	-
Ni 231.604	0.002114	ug/L	0.809837	38302.5	12.9796	Y 371.029	-
Pb 220.353	-0.804924	ug/L	0.949714	118.0	10.6768	Y 371.029	-
V 292.401	0.585359	ug/L	0.312547	53.4	35.7495	Y 371.029	-
Zn 213.857	1.18125	ug/L	0.338607	28.7	105.850	Y 371.029	-

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9950	153748	1758.838	1.1

SIC (ICSA) 1K04001-IPA1 11/4/2021, 11:57:54 AM Rack 2, Tube 5

Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	-1.27090	ug/L	1.59603	125.6	120.777	Y 371.029	-
Ba 233.527	-0.0699	ug/L	0.0529	75.7	28.0534	Y 371.029	-0.06986
Co 228.615	0.2533	ug/L	0.4095	161.7	34.5988	Y 371.029	0.25327
Cr 267.716	0.123119	ug/L	0.296243	240.6	17.7524	Y 371.029	0.12312
Cu 327.395	0.158903	ug/L	0.310012	195.1	43.5698	Y 371.029	0.15890
Mo 202.032	0.603181	ug/L	0.525041	87.0	13.7552	Y 371.029	0.60318
Ni 231.604	0.862036	ug/L	1.19187	138.3	19.0137	Y 371.029	0.86204
Pb 220.353	1.10673	ug/L	2.01607	182.2	17.4206	Y 371.029	1.10673
V 292.401	-0.122525	ug/L	0.266800	217.8	14.7788	Y 371.029	-0.12252
Zn 213.857	1.87956	ug/L	0.176837	9.4	127.460	Y 371.029	1.87956

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9765	150889	1473.750	1.0

1K04002-ICB1

Initial Calib Blank (ICB) 11/4/2021, 12:00:04 PM Rack 2, Tube 6

Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	0.494735	ug/L	0.429855	86.9	154.539	Y 371.029	0.49474
Ba 233.527	-0.0992	ug/L	0.1351	136.3	26.0210	Y 371.029	-0.09917
Co 228.615	-0.6406	ug/L	0.2309	36.0	25.9699	Y 371.029	-0.64062
Cr 267.716	-0.004819	ug/L	0.053198	1103.9	10.0467	Y 371.029	-0.00482
Cu 327.395	-0.029806	ug/L	0.222188	745.5	33.5503	Y 371.029	-0.02981
Mo 202.032	-0.022820	ug/L	0.359332	1574.6	6.26165	Y 371.029	-0.02282
Ni 231.604	0.595564	ug/L	0.293056	49.2	17.1438	Y 371.029	0.59556
Pb 220.353	-0.991349	ug/L	1.78201	179.8	10.0192	Y 371.029	-0.99135
V 292.401	0.026868	ug/L	0.184121	685.3	19.2045	Y 371.029	0.02687
Zn 213.857	-0.022840	ug/L	0.291392	1275.8	68.5876	Y 371.029	-0.02284

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0174	157199	1889.162	1.2

LLOQ (CRI) 1K04003-LCV1 11/4/2021, 12:02:22 PM Rack 2, Tube 7

Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	0.157676	ug/L	0.621266	394.0	148.093	Y 371.029	-
Ba 233.527	19.7137	ug/L	0.3032	1.5	1399.91	Y 371.029	98.56841
Co 228.615	7.3557	ug/L	0.5527	7.5	103.160	Y 371.029	98.07553
Cr 267.716	9.55427	ug/L	0.321363	3.4	585.788	Y 371.029	95.54275
Cu 327.395	4.34658	ug/L	0.409792	9.4	265.915	Y 371.029	108.66451
Mo 202.032	15.5388	ug/L	0.302435	1.9	192.541	Y 371.029	103.59198
Ni 231.604	7.78142	ug/L	0.434551	5.6	67.5671	Y 371.029	103.75223
Pb 220.353	25.3462	ug/L	0.610366	2.4	102.930	Y 371.029	101.38474
V 292.401	3.83965	ug/L	0.179082	4.7	132.156	Y 371.029	95.99115
Zn 213.857	17.4032	ug/L	0.340847	2.0	607.857	Y 371.029	116.02151

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0092	155946	1897.436	1.2

LDR (CRI) 1K041002-1CV1 **11/4/2021, 12:04:32 PM** **Rack 2, Tube 8**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	-3.89045	ug/L	2.30636	59.3	70.6868	Y 371.029	-38.90453
Ba 233.527	23886.4	ug/L	344.166	1.4	1656394	Y 371.029	95.54556
Co 228.615	24427.5	ug/L	318.109	1.3	235836	Y 371.029	97.71000
Cr 267.716	24225.2	ug/L	390.642	1.6	1459087	Y 371.029	96.90083
Cu 327.395	24769.6	ug/L	310.228	1.3	1315181	Y 371.029	99.07843
Mo 202.032	6.39462	ug/L	5.88328	92.0	83.0812	Y 371.029	-
Ni 231.604	24334.0	ug/L	340.615	1.4	170765	Y 371.029	97.33590
Pb 220.353	24548.7	ug/L	388.584	1.6	86614.2	Y 371.029	98.19473
V 292.401	24538.3	ug/L	363.863	1.5	726954	Y 371.029	98.15335
Zn 213.857	23450.1	ug/L	233.645	1.0	725758	Y 371.029	93.80029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9470	146336	850.920	0.6

LDR BLANK (CRI) **11/4/2021, 12:06:41 PM** **Rack 2, Tube 9**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	-0.539191	ug/L	0.745642	138.3	134.768	Y 371.029	-
Ba 233.527	0.0365	ug/L	0.0759	208.1	35.4255	Y 371.029	0.18226
Co 228.615	0.1332	ug/L	0.0750	56.3	33.4395	Y 371.029	1.77567
Cr 267.716	0.176447	ug/L	0.079069	44.8	20.9643	Y 371.029	1.76447
Cu 327.395	0.001355	ug/L	0.155502	11478.5	35.2047	Y 371.029	0.03387
Mo 202.032	0.086183	ug/L	0.299748	347.8	7.56646	Y 371.029	0.57455
Ni 231.604	0.413634	ug/L	0.297594	71.9	15.8672	Y 371.029	5.51512
Pb 220.353	1.43242	ug/L	1.30378	91.0	18.5695	Y 371.029	5.72966
V 292.401	0.133246	ug/L	0.147748	110.9	22.3559	Y 371.029	3.33114
Zn 213.857	0.263229	ug/L	0.202224	76.8	77.4403	Y 371.029	1.75486

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0163	157033	2166.755	1.4

MID LEVEL (CRI) **11/4/2021, 12:08:52 PM** **Rack 2, Tube 10**

Weight: 1 1K041002-1CV1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	493.018	ug/L	7.75053	1.6	9572.37	Y 371.029	-
Ba 233.527	1022.38	ug/L	8.9154	0.9	70927.8	Y 371.029	102.23763
Co 228.615	1002.21	ug/L	9.2145	0.9	9706.74	Y 371.029	100.22119
Cr 267.716	1005.34	ug/L	11.4298	1.1	60561.9	Y 371.029	100.53449
Cu 327.395	1009.56	ug/L	6.78342	0.7	53637.9	Y 371.029	100.95608
Mo 202.032	993.121	ug/L	11.8905	1.2	11894.6	Y 371.029	99.31211
Ni 231.604	1007.14	ug/L	10.7581	1.1	7080.08	Y 371.029	100.71394
Pb 220.353	1010.33	ug/L	11.9442	1.2	3577.68	Y 371.029	101.03333
V 292.401	995.669	ug/L	11.1654	1.1	29514.6	Y 371.029	99.56688
Zn 213.857	1007.66	ug/L	10.8807	1.1	31252.4	Y 371.029	100.76595

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9993	154409	1877.068	1.2

110421B@720/725/730/735-ES@Quant@. All Data Report 11/4/2021, 12:44:34 PM

T116316- ~~BLK1~~ BLK2 (Samp) **11/4/2021, 12:11:25 PM** **Rack 1, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	0.491511	ug/L	0.543982	110.7	154.477	Y 371.029
Ba 233.527	0.1125	ug/L	0.0598	53.2	40.6962	Y 371.029
Co 228.615	-0.7141	ug/L	0.7218	101.1	25.2608	Y 371.029
Cr 267.716	0.027437	ug/L	0.130599	476.0	11.9895	Y 371.029
Cu 327.395	-0.038683	ug/L	0.090551	234.1	33.0789	Y 371.029
Mo 202.032	0.631497	ug/L	0.107720	17.1	14.0941	Y 371.029
Ni 231.604	-0.274126	ug/L	0.394230	143.8	11.0412	Y 371.029
Pb 220.353	0.195130	ug/L	1.31460	673.7	14.2047	Y 371.029
V 292.401	0.346304	ug/L	0.135206	39.0	28.6676	Y 371.029
Zn 213.857	-0.703913	ug/L	0.248523	35.3	47.5111	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0289	158987	891.407	0.6

BS2

T116316-~~BS1~~ (Samp) **11/4/2021, 12:13:34 PM** **Rack 1, Tube 2**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	-0.266104	ug/L	0.603283	226.7	139.990	Y 371.029
Ba 233.527	758.106	ug/L	14.0259	1.9	52602.5	Y 371.029
Co 228.615	746.342	ug/L	11.8462	1.6	7236.77	Y 371.029
Cr 267.716	753.362	ug/L	11.7306	1.6	45385.1	Y 371.029
Cu 327.395	736.562	ug/L	10.1350	1.4	39143.0	Y 371.029
Mo 202.032	752.655	ug/L	13.5693	1.8	9016.14	Y 371.029
Ni 231.604	755.325	ug/L	12.5999	1.7	5313.09	Y 371.029
Pb 220.353	746.880	ug/L	16.2871	2.2	2648.30	Y 371.029
V 292.401	744.400	ug/L	12.5701	1.7	22070.9	Y 371.029
Zn 213.857	743.135	ug/L	10.5405	1.4	23066.4	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0263	158587	804.635	0.5

MS2

T116316-~~MS1~~ (Samp) **11/4/2021, 12:15:44 PM** **Rack 1, Tube 3**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	118.662	ug/L	2.44059	2.1	2414.08	Y 371.029
Ba 233.527	806.379	ug/L	2.0506	0.3	55949.9	Y 371.029
Co 228.615	763.526	ug/L	13.8234	1.8	7402.65	Y 371.029
Cr 267.716	795.503	ug/L	7.33842	0.9	47923.3	Y 371.029
Cu 327.395	751.239	ug/L	9.23502	1.2	39922.2	Y 371.029
Mo 202.032	760.927	ug/L	5.65951	0.7	9115.16	Y 371.029
Ni 231.604	787.099	ug/L	6.07806	0.8	5536.05	Y 371.029
Pb 220.353	766.227	ug/L	8.99233	1.2	2716.54	Y 371.029
V 292.401	802.133	ug/L	6.81825	0.9	23781.2	Y 371.029
Zn 213.857	1023.16	ug/L	8.45532	0.8	31732.2	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0240	158229	1118.377	0.7

T116316-~~MSD1~~ (Samp) **11/4/2021, 12:17:54 PM** **Rack 1, Tube 4**

Weight: 1 MSD2 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	109.258	ug/L	1.32401	1.2	2234.26	Y 371.029
Ba 233.527	805.868	ug/L	10.3885	1.3	55914.5	Y 371.029
Co 228.615	757.043	ug/L	10.0180	1.3	7340.07	Y 371.029
Cr 267.716	789.084	ug/L	7.84613	1.0	47536.6	Y 371.029
Cu 327.395	752.728	ug/L	5.95856	0.8	40001.3	Y 371.029
Mo 202.032	760.659	ug/L	7.50904	1.0	9111.96	Y 371.029
Ni 231.604	782.966	ug/L	8.12049	1.0	5507.05	Y 371.029
Pb 220.353	765.670	ug/L	8.00694	1.0	2714.58	Y 371.029
V 292.401	792.817	ug/L	6.22206	0.8	23505.2	Y 371.029
Zn 213.857	1035.53	ug/L	7.53400	0.7	32114.8	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0217	157872	180.385	0.1

21J1205-01 (Samp) **11/4/2021, 12:20:03 PM** **Rack 1, Tube 5**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	115.334	ug/L	0.344126	0.3	2350.44	Y 371.029
Ba 233.527	48.4321	ug/L	0.2234	0.5	3391.34	Y 371.029
Co 228.615	13.8063	ug/L	0.8078	5.9	165.430	Y 371.029
Cr 267.716	41.5831	ug/L	0.136535	0.3	2514.88	Y 371.029
Cu 327.395	15.4501	ug/L	0.195013	1.3	855.458	Y 371.029
Mo 202.032	1.24659	ug/L	0.228794	18.4	21.4570	Y 371.029
Ni 231.604	32.4905	ug/L	0.202380	0.6	240.952	Y 371.029
Pb 220.353	13.4530	ug/L	1.94841	14.5	60.9746	Y 371.029
V 292.401	56.0261	ug/L	0.400513	0.7	1678.15	Y 371.029
Zn 213.857	298.118	ug/L	4.16348	1.4	9294.90	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0450	161475	804.754	0.5

21J1205-01 - DUP (DUP) **11/4/2021, 12:22:13 PM** **Rack 1, Tube 6**

Weight: 1 **Volume: 1** **Dilution: 5**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	23.6159	ug/L	2.03040	8.6	596.652	Y 371.029	132.01587
Ba 233.527	9.6589	ug/L	0.1327	1.4	702.674	Y 371.029	133.49147
Co 228.615	2.1938	ug/L	0.8761	39.9	53.3315	Y 371.029	145.15489
Cr 267.716	8.38465	ug/L	0.281231	3.4	515.342	Y 371.029	132.87950
Cu 327.395	2.86001	ug/L	0.146282	5.1	186.986	Y 371.029	137.52057
Mo 202.032	0.874372	ug/L	0.126382	14.5	17.0014	Y 371.029	35.09877
Ni 231.604	6.38918	ug/L	0.839765	13.1	57.7978	Y 371.029	134.26720
Pb 220.353	3.42407	ug/L	1.53921	45.0	25.5955	Y 371.029	118.84662
V 292.401	11.4870	ug/L	0.157165	1.4	358.705	Y 371.029	131.94209
Zn 213.857	61.1216	ug/L	0.784879	1.3	1960.77	Y 371.029	131.94345

CP 11/5/21

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0296	159093	784.155	0.5

21J1205-02 (Samp) **11/4/2021, 12:24:52 PM** **Rack 1, Tube 7**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	119.888	ug/L	1.84194	1.5	2437.53	Y 371.029
Ba 233.527	91.5306	ug/L	0.8276	0.9	6379.93	Y 371.029
Co 228.615	12.7289	ug/L	0.6338	5.0	155.029	Y 371.029
Cr 267.716	37.0428	ug/L	0.427920	1.2	2241.41	Y 371.029
Cu 327.395	12.1999	ug/L	0.381954	3.1	682.890	Y 371.029
Mo 202.032	1.48118	ug/L	0.231057	15.6	24.2652	Y 371.029
Ni 231.604	30.3670	ug/L	0.696838	2.3	226.050	Y 371.029
Pb 220.353	34.5180	ug/L	0.264945	0.8	135.286	Y 371.029
V 292.401	49.0476	ug/L	0.919935	1.9	1471.42	Y 371.029
Zn 213.857	100.188	ug/L	1.20348	1.2	3169.72	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0345	159853	793.514	0.5

21J1205-03 (Samp) **11/4/2021, 12:27:01 PM** **Rack 1, Tube 8**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	127.544	ug/L	1.51134	1.2	2583.92	Y 371.029
Ba 233.527	95.7858	ug/L	1.0045	1.0	6675.00	Y 371.029
Co 228.615	12.2502	ug/L	0.2811	2.3	150.408	Y 371.029
Cr 267.716	35.0228	ug/L	0.235939	0.7	2119.75	Y 371.029
Cu 327.395	14.1790	ug/L	0.377221	2.7	787.966	Y 371.029
Mo 202.032	1.86367	ug/L	0.702298	37.7	28.8438	Y 371.029
Ni 231.604	26.5540	ug/L	1.12366	4.2	199.295	Y 371.029
Pb 220.353	37.5984	ug/L	1.61638	4.3	146.153	Y 371.029
V 292.401	47.7005	ug/L	0.584906	1.2	1431.51	Y 371.029
Zn 213.857	90.5641	ug/L	1.32198	1.5	2871.90	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0431	161172	2153.950	1.3

21J1205-04 (Samp) **11/4/2021, 12:29:11 PM** **Rack 1, Tube 9**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	77.3730	ug/L	3.95001	5.1	1624.57	Y 371.029
Ba 233.527	538.567	ug/L	13.1506	2.4	37378.9	Y 371.029
Co 228.615	28.7269	ug/L	0.5383	1.9	309.462	Y 371.029
Cr 267.716	68.5594	ug/L	1.56785	2.3	4139.65	Y 371.029
Cu 327.395	1547.22	ug/L	33.4620	2.2	82185.1	Y 371.029
Mo 202.032	13.0786	ug/L	0.151409	1.2	163.092	Y 371.029
Ni 231.604	83.6198	ug/L	3.08639	3.7	599.726	Y 371.029
Pb 220.353	411.367	ug/L	11.2959	2.7	1464.70	Y 371.029
V 292.401	141.256	ug/L	3.05378	2.2	4203.03	Y 371.029
Zn 213.857	249.405	ug/L	4.55959	1.8	7787.40	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0936	168981	2614.734	1.5

21J1205-05 (Samp) **11/4/2021, 12:31:20 PM** **Rack 1, Tube 10**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	122.025	ug/L	1.66279	1.4	2478.39	Y 371.029
Ba 233.527	144.132	ug/L	2.2833	1.6	10027.5	Y 371.029
Co 228.615	14.7906	ug/L	0.2076	1.4	174.931	Y 371.029
Cr 267.716	44.0470	ug/L	0.800473	1.8	2663.28	Y 371.029
Cu 327.395	30.2155	ug/L	0.781392	2.6	1639.43	Y 371.029
Mo 202.032	1.15190	ug/L	0.411034	35.7	20.3236	Y 371.029
Ni 231.604	33.0159	ug/L	0.659623	2.0	244.638	Y 371.029
Pb 220.353	32.1887	ug/L	1.58561	4.9	127.069	Y 371.029
V 292.401	75.4245	ug/L	1.25584	1.7	2252.82	Y 371.029
Zn 213.857	89.0715	ug/L	1.28151	1.4	2825.71	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0371	160257	777.358	0.5

CCV (CCV) 1K04002-CCV1 **11/4/2021, 12:34:19 PM** **Rack 2, Tube 11**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	497.391	ug/L	4.51549	0.9	9655.98	Y 371.029	-
Ba 233.527	1010.06	ug/L	26.6442	2.6	70073.6	Y 371.029	101.00581
Co 228.615	996.698	ug/L	31.1289	3.1	9653.51	Y 371.029	99.66979
Cr 267.716	1000.69	ug/L	17.3711	1.7	60281.6	Y 371.029	100.06910
Cu 327.395	1007.68	ug/L	16.8324	1.7	53538.1	Y 371.029	100.76817
Mo 202.032	992.235	ug/L	18.7249	1.9	11884.0	Y 371.029	99.22353
Ni 231.604	1001.94	ug/L	18.8461	1.9	7043.62	Y 371.029	100.19429
Pb 220.353	1020.17	ug/L	15.7782	1.5	3612.38	Y 371.029	102.01678
V 292.401	1001.55	ug/L	16.7264	1.7	29688.7	Y 371.029	100.15456
Zn 213.857	1002.85	ug/L	25.5898	2.6	31103.5	Y 371.029	100.28481

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	0.9996	154451	1221.846	0.8

Cont Calib Blank (CCB) **11/4/2021, 12:36:29 PM** **Rack 2, Tube 12**
Weight: 1 1K04002-CCB1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	0.599416	ug/L	1.10470	184.3	156.540	Y 371.029	0.59942
Ba 233.527	-0.1519	ug/L	0.0596	39.2	22.3643	Y 371.029	-0.15191
Co 228.615	-0.3535	ug/L	0.1594	45.1	28.7414	Y 371.029	-0.35352
Cr 267.716	0.188492	ug/L	0.074027	39.3	21.6897	Y 371.029	0.18849
Cu 327.395	0.009260	ug/L	0.348351	3761.9	35.6245	Y 371.029	0.00926
Mo 202.032	0.594229	ug/L	0.466292	78.5	13.6480	Y 371.029	0.59423
Ni 231.604	0.803094	ug/L	0.550918	68.6	18.6001	Y 371.029	0.80309
Pb 220.353	-1.33759	ug/L	3.14974	235.5	8.79773	Y 371.029	-1.33759
V 292.401	0.388945	ug/L	0.883222	227.1	29.9308	Y 371.029	0.38894
Zn 213.857	0.045736	ug/L	0.195827	428.2	70.7098	Y 371.029	0.04574

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0297	159102	1244.201	0.8

21J1205-10 (Samp) **11/4/2021, 12:38:39 PM** **Rack 1, Tube 11**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS
Ce 418.659	148.806	ug/L	2.86189	1.9	2990.49	Y 371.029
Ba 233.527	97.8632	ug/L	1.1384	1.2	6819.05	Y 371.029
Co 228.615	12.8585	ug/L	0.6601	5.1	156.280	Y 371.029
Cr 267.716	37.2756	ug/L	0.229997	0.6	2255.43	Y 371.029
Cu 327.395	13.4593	ug/L	0.116712	0.9	749.756	Y 371.029
Mo 202.032	1.67248	ug/L	0.099224	5.9	26.5551	Y 371.029
Ni 231.604	27.1333	ug/L	0.722269	2.7	203.360	Y 371.029
Pb 220.353	49.1604	ug/L	4.86746	9.9	186.940	Y 371.029
V 292.401	52.5849	ug/L	0.602765	1.1	1576.21	Y 371.029
Zn 213.857	90.3106	ug/L	1.27736	1.4	2864.06	Y 371.029

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0488	162053	609.077	0.4

CCV (CCV) 1K04002-CCV2 **11/4/2021, 12:40:48 PM** **Rack 2, Tube 11**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	490.272	ug/L	6.40802	1.3	9519.85	Y 371.029	-
Ba 233.527	998.376	ug/L	11.1058	1.1	69263.5	Y 371.029	99.83755
Co 228.615	985.084	ug/L	14.3706	1.5	9541.40	Y 371.029	98.50838
Cr 267.716	994.482	ug/L	13.0529	1.3	59907.7	Y 371.029	99.44817
Cu 327.395	983.975	ug/L	13.7335	1.4	52279.4	Y 371.029	98.39753
Mo 202.032	982.814	ug/L	9.40800	1.0	11771.3	Y 371.029	98.28145
Ni 231.604	993.565	ug/L	8.87047	0.9	6984.83	Y 371.029	99.35649
Pb 220.353	996.107	ug/L	10.4143	1.0	3527.50	Y 371.029	99.61066
V 292.401	984.416	ug/L	12.7887	1.3	29181.2	Y 371.029	98.44157
Zn 213.857	990.019	ug/L	10.5888	1.1	30706.5	Y 371.029	99.00191

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0099	156047	1275.811	0.8

Cont Calib Blank (CCB) **11/4/2021, 12:42:57 PM** **Rack 2, Tube 12**

Weight: 1 1K04002-CCB2 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	IS	QC Value
Ce 418.659	0.111806	ug/L	0.827017	739.7	147.216	Y 371.029	0.11181
Ba 233.527	-0.0877	ug/L	0.0518	59.0	26.8141	Y 371.029	-0.08773
Co 228.615	-0.8681	ug/L	0.2627	30.3	23.7743	Y 371.029	-0.86807
Cr 267.716	0.130473	ug/L	0.097679	74.9	18.1952	Y 371.029	0.13047
Cu 327.395	-0.037110	ug/L	0.244335	658.4	33.1625	Y 371.029	-0.03711
Mo 202.032	0.542807	ug/L	0.771179	142.1	13.0325	Y 371.029	0.54281
Ni 231.604	0.179049	ug/L	1.28498	717.7	14.2211	Y 371.029	0.17905
Pb 220.353	-0.280570	ug/L	1.34848	480.6	12.5266	Y 371.029	-0.28057
V 292.401	-0.026754	ug/L	0.309410	1156.5	17.6160	Y 371.029	-0.02675
Zn 213.857	0.132289	ug/L	0.316710	239.4	73.3883	Y 371.029	0.13229

Label	Ratio	Int. (c/s)	SD(Int)	%RSD
Y 371.029	1.0318	159433	1036.053	0.6

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1205

6020

Raw Data

ICP-MS Run Logsheet

Method(s):

__ EPA 200.8 Aqueous

+ EPA 6020B Solids

__ EPA 6020B Non-Aqueous Liquid

Instrument Information:

- Thermo Fisher Scientific iCAP RQ ICP-MS (S/N: iCAPRQ00820)

Analyst Initials:	ACS
Date:	11-03-21
Batch:	T115685, T116288, T116315, T116316
Sequence:	110321A

LIMS IDs

Cal Blk / ICB / CCB:	21J2109
Cal Std 1:	21J2114
Cal Std 2:	21J2113
Cal Std 3:	21IJ2112
Cal Std 4 / CCV:	21IJ2111
Cal Std 5:	21J2110
ICV1 6020B/QCS1 200.8:	21J2115
ICV2 6020B/QCS2 200.8:	21E1304
SIC:	21I0917
LDR:	21I0918
Internal Standard:	21K0301
Diluent:	21J2109
Rinse:	21G2832

Review Date:	11/04/21
Reviewer Initials:	CRD
Comments:	

EPA 3015A/3051 PREPARATION BENCH SHEET

T116316

Prepared using: Metals - EPA 3051 Matrix: Solid

Analyst: MH **Analysis Date:** 11/2/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: DIG1000.3 ✓ DIG100.2_____

Acid Volumes: Nitric 9.0 mls HCL 3.0 mls

Reviewer Initals: QLD Review Date: 11/02/21

Standard	Description
21D2031	50ml Digestion Tubes
21I1407	Hydrochloric Acid - lot 41210
21I2309	Nitric Acid 61160

Printed: 11/2/2021 10:12:42AM

			WO Due Date	Pos.
21J1205-01 C	CL-SB-GP-1 (8-10') I/MS/MSD	Fishbeck	11/05/21	
Inital: 0.988 g/ml Final 50 mls				9
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-02 A	CL-SB-GP-4 (2-4') I	Fishbeck	11/05/21	
Inital: 0.999 g/ml Final 50 mls				10
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-03 A	CL-SB-GP-5 (1-3') I	Fishbeck	11/05/21	
Inital: 0.952 g/ml Final 50 mls				11
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-04 A	CL-SB-GP-6 (0.5-2.5') I	Fishbeck	11/05/21	
Inital: 0.937 g/ml Final 50 mls				12
by 6010B Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020 As Cd Se Ag			Level IV with Forms must sequence in LIMS	

EPA 3015A/3051 PREPARATION BENCH SHEET

T116316

Prepared using: Metals - EPA 3051 Matrix: Solid

Analyst: lyMcH **Analysis Date:** 11/2/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: DIG1000.3 ✓ DIG100.2 ____

Acid Volumes: Nitric 9.0 mls HCL 3.0 mls

Reviewer Initals CDD Review Date: 11/02/21

Standard	Description
21D2031	50ml Digestion Tubes
21I1407	Hydrochloric Acid - lot 41210
21I2309	Nitric Acid 61160

Printed: 11/2/2021 10:12:42AM

				WO Due Date	Pos.
21J1205-05 A	CL-SB-GP-7 (1-3') I	Fishbeck		11/05/21	
Inital: 0.936 g/ml Final 50 mls					13
by 6010B	Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020	As Cd Se Ag			Level IV with Forms must sequence in LIMS	
21J1205-10 A	CL-SB-GP-5 (1-3') D	Fishbeck		11/05/21	
Inital: 1.078 g/ml Final 50 mls					14
by 6010B	Ba Cr Pb Cu Zn			Level IV with Forms must sequence in LIMS	
by 6020	As Cd Se Ag			Level IV with Forms must sequence in LIMS	
T116316-BLK1	Blank	Spike Standard	Spike Amount (ul)		
Inital: 1.0 g/ml Final 50 mls					15
T116316-BS1	LCS	Spike Standard	Spike Amount (ul)		
Inital: 1.0 g/ml Final 50 mls		21K0111	500		16
T116316-MS1	Matrix Spike [21J1205-01]	Spike Standard	Spike Amount (ul)		
Inital: 0.969 g/ml Final 50 mls		21K0111	500		17
T116316-MSD1	Matrix Spike Dup [21J1205-01]	Spike Standard	Spike Amount (ul)		
Inital: 0.970 g/ml Final 50 mls		21K0111	500		18

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Instrument ID: Qtegra
Calibration: 2111001
Control Limt: +/- 10.00%
Sequence: 1J29004

Lab Sample ID	Analyte	True	Found	%R	Units	Method
1J29004-ICV1	Arsenic	50.0	50.5	101	ug/L	EPA 6020B
	Selenium	50.0	51.0	102	ug/L	EPA 6020B
	Silver	50.0	49.7	99	ug/L	EPA 6020B
1J29004-CCV1	Arsenic	50.0	49.9	100	ug/L	EPA 6020B
	Selenium	50.0	49.5	99	ug/L	EPA 6020B
	Silver	50.0	49.9	100	ug/L	EPA 6020B
1J29004-CCV2	Arsenic	50.0	50.9	102	ug/L	EPA 6020B
	Selenium	50.0	50.3	101	ug/L	EPA 6020B
	Silver	50.0	49.3	99	ug/L	EPA 6020B
1J29004-CCV3	Arsenic	50.0	49.2	98	ug/L	EPA 6020B
	Selenium	50.0	49.3	99	ug/L	EPA 6020B
	Silver	50.0	49.2	98	ug/L	EPA 6020B
1J29004-CCV4	Arsenic	50.0	50.0	100	ug/L	EPA 6020B
	Selenium	50.0	48.7	97	ug/L	EPA 6020B
	Silver	50.0	49.7	99	ug/L	EPA 6020B
1J29004-CCV5	Arsenic	50.0	50.1	100	ug/L	EPA 6020B
	Selenium	50.0	49.0	98	ug/L	EPA 6020B
	Silver	50.0	49.7	99	ug/L	EPA 6020B

* Values outside of QC limits

BLANKS
EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc. SDG:

Client: Fishbeck

Instrument ID: Qtegra Project: OC Grant Phase IIs

Sequence: 1J29004 Calibration: 2111001

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1J29004-ICB1	Arsenic	0.0687	1.4	ug/L		EPA 6020B
	Selenium	0.0524	1.2	ug/L		EPA 6020B
	Silver	0.0542	1.0	ug/L		EPA 6020B
1J29004-CCB1	Arsenic	-0.0065	1.4	ug/L		EPA 6020B
	Selenium	0.082	1.2	ug/L		EPA 6020B
	Silver	-0.21	1.0	ug/L		EPA 6020B
1J29004-CCB2	Arsenic	0.097	1.4	ug/L		EPA 6020B
	Selenium	0.047	1.2	ug/L		EPA 6020B
	Silver	-0.22	1.0	ug/L		EPA 6020B
1J29004-CCB3	Arsenic	0.037	1.4	ug/L		EPA 6020B
	Selenium	0.011	1.2	ug/L		EPA 6020B
	Silver	-0.22	1.0	ug/L		EPA 6020B
T116316-BLK1	Arsenic	0.027	2.0	mg/kg dry		EPA 6020B
	Selenium	0.014	0.60	mg/kg dry		EPA 6020B
	Silver	-0.11	0.50	mg/kg dry		EPA 6020B
1J29004-CCB4	Arsenic	-0.016	1.4	ug/L		EPA 6020B
	Selenium	0.0015	1.2	ug/L		EPA 6020B
	Silver	-0.21	1.0	ug/L		EPA 6020B
1J29004-CCB5	Arsenic	0.081	1.4	ug/L		EPA 6020B
	Selenium	0.080	1.2	ug/L		EPA 6020B
	Silver	-0.20	1.0	ug/L		EPA 6020B

METHOD BLANK DATA SHEET
EPA 6020B

Laboratory:	Trace Analytical Laboratories, Inc.		SDG:		
Client:	Fishbeck		Project:	OC Grant Phase IIs	
Matrix:	Solid	Laboratory ID:	T116316-BLK1	File ID:	110321A-057
Prepared:	11/02/21 10:12	Preparation:	EPA 3051	Initial/Final:	1 g / 50 mL
Analyzed:	11/03/21 09:03	Instrument:	Qtegra		
Batch:	T116316	Sequence:	1J29004	Calibration:	2111001

CAS NO.	COMPOUND	CONC. (mg/kg dry)	Q
7440-38-2	Arsenic	2.0	U
7782-49-2	Selenium	0.60	U
7440-22-4	Silver	0.50	U

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

SDG:

Client: Fishbeck

Project: OC Grant Phase IIs

Instrument ID: Qtegra

Calibration: 2111001

Sequence: 1J29004

Lab Sample ID	Analyte	True	Found	%R	Units
1J29004-IFA1	Arsenic		0.00		ug/L
	Selenium		0.12		ug/L
	Silver		0.33		ug/L

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY
EPA 6020B

'L-SB-GP-1 (8-10') I/MS/MSI

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Matrix: Solid
Batch: T116316
Laboratory ID: T116316-MS1
Preparation: EPA 3051
Initial/Final: 0.969 g / 50 mL
Source Sample Name: CL-SB-GP-1 (8-10') I/MS/MSD

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. #	QC LIMITS REC.
Arsenic	5.16	0.761	5.04	83	75 - 125
Selenium	5.16	0.409	4.26	75	75 - 125
Silver	5.16	0	4.77	92	75 - 125

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Arsenic	5.15	5.26	87	5	20	75 - 125
Selenium	5.15	4.59	81	8	20	75 - 125
Silver	5.15	5.21	101	9	20	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Matrix: Solid

Batch: T116316

Preparation: EPA 3051

SDG:

Project: OC Grant Phase IIs

Laboratory ID: T116316-BS1

Initial/Final: 1 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg dry)	LCS CONCENTRATION (mg/kg dry)	LCS % REC. #	QC LIMITS REC.
Arsenic	5.00	4.50	90	80 - 120
Selenium	5.00	4.08	82	80 - 120
Silver	5.00	4.92	98	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc. SDG:

Client: Fishbeck Project: OC Grant Phase IIs

Batch: T116316 Batch Matrix: Solid Preparation: EPA 3051

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	110321A-062	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-4 (2-4') I	21J1205-02	110321A-063	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') I	21J1205-03	110321A-064	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	110321A-067	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-7 (1-3') I	21J1205-05	110321A-068	11/02/21 10:12	Level IV with Forms must sequence in LIMS
CL-SB-GP-5 (1-3') D	21J1205-10	110321A-069	11/02/21 10:12	Level IV with Forms must sequence in LIMS
Blank	T116316-BLK1	110321A-057	11/02/21 10:12	
LCS	T116316-BS1	110321A-058	11/02/21 10:12	
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MS1	110321A-059	11/02/21 10:12	
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MSD1	110321A-060	11/02/21 10:12	

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 6020B

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1J29004	Instrument:	Qtegra
Matrix:	Solid	Calibration:	2111001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
cal 1	1J29004-CAL2	110321A-003	11/03/21 07:35
cal 10	1J29004-CAL3	110321A-004	11/03/21 07:37
cal 20	1J29004-CAL4	110321A-005	11/03/21 07:39
cal 50	1J29004-CAL5	110321A-006	11/03/21 07:40
cal 100	1J29004-CAL6	110321A-007	11/03/21 07:42
Secondary Cal Check	1J29004-SCV1	110321A-008	11/03/21 07:43
Initial Cal Blank	1J29004-ICB1	110321A-010	11/03/21 07:47
lcv	1J29004-LCV1	110321A-011	11/03/21 07:48
MIDPOINT	1J29004-ICV1	110321A-013	11/03/21 07:52
SIC	1J29004-IFA1	110321A-014	11/03/21 07:53
LDR	1J29004-HCV1	110321A-016	11/03/21 07:56
Calibration Check	1J29004-CCV1	110321A-029	11/03/21 08:17
Calibration Blank	1J29004-CCB1	110321A-030	11/03/21 08:19
Calibration Check	1J29004-CCV2	110321A-041	11/03/21 08:37
Calibration Blank	1J29004-CCB2	110321A-042	11/03/21 08:38
Calibration Check	1J29004-CCV3	110321A-053	11/03/21 08:56
Calibration Blank	1J29004-CCB3	110321A-054	11/03/21 08:58
Blank	T116316-BLK1	110321A-057	11/03/21 09:03
LCS	T116316-BS1	110321A-058	11/03/21 09:04
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MS1	110321A-059	11/03/21 09:06
CL-SB-GP-1 (8-10') I/MS/MSD	T116316-MSD1	110321A-060	11/03/21 09:07
CL-SB-GP-1 (8-10') I/MS/MSD	21J1205-01	110321A-062	11/03/21 09:11
CL-SB-GP-4 (2-4') I	21J1205-02	110321A-063	11/03/21 09:12
CL-SB-GP-5 (1-3') I	21J1205-03	110321A-064	11/03/21 09:14
Calibration Check	1J29004-CCV4	110321A-065	11/03/21 09:15
Calibration Blank	1J29004-CCB4	110321A-066	11/03/21 09:17
CL-SB-GP-6 (0.5-2.5') I	21J1205-04	110321A-067	11/03/21 09:19
CL-SB-GP-7 (1-3') I	21J1205-05	110321A-068	11/03/21 09:20
CL-SB-GP-5 (1-3') D	21J1205-10	110321A-069	11/03/21 09:22
Calibration Check	1J29004-CCV5	110321A-070	11/03/21 09:24
Calibration Blank	1J29004-CCB5	110321A-071	11/03/21 09:25

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Calibration: 2111001
Laboratory ID: 1J29004-LCV1
Sequence: 1J29004
Standard ID: 21J2114

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic	1.00	1.07	6.8	20.00
Selenium	1.00	1.06	5.7	20.00
Silver	1.00	0.927	-7.3	20.00

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Calibration: 2111001
Sequence: 1J29004

SDG:
Project: OC Grant Phase IIs
Laboratory ID: 1J29004-HCV1
Standard ID: 21I0918

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic	2000	1940	-3.1	10.00
Selenium	2000	1840	-8.2	10.00

* Values outside of QC limits

Performance Report

QTEGRA

System

Start time:	11/3/2021 7:02:26 AM
Instrument:	iCAP RQ
Operator:	ADMINTH-R7387AH\Administrator
Template:	STD Performance Report Trace1
Instrument Serial Number:	RQ00820
Last Autotune:	Autotune-SourceTune High Matrix-20211102-103612066.imatdat
Solution:	THERMO-4AREV

Sensitivity & Stability Test

Result	Runs	Sweeps
Passed	10	60

Sensitivity

Analyte	Result	Value	Condition	Limit
7Li	Passed	99,742.0 CPS	Greater than	40,000.0 CPS
59Co	Passed	315,033.0 CPS	Greater than	80,000.0 CPS
238U	Passed	465,466.0 CPS	Greater than	330,000.0 CPS
209Bi	Passed	399,261.0 CPS	Greater than	165,000.0 CPS
140Ce.16O/140Ce	Passed	0.0179	Less than	0.05
137Ba++/137Ba	Passed	0.0486	Less than	0.07
115In	Passed	500,983.0 CPS	Greater than	240,000.0 CPS

Stability

Analyte	Value	Limit
7Li	0.9 %	5
59Co	2.3 %	5
238U	0.8 %	5
209Bi	0.7 %	5
115In	0.6 %	5

Mass Calibration Test

Result	Channels	Dwell	MeasureWidth	PointSpacing	Sweeps
Passed	75	0.04	1.5	0.02	10

Analyte	Result	Centroid Mass [u]	Offset	Peak width [u]	Peak width min [u]	Peak width max [u]
7Li	Passed	7.0245	0.0084	0.721	0.650	0.850
59Co	Passed	58.8917	0.0415	0.751	0.650	0.850
115In	Passed	114.8502	0.0537	0.764	0.650	0.850
209Bi	Passed	208.9530	0.0274	0.734	0.650	0.850

Performance Report

QTEGRA

Tune Settings

Parameter	Value
Additional Gas Flow 1	0.00
Additional Gas Flow 2	0.00
Additional Gas Flow 3	0.00
Angular Deflection	-368.02
Auxilliary Flow	0.80
CCT Bias	-2.01
CCT Entry Lens	-60.01
CCT Exit Lens	-160.01
CCT Focus Lens	-6.97
CCT1 Flow	0.00
CCT1 Shut-Off Valve	0.00
Cool Flow	14.00
D1 Lens	-196.83
D2 Lens	-80.00
Deflection Entry Lens	-35.01
Extraction Lens 1 Negative	0.00
Extraction Lens 1 Polarity	0.00
Extraction Lens 1 Positive	0.00
Extraction Lens 2	-163.37
Focus Lens	20.61
Nebulizer Flow	1.04
Peristaltic Pump Speed	40.00
Plasma Power	1549.58
Pole Bias	-1.00
Quad Entry Lens	-21.00
Sampling Depth	5.00
Spray Chamber Temperature	2.68
Torch Horizontal Position	0.63
Torch Vertical Position	0.87
Virtual CCT Mass Maximum Dac Limit Set	4095.00
Virtual CCT Mass parameter b	0.65
Virtual CCT Mass to Dac Factor	130.00
Virtual CCT Mass to Dac Offset	-237.49

Vacuum Check

Parameter	Result	Value
Analyzer Pressure	Vacuum ok	3.943e-7
Interface Pressure		1.654e+0

Detector Voltages

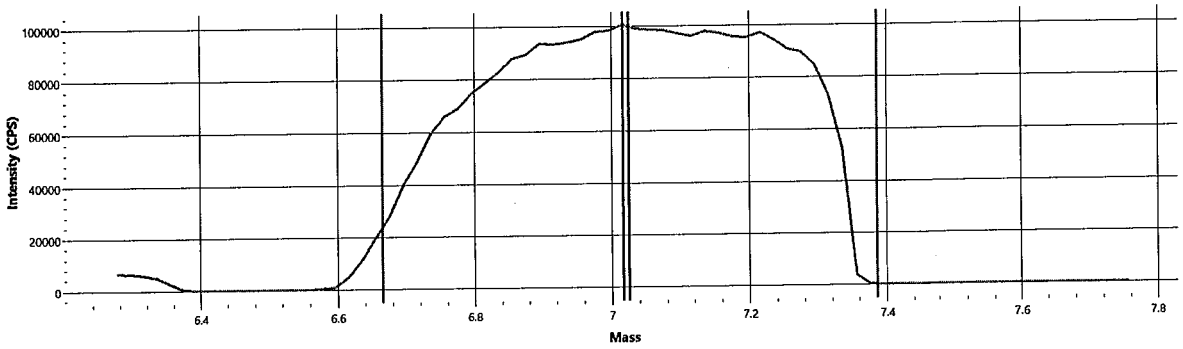
Analog	Counting
-1800.00	950.00

Performance Report

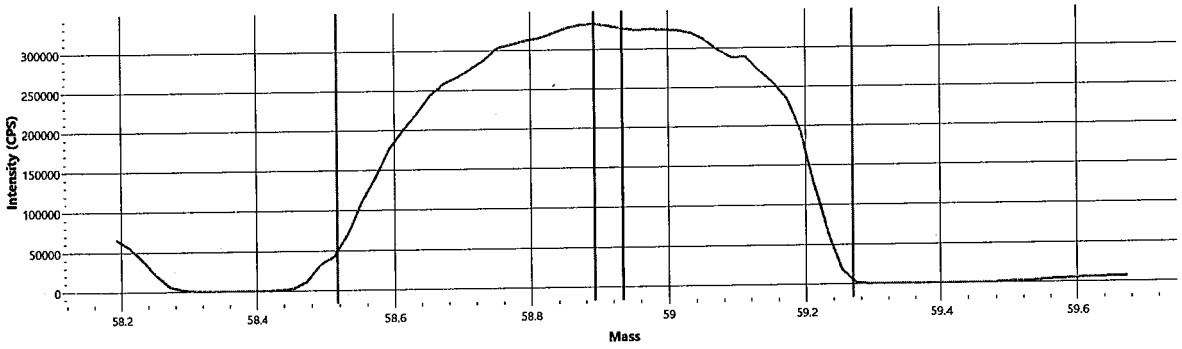
QTEGRA

Mass Calibration Peaks

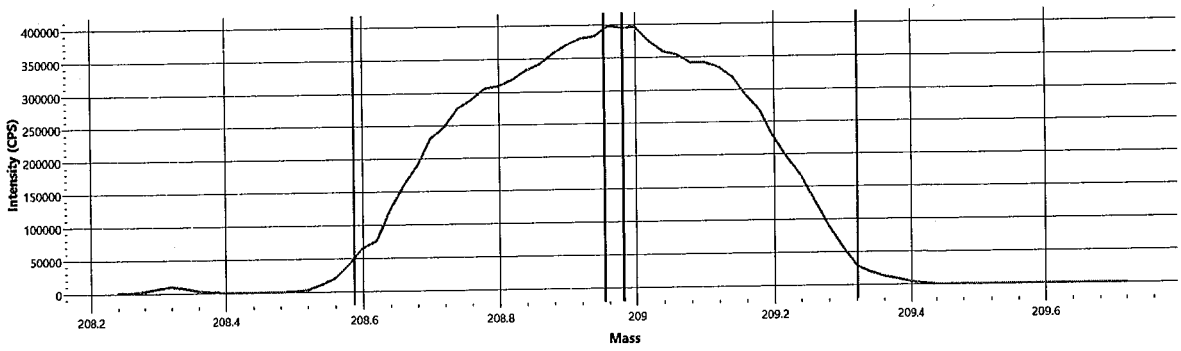
Analyte: 7Li



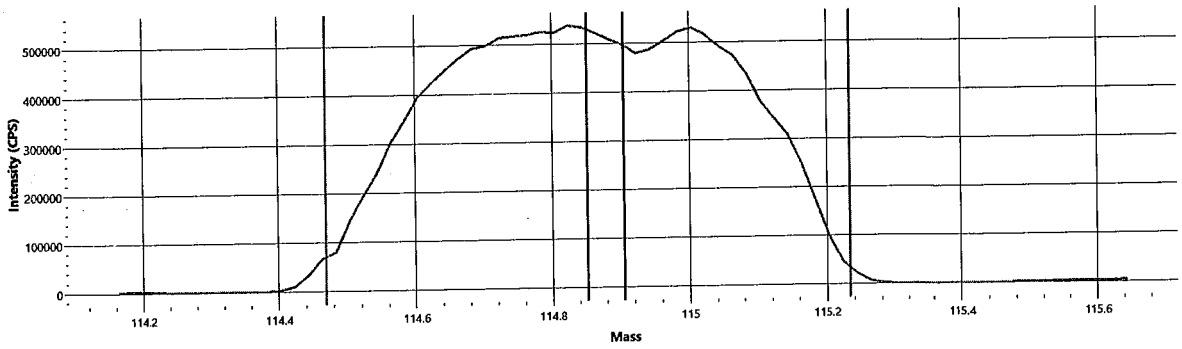
Analyte: 59Co



Analyte: 209Bi



Analyte: 115In



Performance Report

QTEGRA

System

Start time:	11/3/2021 7:17:01 AM
Instrument:	iCAP RQ
Operator:	ADMINTH-R7387AH\Administrator
Template:	KED Performance Report Trace
Instrument Serial Number:	RQ00820
Last Autotune:	Autotune-SourceTune High Matrix-20211102-103612066.imatdat
Solution:	A Tune B solution (1 ppb Li, Co, In, Ba, Ce, Bi, U) in 2% HNO3 and 0.5% HCl is recommended for this performance report.

Sensitivity & Stability Test

Result	Runs	Sweeps
Passed	10	60

Sensitivity

Analyte	Result	Value	Condition	Limit
59Co/35Cl.16O	Passed	26.1	Greater than	18.0
59Co	Passed	88,002.0 CPS	Greater than	30,000.0 CPS
238U	Passed	495,397.0 CPS	Greater than	85,000.0 CPS
209Bi	Passed	336,843.0 CPS	Greater than	42,500.0 CPS
140Ce.16O/140Ce	Passed	0.004	Less than	0.05
115In	Passed	79,315.0 CPS	Greater than	35,000.0 CPS

Stability

Analyte	Value	Limit
59Co	0.9 %	2
238U	0.4 %	2
209Bi	0.4 %	2
115In	0.5 %	2

Mass Calibration Test

Result	Channels	Dwell	MeasureWidth	PointSpacing	Sweeps
Passed	75	0.04	1.5	0.02	10

Analyte	Result	Centroid Mass [u]	Offset	Peak width [u]	Peak width min [u]	Peak width max [u]
59Co	Passed	58.9037	0.0295	0.730	0.650	0.850
115In	Passed	114.8619	0.0419	0.758	0.650	0.850
209Bi	Passed	208.9576	0.0228	0.732	0.650	0.850

Performance Report

QTEGRA

Tune Settings

Parameter	Value
Additional Gas Flow 1	0.00
Additional Gas Flow 2	0.00
Additional Gas Flow 3	0.00
Angular Deflection	-368.02
Auxilliary Flow	0.80
CCT Bias	-21.00
CCT Entry Lens	-60.01
CCT Exit Lens	-40.00
CCT Focus Lens	-6.97
CCT1 Flow	4.74
CCT1 Shut-Off Valve	1.00
Cool Flow	14.00
D1 Lens	-356.40
D2 Lens	-158.00
Deflection Entry Lens	-35.01
Extraction Lens 1 Negative	0.00
Extraction Lens 1 Polarity	0.00
Extraction Lens 1 Positive	0.00
Extraction Lens 2	-163.37
Focus Lens	-3.38
Nebulizer Flow	1.04
Peristaltic Pump Speed	40.00
Plasma Power	1549.58
Pole Bias	-18.00
Quad Entry Lens	-50.00
Sampling Depth	5.00
Spray Chamber Temperature	2.68
Torch Horizontal Position	0.63
Torch Vertical Position	0.87
Virtual CCT Mass Maximum Dac Limit Set	4095.00
Virtual CCT Mass parameter b	1.00
Virtual CCT Mass to Dac Factor	60.00
Virtual CCT Mass to Dac Offset	35.00

Vacuum Check

Parameter	Result	Value
Analyzer Pressure		7.405e-7
Interface Pressure		1.654e+0

Detector Voltages

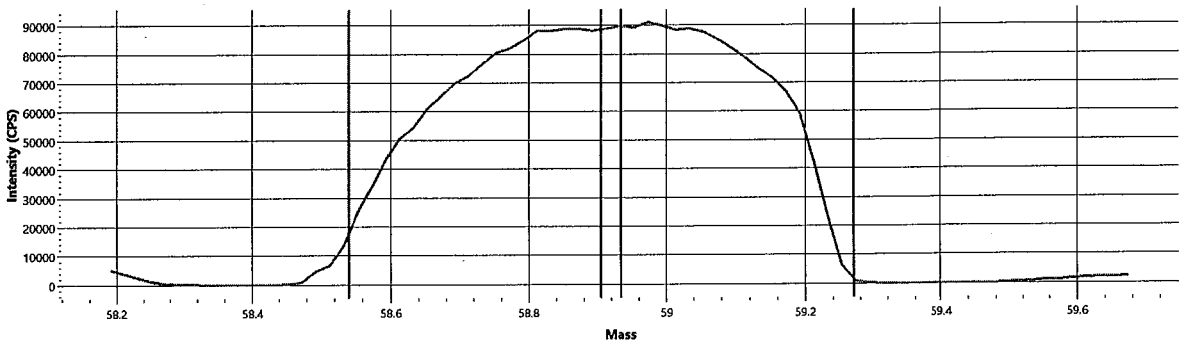
Analog	Counting
-1800.00	950.00

Performance Report

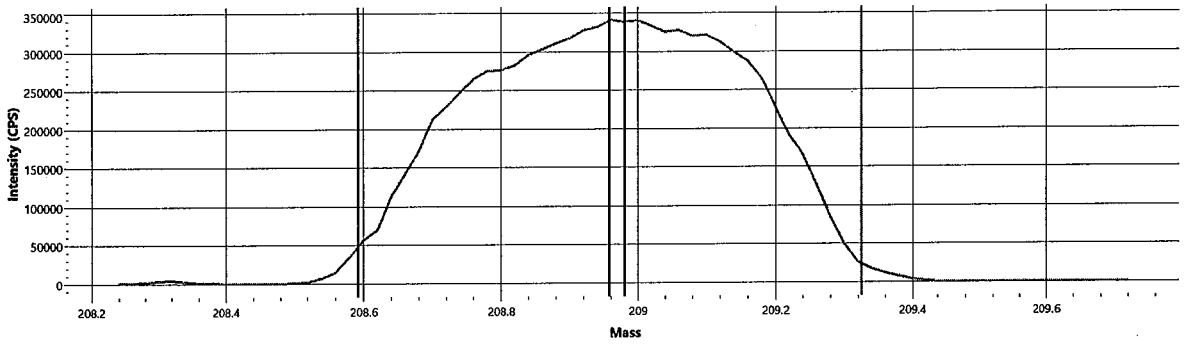
QTEGRA

Mass Calibration Peaks

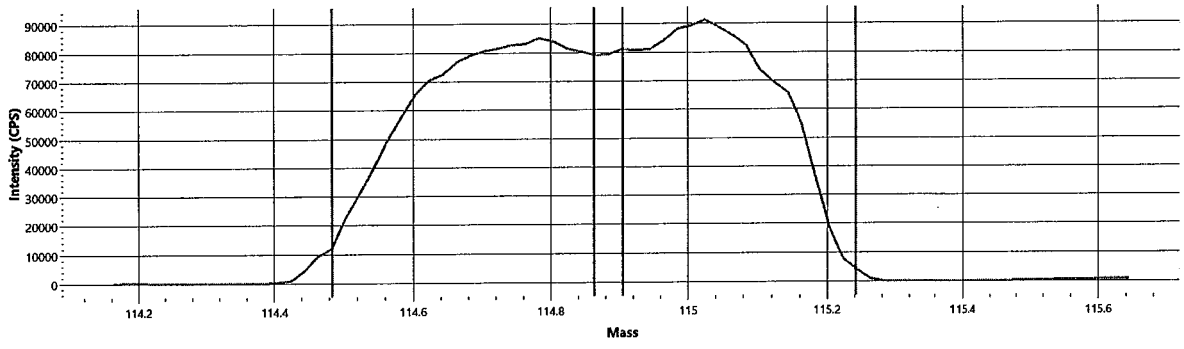
Analyte: 59Co



Analyte: 209Bi



Analyte: 115In



LabBook name	Number of samples	LabBook started
110321A.imexp	71	11/3/2021 7:32:51 AM

Index	Label	Main runs	Survey runs	Start time	prepFAST DF	Dilution Factor	Total Dilution Factor	QC Reference
1	System Flush	1	1	11/3/2021 7:33:00 AM	1	1	1	
2	1J29004-CAL1	3	1	11/3/2021 7:34:15 AM	1	1	1	
3	1J29004-CAL2	3	1	11/3/2021 7:35:52 AM	100	1	100	
4	1J29004-CAL3	3	1	11/3/2021 7:37:29 AM	10	1	10	
5	1J29004-CAL4	3	1	11/3/2021 7:39:06 AM	5	1	5	
6	1J29004-CAL5	3	1	11/3/2021 7:40:43 AM	2	1	2	
7	1J29004-CAL6	3	1	11/3/2021 7:42:20 AM	1	1	1	
8	1J29004-~~ICV1~~ SCV1	3	1	11/3/2021 7:43:57 AM	1	1	1	
9	1J29004-ICB1	3	1	11/3/2021 7:45:34 AM	1	1	1	
10	1J29004-ICB1	3	1	11/3/2021 7:47:12 AM	1	1	1	
11	1J29004-LCV1	3	1	11/3/2021 7:48:49 AM	100	0.01	1	
12	LCV2	3	1	11/3/2021 7:50:25 AM	10	0.1	1	
13	1J29004-~~HCV1~~ ICV1	3	1	11/3/2021 7:52:03 AM	2	0.5	1	
14	1J29004-IFA1	3	1	11/3/2021 7:53:40 AM	1	1	1	
15	Rinse	3	1	11/3/2021 7:55:17 AM	1	1	1	
16	LDR 1J29004-HCV1	3	1	11/3/2021 7:56:53 AM	1	1	1	
17	Blank	3	1	11/3/2021 7:58:29 AM	1	1	1	
18	Rinse	3	1	11/3/2021 8:00:08 AM	1	1	1	
19	T115685-BLK1@10	3	1	11/3/2021 8:01:45 AM	10	0.1	1	
20	T116066-BLK1@10	3	1	11/3/2021 8:03:24 AM	10	0.1	1	
21	T116066-BS1@10	3	1	11/3/2021 8:05:01 AM	10	0.1	1	
22	T116066-MS1@10	3	1	11/3/2021 8:06:38 AM	10	0.1	1	
23	T116066-MSD1@10	3	1	11/3/2021 8:08:14 AM	10	0.1	1	A
24	DIL TEST @50	3	1	11/3/2021 8:09:51 AM	50	0.1	5	A
25	21J0832-01@10	3	1	11/3/2021 8:11:28 AM	10	0.1	1	
26	21J0832-02@10	3	1	11/3/2021 8:13:04 AM	10	0.1	1	
27	21J0832-03@10	3	1	11/3/2021 8:14:41 AM	10	0.1	1	
28	21J0832-04@10	3	1	11/3/2021 8:16:17 AM	10	0.1	1	
29	1J29004-CCV1	3	1	11/3/2021 8:17:53 AM	2	0.5	1	
30	1J29004-CCB1	3	1	11/3/2021 8:19:31 AM	1	1	1	
31	21J0832-05@10	3	1	11/3/2021 8:21:08 AM	10	0.1	1	
32	21J0832-06@10	3	1	11/3/2021 8:22:45 AM	10	0.1	1	
33	T116288-BLK1@10	3	1	11/3/2021 8:24:22 AM	10	0.1	1	
34	T116288-BS1@10	3	1	11/3/2021 8:26:00 AM	10	0.1	1	
35	T116288-MS1@10	3	1	11/3/2021 8:27:36 AM	10	0.1	1	
36	T116288-MSD1@10	3	1	11/3/2021 8:29:13 AM	10	0.1	1	B
37	DIL TEST	3	1	11/3/2021 8:30:49 AM	50	0.1	5	B
38	21J0999-01@10	3	1	11/3/2021 8:32:26 AM	10	0.1	1	
39	21J0999-04@10	3	1	11/3/2021 8:34:03 AM	10	0.1	1	
40	21J0999-06@10	3	1	11/3/2021 8:35:39 AM	10	0.1	1	
41	1J29004-CCV2	3	1	11/3/2021 8:37:15 AM	2	0.5	1	
42	1J29004-CCB2	3	1	11/3/2021 8:38:53 AM	1	1	1	
43	21J0999-08@10	3	1	11/3/2021 8:40:30 AM	10	0.1	1	
44	21J0999-10@10	3	1	11/3/2021 8:42:07 AM	10	0.1	1	
45	21J0999-12@10	3	1	11/3/2021 8:43:44 AM	10	0.1	1	
46	21J0999-13@10	3	1	11/3/2021 8:45:20 AM	10	0.1	1	
47	T116315-BLK1@10	3	1	11/3/2021 8:46:56 AM	10	0.1	1	
48	T116315-BS1@10	3	1	11/3/2021 8:48:35 AM	10	0.1	1	
49	T116315-MS1@10	3	1	11/3/2021 8:50:11 AM	10	0.1	1	
50	T116315-MSD1@10	3	1	11/3/2021 8:51:47 AM	10	0.1	1	C
51	DIL TEST	3	1	11/3/2021 8:53:23 AM	50	0.1	5	C
52	21J1010-03@10	3	1	11/3/2021 8:55:01 AM	10	0.1	1	
53	1J29004-CCV3	3	1	11/3/2021 8:56:37 AM	2	0.5	1	
54	1J29004-CCB3	3	1	11/3/2021 8:58:14 AM	1	1	1	
55	21J1093-01@10	3	1	11/3/2021 8:59:52 AM	10	0.1	1	
56	21J1194-01@10	3	1	11/3/2021 9:01:29 AM	10	0.1	1	

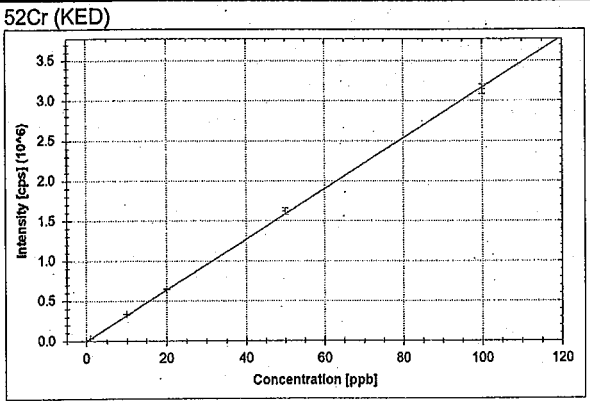
CCP 11/4/21

CCP 11/4/21

catch + spiked & reported.

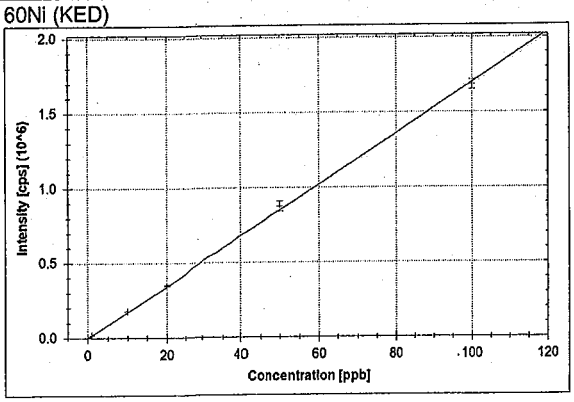
Index	Label	Main runs	Survey runs	Start time	prepFAST DF	Dilution Factor	Total Dilution Factor	QC Reference
57	T116316-BLK1@10	3	1	11/3/2021 9:03:06 AM	10	0.1	1	
58	T116316-BS1@10	3	1	11/3/2021 9:04:43 AM	10	0.1	1	
59	T116316-MS1@10	3	1	11/3/2021 9:06:20 AM	10	0.1	1	
60	T116316-MSD1@10	3	1	11/3/2021 9:07:56 AM	10	0.1	1	D
61	DIL TEST 1J29004-SCD3	3	1	11/3/2021 9:09:32 AM	50	0.1	5	D
62	21J1205-01@10	3	1	11/3/2021 9:11:10 AM	10	0.1	1	
63	21J1205-02@10	3	1	11/3/2021 9:12:46 AM	10	0.1	1	
64	21J1205-03@10	3	1	11/3/2021 9:14:22 AM	10	0.1	1	
65	1J29004-CCV4	3	1	11/3/2021 9:15:59 AM	2	0.5	1	
66	1J29004-CCB4	3	1	11/3/2021 9:17:36 AM	1	1	1	
67	21J1205-04@10	3	1	11/3/2021 9:19:13 AM	10	0.1	1	
68	21J1205-05@10	3	1	11/3/2021 9:20:51 AM	10	0.1	1	
69	21J1205-10@10	3	1	11/3/2021 9:22:27 AM	10	0.1	1	
70	1J29004-CCV5	3	1	11/3/2021 9:24:03 AM	2	0.5	1	
71	1J29004-CCB5	3	1	11/3/2021 9:25:41 AM	1	1	1	

52Cr (KED)



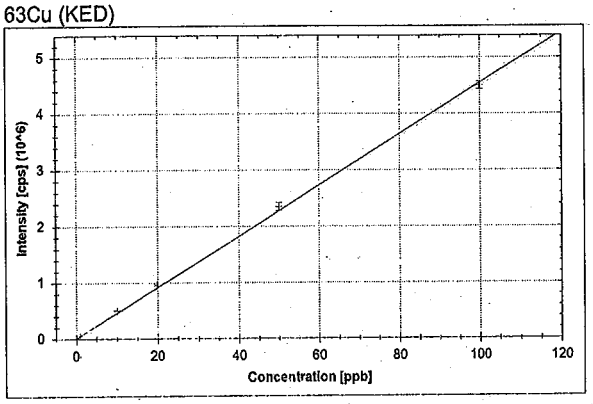
f(x) = 31658.5145*x + 568.6903
R^2 = 0.9997
BEC = 0.018 ppb
LoD = 0.0031 ppb

60Ni (KED)



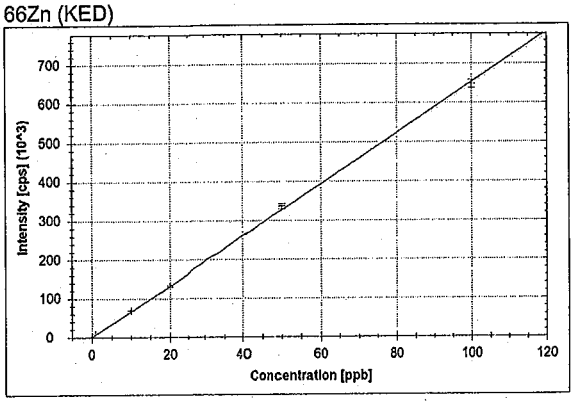
f(x) = 16961.9272*x + 757.7253
R^2 = 0.9995
BEC = 0.045 ppb
LoD = 0.0182 ppb

63Cu (KED)



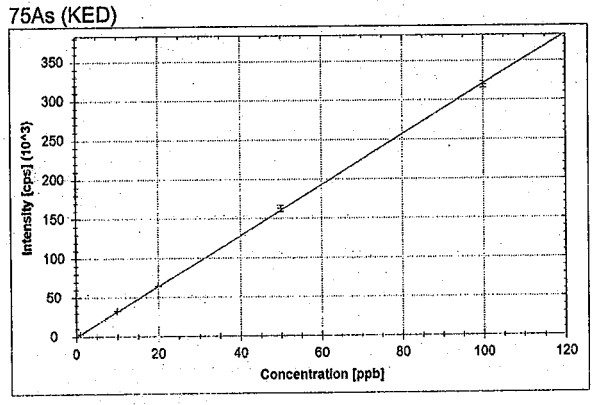
f(x) = 45381.8028*x + 4642.8493
R^2 = 0.9992
BEC = 0.102 ppb
LoD = 0.0156 ppb

66Zn (KED)



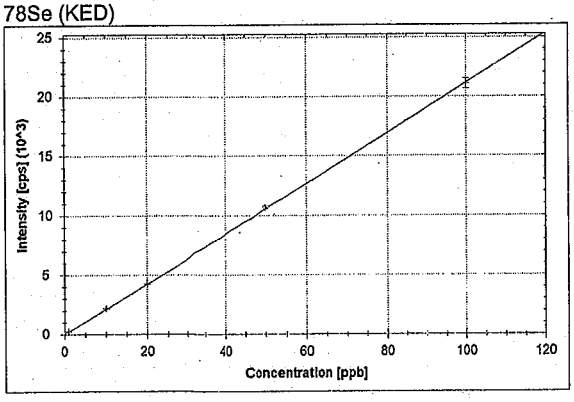
f(x) = 6519.7796*x + 832.3135
R^2 = 0.9996
BEC = 0.128 ppb
LoD = 0.0296 ppb

75As (KED)



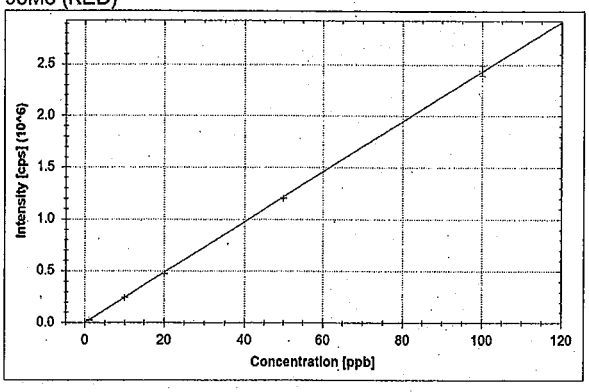
f(x) = 3207.0564*x + -289.1265
R^2 = 0.9999
BEC = -0.090 ppb
LoD = 0.0949 ppb

78Se (KED)



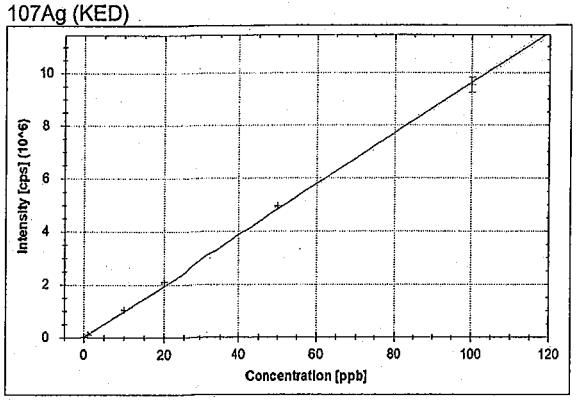
f(x) = 211.2942*x + -6.1111
R^2 = 0.9999
BEC = -0.029 ppb
LoD = 0.0454 ppb

95Mo (KED)



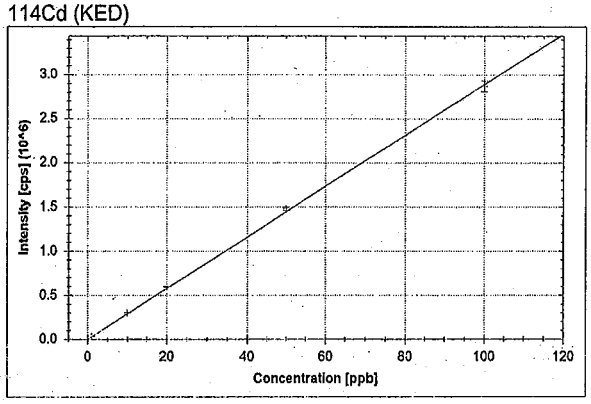
f(x) = 24312.7367*x + 404.4979
R^2 = 0.9999
BEC = 0.017 ppb
LoD = 0.0047 ppb

107Ag (KED)



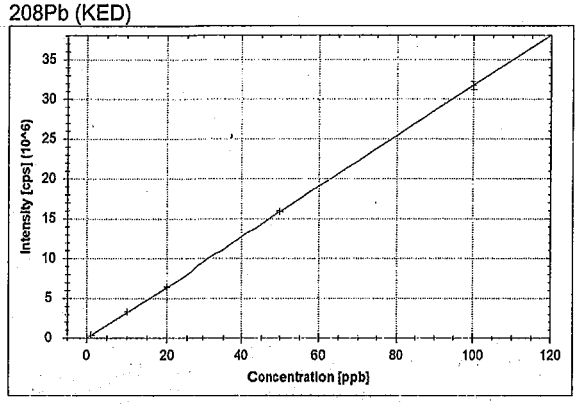
f(x) = 96055.1440*x + 22981.0776
R^2 = 0.9994
BEC = 0.239 ppb
LoD = 0.0901 ppb

114Cd (KED)



f(x) = 28870.5627*x + 53.9708
R^2 = 0.9997
BEC = 0.002 ppb
LoD = 0.0041 ppb

208Pb (KED)



f(x) = 317578.2454*x + 3026.9501
R^2 = 1.0000
BEC = 0.010 ppb
LoD = 0.0008 ppb

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
1	System Flush	11/3/2021 7:33:00 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			720 cps
13C (KED)			1,330 cps
35Cl (KED)			11,801,437 cps
45Sc (KED)		N/A	24,464 cps
52Cr (KED)	0.001 ppb	N/A	612 cps
53Cr (KED)		N/A	1,905 cps
60Ni (KED)	0.005 ppb	N/A	830 cps
63Cu (KED)	0.074 ppb	N/A	7,973 cps
65Cu (KED)		N/A	3,751 cps
66Zn (KED)	0.001 ppb	N/A	835 cps
68Zn (KED)		N/A	550 cps
69Ga (KED)			38,319 cps
73Ge (KED)	99.432 %	N/A	67,412 cps
75As (KED)	-0.020 ppb	N/A	-350 cps
40Ar.37Cl (KED)			20 cps
78Se (KED)	0.061 ppb	N/A	7 cps
82Se (KED)		N/A	-140 cps
83Kr (KED)			1,225 cps
89Y (KED)		N/A	168,014 cps
95Mo (KED)	0.105 ppb	N/A	2,916 cps
98Mo (KED)		N/A	5,039 cps
101Ru (KED)			0 cps
103Rh (KED)	98.096 %	N/A	71,162 cps
105Pd (KED)			100 cps
107Ag (KED)	1.467 ppb	N/A	163,154 cps
111Cd (KED)		N/A	15 cps
114Cd (KED)	0.000 ppb	N/A	41 cps
115In (KED)	102.409 %	N/A	234,345 cps
118Sn (KED)			2,020 cps
125Te (KED)			0 cps
139La (KED)			25 cps
140Ce (KED)			90 cps
159Tb (KED)	99.835 %	N/A	1,113,702 cps
165Ho (KED)		N/A	97,333 cps
206Pb (KED)			815 cps
207Pb (KED)			585 cps
208Pb (KED)	0.001 ppb	N/A	3,205 cps
209Bi (KED)	99.367 %	N/A	990,722 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
2	1J29004-CAL1	11/3/2021 7:34:15 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			668 cps
13C (KED)			1,425 cps
35Cl (KED)			11,996,418 cps
45Sc (KED)		N/A	25,038 cps
52Cr (KED)	0.000 ppb	0.1 %	568 cps
53Cr (KED)			2,049 cps
60Ni (KED)	0.000 ppb	0.1 %	757 cps
63Cu (KED)	0.000 ppb	0.1 %	4,643 cps

Category	Concentration average	Concentration RSD	Intensity average
65Cu (KED)			2,300 cps
66Zn (KED)	0.000 ppb	0.1 %	832 cps
68Zn (KED)			590 cps
69Ga (KED)			37,999 cps
73Ge (KED)	100.000 %	N/A	67,797 cps
75As (KED)	0.000 ppb	-0.4 %	-290 cps
40Ar.37Cl (KED)			12 cps
78Se (KED)	0.000 ppb	-0.5 %	-6 cps
82Se (KED)			-126 cps
83Kr (KED)			1,153 cps
89Y (KED)		N/A	164,796 cps
95Mo (KED)	0.000 ppb	0.1 %	405 cps
98Mo (KED)			646 cps
101Ru (KED)			0 cps
103Rh (KED)	100.000 %	N/A	72,544 cps
105Pd (KED)			132 cps
107Ag (KED)	0.000 ppb	0.1 %	22,968 cps
111Cd (KED)			25 cps
114Cd (KED)	0.000 ppb	0.7 %	54 cps
115In (KED)	100.000 %	N/A	228,833 cps
118Sn (KED)			1,832 cps
125Te (KED)			0 cps
139La (KED)			73 cps
140Ce (KED)			68 cps
159Tb (KED)	100.000 %	N/A	1,115,543 cps
165Ho (KED)		N/A	99,003 cps
206Pb (KED)			778 cps
207Pb (KED)			653 cps
208Pb (KED)	0.000 ppb	0.0 %	3,027 cps
209Bi (KED)	100.000 %	N/A	997,030 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
3	1J29004-CAL2	11/3/2021 7:35:52 AM	4	2	100	1

Total DF	QC Reference
100	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				693 cps
13C (KED)				1,400 cps
35Cl (KED)				12,058,046 cps
45Sc (KED)		N/A		24,696 cps
52Cr (KED)	1.030 ppb	1.4 %	1.000 ppb	33,305 cps
53Cr (KED)				6,235 cps
60Ni (KED)	1.047 ppb	2.6 %	1.000 ppb	18,586 cps
63Cu (KED)	1.153 ppb	2.1 %	1.000 ppb	57,216 cps
65Cu (KED)				28,758 cps
66Zn (KED)	1.235 ppb	3.8 %	1.000 ppb	8,920 cps
68Zn (KED)				7,397 cps
69Ga (KED)				43,101 cps
73Ge (KED)	100.401 %	N/A		68,069 cps
75As (KED)	1.024 ppb	8.7 %	1.000 ppb	3,001 cps
40Ar.37Cl (KED)				85 cps
78Se (KED)	1.142 ppb	4.6 %	1.000 ppb	236 cps
82Se (KED)				-7 cps
83Kr (KED)				1,152 cps
89Y (KED)		N/A		161,289 cps
95Mo (KED)	0.970 ppb	1.7 %	1.000 ppb	23,807 cps
98Mo (KED)				41,011 cps
101Ru (KED)				3 cps
103Rh (KED)	98.822 %	N/A		71,689 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
105Pd (KED)				123 cps
107Ag (KED)	0.895 ppb	2.5 %	1.000 ppb	107,778 cps
111Cd (KED)				12,044 cps
114Cd (KED)	1.032 ppb	2.6 %	1.000 ppb	29,607 cps
115In (KED)	99.277 %	N/A		227,179 cps
118Sn (KED)				3,307 cps
125Te (KED)				0 cps
139La (KED)				47 cps
140Ce (KED)				70 cps
159Tb (KED)	99.847 %	N/A		1,113,840 cps
165Ho (KED)		N/A		96,034 cps
206Pb (KED)				84,026 cps
207Pb (KED)				73,726 cps
208Pb (KED)	1.075 ppb	1.3 %	1.000 ppb	341,054 cps
209Bi (KED)	98.967 %	N/A		986,730 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
4	1J29004-CAL3	11/3/2021 7:37:29 AM	4	2	10	1

Total DF	QC Reference
10	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				663 cps
13C (KED)				1,377 cps
35Cl (KED)				**12,097,860 cps**
45Sc (KED)		N/A		25,018 cps
52Cr (KED)	10.418 ppb	1.5 %	10.000 ppb	328,645 cps
53Cr (KED)				42,435 cps
60Ni (KED)	10.441 ppb	0.6 %	10.000 ppb	176,919 cps
63Cu (KED)	10.915 ppb	0.6 %	10.000 ppb	497,352 cps
65Cu (KED)				249,649 cps
66Zn (KED)	10.548 ppb	1.7 %	10.000 ppb	69,245 cps
68Zn (KED)				58,596 cps
69Ga (KED)				87,859 cps
73Ge (KED)	99.479 %	N/A		67,443 cps
75As (KED)	10.226 ppb	0.7 %	10.000 ppb	32,274 cps
40Ar.37Cl (KED)				675 cps
78Se (KED)	10.366 ppb	1.2 %	10.000 ppb	2,163 cps
82Se (KED)				1,003 cps
83Kr (KED)				1,138 cps
89Y (KED)		N/A		162,263 cps
95Mo (KED)	9.999 ppb	0.6 %	10.000 ppb	237,110 cps
98Mo (KED)				403,186 cps
101Ru (KED)				0 cps
103Rh (KED)	96.601 %	N/A		70,078 cps
105Pd (KED)				105 cps
107Ag (KED)	10.771 ppb	1.3 %	10.000 ppb	1,026,551 cps
111Cd (KED)				120,825 cps
114Cd (KED)	10.502 ppb	0.7 %	10.000 ppb	296,846 cps
115In (KED)	98.004 %	N/A		224,265 cps
118Sn (KED)				3,319 cps
125Te (KED)				0 cps
139La (KED)				40 cps
140Ce (KED)				135 cps
159Tb (KED)	98.762 %	N/A		1,101,737 cps
165Ho (KED)		N/A		99,468 cps
206Pb (KED)				818,887 cps
207Pb (KED)				710,786 cps
208Pb (KED)	10.358 ppb	1.5 %	10.000 ppb	3,318,446 cps
209Bi (KED)	100.839 %	N/A		1,005,394 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
5	1J29004-CAL4	11/3/2021 7:39:06 AM	4	2	5	1

Total DF	QC Reference
5	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				585 cps
13C (KED)				1,280 cps
35Cl (KED)				11,879,071 cps
45Sc (KED)		N/A		24,224 cps
52Cr (KED)	20.432 ppb	1.3 %	20.000 ppb	637,352 cps
53Cr (KED)				80,489 cps
60Ni (KED)	20.492 ppb	1.7 %	20.000 ppb	342,890 cps
63Cu (KED)	20.976 ppb	1.7 %	20.000 ppb	941,592 cps
65Cu (KED)				473,179 cps
66Zn (KED)	20.256 ppb	1.8 %	20.000 ppb	130,818 cps
68Zn (KED)				110,117 cps
69Ga (KED)				133,877 cps
73Ge (KED)	98.446 %	N/A		66,743 cps
75As (KED)	20.179 ppb	1.1 %	20.000 ppb	63,336 cps
40Ar.37Cl (KED)				1,237 cps
78Se (KED)	20.257 ppb	2.5 %	20.000 ppb	4,193 cps
82Se (KED)				2,090 cps
83Kr (KED)				1,108 cps
89Y (KED)		N/A		161,020 cps
95Mo (KED)	19.558 ppb	1.7 %	20.000 ppb	461,522 cps
98Mo (KED)				795,990 cps
101Ru (KED)				0 cps
103Rh (KED)	96.465 %	N/A		69,979 cps
105Pd (KED)				105 cps
107Ag (KED)	21.364 ppb	1.9 %	20.000 ppb	2,008,324 cps
111Cd (KED)				233,413 cps
114Cd (KED)	20.631 ppb	0.6 %	20.000 ppb	580,125 cps
115In (KED)	97.480 %	N/A		223,067 cps
118Sn (KED)				3,417 cps
125Te (KED)				0 cps
139La (KED)				105 cps
140Ce (KED)				120 cps
159Tb (KED)	100.374 %	N/A		1,119,715 cps
165Ho (KED)		N/A		98,843 cps
206Pb (KED)				1,636,378 cps
207Pb (KED)				1,406,408 cps
208Pb (KED)	20.282 ppb	0.9 %	20.000 ppb	6,382,237 cps
209Bi (KED)	99.014 %	N/A		987,201 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
6	1J29004-CAL5	11/3/2021 7:40:43 AM	4	2	2	1

Total DF	QC Reference
2	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				660 cps
13C (KED)				1,338 cps
35Cl (KED)				11,970,098 cps
45Sc (KED)		N/A		23,906 cps
52Cr (KED)	51.134 ppb	2.4 %	50.000 ppb	1,567,021 cps
53Cr (KED)				196,800 cps
60Ni (KED)	51.492 ppb	3.8 %	50.000 ppb	845,714 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
63Cu (KED)	51.619 ppb	3.1 %	50.000 ppb	**2,271,110 cps**
65Cu (KED)				1,164,148 cps
66Zn (KED)	51.388 ppb	1.9 %	50.000 ppb	325,032 cps
68Zn (KED)				269,700 cps
69Ga (KED)				275,766 cps
73Ge (KED)	96.797 %	N/A		65,626 cps
75As (KED)	50.828 ppb	2.5 %	50.000 ppb	157,263 cps
40Ar.37Cl (KED)				3,062 cps
78Se (KED)	50.585 ppb	1.0 %	50.000 ppb	10,307 cps
82Se (KED)				5,148 cps
83Kr (KED)				1,215 cps
89Y (KED)		N/A		158,820 cps
95Mo (KED)	49.453 ppb	0.4 %	50.000 ppb	1,148,495 cps
98Mo (KED)				1,989,232 cps
101Ru (KED)				3 cps
103Rh (KED)	95.014 %	N/A		68,927 cps
105Pd (KED)				107 cps
107Ag (KED)	51.125 ppb	0.5 %	50.000 ppb	**4,703,832 cps**
111Cd (KED)				576,585 cps
114Cd (KED)	51.075 ppb	1.3 %	50.000 ppb	1,414,271 cps
115In (KED)	95.991 %	N/A		219,659 cps
118Sn (KED)				3,722 cps
125Te (KED)				0 cps
139La (KED)				178 cps
140Ce (KED)				92 cps
159Tb (KED)	99.273 %	N/A		1,107,429 cps
165Ho (KED)		N/A		98,523 cps
206Pb (KED)				**3,885,695 cps**
207Pb (KED)				**3,409,739 cps**
208Pb (KED)	50.081 ppb	0.5 %	50.000 ppb	**15,764,378 cps**
209Bi (KED)	99.096 %	N/A		988,021 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
7	1J29004-CAL6	11/3/2021 7:42:20 AM	4	2	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				567 cps
13C (KED)				1,423 cps
35Cl (KED)				**11,939,916 cps**
45Sc (KED)		N/A		23,677 cps
52Cr (KED)	99.305 ppb	1.9 %	100.000 ppb	**3,006,035 cps**
53Cr (KED)				382,978 cps
60Ni (KED)	99.111 ppb	1.9 %	100.000 ppb	1,607,867 cps
63Cu (KED)	98.902 ppb	1.5 %	100.000 ppb	**4,295,380 cps**
65Cu (KED)				**2,188,746 cps**
66Zn (KED)	99.198 ppb	1.6 %	100.000 ppb	619,094 cps
68Zn (KED)				514,354 cps
69Ga (KED)				495,776 cps
73Ge (KED)	95.608 %	N/A		64,820 cps
75As (KED)	99.527 ppb	1.2 %	100.000 ppb	304,636 cps
40Ar.37Cl (KED)				5,873 cps
78Se (KED)	99.618 ppb	2.0 %	100.000 ppb	20,076 cps
82Se (KED)				10,223 cps
83Kr (KED)				1,140 cps
89Y (KED)		N/A		156,641 cps
95Mo (KED)	100.363 ppb	2.1 %	100.000 ppb	**2,312,379 cps**
98Mo (KED)				**4,009,309 cps**
101Ru (KED)				2 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
103Rh (KED)	94.464 %	N/A		68,528 cps
105Pd (KED)				108 cps
107Ag (KED)	99.089 ppb	3.0 %	100.000 ppb	**9,010,678 cps**
111Cd (KED)				1,127,625 cps
114Cd (KED)	99.286 ppb	2.1 %	100.000 ppb	**2,708,019 cps**
115In (KED)	94.496 %	N/A		216,238 cps
118Sn (KED)				4,244 cps
125Te (KED)				0 cps
139La (KED)				248 cps
140Ce (KED)				155 cps
159Tb (KED)	97.849 %	N/A		1,091,545 cps
165Ho (KED)		N/A		95,916 cps
206Pb (KED)				**7,658,201 cps**
207Pb (KED)				**6,636,649 cps**
208Pb (KED)	99.867 ppb	1.5 %	100.000 ppb	**30,592,473 cps**
209Bi (KED)	96.442 %	N/A		961,559 cps

QP 11/4/21

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
8	1J29004~~ICV1~~ -SCV1	11/3/2021 7:43:57 AM	4	3	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				542 cps
13C (KED)				1,325 cps
35Cl (KED)				**10,825,544 cps**
45Sc (KED)				23,694 cps
52Cr (KED)	63.304 ppb	105.507 %	5.4 %	**1,895,487 cps**
53Cr (KED)				238,796 cps
60Ni (KED)	61.924 ppb	103.207 %	3.0 %	994,260 cps
63Cu (KED)	64.109 ppb	106.848 %	2.7 %	**2,756,638 cps**
65Cu (KED)				1,443,164 cps
66Zn (KED)	61.908 ppb	103.181 %	2.1 %	382,644 cps
68Zn (KED)				319,422 cps
69Ga (KED)				314,246 cps
73Ge (KED)	94.640 %		2.6 %	64,163 cps
75As (KED)	63.381 ppb	105.634 %	1.8 %	192,118 cps
40Ar.37Cl (KED)				3,616 cps
78Se (KED)	62.413 ppb	104.021 %	3.4 %	12,483 cps
82Se (KED)				6,340 cps
83Kr (KED)				1,157 cps
89Y (KED)				158,826 cps
95Mo (KED)	58.976 ppb	98.294 %	1.6 %	1,363,223 cps
98Mo (KED)				**2,417,780 cps**
101Ru (KED)				7 cps
103Rh (KED)	95.213 %		1.0 %	69,071 cps
105Pd (KED)				100 cps
107Ag (KED)	62.710 ppb	104.516 %	0.9 %	**5,768,084 cps**
111Cd (KED)				718,042 cps
114Cd (KED)	63.818 ppb	106.363 %	0.8 %	1,763,539 cps
115In (KED)	95.762 %		1.8 %	219,134 cps
118Sn (KED)				2,685 cps
125Te (KED)				3 cps
139La (KED)				240 cps
140Ce (KED)				243 cps
159Tb (KED)	99.391 %		1.0 %	1,108,744 cps
165Ho (KED)				98,704 cps
206Pb (KED)				**4,721,460 cps**
207Pb (KED)				**4,289,905 cps**
208Pb (KED)	61.300 ppb	102.166 %	1.2 %	**19,487,698 cps**

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
209Bi (KED)	100.109 %		0.8 %	998,114 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
9	1J29004-ICB1	11/3/2021 7:45:34 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				627 cps
13C (KED)				1,233 cps
35Cl (KED)				10,794,023 cps
45Sc (KED)				23,318 cps
52Cr (KED)	0.041 ppb	4.119 %	20.2 %	1,746 cps
53Cr (KED)				1,325 cps
60Ni (KED)	0.044 ppb	4.429 %	11.4 %	1,407 cps
63Cu (KED)	0.018 ppb	1.790 %	55.7 %	5,086 cps
65Cu (KED)				2,632 cps
66Zn (KED)	0.029 ppb	0.290 %	59.9 %	952 cps
68Zn (KED)				785 cps
69Ga (KED)				36,473 cps
73Ge (KED)	93.204 %		0.9 %	63,190 cps
75As (KED)	0.119 ppb	11.946 %	74.9 %	88 cps
40Ar.37Cl (KED)				15 cps
78Se (KED)	0.100 ppb	10.033 %	29.5 %	14 cps
82Se (KED)				-23 cps
83Kr (KED)				1,080 cps
89Y (KED)				157,376 cps
95Mo (KED)	0.099 ppb	0.010 %	7.1 %	2,648 cps
98Mo (KED)				4,631 cps
101Ru (KED)				0 cps
103Rh (KED)	94.979 %		0.9 %	68,901 cps
105Pd (KED)				125 cps
107Ag (KED)	0.145 ppb	14.500 %	36.3 %	35,132 cps
111Cd (KED)				550 cps
114Cd (KED)	0.042 ppb	4.180 %	14.3 %	1,199 cps
115In (KED)	95.310 %		2.5 %	218,101 cps
118Sn (KED)				1,718 cps
125Te (KED)				0 cps
139La (KED)				33 cps
140Ce (KED)				287 cps
159Tb (KED)	96.163 %		0.9 %	1,072,744 cps
165Ho (KED)				96,843 cps
206Pb (KED)				6,125 cps
207Pb (KED)				5,403 cps
208Pb (KED)	0.072 ppb	7.184 %	13.4 %	25,072 cps
209Bi (KED)	97.100 %		1.5 %	968,115 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
10	1J29004-ICB1	11/3/2021 7:47:12 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				610 cps
13C (KED)				1,280 cps
35Cl (KED)				10,875,368 cps
45Sc (KED)				23,681 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
52Cr (KED)	0.018 ppb	1.836 %	19.4 %	1,104 cps
53Cr (KED)				1,377 cps
60Ni (KED)	0.021 ppb	2.098 %	28.3 %	1,068 cps
63Cu (KED)	-0.012 ppb	-1.211 %	37.8 %	3,929 cps
65Cu (KED)				2,100 cps
66Zn (KED)	0.017 ppb	0.170 %	87.9 %	905 cps
68Zn (KED)				652 cps
69Ga (KED)				36,410 cps
73Ge (KED)	95.991 %		0.9 %	65,079 cps
75As (KED)	0.069 ppb	6.872 %	15.6 %	-66 cps
40Ar.37Cl (KED)				7 cps
78Se (KED)	0.052 ppb	5.243 %	45.1 %	5 cps
82Se (KED)				-68 cps
83Kr (KED)				1,103 cps
89Y (KED)				159,050 cps
95Mo (KED)	0.037 ppb	0.004 %	9.8 %	1,245 cps
98Mo (KED)				2,129 cps
101Ru (KED)				2 cps
103Rh (KED)	94.471 %		0.5 %	68,533 cps
105Pd (KED)				93 cps
107Ag (KED)	0.054 ppb	5.425 %	85.9 %	26,823 cps
111Cd (KED)				272 cps
114Cd (KED)	0.020 ppb	1.955 %	24.6 %	594 cps
115In (KED)	96.367 %		1.7 %	220,520 cps
118Sn (KED)				1,717 cps
125Te (KED)				0 cps
139La (KED)				53 cps
140Ce (KED)				228 cps
159Tb (KED)	97.860 %		1.0 %	1,091,668 cps
165Ho (KED)				96,182 cps
206Pb (KED)				3,464 cps
207Pb (KED)				3,205 cps
208Pb (KED)	0.036 ppb	3.600 %	12.9 %	14,140 cps
209Bi (KED)	97.893 %		2.4 %	976,027 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
11	1J29004-LCV1	11/3/2021 7:48:49 AM	4	2	100	0.01

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				658 cps
13C (KED)				1,335 cps
35Cl (KED)				**11,419,350 cps**
45Sc (KED)				23,823 cps
52Cr (KED)	1.024 ppb	102.410 %	2.0 %	32,333 cps
53Cr (KED)				5,298 cps
60Ni (KED)	1.027 ppb	102.696 %	2.7 %	17,814 cps
63Cu (KED)	1.084 ppb	108.350 %	1.7 %	52,741 cps
65Cu (KED)				26,802 cps
66Zn (KED)	1.287 ppb		0.2 %	9,042 cps
68Zn (KED)				7,457 cps
69Ga (KED)				42,313 cps
73Ge (KED)	98.010 %		0.4 %	66,448 cps
75As (KED)	1.068 ppb	106.843 %	8.4 %	3,066 cps
40Ar.37Cl (KED)				73 cps
78Se (KED)	1.057 ppb	105.743 %	5.9 %	211 cps
82Se (KED)				47 cps
83Kr (KED)				1,125 cps
89Y (KED)				159,619 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
95Mo (KED)	0.997 ppb	99.702 %	1.4 %	23,392 cps
98Mo (KED)				40,525 cps
101Ru (KED)				0 cps
103Rh (KED)	93.801 %		1.1 %	68,047 cps
105Pd (KED)				105 cps
107Ag (KED)	0.927 ppb	92.721 %	2.4 %	106,309 cps
111Cd (KED)				11,799 cps
114Cd (KED)	1.050 ppb	105.021 %	3.2 %	29,389 cps
115In (KED)	97.067 %		2.1 %	222,120 cps
118Sn (KED)				2,995 cps
125Te (KED)				0 cps
139La (KED)				57 cps
140Ce (KED)				83 cps
159Tb (KED)	100.006 %		1.5 %	1,115,610 cps
165Ho (KED)				96,270 cps
206Pb (KED)				85,098 cps
207Pb (KED)				73,407 cps
208Pb (KED)	1.085 ppb	108.524 %	1.3 %	346,944 cps
209Bi (KED)	99.786 %		1.2 %	994,899 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
12	LCV2	11/3/2021 7:50:25 AM	4	2	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				642 cps
13C (KED)				1,335 cps
35Cl (KED)				**11,524,693 cps**
45Sc (KED)				23,794 cps
52Cr (KED)	10.173 ppb		2.1 %	310,350 cps
53Cr (KED)				40,245 cps
60Ni (KED)	10.231 ppb		1.4 %	167,652 cps
63Cu (KED)	10.615 ppb		0.4 %	467,867 cps
65Cu (KED)				236,670 cps
66Zn (KED)	10.485 ppb	104.849 %	1.8 %	66,552 cps
68Zn (KED)				55,386 cps
69Ga (KED)				84,176 cps
73Ge (KED)	96.194 %		0.8 %	65,217 cps
75As (KED)	10.203 ppb		1.2 %	31,187 cps
40Ar.37Cl (KED)				645 cps
78Se (KED)	10.368 ppb		1.8 %	2,100 cps
82Se (KED)				992 cps
83Kr (KED)				1,115 cps
89Y (KED)				158,805 cps
95Mo (KED)	9.848 ppb		0.6 %	229,897 cps
98Mo (KED)				396,640 cps
101Ru (KED)				0 cps
103Rh (KED)	95.733 %		0.6 %	69,448 cps
105Pd (KED)				107 cps
107Ag (KED)	10.553 ppb		1.3 %	1,000,144 cps
111Cd (KED)				118,308 cps
114Cd (KED)	10.334 ppb		0.3 %	291,788 cps
115In (KED)	97.974 %		1.3 %	224,196 cps
118Sn (KED)				3,282 cps
125Te (KED)				0 cps
139La (KED)				82 cps
140Ce (KED)				100 cps
159Tb (KED)	100.823 %		1.4 %	1,124,720 cps
165Ho (KED)				98,009 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
206Pb (KED)				816,928 cps
207Pb (KED)				723,320 cps
208Pb (KED)	10.448 ppb		0.5 %	3,333,862 cps
209Bi (KED)	100.383 %		1.4 %	1,000,852 cps

CCV 11/4/21

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
13	1J29004~~-HCV1~~ -ICV1	11/3/2021 7:52:03 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				642 cps
13C (KED)				1,342 cps
35Cl (KED)				**11,680,794 cps**
45Sc (KED)				23,911 cps
52Cr (KED)	50.080 ppb	100.160 %	1.1 %	1,510,524 cps
53Cr (KED)				191,042 cps
60Ni (KED)	50.706 ppb	101.412 %	1.5 %	819,809 cps
63Cu (KED)	50.804 ppb	101.609 %	1.8 %	**2,200,192 cps**
65Cu (KED)				1,128,404 cps
66Zn (KED)	50.695 ppb	101.390 %	1.5 %	315,563 cps
68Zn (KED)				263,166 cps
69Ga (KED)				264,601 cps
73Ge (KED)	95.248 %		1.3 %	64,575 cps
75As (KED)	50.508 ppb	101.016 %	1.0 %	153,878 cps
40Ar.37Cl (KED)				3,014 cps
78Se (KED)	51.047 ppb	102.094 %	1.7 %	10,247 cps
82Se (KED)				5,276 cps
83Kr (KED)				1,145 cps
89Y (KED)				158,572 cps
95Mo (KED)	49.931 ppb	99.861 %	1.2 %	1,146,853 cps
98Mo (KED)				1,971,398 cps
101Ru (KED)				2 cps
103Rh (KED)	94.154 %		1.2 %	68,303 cps
105Pd (KED)				110 cps
107Ag (KED)	49.743 ppb	99.486 %	1.8 %	**4,586,057 cps**
111Cd (KED)				571,808 cps
114Cd (KED)	50.454 ppb	100.908 %	1.5 %	1,426,468 cps
115In (KED)	98.277 %		1.3 %	224,891 cps
118Sn (KED)				3,604 cps
125Te (KED)				0 cps
139La (KED)				142 cps
140Ce (KED)				125 cps
159Tb (KED)	100.726 %		0.4 %	1,123,646 cps
165Ho (KED)				98,306 cps
206Pb (KED)				**3,866,577 cps**
207Pb (KED)				**3,416,184 cps**
208Pb (KED)	48.898 ppb	97.795 %	1.4 %	**15,656,661 cps**
209Bi (KED)	100.813 %		0.9 %	1,005,134 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
14	1J29004-IFA1	11/3/2021 7:53:40 AM	4	4	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				615 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
13C (KED)				16,484 cps
35Cl (KED)				**14,581,244 cps**
45Sc (KED)				25,571 cps
52Cr (KED)	0.879 ppb	87.926 %	0.7 %	24,084 cps
53Cr (KED)				4,876 cps
60Ni (KED)	0.230 ppb	23.012 %	1.7 %	3,952 cps
63Cu (KED)	0.291 ppb	29.082 %	13.0 %	15,133 cps
65Cu (KED)				7,722 cps
66Zn (KED)	0.477 ppb	4.766 %	4.1 %	3,340 cps
68Zn (KED)				2,444 cps
69Ga (KED)				34,354 cps
73Ge (KED)	84.788 %		0.8 %	57,484 cps
75As (KED)	0.004 ppb	0.368 %	1,618.6 %	-233 cps
40Ar.37Cl (KED)				38 cps
78Se (KED)	0.120 ppb	11.955 %	35.2 %	16 cps
82Se (KED)				-176 cps
83Kr (KED)				1,210 cps
89Y (KED)				139,277 cps
95Mo (KED)	2,221.085 ppb		1.5 %	**41,034,081 cps**
98Mo (KED)				**71,043,699 cps**
101Ru (KED)				67 cps
103Rh (KED)	72.797 %		1.4 %	52,810 cps
105Pd (KED)				147 cps
107Ag (KED)	0.327 ppb	32.711 %	31.4 %	40,514 cps
111Cd (KED)				4,939 cps
114Cd (KED)	0.399 ppb	39.866 %	1.8 %	8,953 cps
115In (KED)	77.856 %		1.5 %	178,160 cps
118Sn (KED)				2,065 cps
125Te (KED)				0 cps
139La (KED)				897 cps
140Ce (KED)				1,670 cps
159Tb (KED)	76.497 %		2.2 %	853,355 cps
165Ho (KED)				76,581 cps
206Pb (KED)				4,533 cps
207Pb (KED)				3,796 cps
208Pb (KED)	0.065 ppb	6.502 %	6.7 %	17,937 cps
209Bi (KED)	67.525 %		1.3 %	673,244 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
15	Rinse	11/3/2021 7:55:17 AM	4	5	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			690 cps
13C (KED)			1,383 cps
35Cl (KED)			41,471 cps
45Sc (KED)			26,592 cps
52Cr (KED)	-0.017 ppb	8.9 %	16 cps
53Cr (KED)			98 cps
60Ni (KED)	-0.012 ppb	26.8 %	582 cps
63Cu (KED)	-0.055 ppb	11.5 %	2,255 cps
65Cu (KED)			1,175 cps
66Zn (KED)	-0.075 ppb	3.1 %	362 cps
68Zn (KED)			322 cps
69Ga (KED)			39,426 cps
73Ge (KED)	105.438 %	1.1 %	71,484 cps
75As (KED)	0.028 ppb	40.3 %	-211 cps
40Ar.37Cl (KED)			25 cps
78Se (KED)	0.026 ppb	92.4 %	-1 cps

Category	Concentration average	Concentration RSD	Intensity average
82Se (KED)			-80 cps
83Kr (KED)			1,212 cps
89Y (KED)			166,587 cps
95Mo (KED)	1.793 ppb	5.0 %	45,067 cps
98Mo (KED)			77,596 cps
101Ru (KED)			0 cps
103Rh (KED)	101.338 %	1.2 %	73,514 cps
105Pd (KED)			137 cps
107Ag (KED)	-0.194 ppb	3.5 %	4,371 cps
111Cd (KED)			55 cps
114Cd (KED)	0.000 ppb	356.1 %	57 cps
115In (KED)	100.431 %	3.0 %	229,818 cps
118Sn (KED)			8,043 cps
125Te (KED)			0 cps
139La (KED)			30 cps
140Ce (KED)			73 cps
159Tb (KED)	101.397 %	2.5 %	1,131,124 cps
165Ho (KED)			100,530 cps
206Pb (KED)			1,218 cps
207Pb (KED)			978 cps
208Pb (KED)	0.006 ppb	9.4 %	4,762 cps
209Bi (KED)	95.230 %	1.1 %	949,476 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
16	LDR	11/3/2021 7:56:53 AM	4	6	1	1

IJ29004-HCVI

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				698 cps
13C (KED)				1,478 cps
35Cl (KED)				11,650,284 cps
45Sc (KED)				24,277 cps
52Cr (KED)	1,999.203 ppb	99.960 %	0.3 %	62,470,263 cps
53Cr (KED)				7,799,427 cps
60Ni (KED)	2,010.669 ppb	100.533 %	0.2 %	33,662,921 cps
63Cu (KED)	2,054.574 ppb	102.729 %	0.9 %	92,034,264 cps
65Cu (KED)				46,521,520 cps
66Zn (KED)	1,920.841 ppb	96.042 %	0.6 %	12,361,588 cps
68Zn (KED)				10,620,198 cps
69Ga (KED)				12,930,773 cps
73Ge (KED)	98.702 %		0.7 %	66,917 cps
75As (KED)	1,938.444 ppb	96.922 %	0.9 %	6,215,480 cps
40Ar.37Cl (KED)				117,615 cps
78Se (KED)	1,836.702 ppb	91.835 %	0.5 %	395,493 cps
82Se (KED)				205,307 cps
83Kr (KED)				1,042 cps
89Y (KED)				161,191 cps
95Mo (KED)	1,945.121 ppb	97.256 %	1.7 %	46,207,641 cps
98Mo (KED)				80,642,871 cps
101Ru (KED)				87 cps
103Rh (KED)	117.953 %		2.2 %	85,567 cps
105Pd (KED)				113 cps
107Ag (KED)	0.297 ppb		24.4 %	56,759 cps
111Cd (KED)				22,181,516 cps
114Cd (KED)	1,970.509 ppb	98.525 %	1.4 %	55,214,423 cps
115In (KED)	95.160 %		1.7 %	217,758 cps
118Sn (KED)				5,563 cps
125Te (KED)				0 cps
139La (KED)				1,768 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
140Ce (KED)				707 cps
159Tb (KED)	96.595 %		1.0 %	1,077,559 cps
165Ho (KED)				96,665 cps
206Pb (KED)				154,392,504 cps
207Pb (KED)				135,492,076 cps
208Pb (KED)	1,952.699 ppb	97.635 %	2.5 %	624,642,266 cps
209Bi (KED)	100.841 %		2.0 %	1,005,419 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
17	Blank	11/3/2021 7:58:29 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			695 cps
13C (KED)			1,362 cps
35Cl (KED)			11,029,286 cps
45Sc (KED)			23,597 cps
52Cr (KED)	0.288 ppb	15.5 %	9,218 cps
53Cr (KED)			1,780 cps
60Ni (KED)	0.315 ppb	13.1 %	5,813 cps
63Cu (KED)	0.404 ppb	15.6 %	21,893 cps
65Cu (KED)			10,892 cps
66Zn (KED)	0.296 ppb	22.7 %	2,630 cps
68Zn (KED)			2,132 cps
69Ga (KED)			38,633 cps
73Ge (KED)	95.156 %	0.8 %	64,513 cps
75As (KED)	0.303 ppb	39.0 %	651 cps
40Ar.37Cl (KED)			37 cps
78Se (KED)	0.489 ppb	21.9 %	93 cps
82Se (KED)			-150 cps
83Kr (KED)			1,260 cps
89Y (KED)			156,514 cps
95Mo (KED)	1.693 ppb	1.8 %	39,619 cps
98Mo (KED)			68,305 cps
101Ru (KED)			3 cps
103Rh (KED)	95.361 %	0.9 %	69,178 cps
105Pd (KED)			107 cps
107Ag (KED)	-0.098 ppb	30.2 %	13,015 cps
111Cd (KED)			3,622 cps
114Cd (KED)	0.314 ppb	15.7 %	8,736 cps
115In (KED)	95.842 %	1.7 %	219,319 cps
118Sn (KED)			1,210 cps
125Te (KED)			0 cps
139La (KED)			22 cps
140Ce (KED)			45 cps
159Tb (KED)	98.946 %	1.1 %	1,103,784 cps
165Ho (KED)			98,009 cps
206Pb (KED)			48,462 cps
207Pb (KED)			42,835 cps
208Pb (KED)	0.612 ppb	14.7 %	196,175 cps
209Bi (KED)	99.273 %	1.0 %	989,780 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
18	Rinse	11/3/2021 8:00:08 AM	4	5	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			613 cps
13C (KED)			1,407 cps
35Cl (KED)			36,533 cps
45Sc (KED)			24,008 cps
52Cr (KED)	0.174 ppb	57.8 %	6,014 cps
53Cr (KED)			857 cps
60Ni (KED)	0.187 ppb	52.0 %	3,886 cps
63Cu (KED)	0.148 ppb	64.2 %	11,234 cps
65Cu (KED)			5,520 cps
66Zn (KED)	0.138 ppb	65.1 %	1,710 cps
68Zn (KED)			1,417 cps
69Ga (KED)			38,374 cps
73Ge (KED)	98.693 %	0.6 %	66,911 cps
75As (KED)	0.232 ppb	39.9 %	449 cps
40Ar.37Cl (KED)			42 cps
78Se (KED)	0.296 ppb	40.6 %	56 cps
82Se (KED)			-72 cps
83Kr (KED)			1,150 cps
89Y (KED)			157,830 cps
95Mo (KED)	1.154 ppb	14.9 %	27,785 cps
98Mo (KED)			48,045 cps
101Ru (KED)			0 cps
103Rh (KED)	97.160 %	1.2 %	70,484 cps
105Pd (KED)			87 cps
107Ag (KED)	-0.215 ppb	1.5 %	2,245 cps
111Cd (KED)			2,758 cps
114Cd (KED)	0.238 ppb	61.9 %	6,744 cps
115In (KED)	97.974 %	1.8 %	224,198 cps
118Sn (KED)			7,948 cps
125Te (KED)			0 cps
139La (KED)			15 cps
140Ce (KED)			93 cps
159Tb (KED)	100.030 %	1.3 %	1,115,872 cps
165Ho (KED)			97,558 cps
206Pb (KED)			23,727 cps
207Pb (KED)			20,965 cps
208Pb (KED)	0.311 ppb	39.6 %	94,829 cps
209Bi (KED)	92.788 %	2.0 %	925,121 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
19	T115685-BLK1@10	11/3/2021 8:01:45 AM	1	1	10

Dilution Factor	Total DF	QC Reference
0.1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			573 cps
13C (KED)			1,368 cps
35Cl (KED)			14,734,796 cps
45Sc (KED)			23,724 cps
52Cr (KED)	0.145 ppb	8.9 %	4,878 cps
53Cr (KED)			1,640 cps
60Ni (KED)	0.242 ppb	2.0 %	4,608 cps
63Cu (KED)	0.363 ppb	10.7 %	19,996 cps
65Cu (KED)			9,991 cps
66Zn (KED)	1.153 ppb	2.9 %	7,911 cps
68Zn (KED)			6,060 cps
69Ga (KED)			37,486 cps
73Ge (KED)	94.758 %	0.9 %	64,243 cps
75As (KED)	0.122 ppb	19.8 %	96 cps
40Ar.37Cl (KED)			18 cps

Category	Concentration average	Concentration RSD	Intensity average
78Se (KED)	0.149 ppb	18.2 %	24 cps
82Se (KED)			-57 cps
83Kr (KED)			1,112 cps
89Y (KED)			158,849 cps
95Mo (KED)	0.450 ppb	4.1 %	10,868 cps
98Mo (KED)			18,453 cps
101Ru (KED)			3 cps
103Rh (KED)	96.234 %	1.9 %	69,812 cps
105Pd (KED)			87 cps
107Ag (KED)	2.946 ppb	14.2 %	292,268 cps
111Cd (KED)			838 cps
114Cd (KED)	0.082 ppb	7.6 %	2,294 cps
115In (KED)	94.380 %	0.4 %	215,973 cps
118Sn (KED)			6,752 cps
125Te (KED)			0 cps
139La (KED)			193 cps
140Ce (KED)			432 cps
159Tb (KED)	98.267 %	1.1 %	1,096,211 cps
165Ho (KED)			97,856 cps
206Pb (KED)			20,176 cps
207Pb (KED)			17,861 cps
208Pb (KED)	0.247 ppb	7.2 %	81,604 cps
209Bi (KED)	100.145 %	0.2 %	998,474 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
20	T116066-BLK1@10	11/3/2021 8:03:24 AM	1	13	10

Dilution Factor	Total DF	QC Reference
0.1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			708 cps
13C (KED)			1,370 cps
35Cl (KED)			14,954,002 cps
45Sc (KED)			23,823 cps
52Cr (KED)	0.091 ppb	15.1 %	3,209 cps
53Cr (KED)			1,423 cps
60Ni (KED)	0.121 ppb	5.2 %	2,610 cps
63Cu (KED)	0.192 ppb	6.2 %	12,383 cps
65Cu (KED)			6,242 cps
66Zn (KED)	0.422 ppb	6.4 %	3,319 cps
68Zn (KED)			2,495 cps
69Ga (KED)			36,650 cps
73Ge (KED)	92.710 %	1.4 %	62,855 cps
75As (KED)	0.123 ppb	67.1 %	98 cps
40Ar.37Cl (KED)			22 cps
78Se (KED)	0.106 ppb	51.0 %	15 cps
82Se (KED)			-54 cps
83Kr (KED)			1,138 cps
89Y (KED)			161,522 cps
95Mo (KED)	0.207 ppb	9.1 %	5,137 cps
98Mo (KED)			8,795 cps
101Ru (KED)			0 cps
103Rh (KED)	95.203 %	0.8 %	69,064 cps
105Pd (KED)			87 cps
107Ag (KED)	2.751 ppb	14.0 %	274,860 cps
111Cd (KED)			787 cps
114Cd (KED)	0.072 ppb	22.3 %	2,051 cps
115In (KED)	96.493 %	0.8 %	220,808 cps
118Sn (KED)			3,070 cps
125Te (KED)			0 cps

Category	Concentration average	Concentration RSD	Intensity average
114Cd (KED)	0.158 ppb	1.2 %	4,619 cps
115In (KED)	99.999 %	0.5 %	228,831 cps
118Sn (KED)			22,325 cps
125Te (KED)			5 cps
139La (KED)			1,703,004 cps
140Ce (KED)			4,385,400 cps
159Tb (KED)	103.806 %	1.1 %	1,157,998 cps
165Ho (KED)			138,523 cps
206Pb (KED)			2,841,985 cps
207Pb (KED)			2,424,026 cps
208Pb (KED)	34.836 ppb	2.2 %	11,080,008 cps
209Bi (KED)	100.080 %	2.1 %	997,829 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
29	1J29004-CCV1	11/3/2021 8:17:53 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				632 cps
13C (KED)				1,398 cps
35Cl (KED)				12,460,494 cps
45Sc (KED)				25,177 cps
52Cr (KED)	49.830 ppb	99.660 %	2.2 %	1,607,778 cps
53Cr (KED)				202,750 cps
60Ni (KED)	50.082 ppb	100.164 %	3.4 %	866,145 cps
63Cu (KED)	48.996 ppb	97.993 %	2.9 %	2,269,787 cps
65Cu (KED)				1,188,830 cps
66Zn (KED)	48.909 ppb	97.819 %	0.6 %	325,754 cps
68Zn (KED)				273,878 cps
69Ga (KED)				284,909 cps
73Ge (KED)	101.894 %		1.4 %	69,081 cps
75As (KED)	49.906 ppb	99.812 %	2.2 %	162,563 cps
40Ar.37Cl (KED)				3,014 cps
78Se (KED)	49.453 ppb	98.907 %	1.8 %	10,606 cps
82Se (KED)				5,454 cps
83Kr (KED)				1,210 cps
89Y (KED)				164,303 cps
95Mo (KED)	48.449 ppb	96.898 %	1.0 %	1,184,271 cps
98Mo (KED)				2,047,286 cps
101Ru (KED)				3 cps
103Rh (KED)	100.003 %		0.3 %	72,546 cps
105Pd (KED)				105 cps
107Ag (KED)	49.859 ppb	99.719 %	1.3 %	4,817,794 cps
111Cd (KED)				593,541 cps
114Cd (KED)	50.157 ppb	100.314 %	0.7 %	1,452,711 cps
115In (KED)	100.345 %		0.4 %	229,622 cps
118Sn (KED)				3,474 cps
125Te (KED)				0 cps
139La (KED)				628 cps
140Ce (KED)				1,293 cps
159Tb (KED)	102.142 %		1.2 %	1,139,435 cps
165Ho (KED)				101,214 cps
206Pb (KED)				3,943,886 cps
207Pb (KED)				3,426,281 cps
208Pb (KED)	49.205 ppb	98.409 %	1.2 %	15,772,046 cps
209Bi (KED)	100.893 %		0.6 %	1,005,931 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
30	1J29004-CCB1	11/3/2021 8:19:31 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				643 cps
13C (KED)				1,307 cps
35Cl (KED)				12,015,871 cps
45Sc (KED)				25,307 cps
52Cr (KED)	0.004 ppb	0.417 %	33.9 %	699 cps
53Cr (KED)				1,283 cps
60Ni (KED)	0.005 ppb	0.523 %	107.8 %	843 cps
63Cu (KED)	-0.033 ppb	-3.300 %	18.0 %	3,134 cps
65Cu (KED)				1,537 cps
66Zn (KED)	-0.023 ppb	-0.230 %	56.9 %	680 cps
68Zn (KED)				533 cps
69Ga (KED)				38,809 cps
73Ge (KED)	99.679 %		0.8 %	67,579 cps
75As (KED)	-0.006 ppb	-0.645 %	1,146.4 %	-308 cps
40Ar.37Cl (KED)				22 cps
78Se (KED)	0.082 ppb	8.238 %	47.3 %	11 cps
82Se (KED)				-140 cps
83Kr (KED)				1,260 cps
89Y (KED)				167,293 cps
95Mo (KED)	0.067 ppb	0.007 %	3.1 %	2,040 cps
98Mo (KED)				3,527 cps
101Ru (KED)				2 cps
103Rh (KED)	100.883 %		0.9 %	73,184 cps
105Pd (KED)				145 cps
107Ag (KED)	-0.210 ppb	-20.997 %	2.0 %	2,835 cps
111Cd (KED)				142 cps
114Cd (KED)	0.011 ppb	1.102 %	24.9 %	375 cps
115In (KED)	101.043 %		2.3 %	231,220 cps
118Sn (KED)				1,247 cps
125Te (KED)				0 cps
139La (KED)				247 cps
140Ce (KED)				557 cps
159Tb (KED)	100.124 %		1.6 %	1,116,930 cps
165Ho (KED)				101,018 cps
206Pb (KED)				4,087 cps
207Pb (KED)				3,704 cps
208Pb (KED)	0.043 ppb	4.327 %	10.2 %	16,895 cps
209Bi (KED)	100.862 %		2.1 %	1,005,624 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
31	21J0832-05@10	11/3/2021 8:21:08 AM	1	21	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			742 cps
13C (KED)			1,647 cps
35Cl (KED)			13,895,148 cps
45Sc (KED)			33,049 cps
52Cr (KED)	10.087 ppb	2.4 %	332,015 cps
53Cr (KED)			43,186 cps
60Ni (KED)	8.428 ppb	2.2 %	149,158 cps
63Cu (KED)	14.731 ppb	1.6 %	698,639 cps
65Cu (KED)			350,108 cps
66Zn (KED)	55.625 ppb	1.6 %	377,265 cps

Category	Concentration average	Concentration RSD	Intensity average
103Rh (KED)	100.719 %	0.9 %	73,065 cps
105Pd (KED)			128 cps
107Ag (KED)	-0.215 ppb	1.1 %	2,317 cps
111Cd (KED)			75 cps
114Cd (KED)	0.002 ppb	31.0 %	123 cps
115In (KED)	100.899 %	0.5 %	230,890 cps
118Sn (KED)			5,094 cps
125Te (KED)			0 cps
139La (KED)			1,010,322 cps
140Ce (KED)			2,181,083 cps
159Tb (KED)	105.094 %	2.0 %	1,172,368 cps
165Ho (KED)			117,082 cps
206Pb (KED)			184,646 cps
207Pb (KED)			150,754 cps
208Pb (KED)	2.144 ppb	2.1 %	716,110 cps
209Bi (KED)	104.681 %	1.6 %	1,043,696 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
41	1J29004-CCV2	11/3/2021 8:37:15 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				705 cps
13C (KED)				1,313 cps
35Cl (KED)				12,468,964 cps
45Sc (KED)				25,170 cps
52Cr (KED)	51.165 ppb	102.330 %	3.2 %	1,598,726 cps
53Cr (KED)				201,007 cps
60Ni (KED)	51.223 ppb	102.447 %	3.3 %	857,973 cps
63Cu (KED)	50.777 ppb	101.554 %	2.6 %	2,278,344 cps
65Cu (KED)				1,189,492 cps
66Zn (KED)	50.389 ppb	100.778 %	2.9 %	324,984 cps
68Zn (KED)				272,426 cps
69Ga (KED)				281,571 cps
73Ge (KED)	98.705 %		2.0 %	66,919 cps
75As (KED)	50.860 ppb	101.721 %	2.5 %	160,580 cps
40Ar.37Cl (KED)				3,105 cps
78Se (KED)	50.329 ppb	100.659 %	0.7 %	10,476 cps
82Se (KED)				5,476 cps
83Kr (KED)				705 cps
89Y (KED)				165,666 cps
95Mo (KED)	49.577 ppb	99.154 %	1.4 %	1,182,436 cps
98Mo (KED)				2,027,928 cps
101Ru (KED)				5 cps
103Rh (KED)	97.851 %		2.1 %	70,985 cps
105Pd (KED)				123 cps
107Ag (KED)	49.326 ppb	98.651 %	1.1 %	4,685,313 cps
111Cd (KED)				583,692 cps
114Cd (KED)	50.577 ppb	101.153 %	0.8 %	1,451,717 cps
115In (KED)	99.564 %		0.7 %	227,835 cps
118Sn (KED)				3,892 cps
125Te (KED)				0 cps
139La (KED)				395 cps
140Ce (KED)				573 cps
159Tb (KED)	100.020 %		1.7 %	1,115,770 cps
165Ho (KED)				100,833 cps
206Pb (KED)				3,888,904 cps
207Pb (KED)				3,385,556 cps
208Pb (KED)	48.686 ppb	97.373 %	1.3 %	15,725,949 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
209Bi (KED)	101.720 %		1.0 %	1,014,178 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
42	1J29004-CCB2	11/3/2021 8:38:53 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				655 cps
13C (KED)				1,232 cps
35Cl (KED)				11,848,800 cps
45Sc (KED)				25,222 cps
52Cr (KED)	-0.004 ppb	-0.380 %	45.8 %	445 cps
53Cr (KED)				1,208 cps
60Ni (KED)	0.000 ppb	0.047 %	616.1 %	758 cps
63Cu (KED)	-0.048 ppb	-4.819 %	3.1 %	2,429 cps
65Cu (KED)				1,150 cps
66Zn (KED)	-0.052 ppb	-0.522 %	9.7 %	487 cps
68Zn (KED)				405 cps
69Ga (KED)				37,834 cps
73Ge (KED)	98.952 %		3.4 %	67,087 cps
75As (KED)	0.097 ppb	9.706 %	53.0 %	20 cps
40Ar.37Cl (KED)				22 cps
78Se (KED)	0.047 ppb	4.658 %	69.5 %	4 cps
82Se (KED)				2 cps
83Kr (KED)				822 cps
89Y (KED)				163,224 cps
95Mo (KED)	0.048 ppb	0.005 %	7.9 %	1,557 cps
98Mo (KED)				2,810 cps
101Ru (KED)				0 cps
103Rh (KED)	98.556 %		2.3 %	71,496 cps
105Pd (KED)				97 cps
107Ag (KED)	-0.219 ppb	-21.937 %	0.6 %	1,892 cps
111Cd (KED)				103 cps
114Cd (KED)	0.006 ppb	0.569 %	11.1 %	218 cps
115In (KED)	99.911 %		2.8 %	228,629 cps
118Sn (KED)				1,258 cps
125Te (KED)				0 cps
139La (KED)				83 cps
140Ce (KED)				233 cps
159Tb (KED)	101.899 %		2.2 %	1,136,730 cps
165Ho (KED)				99,966 cps
206Pb (KED)				3,002 cps
207Pb (KED)				2,769 cps
208Pb (KED)	0.028 ppb	2.828 %	8.8 %	12,286 cps
209Bi (KED)	102.374 %		1.3 %	1,020,701 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
43	21J0999-08@10	11/3/2021 8:40:30 AM	1	32	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			682 cps
13C (KED)			1,575 cps
35Cl (KED)			14,217,033 cps
45Sc (KED)			28,461 cps

Category	Concentration average	Concentration RSD	Intensity average
78Se (KED)	7.218 ppb	6.1 %	1,471 cps
82Se (KED)			682 cps
83Kr (KED)			1,457 cps
89Y (KED)			235,171 cps
95Mo (KED)	12.249 ppb	1.9 %	274,052 cps
98Mo (KED)			471,373 cps
101Ru (KED)			37 cps
103Rh (KED)	89.623 %	2.7 %	65,016 cps
105Pd (KED)			1,862 cps
107Ag (KED)	6.123 ppb	2.2 %	560,986 cps
111Cd (KED)			14,055 cps
114Cd (KED)	1.125 ppb	2.0 %	31,117 cps
115In (KED)	96.252 %	2.7 %	220,257 cps
118Sn (KED)			1,033,941 cps
125Te (KED)			17 cps
139La (KED)			10,009,633 cps
140Ce (KED)			966,622 cps
159Tb (KED)	96.154 %	1.0 %	1,072,641 cps
165Ho (KED)			111,407 cps
206Pb (KED)			3,154,111 cps
207Pb (KED)			2,675,792 cps
208Pb (KED)	41.282 ppb Tb	0.9 %	12,462,936 cps
209Bi (KED)	1,263.754 %	1.2 %	12,600,010 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
53	1J29004-CCV3	11/3/2021 8:56:37 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				610 cps
13C (KED)				1,467 cps
35Cl (KED)				11,512,713 cps
45Sc (KED)				23,424 cps
52Cr (KED)	48.869 ppb	97.737 %	1.9 %	1,489,071 cps
53Cr (KED)				190,844 cps
60Ni (KED)	49.812 ppb	99.625 %	2.0 %	813,787 cps
63Cu (KED)	49.869 ppb	99.738 %	1.3 %	2,182,211 cps
65Cu (KED)				1,135,264 cps
66Zn (KED)	49.806 ppb	99.612 %	0.9 %	313,274 cps
68Zn (KED)				257,660 cps
69Ga (KED)				260,826 cps
73Ge (KED)	96.238 %		2.1 %	65,247 cps
75As (KED)	49.218 ppb	98.435 %	1.5 %	151,794 cps
40Ar.37Cl (KED)				3,102 cps
78Se (KED)	49.292 ppb	98.584 %	1.7 %	10,048 cps
82Se (KED)				4,930 cps
83Kr (KED)				1,342 cps
89Y (KED)				160,098 cps
95Mo (KED)	47.314 ppb	94.628 %	2.2 %	1,122,178 cps
98Mo (KED)				1,959,203 cps
101Ru (KED)				2 cps
103Rh (KED)	97.994 %		1.5 %	71,089 cps
105Pd (KED)				107 cps
107Ag (KED)	49.206 ppb	98.413 %	0.5 %	4,610,395 cps
111Cd (KED)				574,407 cps
114Cd (KED)	51.323 ppb	102.646 %	0.9 %	1,414,549 cps
115In (KED)	95.236 %		0.3 %	217,930 cps
118Sn (KED)				5,043 cps
125Te (KED)				2 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
139La (KED)				3,431 cps
140Ce (KED)				567 cps
159Tb (KED)	100.064 %		2.2 %	1,116,261 cps
165Ho (KED)				99,591 cps
206Pb (KED)				**3,894,825 cps**
207Pb (KED)				**3,360,634 cps**
208Pb (KED)	45.605 ppb	91.210 %	0.4 %	**15,662,132 cps**
209Bi (KED)	108.283 %		1.4 %	1,079,616 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
54	1J29004-CCB3	11/3/2021 8:58:14 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				628 cps
13C (KED)				1,325 cps
35Cl (KED)				**11,138,075 cps**
45Sc (KED)				24,380 cps
52Cr (KED)	-0.002 ppb	-0.225 %	76.4 %	480 cps
53Cr (KED)				553 cps
60Ni (KED)	0.002 ppb	0.213 %	254.4 %	765 cps
63Cu (KED)	0.020 ppb	2.012 %	73.5 %	5,353 cps
65Cu (KED)				2,645 cps
66Zn (KED)	0.033 ppb	0.333 %	41.0 %	1,012 cps
68Zn (KED)				710 cps
69Ga (KED)				36,823 cps
73Ge (KED)	96.473 %		1.8 %	65,406 cps
75As (KED)	0.037 ppb	3.722 %	132.0 %	-165 cps
40Ar.37Cl (KED)				18 cps
78Se (KED)	0.011 ppb	1.084 %	156.5 %	-4 cps
82Se (KED)				-75 cps
83Kr (KED)				1,085 cps
89Y (KED)				163,617 cps
95Mo (KED)	0.057 ppb	0.006 %	4.8 %	1,761 cps
98Mo (KED)				3,034 cps
101Ru (KED)				0 cps
103Rh (KED)	98.390 %		1.1 %	71,375 cps
105Pd (KED)				125 cps
107Ag (KED)	-0.219 ppb	-21.936 %	1.6 %	1,887 cps
111Cd (KED)				93 cps
114Cd (KED)	0.006 ppb	0.629 %	22.1 %	234 cps
115In (KED)	99.224 %		2.6 %	227,058 cps
118Sn (KED)				1,517 cps
125Te (KED)				0 cps
139La (KED)				547 cps
140Ce (KED)				125 cps
159Tb (KED)	101.425 %		0.5 %	1,131,434 cps
165Ho (KED)				102,879 cps
206Pb (KED)				3,209 cps
207Pb (KED)				3,045 cps
208Pb (KED)	0.030 ppb	3.026 %	11.9 %	13,351 cps
209Bi (KED)	105.753 %		0.6 %	1,054,394 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
55	21J1093-01@10	11/3/2021 8:59:52 AM	1	42	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
75As (KED)	0.560 ppb	14.2 %	1,342 cps
40Ar.37Cl (KED)			73 cps
78Se (KED)	0.681 ppb	2.7 %	122 cps
82Se (KED)			61 cps
83Kr (KED)			928 cps
89Y (KED)			153,873 cps
95Mo (KED)	0.684 ppb	1.0 %	14,833 cps
98Mo (KED)			25,594 cps
101Ru (KED)			0 cps
103Rh (KED)	86.277 %	1.4 %	62,588 cps
105Pd (KED)			127 cps
107Ag (KED)	-0.181 ppb	1.0 %	4,828 cps
111Cd (KED)			7,369 cps
114Cd (KED)	0.708 ppb	3.6 %	18,083 cps
115In (KED)	88.542 %	3.2 %	202,614 cps
118Sn (KED)			8,203 cps
125Te (KED)			2 cps
139La (KED)			31,266 cps
140Ce (KED)			70,904 cps
159Tb (KED)	96.251 %	1.3 %	1,073,720 cps
165Ho (KED)			95,587 cps
206Pb (KED)			21,101 cps
207Pb (KED)			18,290 cps
208Pb (KED)	0.282 ppb	0.6 %	84,188 cps
209Bi (KED)	90.749 %	0.7 %	904,794 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
57	T116316-BLK1@10	11/3/2021 9:03:06 AM	1	49	10

Dilution Factor	Total DF	QC Reference
0.1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			672 cps
13C (KED)			1,652 cps
35Cl (KED)			**16,296,391 cps**
45Sc (KED)			26,712 cps
52Cr (KED)	0.016 ppb	3.9 %	1,099 cps
53Cr (KED)			1,585 cps
60Ni (KED)	0.027 ppb	1.4 %	1,237 cps
63Cu (KED)	0.298 ppb	19.8 %	18,476 cps
65Cu (KED)			9,362 cps
66Zn (KED)	0.413 ppb	6.3 %	3,589 cps
68Zn (KED)			2,749 cps
69Ga (KED)			39,768 cps
73Ge (KED)	101.923 %	3.1 %	69,101 cps
75As (KED)	0.054 ppb	21.7 %	-118 cps
40Ar.37Cl (KED)			27 cps
78Se (KED)	0.027 ppb	47.2 %	0 cps
82Se (KED)			-52 cps
83Kr (KED)			1,317 cps
89Y (KED)			167,729 cps
95Mo (KED)	0.015 ppb	14.0 %	797 cps
98Mo (KED)			1,385 cps
101Ru (KED)			0 cps
103Rh (KED)	102.279 %	1.7 %	74,197 cps
105Pd (KED)			112 cps
107Ag (KED)	-0.230 ppb	0.4 %	930 cps
111Cd (KED)			33 cps
114Cd (KED)	-0.002 ppb	38.5 %	-18 cps
115In (KED)	100.273 %	1.6 %	229,457 cps

Category	Concentration average	Concentration RSD	Intensity average
118Sn (KED)			14,385 cps
125Te (KED)			0 cps
139La (KED)			355 cps
140Ce (KED)			448 cps
159Tb (KED)	100.420 %	1.0 %	1,120,225 cps
165Ho (KED)			100,109 cps
206Pb (KED)			3,622 cps
207Pb (KED)			3,074 cps
208Pb (KED)	0.036 ppb	6.8 %	14,565 cps
209Bi (KED)	101.088 %	0.6 %	1,007,879 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
58	T116316-BS1@10	11/3/2021 9:04:43 AM	1	50	10

Dilution Factor	Total DF	QC Reference
0.1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,347 cps
13C (KED)			1,425 cps
35Cl (KED)			**14,221,703 cps**
45Sc (KED)			24,948 cps
52Cr (KED)	73.717 ppb	1.5 %	**2,269,138 cps**
53Cr (KED)			284,961 cps
60Ni (KED)	74.415 ppb	0.2 %	1,227,614 cps
63Cu (KED)	72.476 ppb	2.4 %	**3,200,751 cps**
65Cu (KED)			1,666,111 cps
66Zn (KED)	69.230 ppb	2.4 %	439,422 cps
68Zn (KED)			365,716 cps
69Ga (KED)			382,166 cps
73Ge (KED)	97.203 %	2.2 %	65,900 cps
75As (KED)	8.999 ppb	1.4 %	27,759 cps
40Ar.37Cl (KED)			532 cps
78Se (KED)	8.159 ppb	1.4 %	1,668 cps
82Se (KED)			672 cps
83Kr (KED)			1,120 cps
89Y (KED)			163,090 cps
95Mo (KED)	71.263 ppb	2.1 %	1,678,385 cps
98Mo (KED)			**2,939,517 cps**
101Ru (KED)			3 cps
103Rh (KED)	96.738 %	1.5 %	70,177 cps
105Pd (KED)			133 cps
107Ag (KED)	9.846 ppb	0.7 %	937,651 cps
111Cd (KED)			817,651 cps
114Cd (KED)	71.782 ppb	2.5 %	2,007,229 cps
115In (KED)	96.907 %	2.7 %	221,756 cps
118Sn (KED)			1,505,239 cps
125Te (KED)			7 cps
139La (KED)			675 cps
140Ce (KED)			1,650 cps
159Tb (KED)	102.890 %	2.7 %	1,147,778 cps
165Ho (KED)			100,999 cps
206Pb (KED)			**5,732,875 cps**
207Pb (KED)			**4,917,461 cps**
208Pb (KED)	71.900 ppb	0.8 %	**22,912,631 cps**
209Bi (KED)	100.289 %	1.8 %	999,915 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
59	T116316-MS1@10	11/3/2021 9:06:20 AM	1	51	10

Dilution Factor	Total DF	QC Reference
0.1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,328 cps
13C (KED)			1,402 cps
35Cl (KED)			**14,036,177 cps**
45Sc (KED)			26,279 cps
52Cr (KED)	70.616 ppb	0.7 %	**2,212,338 cps**
53Cr (KED)			281,785 cps
60Ni (KED)	70.569 ppb	1.6 %	1,184,820 cps
63Cu (KED)	66.895 ppb	1.6 %	**3,008,070 cps**
65Cu (KED)			1,583,161 cps
66Zn (KED)	85.838 ppb	2.5 %	554,426 cps
68Zn (KED)			458,950 cps
69Ga (KED)			380,050 cps
73Ge (KED)	98.932 %	1.0 %	67,073 cps
75As (KED)	9.776 ppb	3.2 %	30,676 cps
40Ar.37Cl (KED)			947 cps
78Se (KED)	8.251 ppb	1.2 %	1,712 cps
82Se (KED)			840 cps
83Kr (KED)			1,235 cps
89Y (KED)			214,028 cps
95Mo (KED)	66.596 ppb	1.7 %	1,574,593 cps
98Mo (KED)			2,774,137 cps
101Ru (KED)			2 cps
103Rh (KED)	96.610 %	0.8 %	70,085 cps
105Pd (KED)			148 cps
107Ag (KED)	9.242 ppb	0.5 %	880,241 cps
111Cd (KED)			779,227 cps
114Cd (KED)	69.929 ppb	2.1 %	1,952,866 cps
115In (KED)	96.745 %	1.1 %	221,383 cps
118Sn (KED)			1,413,994 cps
125Te (KED)			2 cps
139La (KED)			891,104 cps
140Ce (KED)			1,918,074 cps
159Tb (KED)	103.409 %	0.7 %	1,153,566 cps
165Ho (KED)			116,929 cps
206Pb (KED)			**5,583,181 cps**
207Pb (KED)			**4,859,297 cps**
208Pb (KED)	69.588 ppb	0.3 %	**22,311,392 cps**
209Bi (KED)	100.894 %	0.3 %	1,005,948 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
60	T116316-MSD1@10	11/3/2021 9:07:56 AM	1	52	10

Dilution Factor	Total DF	QC Reference
0.1	1	D

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,388 cps
13C (KED)			1,373 cps
35Cl (KED)			**14,192,038 cps**
45Sc (KED)			25,753 cps
52Cr (KED)	74.674 ppb	1.7 %	**2,325,158 cps**
53Cr (KED)			299,292 cps
60Ni (KED)	75.220 ppb	1.9 %	1,255,410 cps
63Cu (KED)	72.283 ppb	2.2 %	**3,230,310 cps**
65Cu (KED)			1,669,506 cps
66Zn (KED)	93.644 ppb	0.6 %	601,204 cps
68Zn (KED)			496,541 cps

Category	Concentration average	Concentration RSD	Intensity average
69Ga (KED)			399,969 cps
73Ge (KED)	98.342 %	1.2 %	66,673 cps
75As (KED)	10.211 ppb	0.6 %	31,840 cps
40Ar.37Cl (KED)			977 cps
78Se (KED)	8.911 ppb	3.0 %	1,834 cps
82Se (KED)			880 cps
83Kr (KED)			1,245 cps
89Y (KED)			207,998 cps
95Mo (KED)	73.507 ppb	1.9 %	1,710,117 cps
98Mo (KED)			2,971,806 cps
101Ru (KED)			2 cps
103Rh (KED)	94.725 %	2.6 %	68,717 cps
105Pd (KED)			167 cps
107Ag (KED)	10.116 ppb	0.3 %	942,565 cps
111Cd (KED)			825,644 cps
114Cd (KED)	74.560 ppb	0.3 %	2,041,287 cps
115In (KED)	94.837 %	1.0 %	217,017 cps
118Sn (KED)			1,527,349 cps
125Te (KED)			7 cps
139La (KED)			848,405 cps
140Ce (KED)			1,957,797 cps
159Tb (KED)	103.632 %	0.7 %	1,156,060 cps
165Ho (KED)			114,557 cps
206Pb (KED)			5,980,610 cps
207Pb (KED)			5,123,839 cps
208Pb (KED)	74.733 ppb	0.4 %	24,015,124 cps
209Bi (KED)	101.126 %	1.4 %	1,008,253 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
61	DIL TEST	11/3/2021 9:09:32 AM	1	52	50	0.1

IJ29004-SRD1

Total DF	QC Reference
5	D

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				770 cps
13C (KED)				1,423 cps
35Cl (KED)				11,850,580 cps
45Sc (KED)				23,915 cps
52Cr (KED)	79.086 ppb	5.739 %	1.0 %	478,948 cps
53Cr (KED)				60,247 cps
60Ni (KED)	78.799 ppb	4.648 %	1.0 %	256,107 cps
63Cu (KED)	80.980 ppb	11.349 %	1.3 %	706,618 cps
65Cu (KED)				359,866 cps
66Zn (KED)	106.533 ppb	12.878 %	0.6 %	133,504 cps
68Zn (KED)				109,347 cps
69Ga (KED)				112,273 cps
73Ge (KED)	95.534 %		0.6 %	64,769 cps
75As (KED)	11.628 ppb	12.974 %	1.5 %	6,844 cps
40Ar.37Cl (KED)				247 cps
78Se (KED)	10.382 ppb	15.243 %	6.8 %	413 cps
82Se (KED)				195 cps
83Kr (KED)				988 cps
89Y (KED)				164,313 cps
95Mo (KED)	72.674 ppb	1.140 %	1.6 %	335,430 cps
98Mo (KED)				586,450 cps
101Ru (KED)				2 cps
103Rh (KED)	94.561 %		1.8 %	68,598 cps
105Pd (KED)				145 cps
107Ag (KED)	9.310 ppb	8.293 %	2.0 %	191,795 cps
111Cd (KED)				174,595 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
114Cd (KED)	77.769 ppb	4.213 %	1.0 %	430,508 cps
115In (KED)	95.979 %		0.9 %	219,632 cps
118Sn (KED)				304,172 cps
125Te (KED)				3 cps
139La (KED)				170,720 cps
140Ce (KED)				387,099 cps
159Tb (KED)	99.121 %		1.4 %	1,105,737 cps
165Ho (KED)				101,257 cps
206Pb (KED)				1,263,706 cps
207Pb (KED)				1,095,972 cps
208Pb (KED)	77.802 ppb	4.023 %	1.8 %	4,994,315 cps
209Bi (KED)	101.045 %		0.2 %	1,007,447 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
62	21J1205-01@10	11/3/2021 9:11:10 AM	1	53	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			690 cps
13C (KED)			1,453 cps
35Cl (KED)			14,583,807 cps
45Sc (KED)			27,821 cps
52Cr (KED)	4.197 ppb	2.4 %	135,306 cps
53Cr (KED)			17,828 cps
60Ni (KED)	3.246 ppb	2.6 %	56,603 cps
63Cu (KED)	1.664 ppb	1.9 %	81,287 cps
65Cu (KED)			40,548 cps
66Zn (KED)	27.946 ppb	0.9 %	185,584 cps
68Zn (KED)			142,215 cps
69Ga (KED)			65,902 cps
73Ge (KED)	101.392 %	1.1 %	68,740 cps
75As (KED)	1.503 ppb	5.0 %	4,585 cps
40Ar.37Cl (KED)			563 cps
78Se (KED)	0.809 ppb	6.1 %	166 cps
82Se (KED)			73 cps
83Kr (KED)			1,073 cps
89Y (KED)			233,311 cps
95Mo (KED)	0.156 ppb	5.0 %	4,177 cps
98Mo (KED)			7,198 cps
101Ru (KED)			0 cps
103Rh (KED)	98.990 %	3.8 %	71,811 cps
105Pd (KED)			143 cps
107Ag (KED)	-0.229 ppb	0.3 %	1,010 cps
111Cd (KED)			462 cps
114Cd (KED)	0.036 ppb	8.4 %	1,078 cps
115In (KED)	99.207 %	3.2 %	227,018 cps
118Sn (KED)			12,378 cps
125Te (KED)			0 cps
139La (KED)			999,460 cps
140Ce (KED)			2,115,694 cps
159Tb (KED)	104.235 %	1.1 %	1,162,788 cps
165Ho (KED)			119,626 cps
206Pb (KED)			112,382 cps
207Pb (KED)			87,560 cps
208Pb (KED)	1.313 ppb	1.5 %	423,185 cps
209Bi (KED)	100.692 %	1.5 %	1,003,927 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
63	21J1205-02@10	11/3/2021 9:12:46 AM	1	54	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			685 cps
13C (KED)			1,470 cps
35Cl (KED)			14,869,993 cps
45Sc (KED)			28,290 cps
52Cr (KED)	3.744 ppb	1.4 %	124,378 cps
53Cr (KED)			16,336 cps
60Ni (KED)	2.879 ppb	1.6 %	51,789 cps
63Cu (KED)	1.277 ppb	2.2 %	65,386 cps
65Cu (KED)			33,331 cps
66Zn (KED)	9.107 ppb	1.2 %	62,871 cps
68Zn (KED)			52,065 cps
69Ga (KED)			89,253 cps
73Ge (KED)	104.427 %	0.2 %	70,799 cps
75As (KED)	1.146 ppb	1.4 %	3,527 cps
40Ar.37Cl (KED)			535 cps
78Se (KED)	0.683 ppb	8.1 %	143 cps
82Se (KED)			4 cps
83Kr (KED)			1,148 cps
89Y (KED)			210,252 cps
95Mo (KED)	0.125 ppb	2.7 %	3,496 cps
98Mo (KED)			6,081 cps
101Ru (KED)			0 cps
103Rh (KED)	100.574 %	1.6 %	72,960 cps
105Pd (KED)			108 cps
107Ag (KED)	-0.227 ppb	0.4 %	1,223 cps
111Cd (KED)			515 cps
114Cd (KED)	0.044 ppb	2.9 %	1,327 cps
115In (KED)	101.380 %	2.0 %	231,991 cps
118Sn (KED)			7,382 cps
125Te (KED)			0 cps
139La (KED)			840,105 cps
140Ce (KED)			2,153,498 cps
159Tb (KED)	103.041 %	1.1 %	1,149,468 cps
165Ho (KED)			112,614 cps
206Pb (KED)			279,902 cps
207Pb (KED)			225,129 cps
208Pb (KED)	3.329 ppb	0.7 %	1,082,777 cps
209Bi (KED)	102.101 %	0.5 %	1,017,973 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
64	21J1205-03@10	11/3/2021 9:14:22 AM	1	55	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			768 cps
13C (KED)			1,580 cps
35Cl (KED)			14,653,640 cps
45Sc (KED)			28,815 cps
52Cr (KED)	3.510 ppb	0.9 %	119,072 cps
53Cr (KED)			16,139 cps
60Ni (KED)	2.549 ppb	1.5 %	46,906 cps
63Cu (KED)	1.512 ppb	0.6 %	78,092 cps
65Cu (KED)			39,375 cps
66Zn (KED)	8.235 ppb	0.8 %	58,125 cps

Category	Concentration average	Concentration RSD	Intensity average
68Zn (KED)			49,699 cps
69Ga (KED)			92,848 cps
73Ge (KED)	106.610 %	0.6 %	72,279 cps
75As (KED)	1.098 ppb	3.3 %	3,439 cps
40Ar.37Cl (KED)			540 cps
78Se (KED)	0.714 ppb	5.5 %	154 cps
82Se (KED)			-66 cps
83Kr (KED)			1,308 cps
89Y (KED)			223,979 cps
95Mo (KED)	0.139 ppb	1.4 %	3,929 cps
98Mo (KED)			6,829 cps
101Ru (KED)			0 cps
103Rh (KED)	103.157 %	2.6 %	74,834 cps
105Pd (KED)			162 cps
107Ag (KED)	-0.226 ppb	0.3 %	1,318 cps
111Cd (KED)			483 cps
114Cd (KED)	0.035 ppb	9.7 %	1,081 cps
115In (KED)	102.240 %	1.0 %	233,958 cps
118Sn (KED)			24,982 cps
125Te (KED)			0 cps
139La (KED)			930,967 cps
140Ce (KED)			2,235,010 cps
159Tb (KED)	104.624 %	0.6 %	1,167,123 cps
165Ho (KED)			119,208 cps
206Pb (KED)			317,430 cps
207Pb (KED)			258,429 cps
208Pb (KED)	3.739 ppb	2.1 %	1,221,839 cps
209Bi (KED)	102.631 %	1.8 %	1,023,263 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
65	1J29004-CCV4	11/3/2021 9:15:59 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				657 cps
13C (KED)				1,310 cps
35Cl (KED)				11,731,768 cps
45Sc (KED)				23,754 cps
52Cr (KED)	49.061 ppb	98.122 %	1.2 %	1,522,912 cps
53Cr (KED)				192,363 cps
60Ni (KED)	49.749 ppb	99.499 %	1.5 %	827,656 cps
63Cu (KED)	50.010 ppb	100.020 %	2.0 %	2,228,267 cps
65Cu (KED)				1,156,255 cps
66Zn (KED)	49.526 ppb	99.053 %	1.2 %	317,308 cps
68Zn (KED)				262,437 cps
69Ga (KED)				268,621 cps
73Ge (KED)	98.001 %		2.0 %	66,442 cps
75As (KED)	49.972 ppb	99.944 %	0.9 %	156,488 cps
40Ar.37Cl (KED)				2,982 cps
78Se (KED)	48.691 ppb	97.383 %	0.3 %	10,031 cps
82Se (KED)				5,157 cps
83Kr (KED)				1,163 cps
89Y (KED)				158,858 cps
95Mo (KED)	49.254 ppb	98.507 %	1.8 %	1,150,489 cps
98Mo (KED)				1,999,688 cps
101Ru (KED)				0 cps
103Rh (KED)	95.367 %		2.5 %	69,183 cps
105Pd (KED)				102 cps
107Ag (KED)	49.687 ppb	99.374 %	1.6 %	4,620,852 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
111Cd (KED)				578,161 cps
114Cd (KED)	51.048 ppb	102.097 %	0.9 %	1,446,281 cps
115In (KED)	98.385 %		1.1 %	225,136 cps
118Sn (KED)				3,701 cps
125Te (KED)				0 cps
139La (KED)				465 cps
140Ce (KED)				780 cps
159Tb (KED)	99.931 %		0.7 %	1,114,772 cps
165Ho (KED)				99,513 cps
206Pb (KED)				**3,865,999 cps**
207Pb (KED)				**3,354,029 cps**
208Pb (KED)	48.885 ppb	97.769 %	2.0 %	**15,610,045 cps**
209Bi (KED)	100.560 %		1.5 %	1,002,608 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
66	1J29004-CCB4	11/3/2021 9:17:36 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				645 cps
13C (KED)				1,225 cps
35Cl (KED)				**11,127,383 cps**
45Sc (KED)				24,093 cps
52Cr (KED)	0.010 ppb	1.044 %	13.4 %	863 cps
53Cr (KED)				818 cps
60Ni (KED)	0.009 ppb	0.903 %	61.5 %	875 cps
63Cu (KED)	-0.014 ppb	-1.440 %	56.0 %	3,827 cps
65Cu (KED)				1,845 cps
66Zn (KED)	-0.015 ppb	-0.147 %	28.5 %	707 cps
68Zn (KED)				602 cps
69Ga (KED)				36,816 cps
73Ge (KED)	95.996 %		1.2 %	65,083 cps
75As (KED)	-0.016 ppb	-1.614 %	241.9 %	-328 cps
40Ar.37Cl (KED)				25 cps
78Se (KED)	0.001 ppb	0.148 %	2,007.2 %	-6 cps
82Se (KED)				-148 cps
83Kr (KED)				1,192 cps
89Y (KED)				160,043 cps
95Mo (KED)	0.063 ppb	0.006 %	6.5 %	1,867 cps
98Mo (KED)				3,194 cps
101Ru (KED)				0 cps
103Rh (KED)	96.174 %		0.7 %	69,768 cps
105Pd (KED)				105 cps
107Ag (KED)	-0.209 ppb	-20.869 %	1.9 %	2,849 cps
111Cd (KED)				243 cps
114Cd (KED)	0.019 ppb	1.850 %	33.0 %	580 cps
115In (KED)	98.826 %		0.5 %	226,145 cps
118Sn (KED)				1,437 cps
125Te (KED)				0 cps
139La (KED)				333 cps
140Ce (KED)				665 cps
159Tb (KED)	100.287 %		1.3 %	1,118,745 cps
165Ho (KED)				98,959 cps
206Pb (KED)				4,224 cps
207Pb (KED)				3,571 cps
208Pb (KED)	0.041 ppb	4.139 %	13.4 %	16,640 cps
209Bi (KED)	102.844 %		2.2 %	1,025,390 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
67	21J1205-04@10	11/3/2021 9:19:13 AM	1	56	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			697 cps
13C (KED)			18,315 cps
35Cl (KED)			**13,733,277 cps**
45Sc (KED)			32,314 cps
52Cr (KED)	6.550 ppb	0.4 %	214,304 cps
53Cr (KED)			27,499 cps
60Ni (KED)	8.264 ppb	3.1 %	145,224 cps
63Cu (KED)	153.498 ppb	1.6 %	**7,183,689 cps**
65Cu (KED)			**3,648,951 cps**
66Zn (KED)	23.470 ppb	1.5 %	158,547 cps
68Zn (KED)			144,969 cps
69Ga (KED)			300,212 cps
73Ge (KED)	103.063 %	1.2 %	69,873 cps
75As (KED)	11.362 ppb	0.5 %	37,212 cps
40Ar.37Cl (KED)			765 cps
78Se (KED)	3.595 ppb	3.4 %	774 cps
82Se (KED)			338 cps
83Kr (KED)			1,327 cps
89Y (KED)			339,053 cps
95Mo (KED)	1.314 ppb	1.7 %	32,895 cps
98Mo (KED)			56,869 cps
101Ru (KED)			0 cps
103Rh (KED)	101.218 %	1.6 %	73,427 cps
105Pd (KED)			238 cps
107Ag (KED)	-0.125 ppb	2.7 %	11,125 cps
111Cd (KED)			882 cps
114Cd (KED)	0.033 ppb	15.4 %	1,008 cps
115In (KED)	101.571 %	0.8 %	232,427 cps
118Sn (KED)			303,128 cps
125Te (KED)			5 cps
139La (KED)			489,243 cps
140Ce (KED)			1,435,865 cps
159Tb (KED)	104.565 %	2.7 %	1,166,467 cps
165Ho (KED)			147,205 cps
206Pb (KED)			**3,332,671 cps**
207Pb (KED)			**2,863,414 cps**
208Pb (KED)	39.487 ppb	1.2 %	**13,298,032 cps**
209Bi (KED)	106.052 %	0.9 %	1,057,368 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
68	21J1205-05@10	11/3/2021 9:20:51 AM	1	57	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			768 cps
13C (KED)			1,640 cps
35Cl (KED)			**15,368,253 cps**
45Sc (KED)			29,126 cps
52Cr (KED)	4.448 ppb	1.4 %	149,420 cps
53Cr (KED)			19,988 cps
60Ni (KED)	3.258 ppb	1.4 %	59,207 cps
63Cu (KED)	3.242 ppb	2.1 %	160,426 cps

Category	Concentration average	Concentration RSD	Intensity average
65Cu (KED)			80,794 cps
66Zn (KED)	8.242 ppb	2.2 %	57,671 cps
68Zn (KED)			50,728 cps
69Ga (KED)			116,137 cps
73Ge (KED)	105.708 %	1.7 %	71,667 cps
75As (KED)	1.087 ppb	9.9 %	3,367 cps
40Ar.37Cl (KED)			533 cps
78Se (KED)	0.633 ppb	12.0 %	134 cps
82Se (KED)			37 cps
83Kr (KED)			1,213 cps
89Y (KED)			215,357 cps
95Mo (KED)	0.160 ppb	1.1 %	4,389 cps
98Mo (KED)			7,390 cps
101Ru (KED)			0 cps
103Rh (KED)	100.941 %	1.1 %	73,226 cps
105Pd (KED)			130 cps
107Ag (KED)	-0.212 ppb	0.5 %	2,667 cps
111Cd (KED)			1,502 cps
114Cd (KED)	0.138 ppb	1.1 %	4,150 cps
115In (KED)	103.320 %	2.3 %	236,429 cps
118Sn (KED)			8,396 cps
125Te (KED)			2 cps
139La (KED)			823,783 cps
140Ce (KED)			**2,175,125 cps**
159Tb (KED)	103.810 %	0.5 %	1,158,044 cps
165Ho (KED)			117,237 cps
206Pb (KED)			261,617 cps
207Pb (KED)			211,790 cps
208Pb (KED)	3.104 ppb	0.6 %	1,013,363 cps
209Bi (KED)	102.466 %	0.8 %	1,021,621 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
69	21J1205-10@10	11/3/2021 9:22:27 AM	1	58	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			693 cps
13C (KED)			1,645 cps
35Cl (KED)			**15,474,794 cps**
45Sc (KED)			29,025 cps
52Cr (KED)	3.762 ppb	1.8 %	128,676 cps
53Cr (KED)			17,337 cps
60Ni (KED)	2.699 ppb	2.8 %	50,022 cps
63Cu (KED)	1.487 ppb	2.2 %	77,522 cps
65Cu (KED)			39,105 cps
66Zn (KED)	8.426 ppb	2.4 %	59,952 cps
68Zn (KED)			50,432 cps
69Ga (KED)			94,900 cps
73Ge (KED)	107.536 %	2.0 %	72,906 cps
75As (KED)	1.179 ppb	6.5 %	3,736 cps
40Ar.37Cl (KED)			747 cps
78Se (KED)	0.799 ppb	14.4 %	172 cps
82Se (KED)			59 cps
83Kr (KED)			1,245 cps
89Y (KED)			224,377 cps
95Mo (KED)	0.149 ppb	3.8 %	4,101 cps
98Mo (KED)			7,343 cps
101Ru (KED)			0 cps
103Rh (KED)	99.758 %	2.6 %	72,368 cps

Category	Concentration average	Concentration RSD	Intensity average
105Pd (KED)			165 cps
107Ag (KED)	-0.217 ppb	0.7 %	2,180 cps
111Cd (KED)			805 cps
114Cd (KED)	0.063 ppb	7.8 %	1,924 cps
115In (KED)	102.996 %	0.8 %	235,688 cps
118Sn (KED)			13,035 cps
125Te (KED)			0 cps
139La (KED)			1,142,081 cps
140Ce (KED)			2,591,173 cps
159Tb (KED)	104.951 %	1.1 %	1,170,772 cps
165Ho (KED)			117,582 cps
206Pb (KED)			412,208 cps
207Pb (KED)			340,975 cps
208Pb (KED)	4.946 ppb	1.4 %	1,613,020 cps
209Bi (KED)	102.455 %	1.7 %	1,021,505 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
70	1J29004-CCV5	11/3/2021 9:24:03 AM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				655 cps
13C (KED)				1,343 cps
35Cl (KED)				12,063,827 cps
45Sc (KED)				24,199 cps
52Cr (KED)	49.803 ppb	99.606 %	2.1 %	1,549,497 cps
53Cr (KED)				195,863 cps
60Ni (KED)	49.851 ppb	99.702 %	1.3 %	831,316 cps
63Cu (KED)	50.214 ppb	100.428 %	3.4 %	2,242,497 cps
65Cu (KED)				1,175,175 cps
66Zn (KED)	49.380 ppb	98.760 %	1.6 %	317,030 cps
68Zn (KED)				264,708 cps
69Ga (KED)				266,410 cps
73Ge (KED)	98.248 %		2.9 %	66,609 cps
75As (KED)	50.059 ppb	100.118 %	2.6 %	157,197 cps
40Ar.37Cl (KED)				2,949 cps
78Se (KED)	49.034 ppb	98.069 %	3.2 %	10,138 cps
82Se (KED)				5,235 cps
83Kr (KED)				1,135 cps
89Y (KED)				161,724 cps
95Mo (KED)	49.028 ppb	98.055 %	0.5 %	1,155,991 cps
98Mo (KED)				2,004,048 cps
101Ru (KED)				0 cps
103Rh (KED)	96.474 %		0.8 %	69,986 cps
105Pd (KED)				102 cps
107Ag (KED)	49.670 ppb	99.341 %	1.2 %	4,662,595 cps
111Cd (KED)				581,435 cps
114Cd (KED)	50.284 ppb	100.568 %	2.7 %	1,431,556 cps
115In (KED)	98.852 %		2.8 %	226,205 cps
118Sn (KED)				4,056 cps
125Te (KED)				0 cps
139La (KED)				1,322 cps
140Ce (KED)				2,587 cps
159Tb (KED)	99.163 %		1.1 %	1,106,205 cps
165Ho (KED)				99,813 cps
206Pb (KED)				3,858,682 cps
207Pb (KED)				3,382,004 cps
208Pb (KED)	49.239 ppb	98.478 %	1.1 %	15,664,735 cps
209Bi (KED)	100.181 %		0.9 %	998,837 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
71	1J29004-CCB5	11/3/2021 9:25:41 AM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				653 cps
13C (KED)				1,340 cps
35Cl (KED)				11,266,279 cps
45Sc (KED)				23,606 cps
52Cr (KED)	0.029 ppb	2.919 %	6.5 %	1,441 cps
53Cr (KED)				1,128 cps
60Ni (KED)	0.029 ppb	2.923 %	2.7 %	1,210 cps
63Cu (KED)	0.055 ppb	5.520 %	3.2 %	6,902 cps
65Cu (KED)				3,509 cps
66Zn (KED)	0.045 ppb	0.448 %	22.5 %	1,085 cps
68Zn (KED)				878 cps
69Ga (KED)				37,665 cps
73Ge (KED)	96.547 %		2.0 %	65,456 cps
75As (KED)	0.081 ppb	8.052 %	138.7 %	-28 cps
40Ar.37Cl (KED)				15 cps
78Se (KED)	0.080 ppb	7.998 %	28.9 %	10 cps
82Se (KED)				-52 cps
83Kr (KED)				1,092 cps
89Y (KED)				160,956 cps
95Mo (KED)	0.074 ppb	0.007 %	5.6 %	2,157 cps
98Mo (KED)				3,669 cps
101Ru (KED)				0 cps
103Rh (KED)	98.168 %		1.7 %	71,214 cps
105Pd (KED)				87 cps
107Ag (KED)	-0.199 ppb	-19.929 %	3.5 %	3,784 cps
111Cd (KED)				383 cps
114Cd (KED)	0.031 ppb	3.120 %	6.9 %	947 cps
115In (KED)	99.320 %		0.7 %	227,277 cps
118Sn (KED)				1,473 cps
125Te (KED)				2 cps
139La (KED)				912 cps
140Ce (KED)				1,852 cps
159Tb (KED)	100.564 %		0.4 %	1,121,834 cps
165Ho (KED)				99,260 cps
206Pb (KED)				5,795 cps
207Pb (KED)				5,114 cps
208Pb (KED)	0.062 ppb	6.207 %	7.4 %	23,480 cps
209Bi (KED)	103.271 %		1.8 %	1,029,648 cps

Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673

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21J1202

8260

Data Package

Trace Analytical Laboratories, Inc.
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General Outline for Organics Data Deliverables

1) **Data Review Sheet**

2) **Manual Integration Narratives Sheet**

3) **Extraction Logs and or Balance Logs**

4) **Instrument Run Logbook----(Chronological Order)**

GC/MS Data
Surrogate Data
Method Blank Summary (VOA)
Tune Data
Calibration Verification Data
Internal Standards Data
All raw data as applicable

GC Data
Calibration Verification
Column Breakdown Data
All raw data as applicable

5) **Calibration Curves-----By Date**

Trace Analytical Laboratories, Inc. **GC/MS Data Review** Trace I.D. No. 21J1202

Analyst Review	**624.1**	**625.1**	**8260D**	**8260D****	**8270D**	**8270D****
Calibration Curve is valid			X			
Sample preparation information is correct and complete						
*BFB/DFTPP tune passes criteria						
Minimum RSD pass criteria						
80% of compounds pass 20% criteria						
Method and reagent blank frequency and QC criteria have been met						
All samples analyzed within 12-hours of the tune or method blank (EPA 624/625)						
All sample hold times are met for analysis						
Internal Standard QC criteria in control or narrated						
Surrogate recoveries in control or narrated						
All compounds are quantitated within the curve						
LCS MS/MSD are in control or qualified and narrated						
Second Source Standard within control limits						
Method, Instrument, Reagents, Standards identified						
Primary sample qualifiers have been added as needed						
Data has been entered into LIMS						
Initial CCV passes with a ±20% recovery and the 12 hour and ending CCV pass with a ±50% recovery (DOD Only)			DOD Only	DOD Only	DOD Only	DOD Only
Notations/Comments/Batch Numbers: T116242 T116290 Sign & Date			SRG 11-30-21			
Manager Review						
Appropriate SOPs have been followed						
Extraction date, analyst initials, and analysis date are correct						
Analyses match Chain-of-Custody						
Calibration data/curve are scientifically sound, appropriate, and documented						
Second Source Standard in control						
Quantitative results and detection limits reviewed						
Detection limit multiplier is correct						
QC issues explained and set to report, if necessary						
Significant figures are correct						
Quantitation report data matches LIMS data						
Extraction amount in LIMS matches Extraction Log	----		----			
Extraction hold times were met	----		----			
Analyst review has been checked						
Analysis is approved for release to reporting						
Notations/Comments: Sign & Date 11/30/21						

* Circle the tune criteria that applies ** Column for 100% review of data.

Form 10-C.2
Effective 1/11/19

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Manual Integration Narratives

(Reason and Rationale)

Narrative Number

M-01 An incorrect peak was integrated by the computer software. The analyst identified the correct peak and integrated it manually.

M-02 A high amount of baseline interference caused a poor integration. The analyst manually integrated the peak by including/excluding any additional baseline.

M-03 The integration did not begin or end at the valley point. The analyst manually integrated the peak so that the integration began or ended at the valley point.

M-04 The entire peak was not integrated. The analyst manually integrated the peak so as to include its entire area.

M-05 The reference time for the peak of interest had shifted and the peak was not integrated by the computer software. The analyst identified the shifted peak and integrated it manually.

M-06 An interfering shoulder peak was integrated initially. The analyst manually integrated to remove the interfering shoulder peak.

PREPARATION BENCH SHEET

Analysis
VOC 8260 MDEQ + List

T116242

Trace Analytical Laboratories, Inc.

Prepared using: EPA 5030C

Printed: 10/29/2021 10:49:43PM

Surrogate Solution
21A0409 8260 Internal/Surrogate Working St

Spiking Solution
21J2836 8260 WKG STD 100ug/mL

Matrix: Aqueous

Lab Number	Sample ID and Source Sample	Client	Due Date	Extract by	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
T116242-BLK1	Blank							1	
T116242-BS1	LCS						100	1	
21J1202-02 B	CL-GW-TMW-2 (4.5-9.5') I	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS
21J1202-03 B	CL-GW-TMW-2 (4.5-9.5') D	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS
21J1202-04 A	CL-QCTB	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS
21J1202-05 B	CL-GW-GCEB-01	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS
21J1202-06 B	CL-GW-TMW-3 (1-1.5') I	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS
21J1202-07 B	CL-SB-QCEB-02	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS

Trixie 10/29/21 B

Start Date/Time _____

StopDate/Time _____

Standard ID#	Description	Manufacture Lot#

Spiking Witnessed By _____ Date _____

Preparation Reviewed By _____ Date _____

Extracts Received By _____ Date _____

PREPARATION BENCH SHEET

Printed: 11/1/2021 3:28:25PM

Analysis
VOC 8260 MDEQ + List

T116290

Trace Analytical Laboratories, Inc.

Prepared using: EPA 5030C

Surrogate Solution
21A0409 8260 Internal/Surrogate Working St

Spiking Solution
21K0109 8260 WKG STD 100ug/mL

Matrix: Aqueous

Lab Number	Sample ID and Source Sample	Client	Due Date	Extract by	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
T116290-BLK1	Blank							1	
T116290-BS1	LCS						1	1	
T116290-MS1	Matrix Spike [21J1202-01]						1	1	
T116290-MSD1	Matrix Spike Dup [21J1202-01]						1	1	
21J1202-01 D	CL-GW-TMW-1 (20') I/MS/MSD	Fishbeck	11/05/21	11/11/21				1	Level IV with Forms must sequence in LIMS

Trixie 11/01/21

Start Date/Time _____

StopDate/Time _____

Standard ID#	Description	Manufacture Lot#

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

Trace Analytical Laboratories, Inc.
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21J1202

8260

Raw Data

SEQUENCE LOG INSTRUMENT: TRIXIE

Date: 10-29-21 / 10-30-21

Data Path: T102921

LIMS Batch: T116242, 243, 245 / Sequence IK01002

Tune Passes: Y or N CCV Passes: Y or N IK01004

Bromoform Test Passes: Y or N

Comments:

Analyst: GAL

Curve Date: 10-28-21

Logbook Review
Date: 11/8/21 Initials: NW

File Name	Run Method	Analytical Method 8260D	624.1	524.2	Sample ID	Dilution	Time	IS (P=Pass / F=Fail)	Surr (P=Pass / F=Fail)	pH<2 (P=Pass / F=Fail)	Additional Information
T102924	8260013	X			50ng BFB 1029		2342				
-25					CCV 1029		2341	P	P		
-26					BS 1029		017				
-27					CCB 1029		054				
-28					MB 1029		130				
-29					21J1202 - 04		206			P	
-30					21J1202 -02		242				
-31					21J1202 -03		318				
-32					21J1202 -05		355				
-33					21J1202 -06		431				
-34					21J1202 -07		507				
35					21J1205 - 09	50	544			NA	
36					21J1205 -02		621				
37					21J1206 -03		657				
38					21J1205 -04		733				
39					21J1205 -05		809				
40					21J1205 -10		846				
41					21J1205 -01		922				
42					21J1205 -01MS		958				
43					21J1205 -01MSD		1034				

AAL 11-1-21

CCV Internal Std Ranges:

Fluorobenzene: 66 627090 - 2508356

Chlorobenzene d5: 26 1529 - 1046396

1,4-Dichlorobenzene d4: 33 8800 - 135 5280

Standard ID: 21J2836

CCV: 25µL: of the above std into 50mLs DI H_2O

BS: 10µL: of the above std into 50mLs DI H_2O

Spike ID: NA

ICV: 10µL of the above std into 50mLs DI H_2O

Bromoform ID: 211406

Bromoform: 10µL of the above std into 50mLs DI H_2O

BFB ID: 21J0158B

50ng BFB: 25µL of the above std into 50mLs DI H_2O

25ng BFB: 12.5µL of the above std into 50mLs of DI H_2O

IS/Surr. ID: 214049

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K01002	Instrument:	TRIXIE
Matrix:	Aqueous	Calibration:	UNASSIGNED

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (T116242-BS1)			Lab File ID: T102926.D		Analyzed: 10/30/21 00:17			
1,2-Dichloroethane-d4	30.0	96	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	30.0	101	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	30.0	101	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	100	72 - 127	20.39		20.3900	+/-1.0	*
Blank (T116242-BLK1)			Lab File ID: T102928.D		Analyzed: 10/30/21 01:30			
1,2-Dichloroethane-d4	30.0	97	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	30.0	101	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	30.0	104	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	103	72 - 127	20.39		20.3900	+/-1.0	*
CL-QCTB (21J1202-04)			Lab File ID: T102929.D		Analyzed: 10/30/21 02:06			
1,2-Dichloroethane-d4	30.0	97	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	30.0	101	75 - 120	13.53		13.5300	+/-1.0	*
4-Bromofluorobenzene	30.0	103	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	103	72 - 127	20.4		20.4000	+/-1.0	*
CL-GW-TMW-2 (4.5-9.5') I (21J1202-02)			Lab File ID: T102930.D		Analyzed: 10/30/21 02:42			
1,2-Dichloroethane-d4	30.0	99	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	30.0	101	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	30.0	105	69 - 119	17.64		17.6400	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	105	72 - 127	20.39		20.3900	+/-1.0	*
CL-GW-TMW-2 (4.5-9.5') D (21J1202-03)			Lab File ID: T102931.D		Analyzed: 10/30/21 03:18			
1,2-Dichloroethane-d4	30.0	96	68 - 133	10.54		10.5400	+/-1.0	*
Toluene-d8	30.0	100	75 - 120	13.53		13.5300	+/-1.0	*
4-Bromofluorobenzene	30.0	104	69 - 119	17.64		17.6400	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	103	72 - 127	20.39		20.3900	+/-1.0	*
CL-GW-GCEB-01 (21J1202-05)			Lab File ID: T102932.D		Analyzed: 10/30/21 03:55			
1,2-Dichloroethane-d4	30.0	98	68 - 133	10.54		10.5400	+/-1.0	*
Toluene-d8	30.0	100	75 - 120	13.53		13.5300	+/-1.0	*
4-Bromofluorobenzene	30.0	103	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	101	72 - 127	20.39		20.3900	+/-1.0	*
CL-GW-TMW-3 (1-1.5') I (21J1202-06)			Lab File ID: T102933.D		Analyzed: 10/30/21 04:31			
1,2-Dichloroethane-d4	30.0	97	68 - 133	10.54		10.5400	+/-1.0	*
Toluene-d8	30.0	101	75 - 120	13.54		13.5400	+/-1.0	*
4-Bromofluorobenzene	30.0	103	69 - 119	17.65		17.6500	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	102	72 - 127	20.41		20.4100	+/-1.0	*

SURROGATE STANDARD RECOVERY AND RT SUMMARY
EPA 8260D

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K01002	Instrument:	TRIXIE
Matrix:	Aqueous	Calibration:	UNASSIGNED

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
CL-SB-QCEB-02 (21J1202-07)			Lab File ID: T102934.D		Analyzed: 10/30/21 05:07			
1,2-Dichloroethane-d4	30.0	97	68 - 133	10.53		10.5300	+/-1.0	*
Toluene-d8	30.0	100	75 - 120	13.52		13.5200	+/-1.0	*
4-Bromofluorobenzene	30.0	103	69 - 119	17.63		17.6300	+/-1.0	*
1,2-Dichlorobenzene-d4	30.0	103	72 - 127	20.39		20.3900	+/-1.0	*

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

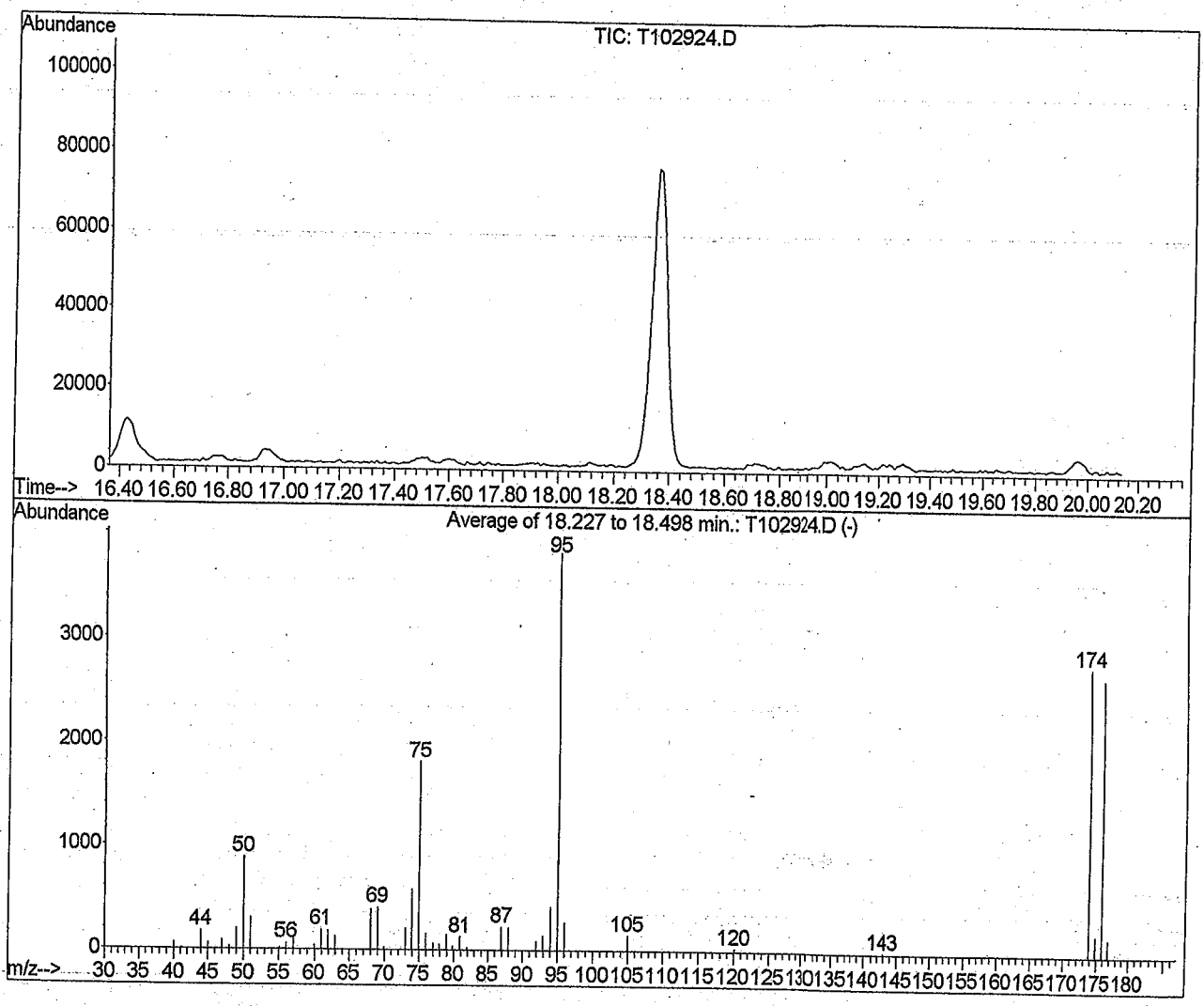
Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K01002
Instrument: TRIXIE
Matrix: Aqueous
Calibration: UNASSIGNED

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1K01002-CCV1)			Lab File ID: T102925.D			Analyzed: 10/29/21 23:41			
Fluorobenzene	1254179	11.26				50 - 200	11.2600	+/-0.50	*
Chlorobenzene-d5	523198	15.71				50 - 200	15.7100	+/-0.50	*
1,4-Dichlorobenzene-d4	677600	19.78				50 - 200	19.7800	+/-0.50	*
LCS (T116242-BS1)			Lab File ID: T102926.D			Analyzed: 10/30/21 00:17			
Fluorobenzene	1289451	11.25	1254179	11.26	103	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	520524	15.7	523198	15.71	99	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	670466	19.78	677600	19.78	99	50 - 200	0.0000	+/-0.50	
Blank (T116242-BLK1)			Lab File ID: T102928.D			Analyzed: 10/30/21 01:30			
Fluorobenzene	1309233	11.26	1254179	11.26	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	528882	15.7	523198	15.71	101	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	661710	19.78	677600	19.78	98	50 - 200	0.0000	+/-0.50	
CL-QCTB (21J1202-04)			Lab File ID: T102929.D			Analyzed: 10/30/21 02:06			
Fluorobenzene	1290803	11.26	1254179	11.26	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	520933	15.71	523198	15.71	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	658560	19.78	677600	19.78	97	50 - 200	0.0000	+/-0.50	
CL-GW-TMW-2 (4.5-9.5') I (21J1202-02)			Lab File ID: T102930.D			Analyzed: 10/30/21 02:42			
Fluorobenzene	1279334	11.26	1254179	11.26	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	519354	15.7	523198	15.71	99	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	633465	19.78	677600	19.78	93	50 - 200	0.0000	+/-0.50	
CL-GW-TMW-2 (4.5-9.5') D (21J1202-03)			Lab File ID: T102931.D			Analyzed: 10/30/21 03:18			
Fluorobenzene	1330698	11.26	1254179	11.26	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	535903	15.7	523198	15.71	102	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	670343	19.78	677600	19.78	99	50 - 200	0.0000	+/-0.50	
CL-GW-GCEB-01 (21J1202-05)			Lab File ID: T102932.D			Analyzed: 10/30/21 03:55			
Fluorobenzene	1308789	11.26	1254179	11.26	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	537785	15.7	523198	15.71	103	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	673212	19.78	677600	19.78	99	50 - 200	0.0000	+/-0.50	
CL-GW-TMW-3 (1-1.5') I (21J1202-06)			Lab File ID: T102933.D			Analyzed: 10/30/21 04:31			
Fluorobenzene	1315620	11.27	1254179	11.26	105	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	528611	15.72	523198	15.71	101	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	660612	19.8	677600	19.78	97	50 - 200	0.0200	+/-0.50	
CL-SB-QCEB-02 (21J1202-07)			Lab File ID: T102934.D			Analyzed: 10/30/21 05:07			
Fluorobenzene	1268081	11.26	1254179	11.26	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	519394	15.7	523198	15.71	99	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	643500	19.78	677600	19.78	95	50 - 200	0.0000	+/-0.50	

BFB

Data File : C:\HPCHEM\1\DATA\T102921\T102924.D
Acq On : 29 Oct 2021 11:12 pm
Sample : 50NG BFB1029B
Misc :
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST

Vial: 24
Operator: BAG
Inst : Trixie
Multiplr: 1.00



Spectrum Information: Average of 18.227 to 18.498 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.1	885	PASS
75	95	30	60	47.2	1812	PASS
95	174	50	200	138.1	3836	PASS
96	95	5	9	7.0	267	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	72.4	2778	PASS
175	174	5	9	7.2	199	PASS
176	174	95	105	96.0	2668	PASS
177	176	5	10	6.2	166	PASS

T102924.D 8260D13.M Mon Nov 01 13:41:14 2021

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1254179	30.00	ug/L	0.00 99.00%
48) Chlorobenzene-d5	15.71	82	523198	30.00	ug/L	0.00 98.64%
70) 1,4-Dichlorobenzene-d4	19.78	150	677600	30.00	ug/L	0.00 100.13%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	447806	29.74	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.13%			
50) Toluene-d8	13.53	98	1125050	30.51	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.70%			
71) 4-Bromofluorobenzene	17.63	174	398795	29.97	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.90%			
84) 1,2-Dichlorobenzene-d4	20.40	115	249218	29.21	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 97.37%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.11	85	108702	48.13	ug/L	98
3) Chloromethane	6.34	50	141022	49.18	ug/L	100
4) Vinyl chloride	6.49	62	100761	48.16	ug/L	99
5) Bromomethane	6.94	94	77848	48.98	ug/L #	98
6) Chloroethane	7.05	64	83592	49.56	ug/L	96
7) Acrolein	7.47	56	10885	48.17	ug/L	99
8) Trichlorofluoromethane	7.53	101	118341	50.13	ug/L	99
9) Acetone	7.55	43	51659	51.20	ug/L	92
10) Diethyl ether	7.74	59	92478	48.86	ug/L	97
11) Acrylonitrile	8.02	53	59243	52.21	ug/L	97
12) t-Butanol	8.00	59	61920	218.26	ug/L #	90
13) 1,1-Dichloroethene	8.06	61	149152	50.66	ug/L	97
14) MethylAcetate	8.09	43	140194	47.40	ug/L #	96
15) Freon 113	8.13	101	80357	50.07	ug/L	95
16) Iodomethane	8.19	142	82367	49.69	ug/L	85
17) Methylene Chloride	8.26	84	110193	48.65	ug/L	93
18) Carbon disulfide	8.55	76	293136	50.51	ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	148916	49.88	ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.84	73	245183	46.08	ug/L	95
21) Vinyl acetate	8.99	43	332942	50.30	ug/L	98
22) 1,1-Dichloroethane	9.07	63	191679	50.09	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
23)	2-Butanone (MEK)	9.32	43	80630	48.32	ug/L		97
24)	Diisopropyl ether	9.42	45	444642	49.27	ug/L		97
25)	cis-1,2-Dichloroethene	9.69	61	153744	49.55	ug/L		95
26)	2,2-Dichloropropane	9.87	77	92114	40.44	ug/L		100
27)	t-Butyl ethyl ether	9.84	59	326404	48.67	ug/L		99
28)	Chloroform	9.90	83	161698	49.85	ug/L		98
29)	Bromochloromethane	9.92	130	65365	52.08	ug/L		76
30)	Tetrahydrofuran	10.17	72	16104	49.42	ug/L		92
32)	1,1,1-Trichloroethane	10.63	97	114670	49.56	ug/L		99
33)	1,2-Dichloroethane	10.63	62	139777	48.60	ug/L		98
34)	1,1-Dichloropropene	10.84	75	123885	49.72	ug/L		96
35)	Benzene	11.03	78	362181	49.23	ug/L		98
36)	Carbon tetrachloride	11.07	117	88093	50.07	ug/L		98
37)	Cyclohexane	11.09	84	128648	49.92	ug/L		93
38)	t-Amyl methyl ether	11.21	43	114537	47.38	ug/L		91
39)	Heptane	11.67	43	105014	42.01	ug/L		96
40)	1,2-Dichloropropane	11.85	63	116316	49.15	ug/L		95
41)	Trichloroethene	11.89	130	82867	51.67	ug/L	#	86
42)	Dibromomethane	11.96	93	77188	52.88	ug/L	#	85
43)	Bromodichloromethane	12.05	83	117939	50.31	ug/L		99
44)	2-Chloroethyl vinyl ether	12.41	63	17054	64.96	ug/L		98
45)	Methylcyclohexane	12.58	55	120979	48.09	ug/L		99
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	171756	49.11	ug/L		95
47)	cis-1,3-Dichloropropene	12.79	75	157877	48.13	ug/L		97
49)	trans-1,3-Dichloropropene	13.37	75	129379	48.26	ug/L		95
51)	1,1,2-Trichloroethane	13.62	83	80616	48.22	ug/L		95
52)	Toluene	13.64	91	350302	50.09	ug/L		98
53)	2-Hexanone	13.86	43	113406	49.53	ug/L	#	98
54)	1,3-Dichloropropane	13.95	76	165207	50.17	ug/L		92
55)	Butyl acetate	14.34	43	235887	49.44	ug/L		93
56)	Dibromochloromethane	14.41	129	84065	50.12	ug/L	#	96
57)	1,2-Dibromoethane	14.74	107	94837	50.14	ug/L	#	97
58)	Tetrachloroethene	14.82	131	53795	51.27	ug/L	#	91
59)	Chlorobenzene	15.76	112	220354	50.42	ug/L	#	87
60)	1,1,1,2-Tetrachloroethane	15.76	131	70244	50.83	ug/L	#	87
61)	Ethylbenzene	16.04	91	373531	50.80	ug/L		96
62)	m,p-Xylenes	16.22	106	274320	103.68	ug/L		86
63)	Styrene	16.78	104	227089	52.92	ug/L		91
64)	Bromoform	16.83	173	52769	50.94	ug/L		100
65)	o-Xylene	16.88	106	133475	52.65	ug/L		82
66)	1,1,2,2-Tetrachloroethane	17.18	83	130643	50.26	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

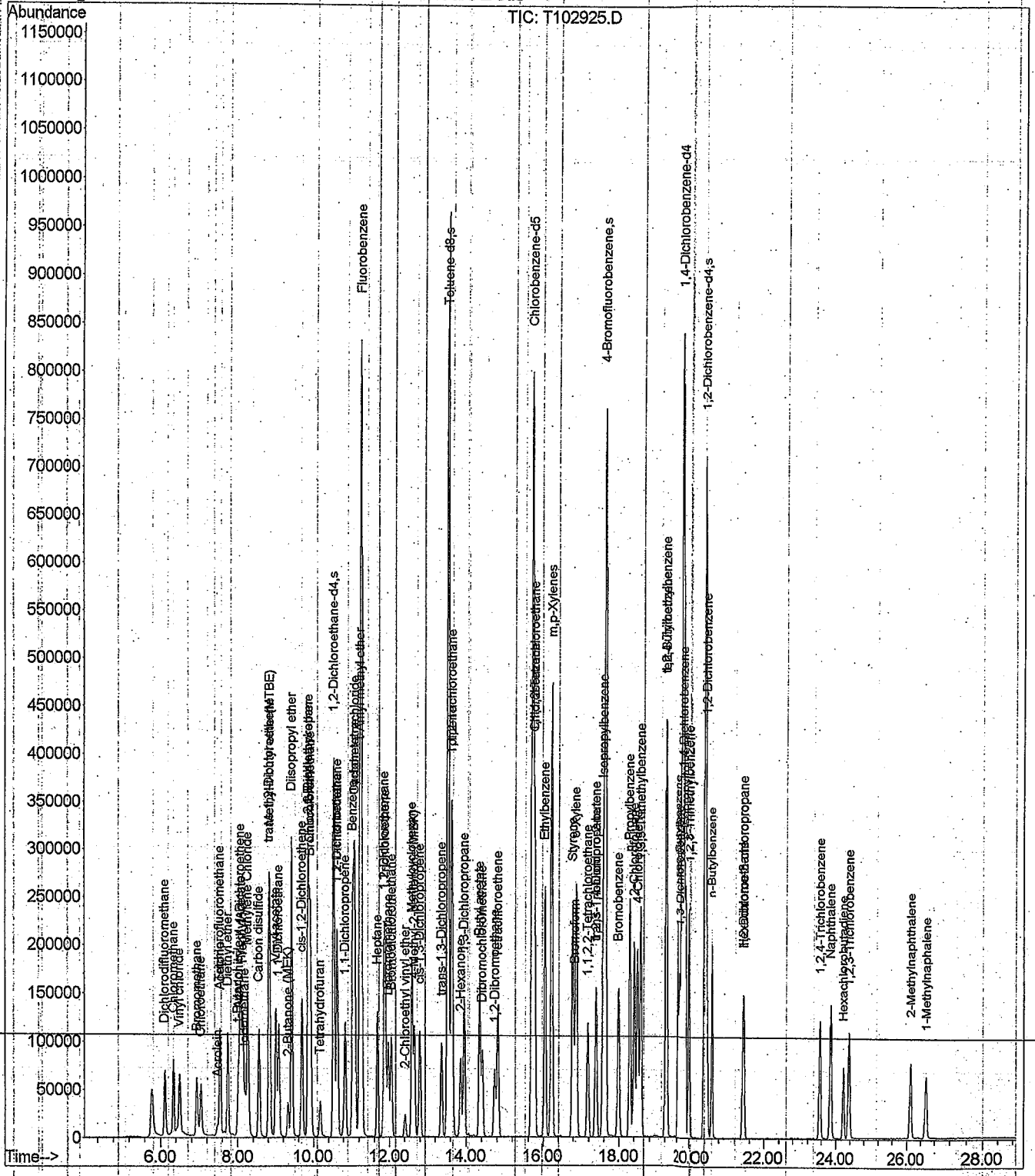
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.39	110	31710	51.77 ug/L	98
68)	trans-1,4-Dichloro-2-buten	17.40	53	28903	46.60 ug/L #	96
69)	Isopropylbenzene	17.57	105	325030	50.57 ug/L	95
72)	Bromobenzene	17.98	158	79768	50.62 ug/L	88
73)	n-Propylbenzene	18.28	91	402794	49.11 ug/L	94
74)	2-Chlorotoluene	18.40	91	225207	48.29 ug/L #	86
75)	4-Chlorotoluene	18.49	91	208127	45.77 ug/L #	82
76)	1,3,5-Trimethylbenzene	18.57	105	255734	50.86 ug/L	91
77)	tert-Butylbenzene	19.23	91	174757	50.06 ug/L #	81
78)	1,2,4-Trimethylbenzene	19.24	120	135623	51.04 ug/L	86
79)	sec-Butylbenzene	19.64	105	303658	50.32 ug/L	96
80)	1,3-Dichlorobenzene	19.70	146	134984	48.75 ug/L	93
81)	1,4-Dichlorobenzene	19.83	146	139638	49.39 ug/L #	63
82)	p-Isopropyltoluene	19.88	119	244497	50.78 ug/L	94
83)	1,2,3-Trimethylbenzene	20.00	105	268966	50.97 ug/L	93
85)	1,2-Dichlorobenzene	20.44	146	131489	48.58 ug/L #	95
86)	n-Butylbenzene	20.59	91	237576	48.57 ug/L	97
87)	Hexachloroethane	21.44	117	51657	49.16 ug/L	90
88)	1,2-Dibromo-3-chloropropan	21.44	155	14812	49.44 ug/L	88
89)	1,2,4-Trichlorobenzene	23.55	180	77352	50.91 ug/L #	87
90)	Naphthalene	23.84	128	220069	51.42 ug/L #	95
91)	Hexachlorobutadiene	24.22	225	26995	49.07 ug/L	92
92)	1,2,3-Trichlorobenzene	24.37	180	71402	51.50 ug/L	92
93)	2-Methylnaphthalene	26.11	142	83192	53.97 ug/L	95
94)	1-Methylnaphalene	26.55	142	71488	54.17 ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene	1.000	1.000	0.0	99	0.00
2		Dichlorodifluoromethane	0.054	0.052	3.7	92	0.00
3		Chloromethane	0.077	0.067	13.0	100	0.00
4		Vinyl chloride	0.050	0.048	4.0	103	0.00
5		Bromomethane	0.040	0.037	7.5	107	0.00
6		Chloroethane	0.040	0.040	0.0	100	0.00
7		Acrolein	0.005	0.005	0.0	97	0.00
8		Trichlorofluoromethane	0.056	0.057	-1.8	96	0.00
9		Acetone	0.024	0.025	-4.2	105	0.00
10		Diethyl ether	0.045	0.044	2.2	90	0.00
11		Acrylonitrile	0.027	0.028	-3.7	99	0.00
12		t-Butanol	0.007	0.006	14.3	83	0.00
13		1,1-Dichloroethene	0.070	0.071	-1.4	97	0.00
14		MethylAcetate	0.071	0.067	5.6	95	0.00
15		Freon 113	0.038	0.038	0.0	96	0.00
16		Iodomethane	0.030	0.039	-30.0#	112	0.00
17		Methylene Chloride	0.054	0.053	1.9	101	0.00
18		Carbon disulfide	0.139	0.140	-0.7	98	0.00
19		trans-1,2-Dichloroethene	0.071	0.071	0.0	96	0.00
20		Methyl-t-butyl ether(MTBE)	0.127	0.117	7.9	87	0.00
21		Vinyl acetate	0.158	0.159	-0.6	100	0.00
22		1,1-Dichloroethane	0.092	0.092	0.0	98	0.00
23		2-Butanone (MEK)	0.040	0.039	2.5	93	0.00
24		Diisopropyl ether	0.216	0.213	1.4	95	0.00
25		cis-1,2-Dichloroethene	0.074	0.074	0.0	97	0.00
26		2,2-Dichloropropane	0.054	0.044	18.5	79	0.00
27		t-Butyl ethyl ether	0.160	0.156	2.5	91	0.00
28		Chloroform	0.078	0.077	1.3	97	0.00
29		Bromochloromethane	0.030	0.031	-3.3	100	0.00
30		Tetrahydrofuran	0.008	0.008	0.0	98	0.00
31	s	1,2-Dichloroethane-d4	0.360	0.357	0.8	97	0.00
32		1,1,1-Trichloroethane	0.055	0.055	0.0	95	0.00
33		1,2-Dichloroethane	0.069	0.067	2.9	96	0.00
34		1,1-Dichloropropene	0.060	0.059	1.7	95	0.00
35		Benzene	0.176	0.173	1.7	96	0.00
36		Carbon tetrachloride	0.042	0.042	0.0	95	0.00
37		Cyclohexane	0.062	0.062	0.0	97	0.00
38		t-Amyl methyl ether	0.058	0.055	5.2	93	0.00
39		Heptane	0.060	0.050	16.7	84	0.00
40		1,2-Dichloropropane	0.057	0.056	1.8	99	0.00
41		Trichloroethene	0.038	0.040	-5.3	99	0.00

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42		Dibromomethane	0.035	0.037	-5.7	98	0.00
43		Bromodichloromethane	0.056	0.056	0.0	95	0.00
44		2-Chloroethyl vinyl ether	0.005	0.008	-60.0#	125	0.00
45		Methylcyclohexane	0.060	0.058	3.3	93	0.00
46		4-Methyl-2-pentanone(MIBK)	0.084	0.082	2.4	95	0.00
47		cis-1,3-Dichloropropene	0.078	0.076	2.6	92	0.00
48		Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
49		trans-1,3-Dichloropropene	0.154	0.148	3.9	92	0.00
50	s	Toluene-d8	2.114	2.150	-1.7	100	0.00
51		1,1,2-Trichloroethane	0.096	0.092	4.2	98	0.00
52		Toluene	0.401	0.402	-0.2	98	0.00
53		2-Hexanone	0.131	0.130	0.8	96	0.00
54		1,3-Dichloropropane	0.189	0.189	0.0	97	0.00
55		Butyl acetate	0.274	0.271	1.1	95	0.00
56		Dibromochloromethane	0.096	0.096	0.0	95	0.00
57		1,2-Dibromoethane	0.108	0.109	-0.9	97	0.00
58		Tetrachloroethene	0.060	0.062	-3.3	98	0.00
59		Chlorobenzene	0.251	0.253	-0.8	99	0.00
60		1,1,1,2-Tetrachloroethane	0.079	0.081	-2.5	97	0.00
61		Ethylbenzene	0.422	0.428	-1.4	97	0.00
62		m,p-Xylenes	0.152	0.157	-3.3	97	0.00
63		Styrene	0.246	0.260	-5.7	98	0.00
64		Bromoform	0.059	0.061	-3.4	94	0.00
65		o-Xylene	0.145	0.153	-5.5	99	0.00
66		1,1,2,2-Tetrachloroethane	0.149	0.150	-0.7	98	0.00
67		1,2,3-Trichloropropane	0.035	0.036	-2.9	99	0.00
68		trans-1,4-Dichloro-2-butene	0.036	0.033	8.3	89	0.00
69		Isopropylbenzene	0.369	0.373	-1.1	97	0.00
70		1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00
71	s	4-Bromofluorobenzene	0.589	0.589	0.0	101	0.00
72		Bromobenzene	0.070	0.071	-1.4	100	0.00
73		n-Propylbenzene	0.363	0.357	1.7	96	0.00
74		2-Chlorotoluene	0.206	0.199	3.4	90	0.00
75		4-Chlorotoluene	0.201	0.184	8.5	80	0.00
76		1,3,5-Trimethylbenzene	0.223	0.226	-1.3	97	0.00
77		tert-Butylbenzene	0.155	0.155	0.0	95	0.00
78		1,2,4-Trimethylbenzene	0.118	0.120	-1.7	96	0.00
79		sec-Butylbenzene	0.267	0.269	-0.7	96	0.00
80		1,3-Dichlorobenzene	0.123	0.120	2.4	95	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102921\T102925.D Vial: 25
Acq On : 29 Oct 2021 11:41 pm Operator: BAG
Sample : CCV1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81		1,4-Dichlorobenzene	0.125	0.124	0.8	97	0.00
82		p-Isopropyltoluene	0.213	0.216	-1.4	97	0.00
83		1,2,3-Trimethylbenzene	0.234	0.238	-1.7	96	0.00
84	s	1,2-Dichlorobenzene-d4	0.378	0.368	2.6	98	0.00
85		1,2-Dichlorobenzene	0.120	0.116	3.3	97	0.00
86		n-Butylbenzene	0.217	0.210	3.2	93	0.00
87		Hexachloroethane	0.047	0.046	2.1	92	0.00
88		1,2-Dibromo-3-chloropropane	0.013	0.013	0.0	96	0.00
89		1,2,4-Trichlorobenzene	0.067	0.068	-1.5	99	0.00
90		Naphthalene	0.189	0.195	-3.2	98	0.00
91		Hexachlorobutadiene	0.024	0.024	0.0	94	0.00
92		1,2,3-Trichlorobenzene	0.061	0.063	-3.3	100	0.00
93		2-Methylnaphthalene	0.068	0.074	-8.8	97	0.00
94		1-Methylnaphalene	0.058	0.063	-8.6	97	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.25	96	1289451	30.00 ug/L	-0.01 101.78%
48) Chlorobenzene-d5	15.70	82	520524	30.00 ug/L	0.00 98.14%
70) 1,4-Dichlorobenzene-d4	19.78	150	670466	30.00 ug/L	0.00 99.08%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	445315	28.76 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 95.87%		
50) Toluene-d8	13.52	98	1107939	30.20 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.67%		
71) 4-Bromofluorobenzene	17.63	174	399467	30.34 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 101.13%		
84) 1,2-Dichlorobenzene-d4	20.39	115	253919	30.08 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 100.27%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	6.10	85	42287	18.21 ug/L	99
3) Chloromethane	6.34	50	57269	19.43 ug/L	99
4) Vinyl chloride	6.48	62	41580	19.33 ug/L	94
5) Bromomethane	6.94	94	32790	21.54 ug/L #	97
6) Chloroethane	7.04	64	33744	19.46 ug/L	96
7) Acrolein	7.47	56	4547	19.57 ug/L	90
8) Trichlorofluoromethane	7.53	101	47612	19.62 ug/L	99
9) Acetone	7.55	43	22092	21.30 ug/L	93
10) Diethyl ether	7.73	59	38782	19.93 ug/L	96
11) Acrylonitrile	8.02	53	24142	20.69 ug/L	97
12) t-Butanol	8.00	59	30883	105.88 ug/L #	91
13) 1,1-Dichloroethene	8.06	61	60450	19.97 ug/L	97
14) MethylAcetate	8.09	43	61040	20.07 ug/L #	98
15) Freon 113	8.13	101	32738	19.84 ug/L	95
16) Iodomethane	8.18	142	25895	20.66 ug/L #	83
17) Methylene Chloride	8.25	84	44633	19.17 ug/L	93
18) Carbon disulfide	8.55	76	116075	19.45 ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	60148	19.60 ug/L	95
20) Methyl-t-butyl ether(MTBE)	8.83	73	110386	20.18 ug/L	95
21) Vinyl acetate	9.00	43	134948	19.83 ug/L	98
22) 1,1-Dichloroethane	9.07	63	77144	19.61 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.33	43	33568	19.57 ug/L	96
24)	Diisopropyl ether	9.42	45	181611	19.57 ug/L	98
25)	cis-1,2-Dichloroethene	9.68	61	61355	19.23 ug/L	94
26)	2,2-Dichloropropane	9.87	77	38650	16.51 ug/L	98
27)	t-Butyl ethyl ether	9.85	59	137303	19.91 ug/L	99
28)	Chloroform	9.90	83	66168	19.84 ug/L	97
29)	Bromochloromethane	9.92	130	26394	20.46 ug/L	77
30)	Tetrahydrofuran	10.17	72	6781	20.24 ug/L	87
32)	1,1,1-Trichloroethane	10.62	97	46704	19.63 ug/L	98
33)	1,2-Dichloroethane	10.63	62	57039	19.29 ug/L	99
34)	1,1-Dichloropropene	10.83	75	50862	19.85 ug/L	96
35)	Benzene	11.04	78	148409	19.62 ug/L	98
36)	Carbon tetrachloride	11.08	117	35131	19.42 ug/L	97
37)	Cyclohexane	11.09	84	52204	19.70 ug/L	94
38)	t-Amyl methyl ether	11.21	43	48013	19.32 ug/L #	81
39)	Heptane	11.68	43	40958	15.93 ug/L	95
40)	1,2-Dichloropropane	11.85	63	47913	19.69 ug/L	94
41)	Trichloroethene	11.88	130	33906	20.56 ug/L #	88
42)	Dibromomethane	11.96	93	31811	21.20 ug/L	86
43)	Bromodichloromethane	12.04	83	46772	19.41 ug/L	99
44)	2-Chloroethyl vinyl ether	12.40	63	5080	21.79 ug/L	99
45)	Methylcyclohexane	12.59	55	49738	19.23 ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	70083	19.49 ug/L	95
47)	cis-1,3-Dichloropropene	12.79	75	63614	18.86 ug/L	97
49)	trans-1,3-Dichloropropene	13.36	75	51989	19.49 ug/L #	95
51)	1,1,2-Trichloroethane	13.62	83	32750	19.69 ug/L	95
52)	Toluene	13.64	91	142516	20.48 ug/L	98
53)	2-Hexanone	13.85	43	46630	20.47 ug/L #	96
54)	1,3-Dichloropropane	13.95	76	67316	20.55 ug/L	92
55)	Butyl acetate	14.35	43	95574	20.14 ug/L	93
56)	Dibromochloromethane	14.41	129	33854	20.29 ug/L #	95
57)	1,2-Dibromoethane	14.73	107	38732	20.58 ug/L #	97
58)	Tetrachloroethene	14.81	131	22169	21.24 ug/L #	90
59)	Chlorobenzene	15.76	112	90242	20.75 ug/L	93
60)	1,1,1,2-Tetrachloroethane	15.77	131	28307	20.59 ug/L #	86
61)	Ethylbenzene	16.04	91	151329	20.69 ug/L	95
62)	m,p-Xylenes	16.21	106	111200	42.25 ug/L	86
63)	Styrene	16.77	104	90560	21.21 ug/L	91
64)	Bromoform	16.83	173	20837	20.22 ug/L	99
65)	o-Xylene	16.87	106	53474	21.20 ug/L	84
66)	1,1,2,2-Tetrachloroethane	17.18	83	54176	20.95 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

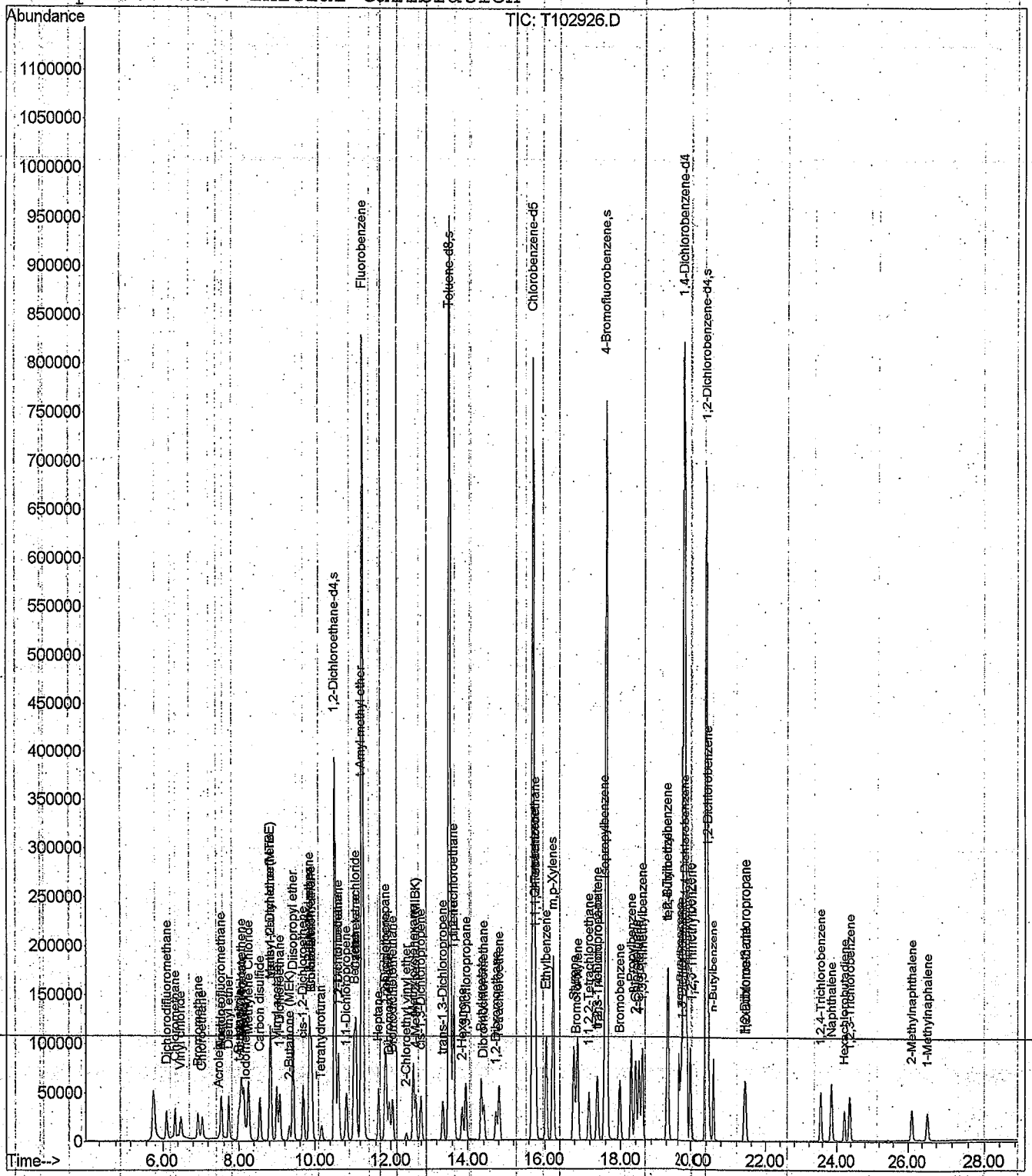
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
67)	1,2,3-Trichloropropane	17.39	110	13316	21.85 ug/L		95
68)	trans-1,4-Dichloro-2-buten	17.39	53	11688	18.94 ug/L		97
69)	Isopropylbenzene	17.58	105	130635	20.43 ug/L		95
72)	Bromobenzene	17.98	158	32344	20.74 ug/L		88
73)	n-Propylbenzene	18.28	91	163648	20.17 ug/L		94
74)	2-Chlorotoluene	18.40	91	90501	19.61 ug/L	#	86
75)	4-Chlorotoluene	18.49	91	86741	19.28 ug/L	#	82
76)	1,3,5-Trimethylbenzene	18.57	105	101801	20.46 ug/L		91
77)	tert-Butylbenzene	19.22	91	70361	20.37 ug/L	#	80
78)	1,2,4-Trimethylbenzene	19.24	120	55009	20.92 ug/L		85
79)	sec-Butylbenzene	19.64	105	122184	20.46 ug/L		96
80)	1,3-Dichlorobenzene	19.71	146	57119	20.85 ug/L	#	89
81)	1,4-Dichlorobenzene	19.83	146	58411	20.88 ug/L	#	66
82)	p-Isopropyltoluene	19.87	119	98927	20.77 ug/L		95
83)	1,2,3-Trimethylbenzene	20.00	105	110349	21.13 ug/L		93
85)	1,2-Dichlorobenzene	20.44	146	54931	20.51 ug/L	#	96
86)	n-Butylbenzene	20.60	91	97024	20.05 ug/L		97
87)	Hexachloroethane	21.45	117	20022	19.26 ug/L		86
88)	1,2-Dibromo-3-chloropropan	21.45	155	6140	20.71 ug/L		89
89)	1,2,4-Trichlorobenzene	23.55	180	32090	21.34 ug/L	#	87
90)	Naphthalene	23.85	128	94433	22.30 ug/L	#	94
91)	Hexachlorobutadiene	24.22	225	11796	21.67 ug/L		91
92)	1,2,3-Trichlorobenzene	24.38	180	30126	21.96 ug/L		93
93)	2-Methylnaphthalene	26.11	142	34477	22.60 ug/L	#	95
94)	1-Methylnaphalene	26.55	142	30637	23.46 ug/L	#	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102926.D Vial: 26
Acq On : 30 Oct 2021 12:17 am Operator: BAG
Sample : BS1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1309233	30.00 ug/L	0.00 103.34%
48) Chlorobenzene-d5	15.70	82	528882	30.00 ug/L	0.00 99.72%
70) 1,4-Dichlorobenzene-d4	19.78	150	661710	30.00 ug/L	0.00 97.78%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	456233	29.02 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.73%		
50) Toluene-d8	13.52	98	1133647	30.41 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.37%		
71) 4-Bromofluorobenzene	17.63	174	405816	31.23 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 104.10%		
84) 1,2-Dichlorobenzene-d4	20.39	115	256782	30.82 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.35	50	636	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.95	94	680	2.88 ug/L #	57
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.54	43	467	0.44 ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.10	43	286	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	857	N.D.	
18) Carbon disulfide	8.55	76	1328	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.41	43	392	N.D.	
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.56	62	77	N.D.	
34)	1,1-Dichloropropene	10.84	75	130	N.D.	
35)	Benzene	11.04	78	253	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	11.09	84	273	N.D.	
38)	t-Amyl methyl ether	11.25	43	395	N.D.	
39)	Heptane	11.68	43	580	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.60	55	463	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.53	75	317	N.D.	
51)	1,1,2-Trichloroethane	13.60	83	124	N.D.	
52)	Toluene	13.64	91	521	N.D.	
53)	2-Hexanone	13.52	43	7458	3.22 ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	15.76	112	409	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	1072	N.D.	
62)	m,p-Xylenes	16.21	106	640	N.D.	
63)	Styrene	16.77	104	366	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	16.87	106	127	N.D.	
66)	1,1,2,2-Tetrachloroethane	17.19	83	68	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

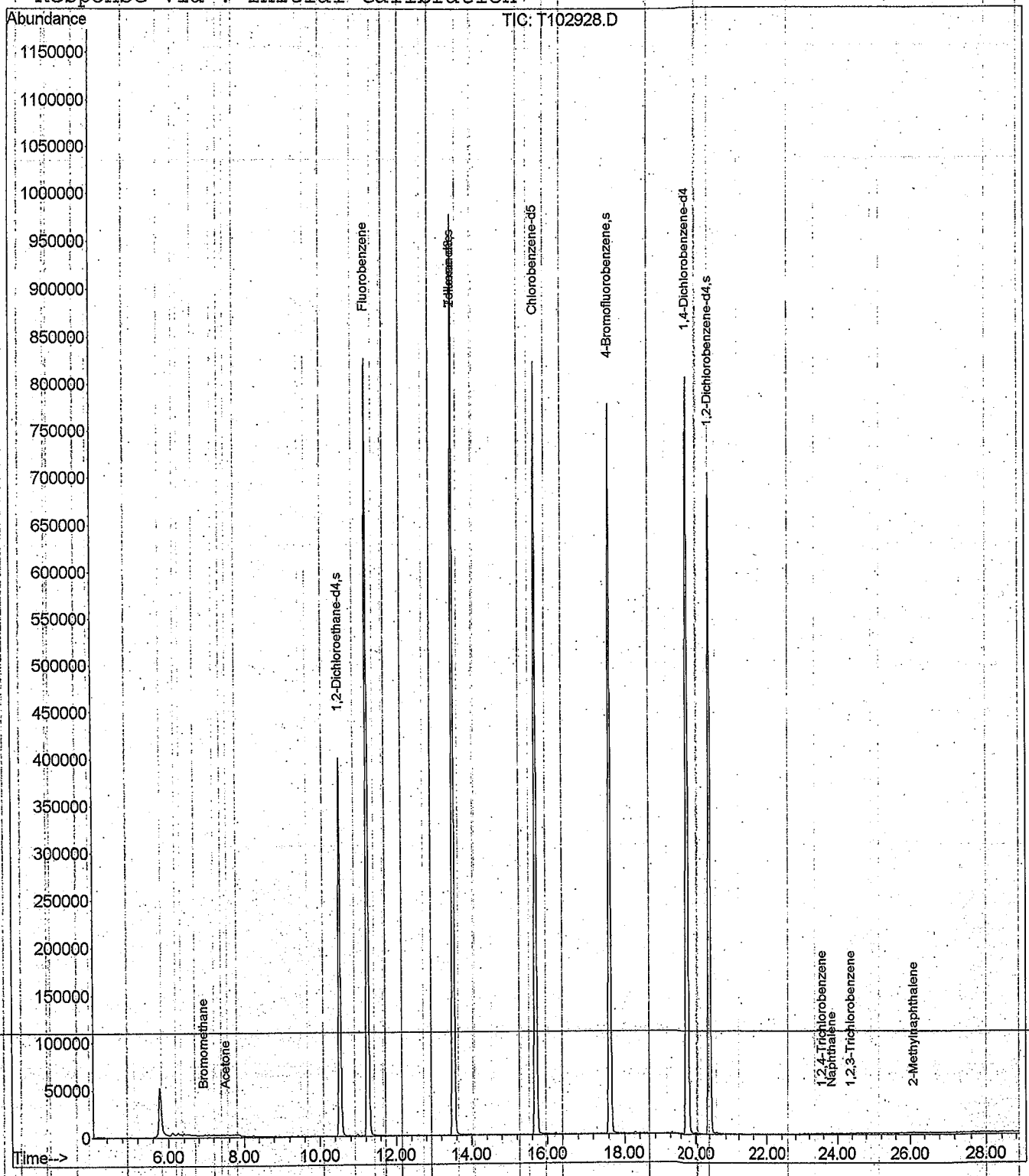
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	17.64	110	60	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	1811	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.29	91	1601	N.D.	
74)	2-Chlorotoluene	18.39	91	926	N.D.	
75)	4-Chlorotoluene	18.49	91	1110	N.D.	
76)	1,3,5-Trimethylbenzene	18.56	105	831	N.D.	
77)	tert-Butylbenzene	19.22	91	581	N.D.	
78)	1,2,4-Trimethylbenzene	19.23	120	391	N.D.	
79)	sec-Butylbenzene	19.65	105	1259	N.D.	
80)	1,3-Dichlorobenzene	19.71	146	654	N.D.	
81)	1,4-Dichlorobenzene	19.83	146	796	N.D.	
82)	p-Isopropyltoluene	19.87	119	1057	N.D.	
83)	1,2,3-Trimethylbenzene	20.00	105	951	N.D.	
85)	1,2-Dichlorobenzene	20.44	146	816	N.D.	
86)	n-Butylbenzene	20.61	91	1370	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	658	0.44 ug/L #	37
90)	Naphthalene	23.85	128	1871	0.45 ug/L #	68
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.38	180	566	0.42 ug/L #	42
93)	2-Methylnaphthalene	26.10	142	682	0.45 ug/L #	77
94)	1-Methylnaphalene	26.56	142	515	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102928.D Vial: 28
Acq On : 30 Oct 2021 1:30 am Operator: BAG
Sample : MB1029B Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102929.D Vial: 29
Acq On : 30 Oct 2021 2:06 am Operator: BAG
Sample : 21J1202-04 Inst : Trixie
Misc : Con. A Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1290803	30.00	ug/L	0.00
48) Chlorobenzene-d5	15.71	82	520933	30.00	ug/L	101.89% 0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	658560	30.00	ug/L	98.22% 0.00
						97.32%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	449240	28.98	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.60%			
50) Toluene-d8	13.53	98	1111646	30.28	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.93%			
71) 4-Bromofluorobenzene	17.63	174	399052	30.86	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.87%			
84) 1,2-Dichlorobenzene-d4	20.40	115	255756	30.84	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.33	50	804	N.D.		
4) Vinyl chloride	0.00	62	0	N.D.		
5) Bromomethane	6.98	94	347	~~2.70~~	ug/L #	12
6) Chloroethane	7.04	64	125	N.D.		
7) Acrolein	0.00	56	0	N.D.		
8) Trichlorofluoromethane	0.00	101	0	N.D.		
9) Acetone	7.54	43	3299	3.18	ug/L #	77
10) Diethyl ether	0.00	59	0	N.D.		
11) Acrylonitrile	0.00	53	0	N.D.		
12) t-Butanol	0.00	59	0	N.D.		
13) 1,1-Dichloroethene	0.00	61	0	N.D.		
14) MethylAcetate	8.10	43	127	N.D.		
15) Freon 113	0.00	101	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Methylene Chloride	8.26	84	799	N.D.		
18) Carbon disulfide	8.55	76	827	N.D.		
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.		
21) Vinyl acetate	0.00	43	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102929.D Vial: 29
Acq On : 30 Oct 2021 2:06 am Operator: BAG
Sample : 21J1202-04 Inst : Trixie
Misc : Con. A Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.42	43	343	N.D.	
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.56	62	77	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.03	78	132	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	11.09	84	63	N.D.	
38)	t-Amyl methyl ether	11.26	43	456	N.D.	
39)	Heptane	11.67	43	560	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.58	55	282	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.53	75	290	N.D.	
51)	1,1,2-Trichloroethane	13.53	83	1015	0.61 ug/L #	1
52)	Toluene	13.64	91	209	N.D.	
53)	2-Hexanone	13.53	43	7306	3.20 ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	15.76	112	248	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	622	N.D.	
62)	m,p-Xylenes	16.22	106	391	N.D.	
63)	Styrene	16.78	104	60	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102929.D Vial: 29
Acq On : 30 Oct 2021 2:06 am Operator: BAG
Sample : 21J1202-04 Inst : Trixie
Misc : Con. A Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

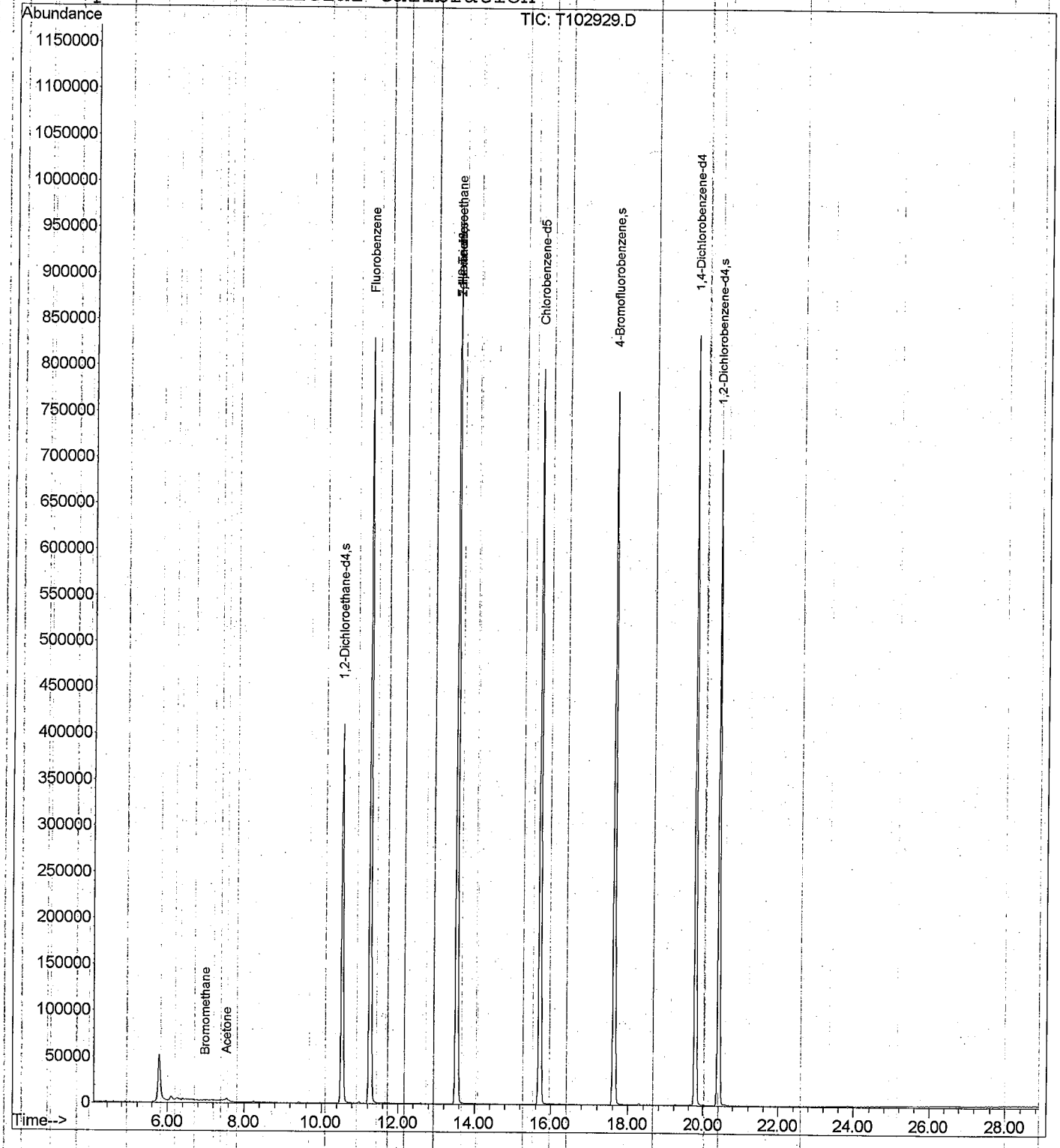
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	859	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	1331	N.D.	
74)	2-Chlorotoluene	18.40	91	605	N.D.	
75)	4-Chlorotoluene	18.50	91	742	N.D.	
76)	1,3,5-Trimethylbenzene	18.57	105	590	N.D.	
77)	tert-Butylbenzene	19.23	91	351	N.D.	
78)	1,2,4-Trimethylbenzene	19.24	120	248	N.D.	
79)	sec-Butylbenzene	19.64	105	980	N.D.	
80)	1,3-Dichlorobenzene	19.71	146	338	N.D.	
81)	1,4-Dichlorobenzene	19.83	146	546	N.D.	
82)	p-Isopropyltoluene	19.87	119	828	N.D.	
83)	1,2,3-Trimethylbenzene	20.00	105	566	N.D.	
85)	1,2-Dichlorobenzene	20.45	146	607	N.D.	
86)	n-Butylbenzene	20.59	91	1066	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	356	N.D.	
90)	Naphthalene	23.84	128	1298	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.37	180	324	N.D.	
93)	2-Methylnaphthalene	26.10	142	320	N.D.	
94)	1-Methylnaphalene	26.55	142	287	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102929.D Vial: 29
Acq On : 30 Oct 2021 2:06 am Operator: BAG
Sample : 21J1202-04 Inst : Trixie
Misc : Con. A Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102930.D Vial: 30
Acq On : 30 Oct 2021 2:42 am Operator: BAG
Sample : 21J1202-02 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1279334	30.00 ug/L	0.00 100.98%
48) Chlorobenzene-d5	15.70	82	519354	30.00 ug/L	0.00 97.92%
70) 1,4-Dichlorobenzene-d4	19.78	150	633465	30.00 ug/L	0.00 93.61%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	456456	29.71 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.03%		
50) Toluene-d8	13.52	98	1108750	30.29 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.97%		
71) 4-Bromofluorobenzene	17.64	174	392137	31.53 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 105.10%		
84) 1,2-Dichlorobenzene-d4	20.39	115	251245	31.50 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 105.00%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.35	50	1501	0.52 ug/L #	49
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.97	94	124	~~2.57~~ ug/L #	60
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.55	43	7654	7.44 ug/L	90
10) Diethyl ether	7.56	59	60	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.09	43	214	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.26	84	356	N.D.	
18) Carbon disulfide	8.54	76	1463	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	8.81	43	145	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102930.D Vial: 30
Acq On : 30 Oct 2021 2:42 am Operator: BAG
Sample : 21J1202-02 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.33	43	2835	1.67 ug/L #	82
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	9.69	61	225	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.55	62	99	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.04	78	655	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	11.09	84	585	N.D.	
38)	t-Amyl methyl ether	11.24	43	456	N.D.	
39)	Heptane	11.68	43	441	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.59	55	548	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	229	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.53	75	273	N.D.	
51)	1,1,2-Trichloroethane	13.52	83	1047	0.63 ug/L #	1
52)	Toluene	13.64	91	752	N.D.	
53)	2-Hexanone	13.86	43	227	N.D.	
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	620	N.D.	
62)	m,p-Xylenes	16.22	106	658	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	16.87	106	303	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102930.D Vial: 30
Acq On : 30 Oct 2021 2:42 am Operator: BAG
Sample : 21J1202-02 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

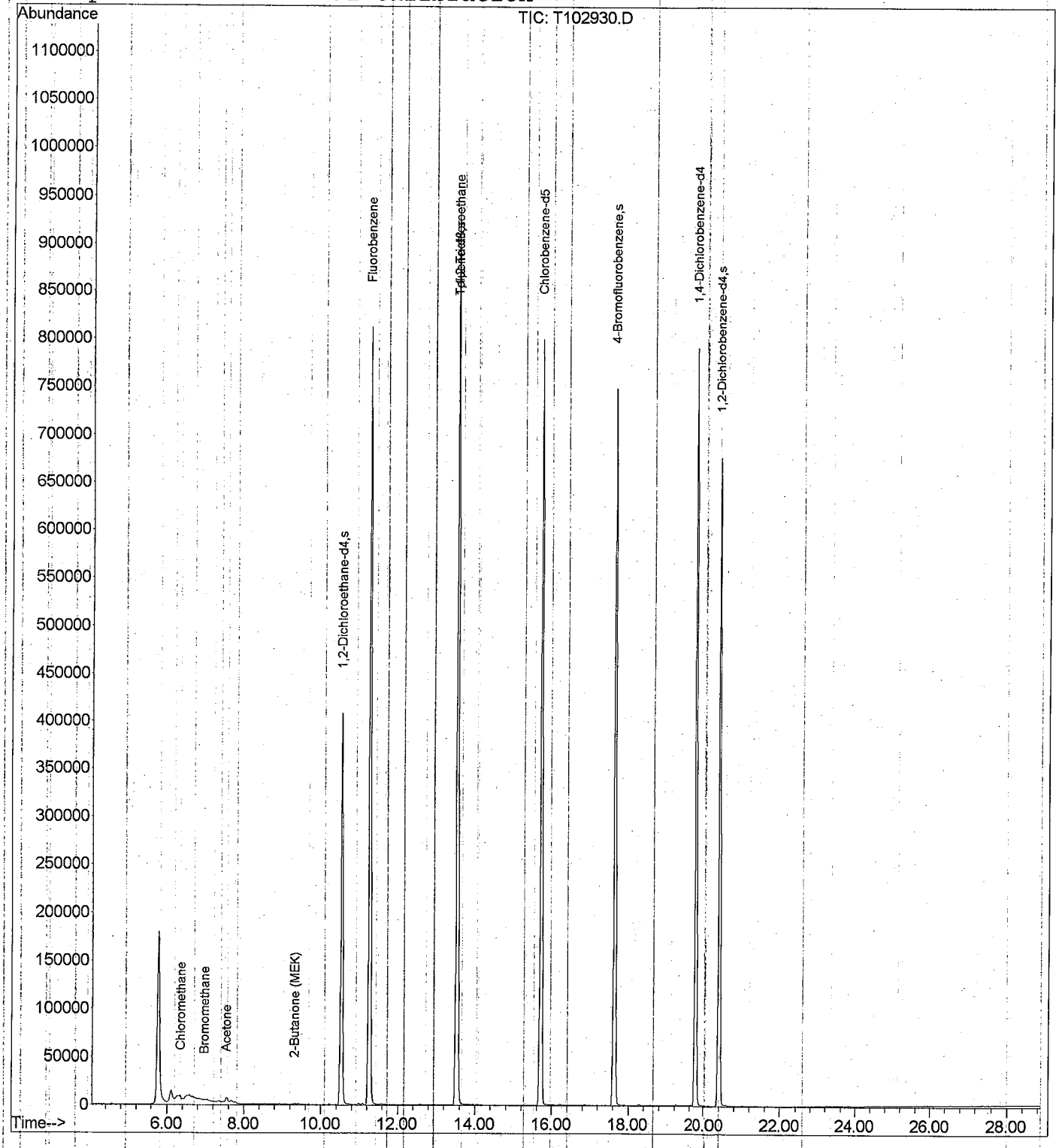
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	721	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.28	91	992	N.D.	
74)	2-Chlorotoluene	18.39	91	406	N.D.	
75)	4-Chlorotoluene	18.50	91	463	N.D.	
76)	1,3,5-Trimethylbenzene	18.58	105	532	N.D.	
77)	tert-Butylbenzene	19.23	91	305	N.D.	
78)	1,2,4-Trimethylbenzene	19.24	120	408	N.D.	
79)	sec-Butylbenzene	19.64	105	760	N.D.	
80)	1,3-Dichlorobenzene	19.71	146	351	N.D.	
81)	1,4-Dichlorobenzene	19.82	146	408	N.D.	
82)	p-Isopropyltoluene	19.87	119	646	N.D.	
83)	1,2,3-Trimethylbenzene	20.01	105	672	N.D.	
85)	1,2-Dichlorobenzene	20.45	146	318	N.D.	
86)	n-Butylbenzene	20.60	91	921	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.56	180	268	N.D.	
90)	Naphthalene	23.85	128	1191	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.38	180	275	N.D.	
93)	2-Methylnaphthalene	26.11	142	400	N.D.	
94)	1-Methylnaphalene	26.55	142	340	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102930.D Vial: 30
Acq On : 30 Oct 2021 2:42 am Operator: BAG
Sample : 21J1202-02 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102931.D Vial: 31
Acq On : 30 Oct 2021 3:18 am Operator: BAG
Sample : 21J1202-03 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1330698	30.00 ug/L	0.00 105.04%
48) Chlorobenzene-d5	15.70	82	535903	30.00 ug/L	0.00 101.04%
70) 1,4-Dichlorobenzene-d4	19.78	150	670343	30.00 ug/L	0.00 99.06%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.54	65	461271	28.87 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.23%		
50) Toluene-d8	13.53	98	1130668	29.94 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.80%		
71) 4-Bromofluorobenzene	17.64	174	410545	31.19 ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.97%		
84) 1,2-Dichlorobenzene-d4	20.39	115	260055	30.81 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.70%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.34	50	1656	0.55 ug/L #	48
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.96	94	425	~~2.74~~ ug/L #	24
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	7.35	56	60	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.55	43	5271	4.92 ug/L	98
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.11	43	220	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	294	N.D.	
18) Carbon disulfide	8.55	76	1542	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	8.82	43	68	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102931.D Vial: 31
Acq On : 30 Oct 2021 3:18 am Operator: BAG
Sample : 21J1202-03 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.33	43	2899	1.64 ug/L	96
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	9.69	61	282	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.57	62	59	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.04	78	778	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	11.09	84	597	N.D.	
38)	t-Amyl methyl ether	11.26	43	543	N.D.	
39)	Heptane	11.70	43	489	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.59	55	435	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	12.65	43	516	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.53	75	319	N.D.	
51)	1,1,2-Trichloroethane	13.62	83	58	N.D.	
52)	Toluene	13.63	91	669	N.D.	
53)	2-Hexanone	13.87	43	360	N.D.	
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	504	N.D.	
62)	m,p-Xylenes	16.22	106	634	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	16.86	106	290	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102931.D Vial: 31
Acq On : 30 Oct 2021 3:18 am Operator: BAG
Sample : 21J1202-03 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.58	105	575	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.29	91	888	N.D.	
74)	2-Chlorotoluene	18.39	91	210	N.D.	
75)	4-Chlorotoluene	18.49	91	396	N.D.	
76)	1,3,5-Trimethylbenzene	18.58	105	521	N.D.	
77)	tert-Butylbenzene	19.23	91	150	N.D.	
78)	1,2,4-Trimethylbenzene	19.24	120	427	N.D.	
79)	sec-Butylbenzene	19.65	105	667	N.D.	
80)	1,3-Dichlorobenzene	19.71	146	192	N.D.	
81)	1,4-Dichlorobenzene	19.83	146	284	N.D.	
82)	p-Isopropyltoluene	19.86	119	679	N.D.	
83)	1,2,3-Trimethylbenzene	20.02	105	657	N.D.	
85)	1,2-Dichlorobenzene	20.44	146	279	N.D.	
86)	n-Butylbenzene	20.60	91	764	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.55	180	181	N.D.	
90)	Naphthalene	23.84	128	1086	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.37	180	155	N.D.	
93)	2-Methylnaphthalene	26.11	142	286	N.D.	
94)	1-Methylnaphalene	26.56	142	366	N.D.	

(#) = qualifier out of range (m) = manual integration

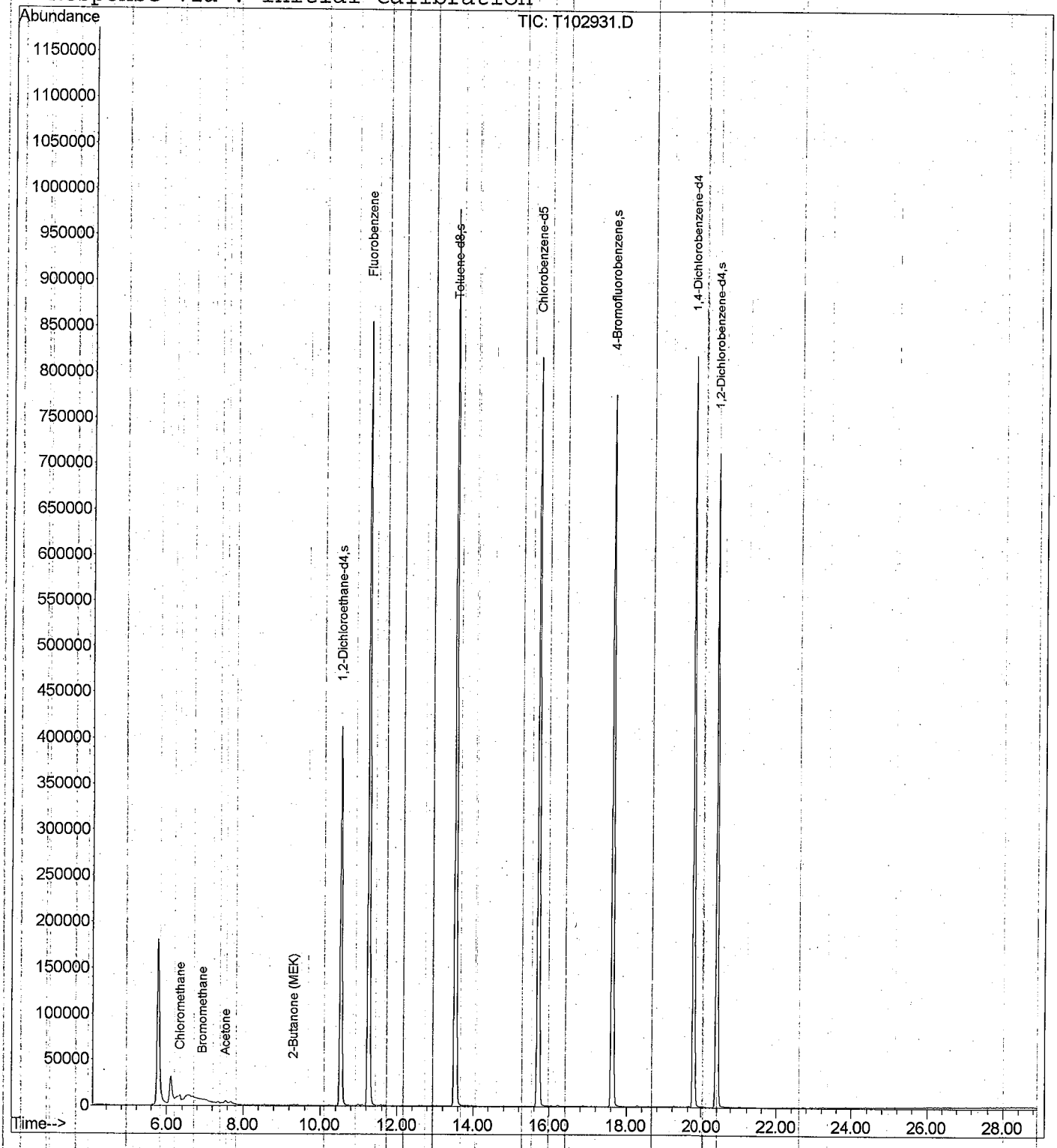
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102931.D
Acq On : 30 Oct 2021 3:18 am
Sample : 21J1202-03
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 31
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102932.D Vial: 32
Acq On : 30 Oct 2021 3:55 am Operator: BAG
Sample : 21J1202-05 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1308789	30.00 ug/L	0.00 103.31%
48) Chlorobenzene-d5	15.70	82	537785	30.00 ug/L	0.00 101.39%
70) 1,4-Dichlorobenzene-d4	19.78	150	673212	30.00 ug/L	0.00 99.48%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.54	65	463620	29.50 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 98.33%		
50) Toluene-d8	13.53	98	1141518	30.12 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.40%		
71) 4-Bromofluorobenzene	17.63	174	409887	31.01 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.37%		
84) 1,2-Dichlorobenzene-d4	20.39	115	256149	30.22 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 100.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.34	50	991	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.96	94	442	~~2.75~~ ug/L #	36
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.56	43	2568	2.44 ug/L #	84
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	7.99	59	2901	9.80 ug/L #	80
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.09	43	297	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	641	N.D.	
18) Carbon disulfide	8.54	76	733	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102932.D Vial: 32
Acq On : 30 Oct 2021 3:55 am Operator: BAG
Sample : 21J1202-05 Inst : Trixie
Misc : Con. B Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.32	43	143	N.D.	
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.56	62	78	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	11.03	78	66	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.98	84	2124	0.79 ug/L #	9
38)	t-Amyl methyl ether	11.22	43	125	N.D.	
39)	Heptane	11.68	43	611	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.61	55	191	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.53	75	144	N.D.	
51)	1,1,2-Trichloroethane	13.53	83	1039	0.60 ug/L #	1
52)	Toluene	13.64	91	456	N.D.	
53)	2-Hexanone	14.06	43	10278	4.37 ug/L #	85
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	14.06	43	10278	2.10 ug/L #	52
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	0.00	112	0	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	16.04	91	269	N.D.	
62)	m,p-Xylenes	16.21	106	61	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102932.D
Acq On : 30 Oct 2021 3:55 am
Sample : 21J1202-05
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 32
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.63	105	1052	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.29	91	743	N.D.	
74)	2-Chlorotoluene	18.41	91	220	N.D.	
75)	4-Chlorotoluene	18.49	91	297	N.D.	
76)	1,3,5-Trimethylbenzene	18.56	105	406	N.D.	
77)	tert-Butylbenzene	0.00	91	0	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.64	105	603	N.D.	
80)	1,3-Dichlorobenzene	19.81	146	59	N.D.	
81)	1,4-Dichlorobenzene	19.81	146	59	N.D.	
82)	p-Isopropyltoluene	19.88	119	475	N.D.	
83)	1,2,3-Trimethylbenzene	20.00	105	277	N.D.	
85)	1,2-Dichlorobenzene	20.44	146	207	N.D.	
86)	n-Butylbenzene	20.60	91	625	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90)	Naphthalene	23.86	128	748	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.37	180	121	N.D.	
93)	2-Methylnaphthalene	0.00	142	0	N.D.	
94)	1-Methylnaphalene	0.00	142	0	N.D.	

(#) = qualifier out of range (m) = manual integration

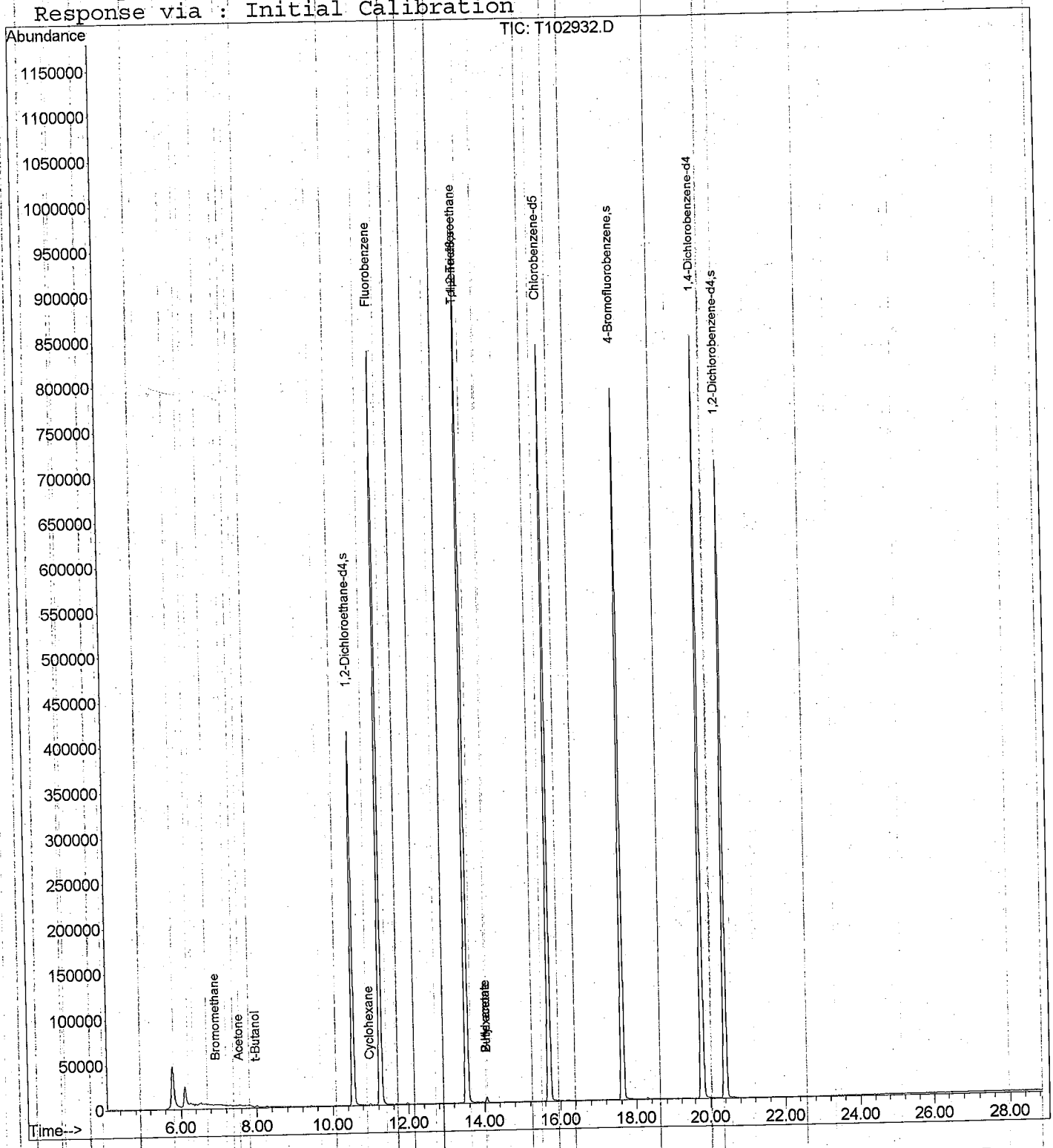
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102932.D
Acq On : 30 Oct 2021 3:55 am
Sample : 21J1202-05
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 32
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102933.D
Acq On : 30 Oct 2021 4:31 am
Sample : 21J1202-06
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 33
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.27	96	1315620	30.00 ug/L	0.00 103.85%
48) Chlorobenzene-d5	15.72	82	528611	30.00 ug/L	0.01 99.66%
70) 1,4-Dichlorobenzene-d4	19.80	150	660612	30.00 ug/L	0.01 97.62%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.54	65	461099	29.19 ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.30%		
50) Toluene-d8	13.54	98	1124512	30.19 ug/L	0.01
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.63%		
71) 4-Bromofluorobenzene	17.65	174	402144	31.00 ug/L	0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.33%		
84) 1,2-Dichlorobenzene-d4	20.41	115	255490	30.72 ug/L	0.01
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.40%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.34	50	797	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.93	94	137	~~2.57~~ ug/L #	12
6) Chloroethane	0.00	64	0	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.55	43	2623	2.48 ug/L	93
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.09	43	407	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.26	84	296	N.D.	
18) Carbon disulfide	8.56	76	1114	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102933.D
Acq On : 30 Oct 2021 4:31 am
Sample : 21J1202-06
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 33
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23) 2-Butanone (MEK)	9.33	43	463	N.D.	
24) Diisopropyl ether	0.00	45	0	N.D.	
25) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26) 2,2-Dichloropropane	0.00	77	0	N.D.	
27) t-Butyl ethyl ether	0.00	59	0	N.D.	
28) Chloroform	9.92	83	443	N.D.	
29) Bromochloromethane	0.00	130	0	N.D.	
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
33) 1,2-Dichloroethane	0.00	62	0	N.D.	
34) 1,1-Dichloropropene	0.00	75	0	N.D.	
35) Benzene	11.05	78	215	N.D.	
36) Carbon tetrachloride	0.00	117	0	N.D.	
37) Cyclohexane	11.10	84	66	N.D.	
38) t-Amyl methyl ether	11.28	43	439	N.D.	
39) Heptane	11.68	43	322	N.D.	
40) 1,2-Dichloropropane	0.00	63	0	N.D.	
41) Trichloroethene	0.00	130	0	N.D.	
42) Dibromomethane	0.00	93	0	N.D.	
43) Bromodichloromethane	0.00	83	0	N.D.	
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.60	55	698	N.D.	
46) 4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49) trans-1,3-Dichloropropene	13.55	75	214	N.D.	
51) 1,1,2-Trichloroethane	13.64	83	62	N.D.	
52) Toluene	13.66	91	2854	0.40 ug/L	99
53) 2-Hexanone	13.54	43	7442 ff	~~3.22~~ ug/L #	1
54) 1,3-Dichloropropane	0.00	76	0	N.D.	
55) Butyl acetate	0.00	43	0	N.D.	
56) Dibromochloromethane	0.00	129	0	N.D.	
57) 1,2-Dibromoethane	0.00	107	0	N.D.	
58) Tetrachloroethene	0.00	131	0	N.D.	
59) Chlorobenzene	0.00	112	0	N.D.	
60) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61) Ethylbenzene	16.07	91	1745	N.D.	
62) m,p-Xylenes	16.25	106	510	N.D.	
63) Styrene	0.00	104	0	N.D.	
64) Bromoform	0.00	173	0	N.D.	
65) o-Xylene	16.89	106	933	N.D.	
66) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102933.D
Acq On : 30 Oct 2021 4:31 am
Sample : 21J1202-06
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 33
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.59	105	1319	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.30	91	1928	N.D.	
74)	2-Chlorotoluene	18.42	91	135	N.D.	
75)	4-Chlorotoluene	18.51	91	335	N.D.	
76)	1,3,5-Trimethylbenzene	18.59	105	410	N.D.	
77)	tert-Butylbenzene	19.26	91	61	N.D.	
78)	1,2,4-Trimethylbenzene	19.27	120	283	N.D.	
79)	sec-Butylbenzene	19.66	105	1752	N.D.	
80)	1,3-Dichlorobenzene	0.00	146	0	N.D.	
81)	1,4-Dichlorobenzene	0.00	146	0	N.D.	
82)	p-Isopropyltoluene	19.90	119	592	N.D.	
83)	1,2,3-Trimethylbenzene	20.02	105	2720	0.53 ug/L #	90
85)	1,2-Dichlorobenzene	20.45	146	208	N.D.	
86)	n-Butylbenzene	20.61	91	928	N.D.	
87)	Hexachloroethane	21.38	117	273	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.57	180	73	N.D.	
90)	Naphthalene	23.86	128	954	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.38	180	60	N.D.	
93)	2-Methylnaphthalene	26.14	142	127	N.D.	
94)	1-Methylnaphalene	26.14	142	127	N.D.	

(#) = qualifier out of range (m) = manual integration

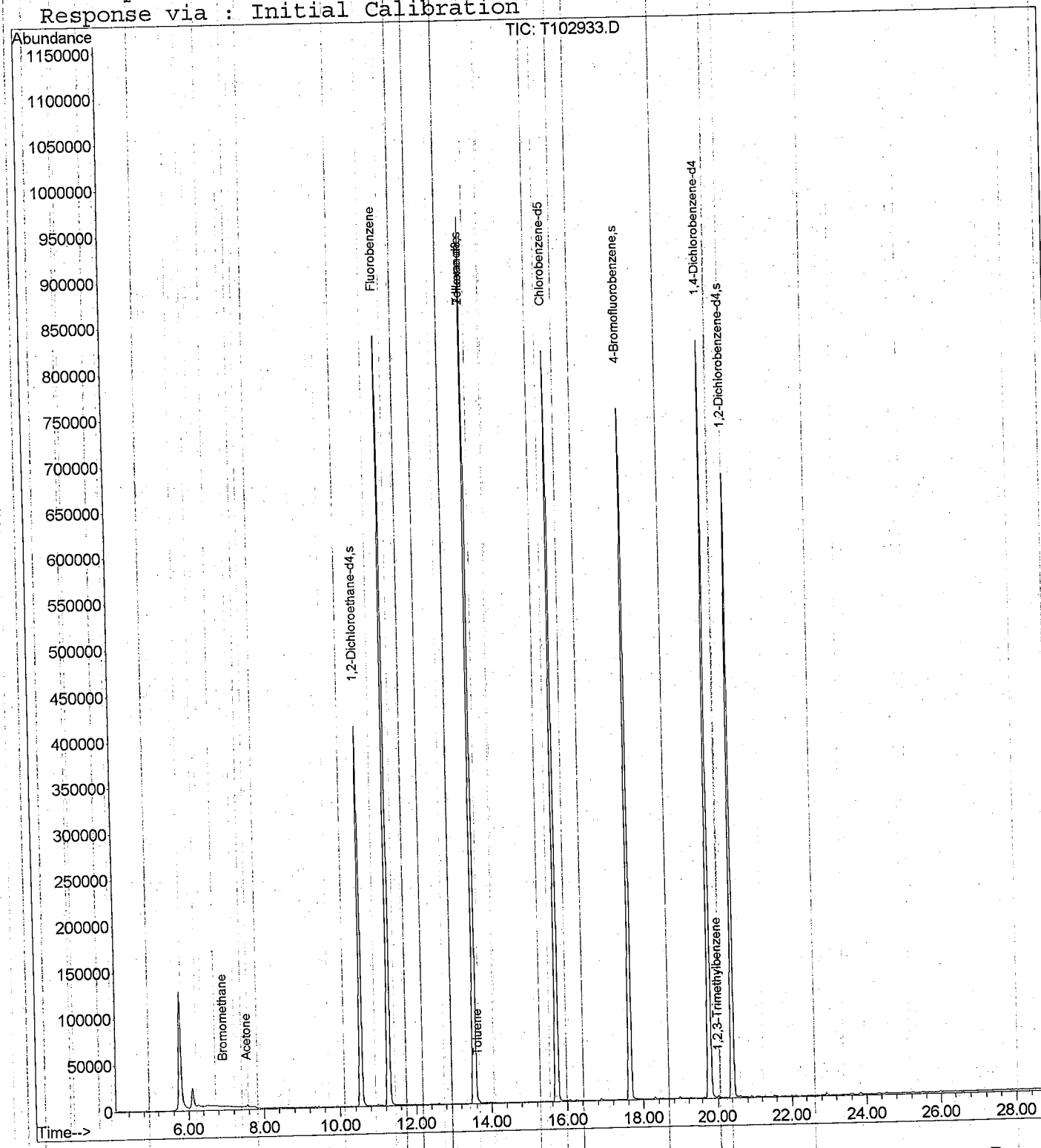
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102933.D
Acq On : 30 Oct 2021 4:31 am
Sample : 21J1202-06
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 33
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102934.D
Acq On : 30 Oct 2021 5:07 am
Sample : 21J1202-07
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 34
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T102821\T102807.D (28 Oct 2021 3:40 pm)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.26	96	1268081	30.00 ug/L	0.00 100.10%
48) Chlorobenzene-d5	15.70	82	519394	30.00 ug/L	0.00 97.93%
70) 1,4-Dichlorobenzene-d4	19.78	150	643500	30.00 ug/L	0.00 95.09%
System Monitoring Compounds					
31) 1,2-Dichloroethane-d4	10.53	65	443878	29.15 ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.17%		
50) Toluene-d8	13.52	98	1098606	30.01 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.03%		
71) 4-Bromofluorobenzene	17.63	174	390896	30.94 ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.13%		
84) 1,2-Dichlorobenzene-d4	20.39	115	250999	30.98 ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.27%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.	
3) Chloromethane	6.34	50	958	N.D.	
4) Vinyl chloride	0.00	62	0	N.D.	
5) Bromomethane	6.94	94	290	~~2.67~~ 1.8 ug/L #	31
6) Chloroethane	7.07	64	199	N.D.	
7) Acrolein	0.00	56	0	N.D.	
8) Trichlorofluoromethane	0.00	101	0	N.D.	
9) Acetone	7.55	43	2217	2.17 ug/L	91
10) Diethyl ether	0.00	59	0	N.D.	
11) Acrylonitrile	0.00	53	0	N.D.	
12) t-Butanol	0.00	59	0	N.D.	
13) 1,1-Dichloroethene	0.00	61	0	N.D.	
14) MethylAcetate	8.09	43	269	N.D.	
15) Freon 113	0.00	101	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Methylene Chloride	8.25	84	348	N.D.	
18) Carbon disulfide	8.55	76	450	N.D.	
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.	
21) Vinyl acetate	0.00	43	0	N.D.	
22) 1,1-Dichloroethane	0.00	63	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102934.D
Acq On : 30 Oct 2021 5:07 am
Sample : 21J1202-07
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 34
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23) 2-Butanone (MEK)	9.33	43	71	N.D.	
24) Diisopropyl ether	0.00	45	0	N.D.	
25) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26) 2,2-Dichloropropane	0.00	77	0	N.D.	
27) t-Butyl ethyl ether	0.00	59	0	N.D.	
28) Chloroform	0.00	83	0	N.D.	
29) Bromochloromethane	0.00	130	0	N.D.	
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
33) 1,2-Dichloroethane	10.56	62	62	N.D.	
34) 1,1-Dichloropropene	0.00	75	0	N.D.	
35) Benzene	11.25	78	2190	N.D.	
36) Carbon tetrachloride	0.00	117	0	N.D.	
37) Cyclohexane	10.98	84	2123	0.81 ug/L #	10
38) t-Amyl methyl ether	11.25	43	534	N.D.	
39) Heptane	11.68	43	293	N.D.	
40) 1,2-Dichloropropane	0.00	63	0	N.D.	
41) Trichloroethene	0.00	130	0	N.D.	
42) Dibromomethane	0.00	93	0	N.D.	
43) Bromodichloromethane	0.00	83	0	N.D.	
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.59	55	60	N.D.	
46) 4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49) trans-1,3-Dichloropropene	13.52	75	304	N.D.	
51) 1,1,2-Trichloroethane	13.53	83	933	0.56 ug/L #	1
52) Toluene	13.64	91	74	N.D.	
53) 2-Hexanone	13.52	43	7382	~~3.25~~ ug/L #	1
54) 1,3-Dichloropropane	0.00	76	0	N.D.	
55) Butyl acetate	0.00	43	0	N.D.	
56) Dibromochloromethane	0.00	129	0	N.D.	
57) 1,2-Dibromoethane	0.00	107	0	N.D.	
58) Tetrachloroethene	0.00	131	0	N.D.	
59) Chlorobenzene	0.00	112	0	N.D.	
60) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61) Ethylbenzene	16.05	91	59	N.D.	
62) m,p-Xylenes	0.00	106	0	N.D.	
63) Styrene	0.00	104	0	N.D.	
64) Bromoform	0.00	173	0	N.D.	
65) o-Xylene	0.00	106	0	N.D.	
66) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102934.D
Acq On : 30 Oct 2021 5:07 am
Sample : 21J1202-07
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 34
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67) 1,2,3-Trichloropropane	0.00	110	0	N.D.	
68) trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69) Isopropylbenzene	17.63	105	966	N.D.	
72) Bromobenzene	0.00	158	0	N.D.	
73) n-Propylbenzene	18.29	91	460	N.D.	
74) 2-Chlorotoluene	18.40	91	67	N.D.	
75) 4-Chlorotoluene	18.40	91	67	N.D.	
76) 1,3,5-Trimethylbenzene	18.57	105	62	N.D.	
77) tert-Butylbenzene	0.00	91	0	N.D.	
78) 1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79) sec-Butylbenzene	19.65	105	433	N.D.	
80) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
81) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
82) p-Isopropyltoluene	19.88	119	353	N.D.	
83) 1,2,3-Trimethylbenzene	20.00	105	62	N.D.	
85) 1,2-Dichlorobenzene	20.44	146	70	N.D.	
86) n-Butylbenzene	20.61	91	531	N.D.	
87) Hexachloroethane	0.00	117	0	N.D.	
88) 1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
90) Naphthalene	23.85	128	501	N.D.	
91) Hexachlorobutadiene	0.00	225	0	N.D.	
92) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	
93) 2-Methylnaphthalene	0.00	142	0	N.D.	
94) 1-Methylnaphalene	0.00	142	0	N.D.	

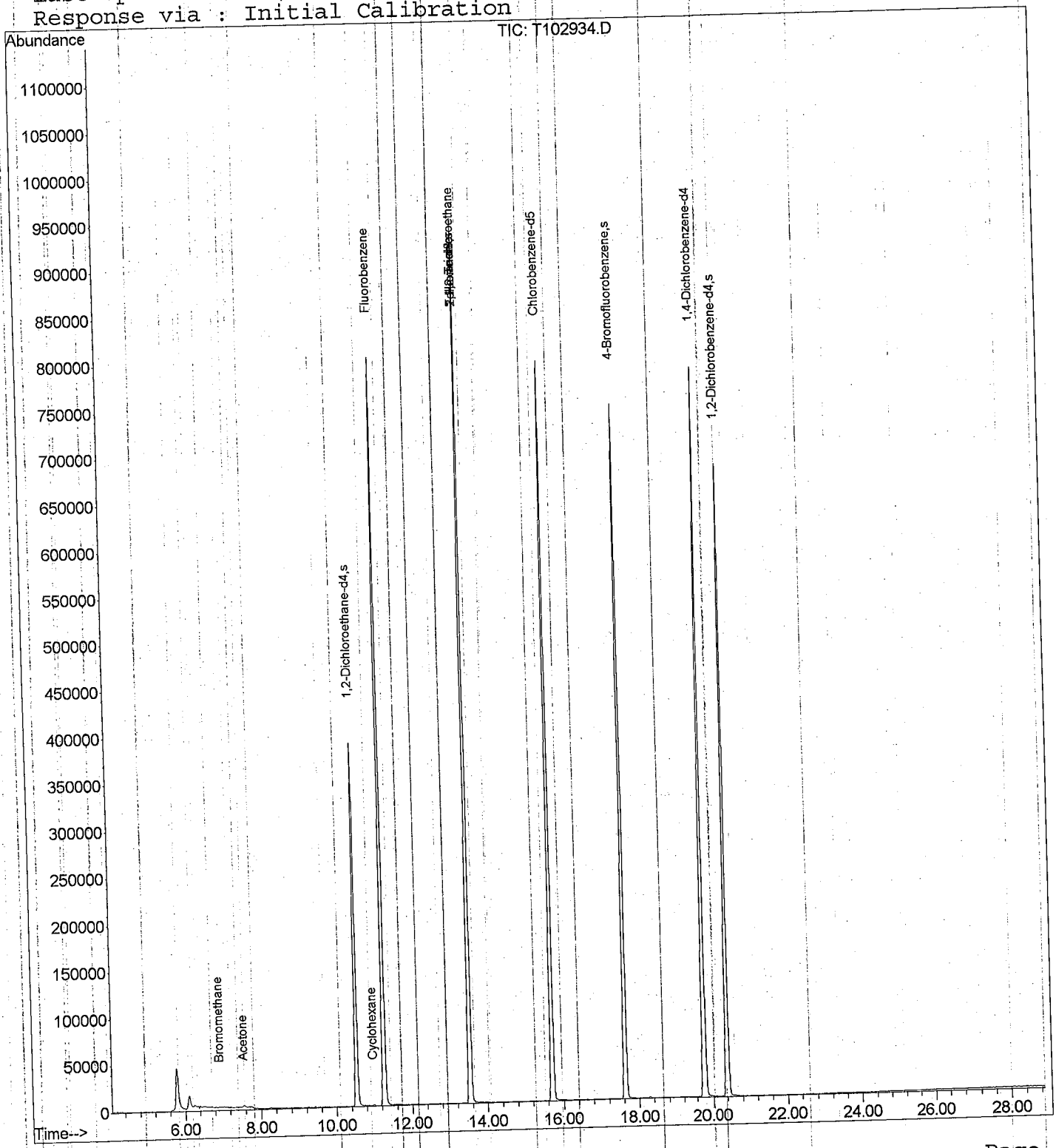
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102921\T102934.D
Acq On : 30 Oct 2021 5:07 am
Sample : 21J1202-07
Misc : Con. B
MS Integration Params: RTEINT.P
Quant Time: Nov 1 9:52 2021

Vial: 34
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



SEQUENCE LOG INSTRUMENT: TRIXIE

Date: 11-1-21 Analyst: AMG

Data Path: T110121 Curve Date: 10-28-21

LIMS Batch: T116290 / 1K03002 T116293, 294

Tune Passes: (Y) or N CCV Passes: (Y) or N

Bromoform Test Passes: (Y) or N

Logbook Review
Date: 11/3/21 Initials: MW

Comments:

File Name	Run Method	Analytical Method 8260D	624.1	524.2	Sample ID	Dilution	Time	IS (P=Pass / F=Fail)	Surr (P=Pass / F=Fail)	pH<2 (P=Pass / F=Fail)	Additional Information
T110101	8260D13				Bromoform 1101		1113				
2					50ng BFB 1101		1150				
3					CCV 1101		1218	P	P		
4					BS 1101		1258				
5					Acetate 1101		1331				
6					MB 1101		1407				
7		X			21J1202-01		1444			P	
8		X			21J1202-01MS		1529				
9		X			21J1202-01MSD		1608				
10			X		21K0033-04		1641			P	
11					21K0033-06		1717				
12					21K0033-02		1753				
13					21K0033-05		1830				
14					21K0033-04MS		1905				
15					21K0033-04MSD		1942				
16					21K0029-01		2018			P	
17					21K0029-02		2055				
18					21K0028-01	100000	2131				
19					21K0028-02	1000	2207				
20					21J1104-01	1000	2244				RRB 25X

AMG 11-3-21

CCV Internal Std Ranges:
Fluorobenzene: 663187-2652748
Chlorobenzene d5: 277029-1108114
1,4-Dichlorobenzene d4: 34352-137406

Standard ID: 21J2836
CCV: 25µL: of the above std into 50mLs DI H_2O
BS: 10µL: of the above std into 50mLs DI H_2O
Spike ID: NA
ICV: 10µL of the above std into 50mLs DI H_2O

Bromoform ID: 21I1406
Bromoform: 10µL of the above std into 50mLs DI H_2O
BFB ID: 21J0150B
50ng BFB: 25µL of the above std into 50mLs DI H_2O
25ng BFB: 12.5µL of the above std into 50mLs of DI H_2O
IS/Surr. ID: 21A0409

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260D

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K03003	Instrument:	TRIXIE
Matrix:	Aqueous	Calibration:	UNASSIGNED

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (T116290-BS1)			Lab File ID: T110104.D		Analyzed: 11/01/21 12:55			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.46		10.4600	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.45		13.4500	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.55		17.5500	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.32		20.3200	+/-1.0	*
Blank (T116290-BLK1)			Lab File ID: T110106.D		Analyzed: 11/01/21 14:07			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.46		10.4600	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.46		13.4600	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.56		17.5600	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.32		20.3200	+/-1.0	*
CL-GW-TMW-1 (20') I/MS/MSD (21J1202-01)			Lab File ID: T110107.D		Analyzed: 11/01/21 14:44			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.46		10.4600	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.45		13.4500	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.56		17.5600	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.33		20.3300	+/-1.0	*
Matrix Spike (T116290-MS1)			Lab File ID: T110108.D		Analyzed: 11/01/21 15:29			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.46		10.4600	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.46		13.4600	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.56		17.5600	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.32		20.3200	+/-1.0	*
Matrix Spike Dup (T116290-MSD1)			Lab File ID: T110109.D		Analyzed: 11/01/21 16:05			
1,2-Dichloroethane-d4	95000	0.03	68 - 133	10.46		10.4600	+/-1.0	*
Toluene-d8	75000	0.04	75 - 120	13.45		13.4500	+/-1.0	*
4-Bromofluorobenzene	75000	0.04	69 - 119	17.56		17.5600	+/-1.0	*
1,2-Dichlorobenzene-d4	75000	0.04	72 - 127	20.33		20.3300	+/-1.0	*

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260D

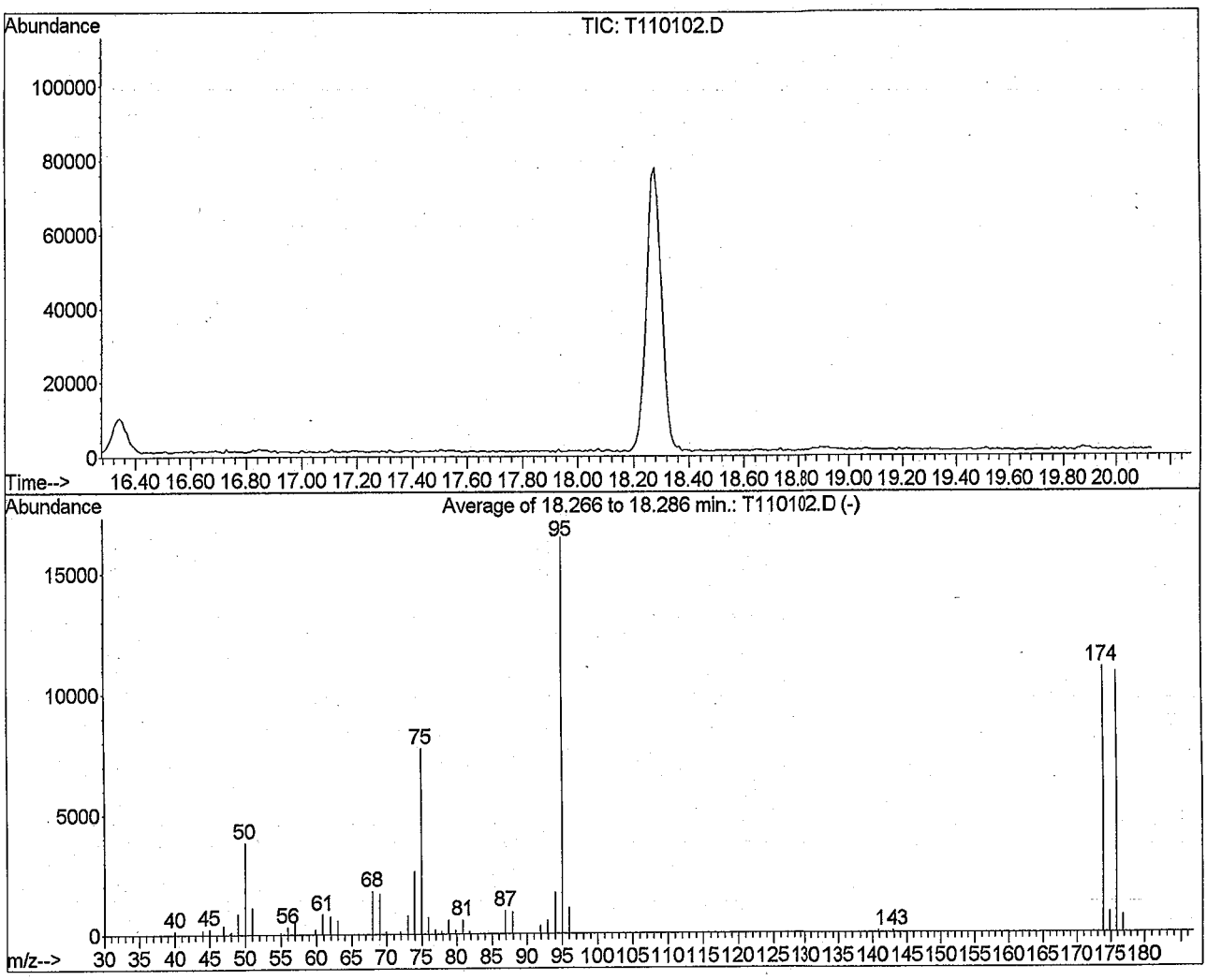
Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K03003
Instrument: TRIXIE
Matrix: Aqueous
Calibration: UNASSIGNED

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1K03003-CCV1)			Lab File ID: T110103.D			Analyzed: 11/01/21 12:18			
Fluorobenzene	1326374	11.18				50 - 200	11.1800	+/-0.50	*
Chlorobenzene-d5	554057	15.62				50 - 200	15.6200	+/-0.50	*
1,4-Dichlorobenzene-d4	686703	19.71				50 - 200	19.7100	+/-0.50	*
LCS (T116290-BS1)			Lab File ID: T110104.D			Analyzed: 11/01/21 12:55			
Fluorobenzene	1359191	11.18	1326374	11.18	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	561485	15.63	554057	15.62	101	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	692625	19.71	686703	19.71	101	50 - 200	0.0000	+/-0.50	
Blank (T116290-BLK1)			Lab File ID: T110106.D			Analyzed: 11/01/21 14:07			
Fluorobenzene	1384282	11.18	1326374	11.18	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	560604	15.62	554057	15.62	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	682706	19.71	686703	19.71	99	50 - 200	0.0000	+/-0.50	
CL-GW-TMW-1 (20') I/MS/MSD (21J1202-01)			Lab File ID: T110107.D			Analyzed: 11/01/21 14:44			
Fluorobenzene	1348087	11.19	1326374	11.18	102	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	548841	15.63	554057	15.62	99	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	671043	19.71	686703	19.71	98	50 - 200	0.0000	+/-0.50	
Matrix Spike (T116290-MS1)			Lab File ID: T110108.D			Analyzed: 11/01/21 15:29			
Fluorobenzene	1334431	11.18	1326374	11.18	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	549169	15.63	554057	15.62	99	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	671985	19.71	686703	19.71	98	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (T116290-MSD1)			Lab File ID: T110109.D			Analyzed: 11/01/21 16:05			
Fluorobenzene	1336882	11.19	1326374	11.18	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	554166	15.63	554057	15.62	100	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	686456	19.71	686703	19.71	100	50 - 200	0.0000	+/-0.50	

BFB

Data File : C:\HPCHEM\1\DATA\T110121\T110102.D
Acq On : 1 Nov 2021 11:50 am
Sample : 50NG BFB1101
Misc :
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00



AutoFind: Scans 1782, 1783, 1784; Background Corrected with Scan 1772

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.1	3805	PASS
75	95	30	60	47.0	7741	PASS
95	174	50	200	148.4	16470	PASS
96	95	5	9	6.5	1075	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	67.4	11102	PASS
175	174	5	9	7.6	839	PASS
176	174	95	105	98.1	10889	PASS
177	176	5	10	6.7	727	PASS

T110102.D 8260D13.M Wed Nov 03 11:57:48 2021

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D Vial: 3
Acq On : 1 Nov 2021 12:18 pm Operator: BAG
Sample : CCV1101 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:57 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.18	96	1326374	30.00	ug/L		0.00
							104.70%
48) Chlorobenzene-d5	15.62	82	554057	30.00	ug/L		0.00
							104.46%
70) 1,4-Dichlorobenzene-d4	19.71	150	686703	30.00	ug/L		0.00
							101.48%
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.46	65	477088	29.96	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.87%				
50) Toluene-d8	13.45	98	1164136	29.81	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.37%				
71) 4-Bromofluorobenzene	17.56	174	399719	29.64	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 98.80%				
84) 1,2-Dichlorobenzene-d4	20.33	115	255343	29.53	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 98.43%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.05	85	120735	50.55	ug/L		98
3) Chloromethane	6.27	50	154582	50.98	ug/L		100
4) Vinyl chloride	6.41	62	108818	49.18	ug/L		99
5) Bromomethane	6.87	94	81595	48.57	ug/L	#	98
6) Chloroethane	6.98	64	87120	48.84	ug/L		96
7) Acrolein	7.40	56	11366	47.56	ug/L		100
8) Trichlorofluoromethane	7.46	101	124808	49.99	ug/L		99
9) Acetone	7.48	43	47143	44.18	ug/L	#	89
10) Diethyl ether	7.66	59	96310	48.12	ug/L		96
11) Acrylonitrile	7.94	53	60749	50.62	ug/L		97
12) t-Butanol	7.92	59	62426	208.07	ug/L	#	91
13) 1,1-Dichloroethene	7.99	61	158388	50.87	ug/L		97
14) MethylAcetate	8.02	43	143692	45.94	ug/L	#	98
15) Freon 113	8.06	101	86178	50.77	ug/L		96
16) Iodomethane	8.12	142	85594	48.97	ug/L		85
17) Methylene Chloride	8.19	84	112618	47.01	ug/L		94
18) Carbon disulfide	8.48	76	312122	50.86	ug/L		100
19) trans-1,2-Dichloroethene	8.74	61	157884	50.01	ug/L		97
20) Methyl-t-butyl ether(MTBE)	8.77	73	249591	44.35	ug/L		95
21) Vinyl acetate	8.92	43	348242	49.75	ug/L		99
22) 1,1-Dichloroethane	9.00	63	197722	48.86	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D
Acq On : 1 Nov 2021 12:18 pm
Sample : CCV1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:57 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
23)	2-Butanone (MEK)	9.25	43	82906	46.98	ug/L		97
24)	Diisopropyl ether	9.35	45	466966	48.92	ug/L		97
25)	cis-1,2-Dichloroethene	9.62	61	160680	48.97	ug/L		96
26)	2,2-Dichloropropane	9.80	77	120159	49.89	ug/L		95
27)	t-Butyl ethyl ether	9.77	59	342772	48.32	ug/L		98
28)	Chloroform	9.82	83	168819	49.21	ug/L		98
29)	Bromochloromethane	9.84	130	65967	49.70	ug/L		82
30)	Tetrahydrofuran	10.10	72	15783	45.80	ug/L		95
32)	1,1,1-Trichloroethane	10.56	97	120125	49.09	ug/L		98
33)	1,2-Dichloroethane	10.56	62	143318	47.12	ug/L		99
34)	1,1-Dichloropropene	10.76	75	133579	50.69	ug/L		96
35)	Benzene	10.96	78	381091	48.99	ug/L		98
36)	Carbon tetrachloride	11.00	117	93894	50.47	ug/L		98
37)	Cyclohexane	11.01	84	136397	50.05	ug/L		93
38)	t-Amyl methyl ether	11.14	43	119733	46.83	ug/L		91
39)	Heptane	11.60	43	134546	50.89	ug/L		96
40)	1,2-Dichloropropane	11.77	63	121785	48.66	ug/L		95
41)	Trichloroethene	11.81	130	84748	49.97	ug/L	#	89
42)	Dibromomethane	11.88	93	79579	51.55	ug/L		87
43)	Bromodichloromethane	11.97	83	123291	49.73	ug/L		100
44)	2-Chloroethyl vinyl ether	12.33	63	18869	67.76	ug/L		98
45)	Methylcyclohexane	12.51	55	132561	49.82	ug/L		100
46)	4-Methyl-2-pentanone(MIBK)	12.58	43	175778	47.52	ug/L		96
47)	cis-1,3-Dichloropropene	12.72	75	172624	49.76	ug/L		97
49)	trans-1,3-Dichloropropene	13.28	75	139541	49.15	ug/L		96
51)	1,1,2-Trichloroethane	13.54	83	82211	46.43	ug/L		96
52)	Toluene	13.56	91	359959	48.60	ug/L		98
53)	2-Hexanone	13.79	43	114509	47.23	ug/L		98
54)	1,3-Dichloropropane	13.87	76	167818	48.12	ug/L		92
55)	Butyl acetate	14.27	43	239688	47.44	ug/L		93
56)	Dibromochloromethane	14.34	129	86944	48.94	ug/L	#	96
57)	1,2-Dibromoethane	14.66	107	96450	48.15	ug/L	#	98
58)	Tetrachloroethene	14.73	131	55746	50.17	ug/L	#	92
59)	Chlorobenzene	15.68	112	225055	48.62	ug/L		88
60)	1,1,1,2-Tetrachloroethane	15.69	131	72595	49.60	ug/L	#	88
61)	Ethylbenzene	15.96	91	382387	49.11	ug/L		96
62)	m,p-Xylenes	16.15	106	279833	99.88	ug/L		87
63)	Styrene	16.70	104	230327	50.69	ug/L		92
64)	Bromoform	16.76	173	54354	49.54	ug/L		100
65)	o-Xylene	16.79	106	134145	49.97	ug/L		86
66)	1,1,2,2-Tetrachloroethane	17.10	83	131410	47.74	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D Vial: 3
Acq On : 1 Nov 2021 12:18 pm Operator: BAG
Sample : CCV1101 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:57 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
67)	1,2,3-Trichloropropane	17.32	110	32017	49.36	ug/L		95
68)	trans-1,4-Dichloro-2-buten	17.33	53	32094	48.87	ug/L	#	95
69)	Isopropylbenzene	17.50	105	334074	49.08	ug/L		95
72)	Bromobenzene	17.91	158	78930	49.42	ug/L		91
73)	n-Propylbenzene	18.21	91	419349	50.45	ug/L		95
74)	2-Chlorotoluene	18.41	91	253690	53.68	ug/L		94
75)	4-Chlorotoluene	18.41	91	253690	55.05	ug/L		94
76)	1,3,5-Trimethylbenzene	18.50	105	264145	51.84	ug/L		92
77)	tert-Butylbenzene	19.15	91	182059	51.46	ug/L	#	82
78)	1,2,4-Trimethylbenzene	19.16	120	139188	51.69	ug/L		87
79)	sec-Butylbenzene	19.57	105	319709	52.27	ug/L		96
80)	1,3-Dichlorobenzene	19.63	146	138166	49.24	ug/L		93
81)	1,4-Dichlorobenzene	19.75	146	142059	49.58	ug/L	#	64
82)	p-Isopropyltoluene	19.80	119	252924	51.84	ug/L		95
83)	1,2,3-Trimethylbenzene	19.93	105	274736	51.37	ug/L		94
85)	1,2-Dichlorobenzene	20.36	146	133451	48.65	ug/L	#	96
86)	n-Butylbenzene	20.52	91	256916	51.83	ug/L		98
87)	Hexachloroethane	21.37	117	54850	51.51	ug/L		93
88)	1,2-Dibromo-3-chloropropan	21.37	155	14978	49.33	ug/L		90
89)	1,2,4-Trichlorobenzene	23.48	180	77131	50.09	ug/L	#	89
90)	Naphthalene	23.77	128	217879	50.23	ug/L	#	95
91)	Hexachlorobutadiene	24.15	225	28113	50.43	ug/L		93
92)	1,2,3-Trichlorobenzene	24.30	180	69655	49.58	ug/L		95
93)	2-Methylnaphthalene	26.02	142	80171	51.32	ug/L		95
94)	1-Methylnaphalene	26.47	142	69373	51.87	ug/L		96

(#) = qualifier out of range (m) = manual integration

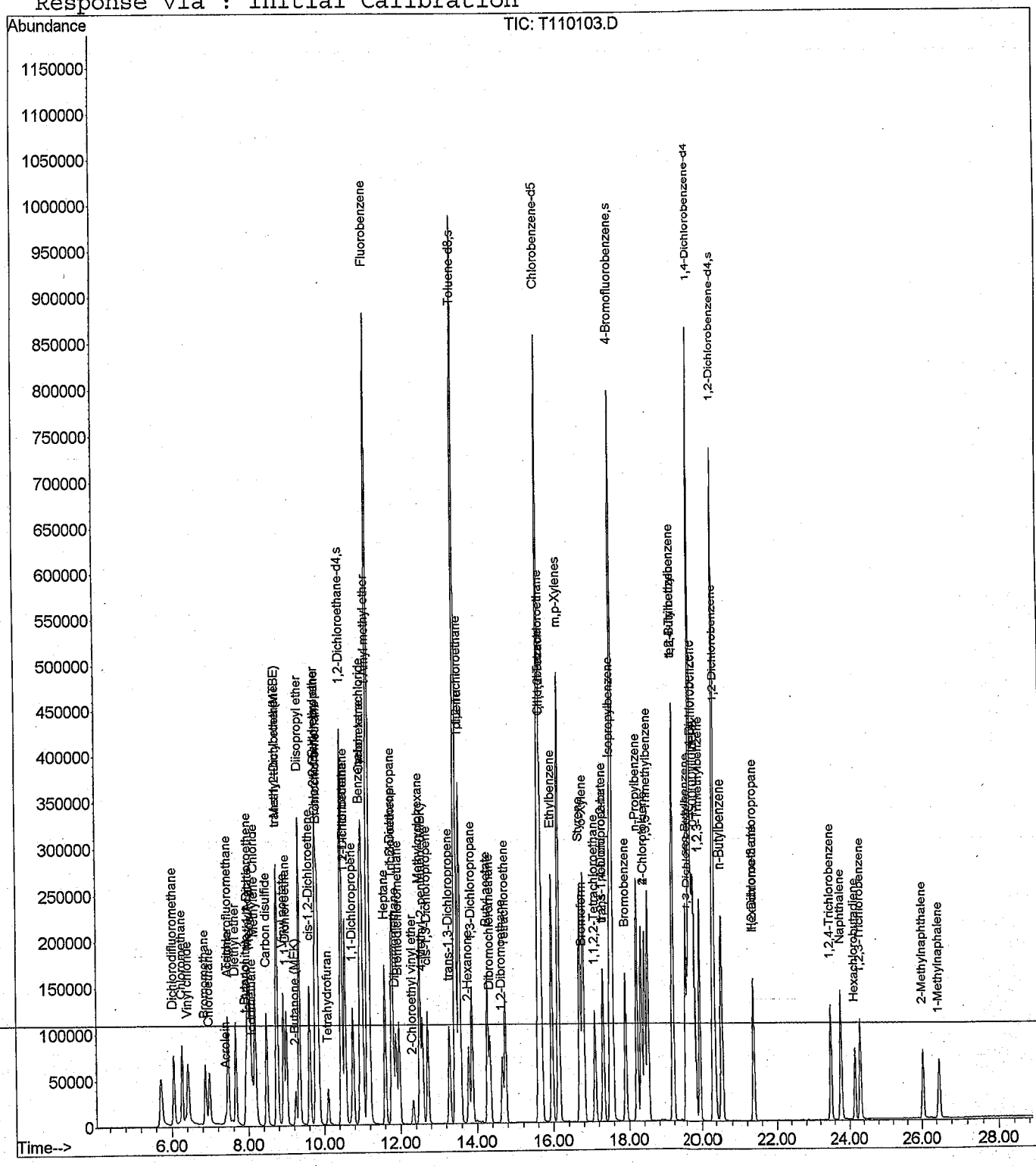
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D
Acq On : 1 Nov 2021 12:18 pm
Sample : CCV1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:57 2021

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D
Acq On : 1 Nov 2021 12:18 pm
Sample : CCV1101
Misc :
MS Integration Params: RTEINT.P

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene	1.000	1.000	0.0	105	0.00
2		Dichlorodifluoromethane	0.054	0.055	-1.9	102	0.00
3		Chloromethane	0.077	0.070	9.1	110	0.00
4		Vinyl chloride	0.050	0.049	2.0	112	0.00
5		Bromomethane	0.040	0.037	7.5	113	0.00
6		Chloroethane	0.040	0.039	2.5	104	0.00
7		Acrolein	0.005	0.005	0.0	102	0.00
8		Trichlorofluoromethane	0.056	0.056	0.0	101	0.00
9		Acetone	0.024	0.021	12.5	96	0.00
10		Diethyl ether	0.045	0.044	2.2	94	0.00
11		Acrylonitrile	0.027	0.027	0.0	102	0.00
12		t-Butanol	0.007	0.006	14.3	84	0.00
13		1,1-Dichloroethene	0.070	0.072	-2.9	103	0.00
14		MethylAcetate	0.071	0.065	8.5	97	0.00
15		Freon 113	0.038	0.039	-2.6	103	0.00
16		Iodomethane	0.030	0.039	-30.0#	116	0.00
17		Methylene Chloride	0.054	0.051	5.6	103	0.00
18		Carbon disulfide	0.139	0.141	-1.4	104	0.00
19		trans-1,2-Dichloroethene	0.071	0.071	0.0	102	0.00
20		Methyl-t-butyl ether(MTBE)	0.127	0.113	11.0	89	0.00
21		Vinyl acetate	0.158	0.158	0.0	104	0.00
22		1,1-Dichloroethane	0.092	0.089	3.3	101	0.00
23		2-Butanone (MEK)	0.040	0.038	5.0	96	0.00
24		Diisopropyl ether	0.216	0.211	2.3	100	0.00
25		cis-1,2-Dichloroethene	0.074	0.073	1.4	101	0.00
26		2,2-Dichloropropane	0.054	0.054	0.0	103	0.00
27		t-Butyl ethyl ether	0.160	0.155	3.1	95	0.00
28		Chloroform	0.078	0.076	2.6	102	0.00
29		Bromochloromethane	0.030	0.030	0.0	101	0.00
30		Tetrahydrofuran	0.008	0.007	12.5	96	0.00
31	s	1,2-Dichloroethane-d4	0.360	0.360	0.0	103	0.00
32		1,1,1-Trichloroethane	0.055	0.054	1.8	100	0.00
33		1,2-Dichloroethane	0.069	0.065	5.8	99	0.00
34		1,1-Dichloropropene	0.060	0.060	0.0	103	0.00
35		Benzene	0.176	0.172	2.3	101	0.00
36		Carbon tetrachloride	0.042	0.042	0.0	101	0.00
37		Cyclohexane	0.062	0.062	0.0	102	0.00
38		t-Amyl methyl ether	0.058	0.054	6.9	98	0.00
39		Heptane	0.060	0.061	-1.7	108	0.00
40		1,2-Dichloropropane	0.057	0.055	3.5	103	0.00
41		Trichloroethene	0.038	0.038	0.0	101	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D
Acq On : 1 Nov 2021 12:18 pm
Sample : CCV1101
Misc :
MS Integration Params: RTEINT.P

Vial: 3
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42		Dibromomethane	0.035	0.036	-2.9	101	0.00
43		Bromodichloromethane	0.056	0.056	0.0	100	0.00
44		2-Chloroethyl vinyl ether	0.005	0.009	-80.0#	138	0.00
45		Methylcyclohexane	0.060	0.060	0.0	102	0.00
46		4-Methyl-2-pentanone(MIBK)	0.084	0.080	4.8	97	0.00
47		cis-1,3-Dichloropropene	0.078	0.078	0.0	101	0.00
48		Chlorobenzene-d5	1.000	1.000	0.0	104	0.00
49		trans-1,3-Dichloropropene	0.154	0.151	1.9	99	0.00
50	s	Toluene-d8	2.114	2.101	0.6	104	0.00
51		1,1,2-Trichloroethane	0.096	0.089	7.3	100	0.00
52		Toluene	0.401	0.390	2.7	100	0.00
53		2-Hexanone	0.131	0.124	5.3	97	0.00
54		1,3-Dichloropropane	0.189	0.182	3.7	99	0.00
55		Butyl acetate	0.274	0.260	5.1	96	0.00
56		Dibromochloromethane	0.096	0.094	2.1	98	0.00
57		1,2-Dibromoethane	0.108	0.104	3.7	98	0.00
58		Tetrachloroethene	0.060	0.060	0.0	102	0.00
59		Chlorobenzene	0.251	0.244	2.8	101	0.00
60		1,1,1,2-Tetrachloroethane	0.079	0.079	0.0	101	0.00
61		Ethylbenzene	0.422	0.414	1.9	100	0.00
62		m,p-Xylenes	0.152	0.152	0.0	99	0.00
63		Styrene	0.246	0.249	-1.2	99	0.00
64		Bromoform	0.059	0.059	0.0	97	0.00
65		o-Xylene	0.145	0.145	0.0	99	0.00
66		1,1,2,2-Tetrachloroethane	0.149	0.142	4.7	99	0.00
67		1,2,3-Trichloropropane	0.035	0.035	0.0	100	0.00
68		trans-1,4-Dichloro-2-butene	0.036	0.035	2.8	99	0.00
69		Isopropylbenzene	0.369	0.362	1.9	100	0.00
70		1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00
71	s	4-Bromofluorobenzene	0.589	0.582	1.2	101	0.00
72		Bromobenzene	0.070	0.069	1.4	99	0.00
73		n-Propylbenzene	0.363	0.366	-0.8	100	0.00
74		2-Chlorotoluene	0.206	0.222	-7.8	102	0.00
75		4-Chlorotoluene	0.201	0.222	-10.4	97	0.00
76		1,3,5-Trimethylbenzene	0.223	0.231	-3.6	100	0.00
77		tert-Butylbenzene	0.155	0.159	-2.6	99	0.00
78		1,2,4-Trimethylbenzene	0.118	0.122	-3.4	98	0.00
79		sec-Butylbenzene	0.267	0.279	-4.5	101	0.00
80		1,3-Dichlorobenzene	0.123	0.121	1.6	98	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T110121\T110103.D Vial: 3
Acq On : 1 Nov 2021 12:18 pm Operator: BAG
Sample : CCV1101 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81		1,4-Dichlorobenzene	0.125	0.124	0.8	98	0.00
82		p-Isopropyltoluene	0.213	0.221	-3.8	100	0.00
83		1,2,3-Trimethylbenzene	0.234	0.240	-2.6	98	0.00
84	s	1,2-Dichlorobenzene-d4	0.378	0.372	1.6	100	0.00
85		1,2-Dichlorobenzene	0.120	0.117	2.5	98	0.00
86		n-Butylbenzene	0.217	0.224	-3.2	101	0.00
87		Hexachloroethane	0.047	0.048	-2.1	97	0.00
88		1,2-Dibromo-3-chloropropane	0.013	0.013	0.0	97	0.00
89		1,2,4-Trichlorobenzene	0.067	0.067	0.0	99	0.00
90		Naphthalene	0.189	0.190	-0.5	97	0.00
91		Hexachlorobutadiene	0.024	0.025	-4.2	98	0.00
92		1,2,3-Trichlorobenzene	0.061	0.061	0.0	97	0.00
93		2-Methylnaphthalene	0.068	0.070	-2.9	94	0.00
94		1-Methylnaphalene	0.058	0.061	-5.2	94	0.00

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110104.D
Acq On : 1 Nov 2021 12:55 pm
Sample : BS1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00
Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.18	96	1359191	30.00	ug/L		0.00 107.29%
48) Chlorobenzene-d5	15.63	82	561485	30.00	ug/L		0.00 105.86%
70) 1,4-Dichlorobenzene-d4	19.71	150	692625	30.00	ug/L		0.00 102.35%
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.46	65	484967	29.72	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.07%				
50) Toluene-d8	13.45	98	1204948	30.45	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.50%				
71) 4-Bromofluorobenzene	17.55	174	417747	30.72	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.40%				
84) 1,2-Dichlorobenzene-d4	20.32	115	264555	30.34	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 101.13%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.04	85	47866	19.56	ug/L		99
3) Chloromethane	6.27	50	63966	20.59	ug/L		99
4) Vinyl chloride	6.43	62	45526	20.08	ug/L		99
5) Bromomethane	6.87	94	34977	21.77	ug/L	#	97
6) Chloroethane	6.98	64	36077	19.74	ug/L		96
7) Acrolein	7.41	56	4936	20.16	ug/L		95
8) Trichlorofluoromethane	7.46	101	51014	19.94	ug/L		100
9) Acetone	7.47	43	21942	20.07	ug/L		92
10) Diethyl ether	7.67	59	41092	20.04	ug/L		98
11) Acrylonitrile	7.95	53	25573	20.79	ug/L		97
12) t-Butanol	7.93	59	31752	103.27	ug/L	#	90
13) 1,1-Dichloroethene	8.00	61	65097	20.40	ug/L		97
14) MethylAcetate	8.02	43	60512	18.88	ug/L	#	98
15) Freon 113	8.06	101	34447	19.80	ug/L		95
16) Iodomethane	8.12	142	27630	20.82	ug/L		85
17) Methylene Chloride	8.19	84	46775	19.06	ug/L		94
18) Carbon disulfide	8.48	76	126982	20.19	ug/L		100
19) trans-1,2-Dichloroethene	8.74	61	64152	19.83	ug/L		95
20) Methyl-t-butyl ether(MTBE)	8.77	73	114127	19.79	ug/L		95
21) Vinyl acetate	8.92	43	144408	20.13	ug/L		99
22) 1,1-Dichloroethane	9.00	63	83116	20.04	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110104.D
Acq On : 1 Nov 2021 12:55 pm
Sample : BS1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
23)	2-Butanone (MEK)	9.25	43	34739	19.21	ug/L		98
24)	Diisopropyl ether	9.35	45	193721	19.81	ug/L		98
25)	cis-1,2-Dichloroethene	9.61	61	66328	19.73	ug/L		96
26)	2,2-Dichloropropane	9.80	77	49265	19.96	ug/L		95
27)	t-Butyl ethyl ether	9.78	59	142669	19.63	ug/L		98
28)	Chloroform	9.82	83	69972	19.90	ug/L		98
29)	Bromochloromethane	9.84	130	27496	20.22	ug/L		82
30)	Tetrahydrofuran	10.10	72	6636	18.79	ug/L		97
32)	1,1,1-Trichloroethane	10.55	97	49121	19.59	ug/L		98
33)	1,2-Dichloroethane	10.55	62	59533	19.10	ug/L		99
34)	1,1-Dichloropropene	10.76	75	54206	20.07	ug/L		96
35)	Benzene	10.97	78	157350	19.74	ug/L		98
36)	Carbon tetrachloride	11.00	117	37737	19.79	ug/L		98
37)	Cyclohexane	11.01	84	55326	19.81	ug/L		92
38)	t-Amyl methyl ether	11.14	43	48333	18.45	ug/L		81
39)	Heptane	11.60	43	52437	19.35	ug/L		97
40)	1,2-Dichloropropane	11.78	63	49959	19.48	ug/L		94
41)	Trichloroethene	11.82	130	35204	20.26	ug/L	#	89
42)	Dibromomethane	11.88	93	33119	20.93	ug/L		88
43)	Bromodichloromethane	11.97	83	50002	19.68	ug/L		99
44)	2-Chloroethyl vinyl ether	12.33	63	4275	18.24	ug/L		96
45)	Methylcyclohexane	12.51	55	54654	20.04	ug/L		99
46)	4-Methyl-2-pentanone(MIBK)	12.58	43	74055	19.54	ug/L		96
47)	cis-1,3-Dichloropropene	12.72	75	69779	19.63	ug/L		97
49)	trans-1,3-Dichloropropene	13.29	75	57001	19.81	ug/L		96
51)	1,1,2-Trichloroethane	13.54	83	33899	18.89	ug/L		95
52)	Toluene	13.57	91	149100	19.86	ug/L		98
53)	2-Hexanone	13.78	43	48337	19.67	ug/L	#	96
54)	1,3-Dichloropropane	13.88	76	69573	19.69	ug/L		92
55)	Butyl acetate	14.27	43	99132	19.36	ug/L		93
56)	Dibromochloromethane	14.33	129	34957	19.42	ug/L	#	96
57)	1,2-Dibromoethane	14.66	107	39956	19.68	ug/L	#	98
58)	Tetrachloroethene	14.74	131	22819	20.27	ug/L	#	93
59)	Chlorobenzene	15.69	112	93375	19.91	ug/L		95
60)	1,1,1,2-Tetrachloroethane	15.69	131	29298	19.75	ug/L	#	88
61)	Ethylbenzene	15.97	91	156545	19.84	ug/L		95
62)	m,p-Xylenes	16.14	106	115086	40.53	ug/L		87
63)	Styrene	16.70	104	92416	20.07	ug/L		92
64)	Bromoform	16.76	173	21743	19.56	ug/L		99
65)	o-Xylene	16.80	106	54793	20.14	ug/L		85
66)	1,1,2,2-Tetrachloroethane	17.10	83	55113	19.76	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110104.D
Acq On : 1 Nov 2021 12:55 pm
Sample : BS1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
67)	1,2,3-Trichloropropane	17.32	110	13330	20.28	ug/L		98
68)	trans-1,4-Dichloro-2-buten	17.33	53	12451	18.71	ug/L	#	96
69)	Isopropylbenzene	17.50	105	134929	19.56	ug/L		96
72)	Bromobenzene	17.91	158	33111	20.56	ug/L		90
73)	n-Propylbenzene	18.21	91	171596	20.47	ug/L		95
74)	2-Chlorotoluene	18.41	91	105920	22.22	ug/L		96
75)	4-Chlorotoluene	18.41	91	105920	22.79	ug/L		96
76)	1,3,5-Trimethylbenzene	18.50	105	107387	20.89	ug/L		92
77)	tert-Butylbenzene	19.15	91	73399	20.57	ug/L	#	81
78)	1,2,4-Trimethylbenzene	19.17	120	56018	20.62	ug/L		87
79)	sec-Butylbenzene	19.57	105	127788	20.72	ug/L		96
80)	1,3-Dichlorobenzene	19.63	146	57763	20.41	ug/L	#	90
81)	1,4-Dichlorobenzene	19.76	146	59301	20.52	ug/L	#	65
82)	p-Isopropyltoluene	19.81	119	101765	20.68	ug/L		95
83)	1,2,3-Trimethylbenzene	19.93	105	113972	21.13	ug/L		94
85)	1,2-Dichlorobenzene	20.37	146	55985	20.24	ug/L	#	97
86)	n-Butylbenzene	20.52	91	103066	20.61	ug/L		98
87)	Hexachloroethane	21.37	117	21338	19.87	ug/L		92
88)	1,2-Dibromo-3-chloropropan	21.37	155	6188	20.21	ug/L		88
89)	1,2,4-Trichlorobenzene	23.48	180	31728	20.43	ug/L	#	89
90)	Naphthalene	23.77	128	90551	20.70	ug/L	#	95
91)	Hexachlorobutadiene	24.15	225	11911	21.18	ug/L		93
92)	1,2,3-Trichlorobenzene	24.31	180	28987	20.46	ug/L		95
93)	2-Methylnaphthalene	26.03	142	31899	20.24	ug/L		96
94)	1-Methylnaphalene	26.47	142	28750	21.31	ug/L		95

(#) = qualifier out of range (m) = manual integration

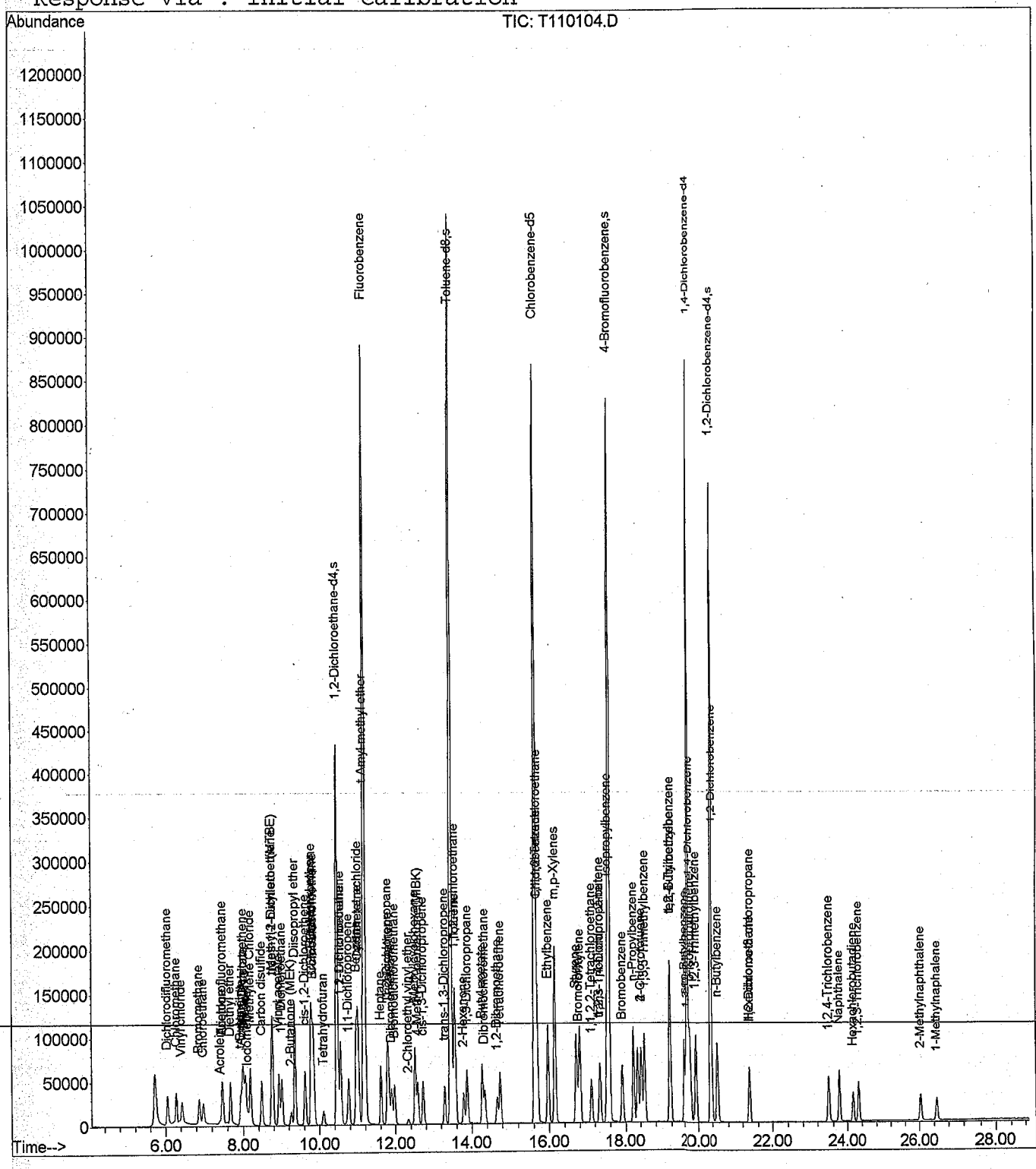
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110104.D
Acq On : 1 Nov 2021 12:55 pm
Sample : BS1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110106.D Vial: 6
Acq On : 1 Nov 2021 2:07 pm Operator: BAG
Sample : MB1101 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.18	96	1384282	30.00	ug/L	0.00 109.27%
48) Chlorobenzene-d5	15.62	82	560604	30.00	ug/L	0.00 105.70%
70) 1,4-Dichlorobenzene-d4	19.71	150	682706	30.00	ug/L	0.00 100.88%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.46	65	482988	29.06	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.87%			
50) Toluene-d8	13.46	98	1187179	30.05	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.17%			
71) 4-Bromofluorobenzene	17.56	174	417560	31.15	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.83%			
84) 1,2-Dichlorobenzene-d4	20.32	115	271579	31.59	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 105.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.27	50	827	N.D.		
4) Vinyl chloride	0.00	62	0	N.D.		
5) Bromomethane	6.88	94	173	~~2.59~~	ug/L #	91
6) Chloroethane	0.00	64	0	N.D.		
7) Acrolein	0.00	56	0	N.D.		
8) Trichlorofluoromethane	0.00	101	0	N.D.		
9) Acetone	7.48	43	1855	1.67	ug/L #	51
10) Diethyl ether	0.00	59	0	N.D.		
11) Acrylonitrile	0.00	53	0	N.D.		
12) t-Butanol	0.00	59	0	N.D.		
13) 1,1-Dichloroethene	0.00	61	0	N.D.		
14) MethylAcetate	8.04	43	455	N.D.		
15) Freon 113	0.00	101	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Methylene Chloride	8.18	84	800	N.D.		
~~18) Carbon disulfide~~	~~8.49~~	~~76~~	~~1345~~	~~N.D.~~		
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.		
21) Vinyl acetate	0.00	43	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110106.D
Acq On : 1 Nov 2021 2:07 pm
Sample : MB1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23) 2-Butanone (MEK)	9.35	43	784	0.43 ug/L #	62
24) Diisopropyl ether	0.00	45	0	N.D.	
25) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26) 2,2-Dichloropropane	0.00	77	0	N.D.	
27) t-Butyl ethyl ether	0.00	59	0	N.D.	
28) Chloroform	0.00	83	0	N.D.	
29) Bromochloromethane	0.00	130	0	N.D.	
30) Tetrahydrofuran	0.00	72	0	N.D.	
32) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
33) 1,2-Dichloroethane	10.49	62	74	N.D.	
34) 1,1-Dichloropropene	10.77	75	59	N.D.	
35) Benzene	10.97	78	337	N.D.	
36) Carbon tetrachloride	0.00	117	0	N.D.	
37) Cyclohexane	11.02	84	194	N.D.	
38) t-Amyl methyl ether	11.18	43	438	N.D.	
39) Heptane	11.61	43	696	N.D.	
40) 1,2-Dichloropropane	0.00	63	0	N.D.	
41) Trichloroethene	0.00	130	0	N.D.	
42) Dibromomethane	0.00	93	0	N.D.	
43) Bromodichloromethane	0.00	83	0	N.D.	
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.52	55	483	N.D.	
46) 4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49) trans-1,3-Dichloropropene	13.45	75	352	N.D.	
51) 1,1,2-Trichloroethane	13.55	83	124	N.D.	
52) Toluene	13.56	91	471	N.D.	
53) 2-Hexanone	13.46	43	7808	3.18 ug/L #	1
54) 1,3-Dichloropropane	0.00	76	0	N.D.	
55) Butyl acetate	0.00	43	0	N.D.	
56) Dibromochloromethane	0.00	129	0	N.D.	
57) 1,2-Dibromoethane	0.00	107	0	N.D.	
58) Tetrachloroethene	0.00	131	0	N.D.	
59) Chlorobenzene	15.69	112	433	N.D.	
60) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61) Ethylbenzene	15.96	91	941	N.D.	
62) m,p-Xylenes	16.15	106	748	N.D.	
63) Styrene	16.71	104	431	N.D.	
64) Bromoform	0.00	173	0	N.D.	
65) o-Xylene	16.81	106	124	N.D.	
66) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110106.D
Acq On : 1 Nov 2021 2:07 pm
Sample : MB1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67) 1,2,3-Trichloropropane	0.00	110	0	N.D.	
68) trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69) Isopropylbenzene	17.50	105	1814	N.D.	
72) Bromobenzene	0.00	158	0	N.D.	
73) n-Propylbenzene	18.21	91	1594	N.D.	
74) 2-Chlorotoluene	18.42	91	1016	N.D.	
75) 4-Chlorotoluene	18.42	91	1016	N.D.	
76) 1,3,5-Trimethylbenzene	18.50	105	778	N.D.	
77) tert-Butylbenzene	19.15	91	569	N.D.	
78) 1,2,4-Trimethylbenzene	19.15	120	245	N.D.	
79) sec-Butylbenzene	19.57	105	1174	N.D.	
80) 1,3-Dichlorobenzene	19.64	146	625	N.D.	
81) 1,4-Dichlorobenzene	19.76	146	733	N.D.	
82) p-Isopropyltoluene	19.81	119	951	N.D.	
83) 1,2,3-Trimethylbenzene	19.93	105	969	N.D.	
85) 1,2-Dichlorobenzene	20.37	146	756	N.D.	
86) n-Butylbenzene	20.53	91	1329	N.D.	
87) Hexachloroethane	0.00	117	0	N.D.	
88) 1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89) 1,2,4-Trichlorobenzene	23.49	180	544	N.D.	
90) Naphthalene	23.78	128	1783	0.41 ug/L #	73
91) Hexachlorobutadiene	0.00	225	0	N.D.	
92) 1,2,3-Trichlorobenzene	24.31	180	535	N.D.	
93) 2-Methylnaphthalene	26.02	142	522	N.D.	
94) 1-Methylnaphalene	26.47	142	579	0.44 ug/L #	64

(#) = qualifier out of range (m) = manual integration

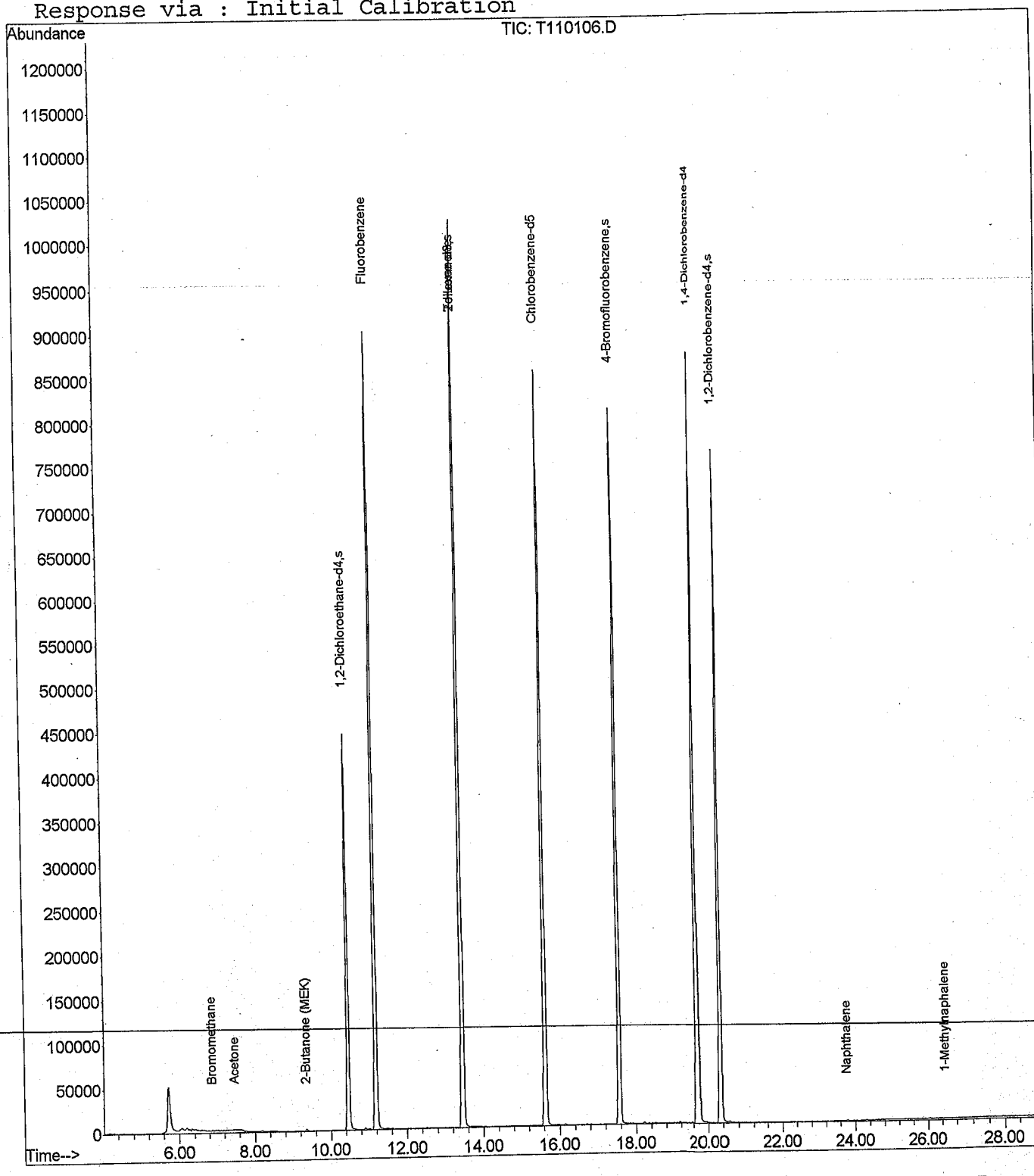
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110106.D
Acq On : 1 Nov 2021 2:07 pm
Sample : MB1101
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 6
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110107.D Vial: 7
Acq On : 1 Nov 2021 2:44 pm Operator: BAG
Sample : 21J1202-01 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Fluorobenzene	11.19	96	1348087	30.00	ug/L	0.00 / 106.41%
48) Chlorobenzene-d5	15.63	82	548841	30.00	ug/L	0.00 / 103.48%
70) 1,4-Dichlorobenzene-d4	19.71	150	671043	30.00	ug/L	0.00 / 99.16%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.46	65	469246	28.99	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 96.63%			
50) Toluene-d8	13.45	98	1161232	30.02	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.07%			
71) 4-Bromofluorobenzene	17.56	174	404557	30.70	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.33%			
84) 1,2-Dichlorobenzene-d4	20.33	115	260240	30.80	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.67%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.00	85	0	N.D.		
3) Chloromethane	6.28	50	1560	0.51	ug/L	93
4) Vinyl chloride	0.00	62	0	N.D.		
5) Bromomethane	6.89	94	659	~~2.86~~	ug/L #	30
6) Chloroethane	0.00	64	0	N.D.		
7) Acrolein	0.00	56	0	N.D.		
8) Trichlorofluoromethane	0.00	101	0	N.D.		
9) Acetone	7.47	43	2439	2.25	ug/L	93
10) Diethyl ether	0.00	59	0	N.D.		
11) Acrylonitrile	0.00	53	0	N.D.		
12) t-Butanol	0.00	59	0	N.D.		
13) 1,1-Dichloroethene	0.00	61	0	N.D.		
14) MethylAcetate	8.03	43	248	N.D.		
15) Freon 113	0.00	101	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Methylene Chloride	8.19	84	620	N.D.		
18) Carbon disulfide	8.49	76	605	N.D.		
19) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
20) Methyl-t-butyl ether(MTBE)	0.00	73	0	N.D.		
21) Vinyl acetate	0.00	43	0	N.D.		
22) 1,1-Dichloroethane	0.00	63	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110107.D Vial: 7
Acq On : 1 Nov 2021 2:44 pm Operator: BAG
Sample : 21J1202-01 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
23)	2-Butanone (MEK)	9.24	43	405	N.D.	
24)	Diisopropyl ether	0.00	45	0	N.D.	
25)	cis-1,2-Dichloroethene	0.00	61	0	N.D.	
26)	2,2-Dichloropropane	0.00	77	0	N.D.	
27)	t-Butyl ethyl ether	0.00	59	0	N.D.	
28)	Chloroform	0.00	83	0	N.D.	
29)	Bromochloromethane	0.00	130	0	N.D.	
30)	Tetrahydrofuran	0.00	72	0	N.D.	
32)	1,1,1-Trichloroethane	0.00	97	0	N.D.	
33)	1,2-Dichloroethane	10.48	62	153	N.D.	
34)	1,1-Dichloropropene	0.00	75	0	N.D.	
35)	Benzene	10.98	78	125	N.D.	
36)	Carbon tetrachloride	0.00	117	0	N.D.	
37)	Cyclohexane	10.91	84	2229	0.80 ug/L #	10
38)	t-Amyl methyl ether	11.18	43	425	N.D.	
39)	Heptane	11.61	43	231	N.D.	
40)	1,2-Dichloropropane	0.00	63	0	N.D.	
41)	Trichloroethene	0.00	130	0	N.D.	
42)	Dibromomethane	0.00	93	0	N.D.	
43)	Bromodichloromethane	0.00	83	0	N.D.	
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45)	Methylcyclohexane	12.52	55	64	N.D.	
46)	4-Methyl-2-pentanone(MIBK)	0.00	43	0	N.D.	
47)	cis-1,3-Dichloropropene	0.00	75	0	N.D.	
49)	trans-1,3-Dichloropropene	13.46	75	237	N.D.	
51)	1,1,2-Trichloroethane	13.55	83	67	N.D.	
52)	Toluene	13.57	91	341	N.D.	
53)	2-Hexanone	13.45	43	7720	~~3.21~~ ug/L #	1
54)	1,3-Dichloropropane	0.00	76	0	N.D.	
55)	Butyl acetate	0.00	43	0	N.D.	
56)	Dibromochloromethane	0.00	129	0	N.D.	
57)	1,2-Dibromoethane	0.00	107	0	N.D.	
58)	Tetrachloroethene	0.00	131	0	N.D.	
59)	Chlorobenzene	15.69	112	63	N.D.	
60)	1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
61)	Ethylbenzene	15.96	91	457	N.D.	
62)	m,p-Xylenes	16.14	106	303	N.D.	
63)	Styrene	0.00	104	0	N.D.	
64)	Bromoform	0.00	173	0	N.D.	
65)	o-Xylene	0.00	106	0	N.D.	
66)	1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110107.D Vial: 7
Acq On : 1 Nov 2021 2:44 pm Operator: BAG
Sample : 21J1202-01 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

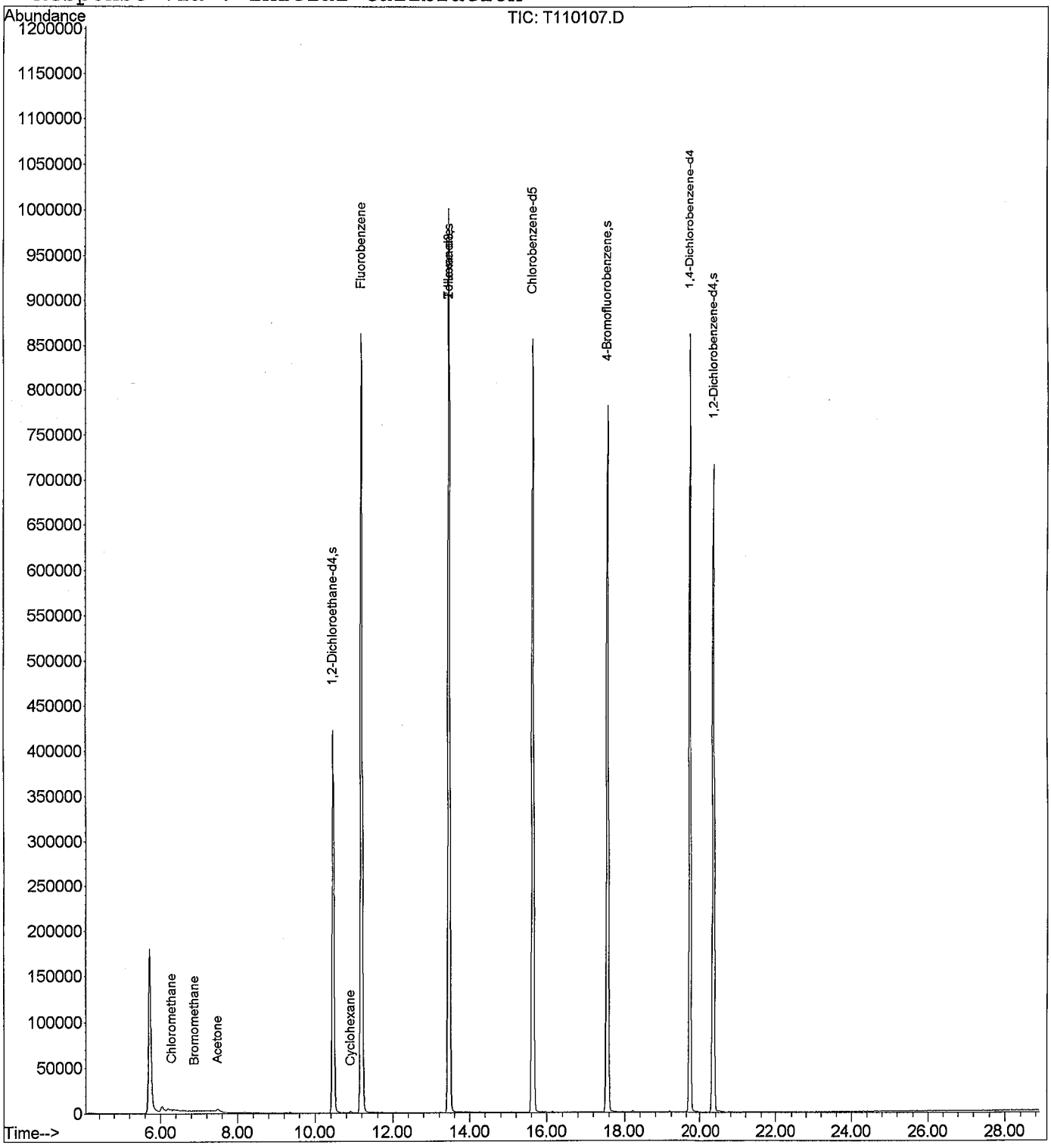
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.	
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.	
69)	Isopropylbenzene	17.56	105	1204	N.D.	
72)	Bromobenzene	0.00	158	0	N.D.	
73)	n-Propylbenzene	18.21	91	761	N.D.	
74)	2-Chlorotoluene	18.42	91	497	N.D.	
75)	4-Chlorotoluene	18.42	91	497	N.D.	
76)	1,3,5-Trimethylbenzene	18.50	105	421	N.D.	
77)	tert-Butylbenzene	19.16	91	145	N.D.	
78)	1,2,4-Trimethylbenzene	0.00	120	0	N.D.	
79)	sec-Butylbenzene	19.57	105	568	N.D.	
80)	1,3-Dichlorobenzene	19.64	146	295	N.D.	
81)	1,4-Dichlorobenzene	19.77	146	369	N.D.	
82)	p-Isopropyltoluene	19.80	119	432	N.D.	
83)	1,2,3-Trimethylbenzene	19.93	105	444	N.D.	
85)	1,2-Dichlorobenzene	20.37	146	413	N.D.	
86)	n-Butylbenzene	20.53	91	657	N.D.	
87)	Hexachloroethane	0.00	117	0	N.D.	
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.	
89)	1,2,4-Trichlorobenzene	23.49	180	214	N.D.	
90)	Naphthalene	23.78	128	1042	N.D.	
91)	Hexachlorobutadiene	0.00	225	0	N.D.	
92)	1,2,3-Trichlorobenzene	24.31	180	133	N.D.	
93)	2-Methylnaphthalene	26.05	142	302	N.D.	
94)	1-Methylnaphalene	26.47	142	127	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110107.D Vial: 7
Acq On : 1 Nov 2021 2:44 pm Operator: BAG
Sample : 21J1202-01 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110108.D Vial: 8
Acq On : 1 Nov 2021 3:29 pm Operator: BAG
Sample : 21J1202-01MS Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	11.18	96	1334431	30.00	ug/L	0.00 105.33%
48) Chlorobenzene-d5	15.63	82	549169	30.00	ug/L	0.00 103.54%
70) 1,4-Dichlorobenzene-d4	19.71	150	671985	30.00	ug/L	0.00 99.30%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.46	65	475377	29.67	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 98.90%			
50) Toluene-d8	13.46	98	1171729	30.28	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.93%			
71) 4-Bromofluorobenzene	17.56	174	399742	30.30	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 101.00%			
84) 1,2-Dichlorobenzene-d4	20.32	115	258982	30.61	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.06	85	49702	20.68	ug/L	99
3) Chloromethane	6.28	50	63746	20.90	ug/L	100
4) Vinyl chloride	6.43	62	48624	21.84	ug/L	99
5) Bromomethane	6.88	94	32833	20.92	ug/L #	98
6) Chloroethane	6.98	64	34673	19.32	ug/L	96
7) Acrolein	7.41	56	4323	17.98	ug/L	94
8) Trichlorofluoromethane	7.47	101	51408	20.47	ug/L	100
9) Acetone	7.48	43	20020	18.65	ug/L	91
10) Diethyl ether	7.67	59	37564	18.65	ug/L	98
11) Acrylonitrile	7.95	53	22015	18.23	ug/L	98
12) t-Butanol	7.93	59	23436	77.64	ug/L #	89
13) 1,1-Dichloroethene	7.99	61	63039	20.12	ug/L	97
14) MethylAcetate	8.03	43	54314	17.26	ug/L #	98
15) Freon 113	8.07	101	35586	20.84	ug/L	96
16) Iodomethane	8.13	142	28537	21.49	ug/L	85
17) Methylene Chloride	8.18	84	45519	18.89	ug/L	95
18) Carbon disulfide	8.48	76	121740	19.72	ug/L	100
19) trans-1,2-Dichloroethene	8.74	61	62246	19.60	ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.77	73	98290	17.36	ug/L	95
21) Vinyl acetate	8.93	43	130318	18.51	ug/L	99
22) 1,1-Dichloroethane	9.01	63	80016	19.65	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110108.D
Acq On : 1 Nov 2021 3:29 pm
Sample : 21J1202-01MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
23)	2-Butanone (MEK)	9.26	43	30019	16.91	ug/L	97
24)	Diisopropyl ether	9.35	45	181472	18.90	ug/L	99
25)	cis-1,2-Dichloroethene	9.62	61	63264	19.16	ug/L	96
26)	2,2-Dichloropropane	9.80	77	50304	20.76	ug/L	94
27)	t-Butyl ethyl ether	9.78	59	134345	18.83	ug/L	98
28)	Chloroform	9.83	83	67278	19.49	ug/L	98
29)	Bromochloromethane	9.85	130	25964	19.44	ug/L	82
30)	Tetrahydrofuran	10.10	72	5579	16.09	ug/L	97
32)	1,1,1-Trichloroethane	10.55	97	47503	19.30	ug/L	98
33)	1,2-Dichloroethane	10.55	62	56551	18.48	ug/L	98
34)	1,1-Dichloropropene	10.77	75	53088	20.02	ug/L	97
35)	Benzene	10.97	78	151984	19.42	ug/L	99
36)	Carbon tetrachloride	11.01	117	36569	19.54	ug/L	99
37)	Cyclohexane	11.02	84	55312	20.17	ug/L	92
38)	t-Amyl methyl ether	11.14	43	46493	18.08	ug/L #	81
39)	Heptane	11.61	43	58898	22.14	ug/L	96
40)	1,2-Dichloropropane	11.78	63	47773	18.97	ug/L	95
41)	Trichloroethene	11.81	130	33783	19.80	ug/L #	90
42)	Dibromomethane	11.89	93	30736	19.79	ug/L	88
43)	Bromodichloromethane	11.98	83	47894	19.20	ug/L	99
44)	2-Chloroethyl vinyl ether	12.52	63	659	6.38	ug/L #	1
45)	Methylcyclohexane	12.52	55	55661	20.79	ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.59	43	64043	17.21	ug/L	97
47)	cis-1,3-Dichloropropene	12.72	75	66803	19.14	ug/L	97
49)	trans-1,3-Dichloropropene	13.29	75	53345	18.96	ug/L	96
51)	1,1,2-Trichloroethane	13.54	83	31774	18.11	ug/L	98
52)	Toluene	13.56	91	146728	19.99	ug/L	98
53)	2-Hexanone	13.78	43	40343	16.79	ug/L #	96
54)	1,3-Dichloropropane	13.87	76	65876	19.06	ug/L	92
55)	Butyl acetate	14.28	43	87741	17.52	ug/L	94
56)	Dibromochloromethane	14.34	129	32313	18.35	ug/L #	96
57)	1,2-Dibromoethane	14.67	107	36528	18.40	ug/L #	98
58)	Tetrachloroethene	14.74	131	22715	20.63	ug/L	92
59)	Chlorobenzene	15.69	112	89341	19.47	ug/L	95
60)	1,1,1,2-Tetrachloroethane	15.69	131	27843	19.19	ug/L #	89
61)	Ethylbenzene	15.97	91	153333	19.87	ug/L	96
62)	m,p-Xylenes	16.15	106	110759	39.88	ug/L	87
63)	Styrene	16.71	104	88240	19.59	ug/L	93
64)	Bromoform	16.75	173	19166	17.63	ug/L	100
65)	o-Xylene	16.80	106	52486	19.72	ug/L	84
66)	1,1,2,2-Tetrachloroethane	17.10	83	49270	18.06	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110108.D Vial: 8
Acq On : 1 Nov 2021 3:29 pm Operator: BAG
Sample : 21J1202-01MS Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
67)	1,2,3-Trichloropropane	17.33	110	12060	18.76	ug/L		99
68)	trans-1,4-Dichloro-2-buten	17.33	53	11537	17.72	ug/L		98
69)	Isopropylbenzene	17.51	105	130310	19.31	ug/L		95
72)	Bromobenzene	17.92	158	30949	19.80	ug/L		89
73)	n-Propylbenzene	18.22	91	167561	20.60	ug/L		95
74)	2-Chlorotoluene	18.42	91	87769	18.98	ug/L	#	85
75)	4-Chlorotoluene	18.42	91	87769	19.46	ug/L	#	85
76)	1,3,5-Trimethylbenzene	18.51	105	102349	20.52	ug/L		92
77)	tert-Butylbenzene	19.15	91	72275	20.88	ug/L	#	83
78)	1,2,4-Trimethylbenzene	19.17	120	54508	20.68	ug/L		88
79)	sec-Butylbenzene	19.57	105	123861	20.70	ug/L		96
80)	1,3-Dichlorobenzene	19.64	146	55746	20.30	ug/L	#	90
81)	1,4-Dichlorobenzene	19.76	146	56442	20.13	ug/L	#	65
82)	p-Isopropyltoluene	19.80	119	99700	20.88	ug/L		95
83)	1,2,3-Trimethylbenzene	19.93	105	108029	20.64	ug/L		94
85)	1,2-Dichlorobenzene	20.37	146	53288	19.85	ug/L	#	95
86)	n-Butylbenzene	20.53	91	102745	21.18	ug/L		97
87)	Hexachloroethane	21.38	117	20041	19.23	ug/L		90
88)	1,2-Dibromo-3-chloropropan	21.38	155	4993	16.80	ug/L		90
89)	1,2,4-Trichlorobenzene	23.49	180	29817	19.79	ug/L	#	89
90)	Naphthalene	23.78	128	77727	18.31	ug/L	#	95
91)	Hexachlorobutadiene	24.15	225	11894	21.80	ug/L		93
92)	1,2,3-Trichlorobenzene	24.31	180	26662	19.39	ug/L		94
93)	2-Methylnaphthalene	26.03	142	24642	16.12	ug/L		96
94)	1-Methylnaphalene	26.48	142	22079	16.87	ug/L		95

(#) = qualifier out of range (m) = manual integration

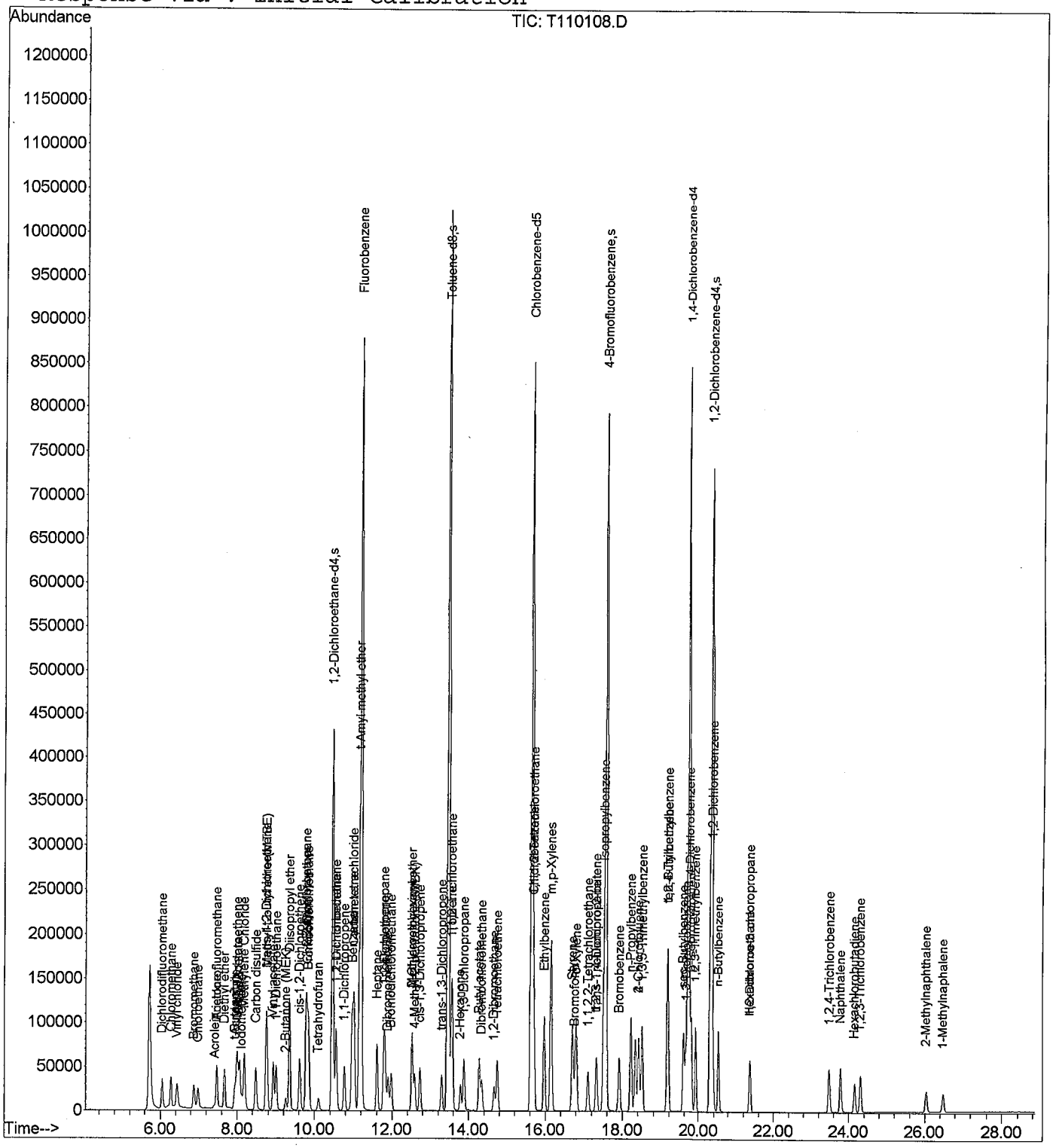
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110108.D
Acq On : 1 Nov 2021 3:29 pm
Sample : 21J1202-01MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 8
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110109.D
Acq On : 1 Nov 2021 4:05 pm
Sample : 21J1202-01MSD
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 9
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N
IS QA File : C:\HPCHEM\1\DATA\T110121\T110103.D (1 Nov 2021 12:18 pm)

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) / Rcv(Ar)
1) Fluorobenzene	11.19	96	1336882	30.00	ug/L	0.00 / 105.53%
48) Chlorobenzene-d5	15.63	82	554166	30.00	ug/L	0.00 / 104.48%
70) 1,4-Dichlorobenzene-d4	19.71	150	686456	30.00	ug/L	0.00 / 101.44%
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.46	65	482672	30.07	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 100.23%			
50) Toluene-d8	13.45	98	1194805	30.59	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.97%			
71) 4-Bromofluorobenzene	17.56	174	412286	30.59	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 101.97%			
84) 1,2-Dichlorobenzene-d4	20.33	115	264519	30.60	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.05	85	47503	19.73	ug/L	100
3) Chloromethane	6.27	50	59908	19.60	ug/L	99
4) Vinyl chloride	6.43	62	43229	19.38	ug/L	93
5) Bromomethane	6.87	94	32426	20.66	ug/L #	96
6) Chloroethane	6.98	64	33978	18.90	ug/L	95
7) Acrolein	7.42	56	4257	17.67	ug/L #	81
8) Trichlorofluoromethane	7.46	101	48599	19.31	ug/L	99
9) Acetone	7.48	43	22711	21.12	ug/L	93
10) Diethyl ether	7.67	59	40206	19.93	ug/L	97
11) Acrylonitrile	7.95	53	24212	20.02	ug/L	96
12) t-Butanol	7.94	59	30661	101.39	ug/L #	91
13) 1,1-Dichloroethene	8.00	61	61477	19.59	ug/L	97
14) MethylAcetate	8.02	43	57792	18.33	ug/L #	98
15) Freon 113	8.06	101	33608	19.64	ug/L	95
16) Iodomethane	8.12	142	29331	21.85	ug/L	86
17) Methylene Chloride	8.19	84	46242	19.15	ug/L	93
18) Carbon disulfide	8.48	76	120921	19.55	ug/L	100
19) trans-1,2-Dichloroethene	8.74	61	61256	19.25	ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.77	73	108773	19.18	ug/L	95
21) Vinyl acetate	8.93	43	134580	19.08	ug/L	99
22) 1,1-Dichloroethane	9.00	63	79239	19.43	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110109.D
Acq On : 1 Nov 2021 4:05 pm
Sample : 21J1202-01MSD
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021

Vial: 9
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
23)	2-Butanone (MEK)	9.25	43	33928	19.07	ug/L	97
24)	Diisopropyl ether	9.35	45	184832	19.21	ug/L	98
25)	cis-1,2-Dichloroethene	9.62	61	62716	18.96	ug/L	95
26)	2,2-Dichloropropane	9.80	77	49776	20.50	ug/L	94
27)	t-Butyl ethyl ether	9.78	59	136419	19.08	ug/L	98
28)	Chloroform	9.83	83	66904	19.35	ug/L	98
29)	Bromochloromethane	9.85	130	26335	19.69	ug/L	81
30)	Tetrahydrofuran	10.10	72	6485	18.67	ug/L	93
32)	1,1,1-Trichloroethane	10.56	97	47091	19.09	ug/L	98
33)	1,2-Dichloroethane	10.56	62	57015	18.60	ug/L	100
34)	1,1-Dichloropropene	10.77	75	51347	19.33	ug/L	96
35)	Benzene	10.97	78	149495	19.06	ug/L	98
36)	Carbon tetrachloride	11.00	117	34995	18.66	ug/L	98
37)	Cyclohexane	11.01	84	52237	19.02	ug/L	93
38)	t-Amyl methyl ether	11.14	43	46507	18.05	ug/L #	81
39)	Heptane	11.60	43	53799	20.19	ug/L	97
40)	1,2-Dichloropropane	11.78	63	47924	19.00	ug/L	94
41)	Trichloroethene	11.82	130	33349	19.51	ug/L #	88
42)	Dibromomethane	11.89	93	31358	20.15	ug/L	87
43)	Bromodichloromethane	11.97	83	47828	19.14	ug/L	100
44)	2-Chloroethyl vinyl ether	12.51	63	650	6.35	ug/L #	1
45)	Methylcyclohexane	12.51	55	51317	19.14	ug/L	99
46)	4-Methyl-2-pentanone(MIBK)	12.58	43	70568	18.93	ug/L	96
47)	cis-1,3-Dichloropropene	12.73	75	66612	19.05	ug/L	97
49)	trans-1,3-Dichloropropene	13.30	75	53333	18.78	ug/L	96
51)	1,1,2-Trichloroethane	13.55	83	32503	18.35	ug/L	93
52)	Toluene	13.57	91	144089	19.45	ug/L	99
53)	2-Hexanone	13.79	43	45480	18.75	ug/L #	100
54)	1,3-Dichloropropane	13.88	76	66112	18.95	ug/L	91
55)	Butyl acetate	14.27	43	93070	18.42	ug/L	93
56)	Dibromochloromethane	14.34	129	32778	18.45	ug/L #	96
57)	1,2-Dibromoethane	14.66	107	37806	18.87	ug/L #	98
58)	Tetrachloroethene	14.75	131	22050	19.84	ug/L #	92
59)	Chlorobenzene	15.69	112	88106	19.03	ug/L	95
60)	1,1,1,2-Tetrachloroethane	15.70	131	27715	18.93	ug/L #	88
61)	Ethylbenzene	15.97	91	148904	19.12	ug/L	96
62)	m,p-Xylenes	16.15	106	107097	38.22	ug/L	87
63)	Styrene	16.70	104	87870	19.33	ug/L	92
64)	Bromoform	16.76	173	20214	18.42	ug/L	100
65)	o-Xylene	16.80	106	52714	19.63	ug/L	83
66)	1,1,2,2-Tetrachloroethane	17.11	83	52791	19.18	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110109.D Vial: 9
Acq On : 1 Nov 2021 4:05 pm Operator: BAG
Sample : 21J1202-01MSD Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

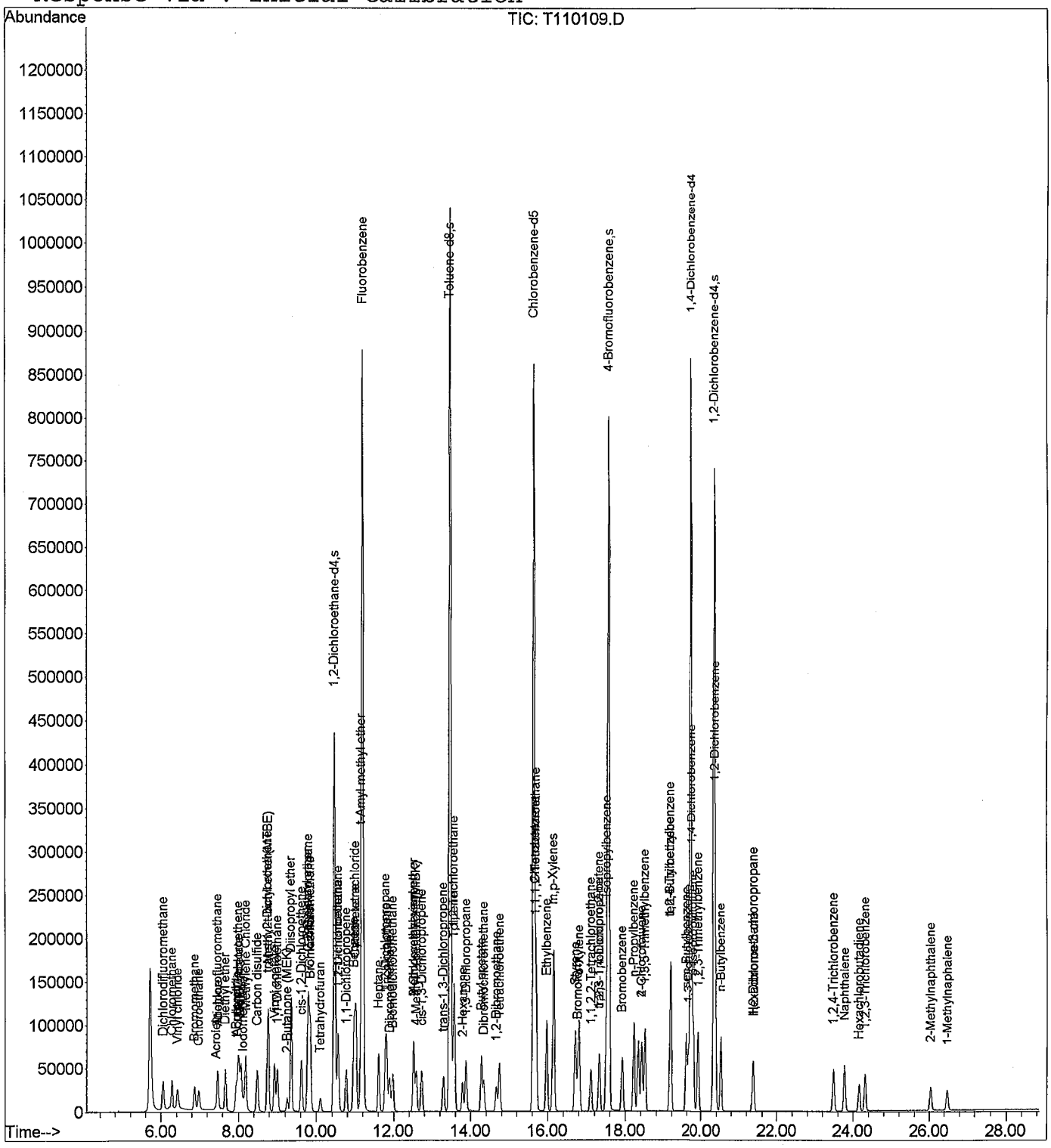
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
67)	1,2,3-Trichloropropane	17.32	110	12896	19.88 ug/L		99
68)	trans-1,4-Dichloro-2-buten	17.33	53	12316	18.75 ug/L		98
69)	Isopropylbenzene	17.50	105	129918	19.08 ug/L		96
72)	Bromobenzene	17.91	158	31304	19.61 ug/L		89
73)	n-Propylbenzene	18.21	91	161890	19.48 ug/L		95
74)	2-Chlorotoluene	18.41	91	97643	20.67 ug/L		93
75)	4-Chlorotoluene	18.41	91	97643	21.19 ug/L		93
76)	1,3,5-Trimethylbenzene	18.50	105	100027	19.64 ug/L		93
77)	tert-Butylbenzene	19.16	91	68871	19.48 ug/L	#	82
78)	1,2,4-Trimethylbenzene	19.17	120	52709	19.58 ug/L		87
79)	sec-Butylbenzene	19.58	105	120626	19.73 ug/L		96
80)	1,3-Dichlorobenzene	19.63	146	55071	19.63 ug/L	#	91
81)	1,4-Dichlorobenzene	19.76	146	56216	19.63 ug/L	#	64
82)	p-Isopropyltoluene	19.81	119	96950	19.88 ug/L		95
83)	1,2,3-Trimethylbenzene	19.93	105	104981	19.64 ug/L		95
85)	1,2-Dichlorobenzene	20.37	146	52947	19.31 ug/L	#	95
86)	n-Butylbenzene	20.53	91	99040	19.99 ug/L		98
87)	Hexachloroethane	21.38	117	19523	18.34 ug/L		90
88)	1,2-Dibromo-3-chloropropan	21.38	155	5619	18.51 ug/L		91
89)	1,2,4-Trichlorobenzene	23.48	180	28925	18.79 ug/L	#	89
90)	Naphthalene	23.77	128	82106	18.94 ug/L		95
91)	Hexachlorobutadiene	24.15	225	11190	20.08 ug/L		92
92)	1,2,3-Trichlorobenzene	24.31	180	26471	18.85 ug/L		94
93)	2-Methylnaphthalene	26.03	142	28029	17.95 ug/L		95
94)	1-Methylnaphalene	26.47	142	24801	18.55 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T110121\T110109.D Vial: 9
Acq On : 1 Nov 2021 4:05 pm Operator: BAG
Sample : 21J1202-01MSD Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 3 11:58 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Mon Nov 01 14:18:49 2021
Response via : Initial Calibration



Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1202

8260

Calibration

SEQUENCE LOG INSTRUMENT: TRIXIE

Date: 10-28-21 Analyst: DAL

Data Path: T102821 Curve Date: 10-28-21

LIMS Batch: T116221

Tune Passes: (Y) or N CCV Passes (Y) or N

Bromoform Test Passes: (Y) or N

Logbook Review
Date: 11/3/21 Initials: NW

Comments:

File Name	Run Method	Analytical Method 8260D	624.1	524.2	Sample ID	Dilution	Time	IS (P=Pass / F=Fail)	Surr (P=Pass / F=Fail)	pH<2	Additional Information
T102801	8260013	X			50ng BFB 1028		1154			NA	
2					05P		1238	P	P		
3					1P		1314				
4					5P ~~10P~~		1351				
5					10P ~~20P~~		1428				
6				BAL 10-29-21	20P ~~50P~~		1504				
7					50P ~~100P~~		1540				
8					100P		1617				
9					5A		1653				
10					200P		1730				
11					10A		1807				
12					ICV		1843				
13					25A		1919				
14					50A		1955				
15					100A		2032				
16					200A		2108				
17					400A		2144				
18					MB		2220				
19					21J0350-01		2257				
20					Closing CCV		2333				
21					CCB		009				
22					LOD 5		046				
23					LOD 1		122				
24					LOD 04		158				
											BAL 10-29-21

CCV Internal Std Ranges:
Fluorobenzene: 633494 - 2533736
Chlorobenzene d5: 265196 - 1060782
1,4-Dichlorobenzene d4: 338360 - 1354478

Standard ID: 21J2836
CCV: 25µL: of the above std into 50mLs DI H_2O
BS: 10µL: of the above std into 50mLs DI H_2O
Spike ID: 21J2835
ICV: 10µL of the above std into 50mLs DI H_2O

Bromoform ID: 21I1406
Bromoform: 10µL of the above std into 50mLs DI H_2O
BFB ID: 21J0150B
50ng BFB: 25µL of the above std into 50mLs DI H_2O
25ng BFB: 12.5µL of the above std into 50mLs of DI H_2O
IS/Surr. ID: 21A0409

Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

* 200 ppb removed from VC -BAG 10-29-21

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

	Compound	0.5	5	10	50	1	100	200	Avg	%RSD
		20								
1)	Fluorobenzene	ISTD								
2)	Dichlorodifluor	0.048	0.054	0.056	0.053	0.056	0.056	0.054		5.20
		0.055								
3)	Chloromethane	0.119	0.068	0.071	0.066	0.087	0.069	0.069	-----	
		0.069								
							L	M= 0.069	R=1.000	
								B= -0.000		
4)	Vinyl chloride	0.060	0.048	0.052	0.046	0.055	0.040	*	0.050	13.18
		0.050								
5)	Bromomethane	0.086	0.028	0.031	0.034	0.032	0.037	0.040	-----	
		0.033								
							L	M= 0.040	R=0.998	
								B= -0.004		
6)	Chloroethane	0.040	0.041	0.040	0.043	0.040	0.039	0.040		3.75
		0.040								
7)	Acrolein	0.005	0.006	0.005		0.005	0.005	0.005		3.16
		0.005								
8)	Trichlorofluoro	0.051	0.057	0.058	0.057	0.057	0.057	0.056		4.22
		0.058								
9)	Acetone	0.028	0.024	0.023		0.022	0.023	0.024		7.93
		0.024								
10)	Diethyl ether	0.037	0.046	0.046	0.048	0.046	0.046	0.046	0.045	7.37
		0.047								
11)	Acrylonitrile	0.023	0.027	0.027	0.028	0.028	0.028	0.028	0.027	7.00
		0.028								
12)	t-Butanol	0.004	0.007	0.007	0.007	0.007	0.008		0.007	17.65
		0.007								
13)	1,1-Dichloroeth	0.064	0.072	0.073	0.069	0.072	0.071	0.070		4.43
		0.073								
14)	MethylAcetate	0.073	0.068	0.070	0.081	0.067	0.067	0.071		6.92
		0.070								
15)	Freon 113	0.035	0.039	0.040	0.039	0.039	0.038	0.038		4.47
		0.039								
16)	Iodomethane	0.012	0.019	0.035		0.043	0.046	-----		
		0.026								
							L	M= 0.047	R=0.997	
								B= -0.014		
17)	Methylene Chlor	0.053	0.052	0.052	0.070	0.051	0.050	0.054		13.02
		0.052								
18)	Carbon disulfid	0.125	0.137	0.142	0.142	0.142	0.143	0.139		4.51
		0.140								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files
0.5 =T102802.D 5 =T102804.D 10 =T102805.D
50 =T102807.D 1 =T102803.D 100 =T102808.D
200 =T102810.D 20 =T102806.D =

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
19)		trans-1,2-Dichl	0.065	0.072	0.073	0.071	0.073	0.072	0.071		3.81
			0.073								
20)		Methyl-t-butyl	0.113	0.125	0.124	0.133	0.129	0.133	0.130	0.127	5.20
			0.132								
21)		Vinyl acetate	0.156	0.156	0.158		0.159	0.159	0.158		1.07
			0.161								
22)		1,1-Dichloroeth	0.088	0.091	0.093	0.092	0.092	0.092	0.092		2.06
			0.093								
23)		2-Butanone (MEK	0.042	0.039	0.041		0.039	0.038	0.040		3.42
			0.041								
24)		Diisopropyl eth	0.210	0.215	0.221	0.212	0.217	0.217	0.216		1.81
			0.219								
25)		cis-1,2-Dichlor	0.070	0.073	0.075	0.077	0.075	0.074	0.074		2.99
			0.075								
26)		2,2-Dichloropro	0.053	0.056	0.055	0.056	0.054	0.051	0.054		3.46
			0.056								
27)		t-Butyl ethyl e	0.149	0.153	0.170	0.151	0.171	0.167	0.160		5.92
			0.162								
28)		Chloroform	0.073	0.076	0.079	0.079	0.079	0.078	0.077	0.078	3.14
			0.080								
29)		Bromochlorometh	0.030	0.030	0.031	0.029	0.031	0.029	0.030		3.22
			0.031								
30)		Tetrahydrofuran	0.007	0.008	0.008		0.008	0.008	0.008		2.56
			0.008								
31)	s	1,2-Dichloroeth	0.363	0.365	0.357	0.364	0.364	0.351	0.352	0.360	1.66
			0.364								
32)		1,1,1-Trichloro	0.051	0.055	0.057	0.055	0.056	0.055	0.055		3.54
			0.057								
33)		1,2-Dichloroeth	0.070	0.067	0.069	0.069	0.073	0.067	0.066	0.069	3.50
			0.070								
34)		1,1-Dichloropro	0.056	0.059	0.062	0.058	0.062	0.061	0.060		3.82
			0.060								
35)		Benzene	0.166	0.173	0.178	0.183	0.179	0.176	0.176		3.09
			0.177								
36)		Carbon tetrachl	0.038	0.042	0.044	0.039	0.045	0.044	0.042		6.34
			0.043								
37)		Cyclohexane	0.057	0.062	0.063	0.059	0.064	0.064	0.062		4.46
			0.062								
~~38)~~		~~t-Amyl methyl e~~	~~0.057~~	~~0.057~~	~~0.058~~		~~0.059~~	~~0.058~~	~~0.058~~		~~1.22~~
			~~0.058~~								
39)		Heptane	0.057	0.059	0.059	0.072	0.058	0.056	0.060		8.99
			0.058								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files
0.5 =T102802.D 5 =T102804.D 10 =T102805.D
50 =T102807.D 1 =T102803.D 100 =T102808.D
200 =T102810.D 20 =T102806.D =

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
40)		1,2-Dichloropro		0.055	0.056	0.056	0.058	0.057	0.056	0.057	1.88
			0.057								
41)		Trichloroethene		0.036	0.039	0.040	0.035	0.040	0.040	0.038	5.88
			0.040								
42)		Dibromomethane	0.026	0.035	0.037	0.037	0.031	0.038	0.037	0.035	11.55
			0.037								
43)		Bromodichlorome		0.054	0.056	0.059	0.051	0.058	0.058	0.056	4.94
			0.057								
44)		2-Chloroethyl v		0.002	0.003	0.006		0.006		-----	
			0.005								
								L	M= 0.007	R=0.998	
									B= -0.001		
45)		Methylcyclohexa		0.055	0.061	0.062	0.062	0.062	0.060	0.060	4.20
			0.060								
46)		4-Methyl-2-pent		0.083	0.082	0.086		0.084	0.082	0.084	1.86
			0.085								
47)		cis-1,3-Dichlor		0.074	0.078	0.081	0.074	0.082	0.081	0.078	4.23
			0.080								
48)		Chlorobenzene-d5		----------ISTD----------							
49)		trans-1,3-Dichl		0.143	0.152	0.159	0.145	0.162	0.158	0.154	4.74
			0.157								
50)	s	Toluene-d8	2.118	2.094	2.127	2.119	2.102	2.167	2.054	2.114	1.54
			2.132								
51)		1,1,2-Trichloro	0.103	0.094	0.094	0.093	0.105	0.094	0.089	0.096	5.68
			0.094								
52)		Toluene		0.380	0.404	0.406	0.405	0.414	0.391	0.401	2.88
			0.408								
53)		2-Hexanone		0.127	0.129	0.134		0.135	0.129	0.131	2.34
			0.133								
54)		1,3-Dichloropro		0.188	0.190	0.192	0.183	0.192	0.185	0.189	1.90
			0.192								
55)		Butyl acetate		0.264	0.267	0.282	0.264	0.288	0.271	0.274	3.45
			0.280								
56)		Dibromochlorome		0.091	0.095	0.101	0.088	0.102	0.100	0.096	5.60
			0.098								
57)		1,2-Dibromoetha		0.105	0.108	0.111	0.104	0.112	0.109	0.108	2.87
			0.110								
58)		Tetrachloroethe		0.056	0.062	0.062	0.056	0.063	0.060	0.060	4.87
			0.062								
59)		Chlorobenzene		0.238	0.253	0.252	0.248	0.255	0.252	0.251	2.46
			0.256								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files
0.5 =T102802.D 5 =T102804.D 10 =T102805.D
50 =T102807.D 1 =T102803.D 100 =T102808.D
200 =T102810.D 20 =T102806.D =

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
60)		1,1,1,2-Tetrach		0.075	0.080	0.082	0.071	0.083	0.082	0.079	5.67
			0.082								
61)		Ethylbenzene		0.383	0.424	0.434	0.412	0.442	0.430	0.422	4.65
			0.427								
62)		m,p-Xylenes		0.141	0.153	0.159	0.142	0.159	0.152	0.152	4.97
			0.156								
63)		Styrene		0.227	0.245	0.262	0.209	0.267	0.258	0.246	8.53
			0.254								
64)		Bromoform		0.057	0.058	0.064	0.049	0.065	0.063	0.059	9.05
			0.061								
65)		o-Xylene		0.137	0.146	0.153	0.134	0.152	0.146	0.145	4.92
			0.150								
66)		1,1,2,2-Tetrach	0.153	0.148	0.149	0.150	0.149	0.149	0.141	0.149	2.45
			0.153								
67)		1,2,3-Trichloro		0.037	0.037	0.036	0.029	0.036	0.034	0.035	8.33
			0.037								
68)		trans-1,4-Dichl		0.034	0.034	0.037		0.037	0.035	0.036	3.60
			0.036								
69)		Isopropylbenzen		0.339	0.364	0.379	0.389	0.378	0.364	0.369	4.30
			0.368								
70)		1,4-Dichlorobenzene-d	----------	ISTD	----------						
71)	s	4-Bromofluorobe	0.606	0.605	0.606	0.585	0.607	0.573	0.543	0.589	3.81
			0.586								
72)		Bromobenzene		0.070	0.071	0.071	0.068	0.071	0.067	0.070	2.40
			0.071								
73)		n-Propylbenzene		0.340	0.375	0.371	0.361	0.371	0.355	0.363	3.35
			0.368								
74)		2-Chlorotoluene		0.194	0.204	0.221	0.239	0.197	0.185	0.206	8.89
			0.205								
75)		4-Chlorotoluene		0.181	0.195	0.232	0.233	0.196	0.176	0.201	11.19
			0.196								
76)		1,3,5-Trimethyl		0.211	0.229	0.233	0.214	0.229	0.211	0.223	4.51
			0.231								
77)		tert-Butylbenze		0.150	0.162	0.162	0.154	0.156	0.140	0.155	5.09
			0.158								
78)		1,2,4-Trimethyl		0.113	0.120	0.125	0.111	0.122	0.111	0.118	4.94
			0.121								
79)		sec-Butylbenzen		0.253	0.273	0.280	0.265	0.277	0.250	0.267	4.41
			0.272								
80)		1,3-Dichloroben		0.121	0.125	0.125	0.129	0.120	0.112	0.123	4.52
			0.125								

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Response Factor Report Trixie

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration

Calibration Files

0.5	=T102802.D	5	=T102804.D	10	=T102805.D
50	=T102807.D	1	=T102803.D	100	=T102808.D
200	=T102810.D	20	=T102806.D		=

		Compound	0.5	5	10	50	1	100	200	Avg	%RSD
			20								
81)		1,4-Dichloroben		0.125	0.130	0.128	0.133	0.120	0.112	0.125	5.73
			0.128								
82)		p-Isopropyltolu		0.205	0.219	0.224	0.213	0.217	0.195	0.213	4.71
			0.220								
83)		1,2,3-Trimethyl		0.225	0.243	0.248	0.226	0.237	0.212	0.234	5.58
			0.245								
84)	s	1,2-Dichloroben	0.395	0.390	0.392	0.377	0.394	0.355	0.334	0.378	5.81
			0.385								
85)		1,2-Dichloroben		0.121	0.124	0.120	0.132	0.114	0.106	0.120	6.82
			0.122								
86)		n-Butylbenzene		0.208	0.224	0.227	0.221	0.220	0.196	0.217	5.06
			0.221								
87)		Hexachloroethan		0.044	0.046	0.050	0.042	0.050	0.046	0.047	6.36
			0.048								
88)		1,2-Dibromo-3-c		0.012	0.013	0.014		0.014	0.013	0.013	5.25
			0.014								
89)		1,2,4-Trichloro		0.064	0.067	0.069	0.064	0.071	0.066	0.067	4.51
			0.070								
90)		Naphthalene		0.170	0.182	0.198		0.206	0.187	0.189	6.67
			0.192								
91)		Hexachlorobutad		0.025	0.026	0.025	0.022	0.024	0.023	0.024	5.78
			0.026								
92)		1,2,3-Trichloro		0.057	0.060	0.064		0.065	0.060	0.061	4.88
			0.063								
93)		2-Methylnaphtha		0.051	0.059	0.076		0.082	0.075	0.068	17.20
			0.067								
94)		1-Methylnaphale		0.046	0.052	0.065		0.068	0.061	0.058	14.10
			0.058								

Total Average %RSD 5.28

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D Vial: 2
Acq On : 28 Oct 2021 12:38 pm Operator: BAG
Sample : 05P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.25	96	1178224	30.00	ug/L	-0.01
48) Chlorobenzene-d5	15.69	82	478339	30.00	ug/L	-0.01
70) 1,4-Dichlorobenzene-d4	19.77	150	566608	30.00	ug/L	-0.01
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	427720	30.23	ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 100.77%			
50) Toluene-d8	13.52	98	1013272	30.06	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.20%			
71) 4-Bromofluorobenzene	17.63	174	343516	30.88	ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.93%			
84) 1,2-Dichlorobenzene-d4	20.39	115	223564	31.34	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.47%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.11	85	905	0.43	ug/L #	37
3) Chloromethane	6.33	50	2346	0.87	ug/L #	87
4) Vinyl chloride	6.49	62	1182	0.60	ug/L #	1
5) Bromomethane	6.94	94	1683	3.57	ug/L #	40
6) Chloroethane	7.04	64	1080	0.68	ug/L #	69
7) Acrolein	0.00	56	0	N.D.		
8) Trichlorofluoromethane	7.53	101	1105	0.50	ug/L #	81
9) Acetone	7.55	43	922	0.97	ug/L #	66
10) Diethyl ether	7.73	59	733	0.41	ug/L #	11
11) Acrylonitrile	8.00	53	443	0.42	ug/L #	86
12) t-Butanol	7.99	59	437	1.64	ug/L #	14
13) 1,1-Dichloroethene	8.06	61	1309	0.47	ug/L	96
14) MethylAcetate	8.09	43	1817	0.65	ug/L #	63
15) Freon 113	8.13	101	705	0.47	ug/L #	82
16) Iodomethane	0.00	142	0	N.D.		
17) Methylene Chloride	8.25	84	1586	0.75	ug/L	95
18) Carbon disulfide	8.54	76	2933	0.54	ug/L #	86
19) trans-1,2-Dichloroethene	8.80	61	1319	0.47	ug/L #	88
20) Methyl-t-butyl ether(MTBE)	8.83	73	2226	0.45	ug/L #	92
21) Vinyl acetate	8.99	43	2911	0.47	ug/L #	82
22) 1,1-Dichloroethane	9.08	63	1684	0.47	ug/L	92
23) 2-Butanone (MEK)	9.32	43	908	0.58	ug/L #	62
24) Diisopropyl ether	9.41	45	4153	0.49	ug/L #	85
25) cis-1,2-Dichloroethene	9.68	61	1328	0.46	ug/L	96
26) 2,2-Dichloropropane	9.86	77	991	0.46	ug/L #	59
27) t-Butyl ethyl ether	9.84	59	2655	0.42	ug/L	95
28) Chloroform	9.90	83	1428	0.47	ug/L #	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D Vial: 2
Acq On : 28 Oct 2021 12:38 pm Operator: BAG
Sample : 05P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Bromochloromethane	9.92	130	365	0.31 ug/L	#	53
30)	Tetrahydrofuran	0.00	72	0	N.D.		
32)	1,1,1-Trichloroethane	10.62	97	993	0.46 ug/L	#	53
33)	1,2-Dichloroethane	10.63	62	1375	0.51 ug/L	#	42
34)	1,1-Dichloropropene	10.84	75	1071	0.46 ug/L	#	85
35)	Benzene	11.04	78	3433	0.50 ug/L		95
36)	Carbon tetrachloride	11.07	117	645	0.39 ug/L	#	84
37)	Cyclohexane	11.08	84	1156	0.48 ug/L	#	96
38)	t-Amyl methyl ether	11.20	43	1630	0.72 ug/L	#	1
39)	Heptane	11.67	43	1344	0.57 ug/L	#	96
40)	1,2-Dichloropropane	11.84	63	964	0.43 ug/L	#	83
41)	Trichloroethene	11.89	130	663	0.44 ug/L	#	88
42)	Dibromomethane	11.96	93	518	0.38 ug/L	#	82
43)	Bromodichloromethane	12.04	83	871	0.40 ug/L	#	95
44)	2-Chloroethyl vinyl ether	0.00	63	0	N.D.		
45)	Methylcyclohexane	12.59	55	1196	0.51 ug/L	#	86
46)	4-Methyl-2-pentanone(MIBK)	12.64	43	1406	0.43 ug/L	#	77
47)	cis-1,3-Dichloropropene	12.79	75	1229	0.40 ug/L	#	76
49)	trans-1,3-Dichloropropene	13.35	75	992	0.40 ug/L	#	59
51)	1,1,2-Trichloroethane	13.61	83	825	0.54 ug/L	#	46
52)	Toluene	13.63	91	3174	0.50 ug/L	#	97
53)	2-Hexanone	13.85	43	970	0.46 ug/L	#	82
54)	1,3-Dichloropropane	13.95	76	1310	0.44 ug/L		89
55)	Butyl acetate	14.35	43	2114	0.48 ug/L	#	86
56)	Dibromochloromethane	14.41	129	613	0.40 ug/L	#	77
57)	1,2-Dibromoethane	14.73	107	662	0.38 ug/L	#	95
58)	Tetrachloroethene	14.81	131	423	0.44 ug/L	#	82
59)	Chlorobenzene	15.75	112	1949	0.49 ug/L	#	20
60)	1,1,1,2-Tetrachloroethane	15.76	131	465	0.37 ug/L	#	27
61)	Ethylbenzene	16.03	91	3317	0.49 ug/L		97
62)	m,p-Xylenes	16.21	106	2230	0.92 ug/L		92
63)	Styrene	16.78	104	1595	0.41 ug/L		88
64)	Bromoform	16.81	173	360	0.38 ug/L	#	27
65)	o-Xylene	16.87	106	1103	0.48 ug/L		82
66)	1,1,2,2-Tetrachloroethane	17.18	83	1221	0.51 ug/L	#	81
67)	1,2,3-Trichloropropane	0.00	110	0	N.D.		
68)	trans-1,4-Dichloro-2-buten	0.00	53	0	N.D.		
69)	Isopropylbenzene	17.58	105	3511	0.60 ug/L	#	90
72)	Bromobenzene	17.97	158	564	0.43 ug/L		81
73)	n-Propylbenzene	18.27	91	3642	0.53 ug/L		100
74)	2-Chlorotoluene	18.39	91	2158	0.55 ug/L		92

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D
Acq On : 28 Oct 2021 12:38 pm
Sample : 05P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 2
Operator: BAG
Inst : Trixie
Multiplr: 1.00
Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

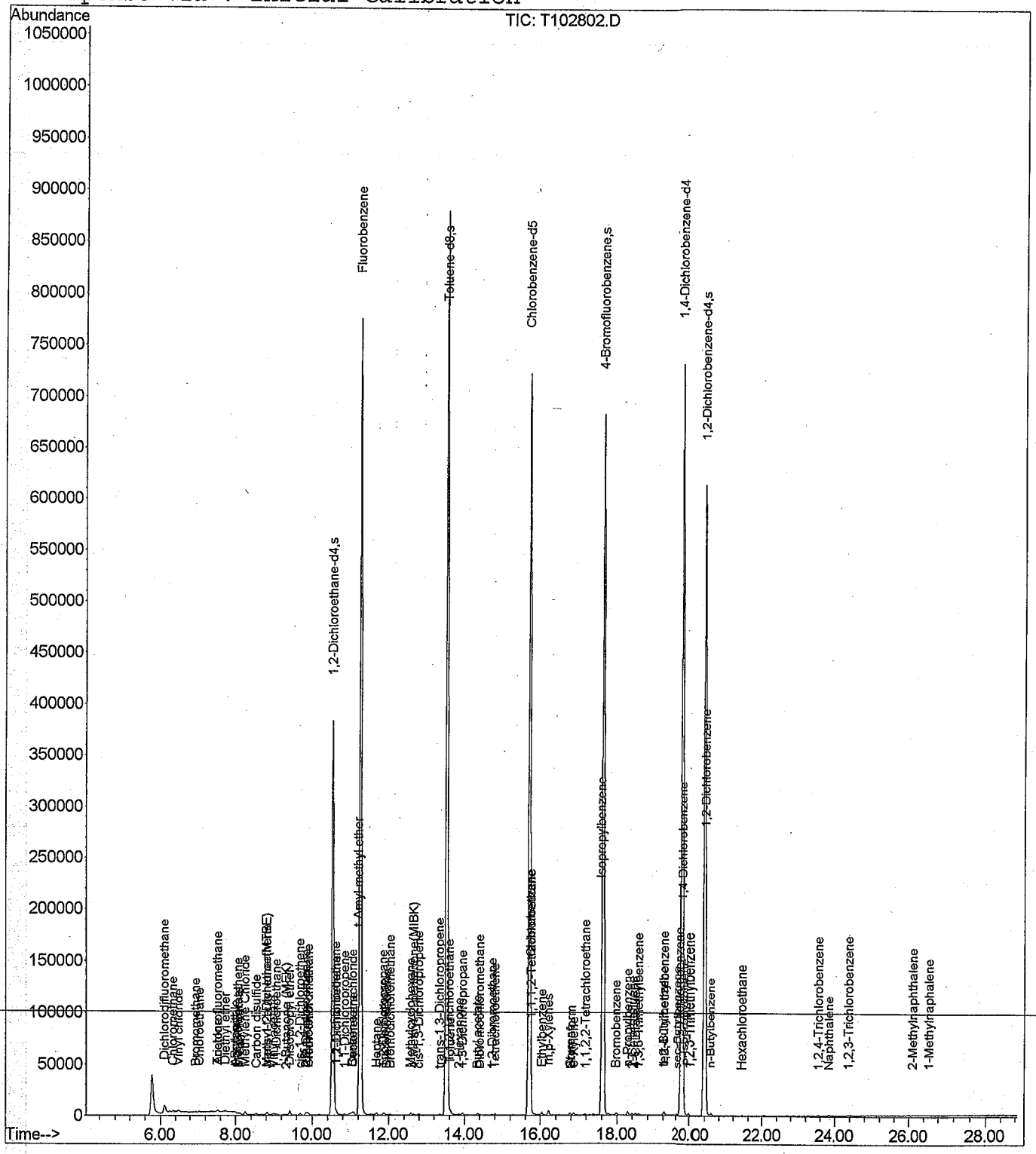
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	2243	0.59	ug/L		93
76)	1,3,5-Trimethylbenzene	18.56	105	2082	0.50	ug/L		97
77)	tert-Butylbenzene	19.21	91	1375	0.47	ug/L	#	78
78)	1,2,4-Trimethylbenzene	19.23	120	964	0.43	ug/L		97
79)	sec-Butylbenzene	19.64	105	2514	0.50	ug/L	#	92
80)	1,3-Dichlorobenzene	19.71	146	1163	0.50	ug/L	#	29
81)	1,4-Dichlorobenzene	19.82	146	1277	0.54	ug/L	#	29
82)	p-Isopropyltoluene	19.87	119	2096	0.52	ug/L	#	86
83)	1,2,3-Trimethylbenzene	20.00	105	2236	0.51	ug/L	#	92
85)	1,2-Dichlorobenzene	20.43	146	1232	0.54	ug/L	#	25
86)	n-Butylbenzene	20.59	91	2173	0.53	ug/L		98
87)	Hexachloroethane	21.45	117	309	0.35	ug/L	#	40
88)	1,2-Dibromo-3-chloropropan	0.00	155	0	N.D.			
89)	1,2,4-Trichlorobenzene	23.56	180	545	0.43	ug/L	#	51
90)	Naphthalene	23.84	128	1574	0.44	ug/L	#	68
91)	Hexachlorobutadiene	0.00	225	0	N.D.			
92)	1,2,3-Trichlorobenzene	24.37	180	534	0.46	ug/L	#	42
93)	2-Methylnaphthalene	26.11	142	308	0.24	ug/L	#	77
94)	1-Methylnaphalene	26.54	142	183	0.17	ug/L	#	14

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102802.D Vial: 2
Acq On : 28 Oct 2021 12:38 pm Operator: BAG
Sample : 05P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D Vial: 3
Acq On : 28 Oct 2021 1:14 pm Operator: BAG
Sample : 1P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.26	96	1183681	30.00	ug/L	0.00
48) Chlorobenzene-d5	15.70	82	487824	30.00	ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	588645	30.00	ug/L	0.00
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	431361	30.35	ug/L	0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.17%			
50) Toluene-d8	13.53	98	1025469	29.83	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.43%			
71) 4-Bromofluorobenzene	17.63	174	357247	30.91	ug/L	0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 103.03%			
84) 1,2-Dichlorobenzene-d4	20.40	115	231913	31.29	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 104.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.11	85	2101	0.99	ug/L #	74
3) Chloromethane	6.33	50	3416	1.26	ug/L	96
4) Vinyl chloride	6.49	62	2180	1.10	ug/L #	23
5) Bromomethane	6.92	94	1246	3.28	ug/L #	94
6) Chloroethane	7.04	64	1708	1.07	ug/L #	77
7) Acrolein	7.47	56	165	0.77	ug/L #	58
8) Trichlorofluoromethane	7.53	101	2231	1.00	ug/L #	97
9) Acetone	7.54	43	2142	2.25	ug/L #	86
10) Diethyl ether	7.73	59	1803	1.01	ug/L #	72
11) Acrylonitrile	8.03	53	1088	1.02	ug/L #	91
12) t-Butanol	8.01	59	1293	4.83	ug/L #	78
13) 1,1-Dichloroethene	8.05	61	2714	0.98	ug/L	96
14) MethylAcetate	8.09	43	3190	1.14	ug/L #	83
15) Freon 113	8.13	101	1538	1.02	ug/L	93
16) Iodomethane	8.19	142	185	7.98	ug/L #	25
17) Methylene Chloride	8.25	84	2765	1.29	ug/L	99
18) Carbon disulfide	8.55	76	5594	1.02	ug/L	98
19) trans-1,2-Dichloroethene	8.81	61	2820	1.00	ug/L	99
20) Methyl-t-butyl ether(MTBE)	8.84	73	5079	1.01	ug/L	97
21) Vinyl acetate	9.00	43	6011	0.96	ug/L	97
22) 1,1-Dichloroethane	9.07	63	3637	1.01	ug/L	96
23) 2-Butanone (MEK)	9.32	43	1904	1.21	ug/L #	71
24) Diisopropyl ether	9.42	45	8372	0.98	ug/L	91
25) cis-1,2-Dichloroethene	9.68	61	3056	1.04	ug/L	98
26) 2,2-Dichloropropane	9.87	77	2195	1.02	ug/L	93
27) t-Butyl ethyl ether	9.84	59	5951	0.94	ug/L	97
28) Chloroform	9.89	83	3123	1.02	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D Vial: 3
Acq On : 28 Oct 2021 1:14 pm Operator: BAG
Sample : 1P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.91	130	1131	0.95 ug/L #	84
30) Tetrahydrofuran	10.18	72	185	0.60 ug/L #	1
32) 1,1,1-Trichloroethane	10.63	97	2170	0.99 ug/L	97
33) 1,2-Dichloroethane	10.63	62	2898	1.07 ug/L #	42
34) 1,1-Dichloropropene	10.84	75	2288	0.97 ug/L	93
35) Benzene	11.03	78	7229	1.04 ug/L	99
36) Carbon tetrachloride	11.07	117	1555	0.94 ug/L #	92
37) Cyclohexane	11.09	84	2347	0.96 ug/L	88
38) t-Amyl methyl ether	11.21	43	2775	1.22 ug/L #	1
39) Heptane	11.68	43	2830	1.20 ug/L #	92
40) 1,2-Dichloropropane	11.85	63	2302	1.03 ug/L #	89
41) Trichloroethene	11.89	130	1373	0.91 ug/L	92
42) Dibromomethane	11.96	93	1239	0.90 ug/L #	79
43) Bromodichloromethane	12.05	83	2001	0.90 ug/L #	97
44) 2-Chloroethyl vinyl ether	0.00	63	0	N.D.	
45) Methylcyclohexane	12.58	55	2459	1.04 ug/L	95
46) 4-Methyl-2-pentanone(MIBK)	12.65	43	3349	1.01 ug/L #	89
47) cis-1,3-Dichloropropene	12.79	75	2930	0.95 ug/L	93
49) trans-1,3-Dichloropropene	13.36	75	2364	0.95 ug/L #	91
51) 1,1,2-Trichloroethane	13.62	83	1709	1.10 ug/L #	44
52) Toluene	13.64	91	6589	1.01 ug/L	98
53) 2-Hexanone	13.87	43	2045	0.96 ug/L #	82
54) 1,3-Dichloropropane	13.95	76	2983	0.97 ug/L	99
55) Butyl acetate	14.34	43	4292	0.96 ug/L	95
56) Dibromochloromethane	14.41	129	1423	0.91 ug/L #	84
57) 1,2-Dibromoethane	14.74	107	1686	0.96 ug/L #	92
58) Tetrachloroethene	14.81	131	903	0.92 ug/L	86
59) Chlorobenzene	15.76	112	4028	0.99 ug/L #	20
60) 1,1,1,2-Tetrachloroethane	15.75	131	1160	0.90 ug/L #	73
61) Ethylbenzene	16.04	91	6693	0.98 ug/L	98
62) m,p-Xylenes	16.21	106	4627	1.88 ug/L	91
63) Styrene	16.78	104	3404	0.85 ug/L	93
64) Bromoform	16.83	173	796	0.82 ug/L #	90
65) o-Xylene	16.88	106	2180	0.92 ug/L	89
66) 1,1,2,2-Tetrachloroethane	17.18	83	2416	1.00 ug/L #	95
67) 1,2,3-Trichloropropane	17.39	110	468	0.82 ug/L #	61
~~68) trans-1,4-Dichloro-2-buten~~	~~17.40~~	~~53~~	~~463~~	~~0.80 ug/L #~~	~~34~~
69) Isopropylbenzene	17.57	105	6319	1.05 ug/L	99
72) Bromobenzene	17.98	158	1331	0.97 ug/L	96
73) n-Propylbenzene	18.29	91	7080	0.99 ug/L	98
74) 2-Chlorotoluene	18.40	91	4693	1.16 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D Vial: 3
Acq On : 28 Oct 2021 1:14 pm Operator: BAG
Sample : 1P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

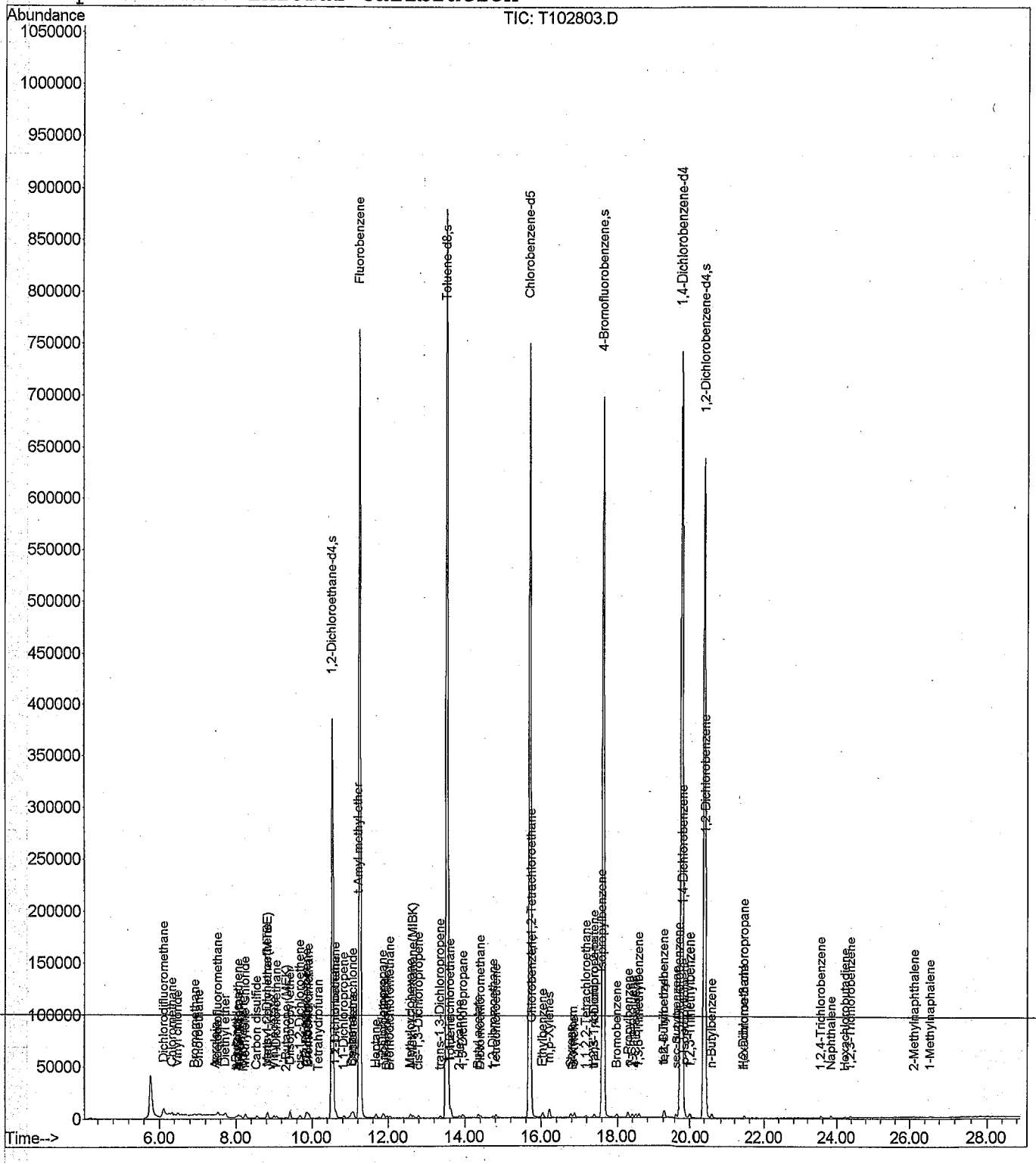
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	4566	1.16	ug/L		92
76)	1,3,5-Trimethylbenzene	18.57	105	4205	0.96	ug/L		95
77)	tert-Butylbenzene	19.23	91	3013	0.99	ug/L		83
78)	1,2,4-Trimethylbenzene	19.24	120	2186	0.95	ug/L		84
79)	sec-Butylbenzene	19.64	105	5206	0.99	ug/L	#	94
80)	1,3-Dichlorobenzene	19.71	146	2528	1.05	ug/L	#	29
81)	1,4-Dichlorobenzene	19.83	146	2605	1.06	ug/L	#	29
82)	p-Isopropyltoluene	19.88	119	4187	1.00	ug/L	#	91
83)	1,2,3-Trimethylbenzene	20.00	105	4428	0.97	ug/L	#	93
85)	1,2-Dichlorobenzene	20.44	146	2588	1.10	ug/L	#	25
86)	n-Butylbenzene	20.59	91	4331	1.02	ug/L		98
87)	Hexachloroethane	21.44	117	824	0.90	ug/L		88
88)	1,2-Dibromo-3-chloropropan	21.45	155	60	0.23	ug/L	#	1
89)	1,2,4-Trichlorobenzene	23.55	180	1247	0.94	ug/L	#	73
90)	Naphthalene	23.84	128	3293	0.89	ug/L	#	85
91)	Hexachlorobutadiene	24.22	225	432	0.90	ug/L	#	32
92)	1,2,3-Trichlorobenzene	24.38	180	1088	0.90	ug/L	#	58
93)	2-Methylnaphthalene	26.11	142	822	0.61	ug/L	#	76
94)	1-Methylnaphalene	26.55	142	684	0.60	ug/L	#	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102803.D Vial: 3
Acq On : 28 Oct 2021 1:14 pm Operator: BAG
Sample : 121028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D
Acq On : 28 Oct 2021 1:51 pm
Sample : 5P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 4
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.25	96	1182141	30.00	ug/L	-0.01
48) Chlorobenzene-d5	15.70	82	490874	30.00	ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.77	150	595701	30.00	ug/L	-0.01
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	431915	30.43	ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.43%			
50) Toluene-d8	13.53	98	1028102	29.72	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.07%			
71) 4-Bromofluorobenzene	17.63	174	360597	30.83	ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.77%			
84) 1,2-Dichlorobenzene-d4	20.39	115	232244	30.96	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.10	85	9474	4.45	ug/L #	97
3) Chloromethane	6.34	50	13323	4.93	ug/L	99
4) Vinyl chloride	6.48	62	9374	4.75	ug/L #	87
5) Bromomethane	6.93	94	5474	5.96	ug/L #	97
6) Chloroethane	7.04	64	7845	4.93	ug/L #	93
7) Acrolein	7.47	56	1067	5.01	ug/L #	82
8) Trichlorofluoromethane	7.53	101	10084	4.53	ug/L	99
9) Acetone	7.54	43	5441	5.72	ug/L	96
10) Diethyl ether	7.73	59	9047	5.07	ug/L	95
11) Acrylonitrile	8.01	53	5380	5.03	ug/L	99
12) t-Butanol	7.99	59	6976	26.09	ug/L #	88
13) 1,1-Dichloroethene	8.06	61	12614	4.55	ug/L	96
14) MethylAcetate	8.09	43	14362	5.15	ug/L #	99
15) Freon 113	8.13	101	6822	4.51	ug/L	96
16) Iodomethane	8.18	142	2335	9.14	ug/L #	82
17) Methylene Chloride	8.24	84	10417	4.88	ug/L	96
18) Carbon disulfide	8.54	76	24668	4.51	ug/L	100
19) trans-1,2-Dichloroethene	8.81	61	12898	4.58	ug/L	96
20) Methyl-t-butyl ether(MTBE)	8.83	73	24578	4.90	ug/L	98
21) Vinyl acetate	9.00	43	30782	4.93	ug/L	99
22) 1,1-Dichloroethane	9.08	63	17244	4.78	ug/L	99
23) 2-Butanone (MEK)	9.32	43	8203	5.22	ug/L	100
24) Diisopropyl ether	9.41	45	41315	4.86	ug/L	98
25) cis-1,2-Dichloroethene	9.69	61	13822	4.73	ug/L	96
26) 2,2-Dichloropropane	9.87	77	10384	4.84	ug/L	95
27) t-Butyl ethyl ether	9.85	59	29381	4.65	ug/L	98
28) Chloroform	9.90	83	14888	4.87	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D Vial: 4
Acq On : 28 Oct 2021 1:51 pm Operator: BAG
Sample : 5P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Bromochloromethane	9.92	130	5814	4.91 ug/L		82
30)	Tetrahydrofuran	10.17	72	1473	4.80 ug/L		100
32)	1,1,1-Trichloroethane	10.62	97	10108	4.63 ug/L		96
33)	1,2-Dichloroethane	10.62	62	13185	4.86 ug/L		99
34)	1,1-Dichloropropene	10.84	75	10961	4.67 ug/L		97
35)	Benzene	11.04	78	32648	4.71 ug/L		99
36)	Carbon tetrachloride	11.08	117	7400	4.46 ug/L		97
37)	Cyclohexane	11.09	84	11153	4.59 ug/L		96
38)	t-Amyl methyl ether	11.21	43	11301	4.96 ug/L	#	45
39)	Heptane	11.68	43	11178	4.74 ug/L		98
40)	1,2-Dichloropropane	11.85	63	10892	4.88 ug/L		94
41)	Trichloroethene	11.88	130	6997	4.63 ug/L		92
42)	Dibromomethane	11.96	93	6907	5.02 ug/L		88
43)	Bromodichloromethane	12.05	83	10673	4.83 ug/L		100
44)	2-Chloroethyl vinyl ether	12.41	63	335	5.44 ug/L	#	48
45)	Methylcyclohexane	12.59	55	10804	4.56 ug/L		97
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	16319	4.95 ug/L		97
47)	cis-1,3-Dichloropropene	12.79	75	14530	4.70 ug/L		98
49)	trans-1,3-Dichloropropene	13.36	75	11676	4.64 ug/L		97
51)	1,1,2-Trichloroethane	13.61	83	7666	4.89 ug/L	#	45
52)	Toluene	13.64	91	31097	4.74 ug/L		98
53)	2-Hexanone	13.85	43	10406	4.84 ug/L	#	91
54)	1,3-Dichloropropane	13.94	76	15361	4.97 ug/L		97
55)	Butyl acetate	14.34	43	21620	4.83 ug/L		94
56)	Dibromochloromethane	14.42	129	7443	4.73 ug/L	#	95
57)	1,2-Dibromoethane	14.73	107	8589	4.84 ug/L	#	95
58)	Tetrachloroethene	14.81	131	4622	4.70 ug/L		92
59)	Chlorobenzene	15.76	112	19474	4.75 ug/L	#	60
60)	1,1,1,2-Tetrachloroethane	15.77	131	6099	4.70 ug/L	#	88
61)	Ethylbenzene	16.04	91	31299	4.54 ug/L		97
62)	m,p-Xylenes	16.22	106	23013	9.27 ug/L		88
63)	Styrene	16.78	104	18552	4.61 ug/L		92
64)	Bromoform	16.82	173	4681	4.82 ug/L		99
65)	o-Xylene	16.87	106	11240	4.73 ug/L		86
66)	1,1,2,2-Tetrachloroethane	17.17	83	12106	4.96 ug/L		99
67)	1,2,3-Trichloropropane	17.40	110	3009	5.24 ug/L		99
68)	trans-1,4-Dichloro-2-buten	17.40	53	2822	4.85 ug/L	#	93
69)	Isopropylbenzene	17.58	105	27735	4.60 ug/L		96
72)	Bromobenzene	17.99	158	6933	5.00 ug/L		90
73)	n-Propylbenzene	18.29	91	33784	4.69 ug/L		96
74)	2-Chlorotoluene	18.40	91	19219	4.69 ug/L	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D Vial: 4
Acq On : 28 Oct 2021 1:51 pm Operator: BAG
Sample : 5P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

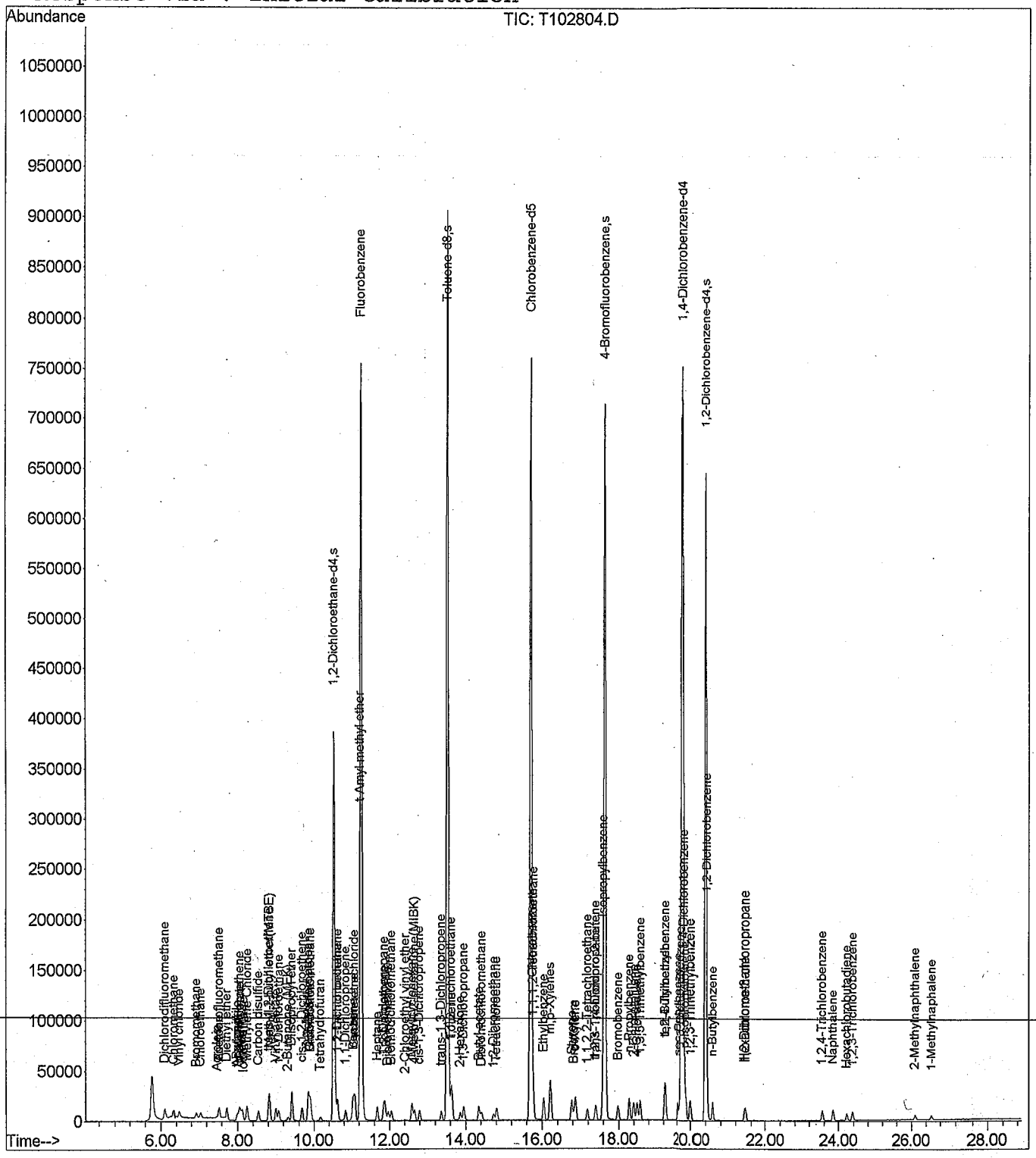
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	17941	4.49	ug/L	#	83
76)	1,3,5-Trimethylbenzene	18.58	105	20900	4.73	ug/L		94
77)	tert-Butylbenzene	19.22	91	14853	4.84	ug/L		86
78)	1,2,4-Trimethylbenzene	19.23	120	11204	4.80	ug/L		84
79)	sec-Butylbenzene	19.64	105	25099	4.73	ug/L		97
80)	1,3-Dichlorobenzene	19.71	146	12030	4.94	ug/L	#	66
81)	1,4-Dichlorobenzene	19.83	146	12410	4.99	ug/L	#	29
82)	p-Isopropyltoluene	19.87	119	20332	4.80	ug/L		95
83)	1,2,3-Trimethylbenzene	20.00	105	22306	4.81	ug/L		93
85)	1,2-Dichlorobenzene	20.44	146	12034	5.06	ug/L	#	53
86)	n-Butylbenzene	20.60	91	20632	4.80	ug/L		98
87)	Hexachloroethane	21.45	117	4338	4.70	ug/L		95
88)	1,2-Dibromo-3-chloropropan	21.45	155	1203	4.57	ug/L		93
89)	1,2,4-Trichlorobenzene	23.55	180	6336	4.74	ug/L	#	87
90)	Naphthalene	23.85	128	16902	4.49	ug/L		97
91)	Hexachlorobutadiene	24.22	225	2436	5.04	ug/L		92
92)	1,2,3-Trichlorobenzene	24.37	180	5641	4.63	ug/L		92
93)	2-Methylnaphthalene	26.11	142	5052	3.73	ug/L		95
94)	1-Methylnaphalene	26.56	142	4582	3.95	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102804.D Vial: 4
Acq On : 28 Oct 2021 1:51 pm Operator: BAG
Sample : 5P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D Vial: 5
Acq On : 28 Oct 2021 2:28 pm Operator: BAG
Sample : 10P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.25	96	1219396	30.00	ug/L	-0.01
48) Chlorobenzene-d5	15.70	82	498648	30.00	ug/L	0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	613861	30.00	ug/L	-0.01
System Monitoring Compounds						
31) 1,2-Dichloroethane-d4	10.53	65	435673	29.76	ug/L	-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 99.20%			
50) Toluene-d8	13.53	98	1060732	30.18	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.60%			
71) 4-Bromofluorobenzene	17.63	174	371979	30.86	ug/L	-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.87%			
84) 1,2-Dichlorobenzene-d4	20.40	115	240389	31.10	ug/L	0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 103.67%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	6.10	85	22095	10.06	ug/L	99
3) Chloromethane	6.33	50	28846	10.35	ug/L	100
4) Vinyl chloride	6.49	62	21058	10.35	ug/L #	85
5) Bromomethane	6.93	94	12620	10.25	ug/L #	97
6) Chloroethane	7.05	64	16825	10.26	ug/L	95
7) Acrolein	7.47	56	2316	10.54	ug/L	93
8) Trichlorofluoromethane	7.53	101	23248	10.13	ug/L	100
9) Acetone	7.54	43	9925	10.12	ug/L	95
10) Diethyl ether	7.73	59	18575	10.09	ug/L	99
11) Acrylonitrile	8.01	53	11061	10.03	ug/L	97
12) t-Butanol	7.99	59	13876	50.31	ug/L #	87
13) 1,1-Dichloroethene	8.06	61	29132	10.18	ug/L	98
14) MethylAcetate	8.09	43	27587	9.59	ug/L #	97
15) Freon 113	8.13	101	15692	10.06	ug/L	96
16) Iodomethane	8.19	142	7553	11.82	ug/L #	84
17) Methylene Chloride	8.26	84	21040	9.55	ug/L	95
18) Carbon disulfide	8.55	76	55855	9.90	ug/L	99
19) trans-1,2-Dichloroethene	8.82	61	29083	10.02	ug/L	97
20) Methyl-t-butyl ether(MTBE)	8.84	73	50264	9.72	ug/L	96
21) Vinyl acetate	9.00	43	63582	9.88	ug/L	99
22) 1,1-Dichloroethane	9.07	63	37145	9.98	ug/L	99
23) 2-Butanone (MEK)	9.32	43	15773	9.72	ug/L	100
24) Diisopropyl ether	9.42	45	87483	9.97	ug/L	100
25) cis-1,2-Dichloroethene	9.69	61	29729	9.86	ug/L	96
26) 2,2-Dichloropropane	9.87	77	22806	10.30	ug/L	97
27) t-Butyl ethyl ether	9.85	59	62034	9.51	ug/L	98
28) Chloroform	9.90	83	32153	10.20	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D Vial: 5
Acq On : 28 Oct 2021 2:28 pm Operator: BAG
Sample : 10P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	Bromochloromethane	9.92	130	12161	9.97	ug/L		84
30)	Tetrahydrofuran	10.17	72	3110	9.82	ug/L		93
32)	1,1,1-Trichloroethane	10.63	97	22499	10.00	ug/L		97
33)	1,2-Dichloroethane	10.63	62	27953	10.00	ug/L		96
34)	1,1-Dichloropropene	10.84	75	24021	9.91	ug/L		96
35)	Benzene	11.04	78	70484	9.85	ug/L		98
36)	Carbon tetrachloride	11.08	117	17081	9.99	ug/L		98
37)	Cyclohexane	11.09	84	25120	10.03	ug/L		93
38)	t-Amyl methyl ether	11.22	43	23064	9.81	ug/L	#	71
39)	Heptane	11.68	43	23914	9.84	ug/L		98
40)	1,2-Dichloropropane	11.85	63	22820	9.92	ug/L		94
41)	Trichloroethene	11.88	130	15720	10.08	ug/L	#	91
42)	Dibromomethane	11.96	93	15034	10.59	ug/L		88
43)	Bromodichloromethane	12.05	83	22825	10.01	ug/L		99
44)	2-Chloroethyl vinyl ether	12.41	63	1089	8.17	ug/L	#	70
45)	Methylcyclohexane	12.59	55	24664	10.08	ug/L		99
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	33262	9.78	ug/L		97
47)	cis-1,3-Dichloropropene	12.79	75	31552	9.89	ug/L		97
49)	trans-1,3-Dichloropropene	13.36	75	25253	9.88	ug/L		96
51)	1,1,2-Trichloroethane	13.61	83	15564	9.77	ug/L		92
52)	Toluene	13.64	91	67125	10.07	ug/L		98
53)	2-Hexanone	13.86	43	21508	9.86	ug/L	#	91
54)	1,3-Dichloropropane	13.94	76	31611	10.07	ug/L		95
55)	Butyl acetate	14.35	43	44352	9.75	ug/L		94
56)	Dibromochloromethane	14.41	129	15712	9.83	ug/L	#	96
57)	1,2-Dibromoethane	14.74	107	17948	9.96	ug/L	#	98
58)	Tetrachloroethene	14.81	131	10368	10.37	ug/L	#	92
59)	Chlorobenzene	15.76	112	42122	10.11	ug/L		93
60)	1,1,1,2-Tetrachloroethane	15.77	131	13319	10.11	ug/L	#	88
61)	Ethylbenzene	16.04	91	70473	10.06	ug/L		97
62)	m,p-Xylenes	16.22	106	50786	20.14	ug/L		87
63)	Styrene	16.78	104	40642	9.94	ug/L		93
64)	Bromoform	16.84	173	9661	9.78	ug/L		100
65)	o-Xylene	16.87	106	24311	10.06	ug/L		86
66)	1,1,2,2-Tetrachloroethane	17.17	83	24709	9.97	ug/L		100
67)	1,2,3-Trichloropropane	17.39	110	6103	10.45	ug/L		99
68)	trans-1,4-Dichloro-2-buten	17.40	53	5601	9.48	ug/L		98
69)	Isopropylbenzene	17.58	105	60537	9.88	ug/L		95
72)	Bromobenzene	17.99	158	14515	10.17	ug/L		91
73)	n-Propylbenzene	18.29	91	76726	10.33	ug/L		95
74)	2-Chlorotoluene	18.40	91	41736	9.88	ug/L	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D Vial: 5
Acq On : 28 Oct 2021 2:28 pm Operator: BAG
Sample : 10P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	39999	9.71	ug/L	#	84
76)	1,3,5-Trimethylbenzene	18.58	105	46821	10.28	ug/L		92
77)	tert-Butylbenzene	19.23	91	33132	10.48	ug/L		85
78)	1,2,4-Trimethylbenzene	19.24	120	24557	10.20	ug/L		87
79)	sec-Butylbenzene	19.64	105	55888	10.22	ug/L		96
80)	1,3-Dichlorobenzene	19.71	146	25665	10.23	ug/L	#	63
81)	1,4-Dichlorobenzene	19.83	146	26621	10.39	ug/L	#	59
82)	p-Isopropyltoluene	19.87	119	44754	10.26	ug/L		95
83)	1,2,3-Trimethylbenzene	20.00	105	49701	10.40	ug/L		94
85)	1,2-Dichlorobenzene	20.44	146	25272	10.31	ug/L	#	81
86)	n-Butylbenzene	20.60	91	45831	10.34	ug/L		98
87)	Hexachloroethane	21.45	117	9436	9.91	ug/L		90
88)	1,2-Dibromo-3-chloropropan	21.44	155	2700	9.95	ug/L		88
89)	1,2,4-Trichlorobenzene	23.55	180	13621	9.90	ug/L	#	88
90)	Naphthalene	23.85	128	37328	9.63	ug/L	#	95
91)	Hexachlorobutadiene	24.23	225	5279	10.59	ug/L		93
92)	1,2,3-Trichlorobenzene	24.37	180	12370	9.85	ug/L		94
93)	2-Methylnaphthalene	26.10	142	11995	8.59	ug/L		96
94)	1-Methylnaphalene	26.56	142	10639	8.90	ug/L		96

(#) = qualifier out of range (m) = manual integration

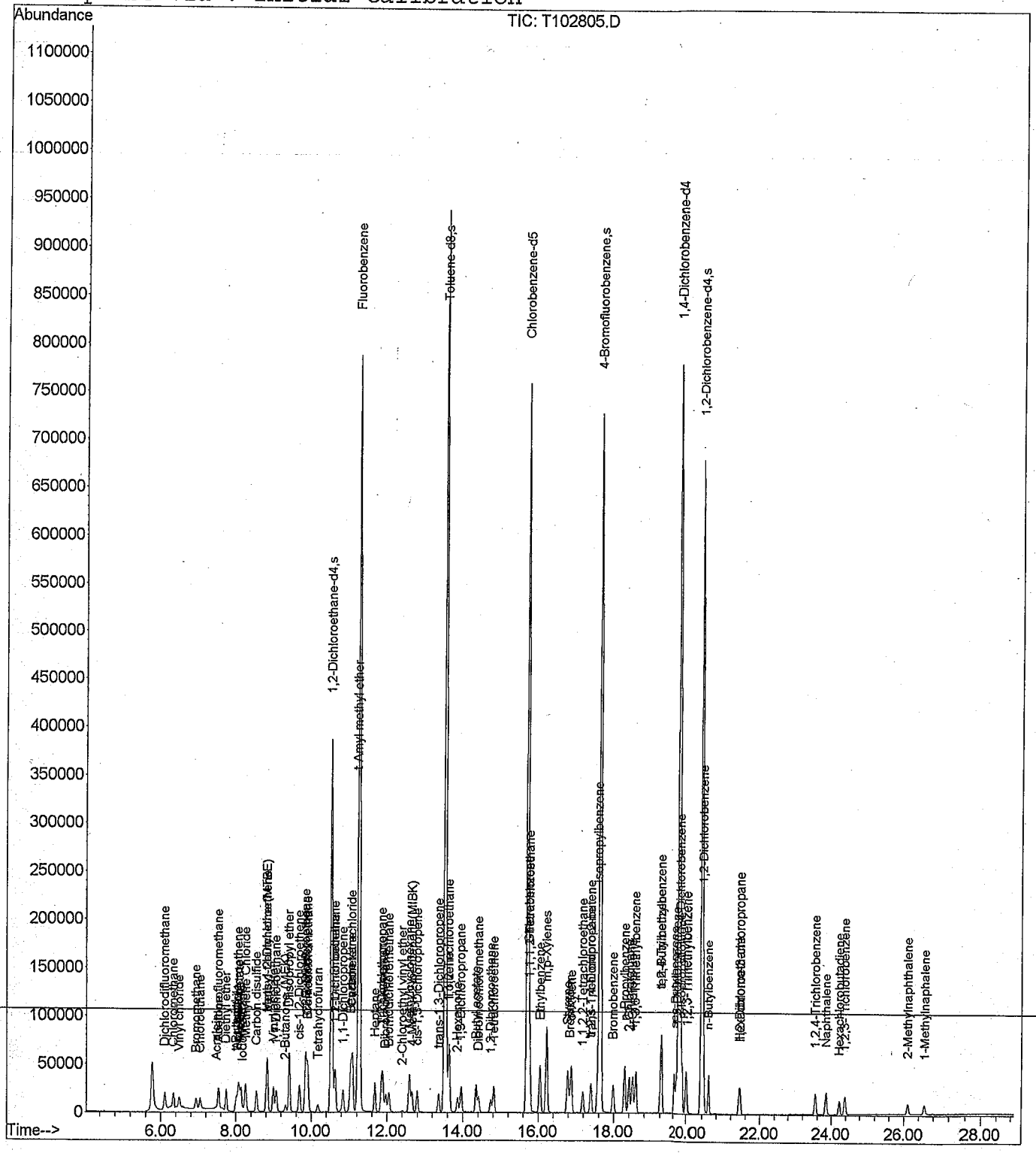
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102805.D
Acq On : 28 Oct 2021 2:28 pm
Sample : 10P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 5
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D Vial: 6
Acq On : 28 Oct 2021 3:04 pm Operator: BAG
Sample : 20P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.26	96	1229188	30.00	ug/L		0.00
48) Chlorobenzene-d5	15.71	82	507825	30.00	ug/L		0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	641128	30.00	ug/L		0.00
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.53	65	447963	30.35	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.17%				
50) Toluene-d8	13.53	98	1082721	30.25	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.83%				
71) 4-Bromofluorobenzene	17.63	174	375790	29.85	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.50%				
84) 1,2-Dichlorobenzene-d4	20.40	115	247059	30.61	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 102.03%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.10	85	44851	20.26	ug/L		99
3) Chloromethane	6.34	50	56813	20.22	ug/L		100
4) Vinyl chloride	6.49	62	40660	19.83	ug/L		99
5) Bromomethane	6.94	94	26885	18.88	ug/L	#	97
6) Chloroethane	7.05	64	32477	19.65	ug/L		96
7) Acrolein	7.47	56	4464	20.16	ug/L		84
8) Trichlorofluoromethane	7.53	101	47178	20.39	ug/L		99
9) Acetone	7.54	43	20063	20.29	ug/L		94
10) Diethyl ether	7.74	59	38283	20.64	ug/L		98
11) Acrylonitrile	8.02	53	23036	20.71	ug/L		97
12) t-Butanol	8.00	59	28857	103.79	ug/L	#	90
13) 1,1-Dichloroethene	8.06	61	59492	20.62	ug/L		97
14) MethylAcetate	8.09	43	56996	19.66	ug/L	#	97
15) Freon 113	8.13	101	31933	20.30	ug/L		95
16) Iodomethane	8.19	142	21087	18.80	ug/L		86
17) Methylene Chloride	8.26	84	42274	19.04	ug/L		94
18) Carbon disulfide	8.55	76	115076	20.23	ug/L		100
19) trans-1,2-Dichloroethene	8.82	61	59728	20.41	ug/L		96
20) Methyl-t-butyl ether(MTBE)	8.84	73	108035	20.72	ug/L		95
21) Vinyl acetate	9.00	43	131546	20.28	ug/L		99
22) 1,1-Dichloroethane	9.08	63	76425	20.38	ug/L		100
23) 2-Butanone (MEK)	9.32	43	33217	20.31	ug/L		99
24) Diisopropyl ether	9.42	45	179172	20.26	ug/L		98
25) cis-1,2-Dichloroethene	9.69	61	61493	20.22	ug/L		96
26) 2,2-Dichloropropane	9.87	77	45766	20.50	ug/L		95
27) t-Butyl ethyl ether	9.85	59	132596	20.17	ug/L		99
28) Chloroform	9.90	83	65716	20.67	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D Vial: 6
Acq On : 28 Oct 2021 3:04 pm Operator: BAG
Sample : 20P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) Bromochloromethane	9.92	130	25360	20.62 ug/L	82
30) Tetrahydrofuran	10.17	72	6500	20.35 ug/L	91
32) 1,1,1-Trichloroethane	10.63	97	46772	20.62 ug/L	98
33) 1,2-Dichloroethane	10.64	62	57032	20.23 ug/L	99
34) 1,1-Dichloropropene	10.84	75	48971	20.05 ug/L	97
35) Benzene	11.04	78	144759	20.08 ug/L	99
36) Carbon tetrachloride	11.08	117	35051	20.33 ug/L	98
37) Cyclohexane	11.09	84	50956	20.18 ug/L	94
38) t-Amyl methyl ether	11.22	43	47309	19.97 ug/L	84
39) Heptane	11.68	43	47279	19.30 ug/L	96
40) 1,2-Dichloropropane	11.86	63	47097	20.31 ug/L	94
41) Trichloroethene	11.89	130	32404	20.62 ug/L #	90
42) Dibromomethane	11.96	93	30628	21.41 ug/L	88
43) Bromodichloromethane	12.05	83	47004	20.46 ug/L	100
44) 2-Chloroethyl vinyl ether	12.41	63	4363	20.04 ug/L	99
45) Methylcyclohexane	12.59	55	49382	20.03 ug/L	99
46) 4-Methyl-2-pentanone(MIBK)	12.66	43	69647	20.32 ug/L	96
47) cis-1,3-Dichloropropene	12.79	75	65491	20.37 ug/L	97
49) trans-1,3-Dichloropropene	13.37	75	53028	20.38 ug/L	96
51) 1,1,2-Trichloroethane	13.62	83	31917	19.67 ug/L	97
52) Toluene	13.65	91	138148	20.35 ug/L	99
53) 2-Hexanone	13.86	43	44916	20.21 ug/L #	96
54) 1,3-Dichloropropane	13.96	76	65002	20.34 ug/L	93
55) Butyl acetate	14.35	43	94674	20.45 ug/L	94
56) Dibromochloromethane	14.41	129	33222	20.40 ug/L #	96
57) 1,2-Dibromoethane	14.74	107	37305	20.32 ug/L #	98
58) Tetrachloroethene	14.82	131	20877	20.50 ug/L #	92
59) Chlorobenzene	15.76	112	86785	20.46 ug/L	94
60) 1,1,1,2-Tetrachloroethane	15.76	131	27723	20.67 ug/L #	88
61) Ethylbenzene	16.05	91	144467	20.24 ug/L	96
62) m,p-Xylenes	16.22	106	105332	41.02 ug/L	86
63) Styrene	16.78	104	86055	20.66 ug/L	93
64) Bromoform	16.83	173	20513	20.40 ug/L	99
65) o-Xylene	16.88	106	50840	20.66 ug/L	86
66) 1,1,2,2-Tetrachloroethane	17.18	83	51714	20.50 ug/L	99
67) 1,2,3-Trichloropropane	17.39	110	12484	21.00 ug/L	99
68) trans-1,4-Dichloro-2-buten	17.41	53	12221	20.30 ug/L	97
69) Isopropylbenzene	17.58	105	124537	19.96 ug/L	95
72) Bromobenzene	17.99	158	30490	20.45 ug/L	90
73) n-Propylbenzene	18.29	91	157475	20.29 ug/L	95
74) 2-Chlorotoluene	18.40	91	87696	19.87 ug/L #	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D Vial: 6
Acq On : 28 Oct 2021 3:04 pm Operator: BAG
Sample : 20P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

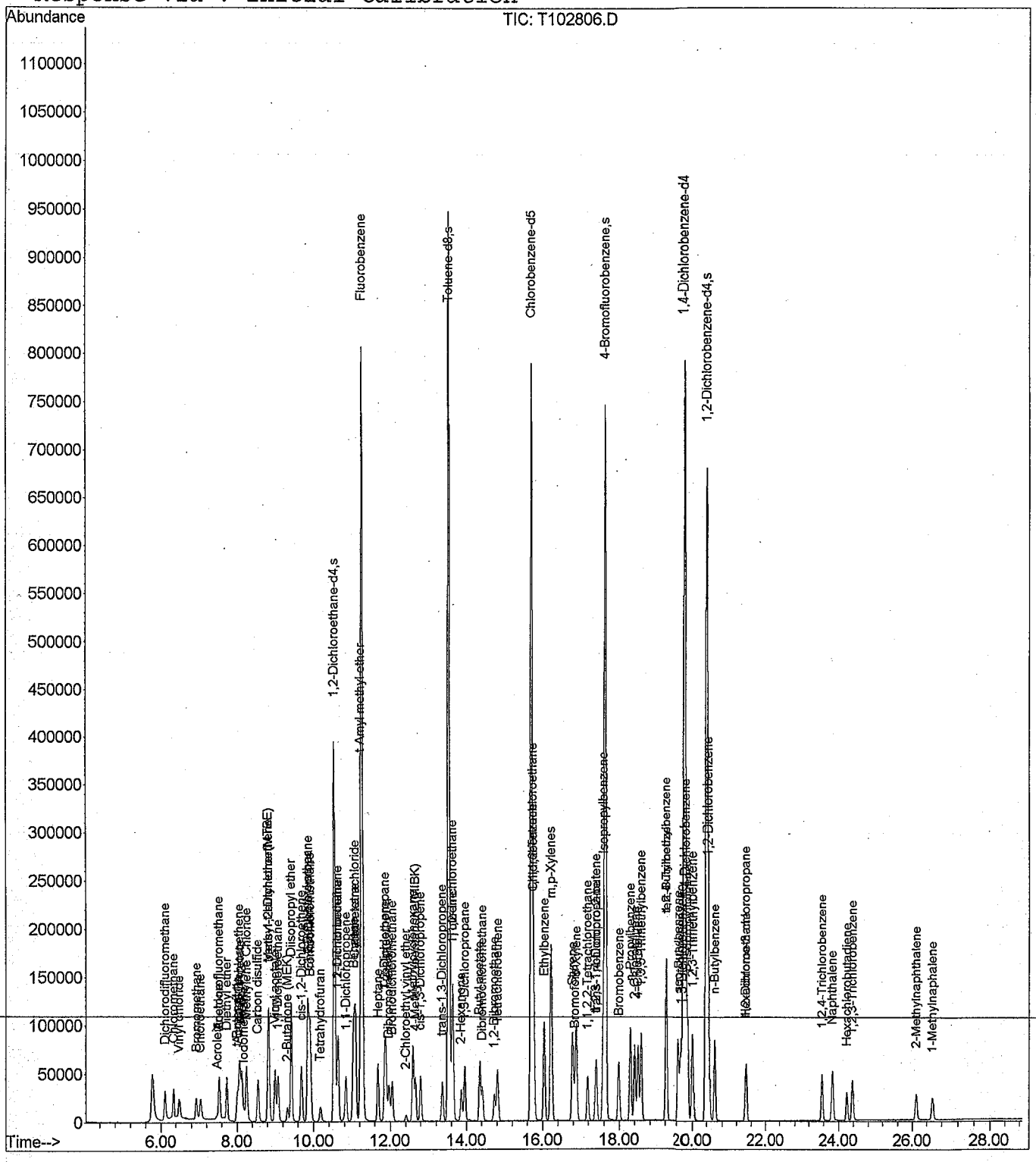
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	83929	19.51	ug/L	#	84
76)	1,3,5-Trimethylbenzene	18.57	105	98698	20.75	ug/L		92
77)	tert-Butylbenzene	19.23	91	67600	20.47	ug/L	#	83
78)	1,2,4-Trimethylbenzene	19.24	120	51559	20.51	ug/L		87
79)	sec-Butylbenzene	19.64	105	116188	20.35	ug/L		96
80)	1,3-Dichlorobenzene	19.71	146	53483	20.41	ug/L	#	91
81)	1,4-Dichlorobenzene	19.84	146	54870	20.51	ug/L	#	65
82)	p-Isopropyltoluene	19.88	119	93840	20.60	ug/L		95
83)	1,2,3-Trimethylbenzene	20.00	105	104644	20.96	ug/L		94
85)	1,2-Dichlorobenzene	20.45	146	52151	20.37	ug/L	#	96
86)	n-Butylbenzene	20.60	91	94670	20.46	ug/L		98
87)	Hexachloroethane	21.45	117	20399	20.52	ug/L		93
88)	1,2-Dibromo-3-chloropropan	21.45	155	5885	20.76	ug/L		89
89)	1,2,4-Trichlorobenzene	23.55	180	30082	20.92	ug/L	#	88
90)	Naphthalene	23.84	128	82189	20.30	ug/L	#	95
91)	Hexachlorobutadiene	24.23	225	10902	20.95	ug/L		91
92)	1,2,3-Trichlorobenzene	24.37	180	26861	20.48	ug/L		94
93)	2-Methylnaphthalene	26.11	142	28680	19.66	ug/L		96
94)	1-Methylnaphalene	26.56	142	24660	19.75	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102806.D Vial: 6
Acq On : 28 Oct 2021 3:04 pm Operator: BAG
Sample : 20P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D
Acq On : 28 Oct 2021 3:40 pm
Sample : 50P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 7
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.27	96	1266868	30.00	ug/L		0.00
48) Chlorobenzene-d5	15.71	82	530391	30.00	ug/L		0.00
70) 1,4-Dichlorobenzene-d4	19.79	150	676719	30.00	ug/L		0.00
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.54	65	461533	30.34	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 101.13%				
50) Toluene-d8	13.53	98	1124108	30.07	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.23%				
71) 4-Bromofluorobenzene	17.64	174	396130	29.81	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 99.37%				
84) 1,2-Dichlorobenzene-d4	20.40	115	255290	29.96	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 99.87%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.11	85	118732	52.05	ug/L		99
3) Chloromethane	6.34	50	140369	48.47	ug/L		100
4) Vinyl chloride	6.49	62	97531	46.14	ug/L		97
5) Bromomethane	6.94	94	72448	45.32	ug/L	#	97
6) Chloroethane	7.05	64	83413	48.96	ug/L		96
7) Acrolein	7.47	56	11192	49.03	ug/L		96
8) Trichlorofluoromethane	7.53	101	122990	51.58	ug/L		99
9) Acetone	7.55	43	48599	47.68	ug/L	#	90
10) Diethyl ether	7.73	59	102382	53.56	ug/L		96
11) Acrylonitrile	8.02	53	59780	52.15	ug/L		97
12) t-Butanol	8.01	59	74605	260.34	ug/L	#	90
13) 1,1-Dichloroethene	8.06	61	153190	51.51	ug/L		97
14) MethylAcetate	8.09	43	143701	48.10	ug/L	#	97
15) Freon 113	8.13	101	83944	51.78	ug/L		95
16) Iodomethane	8.19	142	73593	44.86	ug/L		85
17) Methylene Chloride	8.26	84	109123	47.70	ug/L		94
18) Carbon disulfide	8.56	76	299764	51.14	ug/L		100
19) trans-1,2-Dichloroethene	8.82	61	154849	51.35	ug/L		96
20) Methyl-t-butyl ether(MTBE)	8.84	73	280254	52.14	ug/L		95
21) Vinyl acetate	9.00	43	334362	50.01	ug/L		99
22) 1,1-Dichloroethane	9.08	63	195932	50.69	ug/L		100
23) 2-Butanone (MEK)	9.33	43	86661	51.41	ug/L		97
24) Diisopropyl ether	9.43	45	467076	51.23	ug/L		97
25) cis-1,2-Dichloroethene	9.70	61	158377	50.53	ug/L		96
26) 2,2-Dichloropropane	9.87	77	117093	50.90	ug/L		95
27) t-Butyl ethyl ether	9.85	59	359682	53.09	ug/L		98
28) Chloroform	9.90	83	166011	50.67	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D Vial: 7
Acq On : 28 Oct 2021 3:40 pm Operator: BAG
Sample : 50P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Bromochloromethane	9.92	130	65490	51.66	ug/L	80
30)	Tetrahydrofuran	10.18	72	16459	50.01	ug/L	91
32)	1,1,1-Trichloroethane	10.63	97	120277	51.46	ug/L	98
33)	1,2-Dichloroethane	10.64	62	145354	50.04	ug/L	98
34)	1,1-Dichloropropene	10.85	75	130211	51.73	ug/L	97
35)	Benzene	11.04	78	376668	50.69	ug/L	98
36)	Carbon tetrachloride	11.08	117	92848	52.25	ug/L	98
37)	Cyclohexane	11.09	84	133249	51.19	ug/L	92
38)	t-Amyl methyl ether	11.22	43	122694	50.25	ug/L	90
39)	Heptane	11.68	43	125078	49.53	ug/L	96
40)	1,2-Dichloropropane	11.86	63	118076	49.40	ug/L	95
41)	Trichloroethene	11.89	130	83762	51.71	ug/L #	88
42)	Dibromomethane	11.97	93	78942	53.54	ug/L	86
43)	Bromodichloromethane	12.05	83	123547	52.17	ug/L	99
44)	2-Chloroethyl vinyl ether	12.41	63	13664	52.39	ug/L	97
45)	Methylcyclohexane	12.59	55	130510	51.35	ug/L	100
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	180907	51.20	ug/L	95
47)	cis-1,3-Dichloropropene	12.80	75	171500	51.76	ug/L	97
49)	trans-1,3-Dichloropropene	13.36	75	140612	51.74	ug/L	96
51)	1,1,2-Trichloroethane	13.63	83	82514	48.68	ug/L	96
52)	Toluene	13.64	91	358803	50.61	ug/L	99
53)	2-Hexanone	13.86	43	118504	51.05	ug/L	99
54)	1,3-Dichloropropane	13.95	76	169583	50.80	ug/L	91
55)	Butyl acetate	14.35	43	248974	51.48	ug/L	94
56)	Dibromochloromethane	14.42	129	88891	52.27	ug/L #	96
57)	1,2-Dibromoethane	14.74	107	98119	51.17	ug/L #	99
58)	Tetrachloroethene	14.82	131	54728	51.46	ug/L #	91
59)	Chlorobenzene	15.76	112	222667	50.25	ug/L	88
60)	1,1,1,2-Tetrachloroethane	15.77	131	72106	51.46	ug/L #	88
61)	Ethylbenzene	16.04	91	383629	51.47	ug/L	96
62)	m,p-Xylenes	16.22	106	281448	104.93	ug/L	86
63)	Styrene	16.78	104	231835	53.29	ug/L	92
64)	Bromoform	16.84	173	56175	53.49	ug/L	99
65)	o-Xylene	16.88	106	134878	52.48	ug/L	84
66)	1,1,2,2-Tetrachloroethane	17.19	83	132921	50.45	ug/L	100
67)	1,2,3-Trichloropropane	17.40	110	31898	51.37	ug/L	94
68)	trans-1,4-Dichloro-2-buten	17.41	53	32310	51.39	ug/L #	94
69)	Isopropylbenzene	17.58	105	334719	51.37	ug/L	95
72)	Bromobenzene	17.99	158	79897	50.77	ug/L	90
73)	n-Propylbenzene	18.29	91	418897	51.14	ug/L	94
74)	2-Chlorotoluene	18.40	91	227411	48.83	ug/L #	85

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D Vial: 7
Acq On : 28 Oct 2021 3:40 pm Operator: BAG
Sample : 50P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

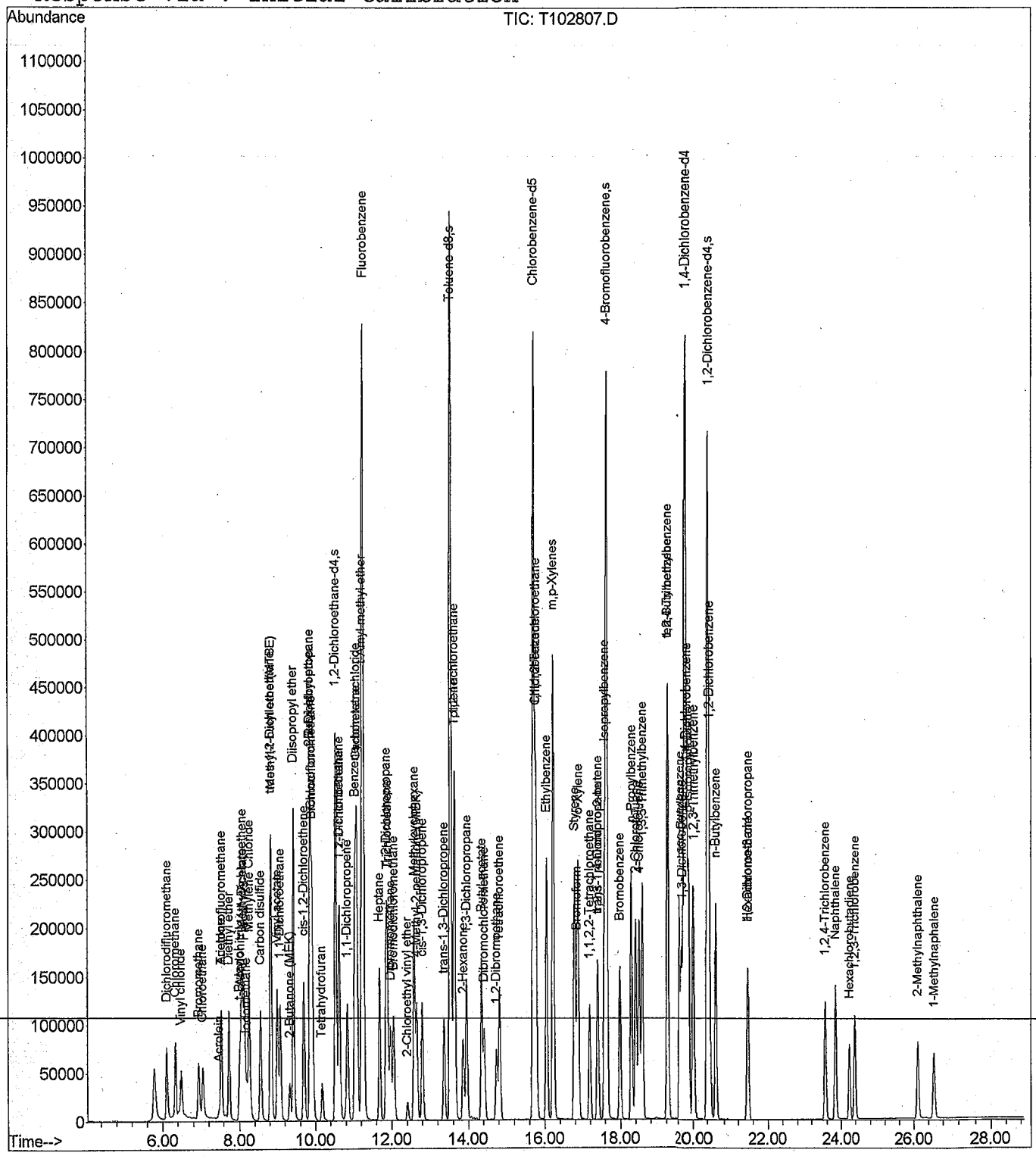
Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	224507	49.43	ug/L	#	87
76)	1,3,5-Trimethylbenzene	18.58	105	262860	52.34	ug/L		92
77)	tert-Butylbenzene	19.23	91	183363	52.60	ug/L	#	81
78)	1,2,4-Trimethylbenzene	19.25	120	141502	53.32	ug/L		86
79)	sec-Butylbenzene	19.65	105	316112	52.45	ug/L		96
80)	1,3-Dichlorobenzene	19.71	146	141420	51.14	ug/L	#	91
81)	1,4-Dichlorobenzene	19.84	146	144446	51.16	ug/L	#	64
82)	p-Isopropyltoluene	19.87	119	252614	52.54	ug/L		95
83)	1,2,3-Trimethylbenzene	20.00	105	279274	52.99	ug/L		93
85)	1,2-Dichlorobenzene	20.45	146	135685	50.20	ug/L	#	96
86)	n-Butylbenzene	20.60	91	255567	52.32	ug/L		98
87)	Hexachloroethane	21.45	117	56278	53.63	ug/L		92
88)	1,2-Dibromo-3-chloropropan	21.45	155	15472	51.71	ug/L		89
89)	1,2,4-Trichlorobenzene	23.56	180	77970	51.38	ug/L	#	88
90)	Naphthalene	23.85	128	223752	52.35	ug/L		95
91)	Hexachlorobutadiene	24.23	225	28604	52.07	ug/L		93
92)	1,2,3-Trichlorobenzene	24.37	180	71647	51.75	ug/L		93
93)	2-Methylnaphthalene	26.10	142	85676	55.65	ug/L		95
94)	1-Methylnaphalene	26.56	142	73706	55.92	ug/L		96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102807.D Vial: 7
Acq On : 28 Oct 2021 3:40 pm Operator: BAG
Sample : 50P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D Vial: 8
Acq On : 28 Oct 2021 4:17 pm Operator: BAG
Sample : 100P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.26	96	1239901	30.00	ug/L		0.00
48) Chlorobenzene-d5	15.71	82	514791	30.00	ug/L		0.00
70) 1,4-Dichlorobenzene-d4	19.79	150	668878	30.00	ug/L		0.00
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.53	65	434848	29.21	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.37%				
50) Toluene-d8	13.53	98	1115337	30.74	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.47%				
71) 4-Bromofluorobenzene	17.64	174	383482	29.20	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 97.33%				
84) 1,2-Dichlorobenzene-d4	20.40	115	237744	28.23	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 94.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.10	85	230112	103.06	ug/L		98
3) Chloromethane	6.33	50	283759	100.10	ug/L		100
4) Vinyl chloride	6.48	62	164144	79.35	ug/L		98
5) Bromomethane	6.93	94	154851	96.03	ug/L	#	98
6) Chloroethane	7.04	64	165110	99.02	ug/L		96
7) Acrolein	7.47	56	22244	99.57	ug/L		96
8) Trichlorofluoromethane	7.53	101	236302	101.25	ug/L		99
9) Acetone	7.54	43	92537	92.77	ug/L	#	89
10) Diethyl ether	7.74	59	190433	101.78	ug/L		95
11) Acrylonitrile	8.02	53	116842	104.15	ug/L		96
12) t-Butanol	8.00	59	175216	624.73	ug/L	#	85
13) 1,1-Dichloroethene	8.06	61	298784	102.65	ug/L		97
14) MethylAcetate	8.09	43	278609	95.28	ug/L	#	96
15) Freon 113	8.13	101	162648	102.51	ug/L		95
16) Iodomethane	8.19	142	176168	98.34	ug/L	#	85
17) Methylene Chloride	8.25	84	210313	93.92	ug/L		93
18) Carbon disulfide	8.55	76	588274	102.54	ug/L		100
19) trans-1,2-Dichloroethene	8.81	61	301855	102.27	ug/L		95
20) Methyl-t-butyl ether(MTBE)	8.84	73	549437	104.44	ug/L		94
21) Vinyl acetate	9.00	43	659009	100.71	ug/L		98
22) 1,1-Dichloroethane	9.07	63	380289	100.53	ug/L		100
23) 2-Butanone (MEK)	9.32	43	162912	98.75	ug/L		96
24) Diisopropyl ether	9.42	45	898248	100.67	ug/L		96
25) cis-1,2-Dichloroethene	9.69	61	307922	100.39	ug/L		95
26) 2,2-Dichloropropane	9.87	77	225239	100.03	ug/L		95
27) t-Butyl ethyl ether	9.84	59	707563	106.71	ug/L		99
28) Chloroform	9.90	83	324113	101.07	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D Vial: 8
Acq On : 28 Oct 2021 4:17 pm Operator: BAG
Sample : 100P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	Bromochloromethane	9.92	130	127892	103.08	ug/L		79
30)	Tetrahydrofuran	10.17	72	33119	102.81	ug/L		89
32)	1,1,1-Trichloroethane	10.63	97	232656	101.71	ug/L		99
33)	1,2-Dichloroethane	10.63	62	277653	97.66	ug/L		99
34)	1,1-Dichloropropene	10.84	75	256716	104.21	ug/L		96
35)	Benzene	11.04	78	737892	101.46	ug/L		98
36)	Carbon tetrachloride	11.08	117	184818	106.26	ug/L		98
37)	Cyclohexane	11.09	84	266379	104.56	ug/L		94
38)	t-Amyl methyl ether	11.22	43	242658	101.53	ug/L		92
39)	Heptane	11.68	43	240892	97.47	ug/L		96
40)	1,2-Dichloropropane	11.86	63	235923	100.85	ug/L		94
41)	Trichloroethene	11.89	130	166540	105.04	ug/L	#	89
42)	Dibromomethane	11.96	93	155379	107.67	ug/L		87
43)	Bromodichloromethane	12.05	83	238903	103.08	ug/L		99
44)	2-Chloroethyl vinyl ether	12.41	63	26292	98.96	ug/L		98
45)	Methylcyclohexane	12.59	55	254637	102.38	ug/L		99
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	348541	100.80	ug/L		94
47)	cis-1,3-Dichloropropene	12.80	75	338172	104.29	ug/L		97
49)	trans-1,3-Dichloropropene	13.37	75	277709	105.29	ug/L		95
51)	1,1,2-Trichloroethane	13.62	83	161368	98.09	ug/L		93
52)	Toluene	13.65	91	709671	103.12	ug/L		98
53)	2-Hexanone	13.86	43	231632	102.82	ug/L		99
54)	1,3-Dichloropropane	13.96	76	329227	101.60	ug/L		90
55)	Butyl acetate	14.35	43	493659	105.16	ug/L		93
56)	Dibromochloromethane	14.42	129	175169	106.13	ug/L	#	96
57)	1,2-Dibromoethane	14.74	107	192285	103.31	ug/L	#	98
58)	Tetrachloroethene	14.82	131	107573	104.20	ug/L	#	91
59)	Chlorobenzene	15.76	112	437228	101.67	ug/L	#	85
60)	1,1,1,2-Tetrachloroethane	15.77	131	142658	104.91	ug/L	#	87
61)	Ethylbenzene	16.05	91	758599	104.86	ug/L		95
62)	m,p-Xylenes	16.22	106	546796	210.04	ug/L		87
63)	Styrene	16.78	104	458566	108.61	ug/L		92
64)	Bromoform	16.84	173	111093	108.98	ug/L		100
65)	o-Xylene	16.88	106	260167	104.30	ug/L		85
66)	1,1,2,2-Tetrachloroethane	17.19	83	256454	100.28	ug/L		100
67)	1,2,3-Trichloropropane	17.40	110	62215	103.23	ug/L		93
68)	trans-1,4-Dichloro-2-buten	17.41	53	63627	104.27	ug/L	#	92
69)	Isopropylbenzene	17.58	105	648607	102.56	ug/L		95
72)	Bromobenzene	17.99	158	157329	101.14	ug/L		90
73)	n-Propylbenzene	18.29	91	826757	102.12	ug/L		94
74)	2-Chlorotoluene	18.41	91	439503	95.47	ug/L	#	84

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D Vial: 8
Acq On : 28 Oct 2021 4:17 pm Operator: BAG
Sample : 100P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

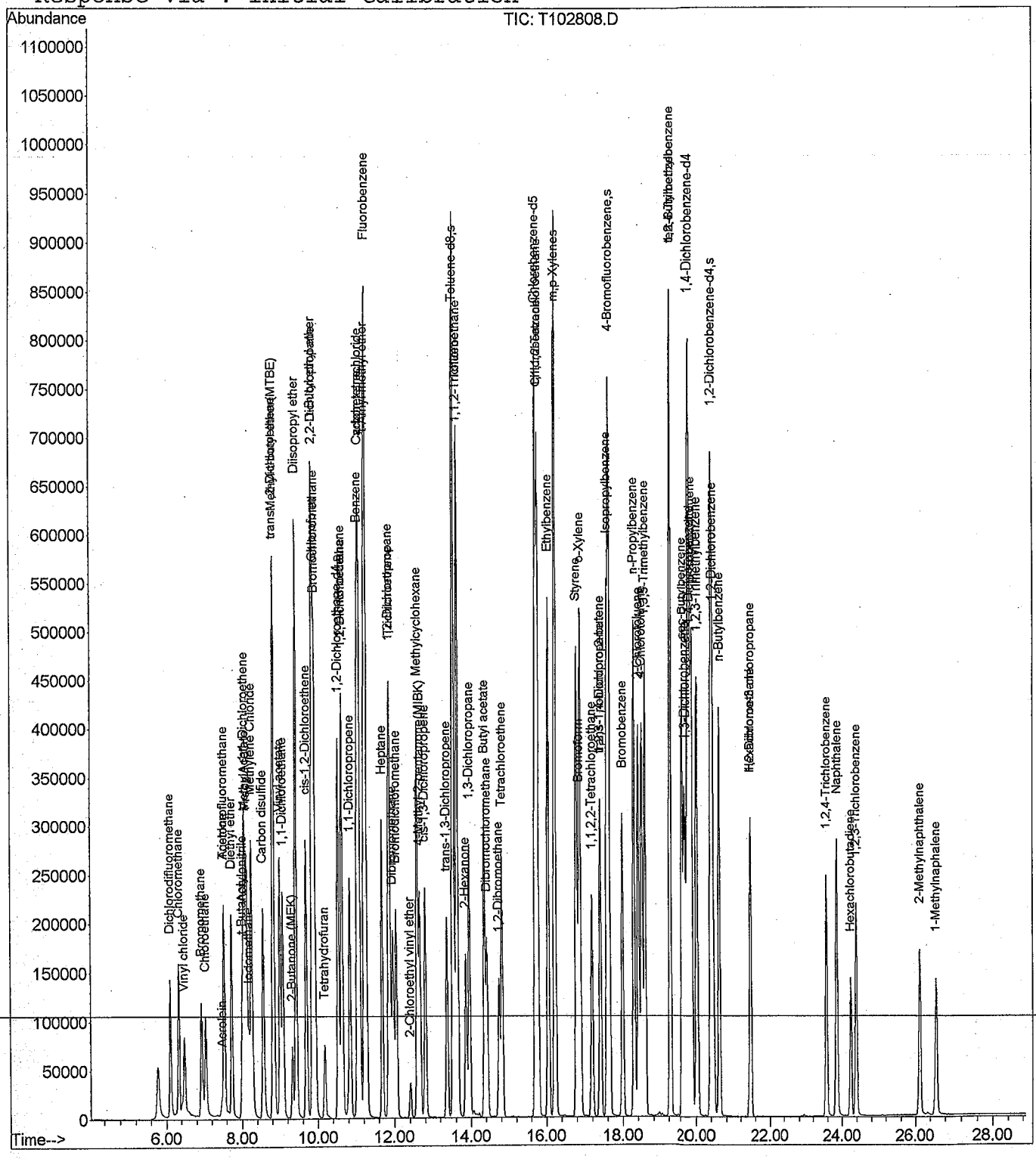
Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	437645	97.49	ug/L	#	86
76)	1,3,5-Trimethylbenzene	18.58	105	511530	103.06	ug/L		92
77)	tert-Butylbenzene	19.23	91	348754	101.21	ug/L	#	80
78)	1,2,4-Trimethylbenzene	19.25	120	272447	103.86	ug/L		86
79)	sec-Butylbenzene	19.64	105	617594	103.67	ug/L		95
80)	1,3-Dichlorobenzene	19.71	146	268396	98.20	ug/L		91
81)	1,4-Dichlorobenzene	19.84	146	268411	96.17	ug/L	#	87
82)	p-Isopropyltoluene	19.88	119	483214	101.68	ug/L		94
83)	1,2,3-Trimethylbenzene	20.00	105	529440	101.64	ug/L		93
85)	1,2-Dichlorobenzene	20.45	146	254887	95.41	ug/L	#	93
86)	n-Butylbenzene	20.60	91	489569	101.40	ug/L		97
87)	Hexachloroethane	21.45	117	111137	107.15	ug/L		89
88)	1,2-Dibromo-3-chloropropan	21.45	155	31096	105.15	ug/L		87
89)	1,2,4-Trichlorobenzene	23.56	180	158600	105.74	ug/L	#	88
90)	Naphthalene	23.85	128	460154	108.92	ug/L		95
91)	Hexachlorobutadiene	24.23	225	54215	99.84	ug/L		92
92)	1,2,3-Trichlorobenzene	24.37	180	144965	105.93	ug/L		94
93)	2-Methylnaphthalene	26.11	142	182924	120.22	ug/L		96
94)	1-Methylnaphalene	26.56	142	151356	116.19	ug/L		96

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102808.D Vial: 8
Acq On : 28 Oct 2021 4:17 pm Operator: BAG
Sample : 100P1023 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D Vial: 10
Acq On : 28 Oct 2021 5:30 pm Operator: BAG
Sample : 200P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.26	96	1308737	30.00	ug/L		0.00
48) Chlorobenzene-d5	15.70	82	552880	30.00	ug/L		0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	726498	30.00	ug/L		0.00
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.54	65	460934	29.33	ug/L		0.00
Spiked Amount 30.000	Range 68 - 133		Recovery = 97.77%				
50) Toluene-d8	13.54	98	1135557	29.14	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 97.13%				
71) 4-Bromofluorobenzene	17.64	174	394656	27.67	ug/L		0.00
Spiked Amount 30.000	Range 69 - 119		Recovery = 92.23%				
84) 1,2-Dichlorobenzene-d4	20.40	115	242485	26.51	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 88.37%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.11	85	486956	206.63	ug/L		98
3) Chloromethane	6.34	50	599293	200.29	ug/L		99
4) Vinyl chloride	6.46	62	209423	95.91	ug/L		99
5) Bromomethane	6.93	94	350757	203.21	ug/L	#	97
6) Chloroethane	7.04	64	338772	192.48	ug/L		96
7) Acrolein	7.47	56	45267	191.97	ug/L		97
8) Trichlorofluoromethane	7.53	101	500355	203.12	ug/L		99
9) Acetone	7.55	43	198117	188.17	ug/L	#	90
10) Diethyl ether	7.73	59	403359	204.25	ug/L		95
11) Acrylonitrile	8.02	53	242646	204.91	ug/L		96
12) t-Butanol	8.00	59	197406	666.82	ug/L	#	83
13) 1,1-Dichloroethene	8.06	61	619982	201.80	ug/L		96
14) MethylAcetate	8.09	43	582640	188.77	ug/L	#	96
15) Freon 113	8.13	101	335404	200.27	ug/L		95
16) Iodomethane	8.19	142	399101	202.04	ug/L	#	85
17) Methylene Chloride	8.25	84	439575	185.98	ug/L		93
18) Carbon disulfide	8.55	76	1243786	205.39	ug/L		100
19) trans-1,2-Dichloroethene	8.81	61	629323	202.01	ug/L		95
20) Methyl-t-butyl ether(MTBE)	8.83	73	1136598	204.69	ug/L		94
21) Vinyl acetate	9.00	43	1386560	200.76	ug/L		98
22) 1,1-Dichloroethane	9.08	63	798611	200.01	ug/L		100
23) 2-Butanone (MEK)	9.33	43	332401	190.89	ug/L		96
24) Diisopropyl ether	9.42	45	1892552	200.95	ug/L		97
25) cis-1,2-Dichloroethene	9.69	61	647442	199.98	ug/L		95
26) 2,2-Dichloropropane	9.87	77	445891	187.62	ug/L		95
27) t-Butyl ethyl ether	9.85	59	1457963	208.32	ug/L		99
28) Chloroform	9.90	83	671313	198.33	ug/L		97

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D Vial: 10
Acq On : 28 Oct 2021 5:30 pm Operator: BAG
Sample : 200P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Bromochloromethane	9.92	130	254214	194.12 ug/L		78
30)	Tetrahydrofuran	10.18	72	68898	202.63 ug/L		87
32)	1,1,1-Trichloroethane	10.62	97	483774	200.36 ug/L		99
33)	1,2-Dichloroethane	10.63	62	571803	190.54 ug/L		98
34)	1,1-Dichloropropene	10.84	75	532056	204.61 ug/L		96
35)	Benzene	11.04	78	1534047	199.84 ug/L		97
36)	Carbon tetrachloride	11.08	117	384938	209.68 ug/L		98
37)	Cyclohexane	11.09	84	557203	207.21 ug/L		94
38)	t-Amyl methyl ether	11.21	43	508641	201.63 ug/L		91
39)	Heptane	11.68	43	489406	187.60 ug/L		95
40)	1,2-Dichloropropane	11.85	63	488449	197.81 ug/L		94
41)	Trichloroethene	11.89	130	349212	208.68 ug/L	#	87
42)	Dibromomethane	11.97	93	324241	212.86 ug/L	#	86
43)	Bromodichloromethane	12.05	83	504517	206.23 ug/L		100
44)	2-Chloroethyl vinyl ether	12.40	63	51982	181.72 ug/L		98
45)	Methylcyclohexane	12.59	55	521284	198.56 ug/L		99
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	718211	196.78 ug/L		94
47)	cis-1,3-Dichloropropene	12.80	75	703297	205.48 ug/L		97
49)	trans-1,3-Dichloropropene	13.37	75	583923	206.13 ug/L		95
51)	1,1,2-Trichloroethane	13.62	83	329314	186.40 ug/L		91
52)	Toluene	13.64	91	1439635	194.79 ug/L		98
53)	2-Hexanone	13.86	43	477077	197.17 ug/L		99
54)	1,3-Dichloropropane	13.95	76	680922	195.66 ug/L		90
55)	Butyl acetate	14.35	43	998451	198.05 ug/L		92
56)	Dibromochloromethane	14.42	129	366746	206.90 ug/L	#	96
57)	1,2-Dibromoethane	14.73	107	403095	201.65 ug/L	#	98
58)	Tetrachloroethene	14.82	131	222807	200.96 ug/L	#	91
59)	Chlorobenzene	15.77	112	929217	201.19 ug/L	#	83
60)	1,1,1,2-Tetrachloroethane	15.77	131	302700	207.26 ug/L	#	87
61)	Ethylbenzene	16.04	91	1585479	204.06 ug/L		95
62)	m,p-Xylenes	16.22	106	1121841	401.25 ug/L		85
63)	Styrene	16.78	104	951259	209.78 ug/L		91
64)	Bromoform	16.83	173	230941	210.95 ug/L		100
65)	o-Xylene	16.88	106	536309	200.19 ug/L		84
66)	1,1,2,2-Tetrachloroethane	17.18	83	520999	189.69 ug/L		100
67)	1,2,3-Trichloropropane	17.40	110	126632	195.64 ug/L		92
68)	trans-1,4-Dichloro-2-buten	17.40	53	130679	199.39 ug/L	#	89
69)	Isopropylbenzene	17.58	105	1340138	197.30 ug/L		94
72)	Bromobenzene	17.99	158	324650	192.16 ug/L		88
73)	n-Propylbenzene	18.29	91	1720032	195.60 ug/L		94
74)	2-Chlorotoluene	18.40	91	895468	179.09 ug/L	#	84

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D Vial: 10
Acq On : 28 Oct 2021 5:30 pm Operator: BAG
Sample : 200P1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.50	91	853194	174.99	ug/L	#	83
76)	1,3,5-Trimethylbenzene	18.58	105	1023495	189.85	ug/L		91
77)	tert-Butylbenzene	19.23	91	677547	181.04	ug/L	#	78
78)	1,2,4-Trimethylbenzene	19.24	120	537551	188.68	ug/L		85
79)	sec-Butylbenzene	19.65	105	1210673	187.11	ug/L		95
80)	1,3-Dichlorobenzene	19.84	146	541501	182.40	ug/L		95
81)	1,4-Dichlorobenzene	19.84	146	540281	178.23	ug/L		95
82)	p-Isopropyltoluene	19.88	119	944080	182.90	ug/L		93
83)	1,2,3-Trimethylbenzene	20.01	105	1028176	181.73	ug/L		93
85)	1,2-Dichlorobenzene	20.44	146	511111	176.14	ug/L	#	91
86)	n-Butylbenzene	20.60	91	947685	180.71	ug/L		97
87)	Hexachloroethane	21.45	117	224514	199.30	ug/L		87
88)	1,2-Dibromo-3-chloropropan	21.45	155	62192	193.61	ug/L	#	85
89)	1,2,4-Trichlorobenzene	23.56	180	321175	197.15	ug/L	#	87
90)	Naphthalene	23.85	128	906519	197.56	ug/L	#	95
91)	Hexachlorobutadiene	24.22	225	111138	188.44	ug/L		91
92)	1,2,3-Trichlorobenzene	24.38	180	288727	194.25	ug/L		93
93)	2-Methylnaphthalene	26.11	142	363489	219.93	ug/L		95
94)	1-Methylnaphalene	26.56	142	297829	210.49	ug/L	#	95

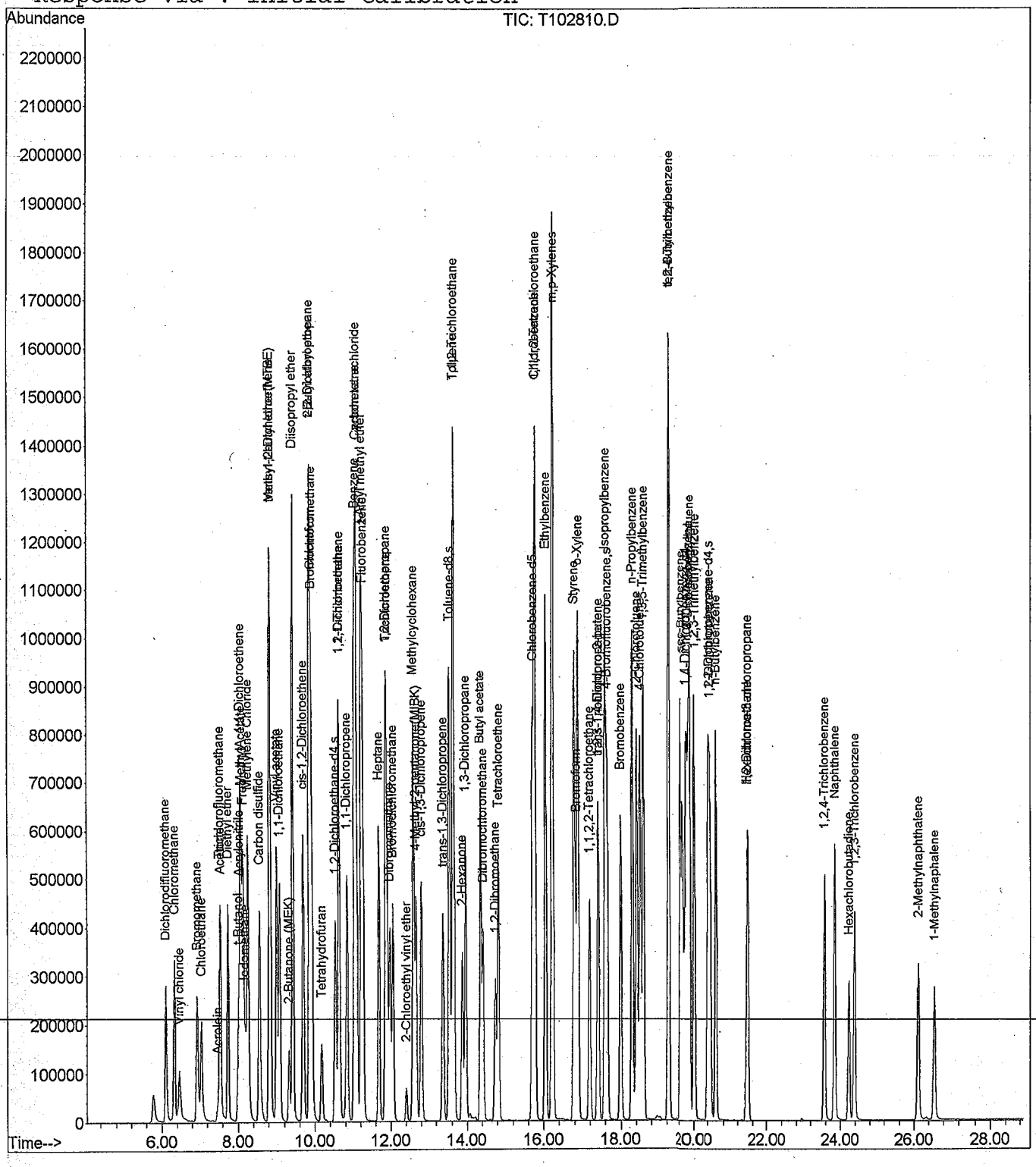
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\T102821\T102810.D
Acq On : 28 Oct 2021 5:30 pm
Sample : 200P1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 10
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.26	96	1358350	30.00	ug/L		0.00
48) Chlorobenzene-d5	15.70	82	553362	30.00	ug/L		0.00
70) 1,4-Dichlorobenzene-d4	19.78	150	687114	30.00	ug/L		-0.01
System Monitoring Compounds							
31) 1,2-Dichloroethane-d4	10.53	65	480905	29.49	ug/L		-0.01
Spiked Amount 30.000	Range 68 - 133		Recovery = 98.30%				
50) Toluene-d8	13.53	98	1197748	30.71	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.37%				
71) 4-Bromofluorobenzene	17.63	174	415380	30.79	ug/L		-0.01
Spiked Amount 30.000	Range 69 - 119		Recovery = 102.63%				
84) 1,2-Dichlorobenzene-d4	20.40	115	258607	29.89	ug/L		0.00
Spiked Amount 30.000	Range 72 - 127		Recovery = 99.63%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	6.11	85	91978	37.60	ug/L		98
3) Chloromethane	6.34	50	134025	43.16	ug/L		100
4) Vinyl chloride	6.49	62	95743	42.25	ug/L		94
5) Bromomethane	6.94	94	84911	49.31	ug/L	#	97
6) Chloroethane	7.05	64	78002	42.70	ug/L		96
7) Acrolein	7.47	56	190	0.78	ug/L	#	1
8) Trichlorofluoromethane	7.53	101	109695	42.90	ug/L		99
9) Acetone	7.55	43	72276	66.14	ug/L		91
10) Diethyl ether	7.56	59	768	0.37	ug/L	#	59
11) Acrylonitrile	8.02	53	62849	51.14	ug/L		97
12) t-Butanol	8.00	59	84739	275.79	ug/L	#	86
13) 1,1-Dichloroethene	8.06	61	168973	52.99	ug/L		97
14) MethylAcetate	8.09	43	55464	17.31	ug/L	#	98
15) Freon 113	8.13	101	85766	49.34	ug/L		95
16) Iodomethane	8.19	142	68549	40.01	ug/L	#	84
17) Methylene Chloride	8.26	84	119537	48.73	ug/L		93
18) Carbon disulfide	8.56	76	324507	51.63	ug/L		100
19) trans-1,2-Dichloroethene	8.82	61	169970	52.57	ug/L		95
20) Methyl-t-butyl ether(MTBE)	8.84	73	249632	43.31	ug/L		94
21) Vinyl acetate	9.00	43	335849	46.85	ug/L		98
22) 1,1-Dichloroethane	9.08	63	211020	50.92	ug/L		100
23) 2-Butanone (MEK)	9.32	43	104306	57.71	ug/L		94
24) Diisopropyl ether	9.43	45	463834	47.45	ug/L		97
25) cis-1,2-Dichloroethene	9.69	61	174659	51.98	ug/L		95
26) 2,2-Dichloropropane	9.87	77	120181	48.72	ug/L		96
27) t-Butyl ethyl ether	9.85	59	355624	48.96	ug/L		99
28) Chloroform	9.90	83	178767	50.89	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	Bromochloromethane	9.92	130	71455	52.57 ug/L	#	78
30)	Tetrahydrofuran	10.18	72	17733	50.25 ug/L		88
32)	1,1,1-Trichloroethane	10.63	97	121731	48.57 ug/L		98
33)	1,2-Dichloroethane	10.63	62	153374	49.24 ug/L		99
34)	1,1-Dichloropropene	10.84	75	133469	49.45 ug/L		96
35)	Benzene	11.04	78	408918	51.32 ug/L		98
36)	Carbon tetrachloride	11.08	117	99167	52.04 ug/L		98
37)	Cyclohexane	11.09	84	140934	50.49 ug/L		93
38)	t-Amyl methyl ether	11.22	43	121639	46.46 ug/L		89
39)	Heptane	11.68	43	2182	0.81 ug/L	#	92
40)	1,2-Dichloropropane	11.85	63	131774	51.42 ug/L		94
41)	Trichloroethene	11.89	130	92360	53.18 ug/L	#	89
42)	Dibromomethane	11.96	93	84901	53.70 ug/L	#	86
43)	Bromodichloromethane	12.05	83	136423	53.73 ug/L		99
44)	2-Chloroethyl vinyl ether	12.41	63	5866	23.48 ug/L		98
45)	Methylcyclohexane	12.59	55	2809	1.03 ug/L	#	93
46)	4-Methyl-2-pentanone(MIBK)	12.66	43	179038	47.26 ug/L		92
47)	cis-1,3-Dichloropropene	12.79	75	180081	50.69 ug/L		97
49)	trans-1,3-Dichloropropene	13.36	75	155132	54.71 ug/L		95
51)	1,1,2-Trichloroethane	13.61	83	89926	50.86 ug/L		93
52)	Toluene	13.64	91	387594	52.40 ug/L		98
53)	2-Hexanone	13.86	43	134266	55.44 ug/L	#	99
54)	1,3-Dichloropropane	13.95	76	175823	50.48 ug/L		92
55)	Butyl acetate	14.35	43	130122	25.79 ug/L		93
56)	Dibromochloromethane	14.42	129	93154	52.51 ug/L	#	96
57)	1,2-Dibromoethane	14.74	107	105618	52.79 ug/L	#	98
58)	Tetrachloroethene	14.81	131	59443	53.57 ug/L	#	91
59)	Chlorobenzene	15.76	112	241749	52.30 ug/L	#	87
60)	1,1,1,2-Tetrachloroethane	15.77	131	77501	53.02 ug/L	#	88
61)	Ethylbenzene	16.04	91	414267	53.27 ug/L		96
62)	m,p-Xylenes	16.22	106	290550	103.83 ug/L		87
63)	Styrene	16.78	104	246593	54.33 ug/L		91
64)	Bromoform	16.84	173	59661	54.45 ug/L		99
65)	o-Xylene	16.87	106	144423	53.86 ug/L		83
66)	1,1,2,2-Tetrachloroethane	17.18	83	139065	50.59 ug/L		100
67)	1,2,3-Trichloropropane	17.39	110	33669	51.97 ug/L		94
68)	trans-1,4-Dichloro-2-buten	17.40	53	34199	52.14 ug/L	#	93
69)	Isopropylbenzene	17.58	105	360126	52.97 ug/L		95
72)	Bromobenzene	17.99	158	82430	51.59 ug/L		89
73)	n-Propylbenzene	18.29	91	437319	52.58 ug/L		94
74)	2-Chlorotoluene	18.40	91	241632	51.10 ug/L	#	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021 Quant Results File: 8260D13.RES

Quant Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration
DataAcq Meth : 8260N

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
75)	4-Chlorotoluene	18.49	91	238395	51.70	ug/L	#	83
76)	1,3,5-Trimethylbenzene	18.58	105	279477	54.81	ug/L		92
77)	tert-Butylbenzene	19.23	91	188358	53.21	ug/L	#	81
78)	1,2,4-Trimethylbenzene	19.23	120	145300	53.92	ug/L		86
79)	sec-Butylbenzene	19.64	105	335393	54.81	ug/L		96
80)	1,3-Dichlorobenzene	19.71	146	149722	53.32	ug/L	#	91
81)	1,4-Dichlorobenzene	19.83	146	147316	51.38	ug/L	#	63
82)	p-Isopropyltoluene	19.87	119	260996	53.46	ug/L		94
83)	1,2,3-Trimethylbenzene	20.00	105	284879	53.24	ug/L		93
85)	1,2-Dichlorobenzene	20.44	146	139294	50.75	ug/L	#	95
86)	n-Butylbenzene	20.60	91	247071	49.81	ug/L		97
87)	Hexachloroethane	21.45	117	52082	48.88	ug/L		92
88)	1,2-Dibromo-3-chloropropan	21.45	155	15971	52.57	ug/L		86
89)	1,2,4-Trichlorobenzene	23.55	180	82883	53.79	ug/L	#	87
90)	Naphthalene	23.84	128	237850	54.81	ug/L	#	95
91)	Hexachlorobutadiene	24.23	225	30208	54.15	ug/L		93
92)	1,2,3-Trichlorobenzene	24.37	180	76185	54.19	ug/L		93
93)	2-Methylnaphthalene	26.11	142	4958	3.17	ug/L		97
94)	1-Methylnaphalene	26.55	142	4854	3.63	ug/L		97

(#) = qualifier out of range (m) = manual integration

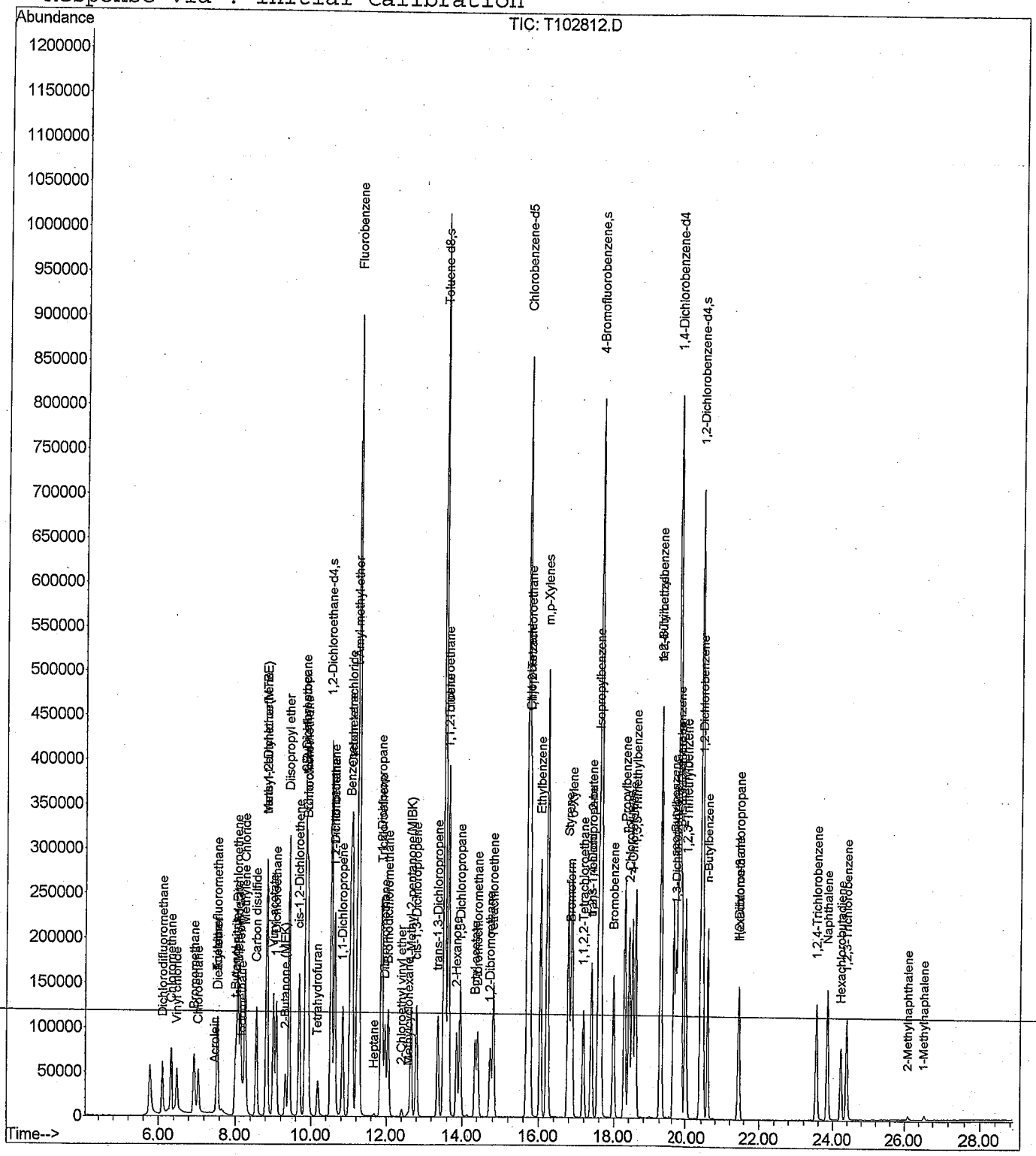
Quantitation Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D
Acq On : 28 Oct 2021 6:43 pm
Sample : ICV1028
Misc :
MS Integration Params: RTEINT.P
Quant Time: Oct 29 7:40 2021

Vial: 12
Operator: BAG
Inst : Trixie
Multiplr: 1.00

Quant Results File: 8260D13.RES

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Oct 29 07:39:54 2021
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Fluorobenzene	30.000	30.000	0.0	107	0.12
2		Dichlorodifluoromethane	50.000	37.604	24.8	77	0.09
3		Chloromethane	50.000	43.159	13.7	95	0.09
4		Vinyl chloride	50.000	42.248	15.5	98	0.09
5		Bromomethane	50.000	49.311	1.4	117	0.09
6		Chloroethane	50.000	42.700	14.6	94	0.09
7		Acrolein	50.000	0.776	98.4#	2	0.10
8		Trichlorofluoromethane	50.000	42.905	14.2	89	0.10
9		Acetone	50.000	66.140	-32.3#	148	0.10
10		Diethyl ether	50.000	0.375	99.3#	1	-0.08
11		Acrylonitrile	50.000	51.135	-2.3	105	0.11
12		t-Butanol	250.000	275.788	-10.3	114	0.11
13		1,1-Dichloroethene	50.000	52.990	-6.0	110	0.10
14		MethylAcetate	50.000	17.314	65.4#	38	0.10
15		Freon 113	50.000	49.340	1.3	102	0.10
16		Iodomethane	50.000	40.008	20.0	93	0.10
17		Methylene Chloride	50.000	48.729	2.5	110	0.10
18		Carbon disulfide	50.000	51.630	-3.3	108	0.11
19		trans-1,2-Dichloroethene	50.000	52.567	-5.1	110	0.11
20		Methyl-t-butyl ether(MTBE)	50.000	43.315	13.4	89	0.10
21		Vinyl acetate	50.000	46.851	6.3	100	0.11
22		1,1-Dichloroethane	50.000	50.919	-1.8	108	0.11
23		2-Butanone (MEK)	50.000	57.712	-15.4	120	0.10
24		Diisopropyl ether	50.000	47.451	5.1	99	0.11
25		cis-1,2-Dichloroethene	50.000	51.977	-4.0	110	0.11
26		2,2-Dichloropropane	50.000	48.721	2.6	103	0.11
27		t-Butyl ethyl ether	50.000	48.956	2.1	99	0.11
28		Chloroform	50.000	50.885	-1.8	108	0.11
29		Bromochloromethane	50.000	52.570	-5.1	109	0.11
30		Tetrahydrofuran	50.000	50.249	-0.5	108	0.12
31	s	1,2-Dichloroethane-d4	30.000	29.485	1.7	104	0.11
32		1,1,1-Trichloroethane	50.000	48.575	2.8	101	0.11
33		1,2-Dichloroethane	50.000	49.242	1.5	106	0.11
34		1,1-Dichloropropene	50.000	49.454	1.1	103	0.11
35		Benzene	50.000	51.325	-2.7	109	0.12
36		Carbon tetrachloride	50.000	52.045	-4.1	107	0.12
37		Cyclohexane	50.000	50.495	-1.0	106	0.11
38		t-Amyl methyl ether	50.000	46.458	7.1	99	0.12
39		Heptane	50.000	0.806	98.4#	2	0.11
40		1,2-Dichloropropane	50.000	51.415	-2.8	112	0.12
41		Trichloroethene	50.000	53.176	-6.4	110	0.12

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42		Dibromomethane	50.000	53.700	-7.4	108	0.11
43		Bromodichloromethane	50.000	53.729	-7.5	110	0.11
44		2-Chloroethyl vinyl ether	50.000	23.480	53.0#	43	0.11
45		Methylcyclohexane	50.000	1.031	97.9#	2	0.12
46		4-Methyl-2-pentanone(MIBK)	50.000	47.263	5.5	99	0.12
47		cis-1,3-Dichloropropene	50.000	50.692	-1.4	105	0.11
48		Chlorobenzene-d5	30.000	30.000	0.0	104	0.12
49		trans-1,3-Dichloropropene	50.000	54.715	-9.4	110	0.11
50	s	Toluene-d8	30.000	30.713	-2.4	107	0.11
51		1,1,2-Trichloroethane	50.000	50.855	-1.7	109	0.11
52		Toluene	50.000	52.397	-4.8	108	0.12
53		2-Hexanone	50.000	55.443	-10.9	113	0.11
54		1,3-Dichloropropane	50.000	50.479	-1.0	104	0.12
55		Butyl acetate	50.000	25.788	48.4#	52	0.12
56		Dibromochloromethane	50.000	52.506	-5.0	105	0.12
57		1,2-Dibromoethane	50.000	52.791	-5.6	108	0.12
58		Tetrachloroethene	50.000	53.568	-7.1	109	0.11
59		Chlorobenzene	50.000	52.296	-4.6	109	0.12
60		1,1,1,2-Tetrachloroethane	50.000	53.019	-6.0	107	0.12
61		Ethylbenzene	50.000	53.273	-6.5	108	0.12
62		m,p-Xylenes	100.000	103.831	-3.8	103	0.11
63		Styrene	50.000	54.333	-8.7	106	0.12
64		Bromoform	50.000	54.449	-8.9	106	0.12
65		o-Xylene	50.000	53.861	-7.7	107	0.11
66		1,1,2,2-Tetrachloroethane	50.000	50.587	-1.2	105	0.12
67		1,2,3-Trichloropropane	50.000	51.972	-3.9	106	0.11
68		trans-1,4-Dichloro-2-butene	50.000	52.136	-4.3	106	0.11
69		Isopropylbenzene	50.000	52.974	-5.9	108	0.12
70		1,4-Dichlorobenzene-d4	30.000	30.000	0.0	102	0.11
71	s	4-Bromofluorobenzene	30.000	30.788	-2.6	105	0.11
72		Bromobenzene	50.000	51.585	-3.2	103	0.12
73		n-Propylbenzene	50.000	52.582	-5.2	104	0.12
74		2-Chlorotoluene	50.000	51.096	-2.2	97	0.02
75		4-Chlorotoluene	50.000	51.697	-3.4	91	0.11
76		1,3,5-Trimethylbenzene	50.000	54.811	-9.6	106	0.12
77		tert-Butylbenzene	50.000	53.214	-6.4	103	0.11
78		1,2,4-Trimethylbenzene	50.000	53.923	-7.8	103	0.11
79		sec-Butylbenzene	50.000	54.806	-9.6	106	0.11
80		1,3-Dichlorobenzene	50.000	53.324	-6.6	106	0.11

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\T102821\T102812.D Vial: 12
Acq On : 28 Oct 2021 6:43 pm Operator: BAG
Sample : ICV1028 Inst : Trixie
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260D13.M (RTE Integrator)
Title : 8260 FULL LIST
Last Update : Fri Nov 19 12:42:52 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81		1,4-Dichlorobenzene	50.000	51.383	-2.8	102	0.11
82		p-Isopropyltoluene	50.000	53.461	-6.9	103	0.11
83		1,2,3-Trimethylbenzene	50.000	53.238	-6.5	102	0.11
84	s	1,2-Dichlorobenzene-d4	30.000	29.892	0.4	101	0.11
85		1,2-Dichlorobenzene	50.000	50.755	-1.5	103	0.11
86		n-Butylbenzene	50.000	49.815	0.4	97	0.11
87		Hexachloroethane	50.000	48.883	2.2	93	0.11
88		1,2-Dibromo-3-chloropropane	50.000	52.570	-5.1	103	0.11
89		1,2,4-Trichlorobenzene	50.000	53.794	-7.6	106	0.10
90		Naphthalene	50.000	54.806	-9.6	106	0.10
91		Hexachlorobutadiene	50.000	54.154	-8.3	106	0.11
92		1,2,3-Trichlorobenzene	50.000	54.193	-8.4	106	0.11
93		2-Methylnaphthalene	50.000	3.172	93.7#	6	0.13
94		1-Methylnaphalene	50.000	3.627	92.7#	7	0.12

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21I205

PCBs

Raw Data

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General Outline for Organics Data Deliverables

1) **Data Review Sheet**

2) **Manual Integration Narratives Sheet**

3) **Extraction Logs and or Balance Logs**

4) **Instrument Run Logbook----(Chronological Order)**

GC/MS Data
Surrogate Data
Method Blank Summary (VOA)
Tune Data
Calibration Verification Data
Internal Standards Data
All raw data as applicable

GC Data
Calibration Verification
Column Breakdown Data
All raw data as applicable

5) **Calibration Curves-----By Date**

Trace Analytical Laboratories, Inc. Organics **GC/HPLC Semi Volatile Data Review** Trace I. D. No. 21J1205

Analyst Review	8081	8081*	8082	8082*	8015	8015*	8151/515.1	8330	8310
Calibration Curve is valid			✓						
Sample preparation information is correct and complete			✓						
Samples analyzed within hold time			✓						
DDT and Endrin breakdown passes QC criteria (pesticides)			----	----	----	----	----	----	----
ICV, CCV, LCS, MS/MSD meet control criteria			✓						
Method blank and reagent blank are in control			✓						
CCV has been analyzed at the proper frequency			✓						
Surrogate recoveries are in control			✓						
Internal Standard areas are in control			✓		----	----		----	----
Quantitation is within the calibration curve			✓						
Second column confirmation performed, where appropriate			----	----	----	----			----
Qualifiers have been provided, as necessary			✓						
Method, Instrument, Standards, Reagents identified			✓						
Data has been entered into LIMS			✓						
Notations/Comments/Batch Numbers: +116248 DUE: 11-5 / Sign & Date			TM 11-2-21						
Manager Review									
Extraction date, analyst initials, and analysis date are correct									
Analyses match Chain-of-Custody									
Calibration data are scientifically sound, appropriate, and documented									
Second Source Standard in control									
Quantitative results and detection limits reviewed									
Detection limit multiplier is correct									
QC issues explained and set to report, if necessary									
Significant figures are correct									
Quantitation report data matches LIMS data									
Extraction amount in LIMS matches Extraction Log									
Extraction hold times were met									
Analyst review has been checked									
Analysis is approved for release to reporting									
Notations/Comments:	Sign/Date: [signature] 12/2/21								

* Column for 100% review of data (shaded column).

Form 10-E.0
Effective 10/24/11

F:\Support Documentation Worksheets\10-Quality\10-E.0 Organics GC SemiVol Data Review Checklist 2011.doc

PCB Soil

EPA 3546 EXTRACTION BENCH SHEET

T116248

Trace Analytical Laboratories, Inc.

Matrix: Solid

Printed: 11/1/2021 6:10:08AM

Batch Contains Rush Samples

Date: 11/1/21 Analyst: KBS

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Balance #10 S/N H14350

N-EVAP Temp: 35 °C (Limits=30-35 °C) Instr: MarsX S/N MD3921

Surrogate LIMS: 21J0702

Surrogate Spike Amount(ul): 1000

Reviewers Initial: TM Date Reviewed: 11-1-21

Standard	Description
21H0501	HEXANE
21H3106	SILICA GEL DEACTIVATED
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Cleanup Method (if applicable):

Silica Gel (3630C) Date: 11/1/21

Copper (3660B) Date: 11-1-21

Copper LIMS#: 21E0329

Sulfuric Acid (3660B) Date: NA

Sulfuric LIMS# NA

			Due Date	Position	Cleanup Data (if applicable)
21J1179-01 A	T73710-COMPOSITE SOIL	MPC Environmental	11/02/21	5	Volume Cleaned: 10 mls Final Volume: 1 mls
Inital Weight: 30.09 g Final Volume: 10 mls					
PCBs 8082 EGLE List					
21J1205-06 A	CL-SB-GP-8 (0.5-1.5') I/MS/MSD	Fishbeck	11/05/21	6	Volume Cleaned: 10 mls Final Volume: 1 mls
Inital Weight: 30.06 g Final Volume: 10 mls					
PCBs EPA 8082A		Level IV with Forms must sequence in LIMS			
21J1205-07 A	CL-SB-GP-9 (0.5-1.5') I	Fishbeck	11/05/21	7	Volume Cleaned: 10 mls Final Volume: 1 mls
Inital Weight: 30.05 g Final Volume: 10 mls					
PCBs EPA 8082A		Level IV with Forms must sequence in LIMS			
21J1205-08 A	CL-SB-GP-9 (0.5-1.5') D	Fishbeck	11/05/21	8	Volume Cleaned: 10 mls Final Volume: 1 mls
Inital Weight: 30.10 g Final Volume: 10 mls					
PCBs EPA 8082A		Level IV with Forms must sequence in LIMS			
T116248-BLK1	Blank	Spike Std:	Amount Used (ul):	1	Volume Cleaned: 10 mls Final Volume: 1 mls
Inital Weight: 30.00 g Final Volume: 10 mls					

EPA 3546 EXTRACTION BENCH SHEET

T116248

Trace Analytical Laboratories, Inc.

Matrix: Solid

Printed: 11/1/2021 6:10:08AM

Batch Contains Rush Samples

Date: 11/1/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Balance #10 S/N H14350

N-EVAP Temp: 35 °C (Limits=30-35 °C) Instr. MarsX S/N MD3921

Surrogate LIMS: 21J0702

Surrogate Spike Amount(ul): 1000

Reviewers Initial:_____ Date Reviewed:_____

Standard	Description
21H0501	HEXANE
21H3106	SILICA GEL DEACTIVATED
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Cleanup Method (if applicable):

Silica Gel (3630C) Date: 11/1/21

Copper (3660B) Date:_____

Copper LIMS#:_____

Sulfuric Acid (3660B) Date:_____

Sulfuric LIMS#_____

		Spike Std:	Amount Used (ul):	Due Date Position	Cleanup Data (if applicable)
T116248-BS1	LCS	21G2903	1000	2	Volume Cleaned: 10 mls
Inital Weight: 30.00 g	Final Volume: 10 mls				Final Volume: 1 mls
T116248-MS1	Matrix Spike [21J1205-06]	Spike Std:	Amount Used (ul):		Cleanup Data (if applicable)
		21G2903	1000	5	Volume Cleaned: 10 mls
Inital Weight: 30.09 g	Final Volume: 10 mls				Final Volume: 1 mls
T116248-MSD1	Matrix Spike Dup [21J1205-06]	Spike Std:	Amount Used (ul):		Cleanup Data (if applicable)
		21G2903	1000	4	Volume Cleaned: 10 mls
Inital Weight: 30.04 g	Final Volume: 10 mls				Final Volume: 1 mls

TotalChrom Sequence File C:\Norton\11-2-21\NPCB.seq

Printed by : Manager on: 12/2/2021 6:27:57 AM
Created by : Manager on: 11/19/2020 6:57:16 AM
Edited by : Manager on: 11/2/2021 12:11:13 PM
Number of Times Edited : 1156

Description: NORTON PCB
Method 8082
Hewlett-Packard 5890A
S/N: 2443A04016
DB-5 Column
IS: 21J2713

Sequence File Header Information:

Number of Rows : 17
Instrument Type : NCI 901/902 Series Intelligent Interface
Injection Type : SINGLE
Raw tokens channel A :
Result tokens channel A :
Modified tokens channel A :
Raw tokens channel B :
Result tokens channel B :
Modified tokens channel B :

Sequence Sample Descriptions - Channel A

Row	Name	Dil Factor
1	21J0501 10. ppm PCB Primer	1.000000
2	21J2101 Hexane	1.000000
3	21J2012 0.60 ppm PCB Std	1.000000
4	21F1501 0.50 ppm 1254 Std	1.000000
5	21J1138-01 A	1.000000
6	21J1138-02 A	1.000000
7	21J1138-03 A	1.000000
8	T116248-BLK1 Soil	1.000000
9	T116248-BS1 Soil	1.000000
10	21J1179-01 A	1.000000
11	21J1205-06 A	1.000000
12	T116248-MS1 21J1205-06 A	1.000000
13	T116248-MSD1 21J1205-06 A	1.000000
14	21J1205-07 A	1.000000
15	21J1205-08 A	1.000000
16	21J2101 Hexane	1.000000
17	21J2007 0.50 ppm PCB Std	1.000000

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
1	c:\norton\npcb-102021		C:\Norton\11-2-21\1001
2	c:\norton\npcb-102021		C:\Norton\11-2-21\1002
3	c:\norton\npcb-102021	c:\norton\npcbcv60	C:\Norton\11-2-21\1003
4	c:\norton\n1254-061521	c:\norton\npcbcv50	C:\Norton\11-2-21\1004
5	c:\norton\n1254-061521	c:\norton\npcbo	C:\Norton\11-2-21\1005
6	c:\norton\n1254-061521	c:\norton\npcbo	C:\Norton\11-2-21\1006
7	c:\norton\n1254-061521	c:\norton\npcbo	C:\Norton\11-2-21\1007
8	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1008
9	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1009
10	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1010
11	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1011
12	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1012
13	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1013
14	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1014
15	c:\norton\npcb-102021	c:\norton\npcbs	C:\Norton\11-2-21\1015
16	c:\norton\npcb-102021		C:\Norton\11-2-21\1016
17	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\11-2-21\1017

12/2/2021 6:27:57 AM Sequence: C:\Norton\11-2-21\NPCB.seq

User Data / LIMS ID's - Channel A

Row	User1	User2	User3
1			
2			
3	CV: Pass	Calib. IS Area: Pass	
4	CV: 90.1%; Pass	Calib. IS Area: Fail (high)	
5	1254 BDL; no quant.available	IS Area: Pass	
6	1254 BDL; no quant.available	IS Area: Pass	
7	1254 BDL; no quant.available	IS Area: Pass	
8		IS Area: Pass	Surrogate Recovery: Pass
9		IS Area: Pass	Surrogate Recovery: Pass
10		IS Area: Pass	Surrogate Recovery: Pass
11		IS Area: Pass	Surrogate Recovery: Pass
12		IS Area: Pass	Surrogate Recovery: Pass
13		IS Area: Pass	Surrogate Recovery: Pass
14		IS Area: Pass	Surrogate Recovery: Pass
15		IS Area: Pass	Surrogate Recovery: Pass
16			
17	CV: Pass	IS Area: Pass	

Norton I.S. Peak Area Summary

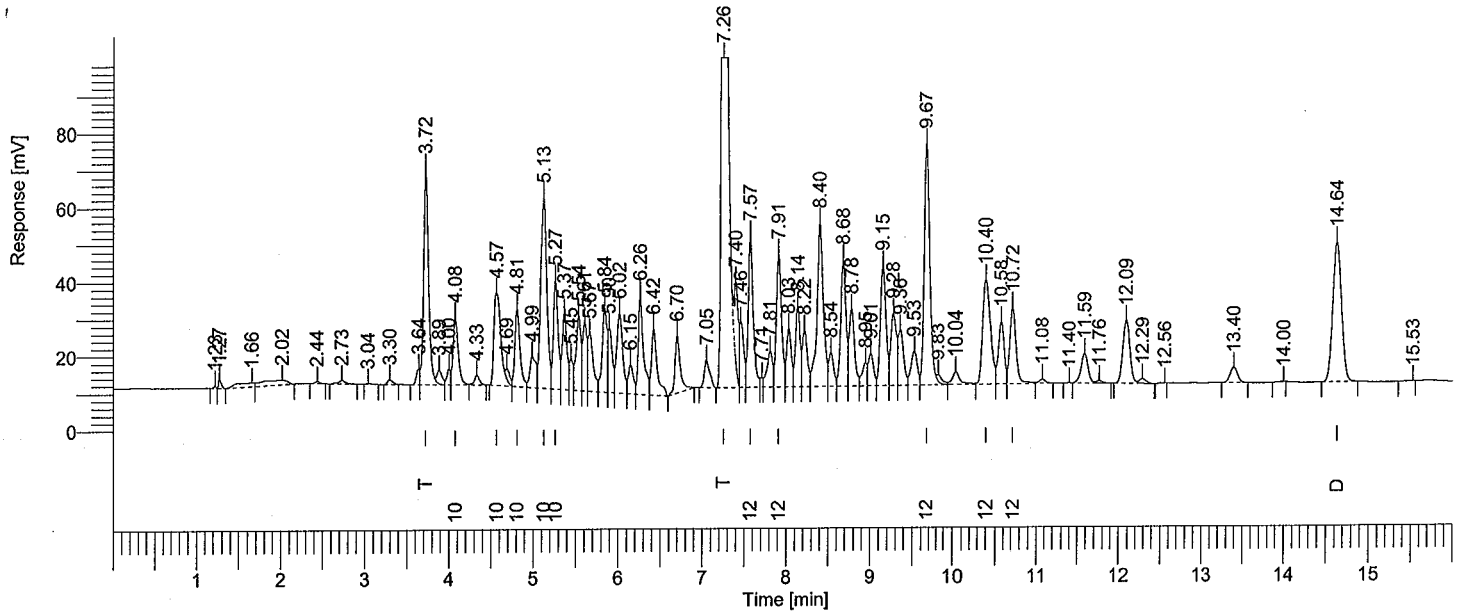
File Name	Sample Name	Date of Injection	TCBP I.S. Area [µV·s]
1001.rst	21J0501 10. ppm PCB Primer	11/2/2021	~~705147~~
1002.rst	21J2101 Hexane	11/2/2021	~~1782~~
1003.rst	21J2012 0.60 ppm PCB Std	11/2/2021	1157011
1004.rst	21F1501 0.50 ppm 1254 Std	11/2/2021	1324749
1005.rst	21J1138-01 A	11/2/2021	1319354
1006.rst	21J1138-02 A	11/2/2021	1278087
1007.rst	21J1138-03 A	11/2/2021	1264259
1008.rst	T116248-BLK1 Soil	11/2/2021	1127292
1009.rst	T116248-BS1 Soil	11/2/2021	1122764
1010.rst	21J1179-01 A	11/2/2021	1108022
1011.rst	21J1205-06 A	11/2/2021	1300119
1012.rst	T116248-MS1 21J1205-06 A	11/2/2021	1203307
1013.rst	T116248-MSD1 21J1205-06 A	11/2/2021	1203800
1014.rst	21J1205-07 A	11/2/2021	1179980
1015.rst	21J1205-08 A	11/2/2021	1159897
1016.rst	21J2101 Hexane	11/2/2021	~~4983~~
1017.rst	21J2007 0.50 ppm PCB Std	11/2/2021	1201172

RANGE = 580,000 TO 1,740,000

ALL OK

Software Version	: 6.3.2.0646	Date	: 12/2/2021 6:53:39 AM
Sample Name	: 21J2012 0.60 ppm PCB Std	Data Acquisition Time	: 11/2/2021 7:17:57 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 3		

Result File : C:\Norton\11-2-21\1003.rst
Sequence File : C:\Norton\NPCB.seq



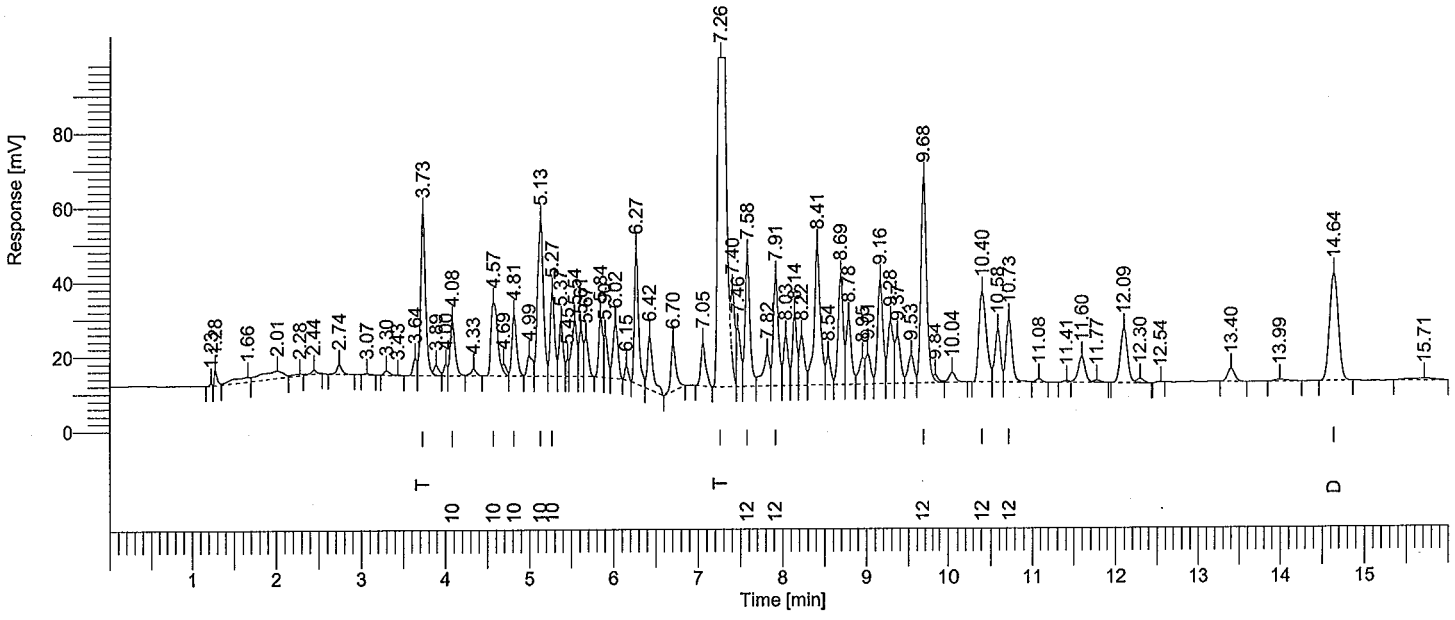
NORTON PCB 0.60 ppm CV Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	CV % Recov
3.723	TCmX Surrogate	241939	0.209	0.0415	0.0415	103.8	6.9
5.127	Aroclor 1016 (5 Pe	687277	0.594	0.6118	0.6118	2e+03	102.0
7.255	TCBP I.S.	1157011	1.000	-------	--------	-----	-----
9.672	Aroclor 1260 (5 Pe	926295	0.801	0.5865	0.5865	1e+03	97.7
14.636	DCBP Surrogate	278197	0.240	0.0408	0.0408	102.0	6.8

ALLOK

Software Version	: 6.3.2.0646	Date	: 12/2/2021 6:53:57 AM
Sample Name	: 21J2007 0.50 ppm PCB Std	Data Acquisition Time	: 11/2/2021 11:48:22 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 17		

Result File : C:\Norton\11-2-21\1017.rst
Sequence File : C:\Norton\NPCB.seq



NORTON PCB 0.50 ppm CV Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	CV % Recov
3.726	TCmX Surrogate	174318	0.145	0.0281	0.0281	93.5	5.6
5.130	Aroclor 1016 (5 Pea	517160	0.431	0.4155	0.4155	1e+03	83.1
7.257	TCBP I.S.	1201172	1.000	-------	--------	-----	-----
9.675	Aroclor 1260 (5 Pea	773635	0.644	0.4502	0.4502	2e+03	90.0
14.640	DCBP Surrogate	213406	0.178	0.0290	0.0290	96.6	5.8

ALL OK

TotalChrom Sequence File C:\Norton\10-20-21\NPCB.seq

Printed by : Manager on: 12/2/2021 6:45:49 AM
Created by : Manager on: 11/19/2020 6:57:16 AM
Edited by : Manager on: 11/1/2021 8:09:53 AM
Number of Times Edited : 1084

Description: NORTON PCB
Method 8082
Hewlett-Packard 5890A
S/N: 2443A04016
DB-5 Column
IS: 21H0201
(Some runs were incorrectly dated as 10/19/21)

Sequence File Header Information:

Number of Rows : 27
Instrument Type : NCI 901/902 Series Intelligent Interface
Injection Type : SINGLE
Raw tokens channel A :
Result tokens channel A :
Modified tokens channel A :
Raw tokens channel B :
Result tokens channel B :
Modified tokens channel B :

Sequence Sample Descriptions - Channel A

Row	Name	Dil Factor
1	21J0501 10. ppm PCB Primer	1.000000
2	21G0802 Hexane	1.000000
3	21J1101 0.50 ppm PCB Std	1.000000
4	21J2007 0.50 ppm PCB Std	1.000000
5	21J2014 1.0 ppm PCB Std	1.000000
6	21J2013 0.75 ppm PCB Std	1.000000
7	21J2012 0.60 ppm PCB Std	1.000000
8	21J2011 0.25 ppm PCB Std	1.000000
9	21J2010 0.10 ppm PCB Std	1.000000
10	21J0403 Restek 32039 0.50 ppm PCB	1.000000
11	T115771-BLK1 Water	1.000000
12	T115771-BS1 Water	1.000000
13	21J0522-06 C	1.000000
14	21J0534-06 E	1.000000
15	21J0537-06 B	1.000000
16	21J0651-01 E	1.000000
17	21G0802 Hexane	1.000000
18	21J2007 0.50 ppm PCB Std	1.000000
19	21J0573-01 A	1.000000
20	21J0573-02 A	1.000000
21	21J0574-01 D	1.000000
22	21J0575-01 B	1.000000
23	21J0575-02 B	1.000000
24	21J0576-01 A	1.000000
25	21J0576-02 G	1.000000
26	21G0802 Hexane	1.000000
27	21J2007 0.50 ppm PCB Std	1.000000

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
1	c:\norton\npcb-102021		C:\Norton\10-20-21\1001
2	c:\norton\npcb-102021		C:\Norton\10-20-21\1002
3	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1003
4	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1004
5	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1005
6	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1006
7	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1007
8	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1008
9	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1009
10	c:\norton\npcb-102021	c:\norton\npcbicv50-congeners	C:\Norton\10-20-21\1010

12/2/2021 6:45:49 AM Sequence: C:\Norton\10-20-21\NPCB.seq

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
11	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1011
12	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1012
13	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1013
14	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1014
15	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1015
16	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1016
17	c:\norton\npcb-102021		C:\Norton\10-20-21\1017
18	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1018
19	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1019
20	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1020
21	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1021
22	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1022
23	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1023
24	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1024
25	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1025
26	c:\norton\npcb-102021		C:\Norton\10-20-21\1026
27	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1027

User Data / LIMS ID's - Channel A

Row	User1	User2	User3
1			
2			
3	CV: Pass	Calib. IS Area: Pass	Not used
4	Calibrant		
5	Calibrant		
6	Calibrant		
7	Calibrant		
8	Calibrant		
9	Calibrant		
10	ICV: Pass	IS Area: Pass	
11		IS Area: Pass	Surrogate Recovery: Pass
12		IS Area: Pass	Surrogate Recovery: Pass
13		IS Area: Pass	Surrogate Recovery: Pass
14		IS Area: Pass	Surrogate Recovery: Pass
15		IS Area: Pass	Surrogate Recovery: Pass
16		IS Area: Pass	Surrogate Recovery: Pass
17			
18	CV: Pass	IS Area: Pass	
19		IS Area: Pass	Surrogate Recovery: Fail (both low)
20		IS Area: Pass	Surrogate Recovery: Pass
21		IS Area: Pass	Surrogate Recovery: Pass
22		IS Area: Pass	Surrogate Recovery: Pass
23		IS Area: Pass	Surrogate Recovery: Pass
24		IS Area: Pass	Surrogate Recovery: Pass
25		IS Area: Pass	Surrogate Recovery: Pass
26			
27	CV: Pass	IS Area: Pass	

Norton I.S. Peak Area Summary

File Name	Sample Name	Date of Injection	TCBP I.S. Area [µV·s]
1001.rst	21J0501 10. ppm PCB Primer	10/20/2021	~~873532~~
1002.rst	21G0802 Hexane	10/20/2021	~~1428~~
1003.rst	21J1101 0.50 ppm PCB Std	10/20/2021	~~1025798~~
1004.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1006725
1005.rst	21J2014 1.0 ppm PCB Std	10/20/2021	1044180
1006.rst	21J2013 0.75 ppm PCB Std	10/20/2021	1046427
1007.rst	21J2012 0.60 ppm PCB Std	10/20/2021	1028145
1008.rst	21J2011 0.25 ppm PCB Std	10/20/2021	1038107
1009.rst	21J2010 0.10 ppm PCB Std	10/20/2021	1091459
1010.rst	21J0403 Restek 32039 0.50 ppm PCB	10/20/2021	1078684
1011.rst	T115771-BLK1 Water	10/20/2021	996839
1012.rst	T115771-BS1 Water	10/20/2021	998797
1013.rst	21J0522-06 C	10/20/2021	1017758
1014.rst	21J0534-06 E	10/20/2021	1029871
1015.rst	21J0537-06 B	10/20/2021	974230
1016.rst	21J0651-01 E	10/20/2021	994650
1017.rst	21G0802 Hexane	10/20/2021	~~1029~~
1018.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1129756
1019.rst	21J0573-01 A	10/20/2021	1163707
1020.rst	21J0573-02 A	10/20/2021	1123975
1021.rst	21J0574-01 D	10/20/2021	1270860
1022.rst	21J0575-01 B	10/20/2021	1119556
1023.rst	21J0575-02 B	10/20/2021	1133448
1024.rst	21J0576-01 A	10/20/2021	1167150
1025.rst	21J0576-02 G	10/20/2021	1214737
1026.rst	21G0802 Hexane	10/20/2021	~~1425~~
1027.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1139186

$\bar{X}_6 = 1{,}043{,}000$ RANGE = 520,000 TO 1,560,000

ALL OK

Software Version	: 6.3.2.0646	Date	: 12/2/2021 6:46:57 AM
Sample Name	: 21J2007 0.50 ppm PCB Std	Data Acquisition Time	: 10/20/2021 8:35:12 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 4		

Result File : C:\Norton\10-20-21\1004.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.725	TCmX Surrogate	153411	0.152
5.139	Aroclor 1016 (5 Peaks)	500719	0.497
7.280	TCBP I.S.	1006725	1.000
9.718	Aroclor 1260 (5 Peaks)	689117	0.685
14.725	DCBP Surrogate	172937	0.172

Group Report For : Aroclor 1016 (5 Peaks)

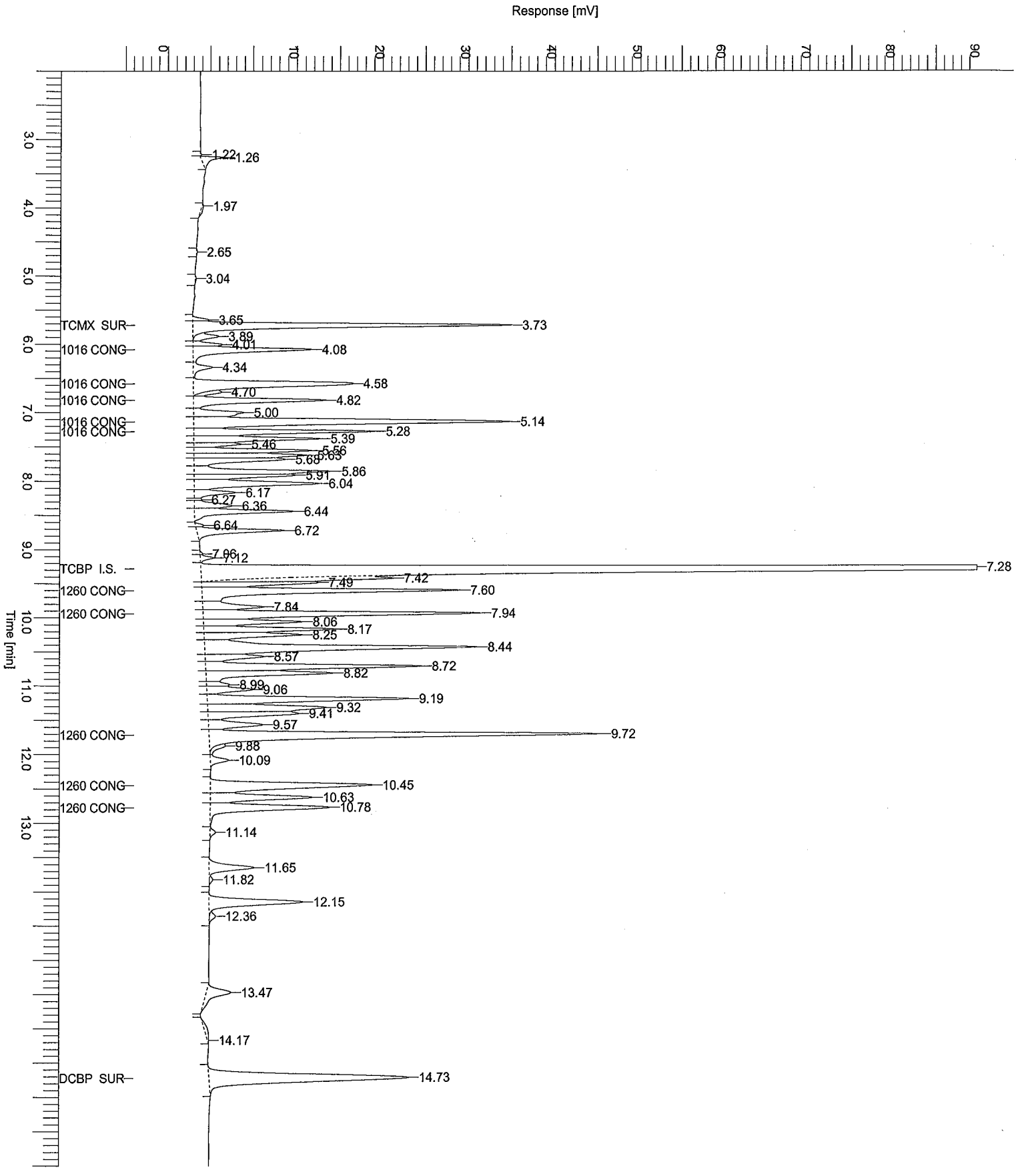
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.082	1016 Congener #1	62893	0.062
4.579	1016 Congener #2	107974	0.107
4.823	1016 Congener #3	66651	0.066
5.139	1016 Congener #4	183030	0.182
5.280	1016 Congener #5	80172	0.080

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.604	1260 Congener #1	138434	0.138
7.942	1260 Congener #2	136049	0.135
9.718	1260 Congener #3	231731	0.230
10.454	1260 Congener #4	108542	0.108
10.777	1260 Congener #5	74361	0.074

NORTON - DB-5 Method 8082

Sample Name : 21J2007 0.50 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1004.raw
Date : 12/2/2021 6:46:59 AM
Method : Time of Injection: 10/20/2021 8:35:12 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version : 6.3.2.0646		Date	: 12/2/2021 6:47:02 AM
Sample Name : 21J2014	1.0 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:14:50 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 5			

Result File : C:\Norton\10-20-21\1005.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.724	TCmX Surrogate	392963	0.376
5.139	Aroclor 1016 (5 Peaks)	897900	0.860
7.279	TCBP I.S.	1044180	1.000
9.718	Aroclor 1260 (5 Peaks)	1250322	1.197
14.723	DCBP Surrogate	424611	0.407

Group Report For : Aroclor 1016 (5 Peaks)

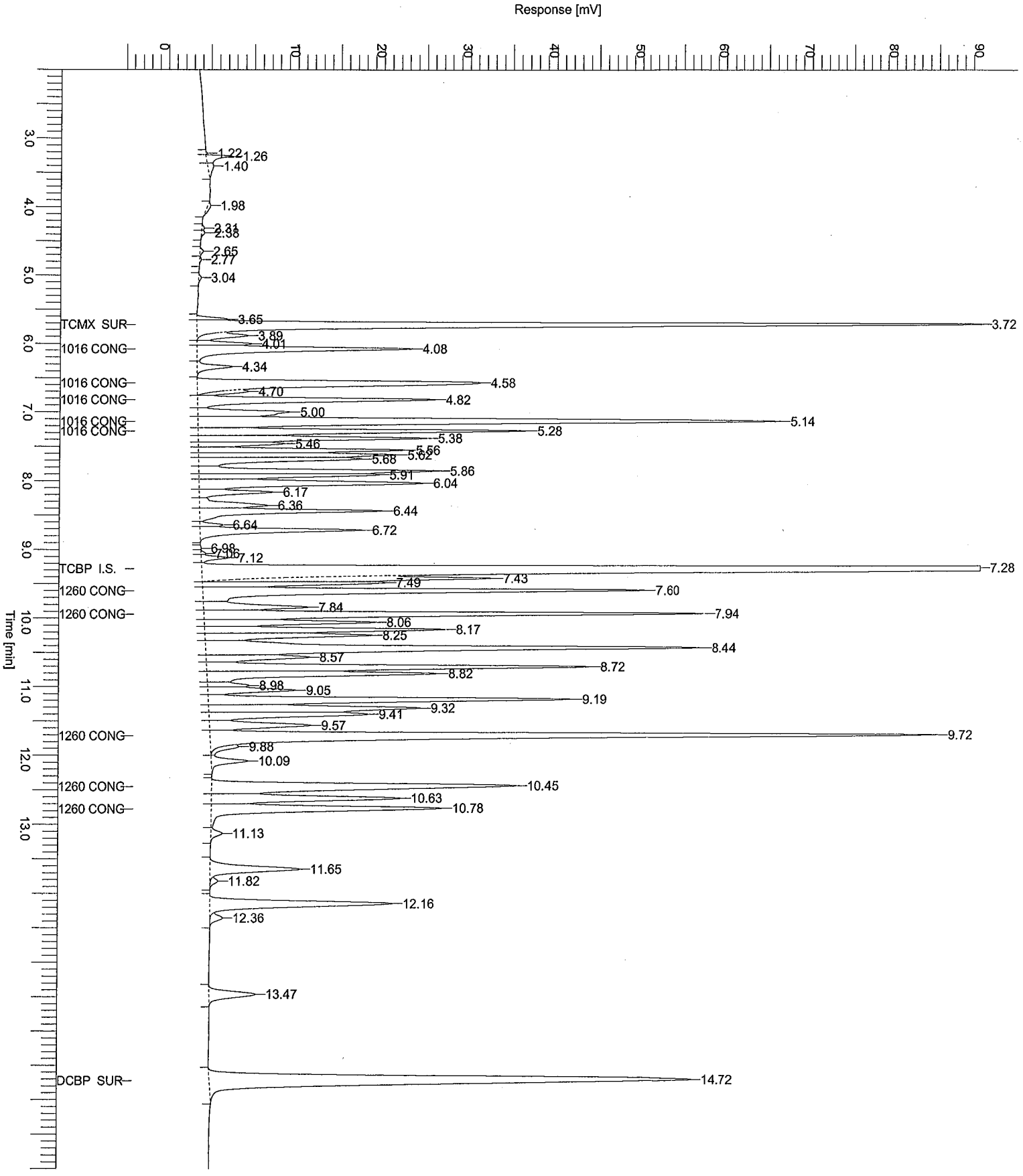
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.080	1016 Congener #1	111788	0.107
4.577	1016 Congener #2	190395	0.182
4.821	1016 Congener #3	118633	0.114
5.139	1016 Congener #4	332470	0.318
5.279	1016 Congener #5	144613	0.138

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.602	1260 Congener #1	229936	0.220
7.941	1260 Congener #2	237356	0.227
9.718	1260 Congener #3	432329	0.414
10.452	1260 Congener #4	209035	0.200
10.776	1260 Congener #5	141667	0.136

NORTON - DB-5 Method 8082

Sample Name : 21J2014 1.0 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1005.raw
Date : 12/2/2021 6:47:03 AM
Method : Time of Injection: 10/20/2021 10:14:50 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version : 6.3.2.0646		Date	: 12/2/2021 6:47:06 AM
Sample Name : 21J2013	0.75 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:34:08 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 6			

Result File : C:\Norton\10-20-21\1006.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.716	TCmX Surrogate	302744	0.289
5.129	Aroclor 1016 (5 Peaks)	726544	0.694
7.267	TCBP I.S.	1046427	1.000
9.700	Aroclor 1260 (5 Peaks)	1021956	0.977
14.697	DCBP Surrogate	348586	0.333

Group Report For : Aroclor 1016 (5 Peaks)

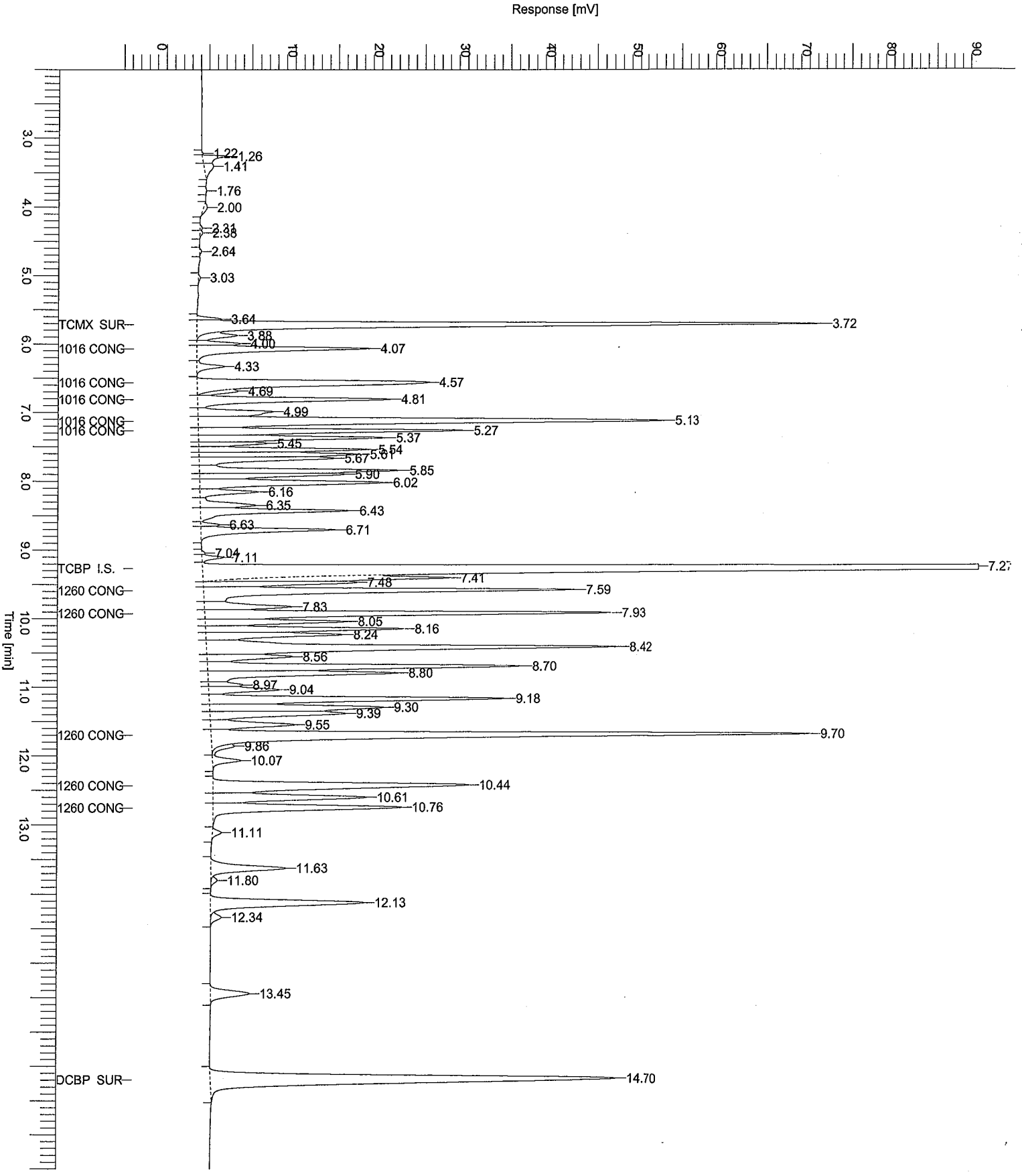
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.071	1016 Congener #1	89450	0.085
4.566	1016 Congener #2	154148	0.147
4.812	1016 Congener #3	95697	0.091
5.129	1016 Congener #4	269695	0.258
5.268	1016 Congener #5	117553	0.112

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	190506	0.182
7.927	1260 Congener #2	194873	0.186
9.700	1260 Congener #3	351087	0.336
10.435	1260 Congener #4	172686	0.165
10.758	1260 Congener #5	112805	0.108

NORTON - DB-5 Method 8082

Sample Name : 21J2013 0.75 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1006.raw
Date : 12/2/2021 6:47:08 AM
Method : Time of Injection: 10/20/2021 10:34:08 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version	: 6.3.2.0646	Date	: 12/2/2021 6:47:09 AM
Sample Name	: 21J2012 0.60 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:53:29 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 7		

Result File : C:\Norton\10-20-21\1007.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.713	TCmX Surrogate	210589	0.205
5.128	Aroclor 1016 (5 Peaks)	608171	0.592
7.266	TCBP I.S.	1028145	1.000
9.698	Aroclor 1260 (5 Peaks)	857289	0.834
14.695	DCBP Surrogate	248253	0.241

Group Report For : Aroclor 1016 (5 Peaks)

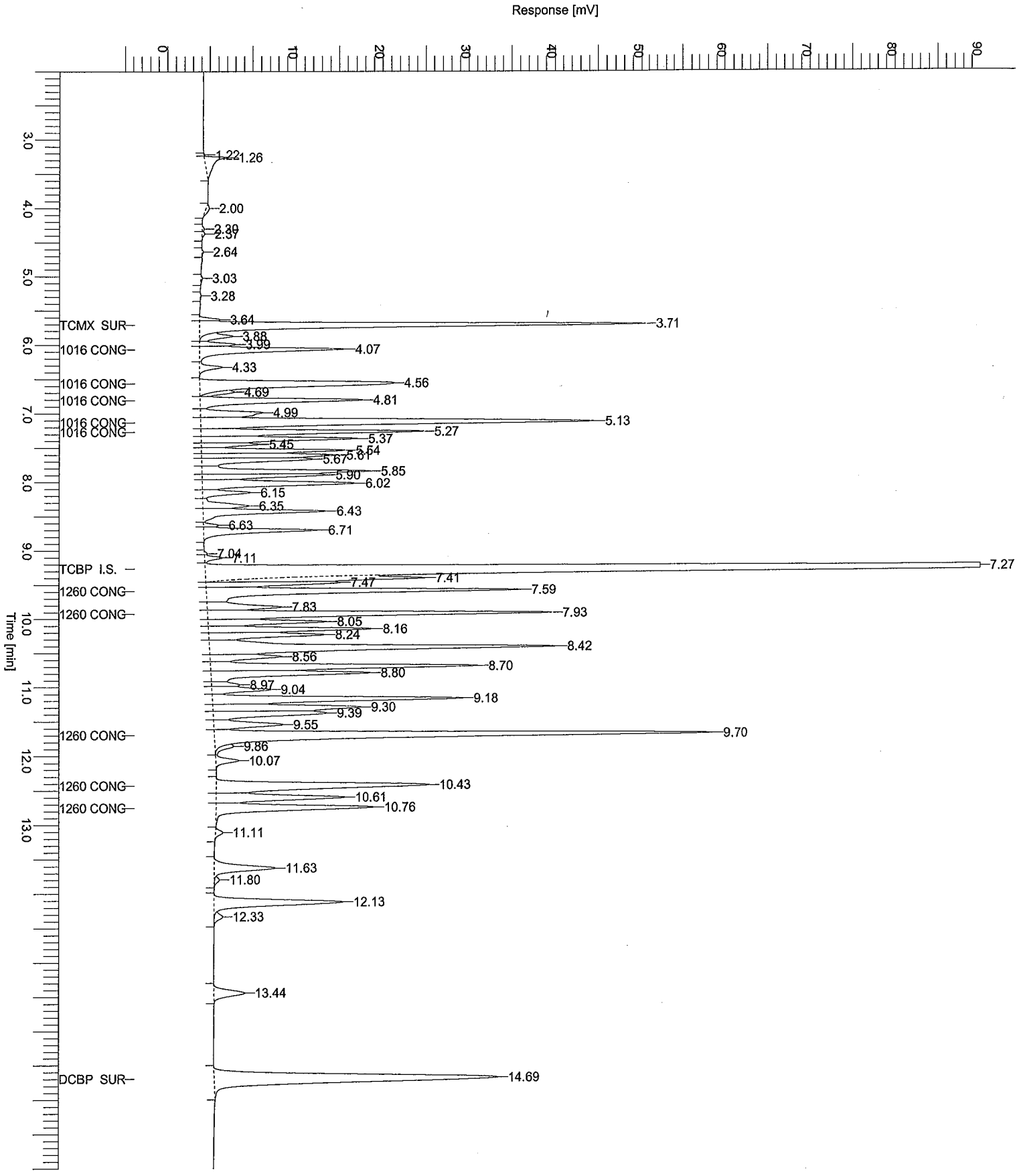
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.069	1016 Congener #1	74156	0.072
4.564	1016 Congener #2	129621	0.126
4.810	1016 Congener #3	79984	0.078
5.128	1016 Congener #4	225852	0.220
5.267	1016 Congener #5	98558	0.096

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	164327	0.160
7.927	1260 Congener #2	165206	0.161
9.698	1260 Congener #3	291140	0.283
10.433	1260 Congener #4	143125	0.139
10.755	1260 Congener #5	93491	0.091

NORTON - DB-5 Method 8082

Sample Name : 21J2012 0.60 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1007.raw
Date : 12/2/2021 6:47:11 AM
Method :
Time of Injection: 10/20/2021 10:53:29 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version	: 6.3.2.0646	Date	: 12/2/2021 6:47:14 AM
Sample Name	: 21J2011 0.25 ppm PCB Std	Data Acquisition Time	: 10/20/2021 11:12:47 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 8		

Result File : C:\Norton\10-20-21\1008.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.714	TCmX Surrogate	112118	0.108
5.129	Aroclor 1016 (5 Peaks)	290842	0.280
7.267	TCBP I.S.	1038107	1.000
9.699	Aroclor 1260 (5 Peaks)	400708	0.386
14.694	DCBP Surrogate	135432	0.130

Group Report For : Aroclor 1016 (5 Peaks)

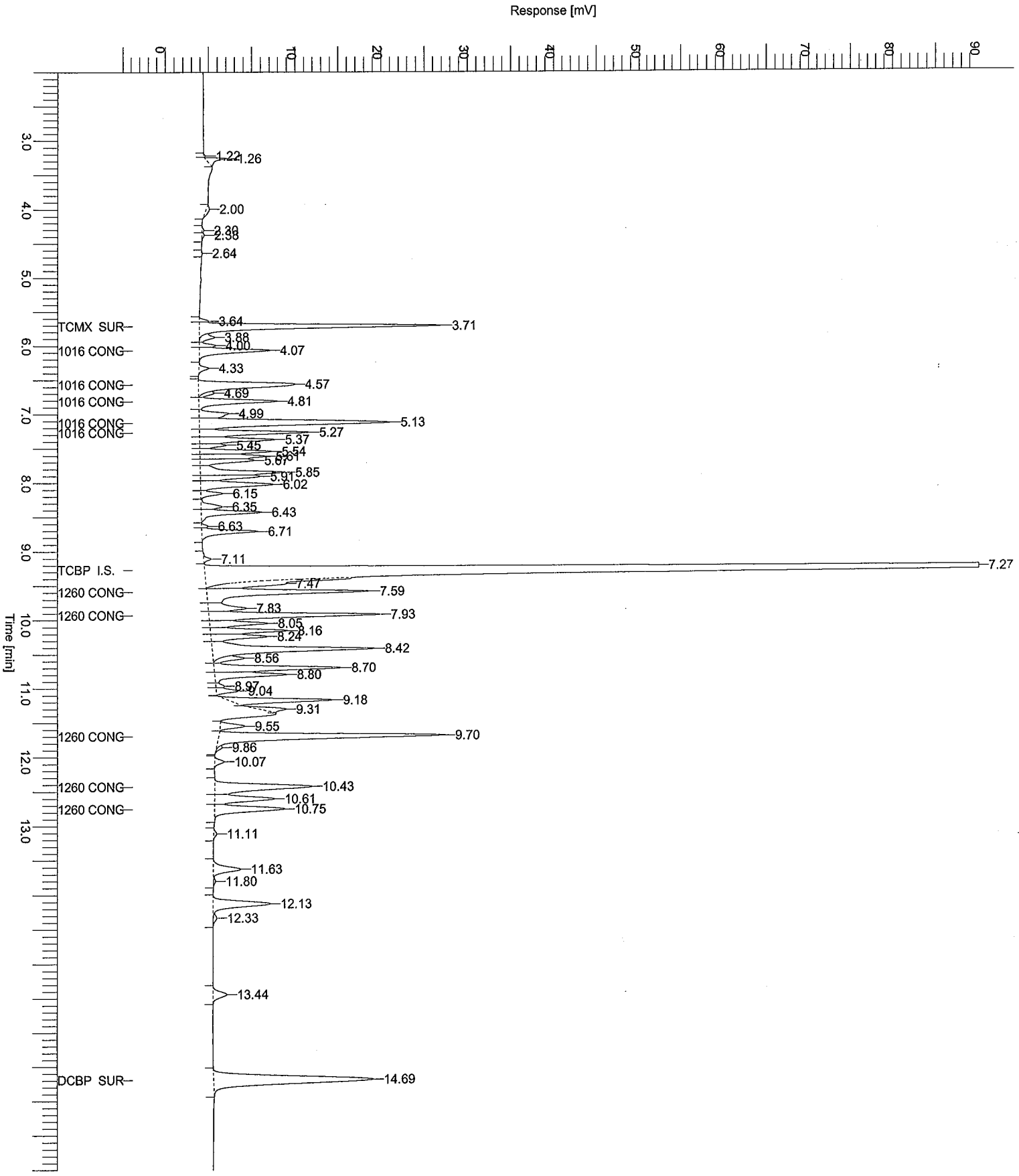
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.071	1016 Congener #1	34382	0.033
4.566	1016 Congener #2	62775	0.060
4.812	1016 Congener #3	37556	0.036
5.129	1016 Congener #4	108752	0.105
5.269	1016 Congener #5	47378	0.046

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	89060	0.086
7.928	1260 Congener #2	81322	0.078
9.699	1260 Congener #3	125414	0.121
10.432	1260 Congener #4	63908	0.062
10.755	1260 Congener #5	41005	0.039

NORTON - DB-5 Method 8082

Sample Name : 21J2011 0.25 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1008.raw
Date : 12/2/2021 6:47:15 AM
Method : Time of Injection: 10/20/2021 11:12:47 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version : 6.3.2.0646		Date	: 12/2/2021 6:47:18 AM
Sample Name : 21J2010	0.10 ppm PCB Std	Data Acquisition Time	: 10/20/2021 11:32:10 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 9			

Result File : C:\Norton\10-20-21\1009.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.712	TCmX Surrogate	57889	0.053
5.126	Aroclor 1016 (5 Peaks)	137015	0.126
7.264	TCBP I.S.	1091459	1.000
9.696	Aroclor 1260 (5 Peaks)	210278	0.193
14.688	DCBP Surrogate	71551	0.066

Group Report For : Aroclor 1016 (5 Peaks)

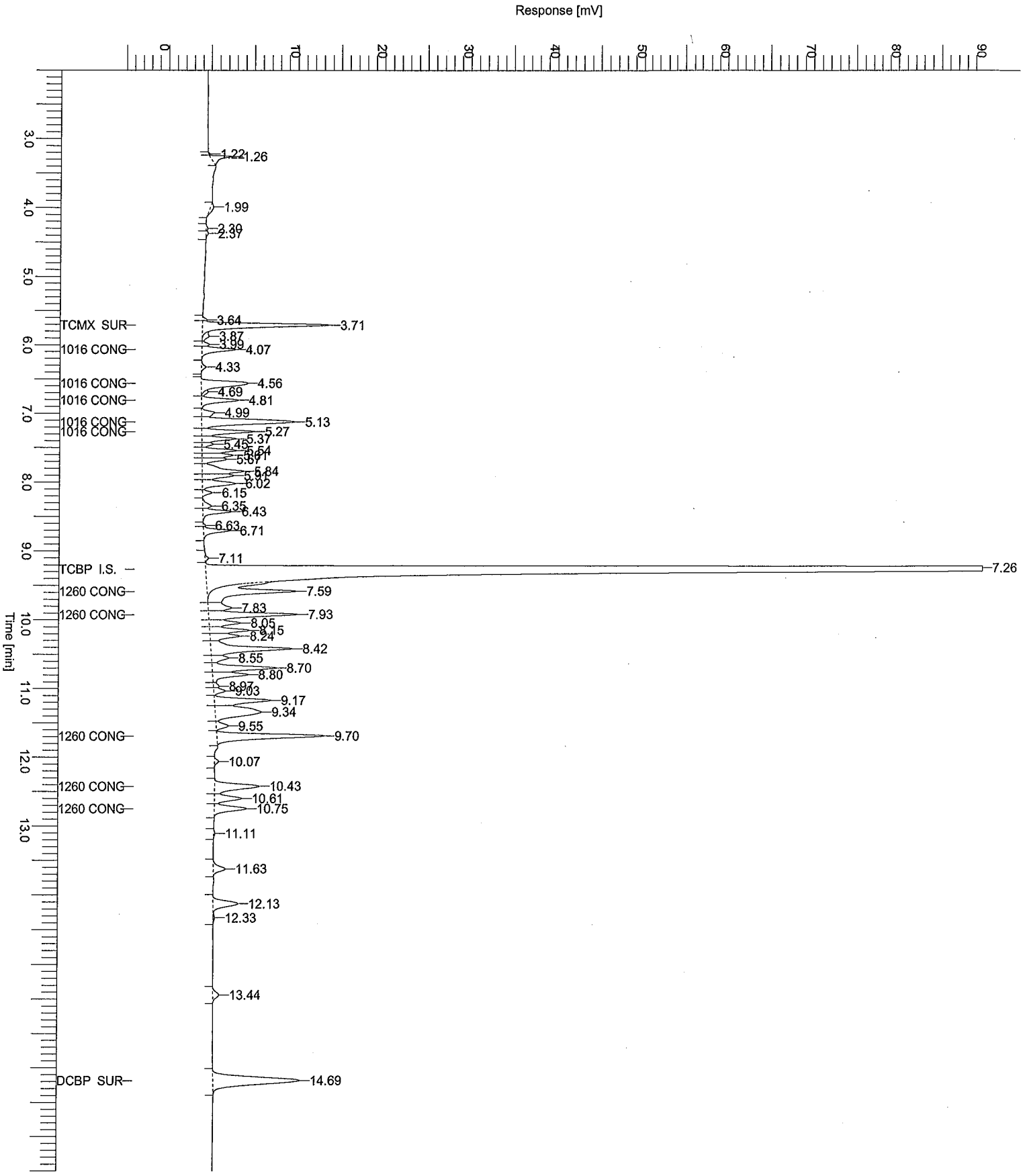
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.069	1016 Congener #1	16057	0.015
4.564	1016 Congener #2	29764	0.027
4.809	1016 Congener #3	17222	0.016
5.126	1016 Congener #4	51866	0.048
5.266	1016 Congener #5	22106	0.020

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.588	1260 Congener #1	64462	0.059
7.926	1260 Congener #2	43255	0.040
9.696	1260 Congener #3	56444	0.052
10.428	1260 Congener #4	28397	0.026
10.753	1260 Congener #5	17720	0.016

NORTON - DB-5 Method 8082

Sample Name : 21J2010 0.10 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1009.raw
Date : 12/2/2021 6:47:19 AM
Method : Time of Injection: 10/20/2021 11:32:10 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



TotalChrom Method File C:\Norton\NPCB-102021.mth

Printed by	: Manager	on: 12/2/2021 6:48:38 AM
Created by	: Manager	on: 10/20/2021 11:53:35 AM
Edited by	: Manager	on: 10/20/2021 11:55:42 AM
Number of Times Edited	: 3	
Number of Times Calibrated	: 281	

Description: NORTON PCB Method 8082; DB-5 Column
TCBP I.S., 5 congeners for each Aroclor
All 6 point, 2nd order curves; >0.990 R-squared values
Calibration range = 0.10 to 1.0 ppm
Surrogate calibration range = 0.010 to 0.080 ppm
IS area range = 520,000 to 1,560,000
10-20-21

Instrument Conditions

Column: DB-5
Carrier gas: He
Head pressure: 6.0 psi
Detector: ECD
Det temp: 300 C
Injector temp: 250 C
Inject volume: 1.0 uL
Program:
- Initial: 200 - 0 min
- Ramp: 14.0
- Final: 300 - 8.86 min
- Total time : 16.0 min

Purge off: 0. min.
Purge on: 0.75 min.
Range: 2
Atten: 1

Instrument Control Method

Instrument Name : NORTON
Instrument Type : NCI 901/902 Series Intelligent Interface

Interface Parameters

Delay Time	: 0.00 min
Run Time	: 16.00 min
Sampling Rate	: 3.5710 pts/s
Interface Type	: NCI 901/902 Series Intelligent Interface
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events

There are no timed events in the method

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Real Time Plot Parameters

	Pages	Offset (mV)	Scale (mV)
Channel A	1	0.000	100.000

Processing Parameters

Bunch Factor : 1 points
Noise Threshold : 10 µV
Area Threshold : 24.00 µV

Peak Separation Criteria

Width Ratio : 0.200
Valley-to-Peak Ratio : 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events

No baseline timed events

Optional Reports

No report format files given

Optional Report Plot Parameters

Plot Number	1	2	3	4
Generate this plot	No	No	No	No
Start plot at end of delay time	Yes	Yes	Yes	Yes
Start Time				
End Time				
Scale Type	Vertical Scaling	Vertical Scaling	Vertical Scaling	Vertical Scaling
Scale Factor	1.000	1.000	1.000	1.000
Full Scale				
Offset				

Optional Report Plot Parameters

Plot Number	5
Generate this plot	No
Start plot at end of delay time	Yes
Start Time	
End Time	
Scale Type	Vertical Scaling
Scale Factor	1.000
Full Scale	
Offset	

Annotated Replot Parameters

Offset & Scale set to absolute values
Draw baselines
Include timed event annotations

Plot Offset	: 0.000 µV
Plot Scale	: 100.000 µV
Number of Pages	: 1
Plot Title	: NORTON - DB-5 Method 8082
X-Axis Label	: Time [min]
Y-Axis Label	: Response [mV]
Orientation	: Landscape
Retention Labels	: Peak Crests
Component Labels	: Actual Time
Start Time	: 0.00
End Time	: 16.00

User Programs

No user programs will be executed

Global Sample Information

Default Sample Volume	: 1.000 uL
Quantitation Units	: ng
Void Time	: 0.000 min
Correct amounts during calibration	: Yes
Convert unknowns to concentration units	: Yes
Reject outliers during calibration	: No

An Internal Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06
First peak will be relative retention reference

Component Information

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TCmX Surrogate
Component Type : Single Peak Component
Retention Time : 3.717 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find largest peak in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.0100	57889.13	14762.88	0.0100	0.0530	1
2	0.0200	112117.72	28148.59	0.0200	0.1080	1
3	0.0300	153410.91	37223.50	0.0300	0.1524	1
4	0.0400	210589.42	51958.01	0.0400	0.2048	1
5	0.0600	302744.17	72968.52	0.0600	0.2893	1
6	0.0800	392962.92	93898.29	0.0800	0.3763	1

Calibration Curve : y = (0.002020) + (5.335369)x + (-8.362381)x^2 + (0.000000)x^3
R-squared : 0.999581

1016 Congener #1
Component Type : Single Peak Component
Retention Time : 4.074 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find largest peak in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	16057.17	3950.83	0.1000	0.0147	1
2	0.2500	34381.93	8221.54	0.2500	0.0331	1
3	0.5000	62892.52	13838.60	0.5000	0.0625	1
4	0.6000	74156.05	16926.20	0.6000	0.0721	1
5	0.7500	89450.43	20140.40	0.7500	0.0855	1
6	1.0000	111788.33	24979.13	1.0000	0.1071	1

Calibration Curve : y = (0.001323) + (0.136303)x + (-0.030795)x^2 + (0.000000)x^3
R-squared : 0.999785

1016 Congener #2
Component Type : Single Peak Component
Retention Time : 4.569 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	29764.29	5400.15	0.1000	0.0273	1
2	0.2500	62774.78	11234.11	0.2500	0.0605	1
3	0.5000	107973.60	18639.25	0.5000	0.1073	1
4	0.6000	129620.94	22581.88	0.6000	0.1261	1
5	0.7500	154148.13	26972.68	0.7500	0.1473	1
6	1.0000	190395.32	32944.18	1.0000	0.1823	1

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Calibration Curve : y = (0.004750) + (0.234876)x + (-0.057635)x^2 + (0.000000)x^3
R-squared : 0.999776

1016 Congener #3
Component Type : Single Peak Component
Retention Time : 4.814 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	17221.99	4342.98	0.1000	0.0158	1
2	0.2500	37555.61	9134.14	0.2500	0.0362	1
3	0.5000	66650.84	15448.20	0.5000	0.0662	1
4	0.6000	79983.86	18911.61	0.6000	0.0778	1
5	0.7500	95696.96	22459.68	0.7500	0.0915	1
6	1.0000	118632.93	27644.47	1.0000	0.1136	1

Calibration Curve : y = (0.001461) + (0.147496)x + (-0.035516)x^2 + (0.000000)x^3
R-squared : 0.999866

1016 Congener #4
Component Type : Single Peak Component
Retention Time : 5.132 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	51865.75	10786.92	0.1000	0.0475	1
2	0.2500	108751.80	22211.90	0.2500	0.1048	1
3	0.5000	183029.66	36889.53	0.5000	0.1818	1
4	0.6000	225851.79	45783.76	0.6000	0.2197	1
5	0.7500	269695.24	54432.51	0.7500	0.2577	1
6	1.0000	332470.40	67867.05	1.0000	0.3184	1

Calibration Curve : y = (0.009033) + (0.398669)x + (-0.089109)x^2 + (0.000000)x^3
R-squared : 0.999321

Aroclor 1016 (5 Peaks)
Component Type : Named Group
Internal Standard : TCBP I.S.
Group Members
1016 Congener #1
1016 Congener #2
1016 Congener #3
1016 Congener #4
1016 Congener #5
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

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Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	137014.96	30638.19	0.1000	0.1255	1
2	0.2500	290842.31	63529.13	0.2500	0.2802	1
3	0.5000	500718.87	106034.28	0.5000	0.4974	1
4	0.6000	608171.11	130142.30	0.6000	0.5915	1
5	0.7500	726544.08	154776.34	0.7500	0.6943	1
6	1.0000	897899.91	191588.50	1.0000	0.8599	1

Calibration Curve : y = (0.019796) + (1.094435)x + (-0.254857)x^2 + (0.000000)x^3
R-squared : 0.999728

1016 Congener #5
Component Type : Single Peak Component
Retention Time : 5.271 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	22105.75	6157.31	0.1000	0.0203	1
2	0.2500	47378.19	12727.44	0.2500	0.0456	1
3	0.5000	80172.26	21218.70	0.5000	0.0796	1
4	0.6000	98558.47	25938.85	0.6000	0.0959	1
5	0.7500	117553.34	30771.07	0.7500	0.1123	1
6	1.0000	144612.94	38153.68	1.0000	0.1385	1

Calibration Curve : y = (0.003229) + (0.177092)x + (-0.041801)x^2 + (0.000000)x^3
R-squared : 0.999412

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TCBP I.S.
Component Type : Single Peak Component
Retention Time : 7.270 min
Search Window : 4.20 s, 0.00 %
This component is a reference
Find largest peak in window
This component is an internal standard
Use Average Calibration Factor (Area ratio / Amount ratio)

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	1.0000	1091458.62	243603.66	1.0000	1.0000	1
2	1.0000	1038106.63	233868.28	1.0000	1.0000	1
3	1.0000	1006725.30	225299.31	1.0000	1.0000	1
4	1.0000	1028144.83	239324.88	1.0000	1.0000	1
5	1.0000	1046427.02	243990.07	1.0000	1.0000	1
6	1.0000	1044180.37	231519.50	1.0000	1.0000	1

Average Calibration Factor = 1.000000 (%RSD = 0.00)

1260 Congener #1
Component Type : Single Peak Component
Retention Time : 7.594 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

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Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	64461.55	9825.26	0.1000	0.0591	1
2	0.2500	89059.89	18915.11	0.2500	0.0858	1
3	0.5000	138433.57	30110.37	0.5000	0.1375	1
4	0.6000	164327.46	36568.52	0.6000	0.1598	1
5	0.7500	190505.57	43185.42	0.7500	0.1821	1
6	1.0000	229935.64	51522.37	1.0000	0.2202	1

Calibration Curve : y = (0.034430) + (0.229964)x + (-0.043660)x^2 + (0.000000)x^3
R-squared : 0.998505

1260 Congener #2
Component Type : Single Peak Component
Retention Time : 7.932 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	43255.17	10321.78	0.1000	0.0396	1
2	0.2500	81322.26	19899.13	0.2500	0.0783	1
3	0.5000	136049.12	32391.45	0.5000	0.1351	1
4	0.6000	165206.02	40071.53	0.6000	0.1607	1
5	0.7500	194872.70	47179.58	0.7500	0.1862	1
6	1.0000	237355.70	58349.27	1.0000	0.2273	1

Calibration Curve : y = (0.011232) + (0.287488)x + (-0.071281)x^2 + (0.000000)x^3
R-squared : 0.999524

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1260 Congener #3
Component Type : Single Peak Component
Retention Time : 9.705 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	56444.31	12391.11	0.1000	0.0517	1
2	0.2500	125413.60	26276.52	0.2500	0.1208	1
3	0.5000	231731.20	45647.36	0.5000	0.2302	1
4	0.6000	291139.54	58258.48	0.6000	0.2832	1
5	0.7500	351086.91	70017.08	0.7500	0.3355	1
6	1.0000	432329.28	84973.42	1.0000	0.4140	1

Calibration Curve : y = (-0.003732) + (0.540550)x + (-0.121131)x^2 + (0.000000)x^3
R-squared : 0.998928

Aroclor 1260 (5 Peaks)
Component Type : Named Group
Internal Standard : TCBP I.S.
Group Members
1260 Congener #1
1260 Congener #2
1260 Congener #3
1260 Congener #4
1260 Congener #5
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	210278.27	41378.15	0.1000	0.1927	1
2	0.2500	400708.29	84555.98	0.2500	0.3860	1
3	0.5000	689117.07	140840.91	0.5000	0.6845	1
4	0.6000	857288.67	177892.74	0.6000	0.8338	1
5	0.7500	1021955.75	211962.14	0.7500	0.9766	1
6	1.0000	1250322.43	257039.67	1.0000	1.1974	1

Calibration Curve : y = (0.041307) + (1.485398)x + (-0.325206)x^2 + (0.000000)x^3
R-squared : 0.998883

1260 Congener #4
Component Type : Single Peak Component
Retention Time : 10.439 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	28397.43	5131.21	0.1000	0.0260	1
2	0.2500	63907.76	11350.15	0.2500	0.0616	1
3	0.5000	108542.10	18843.33	0.5000	0.1078	1
4	0.6000	143125.02	24702.40	0.6000	0.1392	1
5	0.7500	172685.83	29697.34	0.7500	0.1650	1
6	1.0000	209034.55	35419.54	1.0000	0.2002	1

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Calibration Curve : y = (-0.000064) + (0.258771)x + (-0.056956)x^2 + (0.000000)x^3
R-squared : 0.995948

1260 Congener #5
Component Type : Single Peak Component
Retention Time : 10.762 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	17719.81	3708.80	0.1000	0.0162	1
2	0.2500	41004.78	8115.07	0.2500	0.0395	1
3	0.5000	74361.08	13848.40	0.5000	0.0739	1
4	0.6000	93490.62	18291.81	0.6000	0.0909	1
5	0.7500	112804.75	21882.71	0.7500	0.1078	1
6	1.0000	141667.26	26775.07	1.0000	0.1357	1

Calibration Curve : y = (-0.000560) + (0.168625)x + (-0.032177)x^2 + (0.000000)x^3
R-squared : 0.999265

DCBP Surrogate
Component Type : Single Peak Component
Retention Time : 14.704 min
Search Window : 6.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.0100	71550.90	9978.45	0.0100	0.0656	1
2	0.0200	135431.59	18585.28	0.0200	0.1305	1
3	0.0300	172936.91	23268.27	0.0300	0.1718	1
4	0.0400	248252.64	32966.68	0.0400	0.2415	1
5	0.0600	348585.96	47084.64	0.0600	0.3331	1
6	0.0800	424610.81	56157.51	0.0800	0.4066	1

Calibration Curve : y = (-0.000513) + (6.736105)x + (-20.351392)x^2 + (0.000000)x^3
R-squared : 0.997724

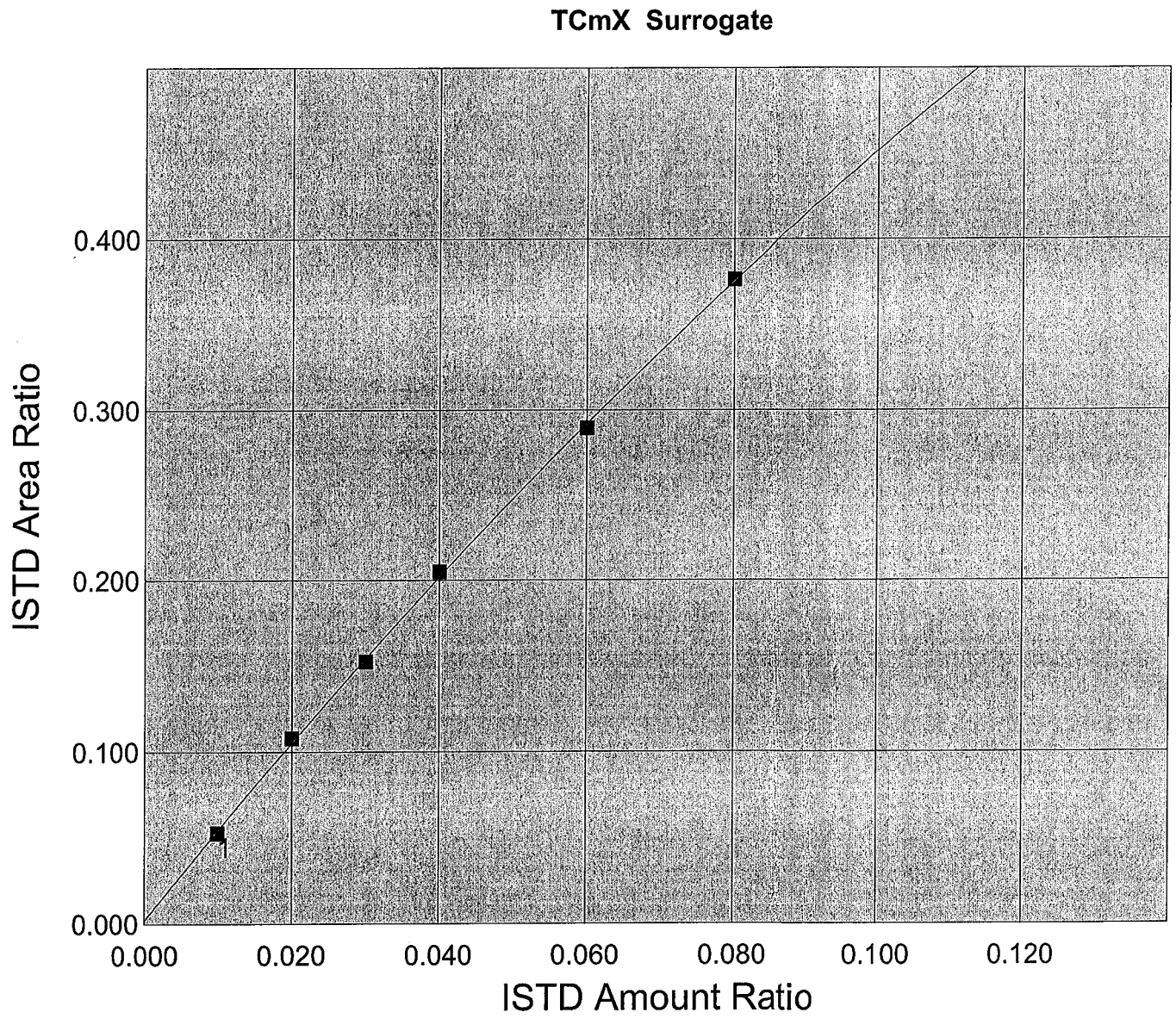
Fit Analysis Output For Method File: C:\NORTON\NPCB-102021.MTH
Reprocess Number : semivol-gc: 50190
Component Name : TCmX Surrogate
Date : 12/2/2021 6:48:45 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.999581
Calibration Curve : Y = (0.002020) +(5.335369) X +(-8.362381) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.010000	0.009710	0.000290	2.987	0.053038	0.055	-0.001	-2.749
2	0.020000	0.020524	-5.242e-04	-2.554	0.108002	0.105	0.003	2.486
3	0.030000	0.029552	0.000448	1.517	0.152386	0.155	-0.002	-1.404
4	0.040000	0.040594	-5.941e-04	-1.464	0.204825	0.202	0.003	1.371
5	0.060000	0.059372	0.000628	1.058	0.289312	0.292	-0.003	-0.933
6	0.080000	0.080252	-2.517e-04	-0.314	0.376336	0.375	0.001	0.268



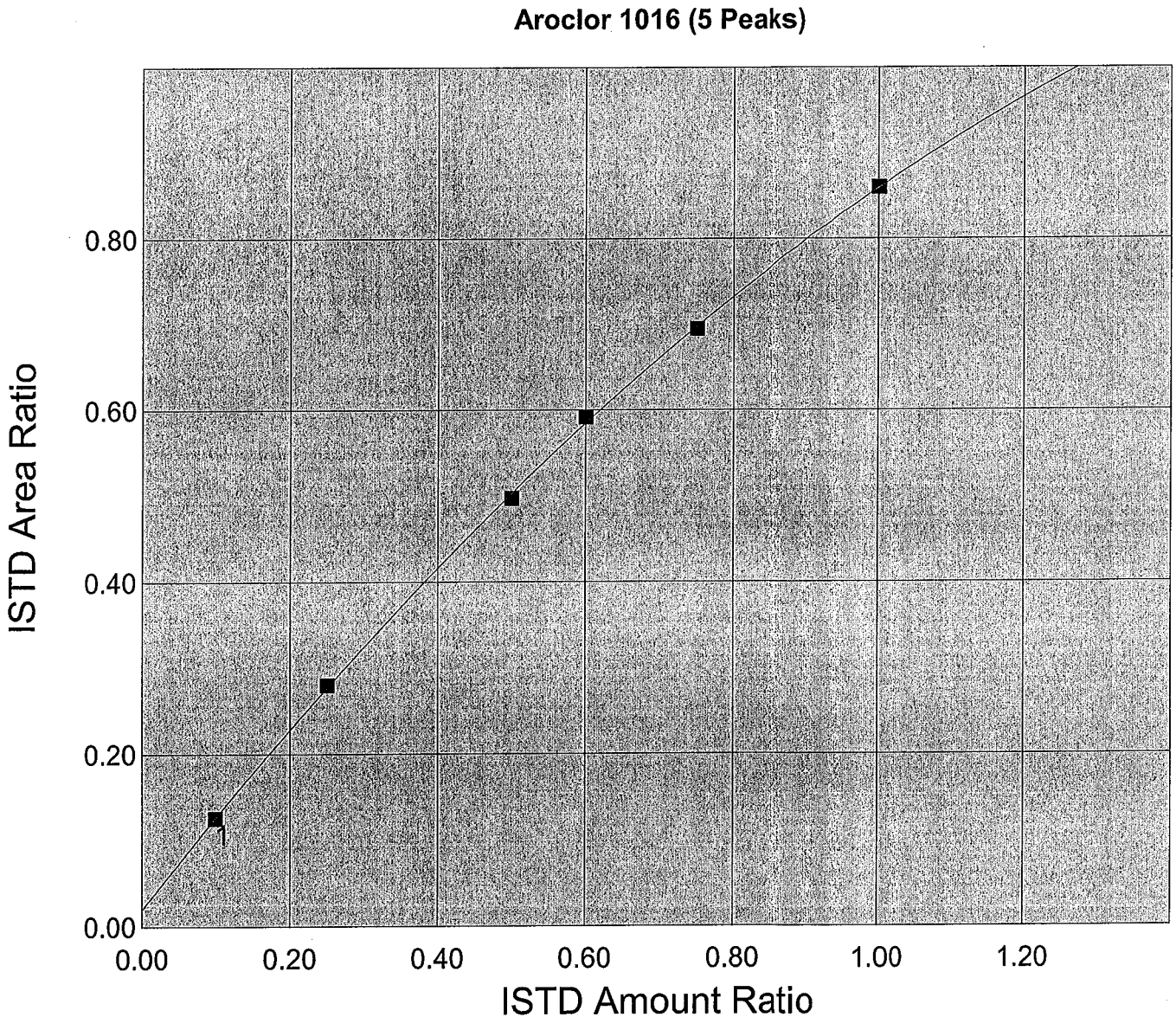
Fit Analysis Output For Method File: C:\NORTON\NPCB-102021.MTH
Reprocess Number : semivol-gc: 50190
Component Name : Aroclor 1016 (5 Peaks)
Date : 12/2/2021 6:48:50 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.999728
Calibration Curve : Y = (0.019796) +(1.094435) X +(-0.254857) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.100000	0.098891	0.001109	1.121	0.125534	0.127	-0.001	-0.913
2	0.250000	0.252784	-0.002784	-1.101	0.280166	0.277	0.003	0.969
3	0.500000	0.492957	0.007043	1.429	0.497374	0.503	-0.006	-1.177
4	0.600000	0.608665	-0.008665	-1.424	0.591523	0.585	0.007	1.165
5	0.750000	0.745855	0.004145	0.556	0.694309	0.697	-0.003	-0.424
6	1.000000	1.000914	-9.145e-04	-0.091	0.859909	0.859	0.001	0.062



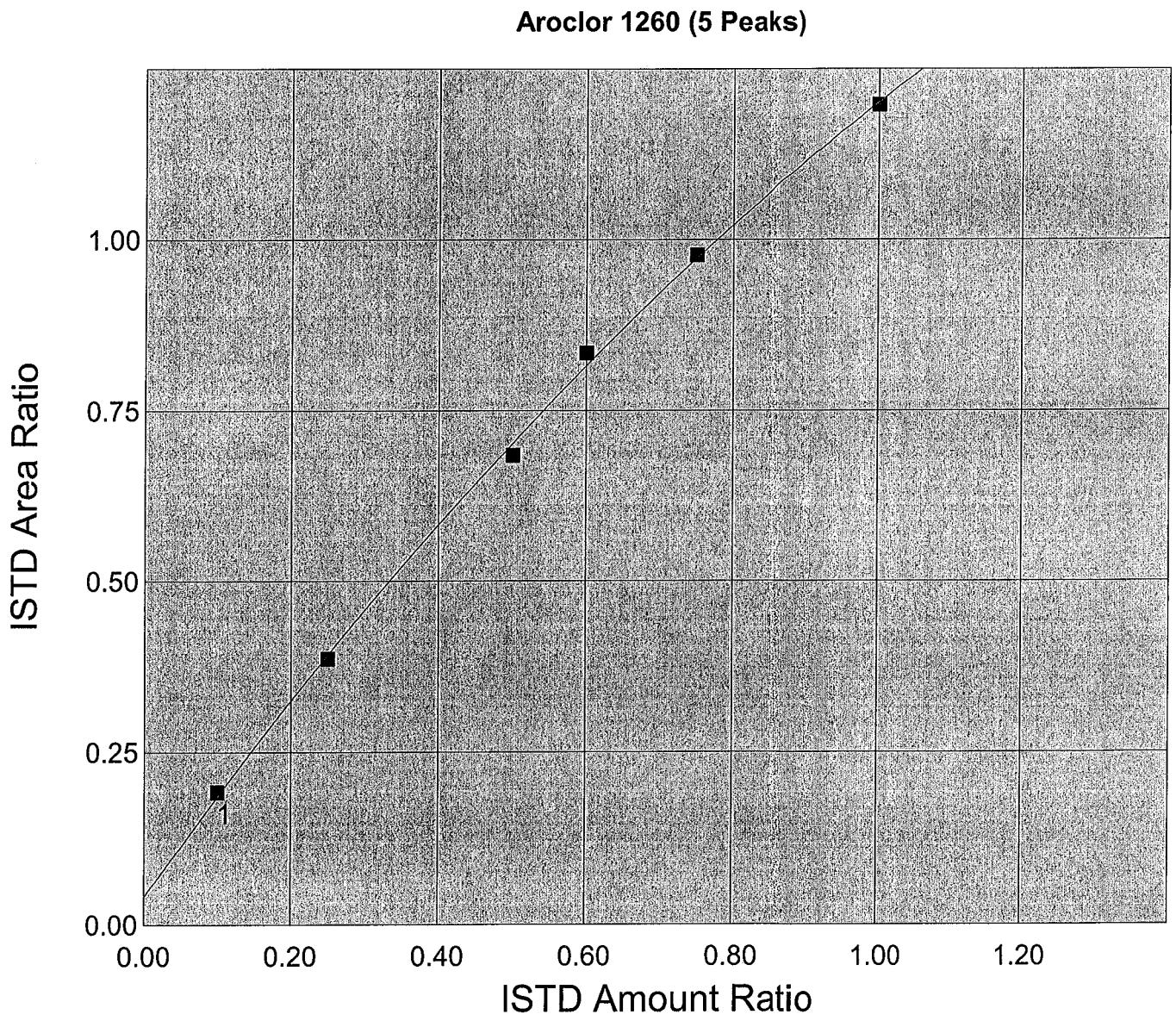
Fit Analysis Output For Method File: C:\NORTON\NPCB-102021.MTH
Reprocess Number : semivol-gc: 50190
Component Name : Aroclor 1260 (5 Peaks)
Date : 12/2/2021 6:48:55 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.998883
Calibration Curve : Y = (0.041307) +(1.485398) X +(-0.325206) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.100000	0.104273	-0.004273	-4.098	0.192658	0.187	0.006	3.250
2	0.250000	0.245219	0.004781	1.950	0.385999	0.392	-0.006	-1.614
3	0.500000	0.484389	0.015611	3.223	0.684514	0.703	-0.018	-2.589
4	0.600000	0.616840	-0.016840	-2.730	0.833821	0.815	0.018	2.250
5	0.750000	0.754204	-0.004204	-0.557	0.976614	0.972	0.004	0.431
6	1.000000	0.995124	0.004876	0.490	1.197420	1.201	-0.004	-0.339



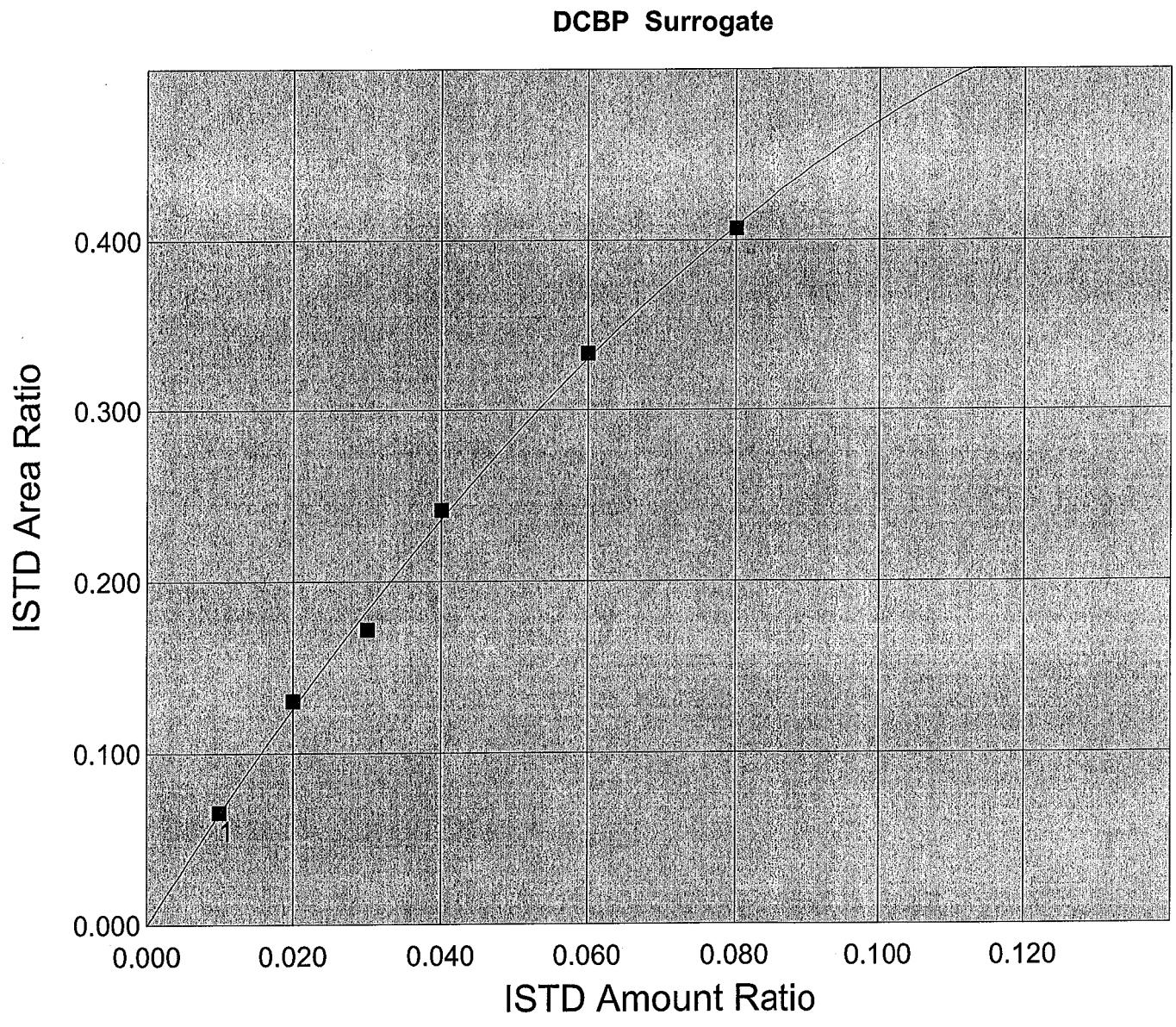
Fit Analysis Output For Method File: C:\NORTON\NPCB-102021.MTH
Reprocess Number : semivol-gc: 50190
Component Name : DCBP Surrogate
Date : 12/2/2021 6:48:59 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.997724
Calibration Curve : Y = (-0.000513) +(6.736105) X +(-20.351392) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.010000	0.010117	-1.173e-04	-1.160	0.065555	0.065	0.001	1.145
2	0.020000	0.020743	-7.435e-04	-3.584	0.130460	0.126	0.004	3.484
3	0.030000	0.027936	0.002064	7.390	0.171782	0.183	-0.011	-6.260
4	0.040000	0.041000	-0.001000	-2.439	0.241457	0.236	0.005	2.153
5	0.060000	0.060638	-6.381e-04	-1.052	0.333120	0.330	0.003	0.827
6	0.080000	0.079575	0.000425	0.534	0.406645	0.408	-0.001	-0.363



Software Version : 6.3.2.0646
Sample Name : 21J0403 Restek 32039 0.50 ppm PCB
Instrument Name : BACCHUS
Rack/Vial : 0/0
Sample Amount : 1.000000
Cycle : 1
Date : 12/2/2021 6:47:25 AM
Data Acquisition Time : 10/20/2021 11:51:31 AM
Channel : A
Operator : Manager
Dilution Factor : 1.000000

Result File : C:\Norton\10-20-21\1010-1.rst
Sequence File : C:\Norton\NPCB.seq

NORTON 0.50 ppm ICV - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.	
3.705	TCmX Surrogate	4079	0.004	-2e-03	-0.0023	-0.5	
5.127	Aroclor 1016 (5 Peak	555433	0.515	0.5416	0.5416	108.3	OK
7.264	TCBP I.S.	1078684	1.000	-------	--------	-----	
9.697	Aroclor 1260 (5 Peak	799291	0.741	0.5590	0.5590	111.8	OK
14.687	DCBP Surrogate	5033	0.005	-5e-03	-0.0050	-1.0	

Group Report For : Aroclor 1016 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.
4.069	1016 Congener #1	62790	0.058	0.4917	0.4917	98.3
4.563	1016 Congener #2	118848	0.110	0.5433	0.5433	108.7
4.810	1016 Congener #3	73564	0.068	0.5458	0.5458	109.2
5.127	1016 Congener #4	208998	0.194	0.5513	0.5513	110.3
5.267	1016 Congener #5	91234	0.085	0.5526	0.5526	110.5

12/2/2021 6:47:25 AM Result: C:\Norton\10-20-21\1010-1.rst

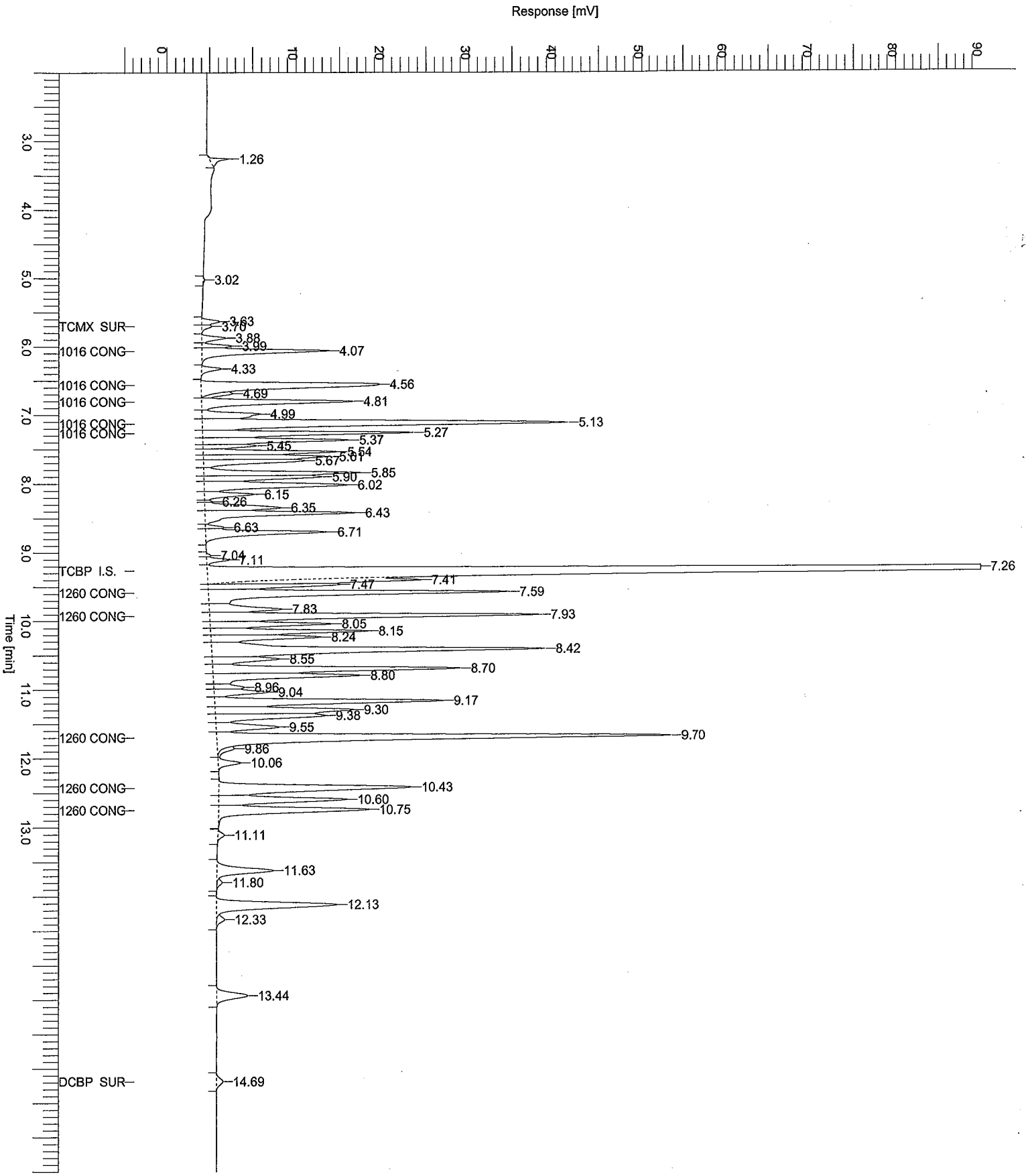
Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.
7.588	1260 Congener #1	159492	0.148	0.5723	0.5723	114.5
7.926	1260 Congener #2	156415	0.145	0.5672	0.5672	113.4
9.697	1260 Congener #3	265739	0.246	0.5507	0.5507	110.1
10.429	1260 Congener #4	128206	0.119	0.5446	0.5446	108.9
10.752	1260 Congener #5	89439	0.083	0.5750	0.5750	115.0

Report stored in ASCII file: C:\Norton\10-20-21\1010-1.TX0

NORTON - DB-5 Method 8082

Sample Name : 21J0403 Restek 32039 0.50 ppm PCB Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1010.raw
Date : 12/2/2021 6:47:26 AM
Method : Time of Injection: 10/20/2021 11:51:31 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Agilent

Certificate of Analysis

Product Name: Calibration Standard

Product Number: PPM-8082-1 **Lot Issue Date:** 22-Jan-2021

Lot Number: 0006586876 **Expiration Date:** 31-Oct-2023

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1016	012674-11-2	NT01016	1001 ± 5 µg/mL
Aroclor 1260	011096-82-5	NT01023	1004 ± 5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.□

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0163157

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2026 **Storage:** 25°C nominal

Handling: This product contains PCBs. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016		1,007.0 µg/mL		+/- 5.8683	µg/mL	Gravimetric
	CAS # 12674-11-2	(Lot 04)			+/- 31.9082	µg/mL	Unstressed
	Purity ----%				+/- 41.6868	µg/mL	Stressed
2	Aroclor 1260		1,008.0 µg/mL		+/- 5.8741	µg/mL	Gravimetric
	CAS # 11096-82-5	(Lot 07)			+/- 31.9399	µg/mL	Unstressed
	Purity ----%				+/- 41.7282	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

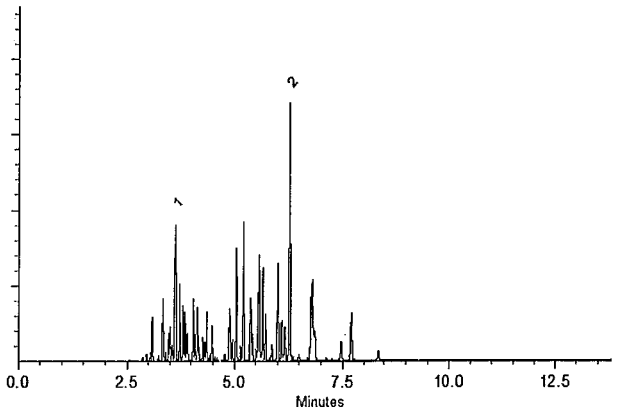
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-Aug-2020 **Balance:** B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-Aug-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

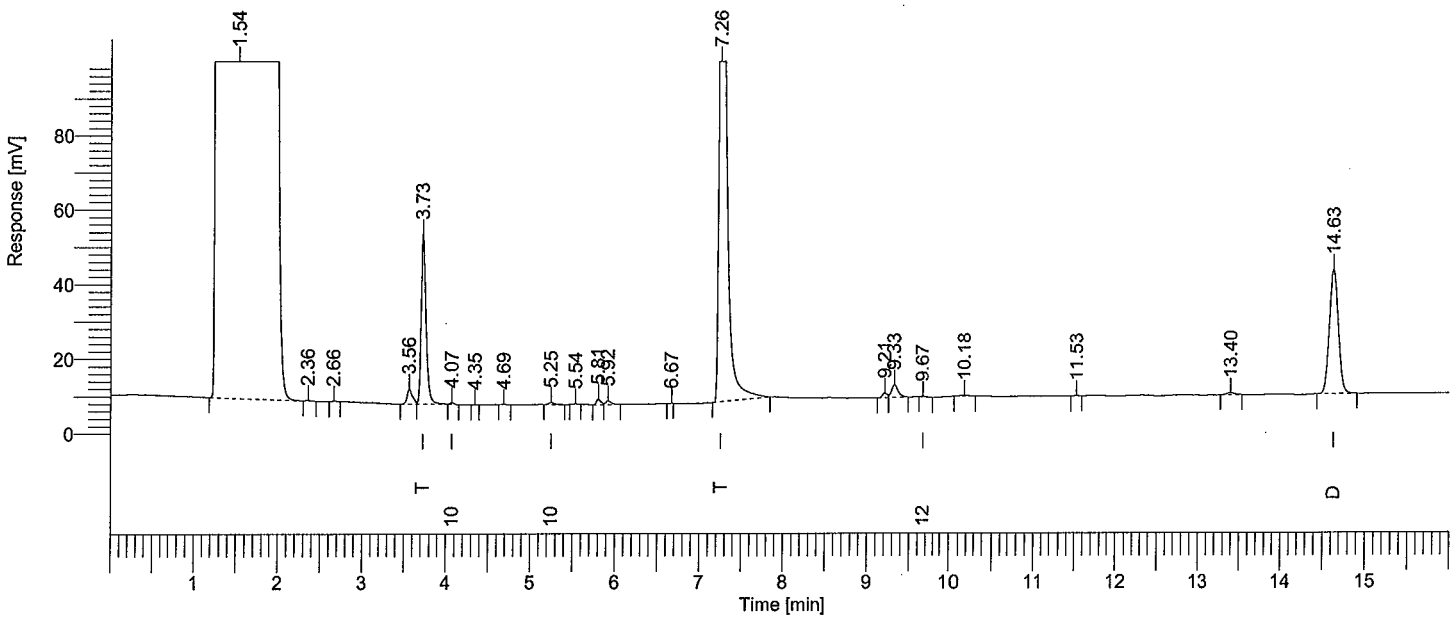
21J1205

Method 8082
PCB

RAW DATA

Software Version : 6.3.2.0646		Date	: 12/2/2021 6:53:46 AM
Sample Name : T116248-BLK1	Soil	Data Acquisition Time	: 11/2/2021 8:54:29 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 8			

Result File : C:\Norton\11-2-21\1008.rst
Sequence File : C:\Norton\NPCB.seq



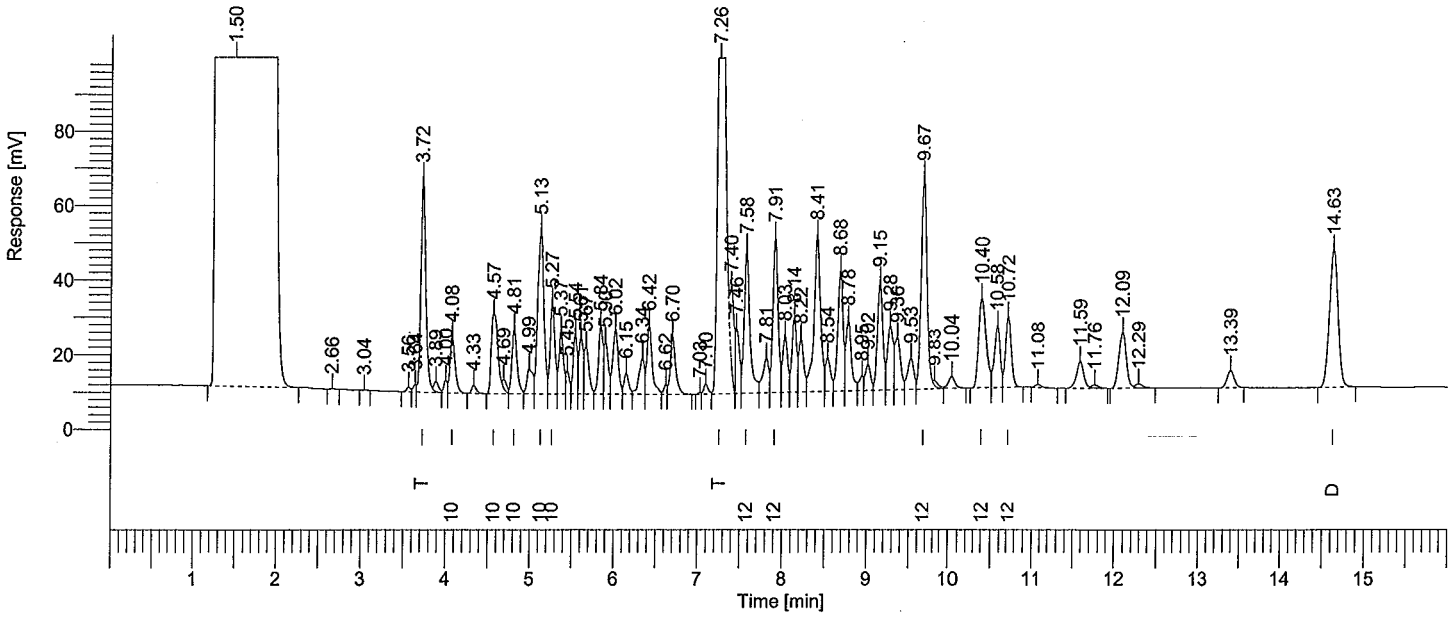
NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.725	TCmX Surrogate	178407	0.158	0.0308	0.0308	61.5	3.8
5.251	Aroclor 1016 (5 Pe	3862	0.003	-0.0149	-0.0149	-29.8	-1.9
7.255	TCBP I.S.	1127292	1.000	-------	--------	-----	-----
9.668	Aroclor 1260 (5 Pe	634	0.001	-0.0273	-0.0273	-54.5	-3.4
14.634	DCBP Surrogate	250583	0.222	0.0373	0.0373	74.5	4.7

Report stored in ASCII file: C:\Norton\11-2-21\1008.TX0

Software Version	: 6.3.2.0646		Date	: 12/2/2021 6:53:49 AM
Sample Name	: T116248-BS1	Soil	Data Acquisition Time	: 11/2/2021 9:13:47 AM
Instrument Name	: BACCHUS		Channel	: A
Rack/Vial	: 0/0		Operator	: Manager
Sample Amount	: 1.000000		Dilution Factor	: 1.000000
Cycle	: 9			

Result File : C:\Norton\11-2-21\1009.rst
Sequence File : C:\Norton\NPCB.seq



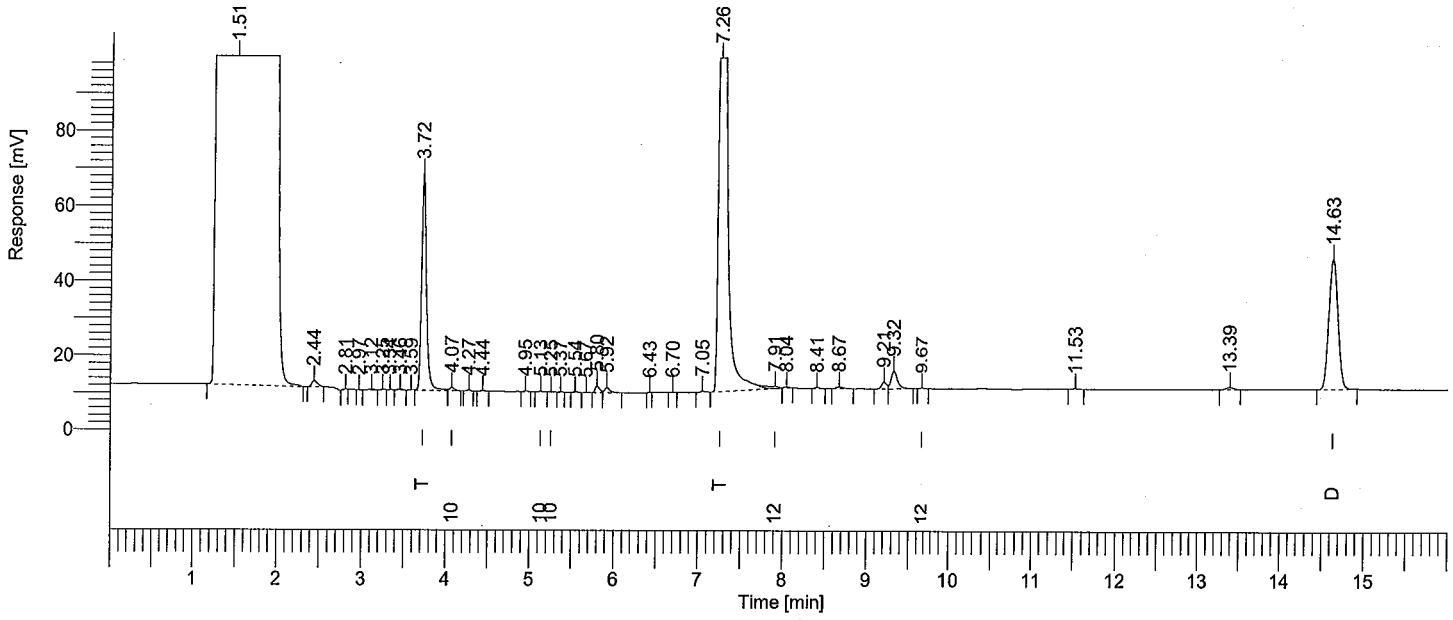
NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.725	TCmX Surrogate	229137	0.204	0.0404	0.0404	80.9	5.1
5.128	Aroclor 1016 (5 Pe	573962	0.511	0.5094	0.5094	1e+03	63.7
7.256	TCBP I.S.	1122764	1.000	-------	--------	-----	-----
9.673	Aroclor 1260 (5 Pe	893833	0.796	0.5824	0.5824	1e+03	72.8
14.633	DCBP Surrogate	273015	0.243	0.0413	0.0413	82.7	5.2

Report stored in ASCII file: C:\Norton\11-2-21\1009.TX0

Software Version	: 6.3.2.0646	Date	: 11/2/2021 10:21:04 AM
Sample Name	: 21J1205-06 A	Data Acquisition Time	: 11/2/2021 9:52:27 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 11		

Result File : C:\Norton\11-2-21\1011.rst
Sequence File : C:\Norton\NPCB.seq



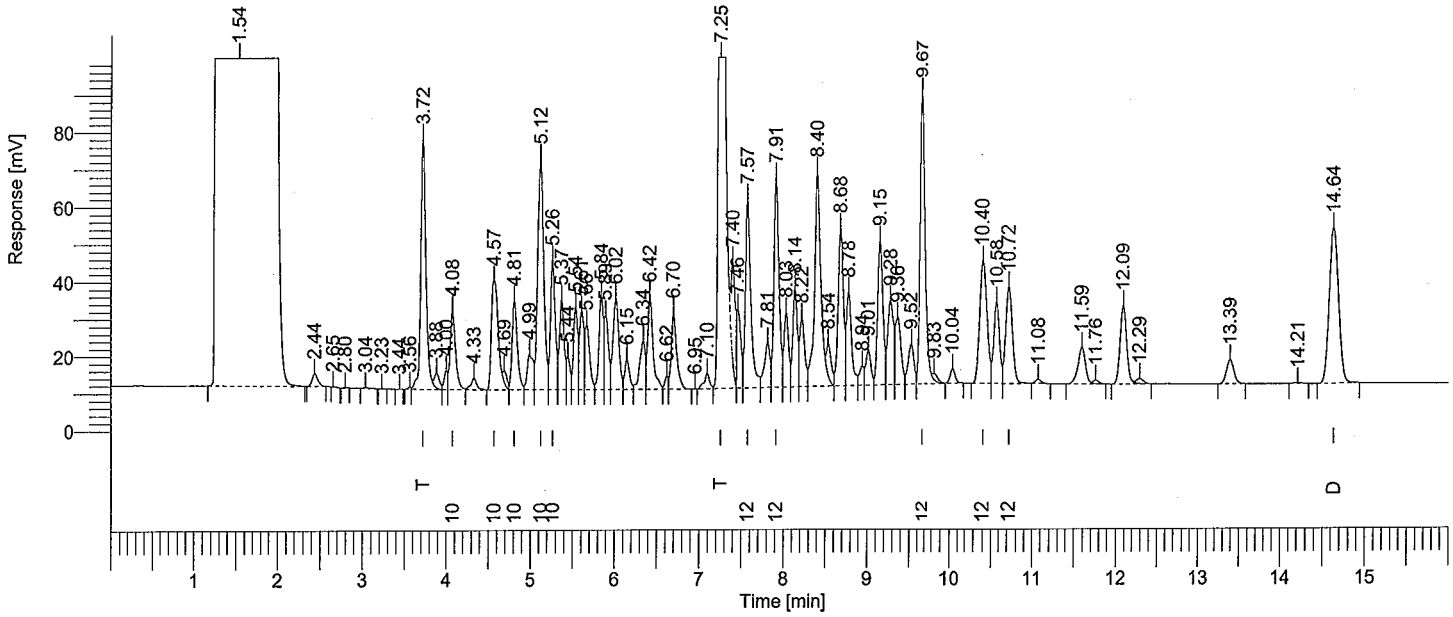
NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.725	TCmX Surrogate	232588	0.179	0.0351	0.0351	70.2	4.4
4.072	Aroclor 1016 (5 Pe	4466	0.003	-0.0149	-0.0149	-29.8	-1.9
7.255	TCBP I.S.	1300119	1.000	--------	--------	-----	-----
7.911	Aroclor 1260 (5 Pe	8073	0.006	-0.0235	-0.0235	-47.0	-2.9
14.633	DCBP Surrogate	259824	0.200	0.0330	0.0330	66.1	4.1

Report stored in ASCII file: C:\Norton\11-2-21\1011.TX0

Software Version : 6.3.2.0646
Sample Name : T116248-MS1 21J1205-06 A
Instrument Name : BACCHUS
Rack/Vial : 0/0
Sample Amount : 1.000000
Cycle : 12
Date : 11/2/2021 10:54:01 AM
Data Acquisition Time : 11/2/2021 10:11:46 AM
Channel : A
Operator : Manager
Dilution Factor : 1.000000

Result File : C:\Norton\11-2-21\1012.rst
Sequence File : C:\Norton\NPCB.seq



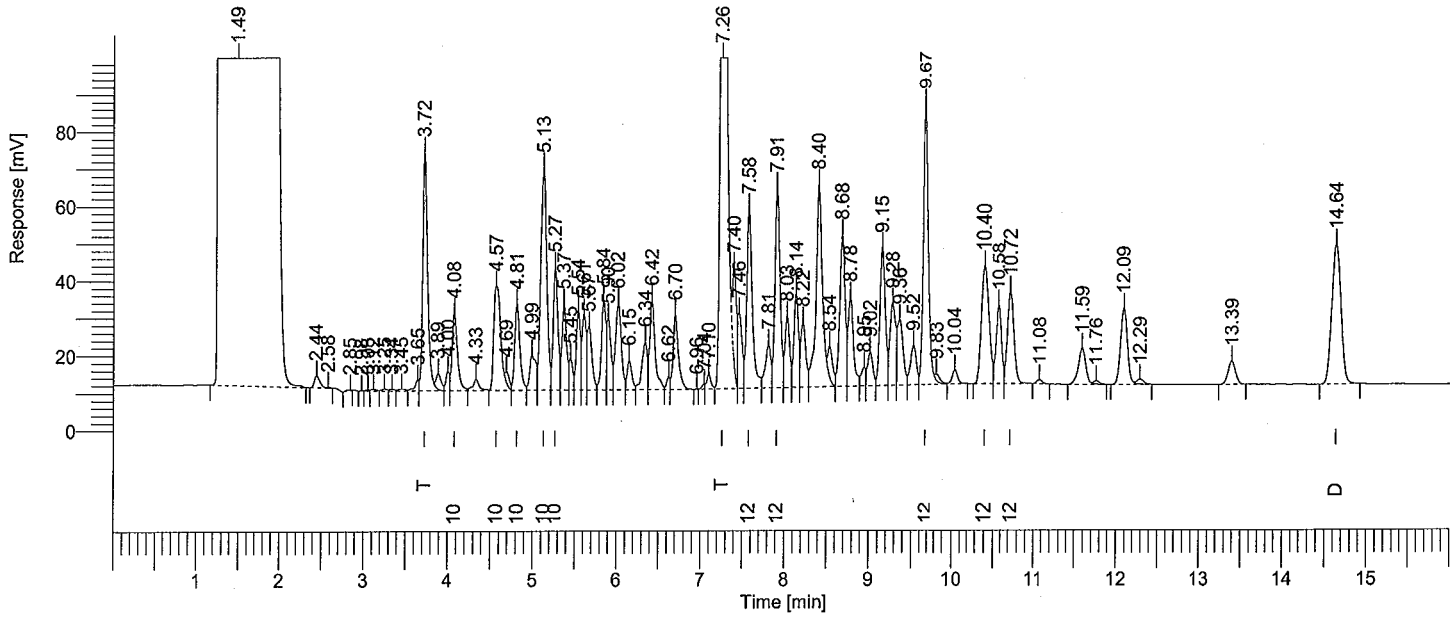
NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.722	TCmX Surrogate	290054	0.241	0.0485	0.0485	97.0	6.1
5.125	Aroclor 1016 (5 Pe	813222	0.676	0.7202	0.7202	1e+03	90.0
7.254	TCBP I.S.	1203307	1.000	-------	--------	-----	-----
9.672	Aroclor 1260 (5 Pe	1185738	0.985	0.7631	0.7631	2e+03	95.4
14.636	DCBP Surrogate	314759	0.262	0.0450	0.0450	90.1	5.6

Report stored in ASCII file: C:\Norton\11-2-21\1012.TX0

Software Version : 6.3.2.0646
Sample Name : T116248-MSD1 21J1205-06 A
Instrument Name : BACCHUS
Rack/Vial : 0/0
Sample Amount : 1.000000
Cycle : 13
Date : 11/2/2021 10:54:08 AM
Data Acquisition Time : 11/2/2021 10:31:03 AM
Channel : A
Operator : Manager
Dilution Factor : 1.000000

Result File : C:\Norton\11-2-21\1013.rst
Sequence File : C:\Norton\NPCB.seq



NORTON Soil - Method 8082

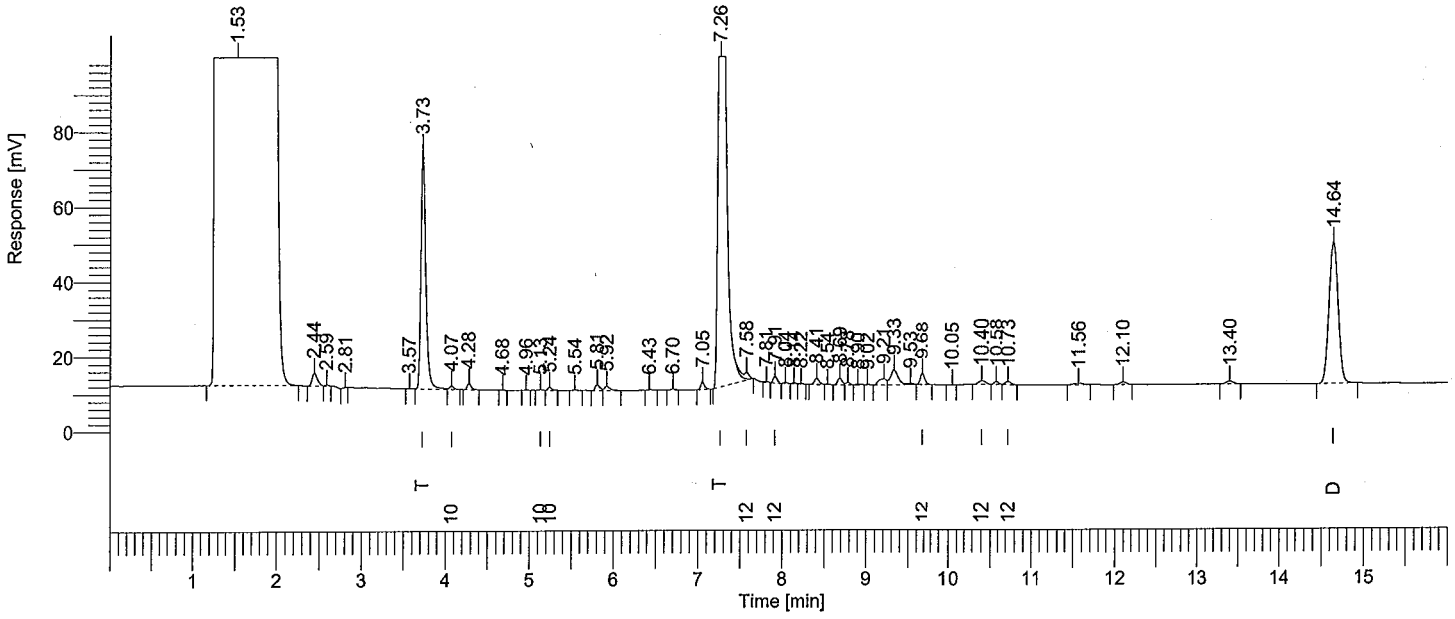
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.725	TCmX Surrogate	258374	0.215	0.0427	0.0427	85.4	5.3
5.128	Aroclor 1016 (5 Pe	770850	0.640	0.6722	0.6722	1e+03	84.0
7.255	TCBP I.S.	1203800	1.000	-------	--------	-----	-----
9.673	Aroclor 1260 (5 Pe	1123699	0.933	0.7114	0.7114	1e+03	88.9
14.637	DCBP Surrogate	283275	0.235	0.0398	0.0398	79.6	5.0

Report stored in ASCII file: C:\Norton\11-2-21\1013.TX0

Software Version	: 6.3.2.0646	Date	: 11/2/2021 11:58:34 AM
Sample Name	: 21J1205-07 A	Data Acquisition Time	: 11/2/2021 10:50:22 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 1		

Result File : C:\Norton\11-2-21\1014.rst
Sequence File : C:\Norton\NPCB.seq
Sample Notes:
NORTON PCB Method 8082; DB-5 Column
TCBP I.S., 5 congeners for each Aroclor
All 6 point, 2nd order curves; >0.990 R-squared values
Calibration range = 0.10 to 1.0 ppm
Surrogate calibration range = 0.010 to 0.080 ppm
IS area range = 520,000 to 1,Â,

TM 11-2-21



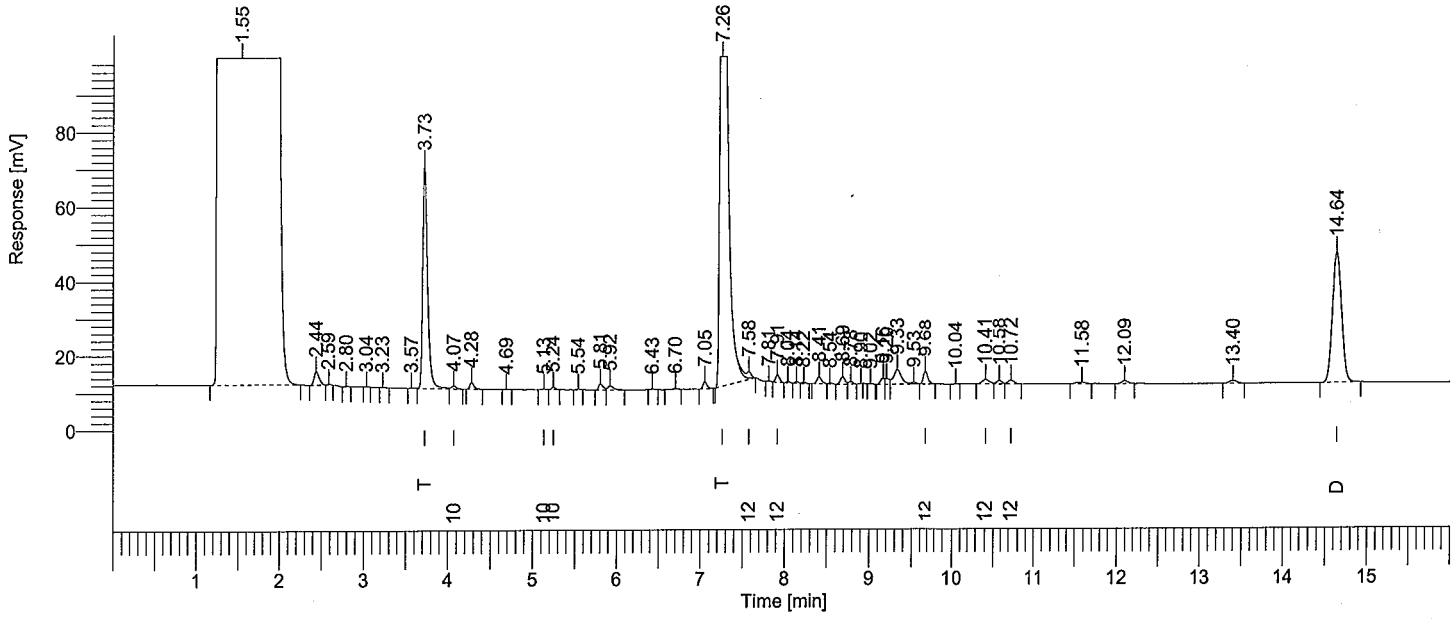
NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.727	TCmX Surrogate	258851	0.219	0.0437	0.0437	87.5	5.5
4.074	Aroclor 1016 (5 Pe	6490	0.006	-0.0130	-0.0130	-26.0	-1.6
7.259	TCBP I.S.	1179980	1.000	-------	--------	-----	-----
9.678	Aroclor 1260 (5 Pe	39036	0.033	-6e-03	-0.0055	-11.1	-0.7
14.643	DCBP Surrogate	284419	0.241	0.0409	0.0409	81.8	5.1

Software Version	: 6.3.2.0646	Date	: 11/2/2021 11:58:41 AM
Sample Name	: 21J1205-08 A	Data Acquisition Time	: 11/2/2021 11:09:41 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 2		

Result File : C:\Norton\11-2-21\1015.rst
Sequence File : C:\Norton\NPCB.seq
Sample Notes:
NORTON PCB Method 8082; DB-5 Column
TCBP I.S., 5 congeners for each Aroclor
All 6 point, 2nd order curves; >0.990 R-squared values
Calibration range = 0.10 to 1.0 ppm
Surrogate calibration range = 0.010 to 0.080 ppm
IS area range = 520,000 to 1,560,

Tw 11-2-21



NORTON Soil - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.726	TCmX Surrogate	242807	0.209	0.0416	0.0416	83.1	5.2
4.072	Aroclor 1016 (5 Pe	5814	0.005	-0.0135	-0.0135	-26.9	-1.7
7.259	TCBP I.S.	1159897	1.000	-------	--------	-----	-----
9.677	Aroclor 1260 (5 Pe	44558	0.038	-2e-03	-0.0019	-3.9	-0.2
14.643	DCBP Surrogate	262990	0.227	0.0381	0.0381	76.3	4.8

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Muskegon, MI 49444-2673

TRACE
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21J1202

8270

Data Package

Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673

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General Outline for Organics Data Deliverables

1) **Data Review Sheet**

2) **Manual Integration Narratives Sheet**

3) **Extraction Logs and or Balance Logs**

4) **Instrument Run Logbook----(Chronological Order)**

GC/MS Data
Surrogate Data
Method Blank Summary (VOA)
Tune Data
Calibration Verification Data
Internal Standards Data
All raw data as applicable

GC Data
Calibration Verification
Column Breakdown Data
All raw data as applicable

5) **Calibration Curves-----By Date**

Trace Analytical Laboratories, Inc. **GC/MS Data Review** Trace I.D. No. 21J1202

Analyst Review	624.1	625.1	8260D	8260D**	8270D	8270D**
Calibration Curve is valid					✓	
Sample preparation information is correct and complete					↓	
*BFB/DFTPP tune passes criteria					↓	
Minimum RSD pass criteria					↓	
80% of compounds pass 20% criteria					↓	
Method and reagent blank frequency and QC criteria have been met					↓	
All samples analyzed within 12-hours of the tune or method blank (EPA 624/625)					↓	
All sample hold times are met for analysis					↓	
Internal Standard QC criteria in control or narrated					↓	
Surrogate recoveries in control or narrated					↓	
All compounds are quantitated within the curve					↓	
LCS MS/MSD are in control or qualified and narrated					↓	
Second Source Standard within control limits					↓	
Method, Instrument, Reagents, Standards identified					↓	
Primary sample qualifiers have been added as needed					↓	
Data has been entered into LIMS					↓	
Initial CCV passes with a ±20% recovery and the 12 hour and ending CCV pass with a ±50% recovery (DOD Only)			DOD Only	DOD Only	DOD Only	DOD Only
Notations/Comments/Batch Numbers: IK0901	Sign & Date				11-9-21	

Manager Review					
Appropriate SOPs have been followed					↓
Extraction date, analyst initials, and analysis date are correct					↓
Analyses match Chain-of-Custody					↓
Calibration data/curve are scientifically sound, appropriate, and documented					↓
Second Source Standard in control					↓
Quantitative results and detection limits reviewed					↓
Detection limit multiplier is correct					↓
QC issues explained and set to report, if necessary					↓
Significant figures are correct					↓
Quantitation report data matches LIMS data					↓
Extraction amount in LIMS matches Extraction Log	----		----		↓
Extraction hold times were met	----		----		↓
Analyst review has been checked					↓
Analysis is approved for release to reporting					↓
Notations/Comments:	Sign & Date				11/10/21

* Circle the tune criteria that applies ** Column for 100% review of data.

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Manual Integration Narratives

(Reason and Rationale)

Narrative Number

M-01 An incorrect peak was integrated by the computer software. The analyst identified the correct peak and integrated it manually.

M-02 A high amount of baseline interference caused a poor integration. The analyst manually integrated the peak by including/excluding any additional baseline.

M-03 The integration did not begin or end at the valley point. The analyst manually integrated the peak so that the integration began or ended at the valley point.

M-04 The entire peak was not integrated. The analyst manually integrated the peak so as to include its entire area.

M-05 The reference time for the peak of interest had shifted and the peak was not integrated by the computer software. The analyst identified the shifted peak and integrated it manually.

M-06 An interfering shoulder peak was integrated initially. The analyst manually integrated to remove the interfering shoulder peak.

EPA 3510/625.1 EXTRACTION BENCH SHEET

T116347

Trace Analytical Laboratories, Inc.

Matrix: Aqueous

Printed: 11/3/2021 7:25:37AM

Date: 11/5/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Samples pH <2 (Y) or N

N-EVAP Temp: 35 °C (Limits=30-35 °C) Samples pH >12 (Y) or N

Surrogate LIMS: 21J2209 Balance #10 S/N H14350

Surrogate Spike Amount(ul): 1000

Standard	Description
21H0304	SODIUM HYDROXIDE SOLUTION
21I0701	SULFURIC ACID SOLUTION
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Reviewers Initial: AM Date Reviewed: 11-3-21

			Due Date
21J1120-01 A	MW-4	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1061 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-02 A	MW-3	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1051 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-03 A	MW-2	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1060 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-04 A	MW-2 Dup	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1059 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-05 A	MW-1	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1060 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-06 A	MW-1 MS	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1061 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-07 A	MW-1 MS DUP	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1058 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

21J1120-08 A	SW-1	Lakeshore Environmental, Inc.	11/04/21

✓ Inital Volume: 1055 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

EPA 3510/625.1 EXTRACTION BENCH SHEET

T116347

Trace Analytical Laboratories, Inc.

Matrix: Aqueous

Printed: 11/3/2021 7:25:37AM

Date: 11/3/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Samples pH <2 (Y) or N

N-EVAP Temp: 35 °C (Limits=30-35 °C) Samples pH >12 (Y) or N

Surrogate LIMS: 21J2209 Balance #10 S/N H14350

Surrogate Spike Amount(ul): 1000

Standard	Description
21H0304	SODIUM HYDROXIDE SOLUTION
21I0701	SULFURIC ACID SOLUTION
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Reviewers Initial: AM Date Reviewed: 11-3-21

			Due Date
21J1201-01 A 02	Floor Drains/Separators	Liquid Industrial By-Products	11/05/21

Inital Volume: 1000 KBC 11/3/21 mls Final Volume: 1 mls

SVOC 8270 TCLP

21J1202-01 A	CL-GW-TMW-1 (20') I/MS/MSD	Fishbeck	11/05/21

Inital Volume: 1049 mls Final Volume: 1 mls

~~SVOC 8270 TCLP~~ PNA

Added for BatchQC in: T116347

21J1202-02 A	CL-GW-TMW-2 (4.5-9.5') I	Fishbeck	11/05/21

Inital Volume: 1059 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

Level IV with Forms must sequence in LIMS

21J1202-03 A	CL-GW-TMW-2 (4.5-9.5') D	Fishbeck	11/05/21

Inital Volume: 1061 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

Level IV with Forms must sequence in LIMS

21J1202-05 A	CL-GW-GCEB-01	Fishbeck	11/05/21

Inital Volume: 1029 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

Level IV with Forms must sequence in LIMS

21J1202-06 A	CL-GW-TMW-3 (1-1.5') I	Fishbeck	11/05/21

Inital Volume: 1001 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

Level IV with Forms must sequence in LIMS

21J1202-07 E	CL-SB-QCEB-02	Fishbeck	11/05/21

Inital Volume: 1036 mls Final Volume: 1 mls

SVOC 8270 PNAs / PAHs (DEFAULT PNA)

Level IV with Forms must sequence in LIMS

EPA 3510/625.1 EXTRACTION BENCH SHEET

T116347

Trace Analytical Laboratories, Inc.

Matrix: Aqueous

Printed: 11/3/2021 7:25:37AM

Date: 11/3/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Samples pH <2 (Y) or N

N-EVAP Temp: 35 °C (Limits=30-35 °C) Samples pH >12 (Y) or N

Surrogate LIMS: 21J2209 Balance #10 S/N H14350

Surrogate Spike Amount(ul): ~~100~~ 1000

Reviewers Initial: AU Date Reviewed: 11-3-21

Standard	Description
21H0304	SODIUM HYDROXIDE SOLUTION
21I0701	SULFURIC ACID SOLUTION
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Due Date

T116347-BLK1 Blank

Spike Std: Amount Used (ul):

Inital Volume: 1000 mls Final Volume: | mls

T116347-BS1 LCS

Spike Std: 21J1306 Amount Used (ul): 1000

Inital Volume: 1000 mls Final Volume: | mls

T116347-MS1 Matrix Spike [21J1202-01]

Spike Std: 21J1306 Amount Used (ul): 1000

Inital Volume: 1042 mls Final Volume: | mls

T116347-MSD1 Matrix Spike Dup [21J1202-01]

Spike Std: 21J1306 Amount Used (ul): 1000

Inital Volume: 1049 mls Final Volume: 1 mls

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21J1202

8270

Raw Data

Sequence Log - Instrument: OTIS
Method: 8270E / 625.1

Date: 11-8-21 Data Path: C:\OTIS\OB-08-21 Analyst: AVL

Analytical Batch ID: OB08021 Dilution Solvent: NA

QC Batch ID: T116347 Curve Date: 1-27-21

Curve Method File:: C:\OTIS\01-27-21

Vial	File Name	Method	Sample ID	Dilution	Time	Tune	CC	Additional Info.
1	OB0801	TBNA	Reagent Blk		NA			ok
2	02	DFTPPOT	50ng DFTPP 21K0102		1:11 PM	P		
3	03	TBNA	50PPM BNA CCV 21G1906		1:29		P	
4	04		T116347-BLK1		2:24			P
5	05		-BS1		3:18			P
6	06		21J1202-01		4:13			P
7	07		T116347-MS1		5:07			P
8	08		-MSD1		6:02			P
9	09		21J1202-02		6:56			P
10	10		-03		7:51			P
11	11		-05		8:45			P
12	12		-06		9:39			P
13	13		-07		10:34			P
14	OB0814	TBNA	MeCl2 Blk		NA			

AVL
11-9-21

Tune:
- DFTPP Criteria
- Peak Tailing <2
- DDT Breakdown <20%

CC:
- Int. Std. Areas: -50% to +100% of Initial Calibration
- Retent. Time Shift: ±0.50min.
- %RSD CCCs ≤20%

Sample:
- Int. Std. Areas: -50% to +100%
- Retent. Time Shift: ±0.50min.
- Surrogates

P = Pass / F = Fail

Standard ID: 21G1906
Int. Std ID: 21I2001
Spike Sol. ID: 21J1306
Surr. Sol. ID: 21J2209

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270E

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K09001
Instrument: OTIS
Matrix: Aqueous
Calibration: 2110004

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Blank (T116347-BLK1)			Lab File ID: OB0804.D		Analyzed: 11/08/21 14:24			
Nitrobenzene-d5	100	74	36 - 103	12.98	13.235	-0.2550	+/-1.0	
2-Fluorobiphenyl	101	66	36 - 119	18.45	18.75833	-0.3083	+/-1.0	
Terphenyl-d14	100	69	37 - 109	30.16	30.5	-0.3400	+/-1.0	
LCS (T116347-BS1)			Lab File ID: OB0805.D		Analyzed: 11/08/21 15:18			
Nitrobenzene-d5	100	72	36 - 103	12.98	13.235	-0.2550	+/-1.0	
2-Fluorobiphenyl	101	72	36 - 119	18.46	18.75833	-0.2983	+/-1.0	
Terphenyl-d14	100	72	37 - 109	30.16	30.5	-0.3400	+/-1.0	
CL-GW-TMW-1 (20') I/MS/MSD (21J1202-01)			Lab File ID: OB0806.D		Analyzed: 11/08/21 16:13			
Nitrobenzene-d5	95.3	65	36 - 103	12.97	13.235	-0.2650	+/-1.0	
2-Fluorobiphenyl	96.3	55	36 - 119	18.45	18.75833	-0.3083	+/-1.0	
Terphenyl-d14	95.3	45	37 - 109	30.16	30.5	-0.3400	+/-1.0	
Matrix Spike (T116347-MS1)			Lab File ID: OB0807.D		Analyzed: 11/08/21 17:07			
Nitrobenzene-d5	96.0	56	36 - 103	12.96	13.235	-0.2750	+/-1.0	
2-Fluorobiphenyl	96.9	50	36 - 119	18.44	18.75833	-0.3183	+/-1.0	
Terphenyl-d14	96.0	50	37 - 109	30.14	30.5	-0.3600	+/-1.0	
Matrix Spike Dup (T116347-MSD1)			Lab File ID: OB0808.D		Analyzed: 11/08/21 18:02			
Nitrobenzene-d5	95.3	49	36 - 103	12.96	13.235	-0.2750	+/-1.0	
2-Fluorobiphenyl	96.3	50	36 - 119	18.44	18.75833	-0.3183	+/-1.0	
Terphenyl-d14	95.3	49	37 - 109	30.15	30.5	-0.3500	+/-1.0	
CL-GW-TMW-2 (4.5-9.5') I (21J1202-02)			Lab File ID: OB0809.D		Analyzed: 11/08/21 18:56			
Nitrobenzene-d5	94.4	54	36 - 103	12.96	13.235	-0.2750	+/-1.0	
2-Fluorobiphenyl	95.4	43	36 - 119	18.45	18.75833	-0.3083	+/-1.0	
Terphenyl-d14	94.4	40	37 - 109	30.16	30.5	-0.3400	+/-1.0	
CL-GW-TMW-2 (4.5-9.5') D (21J1202-03)			Lab File ID: OB0810.D		Analyzed: 11/08/21 19:51			
Nitrobenzene-d5	94.3	66	36 - 103	12.96	13.235	-0.2750	+/-1.0	
2-Fluorobiphenyl	95.2	53	36 - 119	18.46	18.75833	-0.2983	+/-1.0	
Terphenyl-d14	94.3	44	37 - 109	30.16	30.5	-0.3400	+/-1.0	
CL-GW-GCEB-01 (21J1202-05)			Lab File ID: OB0811.D		Analyzed: 11/08/21 20:45			
Nitrobenzene-d5	97.2	69	36 - 103	12.98	13.235	-0.2550	+/-1.0	
2-Fluorobiphenyl	98.2	68	36 - 119	18.46	18.75833	-0.2983	+/-1.0	
Terphenyl-d14	97.2	65	37 - 109	30.16	30.5	-0.3400	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K09001	Instrument:	OTIS
Matrix:	Aqueous	Calibration:	2110004

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
CL-GW-TMW-3 (1-1.5') I (21J1202-06)			Lab File ID: OB0812.D		Analyzed: 11/08/21 21:39			
Nitrobenzene-d5	99.9	63	36 - 103	12.98	13.235	-0.2550	+/-1.0	
2-Fluorobiphenyl	101	68	36 - 119	18.46	18.75833	-0.2983	+/-1.0	
Terphenyl-d14	99.9	61	37 - 109	30.16	30.5	-0.3400	+/-1.0	
CL-SB-QCEB-02 (21J1202-07)			Lab File ID: OB0813.D		Analyzed: 11/08/21 22:34			
Nitrobenzene-d5	96.5	60	36 - 103	12.96	13.235	-0.2750	+/-1.0	
2-Fluorobiphenyl	97.5	58	36 - 119	18.44	18.75833	-0.3183	+/-1.0	
Terphenyl-d14	96.5	53	37 - 109	30.16	30.5	-0.3400	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K09001
Instrument: OTIS
Matrix: Aqueous
Calibration: 2110004

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
50ppm BNA CCV (1K09001-CCV1)			Lab File ID: OB0803.D			Analyzed: 11/08/21 13:29			
1,4-Dichlorobenzene-d4	156828	11.35				50 - 200	11.3500	+/-0.50	*
Naphthalene-d8	562908	15.04	593202	15.33	95	50 - 200	-0.2900	+/-0.50	
Acenaphthene-d10	333070	20.42	350881	20.72	95	50 - 200	-0.3000	+/-0.50	
Phenanthrene-d10	598483	25.02	660998	25.32	91	50 - 200	-0.3000	+/-0.50	
Chrysene-d12	533938	33.34	545704	33.68	98	50 - 200	-0.3400	+/-0.50	
Perylene-d12	586524	37.67	597786	38.02	98	50 - 200	-0.3500	+/-0.50	
Blank (T116347-BLK1)			Lab File ID: OB0804.D			Analyzed: 11/08/21 14:24			
1,4-Dichlorobenzene-d4	149406	11.35	156828	11.35	95	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	516814	15.04	562908	15.04	92	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10	333142	20.4	333070	20.42	100	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	610214	25	598483	25.02	102	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	523835	33.32	533938	33.34	98	50 - 200	-0.0200	+/-0.50	
Perylene-d12	598279	37.65	586524	37.67	102	50 - 200	-0.0200	+/-0.50	
LCS (T116347-BS1)			Lab File ID: OB0805.D			Analyzed: 11/08/21 15:18			
1,4-Dichlorobenzene-d4	151233	11.36	156828	11.35	96	50 - 200	0.0100	+/-0.50	
Naphthalene-d8	528088	15.03	562908	15.04	94	50 - 200	-0.0100	+/-0.50	
Acenaphthene-d10	331481	20.4	333070	20.42	100	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	617854	25	598483	25.02	103	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	536173	33.32	533938	33.34	100	50 - 200	-0.0200	+/-0.50	
Perylene-d12	598218	37.65	586524	37.67	102	50 - 200	-0.0200	+/-0.50	
CL-GW-TMW-1 (20') I/MS/MSD (21J1202-01)			Lab File ID: OB0806.D			Analyzed: 11/08/21 16:13			
1,4-Dichlorobenzene-d4	149698	11.35	156828	11.35	95	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	510106	15.02	562908	15.04	91	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	334206	20.4	333070	20.42	100	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	603879	25	598483	25.02	101	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	520586	33.32	533938	33.34	97	50 - 200	-0.0200	+/-0.50	
Perylene-d12	595512	37.65	586524	37.67	102	50 - 200	-0.0200	+/-0.50	
Matrix Spike (T116347-MS1)			Lab File ID: OB0807.D			Analyzed: 11/08/21 17:07			
1,4-Dichlorobenzene-d4	142536	11.34	156828	11.35	91	50 - 200	-0.0100	+/-0.50	
Naphthalene-d8	491912	15.02	562908	15.04	87	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	303852	20.4	333070	20.42	91	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	572587	25	598483	25.02	96	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	480303	33.32	533938	33.34	90	50 - 200	-0.0200	+/-0.50	
Perylene-d12	545052	37.65	586524	37.67	93	50 - 200	-0.0200	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K09001
Instrument: OTIS
Matrix: Aqueous
Calibration: 2110004

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (T116347-MSD1)			Lab File ID: OB0808.D			Analyzed: 11/08/21 18:02			
1,4-Dichlorobenzene-d4	155811	11.34	156828	11.35	99	50 - 200	-0.0100	+/-0.50	
Naphthalene-d8	569644	15.03	562908	15.04	101	50 - 200	-0.0100	+/-0.50	
Acenaphthene-d10	335225	20.4	333070	20.42	101	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	636743	25	598483	25.02	106	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	527192	33.32	533938	33.34	99	50 - 200	-0.0200	+/-0.50	
Perylene-d12	609092	37.65	586524	37.67	104	50 - 200	-0.0200	+/-0.50	
CL-GW-TMW-2 (4.5-9.5') I (21J1202-02)			Lab File ID: OB0809.D			Analyzed: 11/08/21 18:56			
1,4-Dichlorobenzene-d4	151584	11.35	156828	11.35	97	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	538319	15.02	562908	15.04	96	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	393596	20.4	333070	20.42	118	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	614036	25	598483	25.02	103	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	532303	33.32	533938	33.34	100	50 - 200	-0.0200	+/-0.50	
Perylene-d12	573706	37.65	586524	37.67	98	50 - 200	-0.0200	+/-0.50	
CL-GW-TMW-2 (4.5-9.5') D (21J1202-03)			Lab File ID: OB0810.D			Analyzed: 11/08/21 19:51			
1,4-Dichlorobenzene-d4	152933	11.34	156828	11.35	98	50 - 200	-0.0100	+/-0.50	
Naphthalene-d8	558505	15.02	562908	15.04	99	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	404766	20.4	333070	20.42	122	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	630587	25	598483	25.02	105	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	542608	33.32	533938	33.34	102	50 - 200	-0.0200	+/-0.50	
Perylene-d12	587954	37.67	586524	37.67	100	50 - 200	0.0000	+/-0.50	
CL-GW-GCEB-01 (21J1202-05)			Lab File ID: OB0811.D			Analyzed: 11/08/21 20:45			
1,4-Dichlorobenzene-d4	155306	11.35	156828	11.35	99	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	560159	15.02	562908	15.04	100	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	340124	20.4	333070	20.42	102	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	652420	25	598483	25.02	109	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	533928	33.32	533938	33.34	100	50 - 200	-0.0200	+/-0.50	
Perylene-d12	619147	37.65	586524	37.67	106	50 - 200	-0.0200	+/-0.50	
CL-GW-TMW-3 (1-1.5') I (21J1202-06)			Lab File ID: OB0812.D			Analyzed: 11/08/21 21:39			
1,4-Dichlorobenzene-d4	164507	11.35	156828	11.35	105	50 - 200	0.0000	+/-0.50	
Naphthalene-d8	615521	15.02	562908	15.04	109	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	357557	20.4	333070	20.42	107	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	683967	25	598483	25.02	114	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	574726	33.32	533938	33.34	108	50 - 200	-0.0200	+/-0.50	
Perylene-d12	677301	37.65	586524	37.67	115	50 - 200	-0.0200	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E

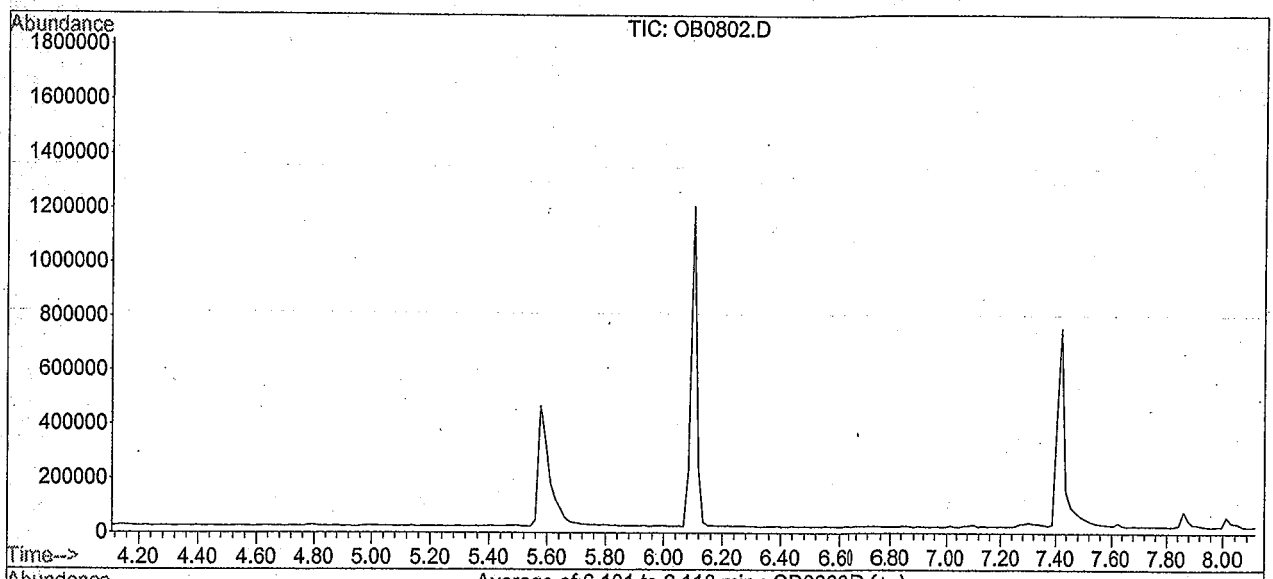
Laboratory:	Trace Analytical Laboratories, Inc.	SDG:	
Client:	Fishbeck	Project:	OC Grant Phase IIs
Sequence:	1K09001	Instrument:	OTIS
Matrix:	Aqueous	Calibration:	2110004

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
CL-SB-QCEB-02 (21J1202-07)			Lab File ID: OB0813.D			Analyzed: 11/08/21 22:34			
1,4-Dichlorobenzene-d4	158069	11.34	156828	11.35	101	50 - 200	-0.0100	+/-0.50	
Naphthalene-d8	593759	15.02	562908	15.04	105	50 - 200	-0.0200	+/-0.50	
Acenaphthene-d10	349955	20.4	333070	20.42	105	50 - 200	-0.0200	+/-0.50	
Phenanthrene-d10	656139	25	598483	25.02	110	50 - 200	-0.0200	+/-0.50	
Chrysene-d12	554913	33.32	533938	33.34	104	50 - 200	-0.0200	+/-0.50	
Perylene-d12	617174	37.65	586524	37.67	105	50 - 200	-0.0200	+/-0.50	

DFTPP

Data File : C:\OTIS\OB-08-21\OB0802.D
Acq On : 8 Nov 2021 1:11 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00



Spectrum Information: Average of 6.101 to 6.118 min.

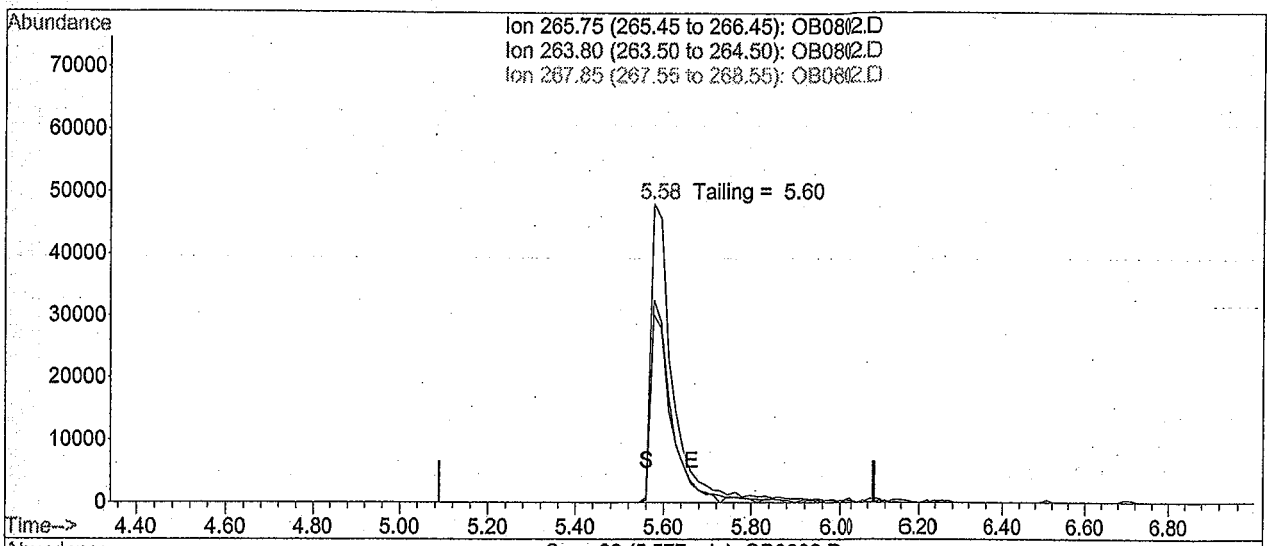
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.2	95885	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	40.8	99945	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	244664	PASS
199	198	5	9	7.8	19203	PASS
275	198	10	60	23.9	58411	PASS
365	198	1	100	1.9	4608	PASS
441	442	0.01	24	10.8	13344	PASS
442	198	50	100	50.5	123611	PASS
443	442	15	24	19.2	23682	PASS

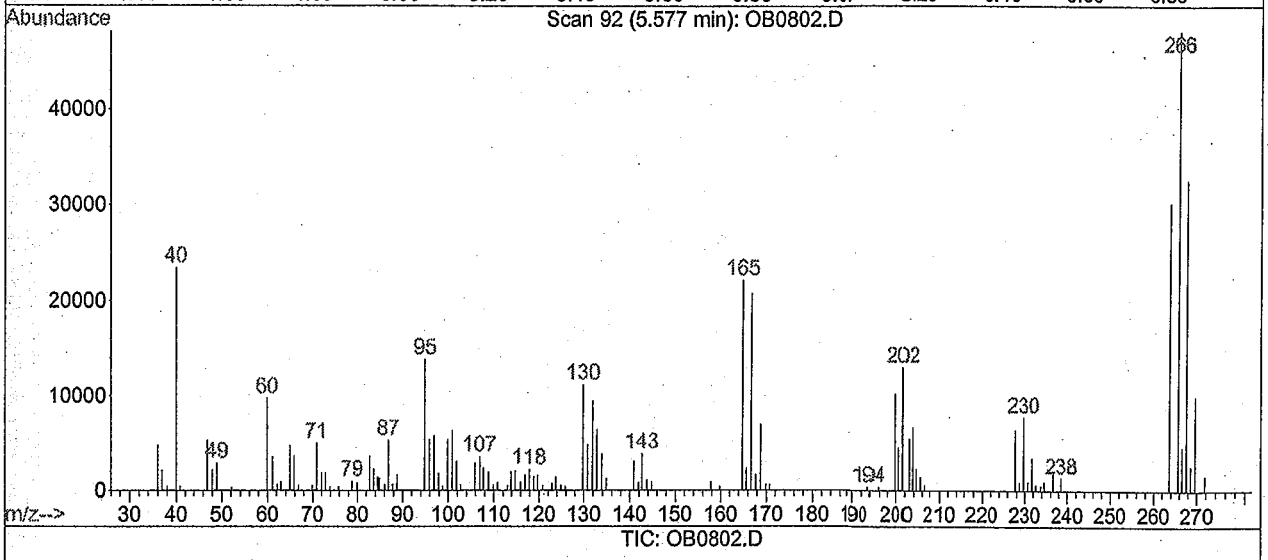
Quantitation Report (Qedit)

Data File : C:\OTIS\OB-08-21\OB0802.D
Acq On : 8 Nov 2021 1:11 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 13:20 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Fri Nov 05 13:39:25 2021
Response via : Single Level Calibration





TIC: OB0802.D

(4) PENTACHLOROPHENOL

5.58min 0.00ng

response 170968

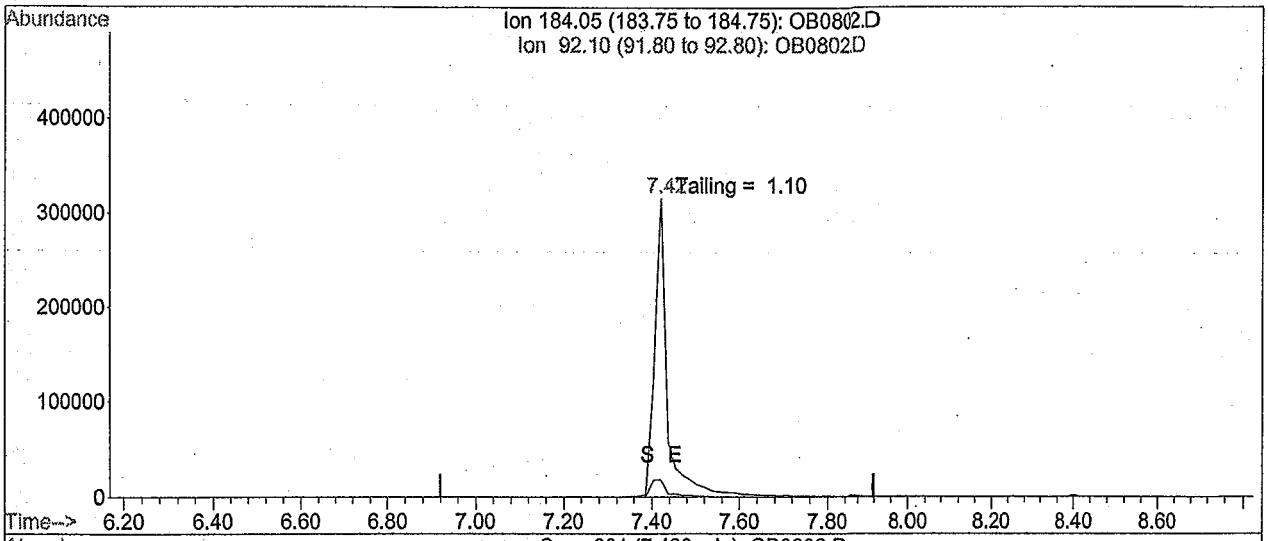
Ion	Exp%	Act%
265.75	100	100
263.80	62.70	62.77
267.85	64.30	67.71
0.00	0.00	0.00

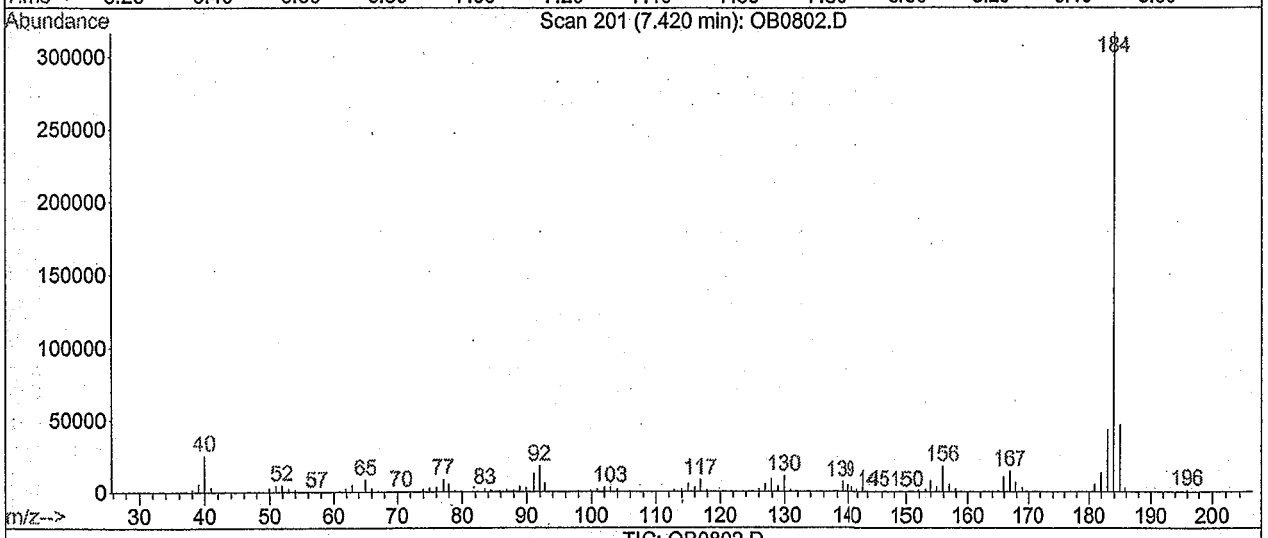
Quantitation Report (Qedit)

Data File : C:\OTIS\OB-08-21\OB0802.D
Acq On : 8 Nov 2021 1:11 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 13:20 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Fri Nov 05 13:39:25 2021
Response via : Single Level Calibration





TIC: OB0802.D

(5) BENZIDINE

7.42min 0.00ng

response 645849

Ion	Exp%	Act%
184.05	100	100
92.10	16.50	7.66#
0.00	0.00	0.00
0.00	0.00	0.00

DDT BREAKDOWN REPORT

Data File Path	C:\OTIS\OB-08-21\
Date Acquired	11/8/1921 1:11
Acq. Method File	DFTPPOT
Sample Name	50ng DFTPP STD. / 21K0102
Instrument Name	OTIS
Data File Name	OB0802.D

Name	Ret Time	Target Response
DDE	7.62	3399
DDD	8.05	3946
DDT	8.40	390366

Total Area Count	397711
DDT Breakdown %	2%

Evaluate Continuing Calibration Report

Data File : C:\OTIS\OB-08-21\OB0803.D
Acq On : 8 Nov 2021 1:29 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 21% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95	0.05
2	T	N-Nitrosodimethylamine	0.811	0.732	9.7	84	0.03
3	T	Pyridine	1.323	1.335	-0.9	94	0.02
4	S	2-Fluorophenol	1.188	1.160	2.4	90	0.00
5	T	Aniline	1.836	1.662	9.5	86	0.09
6	M	bis(2-Chloroethyl)ether	1.226	1.174	4.2	87	0.07
7	S	Phenol-d5	1.538	1.459	5.1	89	0.10
8	M	2-Chlorophenol	1.232	1.246	-1.1	94	0.14
9	C	Phenol	1.661	1.615	2.8	91	0.14
10	M	1,3-Dichlorobenzene	1.355	1.338	1.3	94	0.05
11	C	1,4-Dichlorobenzene	1.427	1.312	8.1	89	0.05
12	M	1,2-Dichlorobenzene	1.331	1.307	1.8	94	0.05
13		Benzyl Alcohol	0.843	0.733	13.0	84	0.14
14	M	bis(2-Chloroisopropyl)ether	1.871	1.752	6.4	86	0.02
15		2-Methylphenol (o-Cresol)	1.032	1.080	-4.7	94	0.19
16		3,4-Methylphenol(m,p Cresol	1.570	1.526	2.8	91	0.19
17	M	N-Nitroso-di-n-propylamine	0.854	0.859	-0.6	94	0.09
18	M	Hexachloroethane	0.617	0.592	4.1	91	0.02
19	I	Naphthalene-d8	1.000	1.000	0.0	96	0.04
20	S	Nitrobenzene-d5	0.366	0.363	0.8	96	0.07
21	M	Nitrobenzene	0.362	0.369	-1.9	99	0.07
22	M	Isophorone	0.690	0.628	9.0	88	0.05
23	T	N-Ethylaniline	0.652	0.524	19.6	84	0.05
24	C	2-Nitrophenol	0.187	0.198	-5.9	103	0.07
25	M	2,4-Dimethylphenol	0.315	0.289	8.3	89	0.14
26	M	bis(2-Chloroethoxy)methane	0.429	0.399	7.0	94	0.05
27		Benzoic Acid	0.208	0.192	7.7	93	0.04
28	M	1,2,4-Trichlorobenzene	0.386	0.356	7.8	88	0.04
29	C	2,4-Dichlorophenol	0.319	0.289	9.4	86	0.14
30	M	Naphthalene	1.017	0.889	12.6	88	0.04
31		4-Chloroaniline	0.458	0.418	8.7	91	0.09
32	C	Hexachlorobutadiene	0.228	0.214	6.1	90	0.02
33	C	4-Chloro-3-methylphenol	0.324	0.301	7.1	90	0.19
34		2-Methylnaphthalene	0.660	0.588	10.9	88	0.04
35	I	Acenaphthene-d10	1.000	1.000	0.0	93	0.02
36		1,2,4,5-Tetrachlorobenzene	0.648	0.633	2.3	91	0.04
37		Hexachlorocyclopentadiene	0.385	0.369	4.2	89	0.00
38	C	2,4,6-Trichlorophenol	0.444	0.409	7.9	87	0.00
39		2,4,5-Trichlorophenol	0.468	0.477	-1.9	92	0.00
40	S	2-Fluorobiphenyl	1.358	1.185	12.7	83	0.02
41	M	2-Chloronaphthalene	1.103	0.952	13.7	85	0.02
42		2-Nitroaniline	0.363	0.370	-1.9	95	0.09
43	M	Dimethylphthalate	1.264	1.113	11.9	87	0.04
44	M	Acenaphthylene	1.681	1.519	9.6	85	0.02
45	M	2,6-Dinitrotoluene	0.283	0.311	-9.9	96	0.05
46		3-Nitroaniline	0.315	0.305	3.2	99	0.11
47	C	Acenaphthene	0.978	0.886	9.4	88	0.02
48		Dibenzofuran	1.596	1.364	14.5	81	0.02
49	M	2,4-Dinitrotoluene	0.386	0.441	-14.2	100	0.07
50	M	4-Nitrophenol	0.287	0.208	27.5#	66	0.00
51	M	2,4-Dinitrophenol	0.169	0.253	-49.7#	151	0.12

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\OTIS\OB-08-21\OB0803.D
Acq On : 8 Nov 2021 1:29 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 21% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	M	Diethylphthalate	1.272	1.092	14.2	83	0.02
53	M	Fluorene	1.217	1.057	13.1	86	0.00
54	M	4-Chlorophenyl-phenylether	0.673	0.638	5.2	88	0.00
55		4-Nitroaniline	0.319	0.313	1.9	97	0.12
56	I	Phenanthrene-d10	1.000	1.000	0.0	88	0.02
57	M	4,6-Dinitro-2-methylphenol	0.137	0.181	-32.1#	126	0.09
58	C	N-Nitrosodiphenylamine	0.433	0.388	10.4	81	0.02
59		1,2-Diphenylhydrazine	0.762	0.713	6.4	90	0.00
60	S	2,4,6-Tribromophenol	0.123	0.139	-13.0	100	0.04
61	M	4-Bromophenyl-phenylether	0.220	0.214	2.7	88	0.00
62	M	Hexachlorobenzene	0.241	0.248	-2.9	94	0.00
63	C	Pentachlorophenol	0.169	0.138	18.3	73	0.00
64	M	Phenanthrene	0.993	0.895	9.9	82	0.00
65	M	Anthracene	1.038	0.931	10.3	83	0.00
66		Carbazole	0.886	0.834	5.9	89	0.05
67	M	Di-n-butylphthalate	1.285	1.138	11.4	79	-0.01
68	I	Chrysene-d12	1.000	1.000	0.0	94	-0.03
69	C	Fluoranthene	1.388	1.201	13.5	84	0.00
70		Benzidine	0.742	0.525	29.2#	69	0.04
71	M	Pyrene	1.419	1.230	13.3	87	0.00
72	S	Terphenyl-d14	0.683	0.592	13.3	87	-0.01
73	M	Butylbenzylphthalate	0.671	0.565	15.8	83	-0.03
74	M	Benzo(a)anthracene	1.305	1.077	17.5	85	0.06
75	M	Chrysene	1.271	1.071	15.7	85	0.04
76		3,3'-Dichlorobenzidine	0.509	0.445	12.6	89	0.00
77	M	bis(2-Ethylhexyl)phthalate	0.976	0.777	20.4	79	-0.06
78	C	Di-n-octylphthalate	1.749	1.539	12.0	84	-0.06
79	I	Perylene-d12	1.000	1.000	0.0	95	-0.05
80	M	Benzo(b)fluoranthene	1.167	1.047	10.3	90	0.04
81	M	Benzo(k)fluoranthene	1.104	0.983	11.0	87	0.04
82	C	Benzo(a)pyrene	1.047	0.923	11.8	88	0.04
83	M	Indeno(1,2,3-cd)pyrene	1.021	1.041	-2.0	101	0.00
84	M	Dibenzo(a,h)anthracene	1.026	1.014	1.2	98	0.00
85	M	Benzo(g,h,i)perylene	1.007	1.022	-1.5	100	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\OB-08-21\OB0803.D
Acq On : 8 Nov 2021 1:29 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 14:17 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	156828	40.00	ng/ml	0.05
19) Naphthalene-d8	15.04	136	562908	40.00	ng/ml	0.04
35) Acenaphthene-d10	20.42	164	333070	40.00	ng/ml	0.02
56) Phenanthrene-d10	25.02	188	598483	40.00	ng/ml	0.02
68) Chrysene-d12	33.34	240	533938	40.00	ng/ml	-0.03
79) Perylene-d12	37.67	264	586524	40.00	ng/ml	-0.05
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	227317	48.80	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 48.80%			
7) Phenol-d5	10.66	99	285960	47.43	mg/L	0.10
Spiked Amount 100.000	Range 11 - 40		Recovery = 47.43%#			
20) Nitrobenzene-d5	12.98	82	255322	49.53	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 49.53%			
40) 2-Fluorobiphenyl	18.46	172	493430	43.64	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 43.64%			
60) 2,4,6-Tribromophenol	22.90	330	104350	56.61	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 56.61%			
72) Terphenyl-d14	30.16	244	395017	43.34	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 43.34%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.67	42	143579	45.18	mg/L #	82
3) Pyridine	4.71	79	261676	50.45	mg/L	97
5) Aniline	10.51	93	325749	45.26	mg/L #	87
6) bis(2-Chloroethyl)ether	10.76	93	230181	47.89	mg/L #	84
8) 2-Chlorophenol	10.85	128	244224	50.58	mg/L	96
9) Phenol	10.69	94	316683	48.62	mg/L	98
10) 1,3-Dichlorobenzene	11.18	146	262336	49.37	mg/L	97
11) 1,4-Dichlorobenzene	11.40	146	257120	45.95	mg/L	97
12) 1,2-Dichlorobenzene	11.81	146	256255	49.12	mg/L	97
13) Benzyl Alcohol	11.93	108	143742	43.49	mg/L	95
14) bis(2-Chloroisopropyl)ethe	12.25	45	343499m	46.82	mg/L	
15) 2-Methylphenol (o-Cresol)	12.33	107	211654	52.33	mg/L #	93
16) 3,4-Methylphenol(m,p Creso	12.82	107	299204	48.62	mg/L	100
17) N-Nitroso-di-n-propylamine	12.69	70	168340	50.26	mg/L	92
18) Hexachloroethane	12.74	117	116136	48.01	mg/L	98
21) Nitrobenzene	13.04	77	259501	50.88	mg/L	98
22) Isophorone	13.81	82	441698	45.51	mg/L	98
23) N-Ethylaniline	13.91	106	368543	40.18	mg/L	98
24) 2-Nitrophenol	13.97	139	139012	52.70	mg/L	96
25) 2,4-Dimethylphenol	14.33	122	203135	45.85	mg/L	99
26) bis(2-Chloroethoxy)methane	14.55	93	280690	46.45	mg/L	95
27) Benzoic Acid	15.16	122	135265m	46.28	mg/L	
28) 1,2,4-Trichlorobenzene	14.90	180	250455	46.16	mg/L	100
29) 2,4-Dichlorophenol	14.79	162	203370m	45.26	mg/L	
30) Naphthalene	15.11	128	625868	43.73	mg/L	99
31) 4-Chloroaniline	15.41	127	294309	45.68	mg/L	94
32) Hexachlorobutadiene	15.55	225	150319	46.93	mg/L	97
33) 4-Chloro-3-methylphenol	17.10	107	211948	46.48	mg/L	97
34) 2-Methylnaphthalene	17.24	142	413876	44.59	mg/L	94
36) 1,2,4,5-Tetrachlorobenzene	17.76	216	263731	48.86	mg/L	97
37) Hexachlorocyclopentadiene	17.73	237	153468	47.84	mg/L	96
38) 2,4,6-Trichlorophenol	18.22	196	170091	45.97	mg/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\OB-08-21\OB0803.D
Acq On : 8 Nov 2021 1:29 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 14:17 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	18.39	196	198592m	50.94 mg/L	
41)	2-Chloronaphthalene	18.71	162	396242	43.13 mg/L	92
42)	2-Nitroaniline	19.18	65	153845	50.93 mg/L	94
43)	Dimethylphthalate	19.86	163	463494	44.04 mg/L	99
44)	Acenaphthylene	19.96	152	632618	45.20 mg/L	99
45)	2,6-Dinitrotoluene	20.00	165	129644	54.92 mg/L	97
46)	3-Nitroaniline	20.50	138	127016	48.35 mg/L	90
47)	Acenaphthene	20.52	154	368976	45.31 mg/L	99
48)	Dibenzofuran	21.08	168	567713	42.71 mg/L	88
49)	2,4-Dinitrotoluene	21.23	165	183527	57.06 mg/L #	97
50)	4-Nitrophenol	21.38	65	86551m	36.20 mg/L	
51)	2,4-Dinitrophenol	20.86	184	105505	66.60 mg/L #	82
52)	Diethylphthalate	22.09	149	454630	42.94 mg/L	98
53)	Fluorene	22.13	166	439924	43.43 mg/L	97
54)	4-Chlorophenyl-phenylether	22.24	204	265531	47.40 mg/L	97
55)	4-Nitroaniline	22.45	138	130171	49.07 mg/L	85
57)	4,6-Dinitro-2-methylphenol	22.50	198	135187	65.90 mg/L #	84
58)	N-Nitrosodiphenylamine	22.67	169	289908	44.70 mg/L	96
59)	1,2-Diphenylhydrazine	22.74	77	533104	46.74 mg/L	98
61)	4-Bromophenyl-phenylether	23.75	248	159864	48.53 mg/L	98
62)	Hexachlorobenzene	23.80	284	185181	51.46 mg/L	98
63)	Pentachlorophenol	24.54	266	103482m	41.01 mg/L	
64)	Phenanthrene	25.09	178	669677	45.08 mg/L	98
65)	Anthracene	25.24	178	696614	44.86 mg/L	99
66)	Carbazole	25.88	167	623734	47.05 mg/L #	96
67)	Di-n-butylphthalate	27.23	149	851247	44.26 mg/L	100
69)	Fluoranthene	28.77	202	801810	43.27 mg/L	99
70)	Benzidine	29.43	184	700552m	70.75 mg/L	
71)	Pyrene	29.45	202	821173	43.34 mg/L	94
73)	Butylbenzylphthalate	31.90	149	376797	42.04 mg/L	100
74)	Benzo(a)anthracene	33.31	228	718903	41.27 mg/L	97
75)	Chrysene	33.42	228	714747	42.12 mg/L	98
76)	3,3'-Dichlorobenzidine	33.44	252	593479	87.28 mg/L	96
77)	bis(2-Ethylhexyl)phthalate	33.91	149	518881	39.82 mg/L	95
78)	Di-n-octylphthalate	35.96	149	1027471	44.01 mg/L	99
80)	Benzo(b)fluoranthene	36.60	252	767695	44.88 mg/L	98
81)	Benzo(k)fluoranthene	36.69	252	720571	44.49 mg/L #	94
82)	Benzo(a)pyrene	37.50	252	676994	44.10 mg/L #	93
83)	Indeno(1,2,3-cd)pyrene	40.63	276	763401	51.02 mg/L #	90
84)	Dibenzo(a,h)anthracene	40.75	278	743409	49.42 mg/L	99
85)	Benzo(g,h,i)perylene	41.46	276	749410	50.74 mg/L	99

(#) = qualifier out of range (m) = manual integration

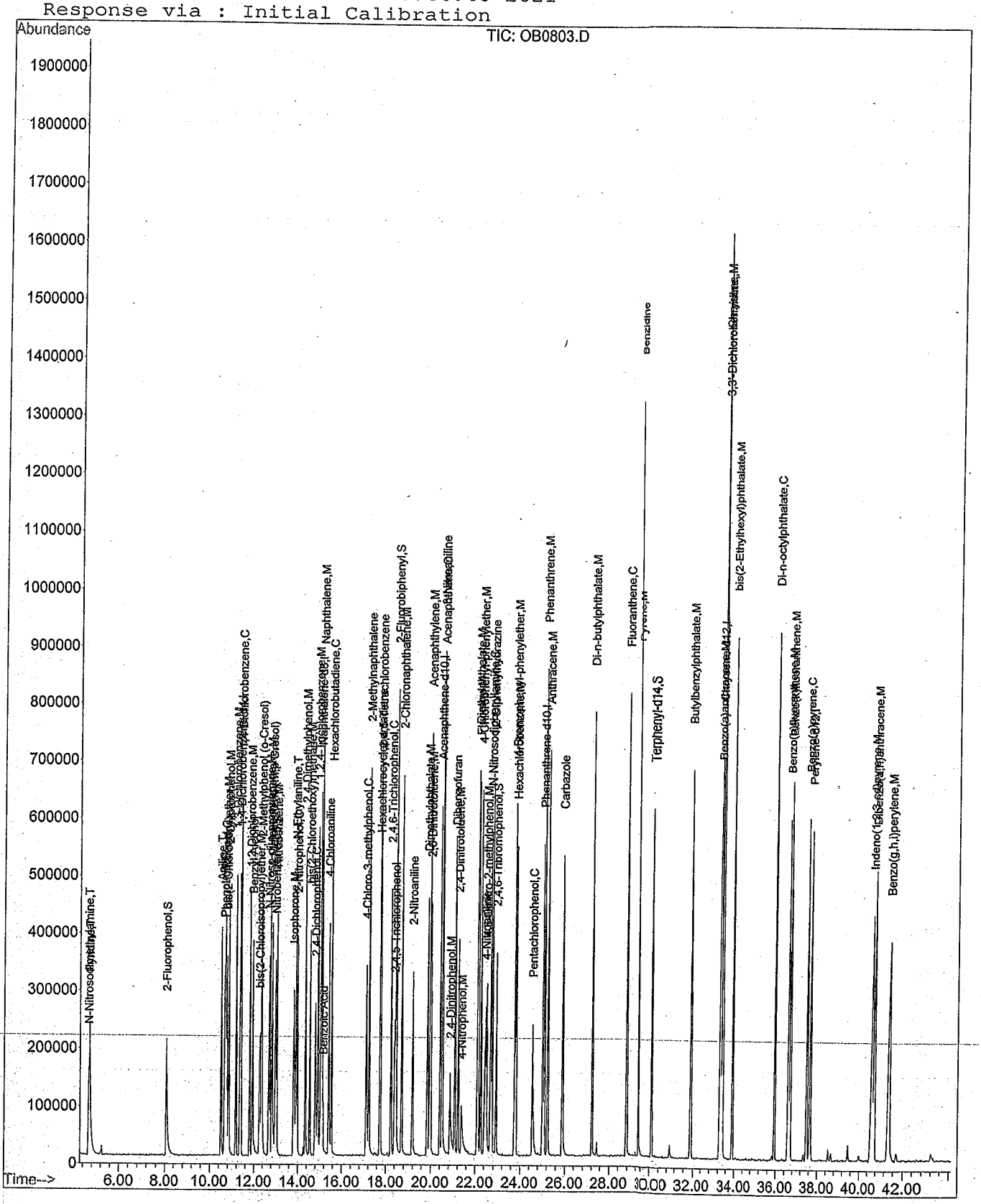
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0803.D
Acq On : 8 Nov 2021 1:29 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 14:17 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Sequence Log - Instrument: OTIS
Method: 8270E / 625.1

Date: 11-9-21 Data Path: C:\OTIS\OB-09-21

Analytical Batch ID: OB09021

QC Batch ID: TI16349

Analyst: AVL

Dilution Solvent: MeCl2 - 21H1640

Curve Date: 1-27-21

Curve Method File:: C:\OTIS\01-27-21

Vial	File Name	Method	Sample ID	Dilution	Time	Tune	CC	Additional Info.
1	OB0901	TBNA	Reagent Blk		NA			ok
2	02	DFTPPOT	50ng DFTPP 21K0102		1:16 PM	P		
3	03	TBNA	50ppm BNA CCV 21G1906		1:35		P	
4	04		TI16349-BLK1		2:30			P
5	05		↓ -BS1		3:25			P
6	06		21J1205-01		4:20			P
7	07		TI16349-MS1		5:14			P
8	08		↓ -MSD1		6:09			P
9	09		21J1205-02		7:03			P
10	10		-03		7:58			P
11	11		-05		8:52			P
12	12		-10		9:45			P
13	13		-04	10	10:39			P
14	OB0914	TBNA	MeCl2 BLK		NA			

AVL
11-10-21

Tune:
- DFTPP Criteria
- Peak Tailing <2
- DDT Breakdown <20%

CC:
- Int. Std. Areas: -50% to +100% of Initial Calibration
- Retent. Time Shift: ±0.50min.
- %RSD CCCs ≤20%

Sample:
- Int. Std. Areas: -50% to +100%
- Retent. Time Shift: ±0.50min.
- Surrogates

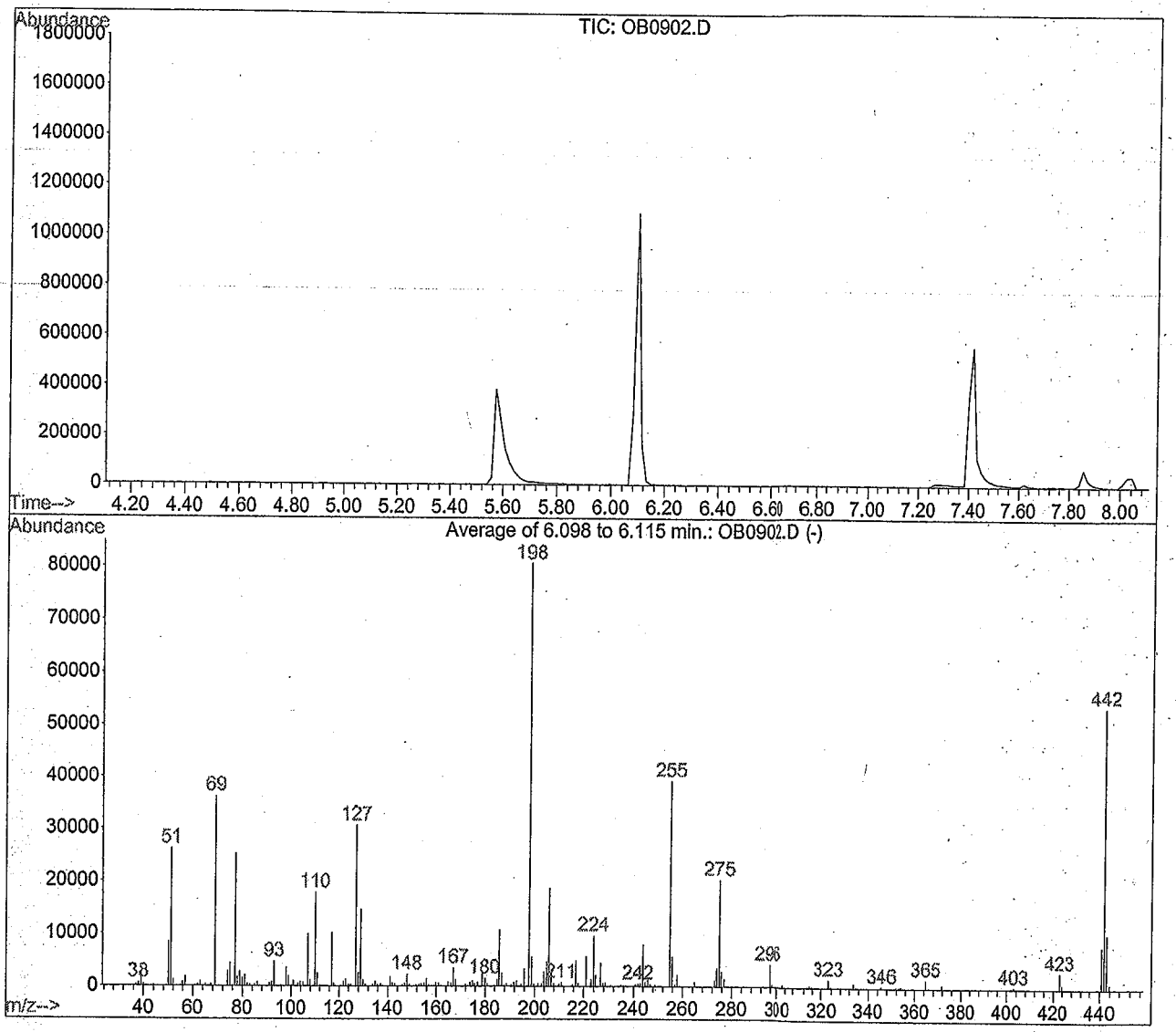
P = Pass / F = Fail

Standard ID: 21G1906
Int. Std ID: 21I2001
Spike Sol. ID: 21J1306
Surr. Sol. ID: 21J2209

DFTPP

Data File : C:\OTIS\OB-09-21\OB0902.D
Acq On : 9 Nov 2021 1:16 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00



Spectrum Information: Average of 6.098 to 6.115 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.4	26186	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	38.0	30685	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	80844	PASS
199	198	5	9	7.0	5646	PASS
275	198	10	60	25.2	20373	PASS
365	198	1	100	2.1	1659	PASS
441	442	0.01	24	15.1	8087	PASS
442	198	50	100	66.4	53704	PASS
443	442	15	24	19.3	10371	PASS

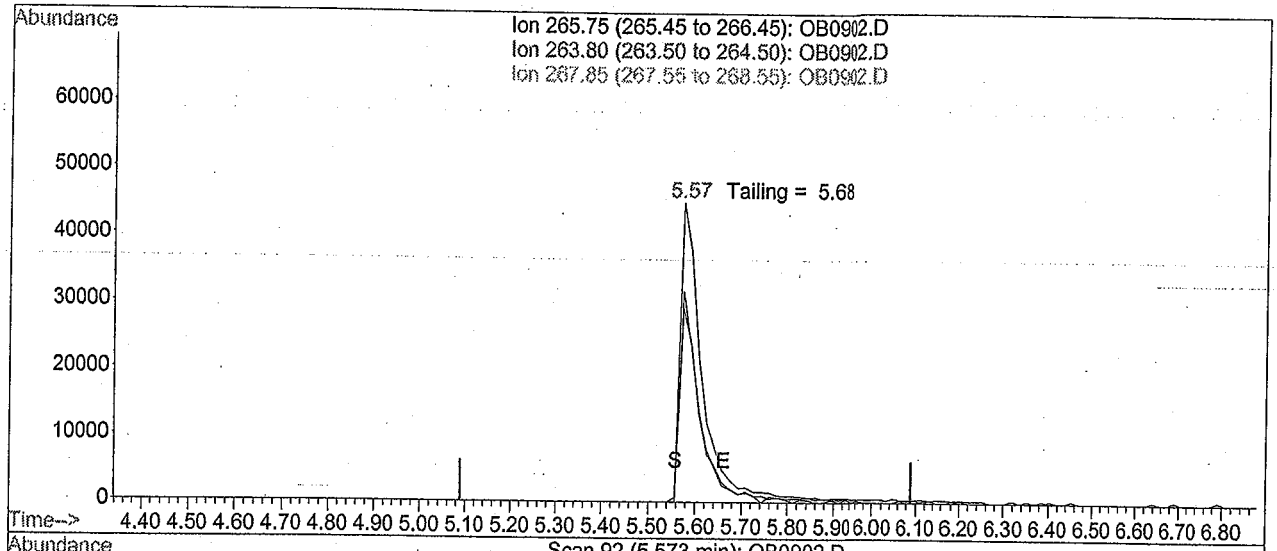
Quantitation Report (Qedit)

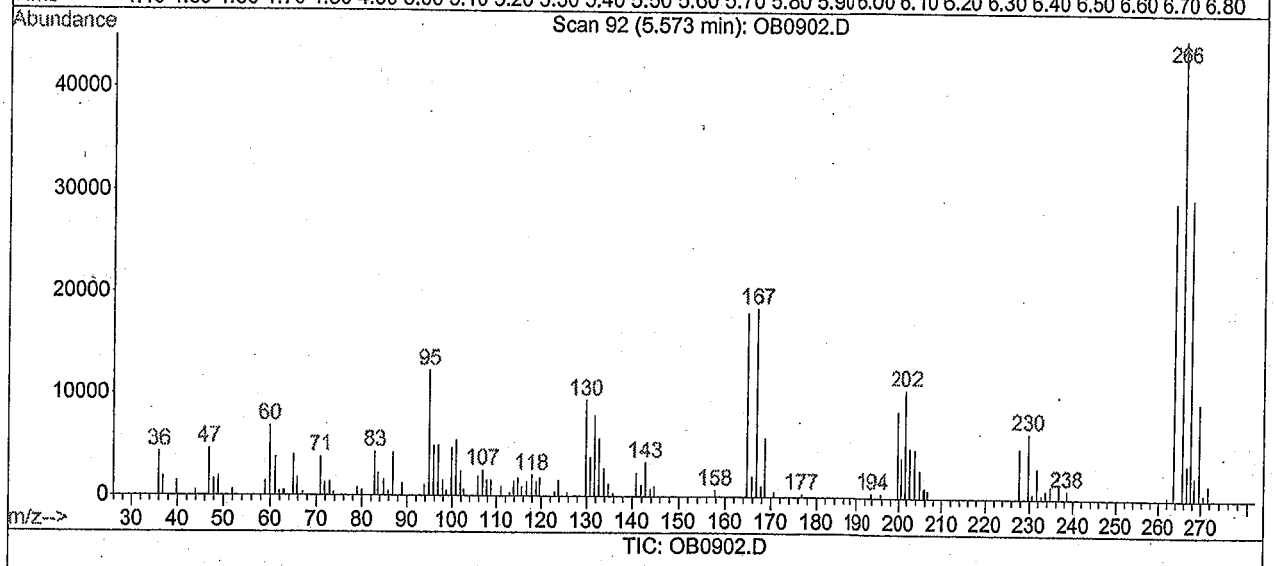
Data File : C:\OTIS\OB-09-21\OB0902.D
Acq On : 9 Nov 2021 1:16 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 9 13:25 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Fri Nov 05 13:39:25 2021
Response via : Single Level Calibration





TIC: OB0902.D

(4) PENTACHLOROPHENOL

5.57min 0.00ng

response 150287

Ion	Exp%	Act%
265.75	100	100
263.80	62.70	64.78
267.85	64.30	70.56
0.00	0.00	0.00

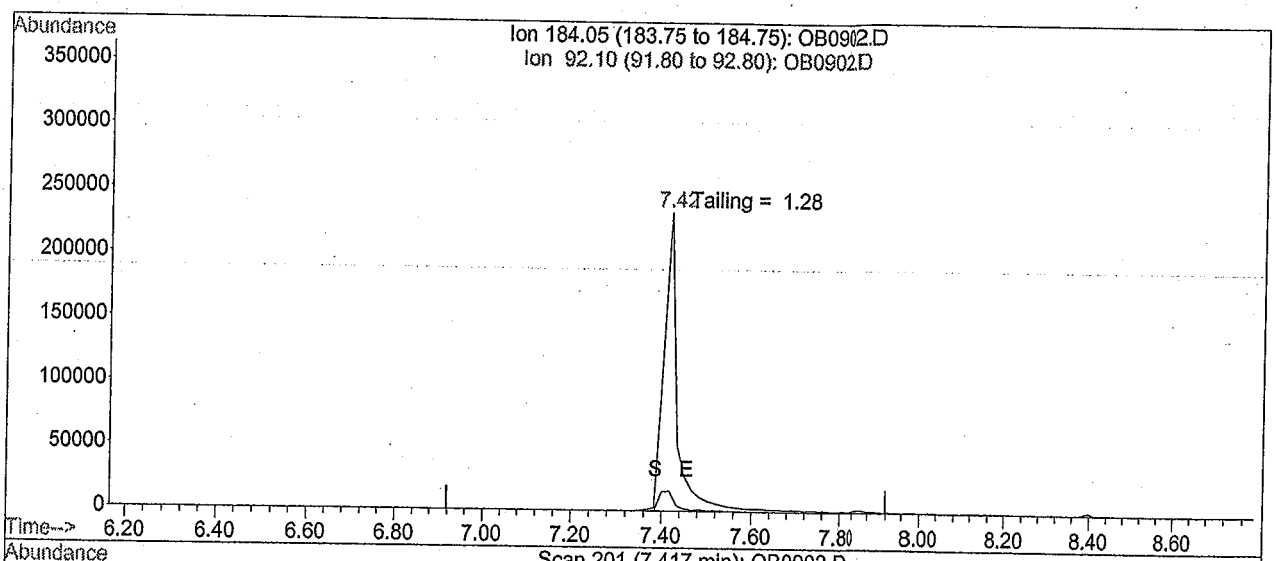
Quantitation Report (Qedit)

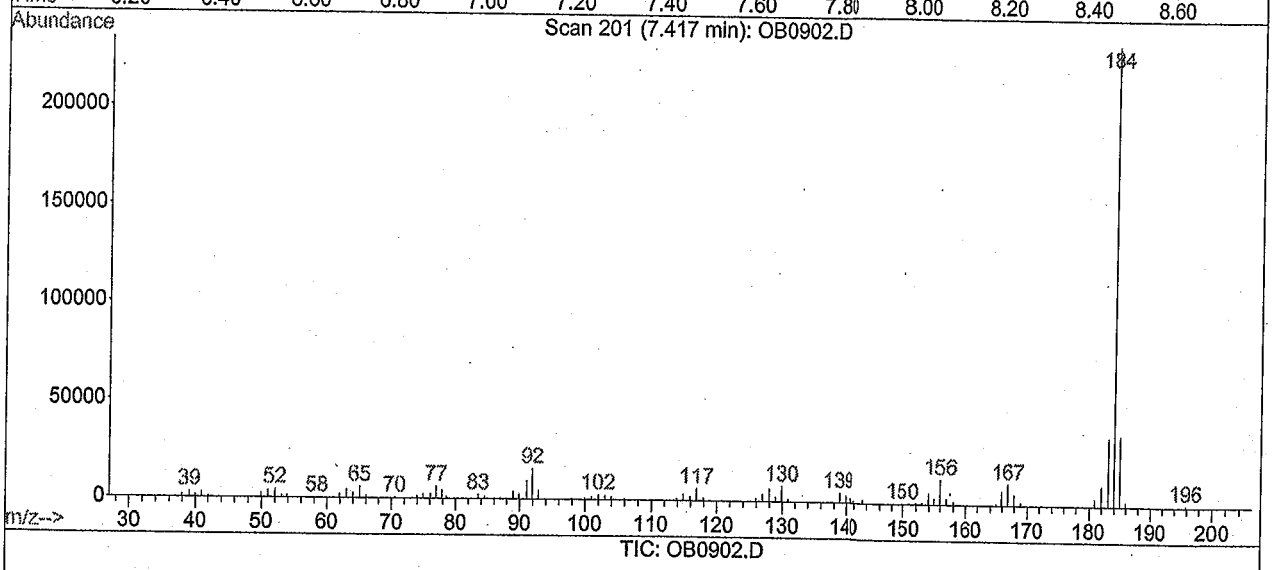
Data File : C:\OTIS\OB-09-21\OB0902.D
Acq On : 9 Nov 2021 1:16 pm
Sample : 50ng DFTPP STD. / 21K0102
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 9 13:25 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Fri Nov 05 13:39:25 2021
Response via : Single Level Calibration





(5) BENZIDINE

7.42min 0.00ng

response 508752

Ion	Exp%	Act%
184.05	100	100
92.10	16.50	6.68#
0.00	0.00	0.00
0.00	0.00	0.00

DDT BREAKDOWN REPORT

Data File Path	C:\OTIS\OB-09-21\
Date Acquired	11/9/1921 1:16
Acq. Method File	DFTPP0T
Sample Name	50ng DFTPP STD. / 21K0102
Instrument Name	OTIS
Data File Name	OB0902.D

Name	Ret Time	Target Response
DDE	7.62	2491
DDD	8.04	16869
DDT	8.40	400599

Total Area Count	419959
DDT Breakdown %	5%

Evaluate Continuing Calibration Report

Data File : C:\OTIS\OB-09-21\OB0903.D
Acq On : 9 Nov 2021 1:35 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Multiple Level Calibration

PAHs only
AVL 11-9-21

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 21% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.04
2	T	N-Nitrosodimethylamine	0.811	0.688	15.2	81	0.02
3	T	Pyridine	1.323	1.266	4.3	92	0.00
4	S	2-Fluorophenol	1.188	1.133	4.6	91	-0.02
5	T	Aniline	1.836	1.653	10.0	88	0.08
6	M	bis(2-Chloroethyl)ether	1.226	1.199	2.2	92	0.06
7	S	Phenol-d5	1.538	1.419	7.7	89	0.09
8	M	2-Chlorophenol	1.232	1.195	3.0	92	0.13
9	C	Phenol	1.661	1.509	9.2	88	0.13
10	M	1,3-Dichlorobenzene	1.355	1.302	3.9	94	0.04
11	C	1,4-Dichlorobenzene	1.427	1.305	8.5	91	0.04
12	M	1,2-Dichlorobenzene	1.331	1.276	4.1	95	0.04
13		Benzyl Alcohol	0.843	0.734	12.9	87	0.13
14	M	bis(2-Chloroisopropyl)ether	1.871	1.703	9.0	86	0.04
15		2-Methylphenol (o-Cresol)	1.032	1.008	2.3	90	0.18
16		3,4-Methylphenol(m,p Cresol	1.570	1.501	4.4	92	0.18
17	M	N-Nitroso-di-n-propylamine	0.854	0.836	2.1	94	0.08
18	M	Hexachloroethane	0.617	0.589	4.5	93	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	94	0.03
20	S	Nitrobenzene-d5	0.366	0.368	-0.5	95	0.06
21	M	Nitrobenzene	0.362	0.360	0.6	95	0.06
22	M	Isophorone	0.690	0.638	7.5	87	0.04
23	T	N-Ethylaniline	0.652	0.545	16.4	85	0.06
24	C	2-Nitrophenol	0.187	0.210	-12.3	108	0.06
25	M	2,4-Dimethylphenol	0.315	0.293	7.0	89	0.13
26	M	bis(2-Chloroethoxy)methane	0.429	0.392	8.6	90	0.04
27		Benzoic Acid	0.208	0.172	17.3	81	0.01
28	M	1,2,4-Trichlorobenzene	0.386	0.367	4.9	89	0.03
29	C	2,4-Dichlorophenol	0.319	0.297	6.9	87	0.13
30	M	Naphthalene	1.017	0.937	7.9	91	0.03
31		4-Chloroaniline	0.458	0.418	8.7	89	0.08
32	C	Hexachlorobutadiene	0.228	0.208	8.8	86	0.00
33	C	4-Chloro-3-methylphenol	0.324	0.302	6.8	89	0.18
34		2-Methylnaphthalene	0.660	0.593	10.2	87	0.03
35	I	Acenaphthene-d10	1.000	1.000	0.0	91	0.00
36		1,2,4,5-Tetrachlorobenzene	0.648	0.632	2.5	89	-0.03
37		Hexachlorocyclopentadiene	0.385	0.375	2.6	89	0.00
38	C	2,4,6-Trichlorophenol	0.444	0.421	5.2	88	0.00
39		2,4,5-Trichlorophenol	0.468	0.447	4.5	84	-0.01
40	S	2-Fluorobiphenyl	1.358	1.269	6.6	87	0.00
41	M	2-Chloronaphthalene	1.103	1.024	7.2	89	0.00
42		2-Nitroaniline	0.363	0.383	-5.5	96	0.08
43	M	Dimethylphthalate	1.264	1.176	7.0	90	0.03
44	M	Acenaphthylene	1.681	1.578	6.1	87	0.00
45	M	2,6-Dinitrotoluene	0.283	0.340	-20.1	103	0.06
46		3-Nitroaniline	0.315	0.320	-1.6	101	0.09
47	C	Acenaphthene	0.978	0.900	8.0	87	0.00
48		Dibenzofuran	1.596	1.384	13.3	80	0.00
49	M	2,4-Dinitrotoluene	0.386	0.460	-19.2	102	0.08
50	M	4-Nitrophenol	0.287	0.202	29.6#	63	0.00
51	M	2,4-Dinitrophenol	0.169	0.235	-39.1#	137	0.11

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\OTIS\OB-09-21\OB0903.D
Acq On : 9 Nov 2021 1:35 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 21% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	M	Diethylphthalate	1.272	1.129	11.2	84	0.00
53	M	Fluorene	1.217	1.054	13.4	84	0.00
54	M	4-Chlorophenyl-phenylether	0.673	0.680	-1.0	92	0.00
55		4-Nitroaniline	0.319	0.319	0.0	96	0.11
56	I	Phenanthrene-d10	1.000	1.000	0.0	87	0.00
57	M	4,6-Dinitro-2-methylphenol	0.137	0.182	-32.8#	126	0.08
58	C	N-Nitrosodiphenylamine	0.433	0.418	3.5	87	0.00
59		1,2-Diphenylhydrazine	0.762	0.706	7.3	88	0.00
60	S	2,4,6-Tribromophenol	0.123	0.134	-8.9	95	0.04
61	M	4-Bromophenyl-phenylether	0.220	0.208	5.5	85	0.00
62	M	Hexachlorobenzene	0.241	0.256	-6.2	96	0.00
63	C	Pentachlorophenol	0.169	0.135	20.1#	71	0.00
64	M	Phenanthrene	0.993	0.888	10.6	80	0.00
65	M	Anthracene	1.038	1.006	3.1	89	0.00
66		Carbazole	0.886	0.811	8.5	85	0.06
67	M	Di-n-butylphthalate	1.285	1.230	4.3	84	0.00
68	I	Chrysene-d12	1.000	1.000	0.0	94	-0.02
69	C	Fluoranthene	1.388	1.231	11.3	85	0.00
70		Benzidine	0.742	0.508	31.5#	66	0.03
71	M	Pyrene	1.419	1.261	11.1	89	0.00
72	S	Terphenyl-d14	0.683	0.581	14.9	85	-0.02
73	M	Butylbenzylphthalate	0.671	0.583	13.1	85	-0.02
74	M	Benzo(a)anthracene	1.305	1.062	18.6	83	0.04
75	M	Chrysene	1.271	1.094	13.9	87	0.05
76		3,3'-Dichlorobenzidine	0.509	0.435	14.5	87	0.00
77	M	bis(2-Ethylhexyl)phthalate	0.976	0.812	16.8	82	-0.08
78	C	Di-n-octylphthalate	1.749	1.484	15.2	80	-0.08
79	I	Perylene-d12	1.000	1.000	0.0	94	-0.06
80	M	Benzo(b)fluoranthene	1.167	1.002	14.1	85	0.03
81	M	Benzo(k)fluoranthene	1.104	1.000	9.4	87	0.04
82	C	Benzo(a)pyrene	1.047	0.936	10.6	88	0.05
83	M	Indeno(1,2,3-cd)pyrene	1.021	0.960	6.0	92	0.00
84	M	Dibenzo(a,h)anthracene	1.026	0.964	6.0	92	0.00
85	M	Benzo(g,h,i)perylene	1.007	0.926	8.0	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\OB-09-21\OB0903.D
Acq On : 9 Nov 2021 1:35 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 9 14:22 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.34	152	161110	40.00	ng/ml	0.04
19) Naphthalene-d8	15.03	136	551601	40.00	ng/ml	0.03
35) Acenaphthene-d10	20.41	164	325513	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.01	188	592926	40.00	ng/ml	0.00
68) Chrysene-d12	33.34	240	530198	40.00	ng/ml	-0.02
79) Perylene-d12	37.66	264	580672	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.06	112	228120	47.67	mg/L	-0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 47.67%			
7) Phenol-d5	10.65	99	285699	46.13	mg/L	0.09
Spiked Amount 100.000	Range 11 - 40		Recovery = 46.13%#			
20) Nitrobenzene-d5	12.97	82	253797	50.24	mg/L	0.06
Spiked Amount 100.000	Range 36 - 103		Recovery = 50.24%			
40) 2-Fluorobiphenyl	18.45	172	516350	46.73	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 46.73%			
60) 2,4,6-Tribromophenol	22.91	330	98951	54.18	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 54.18%			
72) Terphenyl-d14	30.15	244	384965	42.53	mg/L	-0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 42.53%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.66	42	138593	42.45	mg/L	88
3) Pyridine	4.70	79	254975	47.85	mg/L	95
5) Aniline	10.50	93	332886	45.03	mg/L	86
6) bis(2-Chloroethyl)ether	10.75	93	241416	48.89	mg/L #	85
8) 2-Chlorophenol	10.83	128	240566	48.50	mg/L	95
9) Phenol	10.68	94	303821	45.40	mg/L	98
10) 1,3-Dichlorobenzene	11.17	146	262179	48.03	mg/L	97
11) 1,4-Dichlorobenzene	11.39	146	262787	45.71	mg/L	98
12) 1,2-Dichlorobenzene	11.80	146	256966	47.95	mg/L	96
13) Benzyl Alcohol	11.92	108	147844	43.54	mg/L	97
14) bis(2-Chloroisopropyl)ethe	12.27	45	342945m	45.50	mg/L	
15) 2-Methylphenol (o-Cresol)	12.32	107	203000	48.86	mg/L #	90
16) 3,4-Methylphenol(m,p Creso	12.81	107	302326	47.82	mg/L	96
17) N-Nitroso-di-n-propylamine	12.68	70	168364	48.93	mg/L	94
18) Hexachloroethane	12.73	117	118677	47.76	mg/L	93
21) Nitrobenzene	13.03	77	248504	49.72	mg/L	98
22) Isophorone	13.79	82	439808	46.25	mg/L	100
23) N-Ethylaniline	13.91	106	375942	41.82	mg/L	98
24) 2-Nitrophenol	13.96	139	144898	56.05	mg/L	95
25) 2,4-Dimethylphenol	14.32	122	201791	46.48	mg/L	98
26) bis(2-Chloroethoxy)methane	14.54	93	270225	45.63	mg/L	96
27) Benzoic Acid	15.13	122	118722m	41.45	mg/L	
28) 1,2,4-Trichlorobenzene	14.89	180	253097	47.61	mg/L	98
29) 2,4-Dichlorophenol	14.78	162	204466	46.43	mg/L	93
30) Naphthalene	15.10	128	646023	46.06	mg/L	98
31) 4-Chloroaniline	15.40	127	288094	45.63	mg/L	97
32) Hexachlorobutadiene	15.54	225	143682	45.78	mg/L	98
33) 4-Chloro-3-methylphenol	17.09	107	208065	46.57	mg/L	97
34) 2-Methylnaphthalene	17.23	142	409213	44.99	mg/L	93
36) 1,2,4,5-Tetrachlorobenzene	17.75	216	257096	48.73	mg/L	98
37) Hexachlorocyclopentadiene	17.72	237	152606	48.68	mg/L	98
38) 2,4,6-Trichlorophenol	18.23	196	171279	47.36	mg/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\OB-09-21\OB0903.D
Acq On : 9 Nov 2021 1:35 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 9 14:22 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.38	196	182059	47.79 mg/L		96
41)	2-Chloronaphthalene	18.70	162	416506	46.39 mg/L		96
42)	2-Nitroaniline	19.17	65	155676	52.73 mg/L		95
43)	Dimethylphthalate	19.85	163	478605	46.53 mg/L		100
44)	Acenaphthylene	19.95	152	642068	46.94 mg/L		98
45)	2,6-Dinitrotoluene	20.00	165	138371	59.98 mg/L	#	85
46)	3-Nitroaniline	20.49	138	130036	50.65 mg/L		92
47)	Acenaphthene	20.51	154	366042	45.99 mg/L		99
48)	Dibenzofuran	21.07	168	563031	43.34 mg/L		89
49)	2,4-Dinitrotoluene	21.24	165	187011	59.50 mg/L	#	82
50)	4-Nitrophenol	21.37	65	82100m	35.14 mg/L		
51)	2,4-Dinitrophenol	20.85	184	95708	61.81 mg/L	#	82
52)	Diethylphthalate	22.08	149	459321	44.39 mg/L		97
53)	Fluorene	22.12	166	428782	43.31 mg/L		98
54)	4-Chlorophenyl-phenylether	22.25	204	276827	50.57 mg/L	#	88
55)	4-Nitroaniline	22.44	138	129899	50.10 mg/L	#	90
57)	4,6-Dinitro-2-methylphenol	22.49	198	134800	66.33 mg/L		95
58)	N-Nitrosodiphenylamine	22.66	169	309732	48.21 mg/L		97
59)	1,2-Diphenylhydrazine	22.72	77	523117	46.30 mg/L		98
61)	4-Bromophenyl-phenylether	23.74	248	154261	47.27 mg/L		98
62)	Hexachlorobenzene	23.79	284	189485	53.15 mg/L		96
63)	Pentachlorophenol	24.53	266	100206m	40.08 mg/L		
64)	Phenanthrene	25.07	178	658332	44.73 mg/L		97
65)	Anthracene	25.24	178	745850m	48.48 mg/L		
66)	Carbazole	25.89	167	601076	45.76 mg/L		98
67)	Di-n-butylphthalate	27.24	149	911315	47.83 mg/L		99
69)	Fluoranthene	28.76	202	815725	44.33 mg/L		99
70)	Benzidine	29.42	184	673351m	68.48 mg/L		
71)	Pyrene	29.44	202	835995	44.44 mg/L		98
73)	Butylbenzylphthalate	31.91	149	386607	43.44 mg/L		90
74)	Benzo(a)anthracene	33.29	228	703839	40.69 mg/L		94
75)	Chrysene	33.43	228	724960	43.03 mg/L		96
76)	3,3'-Dichlorobenzidine	33.43	252	577085	85.46 mg/L		100
77)	bis(2-Ethylhexyl)phthalate	33.90	149	538181	41.60 mg/L		92
78)	Di-n-octylphthalate	35.95	149	983818	42.44 mg/L		99
80)	Benzo(b)fluoranthene	36.59	252	727126	42.94 mg/L		93
81)	Benzo(k)fluoranthene	36.69	252	725782	45.27 mg/L		99
82)	Benzo(a)pyrene	37.51	252	679449	44.71 mg/L		97
83)	Indeno(1,2,3-cd)pyrene	40.62	276	696795	47.03 mg/L	#	89
84)	Dibenzo(a,h)anthracene	40.74	278	699489	46.97 mg/L		95
85)	Benzo(g,h,i)perylene	41.45	276	672169	45.97 mg/L		99

(#) = qualifier out of range (m) = manual integration

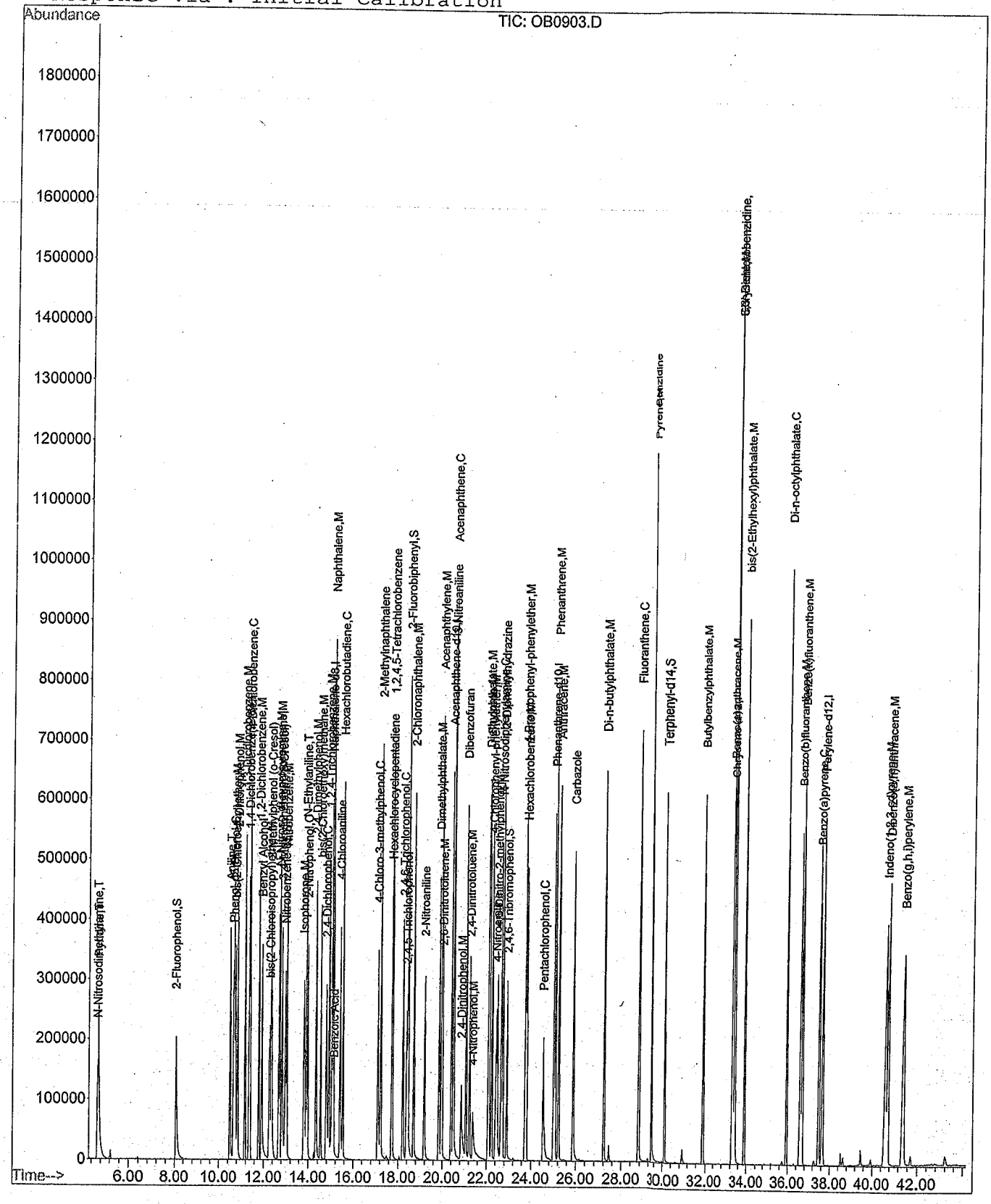
Quantitation Report

Data File : C:\OTIS\OB-09-21\OB0903.D
Acq On : 9 Nov 2021 1:35 pm
Sample : 50ppm BNA CCV / 21G1906
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 9 14:22 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0804.D
Acq On : 8 Nov 2021 2:24 pm
Sample : T116347-BLK1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 15:08 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	149406	40.00	ng/ml	0.05
19) Naphthalene-d8	15.04	136	516814	40.00	ng/ml	0.04
35) Acenaphthene-d10	20.40	164	333142	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	610214	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	523835	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	598279	40.00	ng/ml	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	121259	27.33	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 27.33%			
7) Phenol-d5	10.69	99	88140	15.35	mg/L	0.13
Spiked Amount 100.000	Range 11 - 40		Recovery = 15.35%			
20) Nitrobenzene-d5	12.98	82	352409	74.46	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 74.46%			
40) 2-Fluorobiphenyl	18.45	172	759281	67.14	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 67.14%			
60) 2,4,6-Tribromophenol	22.90	330	152912	81.36	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 81.36%			
72) Terphenyl-d14	30.16	244	619821	69.31	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 69.31%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.		
8) 2-Chlorophenol	0.00	128	0	N.D.		
9) Phenol	0.00	94	0	N.D.		
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.		
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.98	77	1224	N.D.		
22) Isophorone	13.47	82	433	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.		
34) 2-Methylnaphthalene	0.00	142	0	N.D.		
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0804.D
Acq On : 8 Nov 2021 2:24 pm
Sample : T116347-BLK1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 15:08 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.42	154	795	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	0.00	77	0	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	27.23	149	6596	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.28	184	409	N.D.	
71)	Pyrene	0.00	202	0	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	842	N.D.	
75)	Chrysene	33.32	228	842	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1663	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

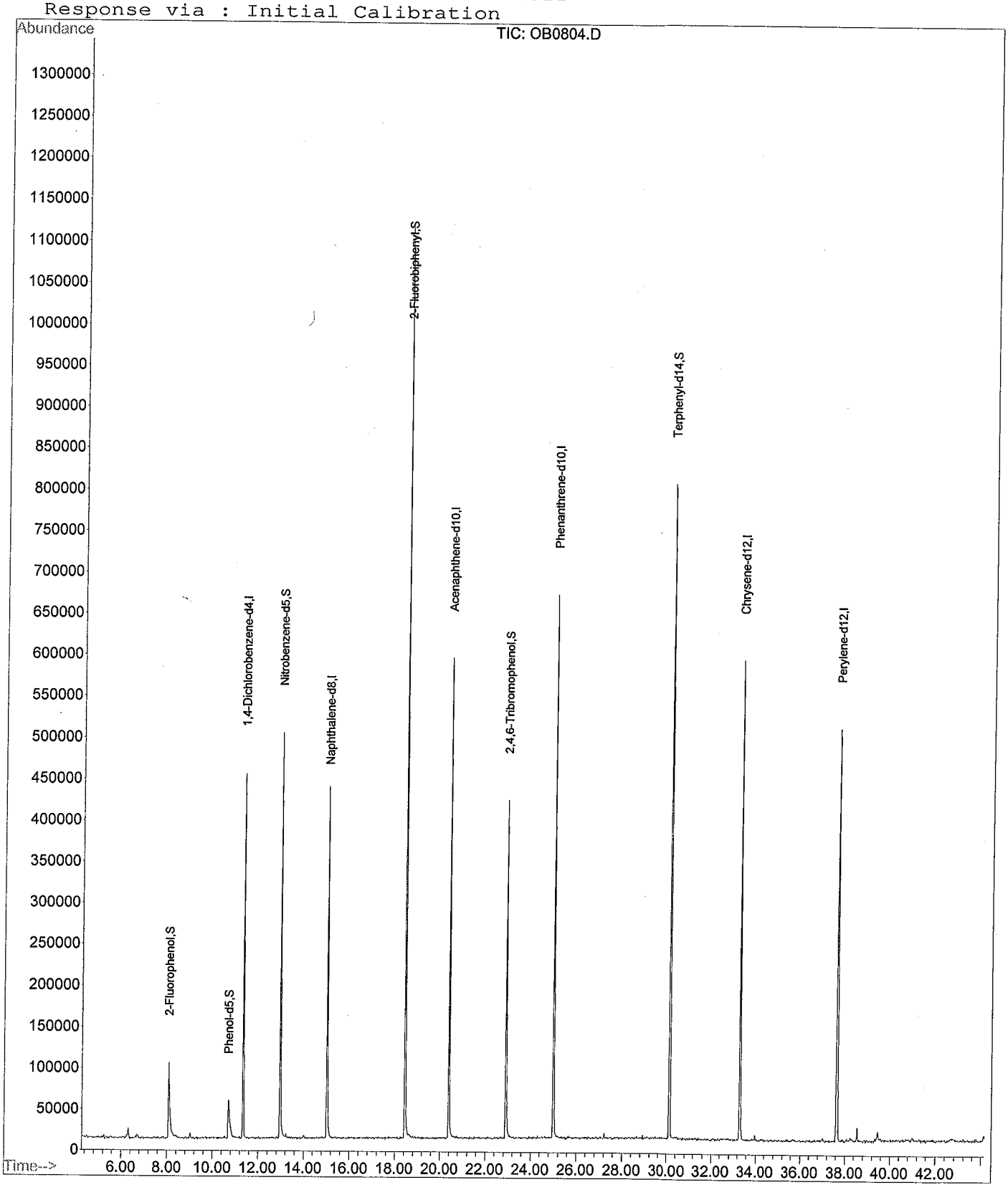
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0804.D
Acq On : 8 Nov 2021 2:24 pm
Sample : T116347-BLK1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 15:08 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0805.D
Acq On : 8 Nov 2021 3:18 pm
Sample : T116347-BS1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 16:02 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.36	152	151233	40.00	ng/ml	0.06
19) Naphthalene-d8	15.03	136	528088	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	331481	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	617854	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	536173	40.00	ng/ml	-0.04
79) Perylene-d12	37.65	264	598218	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	138870	30.92	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 30.92%			
7) Phenol-d5	10.66	99	101786	17.51	mg/L	0.10
Spiked Amount 100.000	Range 11 - 40		Recovery = 17.51%			
20) Nitrobenzene-d5	12.98	82	347728	71.90	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 71.90%			
40) 2-Fluorobiphenyl	18.46	172	812689	72.23	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 72.23%			
60) 2,4,6-Tribromophenol	22.91	330	176143	92.56	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 92.56%			
72) Terphenyl-d14	30.16	244	662796	72.41	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 72.41%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	10.81	93	6474	1.40	mg/L #	1
8) 2-Chlorophenol	10.83	128	290999	62.50	mg/L	97
9) Phenol	10.70	94	111830	17.80	mg/L	96
10) 1,3-Dichlorobenzene	11.39	146	177272	34.60	mg/L	93
11) 1,4-Dichlorobenzene	11.39	146	177272	32.85	mg/L	93
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	12.66	70	122929	38.06	mg/L	95
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.98	77	1007	N.D.		
22) Isophorone	13.42	82	672	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	14.91	122	374	N.D.		
28) 1,2,4-Trichlorobenzene	14.91	180	175444	34.47	mg/L	98
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	17.09	107	277999	64.99	mg/L	95
34) 2-Methylnaphthalene	17.09	142	239464	27.50	mg/L #	23
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0805.D
Acq On : 8 Nov 2021 3:18 pm
Sample : T116347-BS1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 16:02 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	18.64	162	493	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.51	154	296414	36.57 mg/L	95
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	21.22	165	142596	44.55 mg/L	91
50)	4-Nitrophenol	21.45	65	29513	12.40 mg/L #	19
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	0.00	77	0	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	24.53	266	161731	62.08 mg/L	93
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	27.22	149	3356	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.28	184	421	N.D.	
71)	Pyrene	29.43	202	689981	36.27 mg/L	97
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.31	228	1273	N.D.	
75)	Chrysene	33.31	228	1273	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	33.90	149	469	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1048	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

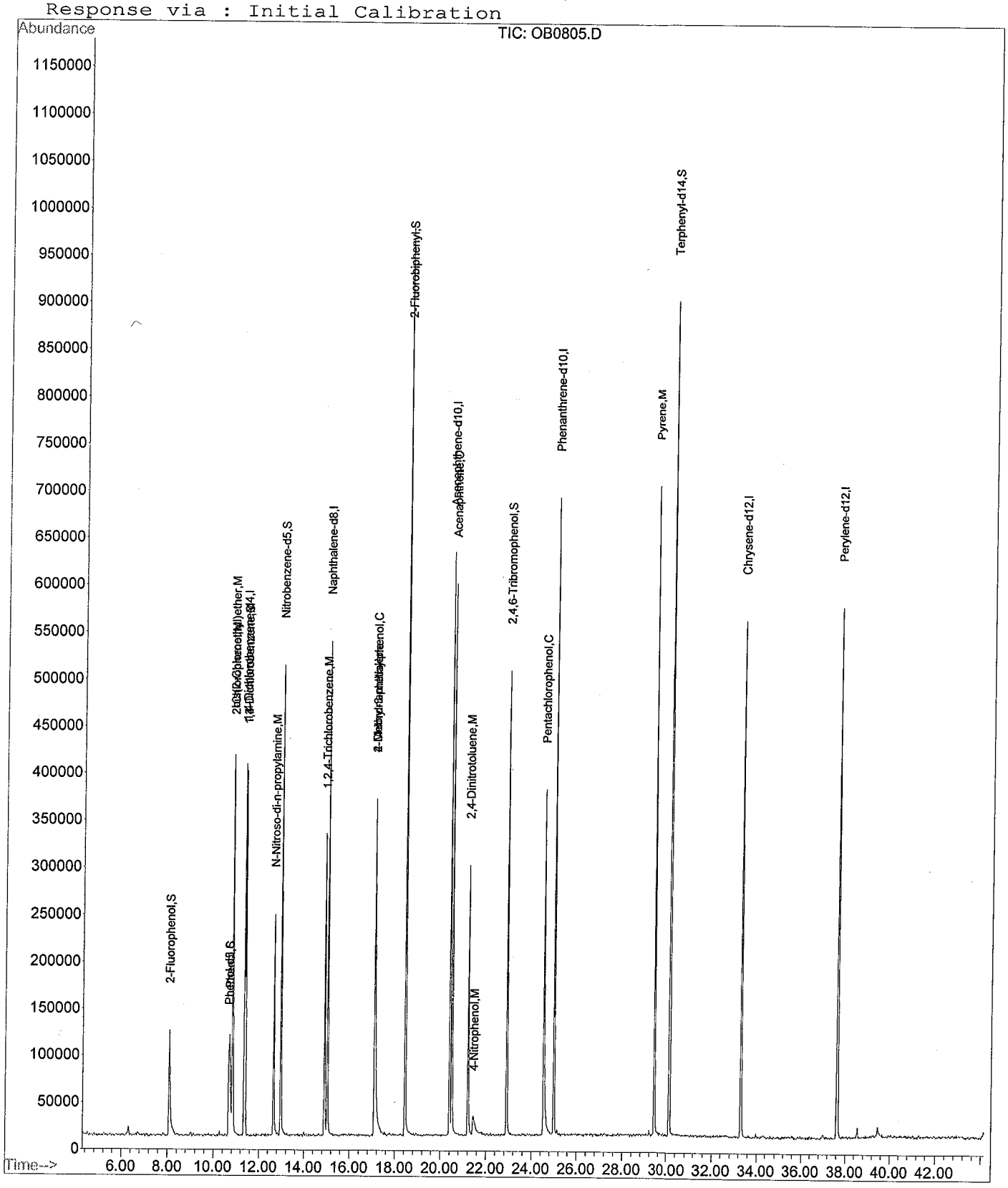
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0805.D
Acq On : 8 Nov 2021 3:18 pm
Sample : T116347-BS1
Misc : PNA/TCLP
MS Integration Params: rteint.p
Quant Time: Nov 8 16:02 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0806.D
Acq On : 8 Nov 2021 4:13 pm
Sample : 21J1202-01
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 16:57 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	149698	40.00	ng/ml	0.05
19) Naphthalene-d8	15.02	136	510106	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	334206	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	603879	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	520586	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	595512	40.00	ng/ml	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	8.09	112	94246	21.20	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 21.20%			
7) Phenol-d5	10.71	99	63391	11.02	mg/L	0.15
Spiked Amount 100.000	Range 11 - 40		Recovery = 11.02%			
20) Nitrobenzene-d5	12.97	82	301661	64.58	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 64.58%			
40) 2-Fluorobiphenyl	18.45	172	629457	55.48	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 55.48%			
60) 2,4,6-Tribromophenol	22.90	330	125201	67.31	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 67.31%			
72) Terphenyl-d14	30.16	244	402139	45.25	mg/L	-0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 45.25%			

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.
3) Pyridine	0.00	79	0	N.D.
5) Aniline	0.00	93	0	N.D.
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.
8) 2-Chlorophenol	0.00	128	0	N.D.
9) Phenol	0.00	94	0	N.D.
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.
13) Benzyl Alcohol	0.00	108	0	N.D.
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.
18) Hexachloroethane	0.00	117	0	N.D.
21) Nitrobenzene	12.97	77	1272	N.D.
22) Isophorone	13.50	82	310	N.D.
23) N-Ethylaniline	0.00	106	0	N.D.
24) 2-Nitrophenol	0.00	139	0	N.D.
25) 2,4-Dimethylphenol	0.00	122	0	N.D.
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.
27) Benzoic Acid	0.00	122	0	N.D.
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.
29) 2,4-Dichlorophenol	0.00	162	0	N.D.
30) Naphthalene	0.00	128	0	N.D.
31) 4-Chloroaniline	0.00	127	0	N.D.
32) Hexachlorobutadiene	0.00	225	0	N.D.
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.
34) 2-Methylnaphthalene	0.00	142	0	N.D.
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0806.D
Acq On : 8 Nov 2021 4:13 pm
Sample : 21J1202-01
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 16:57 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.40	154	325	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	0.00	77	0	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.28	184	600	N.D.	
71)	Pyrene	0.00	202	0	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	1041	N.D.	
75)	Chrysene	33.32	228	1041	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1660	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

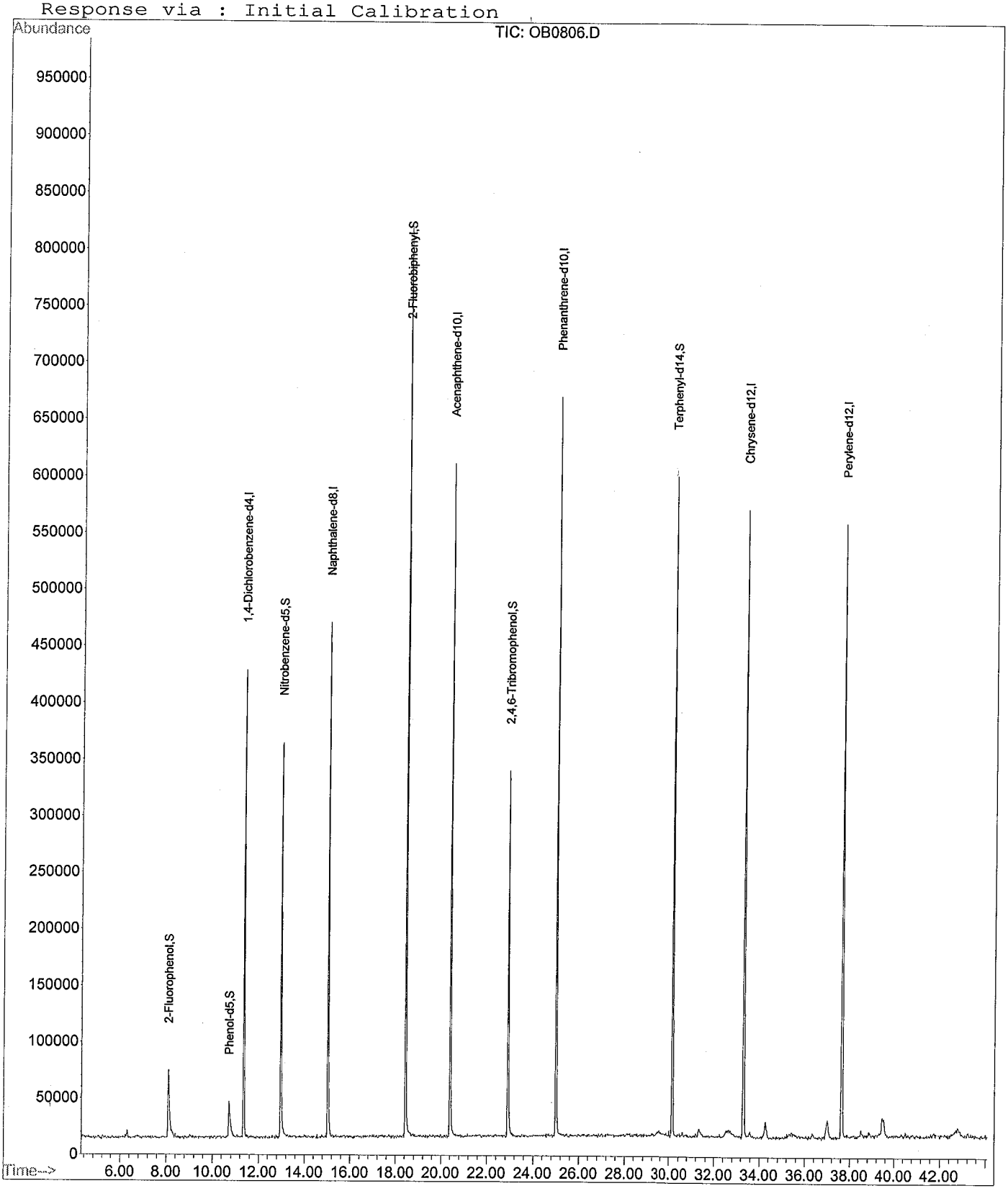
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0806.D
Acq On : 8 Nov 2021 4:13 pm
Sample : 21J1202-01
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 16:57 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0807.D
Acq On : 8 Nov 2021 5:07 pm
Sample : T116347-MS1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 17:51 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.34	152	142536	40.00	ng/ml	0.04
19) Naphthalene-d8	15.02	136	491912	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	303852	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	572587	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	480303	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	545052	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	77890	18.40	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 18.40%#			
7) Phenol-d5	10.68	99	50239	9.17	mg/L	0.12
Spiked Amount 100.000	Range 11 - 40		Recovery = 9.17%#			
20) Nitrobenzene-d5	12.96	82	253924	56.37	mg/L	0.06
Spiked Amount 100.000	Range 36 - 103		Recovery = 56.37%			
40) 2-Fluorobiphenyl	18.44	172	524574	50.86	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 50.86%			
60) 2,4,6-Tribromophenol	22.91	330	123545	70.05	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 70.05%			
72) Terphenyl-d14	30.14	244	412208	50.27	mg/L	-0.03
Spiked Amount 100.000	Range 37 - 109		Recovery = 50.27%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	10.71	93	1336	N.D.		
8) 2-Chlorophenol	10.83	128	196899	44.87	mg/L	95
9) Phenol	10.71	94	57219	9.66	mg/L	97
10) 1,3-Dichlorobenzene	11.39	146	125776	26.04	mg/L	98
11) 1,4-Dichlorobenzene	11.39	146	125776	24.73	mg/L	98
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	12.64	70	82505	27.10	mg/L	97
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.96	77	640	N.D.		
22) Isophorone	13.45	82	671	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	14.89	180	123361	26.02	mg/L	97
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	17.10	107	180545	45.31	mg/L	99
34) 2-Methylnaphthalene	17.10	142	156411	19.28	mg/L #	22
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0807.D
Acq On : 8 Nov 2021 5:07 pm
Sample : T116347-MS1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 17:51 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	18.64	162	332	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.50	154	209292	28.17 mg/L	96
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	21.21	165	94494	32.21 mg/L #	82
50)	4-Nitrophenol	21.54	65	8552	3.92 mg/L #	17
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.89	77	347	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	24.53	266	99348	41.15 mg/L	96
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.28	184	1507	N.D.	
71)	Pyrene	29.42	202	460193	27.00 mg/L #	93
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	1348	N.D.	
75)	Chrysene	33.32	228	1348	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	33.90	149	406	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1184	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

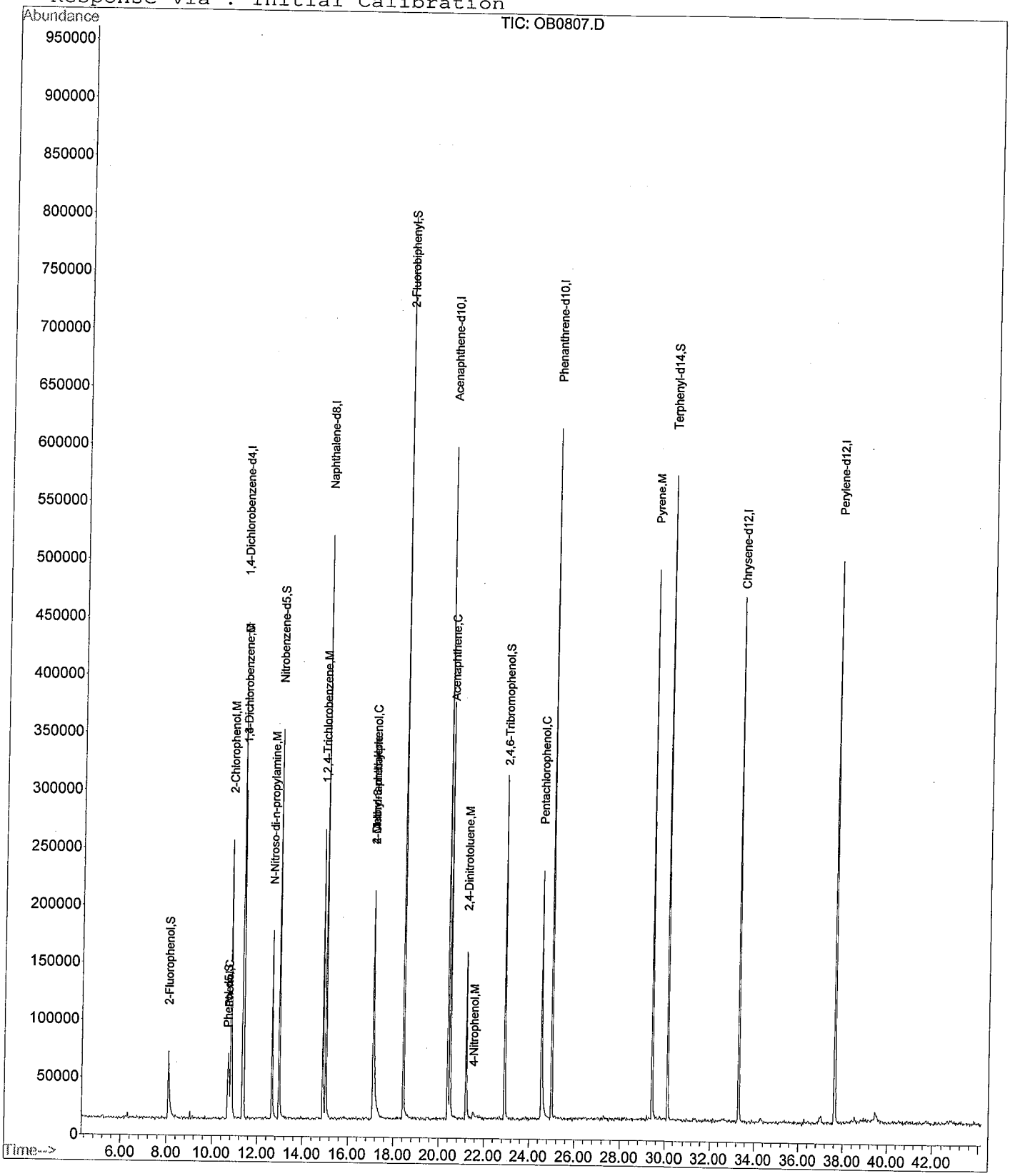
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0807.D
Acq On : 8 Nov 2021 5:07 pm
Sample : T116347-MS1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 17:51 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0808.D
Acq On : 8 Nov 2021 6:02 pm
Sample : T116347-MSD1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 18:46 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.34	152	155811	40.00	ng/ml	0.04
19) Naphthalene-d8	15.03	136	569644	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	335225	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	636743	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	527192	40.00	ng/ml	-0.04
79) Perylene-d12	37.65	264	609092	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.09	112	84919	18.35	mg/L	0.01
Spiked Amount 100.000	Range 20 - 53		Recovery = 18.35%#			
7) Phenol-d5	10.68	99	58050	9.69	mg/L	0.12
Spiked Amount 100.000	Range 11 - 40		Recovery = 9.69%#			
20) Nitrobenzene-d5	12.96	82	255640	49.01	mg/L	0.06
Spiked Amount 100.000	Range 36 - 103		Recovery = 49.01%			
40) 2-Fluorobiphenyl	18.44	172	577558	50.76	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 50.76%			
60) 2,4,6-Tribromophenol	22.91	330	134682	68.67	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 68.67%			
72) Terphenyl-d14	30.15	244	441868	49.10	mg/L	-0.03
Spiked Amount 100.000	Range 37 - 109		Recovery = 49.10%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	10.71	93	1505	N.D.		
8) 2-Chlorophenol	10.83	128	207300	43.21	mg/L	95
9) Phenol	10.71	94	67516	10.43	mg/L	95
10) 1,3-Dichlorobenzene	11.39	146	128117	24.27	mg/L	98
11) 1,4-Dichlorobenzene	11.39	146	128117	23.04	mg/L	98
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	12.64	70	88895	26.71	mg/L	96
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.96	77	982	N.D.		
22) Isophorone	13.45	82	342	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	14.89	122	384	N.D.		
28) 1,2,4-Trichlorobenzene	14.89	180	131435	23.94	mg/L	97
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	17.09	107	200789	43.52	mg/L	97
34) 2-Methylnaphthalene	17.11	142	176843	18.83	mg/L #	23
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0808.D
Acq On : 8 Nov 2021 6:02 pm
Sample : T116347-MSD1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 18:46 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.49	154	228993	27.94 mg/L	95
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	21.22	165	102661	31.72 mg/L #	80
50)	4-Nitrophenol	21.50	65	16842	7.00 mg/L #	18
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	0.00	77	0	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	24.53	266	123513	46.00 mg/L	96
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.28	184	392	N.D.	
71)	Pyrene	29.42	202	525354	28.08 mg/L #	91
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.31	228	910	N.D.	
75)	Chrysene	33.31	228	910	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1916	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

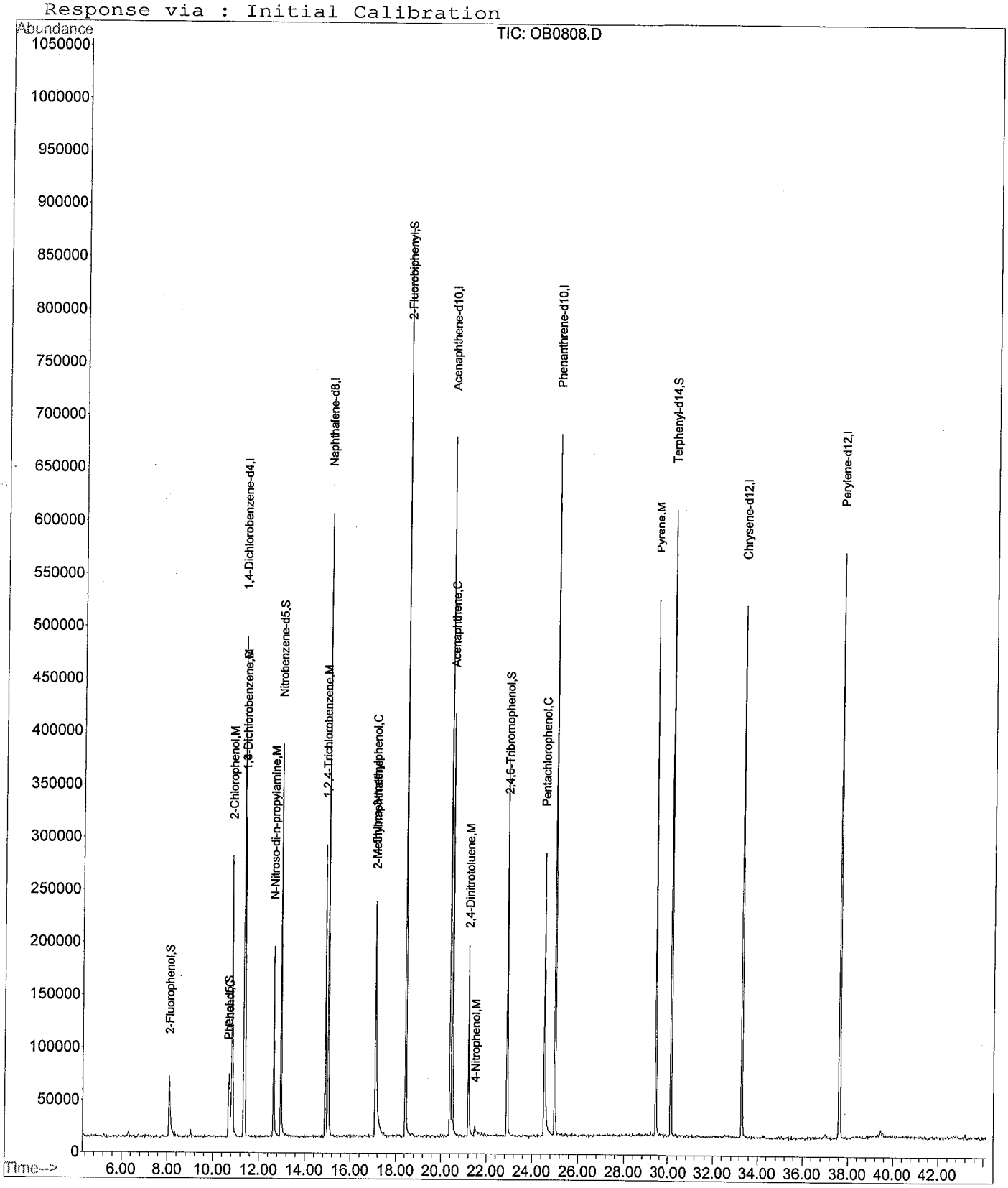
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0808.D
Acq On : 8 Nov 2021 6:02 pm
Sample : T116347-MSD1
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 18:46 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0809.D
Acq On : 8 Nov 2021 6:56 pm
Sample : 21J1202-02
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 19:40 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	151584	40.00	ng/ml	0.05
19) Naphthalene-d8	15.02	136	538319	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	393596	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	614036	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	532303	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	573706	40.00	ng/ml	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	8.09	112	82113	18.24	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 18.24%#			
7) Phenol-d5	10.73	99	53012	9.10	mg/L	0.17
Spiked Amount 100.000	Range 11 - 40		Recovery = 9.10%#			
20) Nitrobenzene-d5	12.96	82	267713	54.31	mg/L	0.05
Spiked Amount 100.000	Range 36 - 103		Recovery = 54.31%			
40) 2-Fluorobiphenyl	18.45	172	581198	43.50	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 43.50%			
60) 2,4,6-Tribromophenol	22.90	330	136601	72.23	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 72.23%			
72) Terphenyl-d14	30.16	244	363813	40.04	mg/L	-0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 40.04%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.		
8) 2-Chlorophenol	0.00	128	0	N.D.		
9) Phenol	0.00	94	0	N.D.		
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.		
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.96	77	1228	N.D.		
22) Isophorone	0.00	82	0	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	15.07	128	327	N.D.		
31) 4-Chloroaniline	15.58	127	951	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.		
34) 2-Methylnaphthalene	0.00	142	0	N.D.		
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0809.D
Acq On : 8 Nov 2021 6:56 pm
Sample : 21J1202-02
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 19:40 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	18.64	162	396	N.D.	
42)	2-Nitroaniline	19.13	65	5625	1.58 mg/L #	5
43)	Dimethylphthalate	19.79	163	957	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	20.03	165	11119	3.99 mg/L #	56
46)	3-Nitroaniline	20.38	138	1529	N.D.	
47)	Acenaphthene	20.40	154	479	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	21.41	165	305	N.D.	
50)	4-Nitrophenol	21.38	65	5430	1.92 mg/L #	1
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	22.11	149	5508	N.D.	
53)	Fluorene	22.11	166	309	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	22.58	138	1662	0.53 mg/L	92
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.67	77	3503	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	25.05	178	4321	N.D.	
65)	Anthracene	25.27	178	1042	N.D.	
66)	Carbazole	26.22	167	347	N.D.	
67)	Di-n-butylphthalate	27.22	149	2211	N.D.	
69)	Fluoranthene	28.64	202	370	N.D.	
70)	Benzidine	29.45	184	4331	N.D.	
71)	Pyrene	29.57	202	306	N.D.	
73)	Butylbenzylphthalate	31.82	149	387	N.D.	
74)	Benzo(a)anthracene	33.32	228	2390	N.D.	
75)	Chrysene	33.32	228	2390	N.D.	
76)	3,3'-Dichlorobenzidine	33.34	252	511	N.D.	
77)	bis(2-Ethylhexyl)phthalate	33.90	149	480	N.D.	
78)	Di-n-octylphthalate	36.13	149	1380	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.33	252	422	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

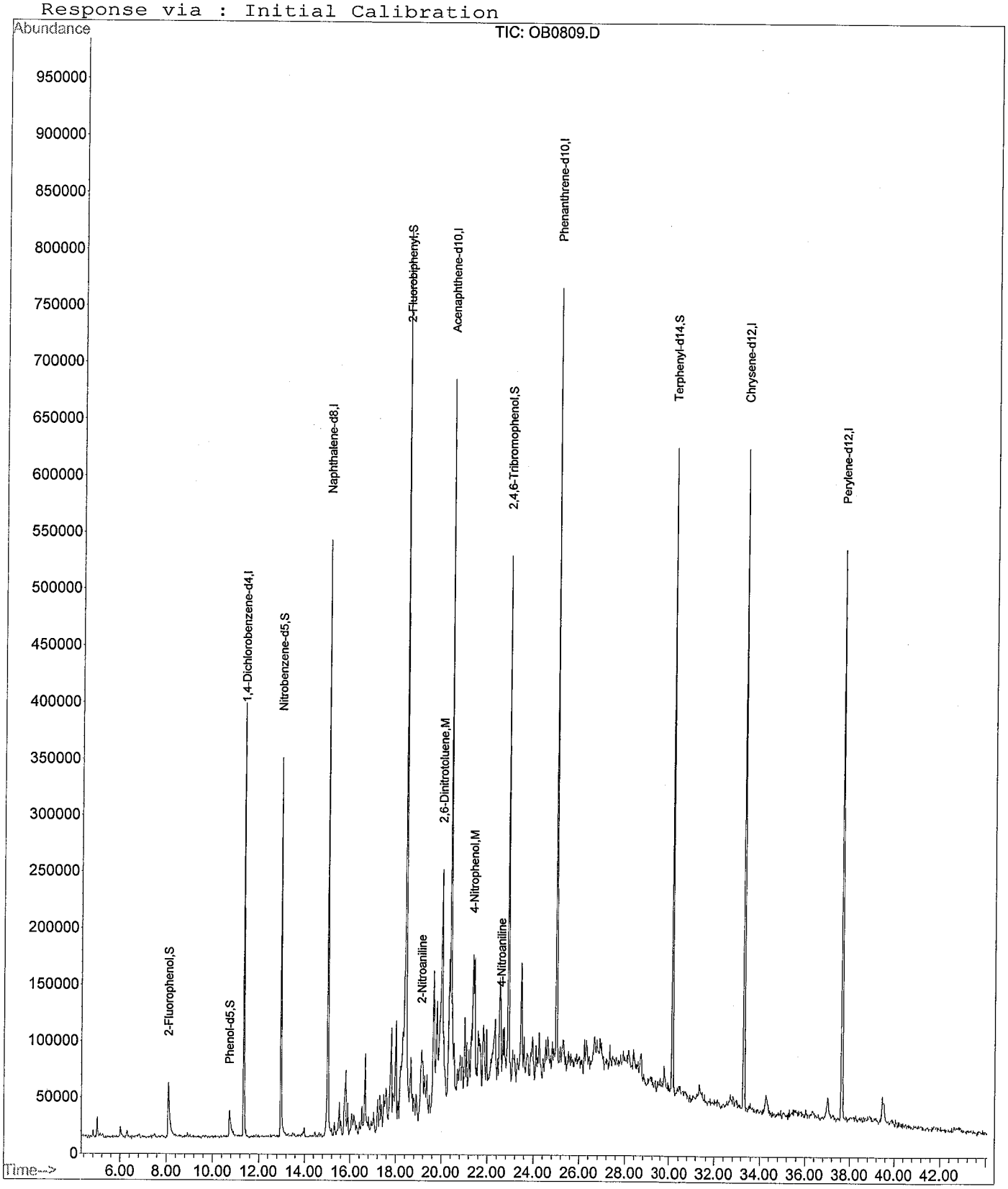
Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0809.D
Acq On : 8 Nov 2021 6:56 pm
Sample : 21J1202-02
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 19:40 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0810.D Vial: 10
Acq On : 8 Nov 2021 7:51 pm Operator: AVL
Sample : 21J1202-03 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 20:35 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.34	152	152933	40.00	ng/ml	0.04
19) Naphthalene-d8	15.02	136	558505	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	404766	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	630587	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	542608	40.00	ng/ml	-0.05
79) Perylene-d12	37.67	264	587954	40.00	ng/ml	-0.05
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	110161	24.25	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 24.25%			
7) Phenol-d5	10.69	99	79015	13.44	mg/L	0.13
Spiked Amount 100.000	Range 11 - 40		Recovery = 13.44%			
20) Nitrobenzene-d5	12.96	82	337892	66.07	mg/L	0.05
Spiked Amount 100.000	Range 36 - 103		Recovery = 66.07%			
40) 2-Fluorobiphenyl	18.46	172	738235	53.73	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 53.73%			
60) 2,4,6-Tribromophenol	22.90	330	167750	86.37	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 86.37%			
72) Terphenyl-d14	30.16	244	406611	43.89	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 43.89%			

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.
3) Pyridine	0.00	79	0	N.D.
5) Aniline	0.00	93	0	N.D.
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.
8) 2-Chlorophenol	0.00	128	0	N.D.
9) Phenol	0.00	94	0	N.D.
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.
13) Benzyl Alcohol	0.00	108	0	N.D.
14) bis(2-Chloroisopropyl)ethe	12.15	45	464	N.D.
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.
18) Hexachloroethane	0.00	117	0	N.D.
21) Nitrobenzene	12.98	77	1476	N.D.
22) Isophorone	13.86	82	635	N.D.
23) N-Ethylaniline	0.00	106	0	N.D.
24) 2-Nitrophenol	0.00	139	0	N.D.
25) 2,4-Dimethylphenol	0.00	122	0	N.D.
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.
27) Benzoic Acid	0.00	122	0	N.D.
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.
29) 2,4-Dichlorophenol	0.00	162	0	N.D.
30) Naphthalene	15.07	128	324	N.D.
31) 4-Chloroaniline	15.60	127	1461	N.D.
32) Hexachlorobutadiene	0.00	225	0	N.D.
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.
34) 2-Methylnaphthalene	0.00	142	0	N.D.
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0810.D Vial: 10
Acq On : 8 Nov 2021 7:51 pm Operator: AVL
Sample : 21J1202-03 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 20:35 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

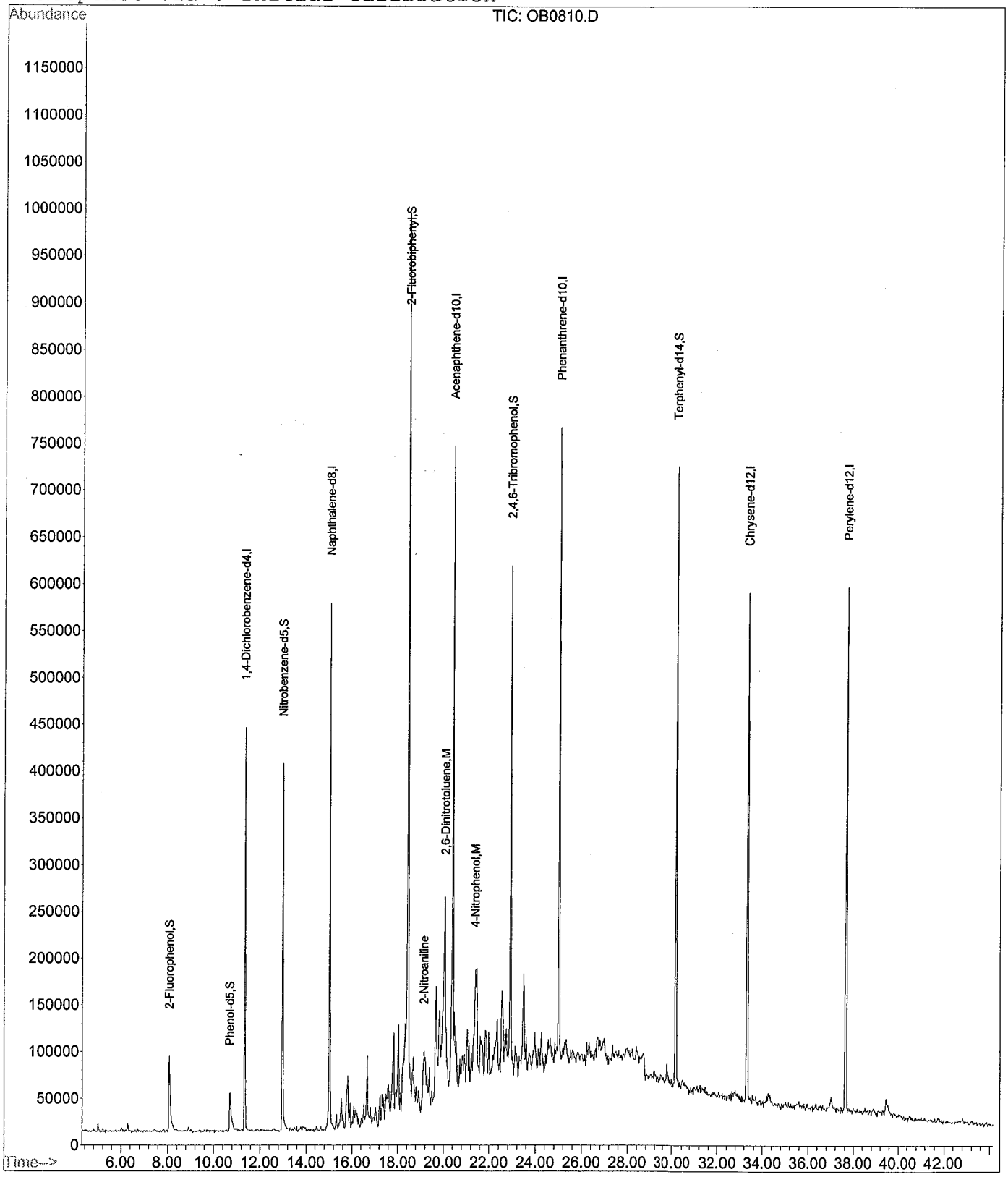
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	18.64	162	494	N.D.	
42)	2-Nitroaniline	19.15	65	7879	2.15 mg/L #	5
43)	Dimethylphthalate	19.96	163	352	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	20.06	165	15739	5.49 mg/L #	84
46)	3-Nitroaniline	20.40	138	1298	N.D.	
47)	Acenaphthene	20.40	154	629	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	21.43	165	344	N.D.	
50)	4-Nitrophenol	21.38	65	4012	1.38 mg/L #	1
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	22.09	149	3240	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	22.16	138	317	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.67	77	3282	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	25.07	178	5670	N.D.	
65)	Anthracene	25.22	178	2505	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	27.23	149	2023	N.D.	
69)	Fluoranthene	28.77	202	355	N.D.	
70)	Benzidine	29.36	184	377	N.D.	
71)	Pyrene	29.43	202	1050	N.D.	
73)	Butylbenzylphthalate	31.88	149	1055	N.D.	
74)	Benzo(a)anthracene	33.32	228	1929	N.D.	
75)	Chrysene	33.32	228	1929	N.D.	
76)	3,3'-Dichlorobenzidine	33.34	252	397	N.D.	
77)	bis(2-Ethylhexyl)phthalate	33.98	149	333	N.D.	
78)	Di-n-octylphthalate	36.08	149	1338	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.67	252	2028	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0810.D Vial: 10
Acq On : 8 Nov 2021 7:51 pm Operator: AVL
Sample : 21J1202-03 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 20:35 2021 Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0811.D Vial: 11
Acq On : 8 Nov 2021 8:45 pm Operator: AVL
Sample : 21J1202-05 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 21:29 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	155306	40.00	ng/ml	0.05
19) Naphthalene-d8	15.02	136	560159	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	340124	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	652420	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	533928	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	619147	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	125131	27.13	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 27.13%			
7) Phenol-d5	10.69	99	90471	15.15	mg/L	0.13
Spiked Amount 100.000	Range 11 - 40		Recovery = 15.15%			
20) Nitrobenzene-d5	12.98	82	355546	69.31	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 69.31%			
40) 2-Fluorobiphenyl	18.46	172	795127	68.87	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 68.87%			
60) 2,4,6-Tribromophenol	22.90	330	149426	74.36	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 74.36%			
72) Terphenyl-d14	30.16	244	592885	65.04	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 65.04%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.		
8) 2-Chlorophenol	0.00	128	0	N.D.		
9) Phenol	0.00	94	0	N.D.		
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.		
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.96	77	1195	N.D.		
22) Isophorone	13.47	82	1796	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.		
34) 2-Methylnaphthalene	0.00	142	0	N.D.		
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0811.D
Acq On : 8 Nov 2021 8:45 pm
Sample : 21J1202-05
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 21:29 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

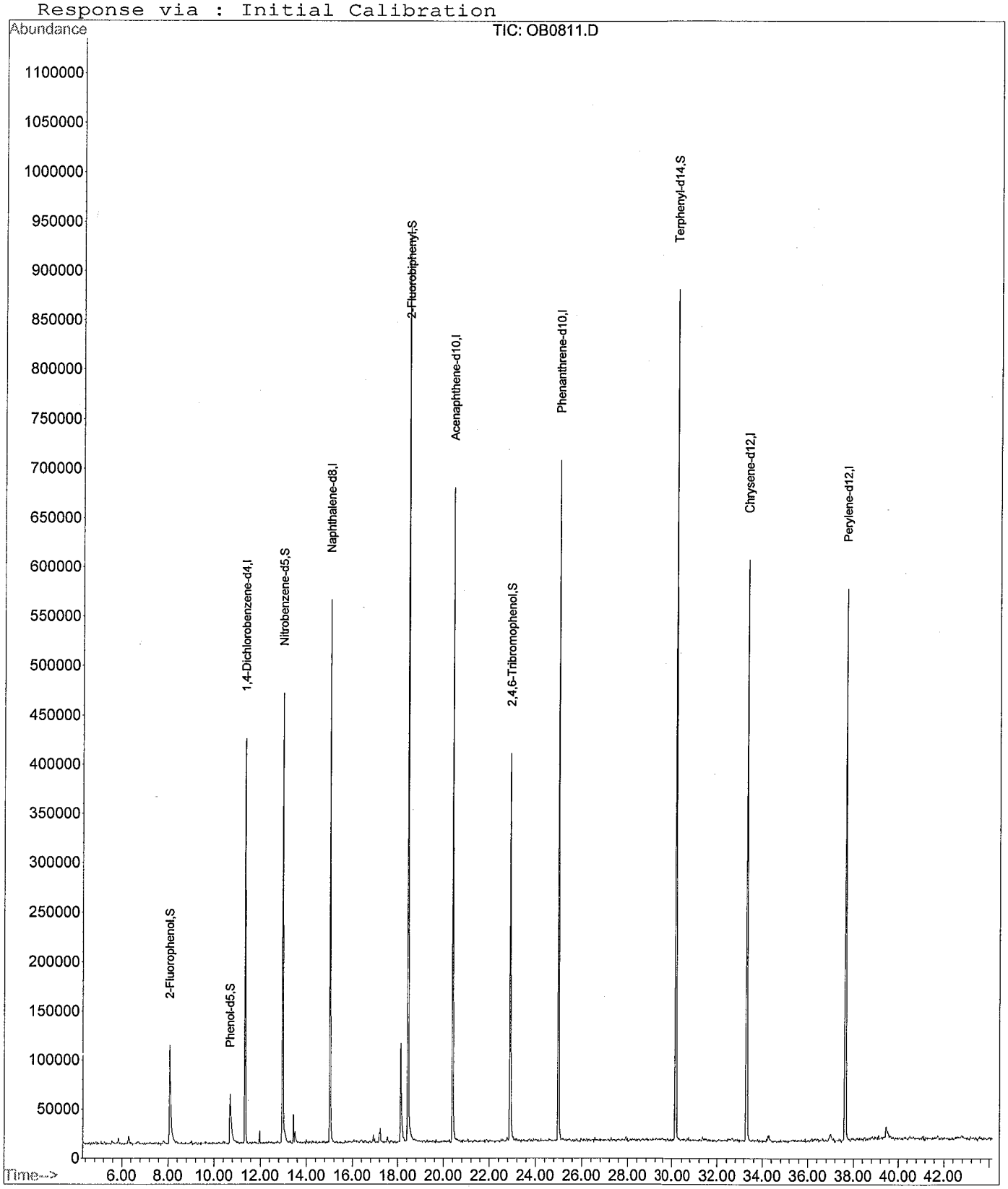
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.49	154	402	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	22.06	149	1516	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.77	77	2081	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.30	184	782	N.D.	
71)	Pyrene	29.45	202	526	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	1285	N.D.	
75)	Chrysene	33.32	228	1285	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1978	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0811.D Vial: 11
Acq On : 8 Nov 2021 8:45 pm Operator: AVL
Sample : 21J1202-05 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 21:29 2021 Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0812.D Vial: 12
Acq On : 8 Nov 2021 9:39 pm Operator: AVL
Sample : 21J1202-06 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 22:24 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.35	152	164507	40.00	ng/ml	0.05
19) Naphthalene-d8	15.02	136	615521	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	357557	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	683967	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	574726	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	677301	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	133411	27.30	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 27.30%			
7) Phenol-d5	10.69	99	98830	15.63	mg/L	0.13
Spiked Amount 100.000	Range 11 - 40		Recovery = 15.63%			
20) Nitrobenzene-d5	12.98	82	356422	63.23	mg/L	0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 63.23%			
40) 2-Fluorobiphenyl	18.46	172	827840	68.21	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 68.21%			
60) 2,4,6-Tribromophenol	22.90	330	169839	80.62	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 80.62%			
72) Terphenyl-d14	30.16	244	598916	61.04	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 61.04%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.		
8) 2-Chlorophenol	0.00	128	0	N.D.		
9) Phenol	0.00	94	0	N.D.		
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.		
18) Hexachloroethane	12.96	117	2712	1.07	mg/L #	1
21) Nitrobenzene	12.98	77	1762	N.D.		
22) Isophorone	13.55	82	360	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	15.09	128	1563	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.		
34) 2-Methylnaphthalene	17.53	142	347	N.D.		
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0812.D
Acq On : 8 Nov 2021 9:39 pm
Sample : 21J1202-06
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 22:24 2021

Vial: 12
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.40	154	489	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.87	77	729	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	29.31	184	1170	N.D.	
71)	Pyrene	29.43	202	1737	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	796	N.D.	
75)	Chrysene	33.32	228	796	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1876	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

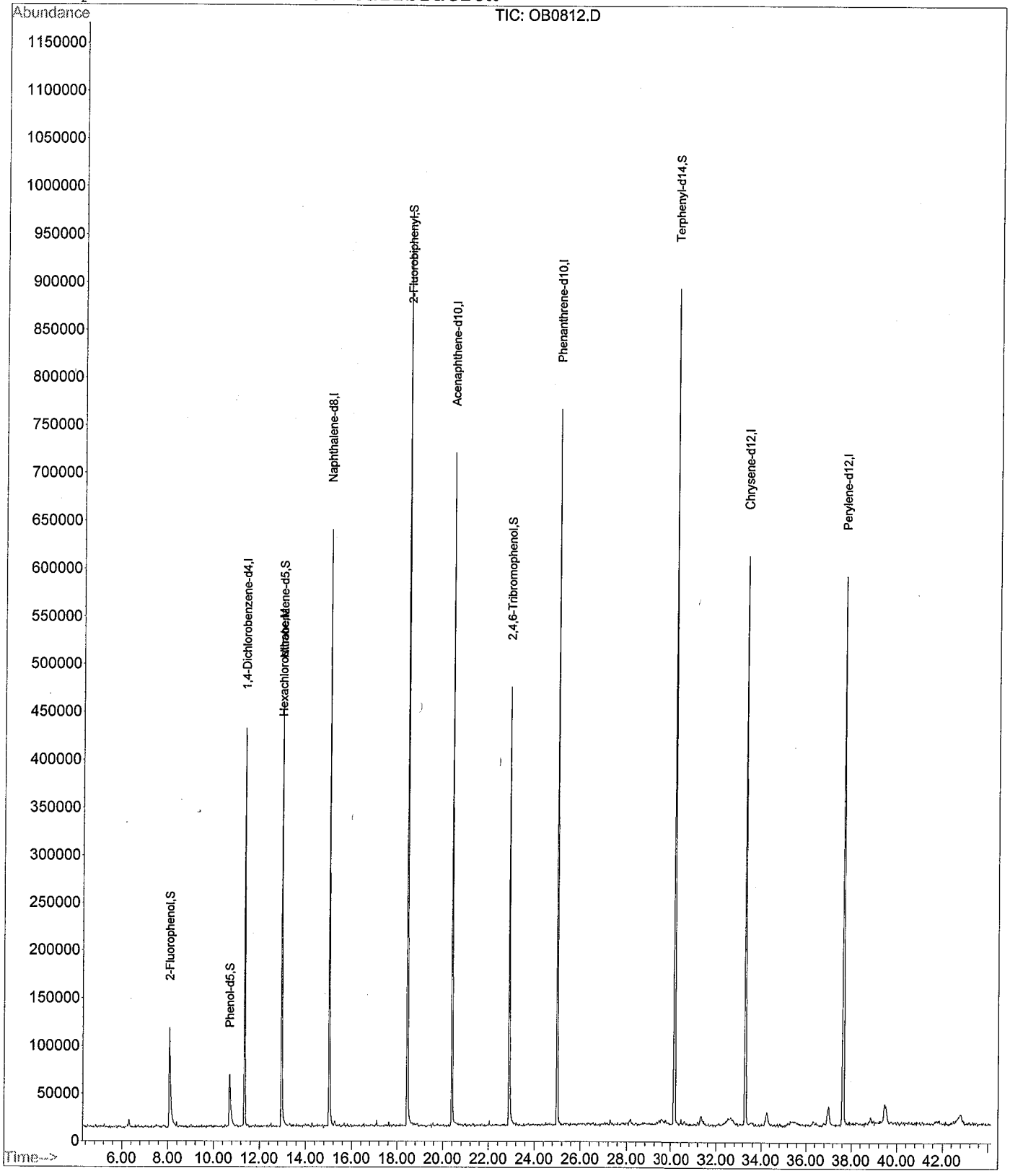
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0812.D
Acq On : 8 Nov 2021 9:39 pm
Sample : 21J1202-06
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 22:24 2021

Vial: 12
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0813.D Vial: 13
Acq On : 8 Nov 2021 10:34 pm Operator: AVL
Sample : 21J1202-07 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 23:18 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA



Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.34	152	158069	40.00	ng/ml	0.04
19) Naphthalene-d8	15.02	136	593759	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.40	164	349955	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.00	188	656139	40.00	ng/ml	0.00
68) Chrysene-d12	33.32	240	554913	40.00	ng/ml	-0.05
79) Perylene-d12	37.65	264	617174	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.07	112	122260	26.04	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 26.04%			
7) Phenol-d5	10.69	99	90342	14.87	mg/L	0.13
Spiked Amount 100.000	Range 11 - 40		Recovery = 14.87%			
20) Nitrobenzene-d5	12.96	82	325669	59.89	mg/L	0.05
Spiked Amount 100.000	Range 36 - 103		Recovery = 59.89%			
40) 2-Fluorobiphenyl	18.44	172	692132	58.26	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 58.26%			
60) 2,4,6-Tribromophenol	22.90	330	139125	68.84	mg/L	0.04
Spiked Amount 100.000	Range 30 - 105		Recovery = 68.84%			
72) Terphenyl-d14	30.16	244	503502	53.15	mg/L	-0.01
Spiked Amount 100.000	Range 37 - 109		Recovery = 53.15%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.		
3) Pyridine	0.00	79	0	N.D.		
5) Aniline	0.00	93	0	N.D.		
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.		
8) 2-Chlorophenol	0.00	128	0	N.D.		
9) Phenol	0.00	94	0	N.D.		
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
13) Benzyl Alcohol	0.00	108	0	N.D.		
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.		
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.		
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.		
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.		
18) Hexachloroethane	0.00	117	0	N.D.		
21) Nitrobenzene	12.98	77	1051	N.D.		
22) Isophorone	13.57	82	445	N.D.		
23) N-Ethylaniline	0.00	106	0	N.D.		
24) 2-Nitrophenol	0.00	139	0	N.D.		
25) 2,4-Dimethylphenol	0.00	122	0	N.D.		
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.		
27) Benzoic Acid	0.00	122	0	N.D.		
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
29) 2,4-Dichlorophenol	0.00	162	0	N.D.		
30) Naphthalene	0.00	128	0	N.D.		
31) 4-Chloroaniline	0.00	127	0	N.D.		
32) Hexachlorobutadiene	0.00	225	0	N.D.		
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.		
34) 2-Methylnaphthalene	0.00	142	0	N.D.		
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.		
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\OB-08-21\OB0813.D Vial: 13
Acq On : 8 Nov 2021 10:34 pm Operator: AVL
Sample : 21J1202-07 Inst : OTIS
Misc : PNA Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 8 23:18 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.	
41)	2-Chloronaphthalene	0.00	162	0	N.D.	
42)	2-Nitroaniline	0.00	65	0	N.D.	
43)	Dimethylphthalate	0.00	163	0	N.D.	
44)	Acenaphthylene	0.00	152	0	N.D.	
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.	
46)	3-Nitroaniline	0.00	138	0	N.D.	
47)	Acenaphthene	20.40	154	889	N.D.	
48)	Dibenzofuran	0.00	168	0	N.D.	
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.	
50)	4-Nitrophenol	0.00	65	0	N.D.	
51)	2,4-Dinitrophenol	0.00	184	0	N.D.	
52)	Diethylphthalate	0.00	149	0	N.D.	
53)	Fluorene	0.00	166	0	N.D.	
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.	
55)	4-Nitroaniline	0.00	138	0	N.D.	
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.	
58)	N-Nitrosodiphenylamine	0.00	169	0	N.D.	
59)	1,2-Diphenylhydrazine	22.89	77	402	N.D.	
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.	
62)	Hexachlorobenzene	0.00	284	0	N.D.	
63)	Pentachlorophenol	0.00	266	0	N.D.	
64)	Phenanthrene	0.00	178	0	N.D.	
65)	Anthracene	0.00	178	0	N.D.	
66)	Carbazole	0.00	167	0	N.D.	
67)	Di-n-butylphthalate	0.00	149	0	N.D.	
69)	Fluoranthene	0.00	202	0	N.D.	
70)	Benzidine	0.00	184	0	N.D.	
71)	Pyrene	0.00	202	0	N.D.	
73)	Butylbenzylphthalate	0.00	149	0	N.D.	
74)	Benzo(a)anthracene	33.32	228	982	N.D.	
75)	Chrysene	33.32	228	982	N.D.	
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.	
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.	
78)	Di-n-octylphthalate	0.00	149	0	N.D.	
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.	
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.	
82)	Benzo(a)pyrene	37.65	252	1442	N.D.	
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.	
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.	

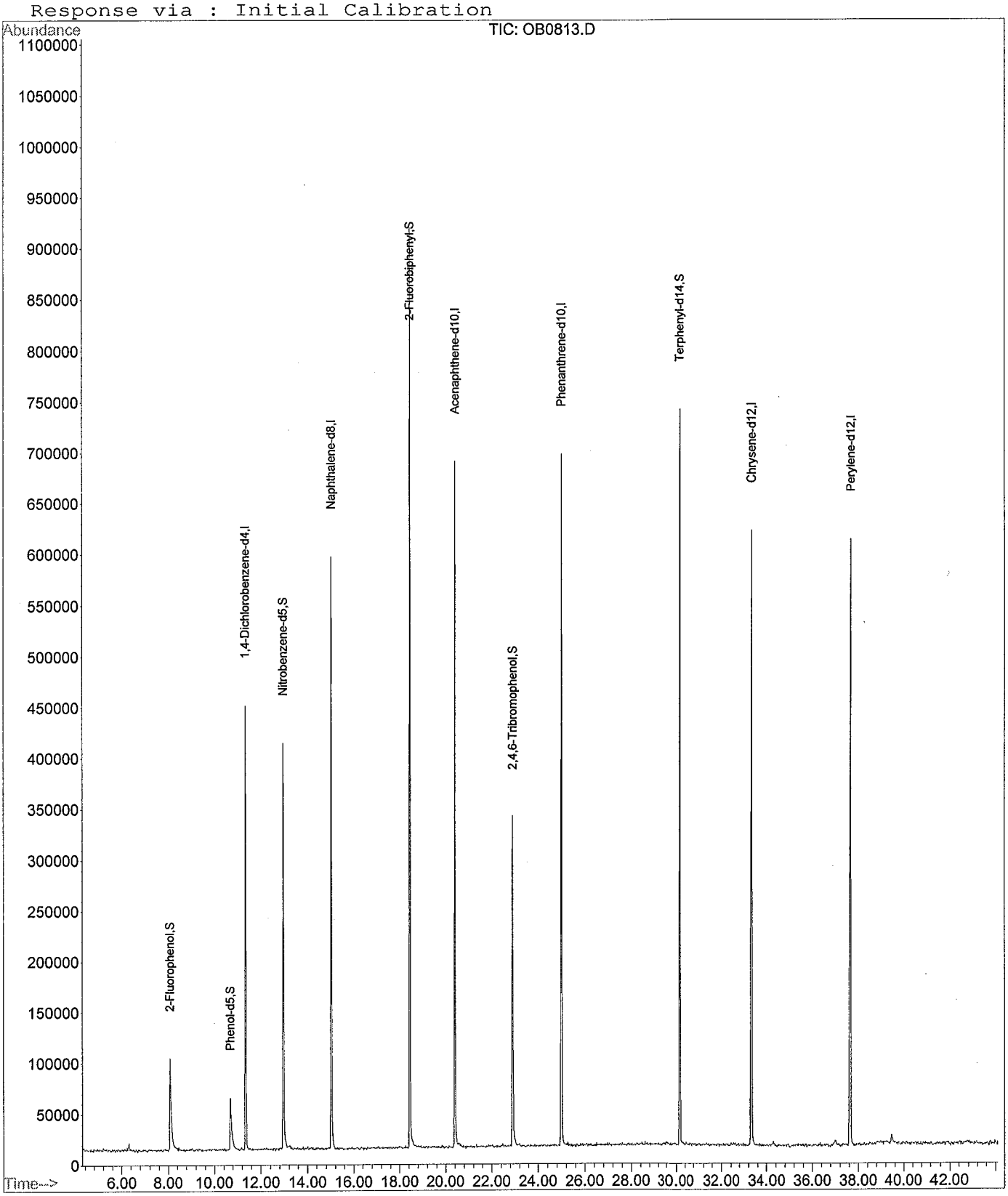
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\OB-08-21\OB0813.D
Acq On : 8 Nov 2021 10:34 pm
Sample : 21J1202-07
Misc : PNA
MS Integration Params: rteint.p
Quant Time: Nov 8 23:18 2021

Vial: 13
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270E
Last Update : Thu Nov 04 10:46:40 2021
Response via : Initial Calibration



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ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1202

8270

Calibration

Sequence Log - Instrument: OTIS
Method: 8270D / 625.1

Date: 1-27-21 Data Path: C:\OTIS\01-27-21 Analyst: AVL

AVL 1-28-21 Analytical Batch ID: 0127002 / 0127021 Dilution Solvent: NA

QC Batch ID: Curve Date: 1-27-21

Curve Method File:: C:\OTIS\01-27-21

Vial	File Name	Method	Sample ID	Dilution	Time	Tune	CC	Additional Info.
1	012701	TBNA	Reagent Blk		NA			OK
2	02	DFTPPOT	50ng DFTPP 21A1904		9:54 am	P*		*PCP tailing >2
3	03	TBNA	1ppm BNA CALB 21A1827		10:12			INITIAL CALIBRATION CURVE PASSES
4	04		5ppm 21A1825		11:06			
5	05		20ppm 21A1823		12:00 pm			
6	06		50ppm 21A1820		12:53			
7	07		80ppm 21A1818		1:47			
8	08		100ppm 21A1816		2:41			
9	09		120ppm BNA CALB 21A1814		3:35			
10	10		AVL 1-28-21 100ppm N-Ndpa ICV 102116-2005		4:28			NOT REPORTED
11	11		100ppm BNA ICV 18J2412		5:22			
12	012712	TBNA	MeCl2 Blk		NA			

AVL 1-28-21

Tune:
- DFTPP Criteria
- Peak Tailing <2
- DDT Breakdown <20%

CC:
- Int. Std. Areas: -50% to +100% of Initial Calibration
- Retent. Time Shift: ±0.50min.
- %RSD CCCs ≤20%

Sample:
- Int. Std. Areas: -50% to +100%
- Retent. Time Shift: ±0.50min.
- Surrogates

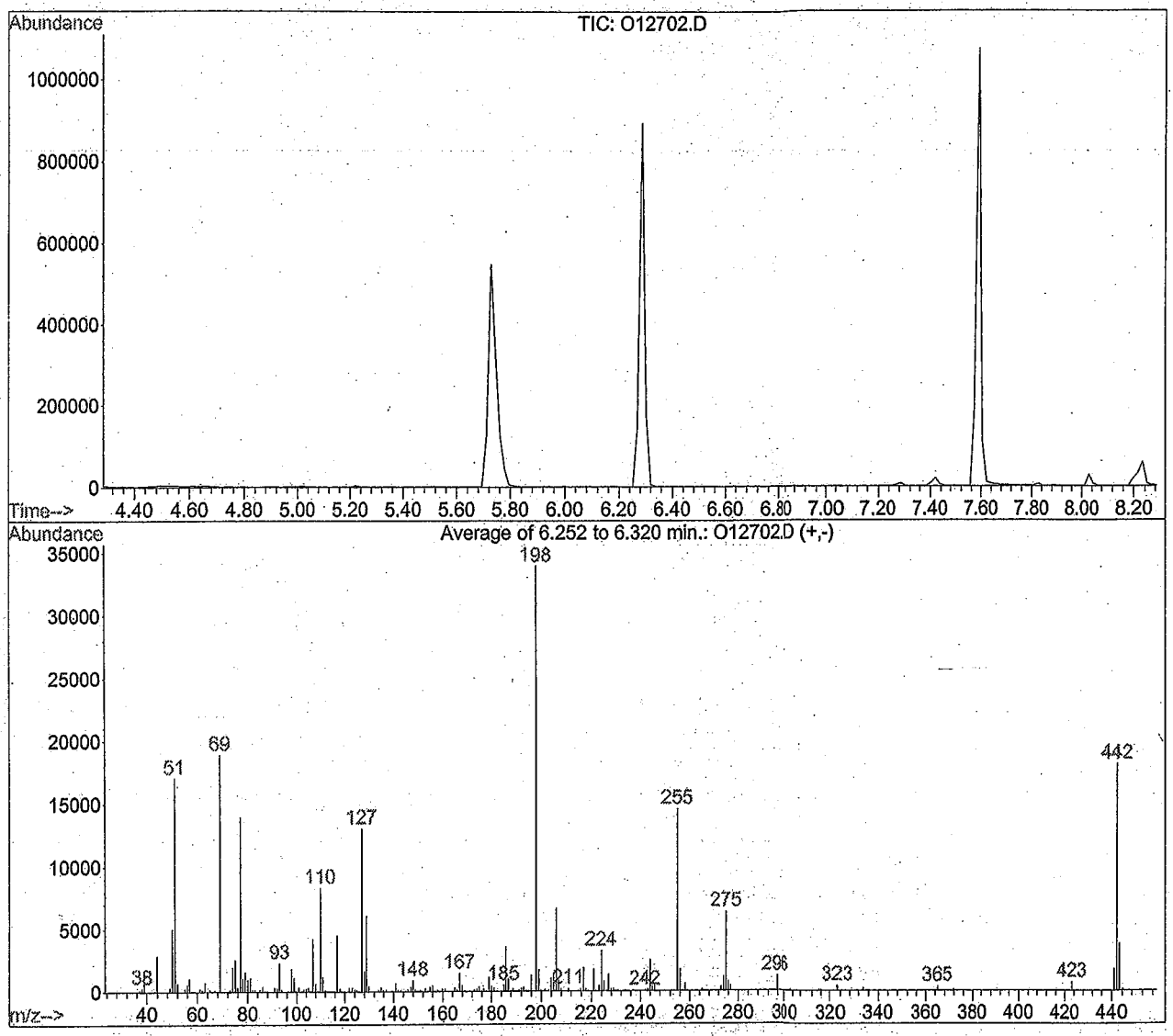
P = Pass / F = Fail

Standard ID: NA
Int. Std ID: 20T0803 (ICV)
Spike Sol. ID: NA
Surr. Sol. ID: NA

DFTPP

Data File : C:\OTIS\01-27-21\012702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00



Spectrum Information: Average of 6.252 to 6.320 min.

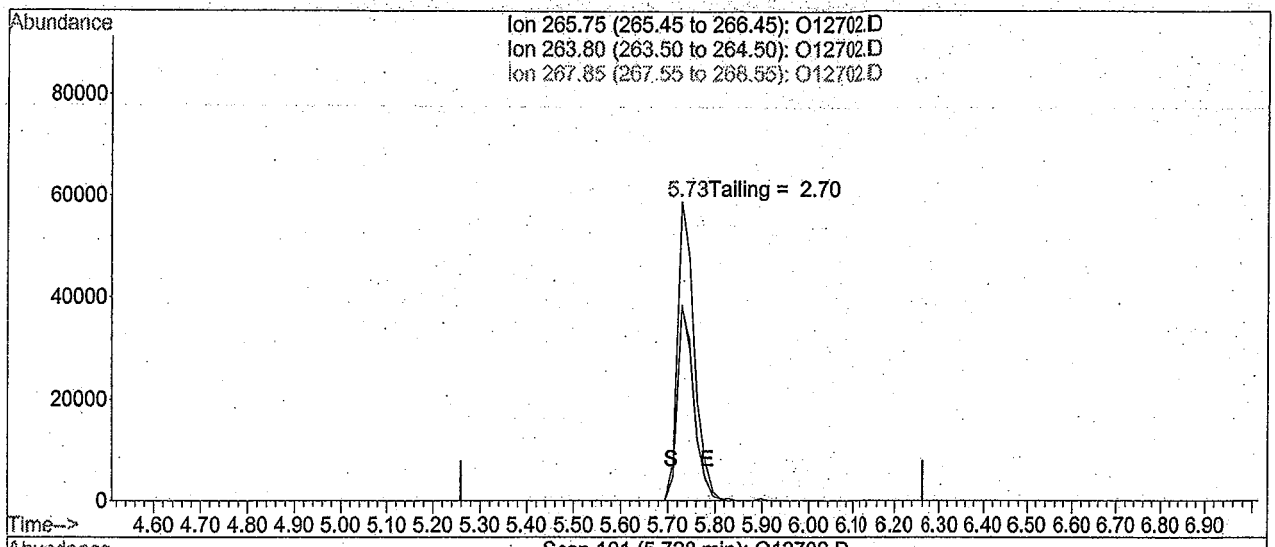
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	50.2	17069	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	38.4	13059	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	34009	PASS
199	198	5	9	5.1	1734	PASS
275	198	10	60	18.7	6375	PASS
365	198	1	100	1.1	368	PASS
441	442	0.01	24	9.6	1732	PASS
442	198	50	100	53.3	18114	PASS
443	442	15	24	21.2	3842	PASS

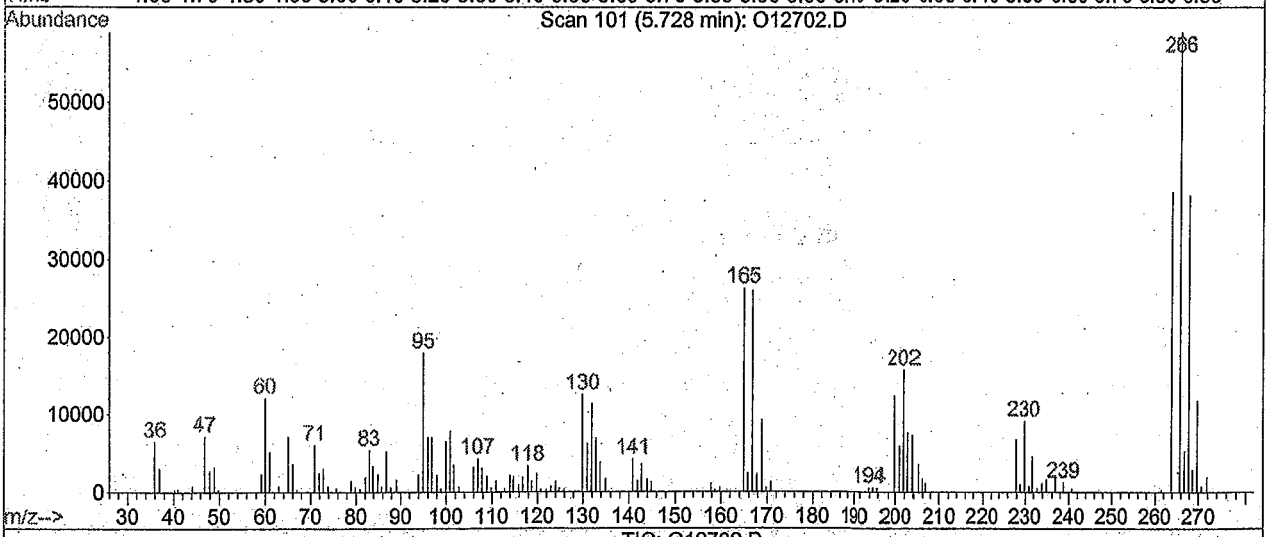
Quantitation Report (Qedit)

Data File : C:\OTIS\01-27-21\012702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:03 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Tue Jan 26 10:30:06 2021
Response via : Single Level Calibration





TIC: O12702.D

(4) PENTACHLOROPHENOL

5.73min 0.00ng

response 145538

Ion	Exp%	Act%
265.75	100	100
263.80	62.70	65.40
267.85	64.30	64.75
0.00	0.00	0.00

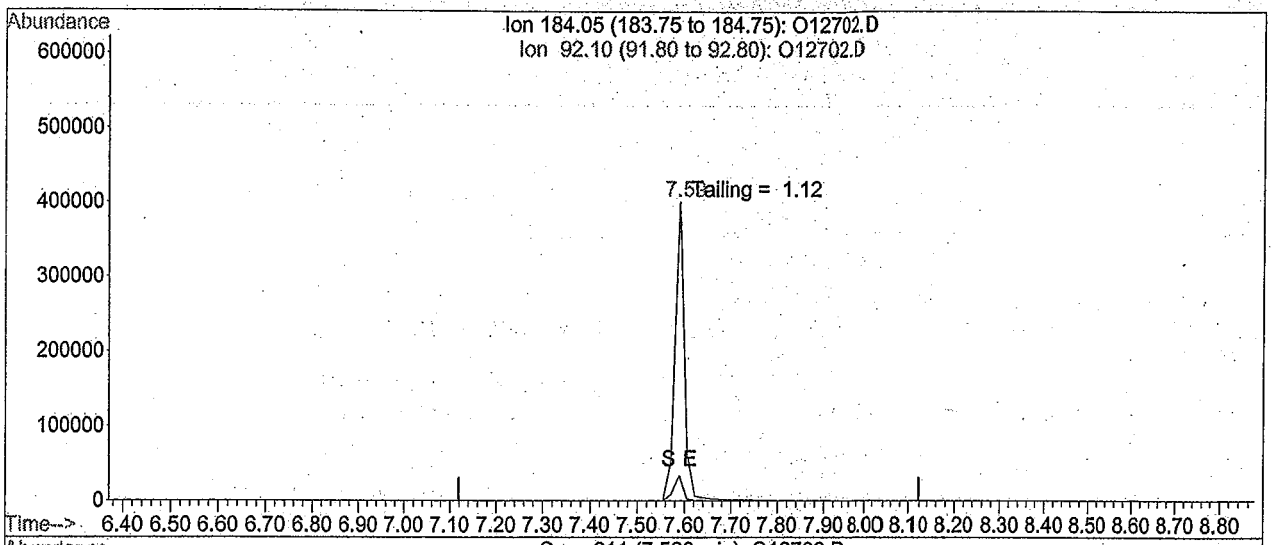
Quantitation Report (Qedit)

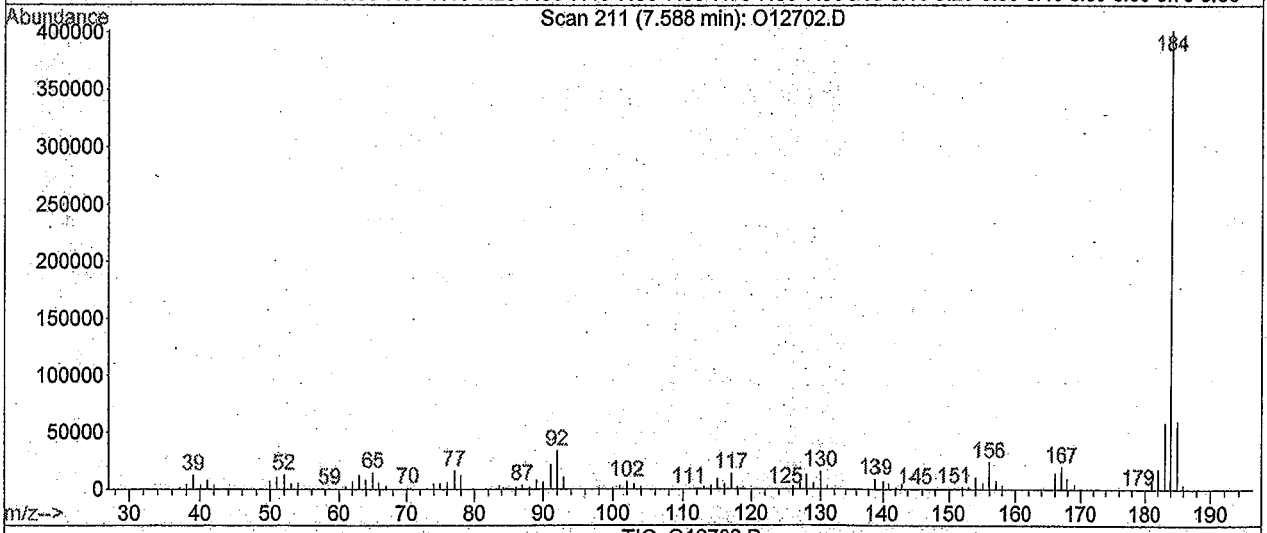
Data File : C:\OTIS\O1-27-21\O12702.D
Acq On : 27 Jan 2021 9:54 am
Sample : 50ng DFTPP STD. / 21A1904
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:03 2021

Vial: 2
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\DFTPPOT.M (RTE Integrator)
Title :
Last Update : Tue Jan 26 10:30:06 2021
Response via : Single Level Calibration





TIC: O12702.D

(5) BENZIDINE

7.59min 0.00ng

response 554421

Ion	Exp%	Act%
184.05	100	100
92.10	16.50	8.36#
0.00	0.00	0.00
0.00	0.00	0.00

DDT BREAKDOWN REPORT

Data File Path	C:\OTIS\01-27-21\
Date Acquired	1/27/1921 9:54
Acq. Method File	DFTPPOT
Sample Name	50ng DFTPP STD. / 21A1904
Instrument Name	OTIS
Data File Name	O12702.D

Name	Ret Time	Target Response
DDE	7.83	837
DDD	8.23	14218
DDT	8.60	232655

Total Area Count	247710
DDT Breakdown %	6%

Response Factor Report OTIS

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration

Calibration Files
120 =012709.D 100 =012708.D 80 =012707.D
50 =012706.D 20 =012705.D 5 =012704.D

		Compound	120	100	80	50	20	5	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	T	N-Nitrosodimethylam	0.794	0.829	0.799	0.830	0.762	0.850	0.811	3.93
3)	T	Pyridine	1.290	1.376	1.321	1.345	1.330	1.275	1.323	2.78
4)	S	2-Fluorophenol	1.149	1.209	1.142	1.219	1.194	1.215	1.188	2.89
5)	T	Aniline	1.747	1.800	1.747	1.832	1.842	2.044	1.836	5.99
6)	M	bis(2-Chloroethyl)e		1.228	1.197	1.277	1.239	1.146	1.226	3.93
7)	S	Phenol-d5	1.509	1.573	1.574	1.560	1.510	1.500	1.538	2.29
8)	M	2-Chlorophenol	1.209	1.241	1.209	1.262	1.204	1.264	1.232	2.24
9)	C	Phenol	1.630	1.659	1.657	1.681	1.666	1.676	1.661	1.09
10)	M	1,3-Dichlorobenzene	1.322	1.346	1.295	1.346	1.384	1.439	1.355	3.72
11)	C	1,4-Dichlorobenzene	1.400	1.434	1.346	1.404	1.453	1.527	1.427	4.25
12)	M	1,2-Dichlorobenzene	1.285	1.312	1.263	1.317	1.317	1.489	1.331	6.04
13)		Benzyl Alcohol	0.819	0.894	0.845	0.826	0.832		0.843	3.54
14)	M	bis(2-Chloroisoprop	1.770	1.827	1.872	1.933	1.799	2.028	1.871	5.12
15)		2-Methylphenol (o-C	0.974	1.033	1.030	1.092	1.028	1.034	1.032	3.62
16)		3,4-Methylphenol(m,	1.547	1.574	1.503	1.597	1.558	1.638	1.570	2.93
17)	M	N-Nitroso-di-n-prop	0.857	0.882	0.891	0.867	0.832	0.797	0.854	4.04
18)	M	Hexachloroethane	0.601	0.620	0.628	0.619	0.618	0.615	0.617	1.45
19)	I	Naphthalene-d8	ISTD							
20)	S	Nitrobenzene-d5	0.386	0.371	0.398	0.363	0.342	0.337	0.366	6.56
21)	M	Nitrobenzene		0.375	0.370	0.357	0.377	0.349	0.362	3.65
22)	M	Isophorone	0.695	0.671	0.714	0.685	0.705	0.668	0.690	2.65
23)	T	N-Ethylaniline	0.682	0.649	0.667	0.600	0.643	0.670	0.652	4.46
24)	C	2-Nitrophenol	0.215	0.206	0.204	0.183	0.165	0.152	0.187	13.40
25)	M	2,4-Dimethylphenol	0.320	0.304	0.332	0.310	0.313	0.310	0.315	3.21
26)	M	bis(2-Chloroethoxy)	0.447	0.426	0.441	0.407	0.442	0.413	0.429	3.84
27)		Benzoic Acid	0.231	0.215	0.226	0.199	0.167		0.208	12.39
28)	M	1,2,4-Trichlorobenz	0.394	0.380	0.386	0.388	0.392	0.374	0.386	1.91
29)	C	2,4-Dichlorophenol	0.328	0.314	0.346	0.321	0.308	0.299	0.319	5.09
30)	M	Naphthalene	1.043	0.987	1.103	0.970	0.972	1.027	1.017	5.09
31)		4-Chloroaniline	0.472	0.457	0.473	0.439	0.448	0.459	0.458	2.93
32)	C	Hexachlorobutadiene		0.219	0.251	0.226	0.226	0.202	0.228	7.45
33)	C	4-Chloro-3-methylph	0.330	0.321	0.341	0.320	0.320	0.313	0.324	3.08
34)		2-Methylnaphthalene	0.667	0.648	0.678	0.638	0.679	0.647	0.660	2.67
35)	I	Acenaphthene-d10	ISTD							
36)		1,2,4,5-Tetrachloro		0.646	0.629	0.645	0.680	0.660	0.648	2.99
37)		Hexachlorocyclopent	0.366	0.387	0.406	0.384	0.405	0.363	0.385	4.77
38)	C	2,4,6-Trichlorophen	0.426	0.432	0.457	0.436	0.446	0.469	0.444	3.65
39)		2,4,5-Trichlorophen	0.454	0.463	0.457	0.484	0.501	0.451	0.468	4.22
40)	S	2-Fluorobiphenyl	1.341	1.365	1.390	1.321	1.381	1.348	1.358	1.91
41)	M	2-Chloronaphthalene	1.080	1.087	1.120	1.045	1.157	1.132	1.103	3.68
42)		2-Nitroaniline	0.370	0.382	0.364	0.362	0.336		0.363	4.63
43)	M	Dimethylphthalate	1.215	1.239	1.269	1.193	1.318	1.348	1.264	4.74
44)	M	Acenaphthylene	1.627	1.645	1.712	1.654	1.657	1.791	1.681	3.64
45)	M	2,6-Dinitrotoluene	0.300	0.302	0.298	0.300	0.268	0.232	0.283	9.99
46)		3-Nitroaniline	0.331	0.340	0.332	0.287	0.288		0.315	8.21
47)	C	Acenaphthene	0.975	0.993	0.940	0.940	1.017	1.003	0.978	3.34
48)		Dibenzofuran	1.576	1.597	1.667	1.569	1.607	1.563	1.596	2.40
49)	M	2,4-Dinitrotoluene	0.410	0.440	0.437	0.408	0.360	0.263	0.386	17.35
50)	M	4-Nitrophenol	0.280	0.306	0.299	0.291	0.261		0.287	6.12
51)	M	2,4-Dinitrophenol	0.194	0.200	0.185	0.156	0.109		0.169	22.17
52)	M	Diethylphthalate	1.264	1.299	1.292	1.223	1.284	1.267	1.272	2.14
53)	M	Fluorene	1.189	1.222	1.295	1.141	1.259	1.192	1.217	4.53

(#) = Out of Range ### Number of calibration levels exceeded format ###

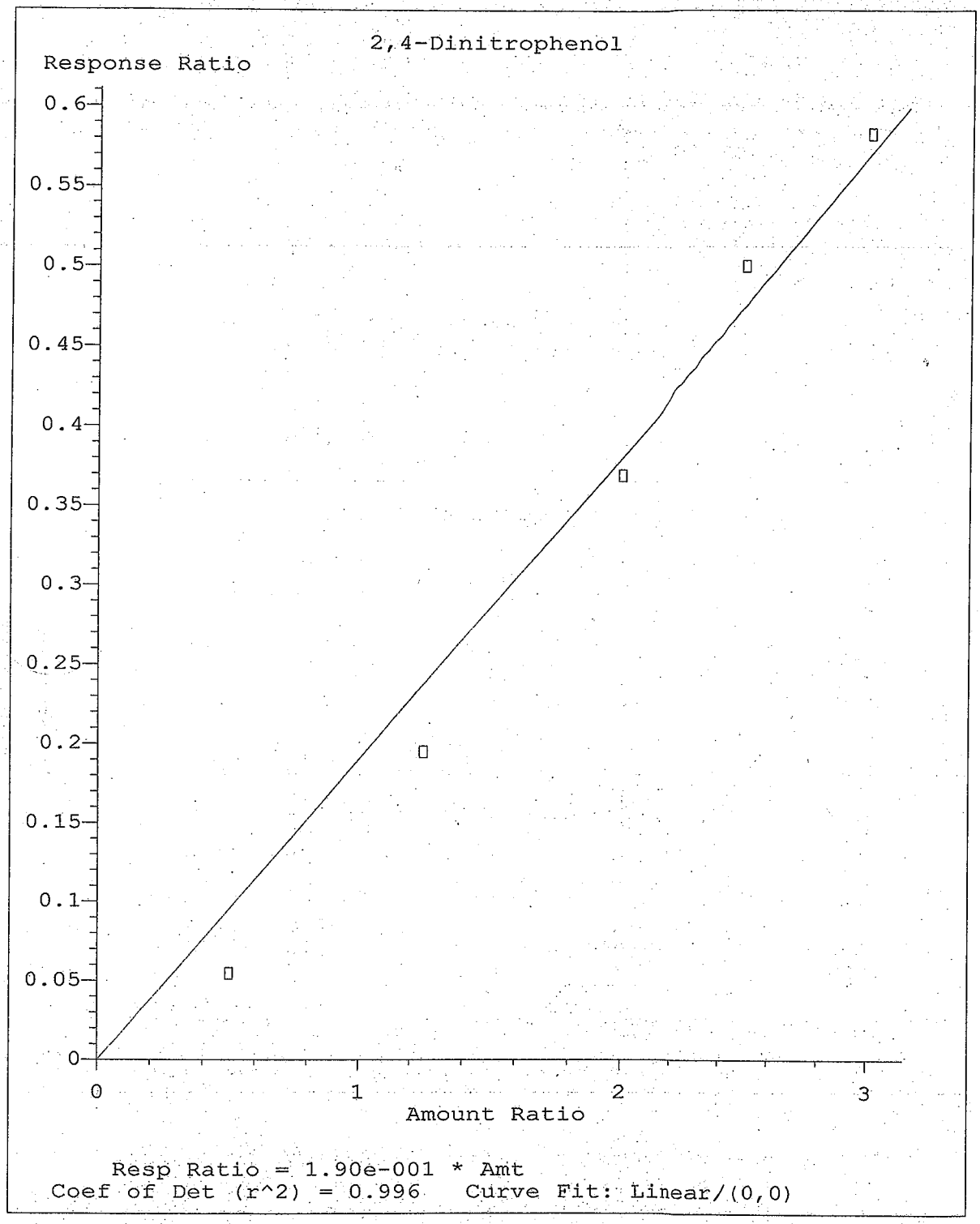
Response Factor Report OTIS

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration

Calibration Files
120 =O12709.D 100 =O12708.D 80 =O12707.D
50 =O12706.D 20 =O12705.D 5 =O12704.D

		Compound	120	100	80	50	20	5	Avg	%RSD
54)	M	4-Chlorophenyl-phen	0.657	0.680	0.671	0.671	0.694	0.663	0.673	1.96
55)		4-Nitroaniline	0.332	0.331	0.322	0.301	0.308		0.319	4.40
56)	I	Phenanthrene-d10	ISTD							
57)	M	4,6-Dinitro-2-methy	0.160	0.159	0.141	0.126	0.100		0.137	18.26
58)	C	N-Nitrosodiphenylam	0.435	0.434	0.426	0.422	0.438	0.445	0.433	1.93
59)		1,2-Diphenylhydrazi	0.803	0.794	0.818	0.701	0.739	0.718	0.762	6.43
60)	S	2,4,6-Tribromopheno	0.130	0.127	0.131	0.123	0.121	0.108	0.123	6.99
61)	M	4-Bromophenyl-pheny	0.225	0.213	0.216	0.215	0.224	0.228	0.220	2.83
62)	M	Hexachlorobenzene	0.245	0.249	0.244	0.232	0.238	0.234	0.241	2.85
63)	C	Pentachlorophenol	0.175	0.178	0.171	0.167	0.153		0.169	5.93
64)	M	Phenanthrene		1.041	1.038	0.970	0.948	1.015	0.993	4.39
65)	M	Anthracene	1.043	1.067	1.062	0.988	0.987	1.081	1.038	3.93
66)		Carbazole	0.926	0.927	0.886	0.830	0.858	0.889	0.886	4.30
67)	M	Di-n-butylphthalate	1.329	1.337	1.324	1.277	1.166	1.281	1.285	4.96
68)	I	Chrysene-d12	ISTD							
69)	C	Fluoranthene		1.438	1.440	1.354	1.317	1.392	1.388	3.45
70)		Benzidine	0.770	0.726	0.773	0.718	0.722		0.742	3.67
71)	M	Pyrene	1.462	1.462	1.462	1.334	1.373	1.423	1.419	3.85
72)	S	Terphenyl-d14	0.696	0.699	0.695	0.643	0.683	0.681	0.683	3.07
73)	M	Butylbenzylphthalat	0.704	0.714	0.678	0.640	0.658	0.634	0.671	4.94
74)	M	Benzo(a)anthracene		1.344	1.298	1.197	1.286	1.347	1.305	4.63
75)	M	Chrysene		1.333	1.265	1.184	1.249	1.300	1.271	4.09
76)		3,3'-Dichlorobenzid	0.547	0.544	0.508	0.471	0.478		0.509	7.03
77)	M	bis(2-Ethylhexyl)ph		1.008	1.019	0.926	0.986	1.018	0.976	5.29
78)	C	Di-n-octylphthalate	1.856	1.854	1.762	1.733	1.597	1.692	1.749	5.68
79)	I	Perylene-d12	ISTD							
80)	M	Benzo(b)fluoranthen		1.272	1.262	1.108	1.193	1.182	1.167	9.26
81)	M	Benzo(k)fluoranthen		1.056	1.101	1.078	1.106	1.136	1.104	3.18
82)	C	Benzo(a)pyrene		1.074	1.109	0.999	1.098	1.044	1.047	5.67
83)	M	Indeno(1,2,3-cd)pyr		1.021	1.053	0.983	1.074	1.071	1.021	5.84
84)	M	Dibenzo(a,h)anthrac		1.031	1.060	0.985	1.064	1.034	1.026	3.47
85)	M	Benzo(g,h,i)perylen		0.968	1.021	0.967	1.074	1.028	1.007	4.15

(#) = Out of Range ### Number of calibration levels exceeded format ###



Method Name: C:\HPCHEM\1\METHODS\TBNA.M
Calibration Table Last Updated: Wed Jan 27 16:22:52 2021

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012703.D Vial: 3
Acq On : 27 Jan 2021 10:12 am Operator: AVL
Sample : 1ppm BNA CALB / 21A1827 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	160446	40.00	ng/ml	-0.03
19) Naphthalene-d8	15.31	136	548778	40.00	ng/ml	-0.05
35) Acenaphthene-d10	20.71	164	352664	40.00	ng/ml	-0.05
56) Phenanthrene-d10	25.32	188	668490	40.00	ng/ml	-0.03
68) Chrysene-d12	33.66	240	524807	40.00	ng/ml	-0.07
79) Perylene-d12	38.01	264	589865	40.00	ng/ml	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	8.14	112	3802	0.83	mg/L	-0.05
Spiked Amount 100.000	Range 20 - 53		Recovery = 0.83%#			
7) Phenol-d5	10.69	99	5898	0.94	mg/L	-0.09
Spiked Amount 100.000	Range 11 - 40		Recovery = 0.94%#			
20) Nitrobenzene-d5	13.20	82	4251	0.93	mg/L	-0.07
Spiked Amount 100.000	Range 36 - 103		Recovery = 0.93%#			
40) 2-Fluorobiphenyl	18.73	172	11973	1.26	mg/L	-0.07
Spiked Amount 100.000	Range 36 - 119		Recovery = 1.26%#			
60) 2,4,6-Tribromophenol	23.16	330	1910	0.94	mg/L	-0.07
Spiked Amount 100.000	Range 30 - 105		Recovery = 0.94%#			
72) Terphenyl-d14	30.46	244	10025	1.46	mg/L	-0.07
Spiked Amount 100.000	Range 37 - 109		Recovery = 1.46%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.81	42	2676	1.10	mg/L #	70
3) Pyridine	4.89	79	4221	0.63	mg/L	86
5) Aniline	10.71	93	7378	0.92	mg/L #	87
6) bis(2-Chloroethyl)ether	10.96	93	5083	0.96	mg/L #	92
8) 2-Chlorophenol	11.00	128	4017	0.85	mg/L #	90
9) Phenol	10.73	94	6386	0.97	mg/L #	53
10) 1,3-Dichlorobenzene	11.44	146	4810	1.00	mg/L #	95
11) 1,4-Dichlorobenzene	11.66	146	5593	1.09	mg/L #	94
12) 1,2-Dichlorobenzene	12.06	146	4166	0.88	mg/L #	92
13) Benzyl Alcohol	12.06	108	2644	0.80	mg/L #	84
14) bis(2-Chloroisopropyl)ethe	12.50	45	8220m	0.83	mg/L	
15) 2-Methylphenol (o-Cresol)	12.44	107	3540	0.84	mg/L	91
16) 3,4-Methylphenol(m,p Creso	12.89	107	5608	0.94	mg/L #	60
17) N-Nitroso-di-n-propylamine	12.87	70	2320	0.64	mg/L #	58
18) Hexachloroethane	13.03	117	2169	0.99	mg/L #	55
21) Nitrobenzene	13.25	77	4758	1.09	mg/L	91
22) Isophorone	14.01	82	10150	1.20	mg/L #	84
23) N-Ethylaniline	14.14	106	8663	1.34	mg/L	94
24) 2-Nitrophenol	14.21	139	2005	0.93	mg/L #	84
25) 2,4-Dimethylphenol	14.48	122	3738	1.15	mg/L #	74
26) bis(2-Chloroethoxy)methane	14.79	93	5893	1.07	mg/L #	87
27) Benzoic Acid	14.63	122	320m	0.13	mg/L	
28) 1,2,4-Trichlorobenzene	15.17	180	5696	1.98	mg/L #	80
29) 2,4-Dichlorophenol	14.94	162	3657	1.33	mg/L	88
30) Naphthalene	15.36	128	13843	1.23	mg/L #	91
31) 4-Chloroaniline	15.63	127	6604	1.32	mg/L #	78
32) Hexachlorobutadiene	15.85	225	3307	2.37	mg/L	95
33) 4-Chloro-3-methylphenol	17.20	107	4095	1.37	mg/L #	82
34) 2-Methylnaphthalene	17.51	142	8252	1.25	mg/L	95
36) 1,2,4,5-Tetrachlorobenzene	18.03	216	5555	1.42	mg/L #	77
37) Hexachlorocyclopentadiene	18.03	237	2257	0.94	mg/L #	78
38) 2,4,6-Trichlorophenol	18.44	196	2487m	0.92	mg/L	

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.51	196	3357	1.14 mg/L	#	85
41)	2-Chloronaphthalene	18.98	162	9063	1.07 mg/L	#	85
42)	2-Nitroaniline	19.37	65	1346	0.33 mg/L	#	81
43)	Dimethylphthalate	20.10	163	10843	1.19 mg/L	#	81
44)	Acenaphthylene	20.23	152	14353	0.98 mg/L	#	93
45)	2,6-Dinitrotoluene	20.20	165	1726	0.74 mg/L	#	32
46)	3-Nitroaniline	20.67	138	1769	0.52 mg/L		99
47)	Acenaphthene	20.79	154	7842	0.95 mg/L	#	84
48)	Dibenzofuran	21.35	168	12674	1.07 mg/L	#	77
49)	2,4-Dinitrotoluene	21.43	165	1856	0.59 mg/L	#	99
50)	4-Nitrophenol	21.31	65	1539	0.54 mg/L		86
51)	2,4-Dinitrophenol	0.00	184	0	N.D.		
52)	Diethylphthalate	22.35	149	10808	1.07 mg/L		97
53)	Fluorene	22.41	166	11788	1.30 mg/L		89
54)	4-Chlorophenyl-phenylether	22.55	204	5238	1.35 mg/L	#	84
55)	4-Nitroaniline	22.55	138	1637	0.49 mg/L	#	86
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.		
58)	N-Nitrosodiphenylamine	22.92	169	6333	0.93 mg/L		91
59)	1,2-Diphenylhydrazine	23.02	77	11983	0.65 mg/L	#	85
61)	4-Bromophenyl-phenylether	24.05	248	3554	1.11 mg/L		92
62)	Hexachlorobenzene	24.09	284	3893	1.11 mg/L	#	88
63)	Pentachlorophenol	24.76	266	1895	0.83 mg/L	#	85
64)	Phenanthrene	25.37	178	15819	1.12 mg/L	#	93
65)	Anthracene	25.53	178	16661	1.12 mg/L	#	86
66)	Carbazole	26.12	167	15404	1.07 mg/L	#	79
67)	Di-n-butylphthalate	27.54	149	20392	0.88 mg/L	#	93
69)	Fluoranthene	29.06	202	18221	1.44 mg/L	#	78
70)	Benzidine	29.67	184	17997	2.62 mg/L	#	92
71)	Pyrene	29.74	202	18775	1.38 mg/L	#	69
73)	Butylbenzylphthalate	32.24	149	7366	0.87 mg/L	#	71
74)	Benzo(a)anthracene	33.61	228	17813m	1.38 mg/L		
75)	Chrysene	33.73	228	17012	1.34 mg/L		94
76)	3,3'-Dichlorobenzidine	33.71	252	13986	2.60 mg/L	#	90
77)	bis(2-Ethylhexyl)phthalate	34.29	149	11790	0.99 mg/L	#	78
78)	Di-n-octylphthalate	36.33	149	19702	0.86 mg/L		95
80)	Benzo(b)fluoranthene	36.91	252	14489m	1.06 mg/L		
81)	Benzo(k)fluoranthene	36.99	252	16965	1.40 mg/L		94
82)	Benzo(a)pyrene	37.80	252	14117m	1.13 mg/L		
83)	Indeno(1,2,3-cd)pyrene	41.02	276	13580m	1.13 mg/L		
84)	Dibenzo(a,h)anthracene	41.15	278	14480	1.28 mg/L	#	80
85)	Benzo(g,h,i)perylene	41.86	276	14531	1.27 mg/L	#	76

(#) = qualifier out of range (m) = manual integration

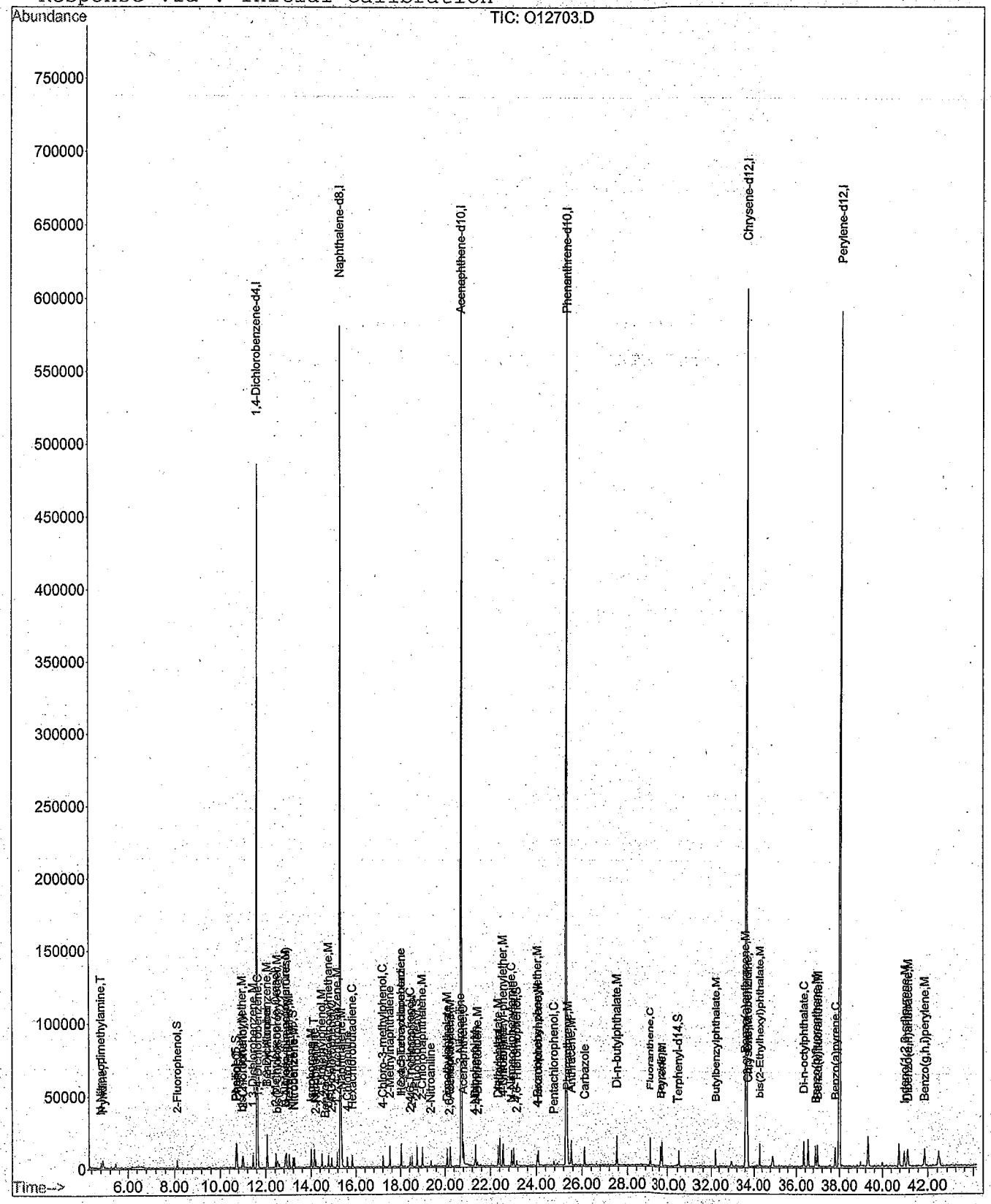
Quantitation Report

Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:02:15 2021
Response via : Initial Calibration



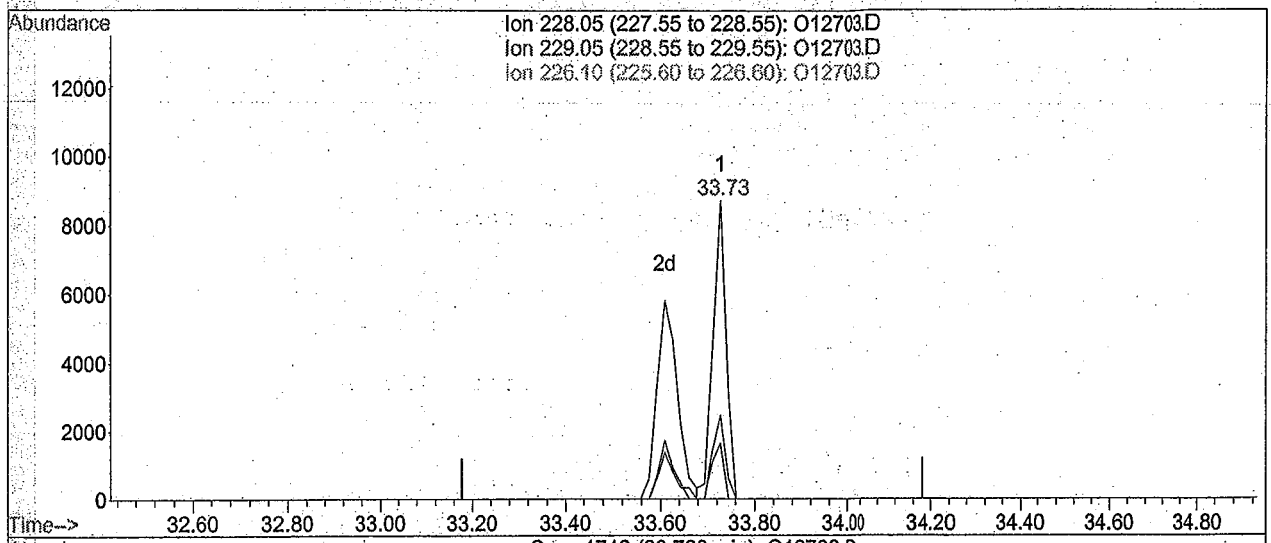
Quantitation Report (Qedit)

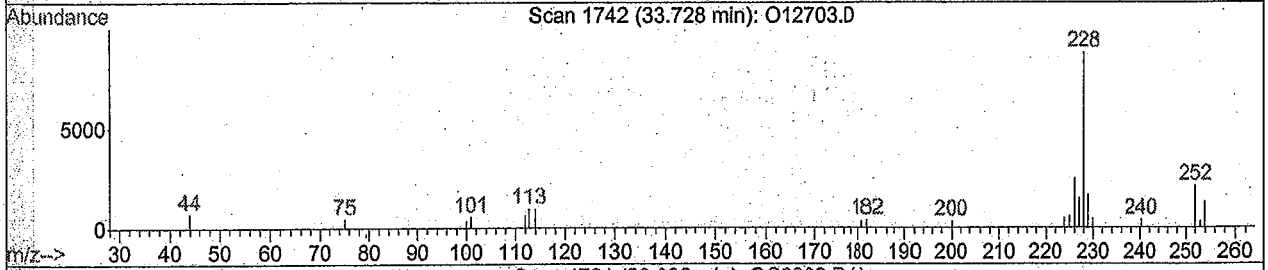
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 10:58 2021

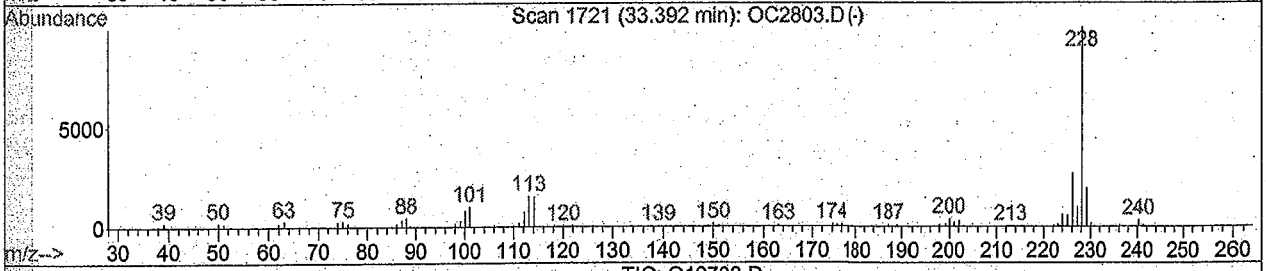
Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(74) Benzo(a)anthracene (M)

33.73min 1.32mg/L

response 17012

BEFORE

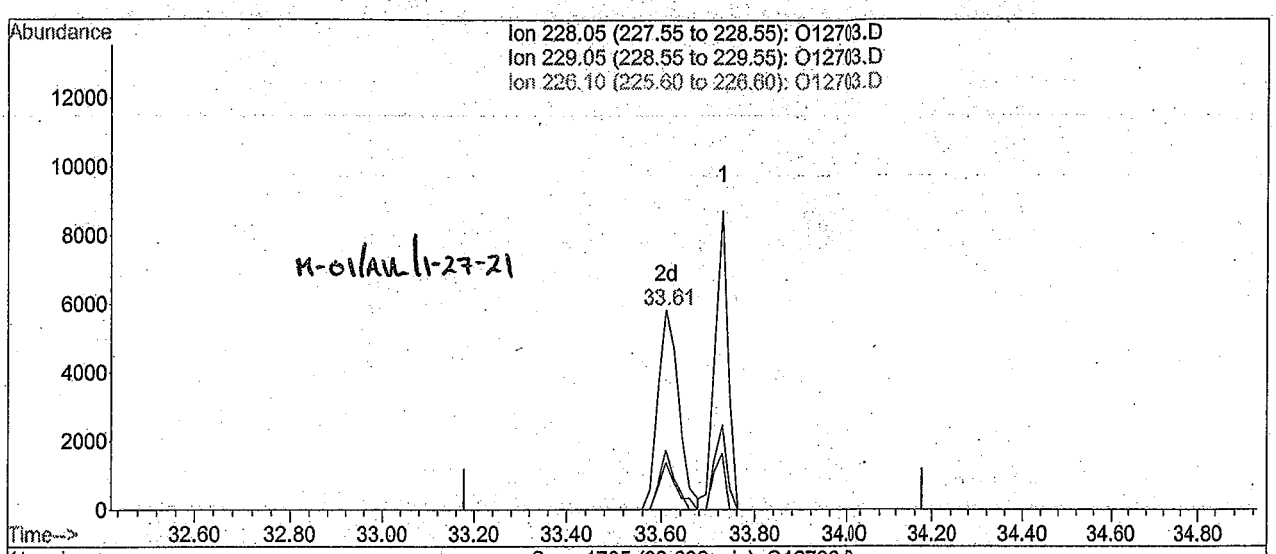
Ion	Exp%	Act%
228.05	100	100
229.05	19.60	18.70
226.10	27.20	28.28
0.00	0.00	0.00

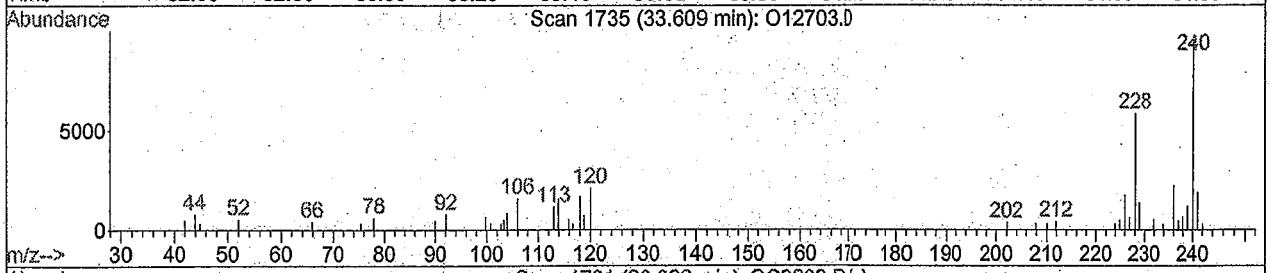
Quantitation Report (Qedit)

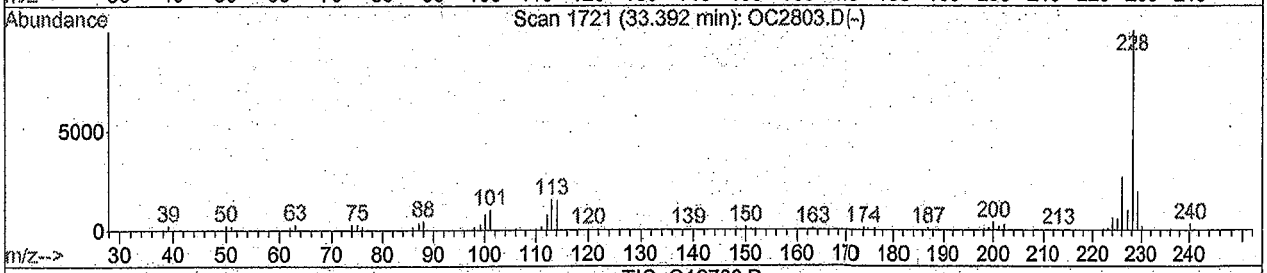
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(74) Benzo(a)anthracene (M)

33.61min 1.38mg/L m

response 17813

AFTER

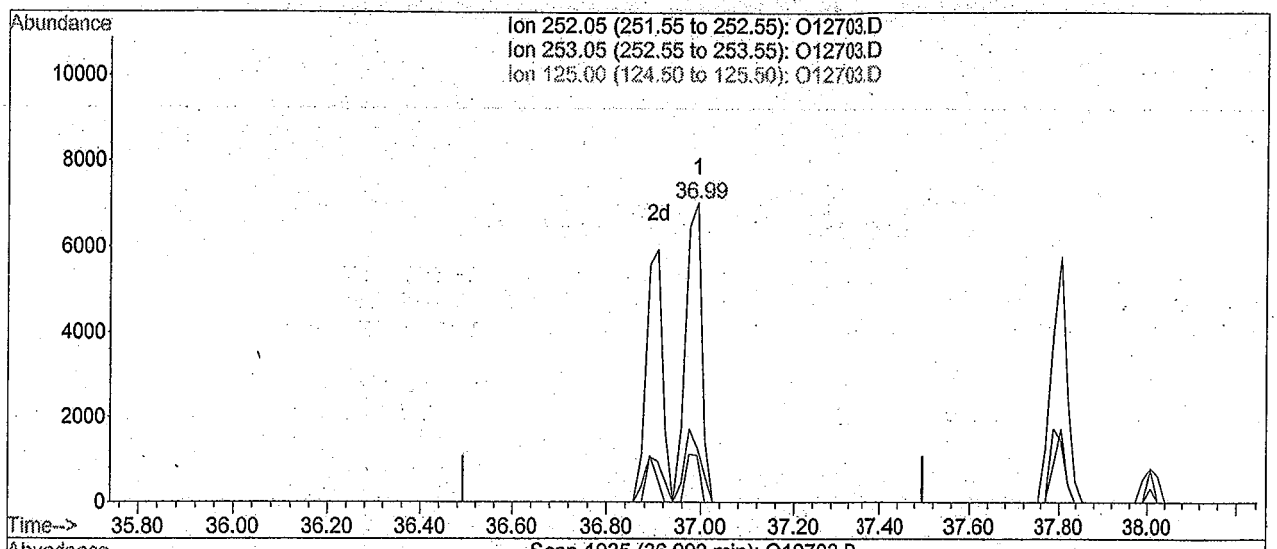
Ion	Exp%	Act%
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226.10	27.20	29.60
0.00	0.00	0.00

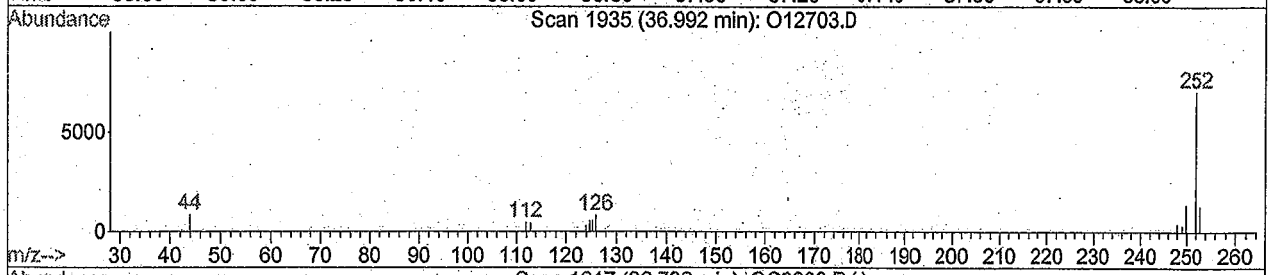
Quantitation Report (Qedit)

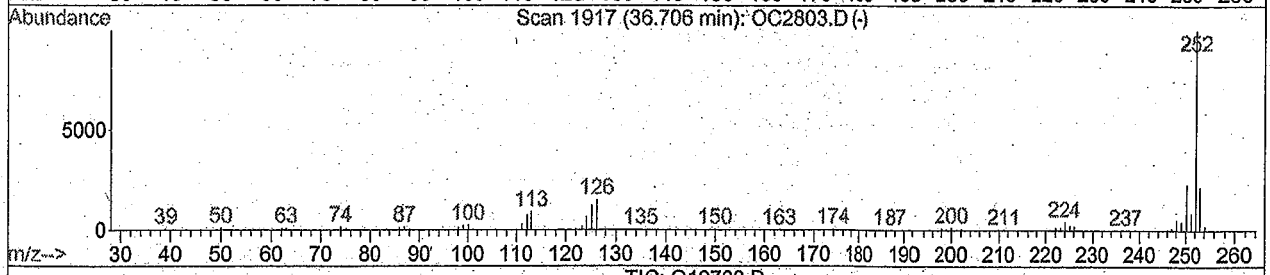
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(80) Benzo(b)fluoranthene (M)

36.99min 1.24mg/L

response 16965

BEFORE

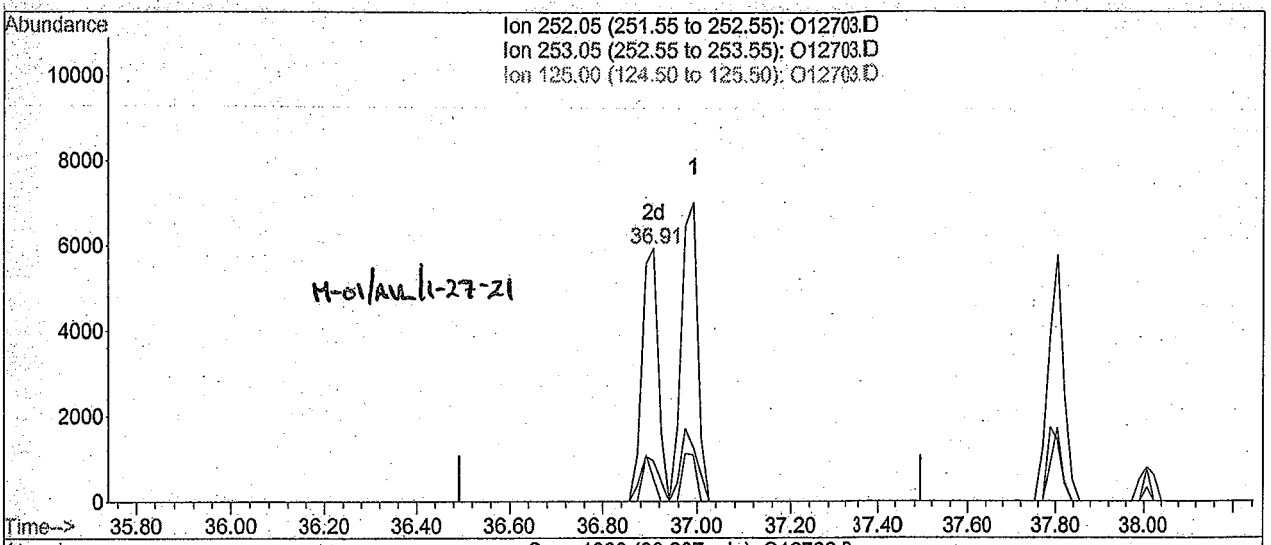
Ion	Exp%	Act%
252.05	100	100
253.05	22.40	18.22
125.00	25.50	15.58#
0.00	0.00	0.00

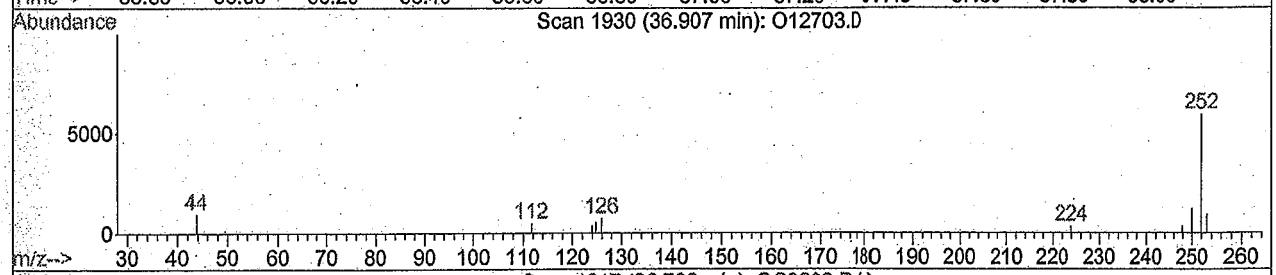
Quantitation Report (Qedit)

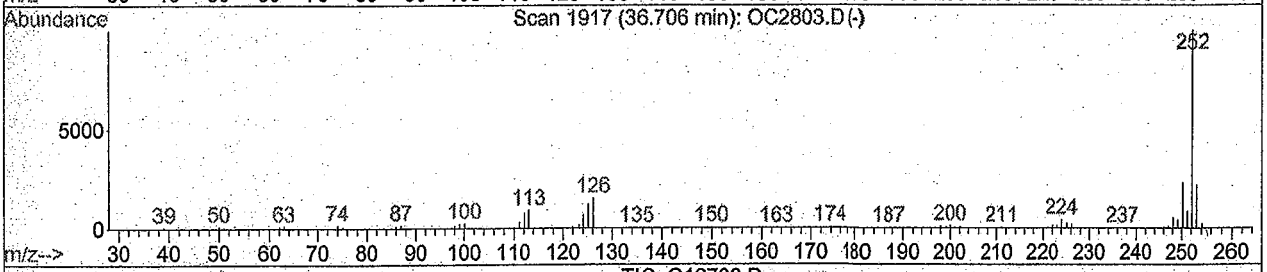
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(80) Benzo(b)fluoranthene (M)

36.91min 1.06mg/L m

response 14489

AFTER

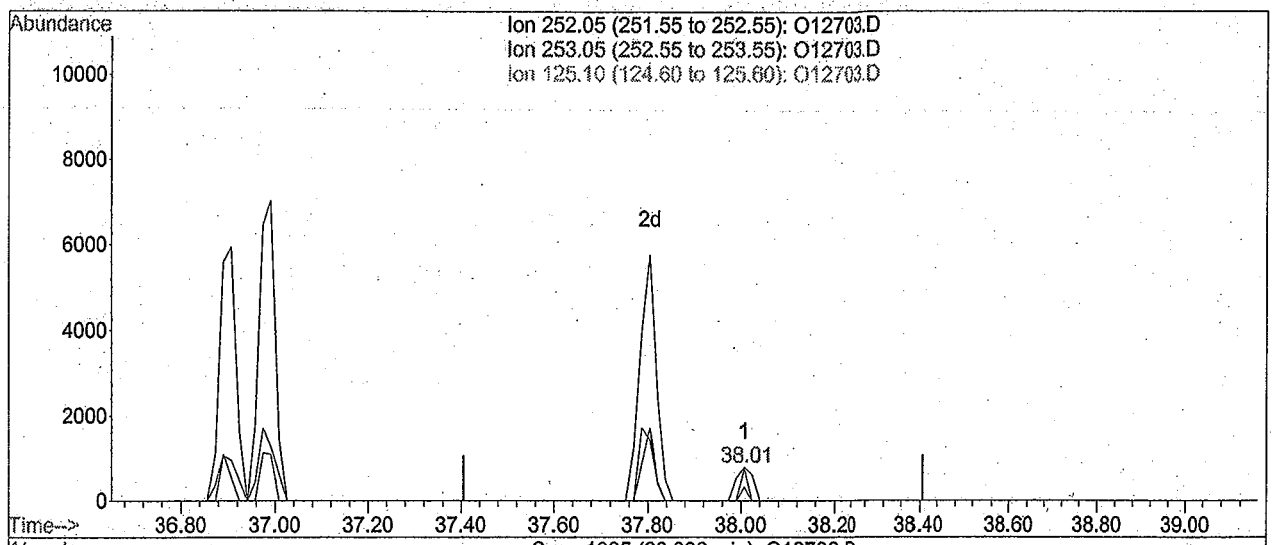
Ion	Exp%	Act%
252.05	100	100
253.05	22.40	16.03#
125.00	25.50	9.22#
0.00	0.00	0.00

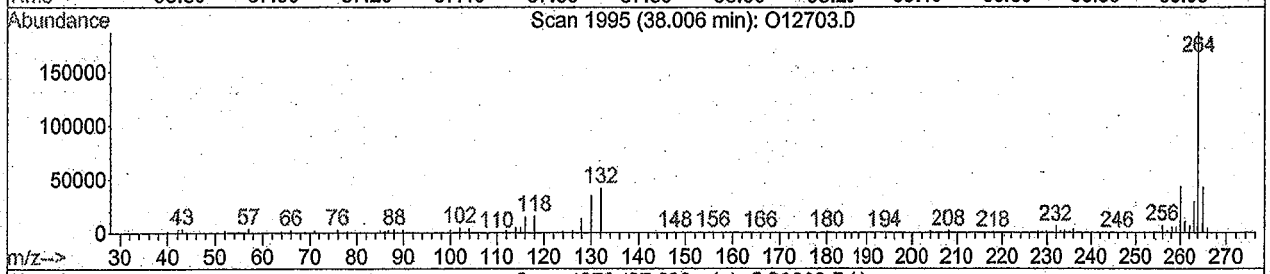
Quantitation Report (Qedit)

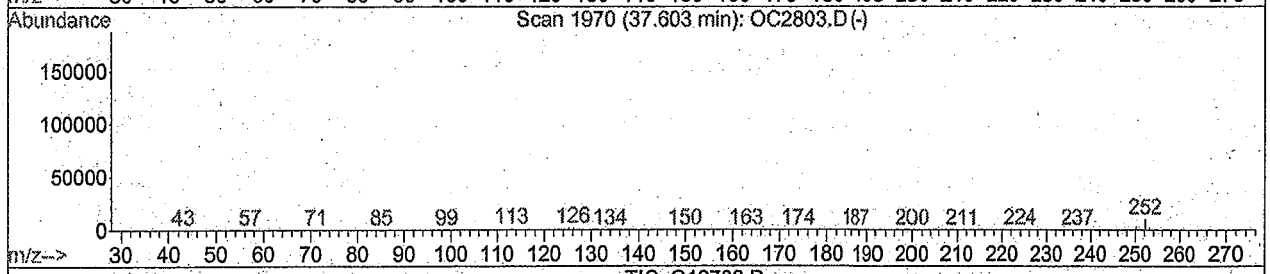
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(82) Benzo(a)pyrene (C)

38.01min 0.16mg/L

response 1971

BEFORE

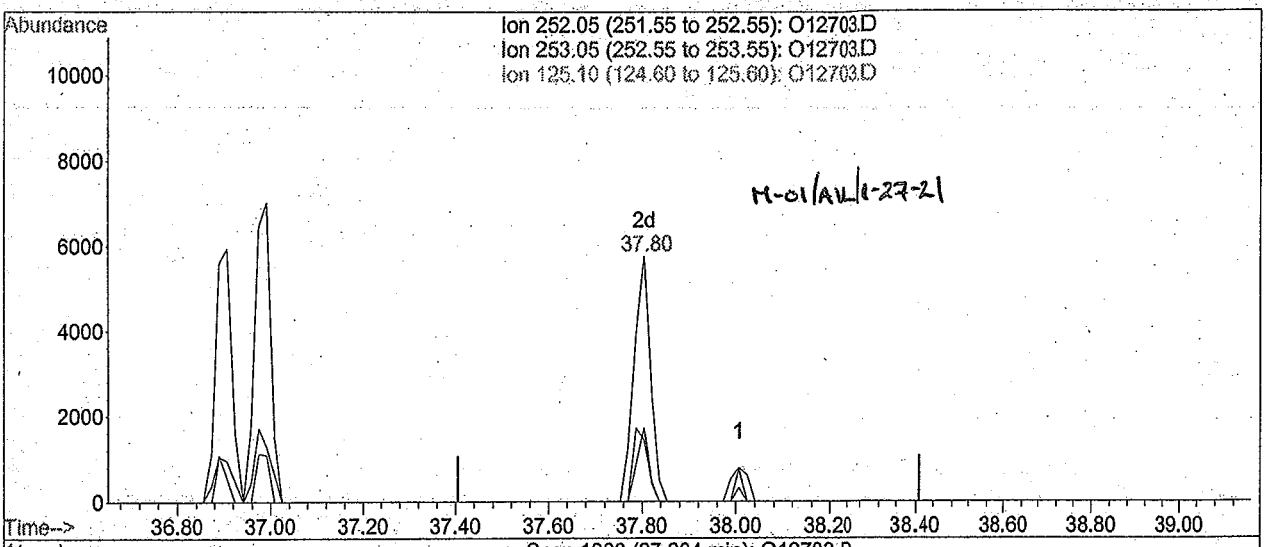
Ion	Exp%	Act%
252.05	100	100
253.05	21.70	40.68#
125.10	28.10	95.72#
0.00	0.00	0.00

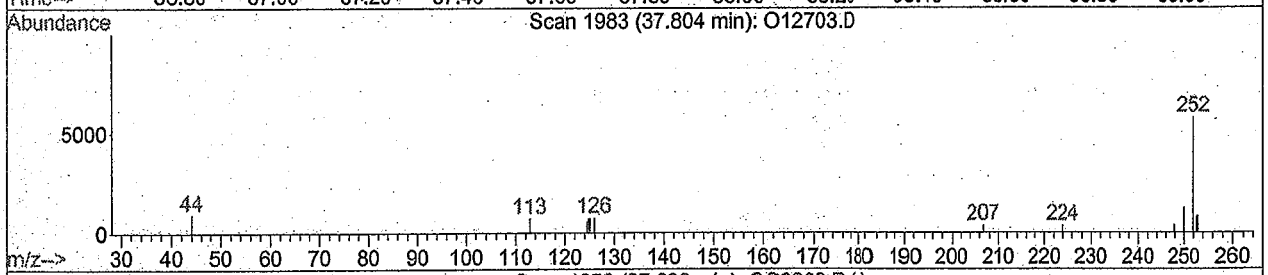
Quantitation Report (Qedit)

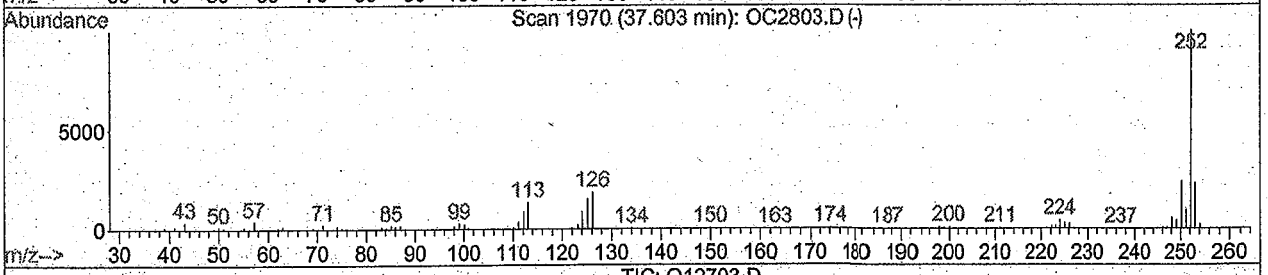
Data File : C:\OTIS\01-27-21\012703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(82) Benzo(a)pyrene (C)

37.80min 1.13mg/L m

response 14117

AFTER

Ion	Exp%	Act%
252.05	100	100
253.05	21.70	14.95#
125.10	28.10	12.60#
0.00	0.00	0.00

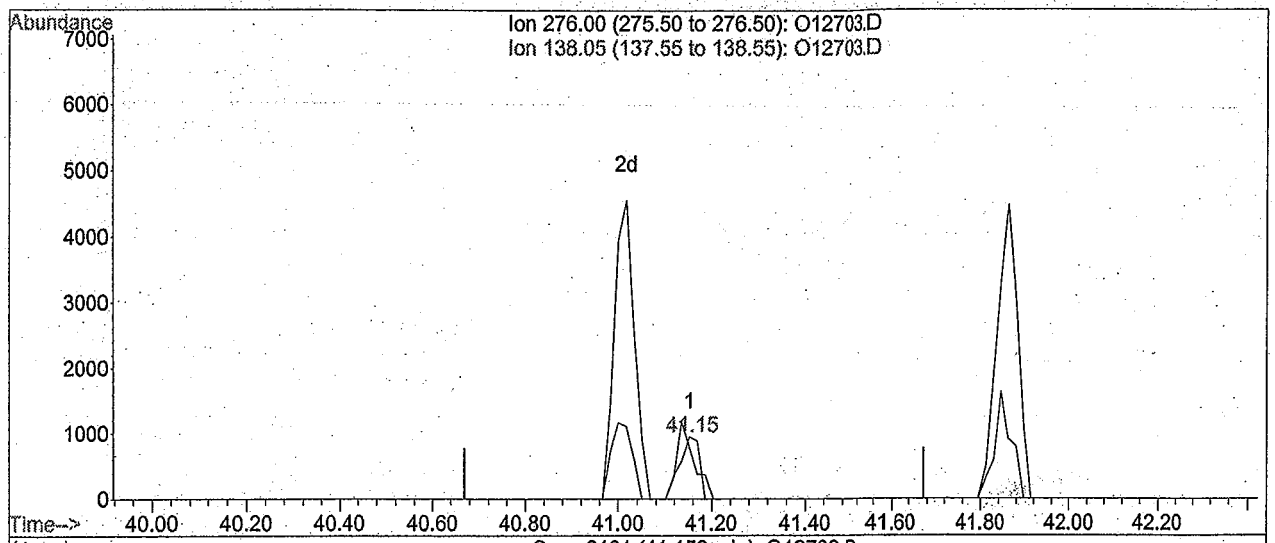
Quantitation Report (Qedit)

Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:00 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration



TIC: O12703.D

(83) Indeno(1,2,3-cd)pyrene (M)

41.15min 0.23mg/L

response 2800

BEFORE

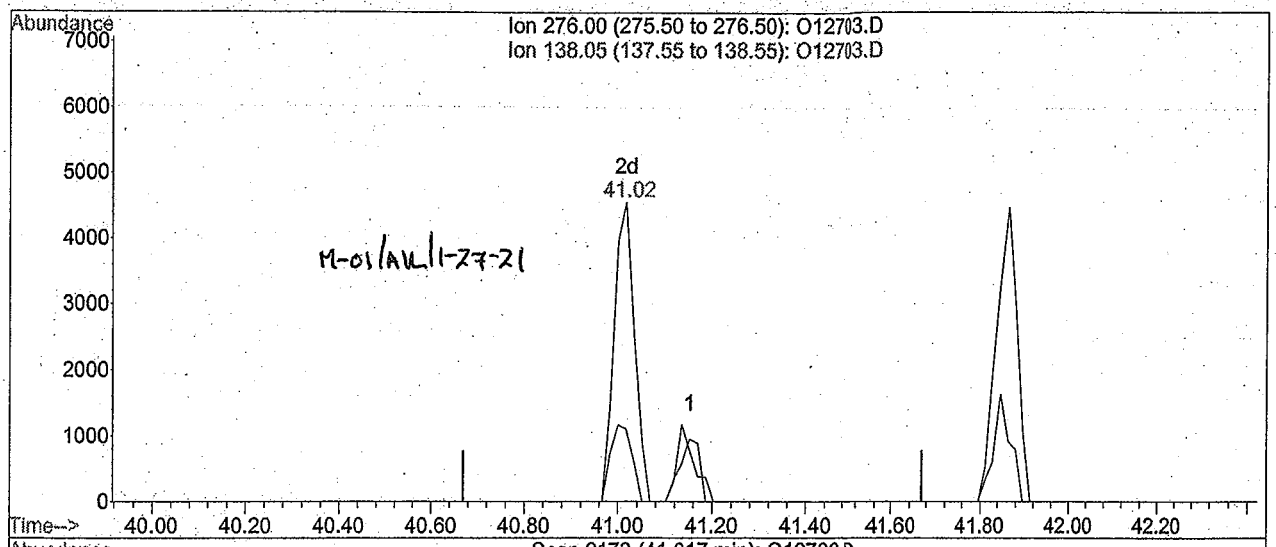
Ion	Exp%	Act%
276.00	100	100
138.05	40.70	82.42#
0.00	0.00	0.00
0.00	0.00	0.00

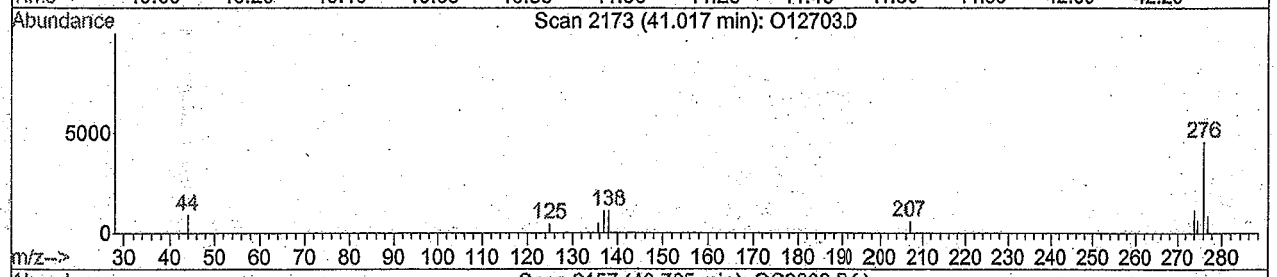
Quantitation Report (Qedit)

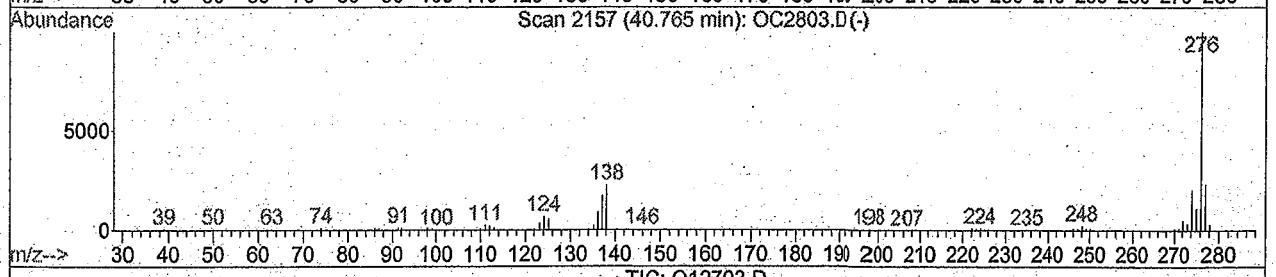
Data File : C:\OTIS\O1-27-21\O12703.D
Acq On : 27 Jan 2021 10:12 am
Sample : 1ppm BNA CALB / 21A1827
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:01 2021

Vial: 3
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Tue Jan 26 13:35:30 2021
Response via : Multiple Level Calibration







TIC: O12703.D

(83) Indeno(1,2,3-cd)pyrene (M)

41.02min 1.13mg/L m

response 13580

AFTER

Ion	Exp%	Act%
276.00	100	100
138.05	40.70	24.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.61	152	156751	40.00	ng/ml	-0.05
19) Naphthalene-d8	15.32	136	558020	40.00	ng/ml	-0.05
35) Acenaphthene-d10	20.71	164	335831	40.00	ng/ml	-0.05
56) Phenanthrene-d10	25.31	188	627963	40.00	ng/ml	-0.05
68) Chrysene-d12	33.67	240	516476	40.00	ng/ml	-0.06
79) Perylene-d12	38.01	264	581586	40.00	ng/ml	-0.06
System Monitoring Compounds						
4) 2-Fluorophenol	8.13	112	23800	5.32	mg/L	-0.06
Spiked Amount 100.000	Range 20 - 53		Recovery = 5.32%#			
7) Phenol-d5	10.70	99	29382	4.80	mg/L	-0.08
Spiked Amount 100.000	Range 11 - 40		Recovery = 4.80%#			
20) Nitrobenzene-d5	13.20	82	23519	5.04	mg/L	-0.06
Spiked Amount 100.000	Range 36 - 103		Recovery = 5.04%#			
40) 2-Fluorobiphenyl	18.73	172	56603	6.23	mg/L	-0.06
Spiked Amount 100.000	Range 36 - 119		Recovery = 6.23%#			
60) 2,4,6-Tribromophenol	23.16	330	8452	4.45	mg/L	-0.06
Spiked Amount 100.000	Range 30 - 105		Recovery = 4.45%#			
72) Terphenyl-d14	30.47	244	43944	6.52	mg/L	-0.06
Spiked Amount 100.000	Range 37 - 109		Recovery = 6.52%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.80	42	16662	7.02	mg/L #	51
3) Pyridine	4.86	79	24987	3.85	mg/L	99
5) Aniline	10.72	93	40054	5.13	mg/L #	76
6) bis(2-Chloroethyl)ether	10.97	93	22460	4.16	mg/L	93
8) 2-Chlorophenol	11.00	128	24769	5.38	mg/L #	86
9) Phenol	10.73	94	32831	5.11	mg/L #	82
10) 1,3-Dichlorobenzene	11.44	146	28193	5.98	mg/L	95
11) 1,4-Dichlorobenzene	11.66	146	29914	5.97	mg/L	99
12) 1,2-Dichlorobenzene	12.07	146	29167	6.33	mg/L	96
13) Benzyl Alcohol	12.07	108	14166	4.41	mg/L	85
14) bis(2-Chloroisopropyl)ethe	12.53	45	39739m	4.08	mg/L	
15) 2-Methylphenol (o-Cresol)	12.44	107	20260	4.92	mg/L #	94
16) 3,4-Methylphenol(m,p Creso	12.90	107	32100	5.48	mg/L	92
17) N-Nitroso-di-n-propylamine	12.88	70	15623	4.41	mg/L #	80
18) Hexachloroethane	13.03	117	12052	5.60	mg/L #	70
21) Nitrobenzene	13.25	77	24342	5.14	mg/L #	94
22) Isophorone	14.01	82	46617	5.41	mg/L	94
23) N-Ethylaniline	14.15	106	46736	7.08	mg/L	94
24) 2-Nitrophenol	14.20	139	10579	4.83	mg/L #	89
25) 2,4-Dimethylphenol	14.47	122	21602	6.54	mg/L	90
26) bis(2-Chloroethoxy)methane	14.78	93	28819	5.16	mg/L #	89
27) Benzoic Acid	14.72	122	7915m	3.09	mg/L	
28) 1,2,4-Trichlorobenzene	15.18	180	26097	8.94	mg/L #	90
29) 2,4-Dichlorophenol	14.93	162	20880	7.46	mg/L	98
30) Naphthalene	15.37	128	71668	6.25	mg/L #	94
31) 4-Chloroaniline	15.62	127	32012	6.30	mg/L	95
32) Hexachlorobutadiene	15.84	225	14112	7.69	mg/L	96
33) 4-Chloro-3-methylphenol	17.21	107	21835	7.20	mg/L	99
34) 2-Methylnaphthalene	17.52	142	45155	6.74	mg/L	100
36) 1,2,4,5-Tetrachlorobenzene	18.02	216	27713	6.80	mg/L	98
37) Hexachlorocyclopentadiene	18.04	237	15229	6.68	mg/L #	88
38) 2,4,6-Trichlorophenol	18.43	196	19676	7.67	mg/L	96

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.51	196	18923m	6.72 mg/L		
41)	2-Chloronaphthalene	18.99	162	47538	5.89 mg/L	#	92
42)	2-Nitroaniline	19.38	65	11363	2.94 mg/L		93
43)	Dimethylphthalate	20.10	163	56582	6.51 mg/L		99
44)	Acenaphthylene	20.24	152	75202	5.39 mg/L		99
45)	2,6-Dinitrotoluene	20.22	165	9740	4.36 mg/L	#	85
46)	3-Nitroaniline	20.68	138	11240	3.45 mg/L		91
47)	Acenaphthene	20.80	154	42099	5.37 mg/L		94
48)	Dibenzofuran	21.35	168	65599	5.81 mg/L		99
49)	2,4-Dinitrotoluene	21.44	165	11023	3.70 mg/L	#	84
50)	4-Nitrophenol	21.32	65	9538m	3.54 mg/L		
51)	2,4-Dinitrophenol	21.02	184	2885	1.87 mg/L	#	42
52)	Diethylphthalate	22.35	149	53204	5.55 mg/L	#	93
53)	Fluorene	22.42	166	50040	5.79 mg/L		96
54)	4-Chlorophenyl-phenylether	22.56	204	27824	7.51 mg/L	#	89
55)	4-Nitroaniline	22.56	138	10985	3.49 mg/L	#	77
57)	4,6-Dinitro-2-methylphenol	22.67	198	5122	2.32 mg/L	#	69
58)	N-Nitrosodiphenylamine	22.93	169	34933	5.44 mg/L		92
59)	1,2-Diphenylhydrazine	23.01	77	56351	3.25 mg/L	#	92
61)	4-Bromophenyl-phenylether	24.04	248	17911	5.98 mg/L	#	89
62)	Hexachlorobenzene	24.09	284	18339	5.58 mg/L	#	90
63)	Pentachlorophenol	24.77	266	11024	5.16 mg/L		96
64)	Phenanthrene	25.38	178	79639	5.81 mg/L		97
65)	Anthracene	25.53	178	84816	6.09 mg/L	#	87
66)	Carbazole	26.12	167	69761	5.16 mg/L	#	86
67)	Di-n-butylphthalate	27.54	149	100521	4.61 mg/L		99
69)	Fluoranthene	29.07	202	89898	6.58 mg/L	#	78
70)	Benzidine	29.68	184	95177	14.09 mg/L	#	87
71)	Pyrene	29.73	202	91873	6.87 mg/L	#	70
73)	Butylbenzylphthalate	32.23	149	40930	4.90 mg/L	#	91
74)	Benzo(a)anthracene	33.62	228	86956	6.40 mg/L		96
75)	Chrysene	33.73	228	83945	6.24 mg/L		93
76)	3,3'-Dichlorobenzidine	33.72	252	64757	12.24 mg/L	#	89
77)	bis(2-Ethylhexyl)phthalate	34.28	149	65737	5.40 mg/L	#	88
78)	Di-n-octylphthalate	36.32	149	109253	4.83 mg/L	#	94
80)	Benzo(b)fluoranthene	36.91	252	85898	6.14 mg/L	#	82
81)	Benzo(k)fluoranthene	37.00	252	82598	6.40 mg/L	#	94
82)	Benzo(a)pyrene	37.81	252	75879	5.93 mg/L	#	82
83)	Indeno(1,2,3-cd)pyrene	41.02	276	77853	6.28 mg/L	#	76
84)	Dibenzo(a,h)anthracene	41.16	278	75159	6.25 mg/L	#	80
85)	Benzo(g,h,i)perylene	41.87	276	74740	6.22 mg/L	#	77

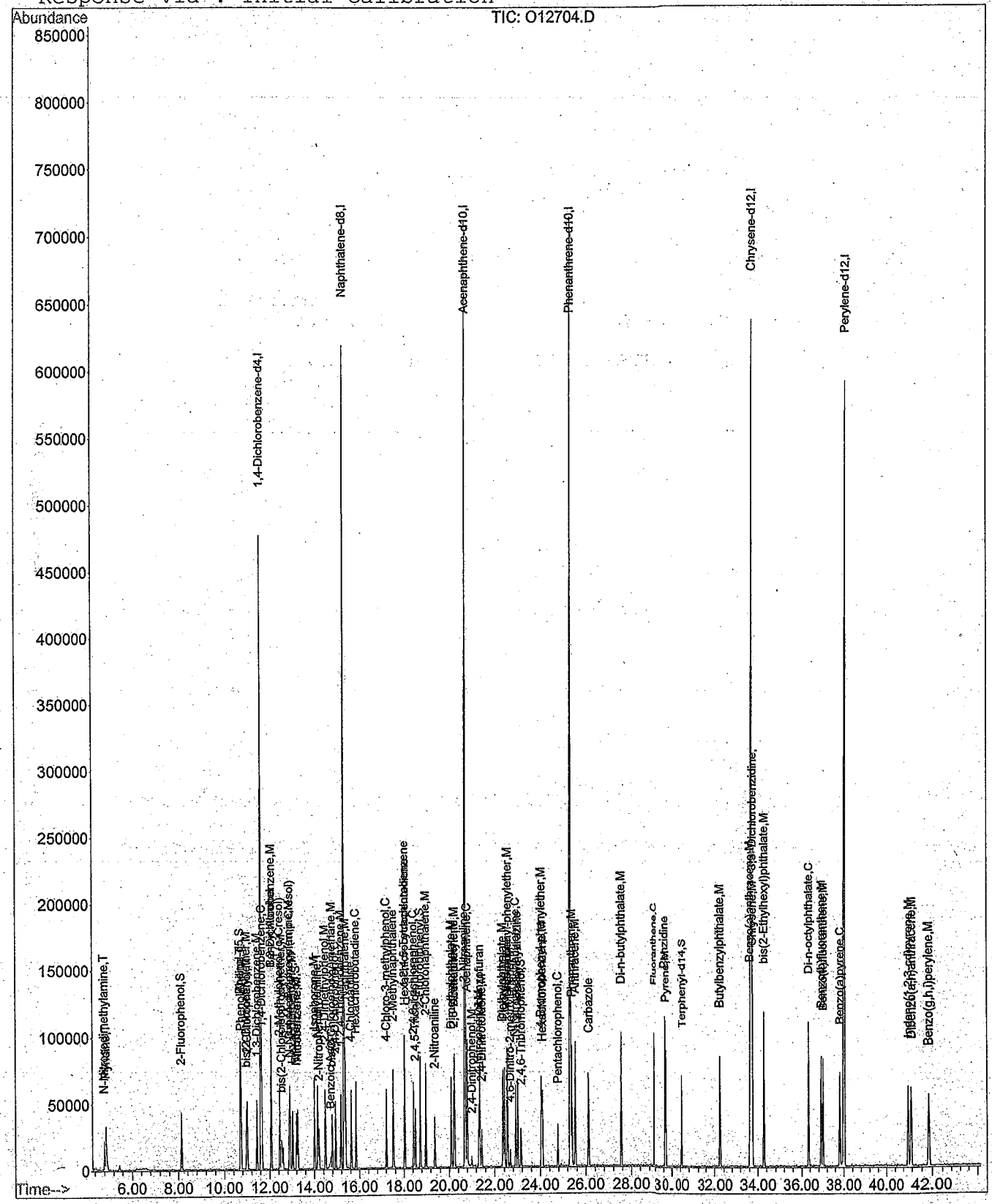
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration



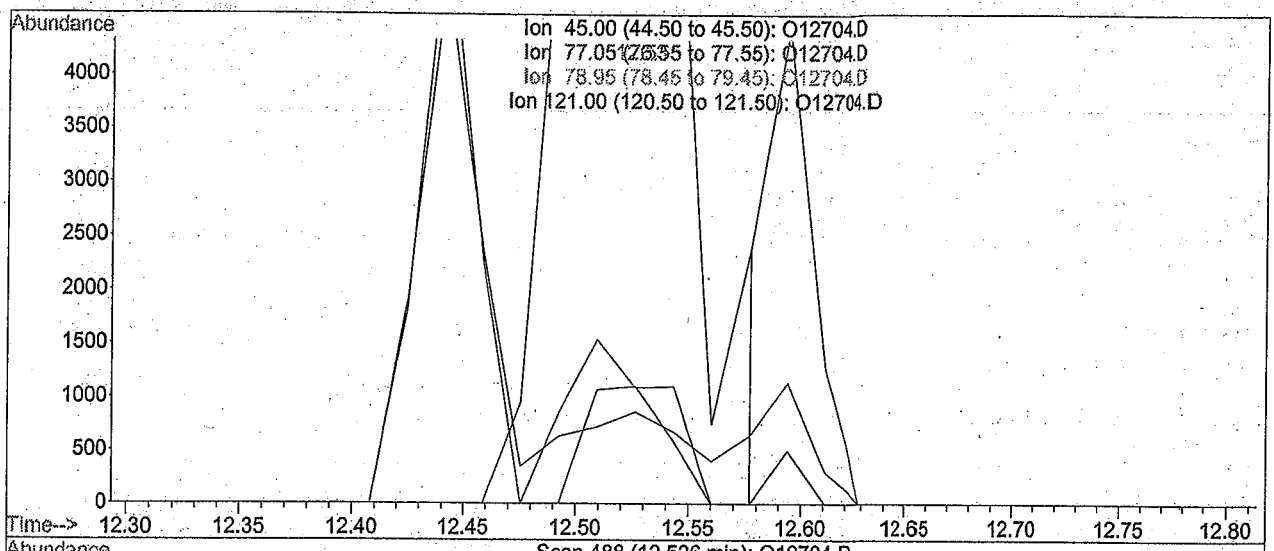
Quantitation Report (Qedit)

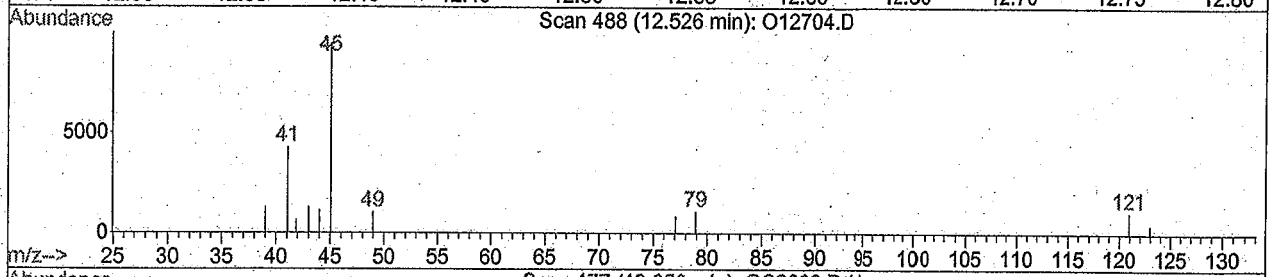
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:50 2021

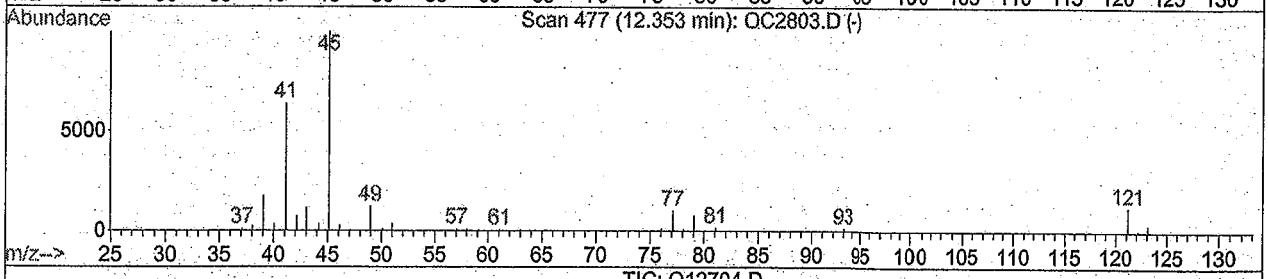
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(14) bis(2-Chloroisopropyl)ether (M)

12.53min 3.49mg/L

response 33933

BEFORE

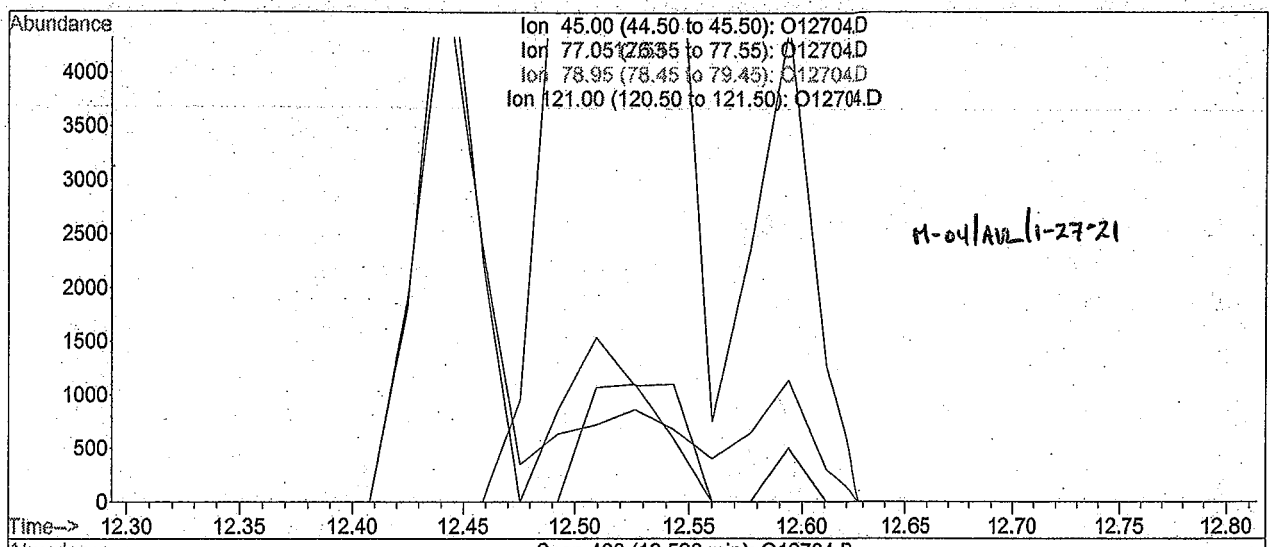
Ion	Exp%	Act%
45.00	100	100
77.05	9.60	9.15
78.95	8.00	11.70#
121.00	13.30	11.56

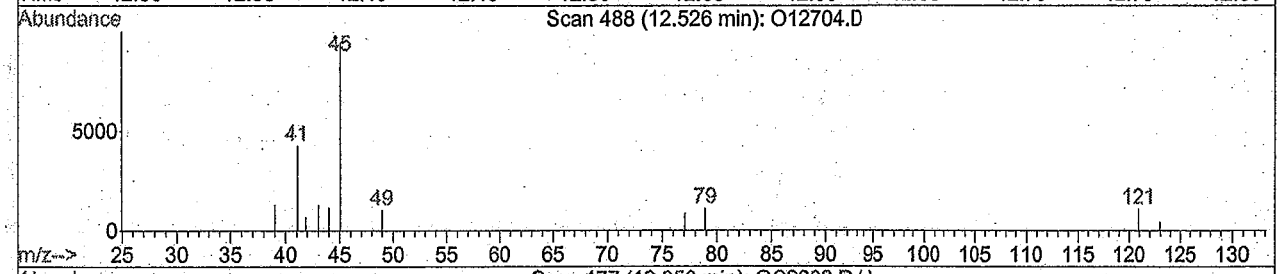
Quantitation Report (Qedit)

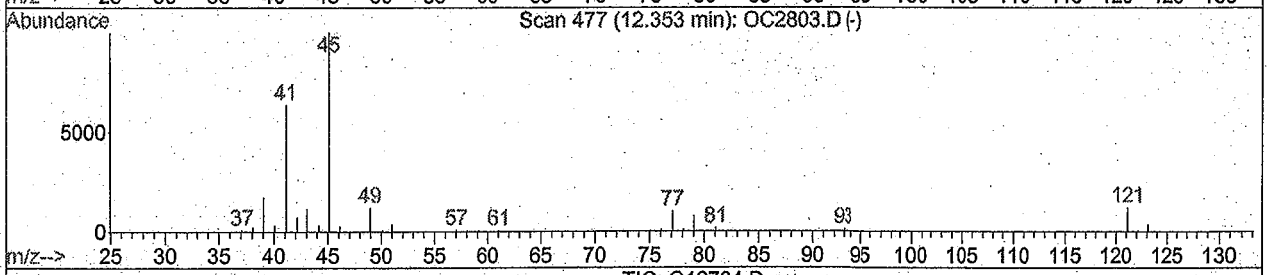
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:51 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(14) bis(2-Chloroisopropyl)ether (M)

12.53min 4.08mg/L m

response 39739

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	9.15
78.95	8.00	11.70#
121.00	13.30	11.56

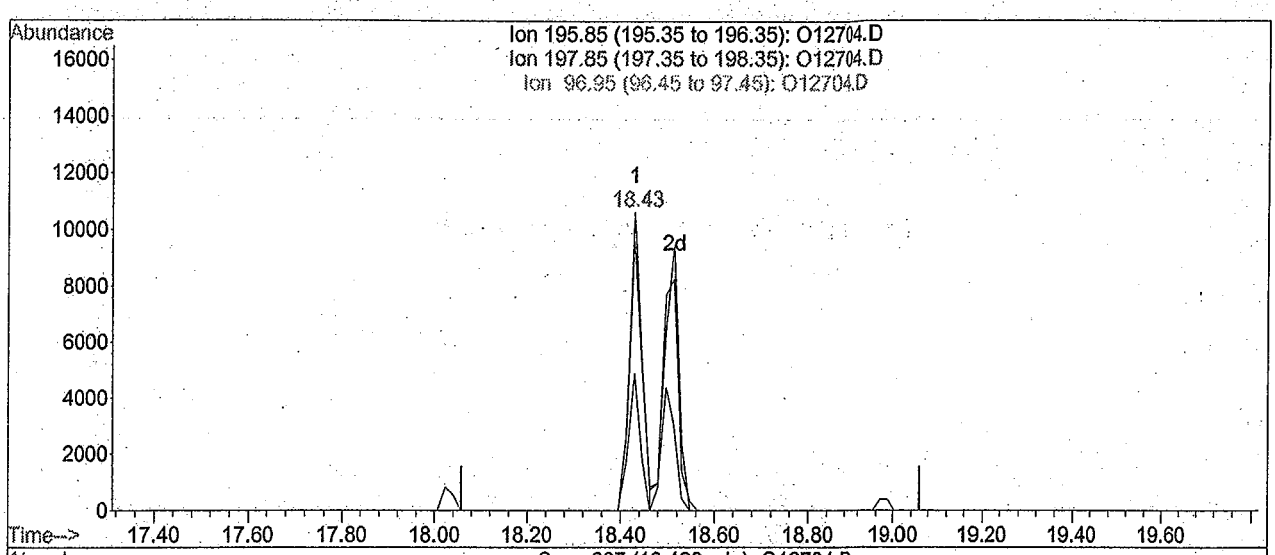
Quantitation Report (Qedit)

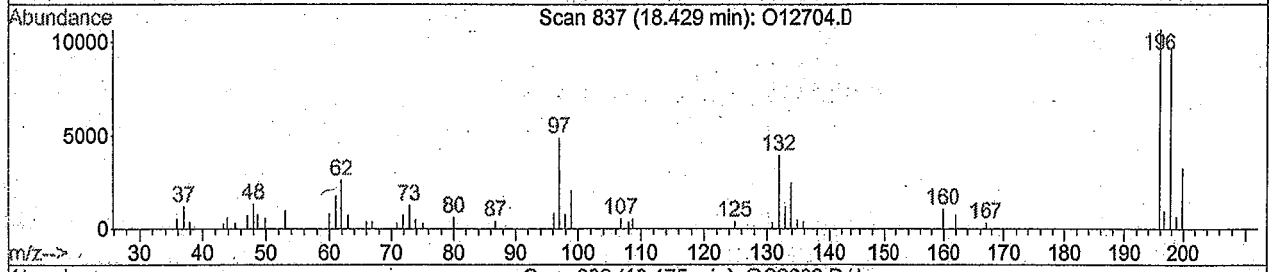
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

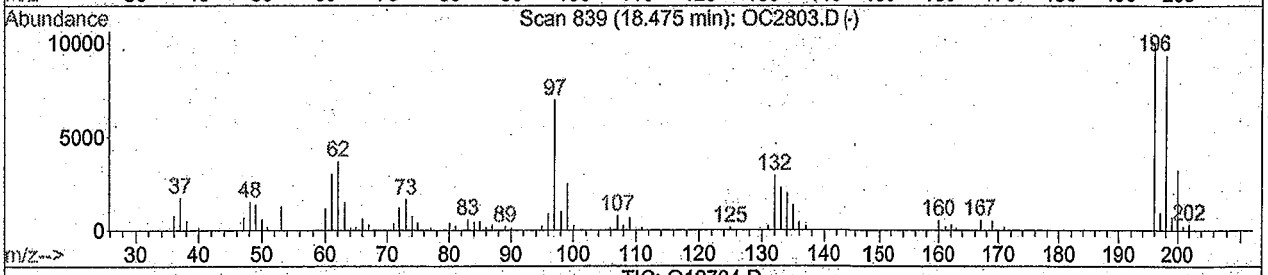
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(39) 2,4,5-Trichlorophenol

18.43min 6.99mg/L

response 19676

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	90.23
96.95	55.30	45.94
0.00	0.00	0.00

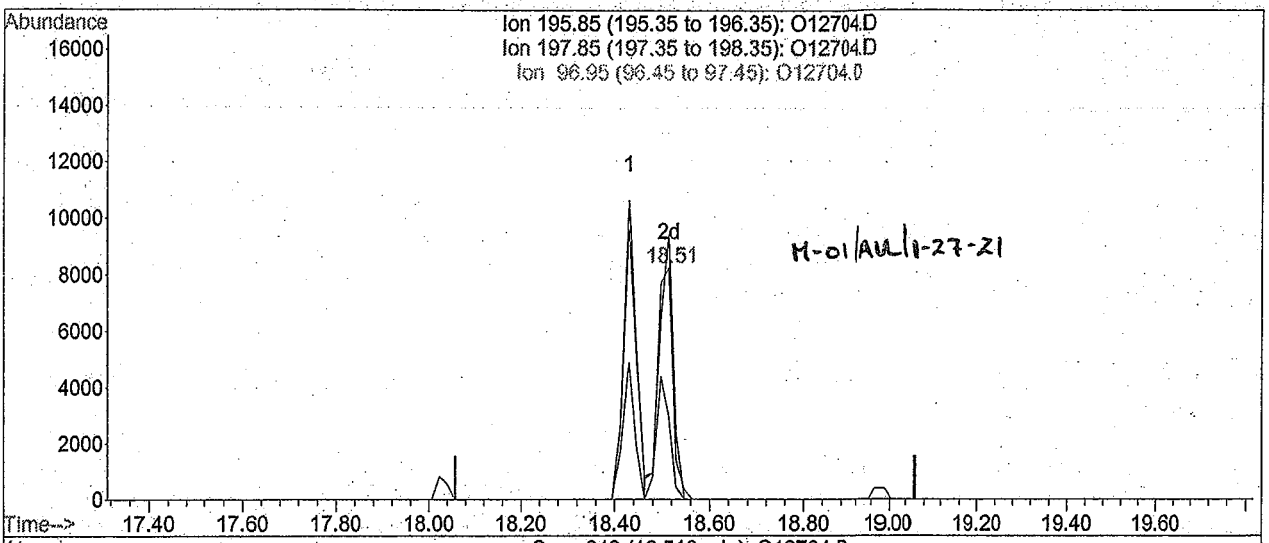
BEFORE

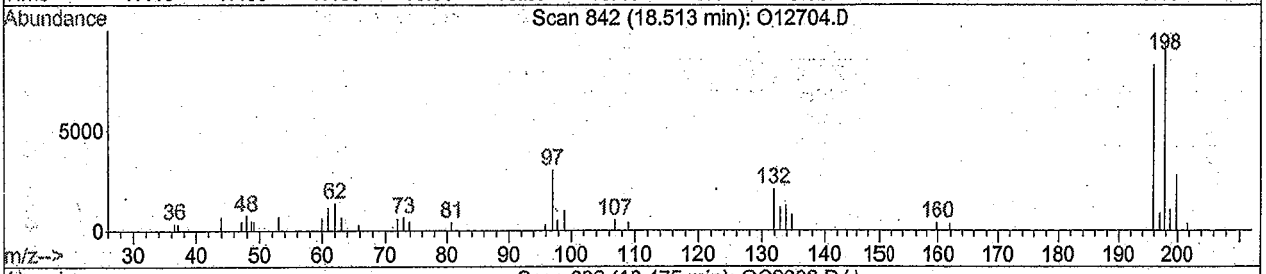
Quantitation Report (Qedit)

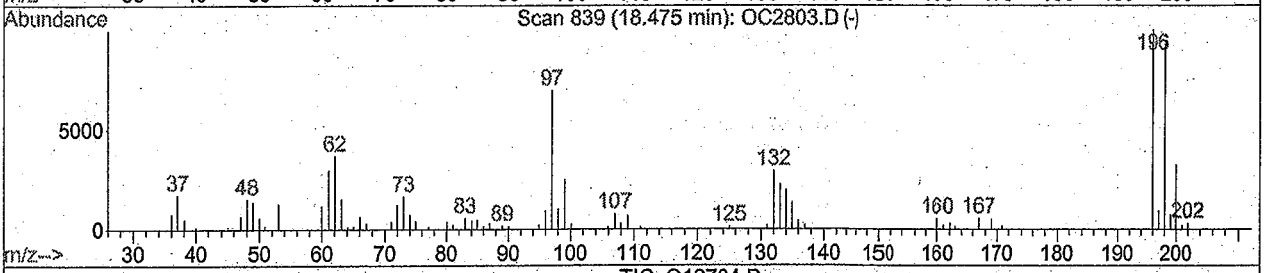
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(39) 2,4,5-Trichlorophenol

18.51min 6.72mg/L m

response 18923

AFTER

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	114.57#
96.95	55.30	36.72#
0.00	0.00	0.00

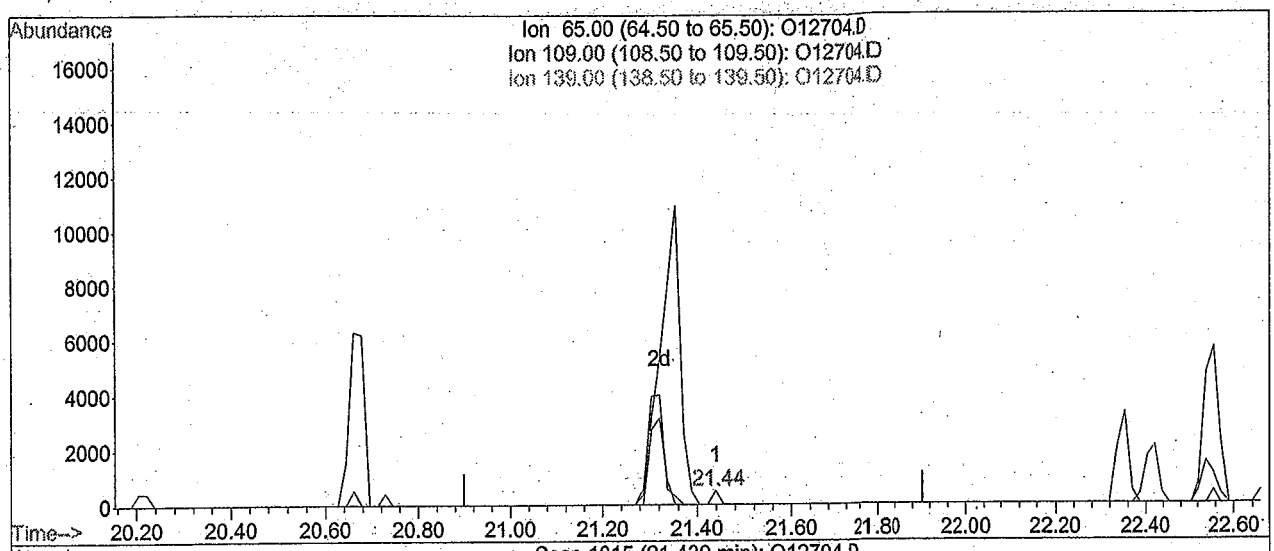
Quantitation Report (Qedit)

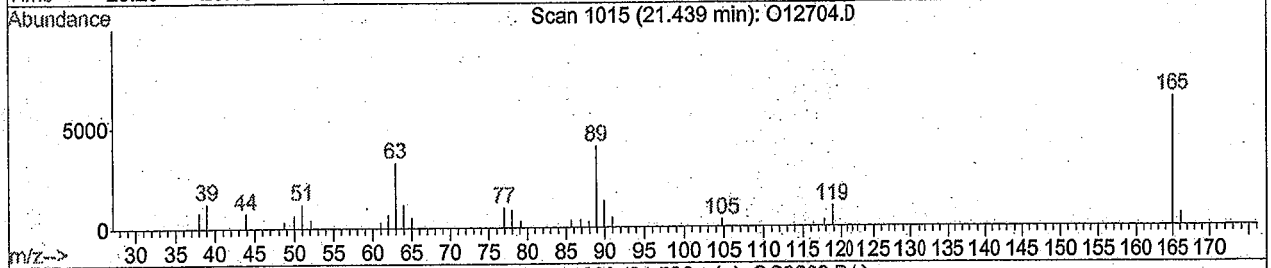
Data File : C:\OTIS\O1-27-21\O12704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

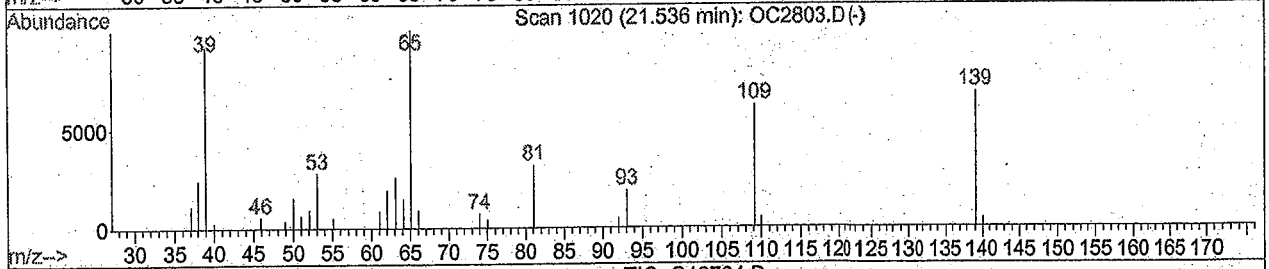
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration







TIC: O12704.D

(50) 4-Nitrophenol (M)

21.44min 0.19mg/L

response 511

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	0.00#
139.00	102.40	0.00#
0.00	0.00	0.00

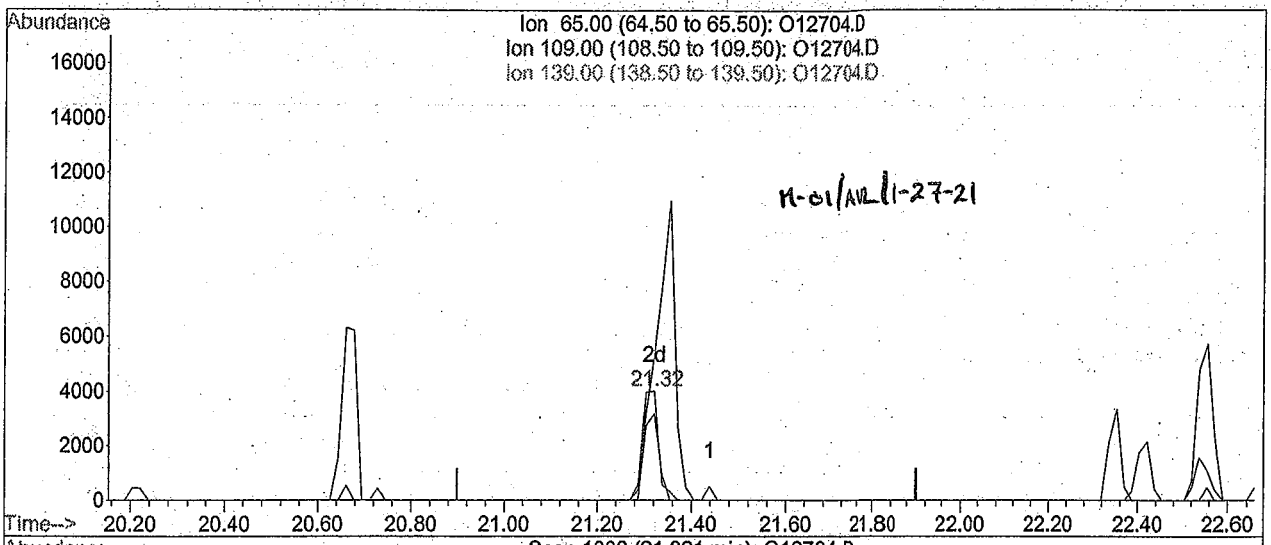
BEFORE

Quantitation Report (Qedit)

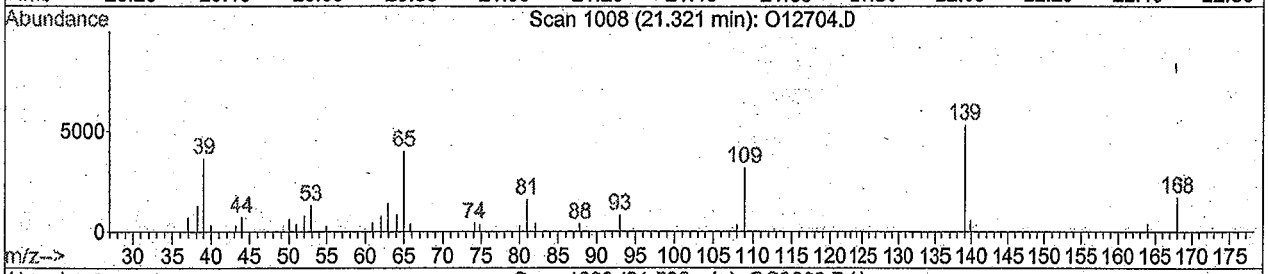
Data File : C:\OTIS\01-27-21\012704.D
Acq On : 27 Jan 2021 11:06 am
Sample : 5ppm BNA CALB / 21A1825
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 11:52 2021

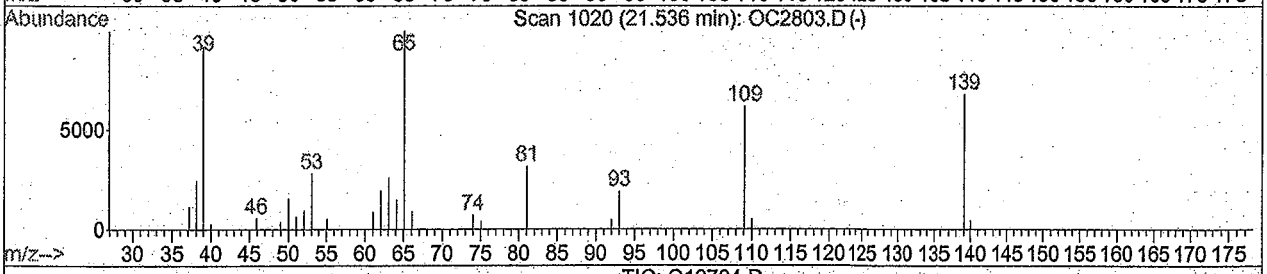
Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:08:02 2021
Response via : Multiple Level Calibration



M-01/AVL 1-27-21





TIC: O12704.D

(50) 4-Nitrophenol (M)

21.32min 3.54mg/L m

response 9538

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	79.40#
139.00	102.40	133.04#
0.00	0.00	0.00

AFTER

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	170420	40.00	ng/ml	-0.03
19) Naphthalene-d8	15.33	136	593202	40.00	ng/ml	-0.03
35) Acenaphthene-d10	20.72	164	350881	40.00	ng/ml	-0.03
56) Phenanthrene-d10	25.32	188	660998	40.00	ng/ml	-0.03
68) Chrysene-d12	33.68	240	545704	40.00	ng/ml	-0.05
79) Perylene-d12	38.02	264	597786	40.00	ng/ml	-0.05
System Monitoring Compounds						
4) 2-Fluorophenol	8.14	112	101780	20.18	mg/L	-0.05
Spiked Amount 100.000	Range 20 - 53		Recovery = 20.18%			
7) Phenol-d5	10.71	99	128683	19.17	mg/L	-0.07
Spiked Amount 100.000	Range 11 - 40		Recovery = 19.17%			
20) Nitrobenzene-d5	13.21	82	101454	20.23	mg/L	-0.05
Spiked Amount 100.000	Range 36 - 103		Recovery = 20.23%#			
40) 2-Fluorobiphenyl	18.74	172	242245	24.28	mg/L	-0.05
Spiked Amount 100.000	Range 36 - 119		Recovery = 24.28%#			
60) 2,4,6-Tribromophenol	23.17	330	39908	20.24	mg/L	-0.05
Spiked Amount 100.000	Range 30 - 105		Recovery = 20.24%#			
72) Terphenyl-d14	30.48	244	186270	24.96	mg/L	-0.05
Spiked Amount 100.000	Range 37 - 109		Recovery = 24.96%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.81	42	64918	22.69	mg/L #	68
3) Pyridine	4.86	79	113348	16.38	mg/L	92
5) Aniline	10.73	93	156954	18.40	mg/L	91
6) bis(2-Chloroethyl)ether	10.98	93	105586	18.36	mg/L	95
8) 2-Chlorophenol	11.01	128	102622	19.93	mg/L	98
9) Phenol	10.76	94	141932	19.92	mg/L #	91
10) 1,3-Dichlorobenzene	11.44	146	117895	22.19	mg/L	96
11) 1,4-Dichlorobenzene	11.67	146	123783	21.93	mg/L	95
12) 1,2-Dichlorobenzene	12.06	146	112211	21.30	mg/L	93
13) Benzyl Alcohol	12.10	108	70906	20.28	mg/L	91
14) bis(2-Chloroisopropyl)ethe	12.54	45	153256m	14.98	mg/L	
15) 2-Methylphenol (o-Cresol)	12.45	107	87554	19.39	mg/L	94
16) 3,4-Methylphenol(m,p Creso	12.93	107	132794	20.18	mg/L	97
17) N-Nitroso-di-n-propylamine	12.89	70	70917	18.67	mg/L #	81
18) Hexachloroethane	13.03	117	52645	21.98	mg/L #	87
21) Nitrobenzene	13.26	77	111778	21.91	mg/L	97
22) Isophorone	14.04	82	209128	22.42	mg/L #	90
23) N-Ethylaniline	14.16	106	190585	25.23	mg/L #	93
24) 2-Nitrophenol	14.21	139	49034	20.63	mg/L #	74
25) 2,4-Dimethylphenol	14.50	122	92800	24.73	mg/L	99
26) bis(2-Chloroethoxy)methane	14.80	93	131008	21.68	mg/L #	98
27) Benzoic Acid	14.89	122	49669m	18.25	mg/L	
28) 1,2,4-Trichlorobenzene	15.17	180	116143	33.03	mg/L #	95
29) 2,4-Dichlorophenol	14.96	162	91396	27.82	mg/L #	87
30) Naphthalene	15.38	128	288329	22.61	mg/L #	94
31) 4-Chloroaniline	15.63	127	132761	23.23	mg/L	98
32) Hexachlorobutadiene	15.85	225	67029	30.82	mg/L	99
33) 4-Chloro-3-methylphenol	17.22	107	94874	26.83	mg/L	93
34) 2-Methylnaphthalene	17.53	142	201386	26.54	mg/L	99
36) 1,2,4,5-Tetrachlorobenzene	18.03	216	119285	26.07	mg/L	98
37) Hexachlorocyclopentadiene	18.05	237	71053	27.68	mg/L	94
38) 2,4,6-Trichlorophenol	18.44	196	78318m	26.31	mg/L	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

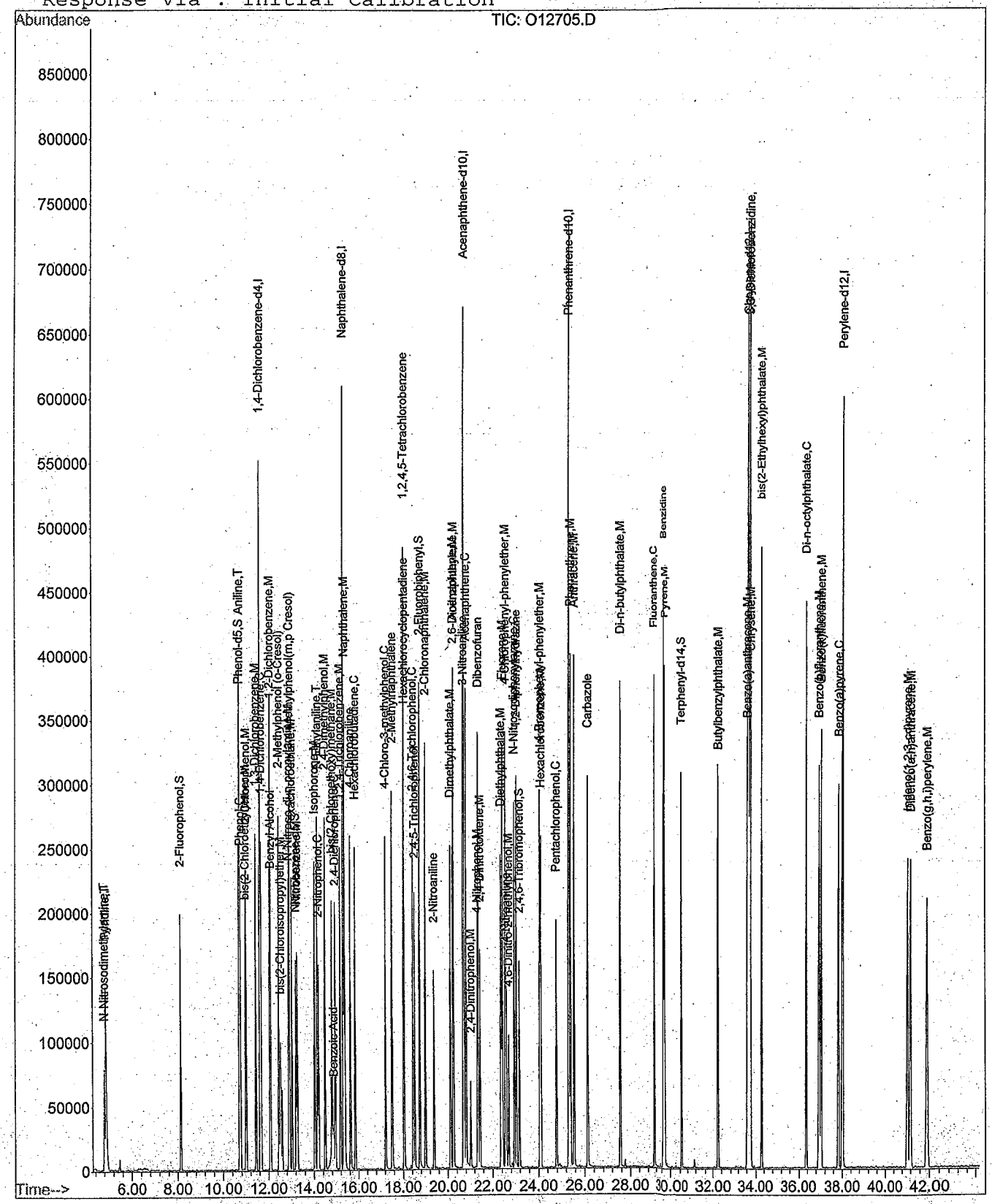
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.52	196	87824m	27.49 mg/L		
41)	2-Chloronaphthalene	19.00	162	202914	23.22 mg/L		97
42)	2-Nitroaniline	19.39	65	58994	14.62 mg/L		96
43)	Dimethylphthalate	20.11	163	231216	24.15 mg/L	#	96
44)	Acenaphthylene	20.25	152	290621	19.50 mg/L		95
45)	2,6-Dinitrotoluene	20.23	165	47039	20.12 mg/L		97
46)	3-Nitroaniline	20.69	138	50508	14.83 mg/L	#	83
47)	Acenaphthene	20.81	154	178492	21.31 mg/L		96
48)	Dibenzofuran	21.36	168	281987	23.08 mg/L		97
49)	2,4-Dinitrotoluene	21.45	165	63148	20.79 mg/L	#	92
50)	4-Nitrophenol	21.33	65	45741m	16.27 mg/L		
51)	2,4-Dinitrophenol	21.03	184	19138	11.85 mg/L	#	52
52)	Diethylphthalate	22.36	149	225206	21.95 mg/L		95
53)	Fluorene	22.43	166	220915	23.61 mg/L		98
54)	4-Chlorophenyl-phenylether	22.55	204	121825	28.87 mg/L		98
55)	4-Nitroaniline	22.60	138	53992	16.41 mg/L	#	68
57)	4,6-Dinitro-2-methylphenol	22.70	198	32908	14.16 mg/L	#	70
58)	N-Nitrosodiphenylamine	22.94	169	144921	21.02 mg/L		90
59)	1,2-Diphenylhydrazine	23.04	77	244334	14.18 mg/L	#	84
61)	4-Bromophenyl-phenylether	24.05	248	74024	22.71 mg/L	#	88
62)	Hexachlorobenzene	24.10	284	78783	22.52 mg/L		96
63)	Pentachlorophenol	24.76	266	50423	22.41 mg/L		97
64)	Phenanthrene	25.39	178	313195	20.99 mg/L		98
65)	Anthracene	25.54	178	326170	21.39 mg/L	#	92
66)	Carbazole	26.13	167	283603	19.61 mg/L	#	84
67)	Di-n-butylphthalate	27.55	149	385436	16.83 mg/L	#	97
69)	Fluoranthene	29.08	202	359294	23.42 mg/L	#	80
70)	Benzidine	29.70	184	393790	55.17 mg/L	#	88
71)	Pyrene	29.75	202	374585	24.97 mg/L	#	73
73)	Butylbenzylphthalate	32.26	149	179512	20.20 mg/L	#	76
74)	Benzo(a)anthracene	33.63	228	350896	23.25 mg/L		97
75)	Chrysene	33.76	228	340776	22.82 mg/L		96
76)	3,3'-Dichlorobenzidine	33.74	252	260601	46.60 mg/L	#	92
77)	bis(2-Ethylhexyl)phthalate	34.29	149	269087	20.50 mg/L	#	92
78)	Di-n-octylphthalate	36.33	149	435664	18.01 mg/L		98
80)	Benzo(b)fluoranthene	36.92	252	356586	23.75 mg/L	#	86
81)	Benzo(k)fluoranthene	37.03	252	330450m	23.84 mg/L		
82)	Benzo(a)pyrene	37.84	252	328201	24.06 mg/L	#	82
83)	Indeno(1,2,3-cd)pyrene	41.07	276	321025	23.99 mg/L	#	73
84)	Dibenzo(a,h)anthracene	41.20	278	317882	24.36 mg/L	#	82
85)	Benzo(g,h,i)perylene	41.93	276	321080	24.77 mg/L	#	79

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\O1-27-21\O12705.D Vial: 5
Acq On : 27 Jan 2021 12:00 pm Operator: AVL
Sample : 20ppm BNA CALB / 21A1823 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021 Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration



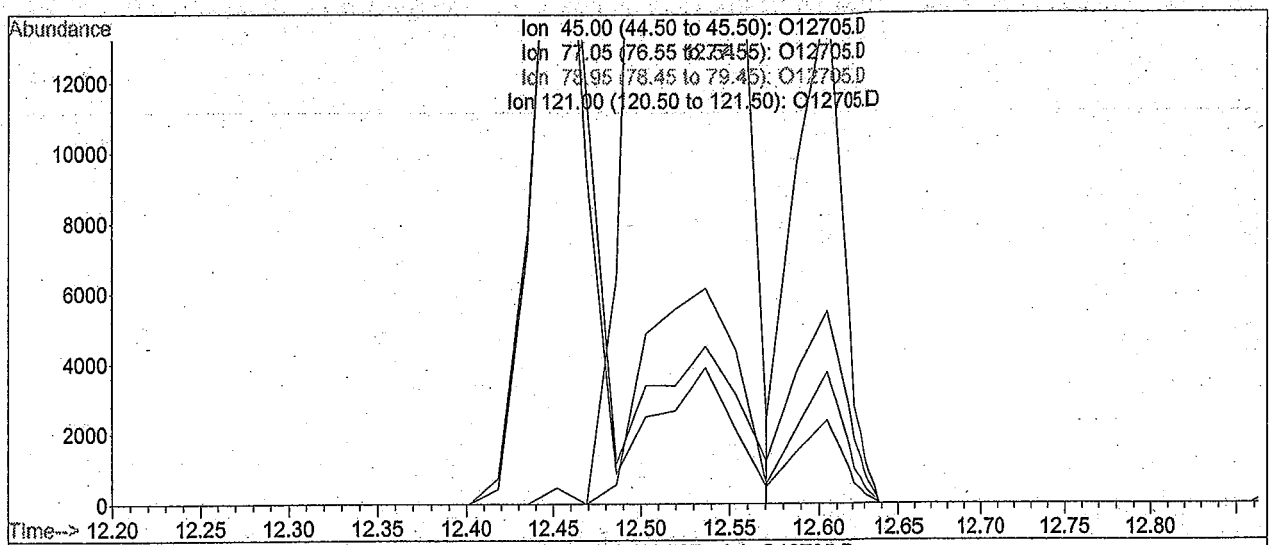
Quantitation Report (Qedit)

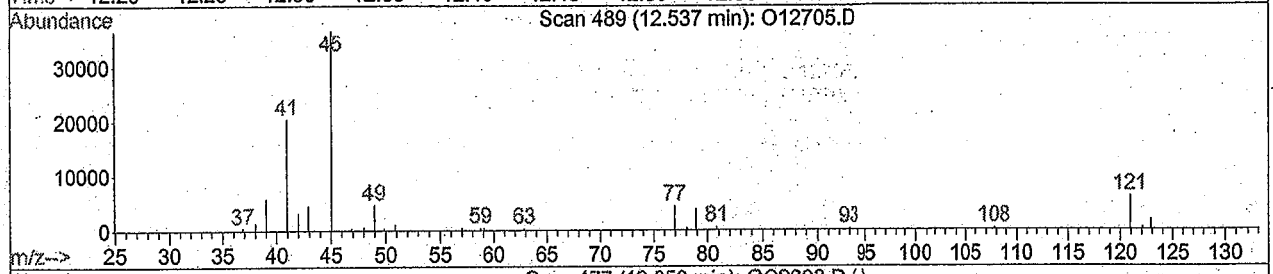
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:44 2021

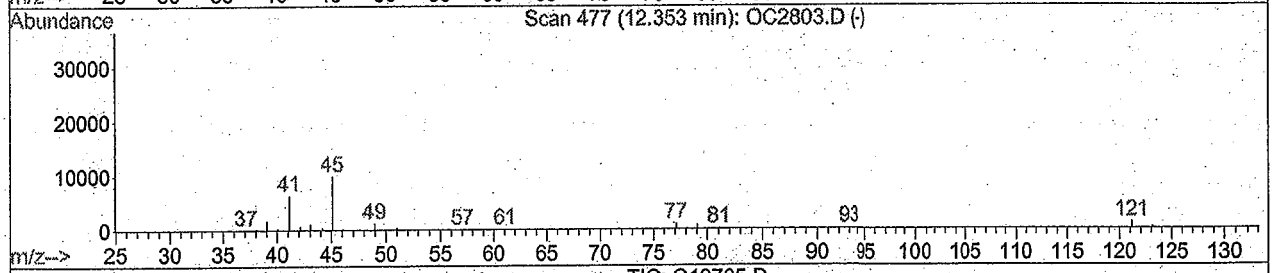
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(14) bis(2-Chloroisopropyl)ether (M)

12.54min 12.35mg/L

response 126324

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.23#
78.95	8.00	10.58#
121.00	13.30	16.74#

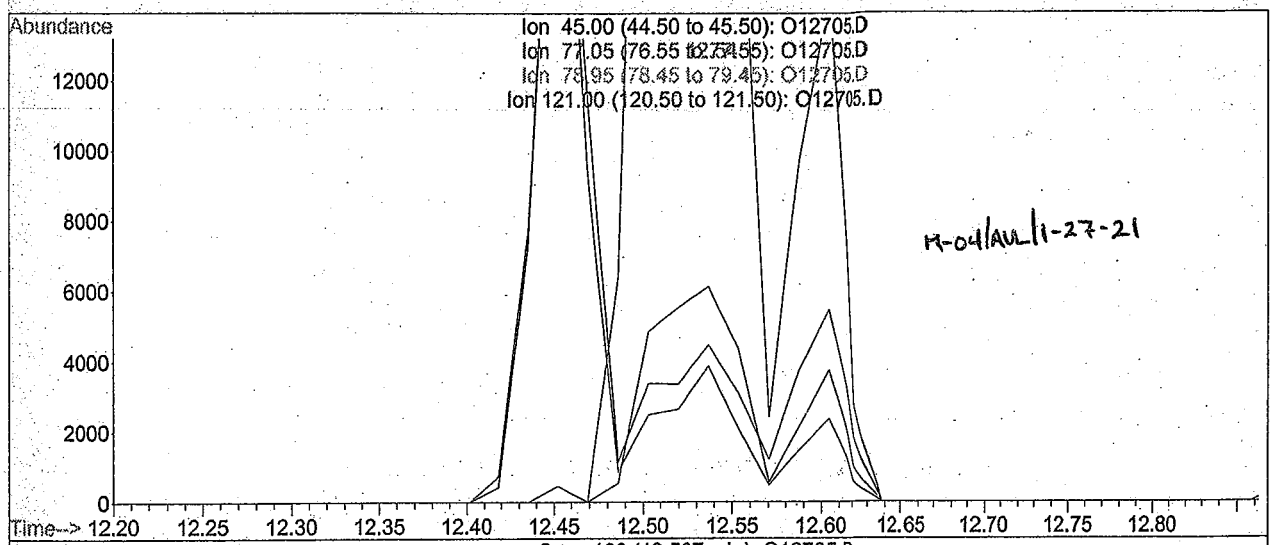
Quantitation Report (Qedit)

Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:48 2021

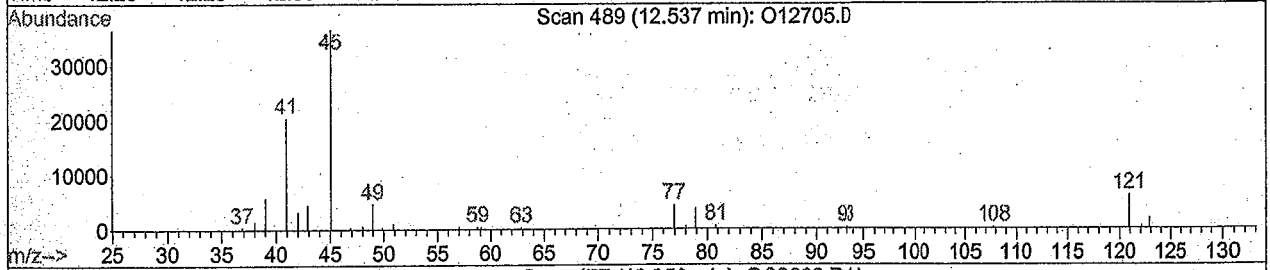
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

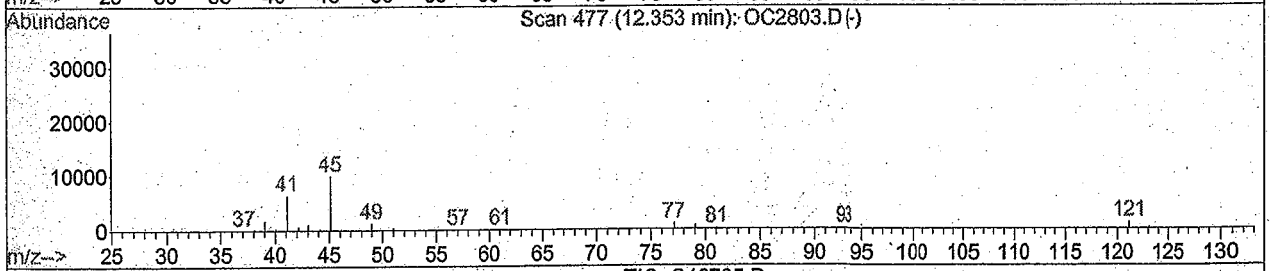
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration



M-04/AVL/1-27-21





TIC: O12705.D

(14) bis(2-Chloroisopropyl)ether (M)

12.54min 14.98mg/L m

response 153256

AFTER

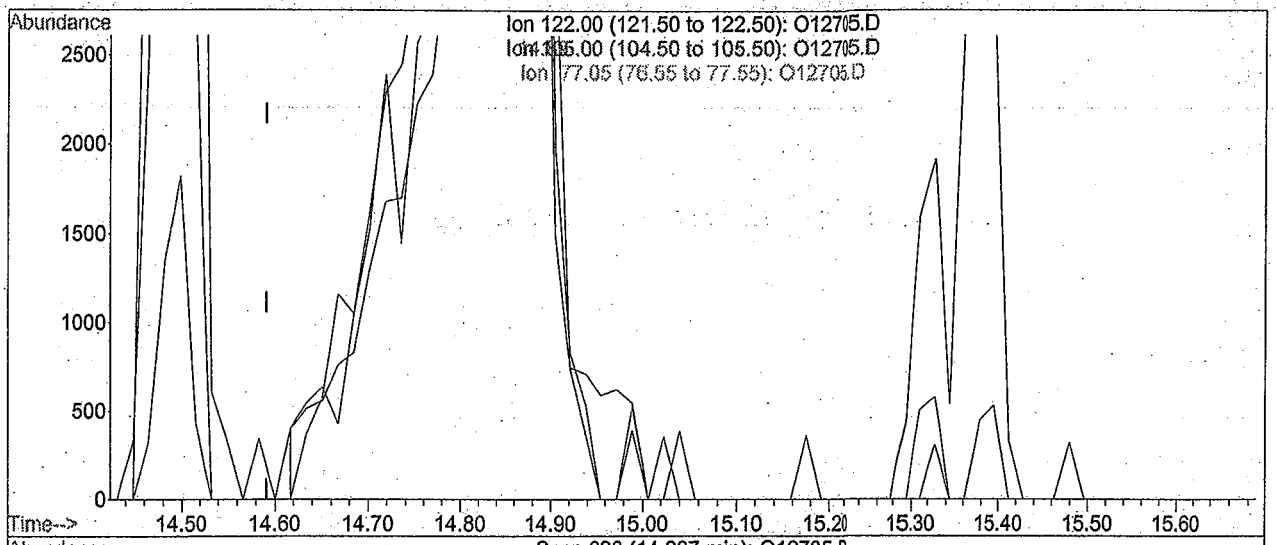
Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.23#
78.95	8.00	10.58#
121.00	13.30	16.74#

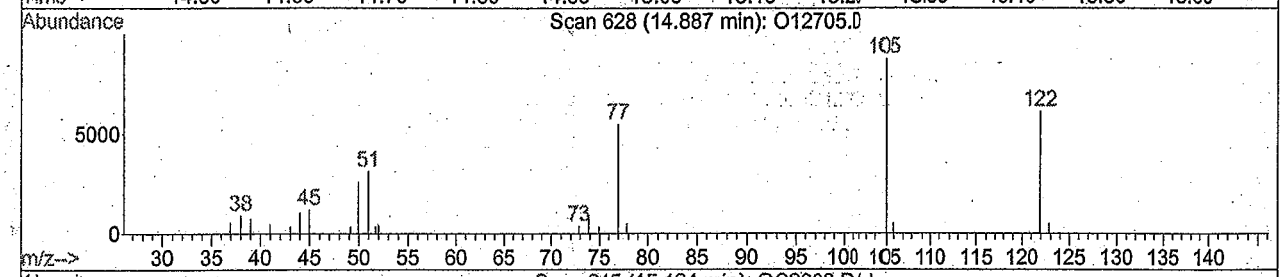
Quantitation Report (Qedit)

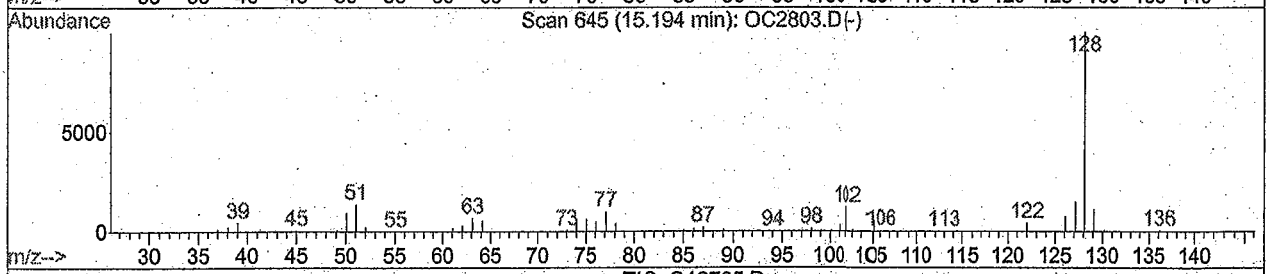
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:48 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(27) Benzoic Acid

14.89min 18.10mg/L

response 49261

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	142.74#
77.05	93.20	89.74
0.00	0.00	0.00

BEFORE

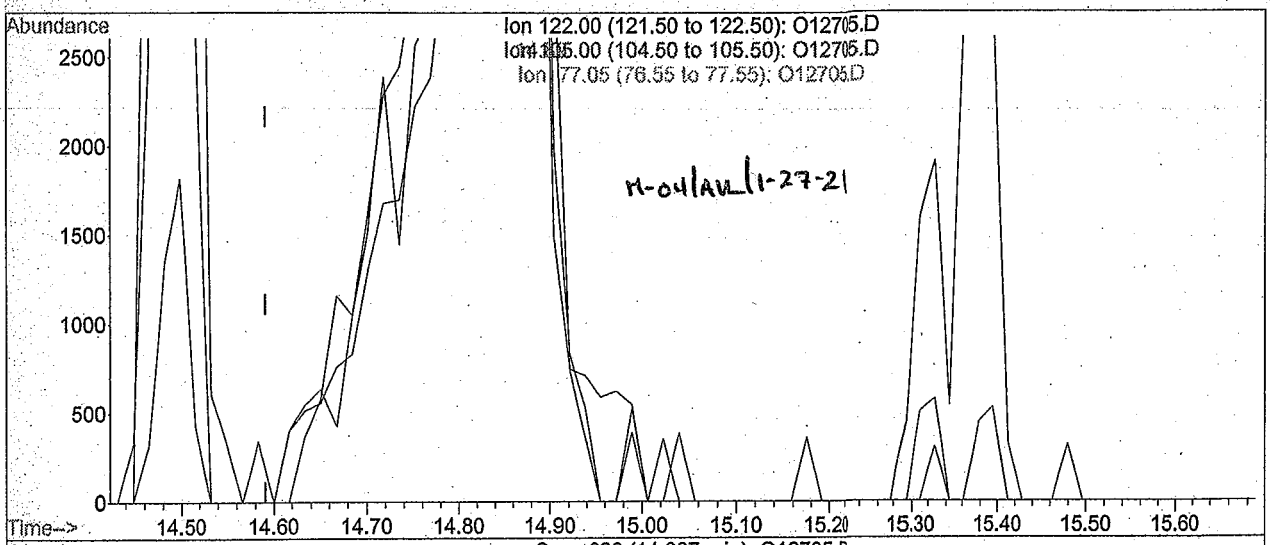
Quantitation Report (Qedit)

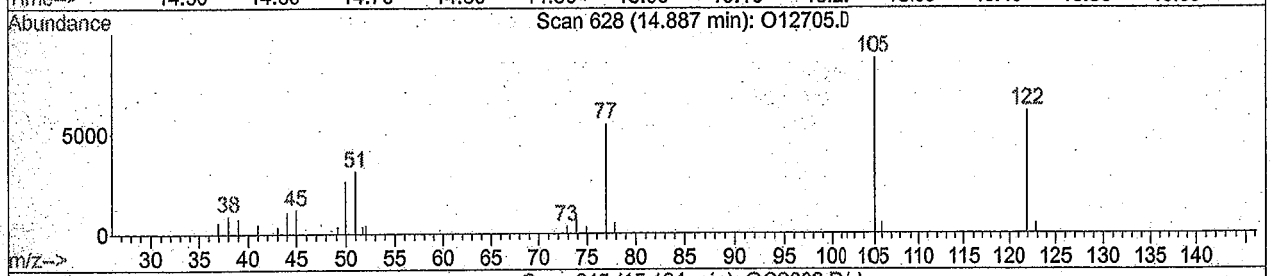
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

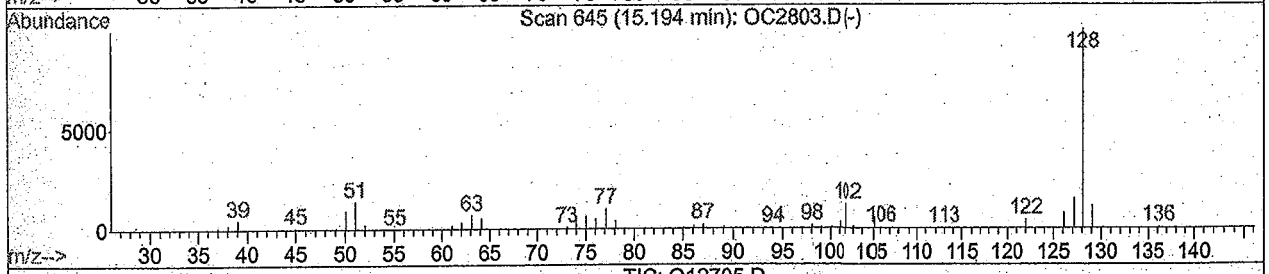
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(27) Benzoic Acid

14.89min 18.25mg/L m

response 49669

AFTER

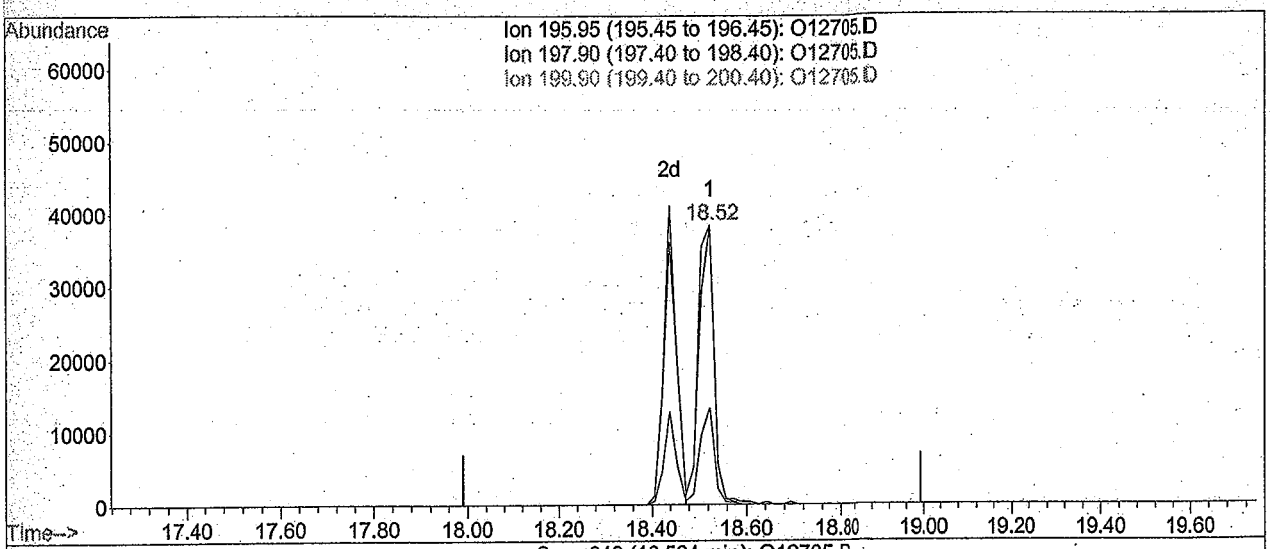
Ion	Exp%	Act%
122.00	100	100
105.00	115.70	142.74#
77.05	93.20	89.74
0.00	0.00	0.00

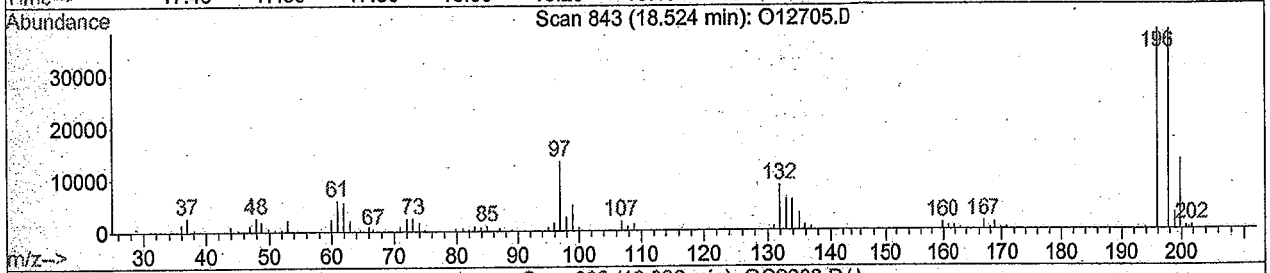
Quantitation Report (Qedit)

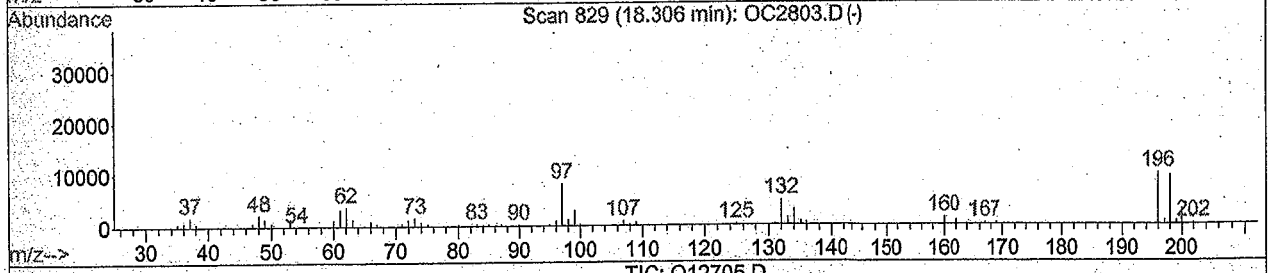
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(38) 2,4,6-Trichlorophenol (C)

18.52min 29.62mg/L

response 88175

Ion	Exp%	Act%
195.95	100	100
197.90	95.20	99.54
199.90	30.30	34.81
0.00	0.00	0.00

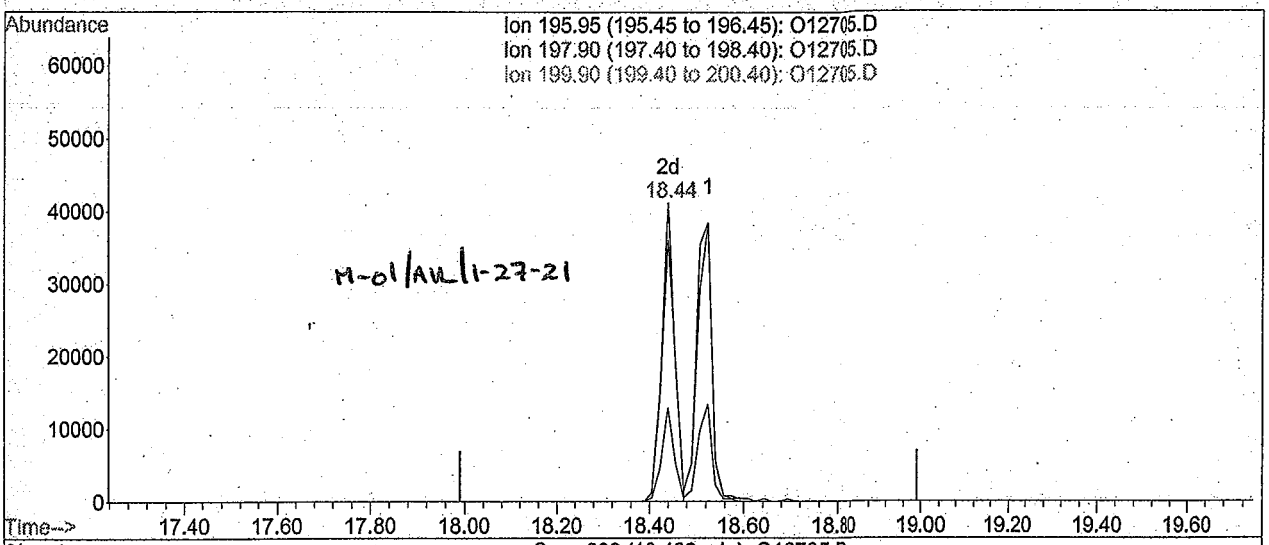
BEFORE

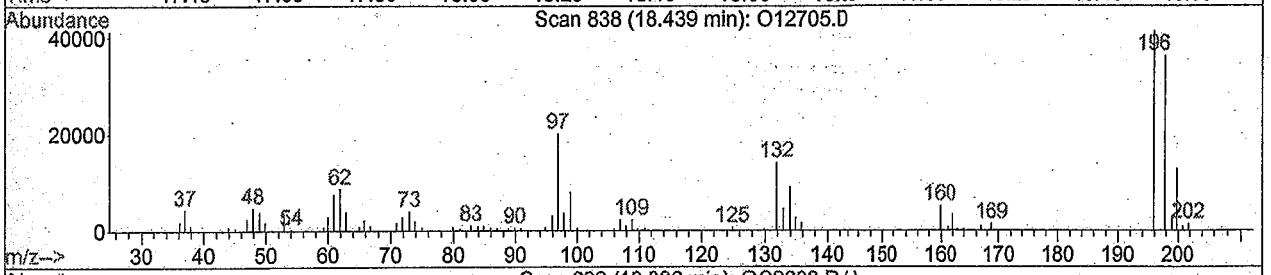
Quantitation Report (Qedit)

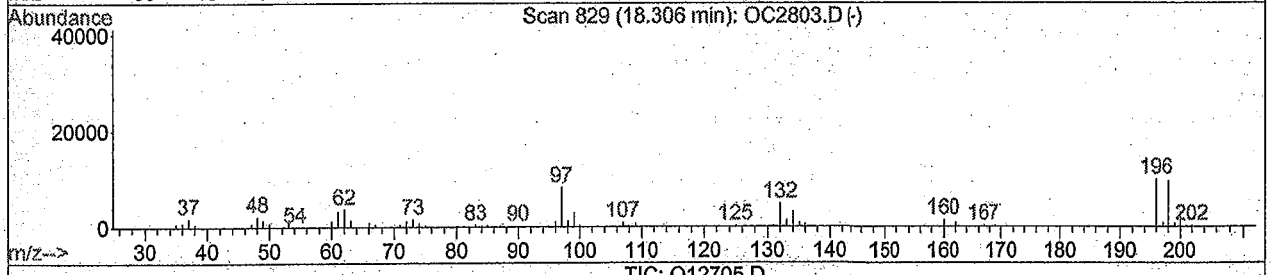
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(38) 2,4,6-Trichlorophenol (C)

18.44min 26.31mg/L m

response 78318

AFTER

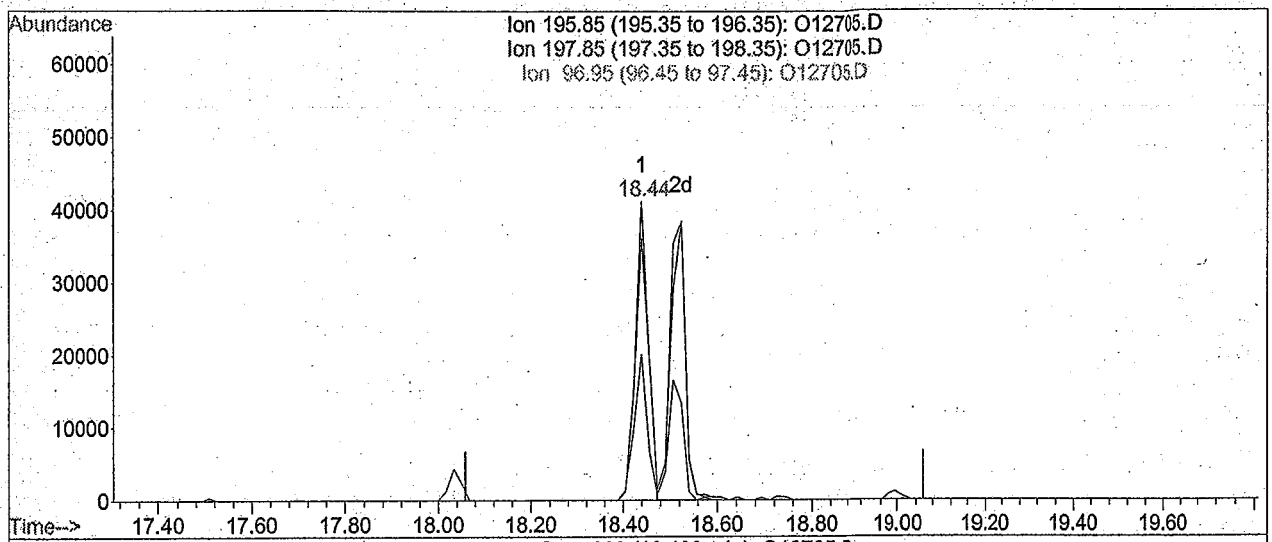
Ion	Exp%	Act%
195.95	100	100
197.90	95.20	87.66
199.90	30.30	31.24
0.00	0.00	0.00

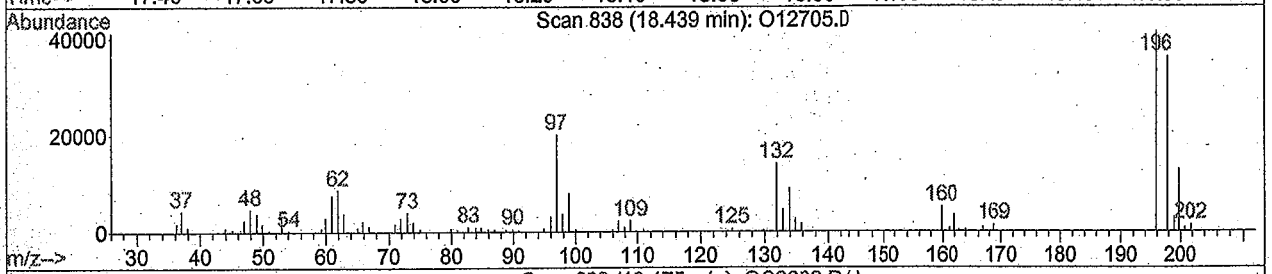
Quantitation Report (Qedit)

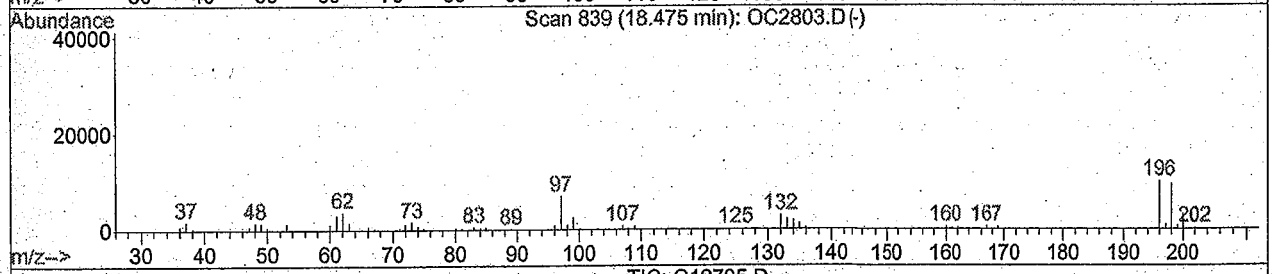
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(39) 2,4,5-Trichlorophenol

18.44min 24.51mg/L

response 78318

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	87.66
96.95	55.30	48.94
0.00	0.00	0.00

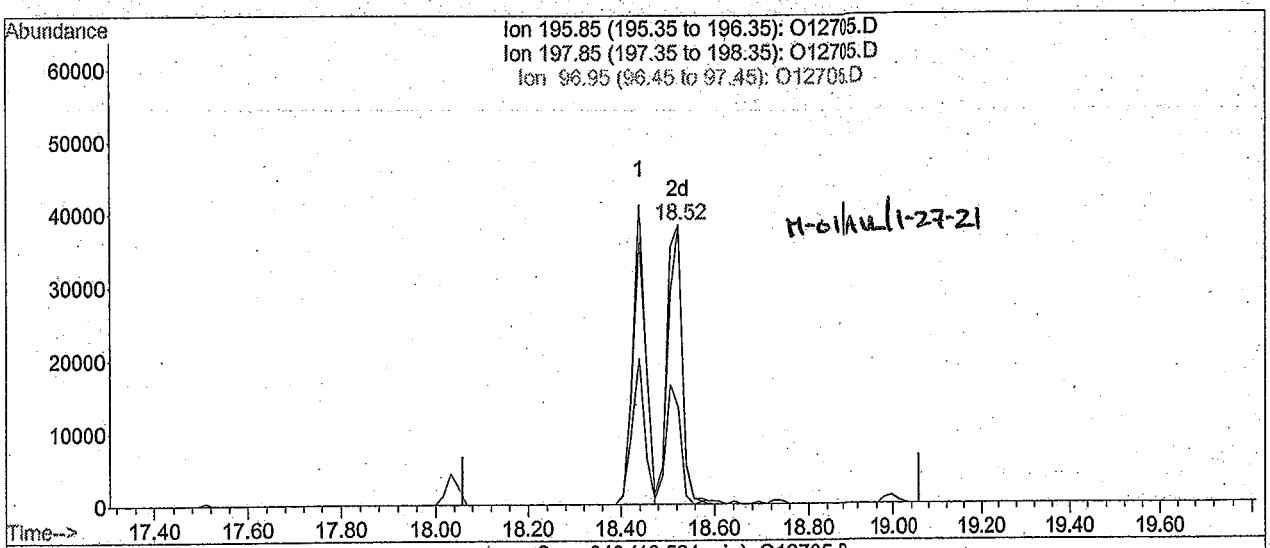
BEFORE

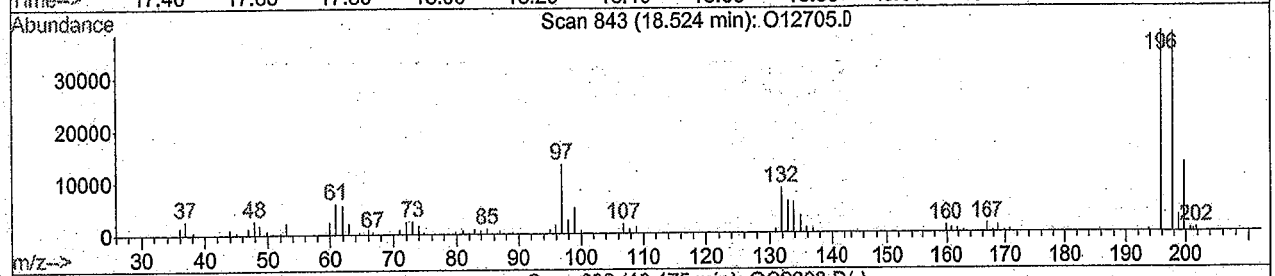
Quantitation Report (Qedit)

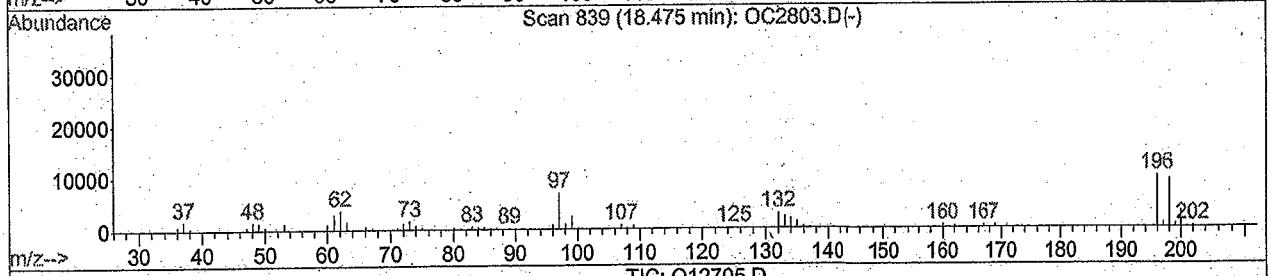
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(39) 2,4,5-Trichlorophenol

18.52min 27.49mg/L m

response 87824

AFTER

Ion	Exp%	Act%
195.85	100	100
197.85	95.20	99.54
96.95	55.30	34.81#
0.00	0.00	0.00

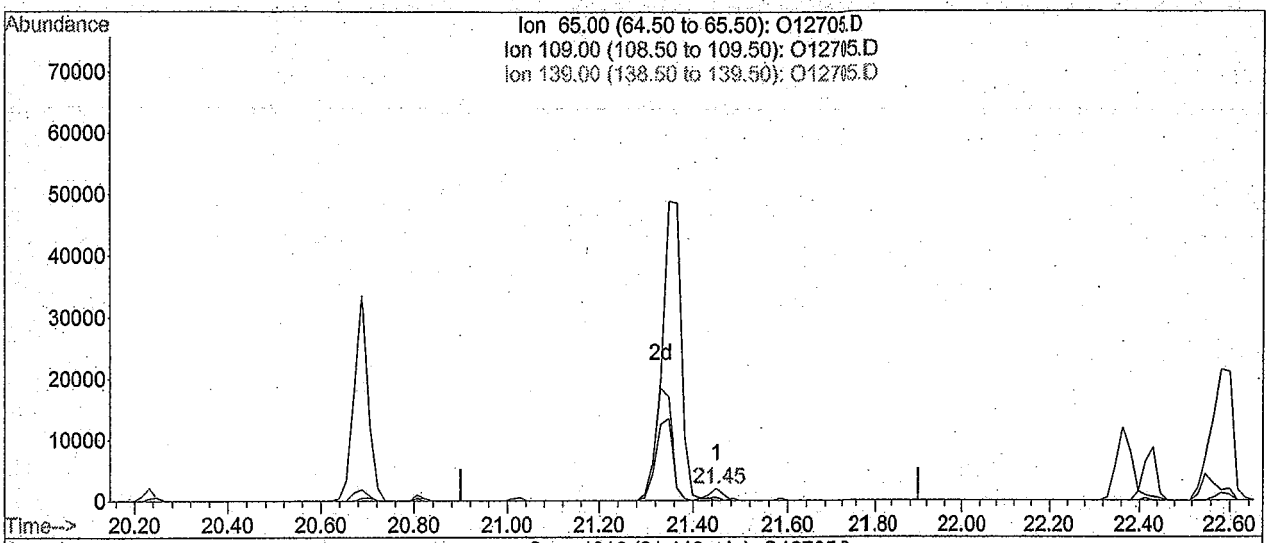
Quantitation Report (Qedit)

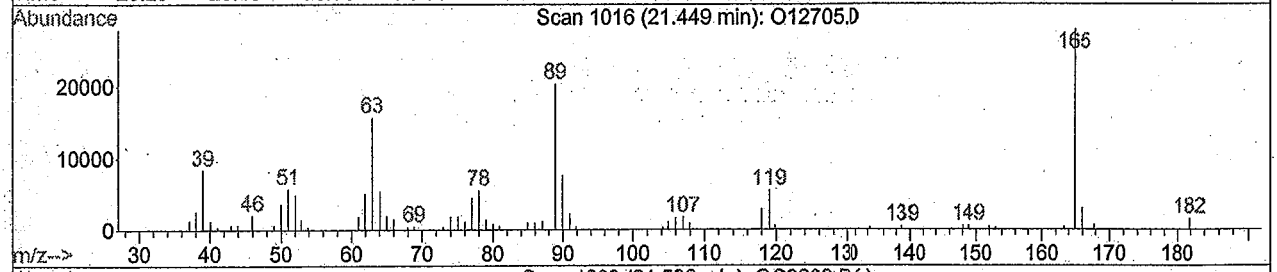
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:49 2021

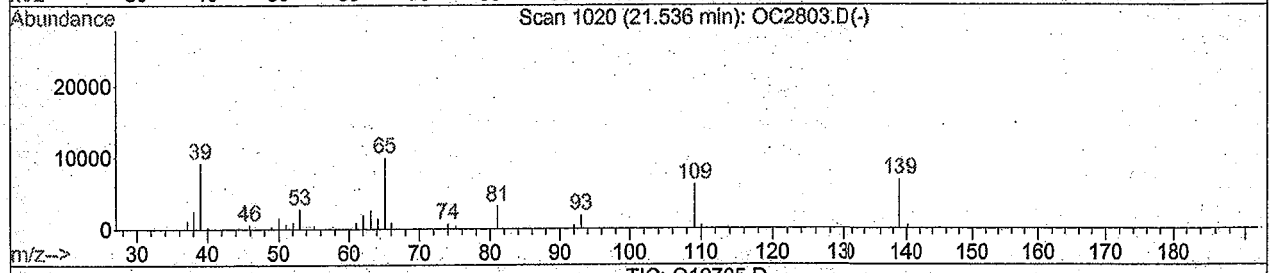
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(50) 4-Nitrophenol (M)

21.45min 1.51mg/L

response 4254

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	0.00#
139.00	102.40	26.78#
0.00	0.00	0.00

BEFORE

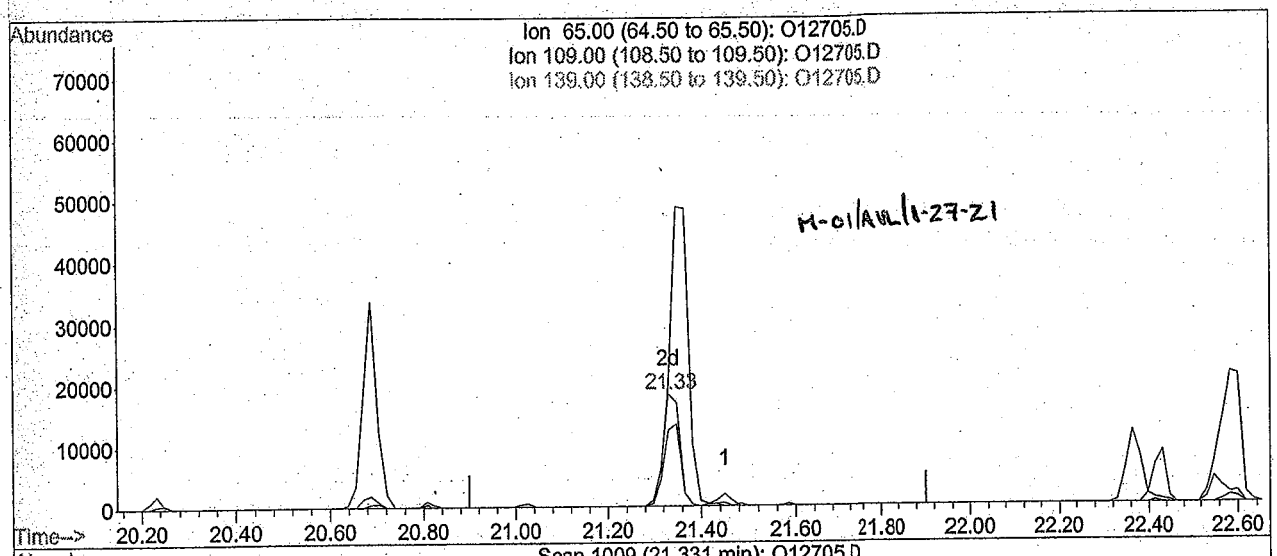
Quantitation Report (Qedit)

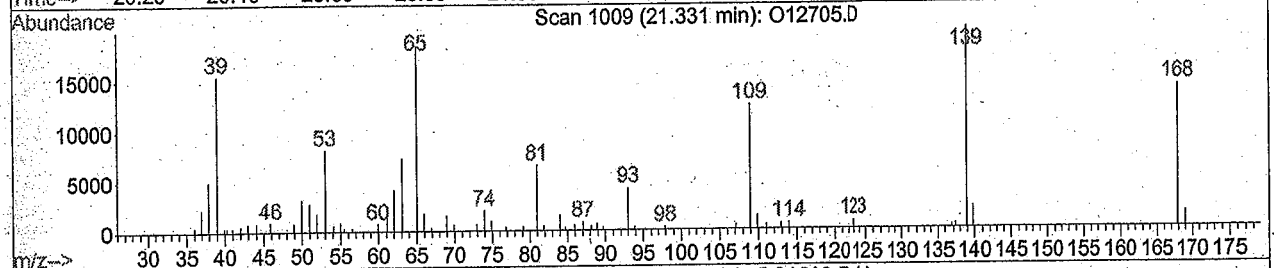
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

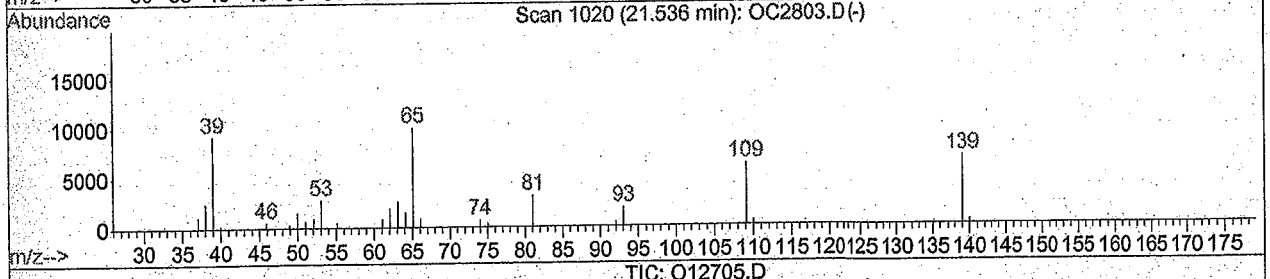
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(50) 4-Nitrophenol (M)

21.33min 16.27mg/L m

response 45741

AFTER

Ion	Exp%	Act%
65.00	100	100
109.00	42.90	67.81#
139.00	102.40	108.60
0.00	0.00	0.00

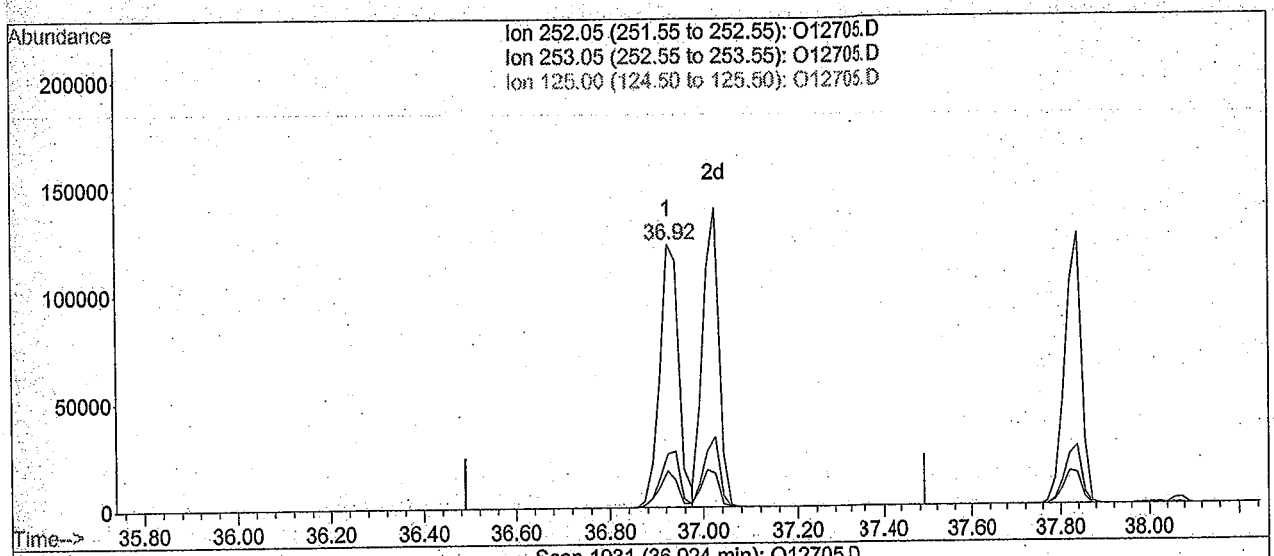
Quantitation Report (Qedit)

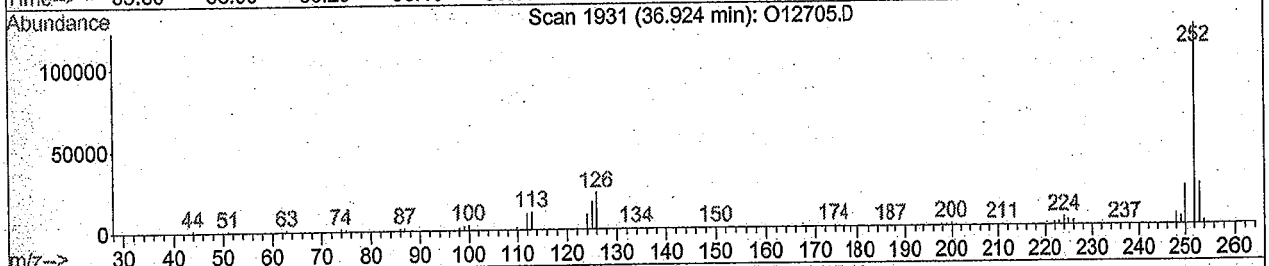
Data File : C:\OTIS\01-27-21\012705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

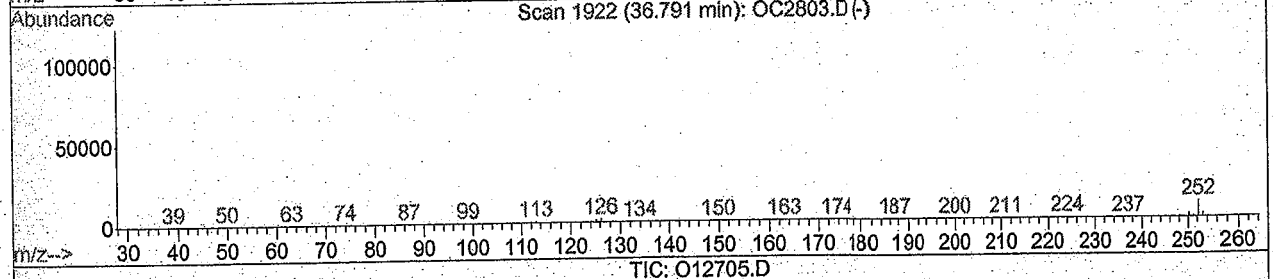
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(81) Benzo(k)fluoranthene (M)

36.92min 25.72mg/L

response 356586

BEFORE

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	20.34
125.00	17.20	13.92
0.00	0.00	0.00

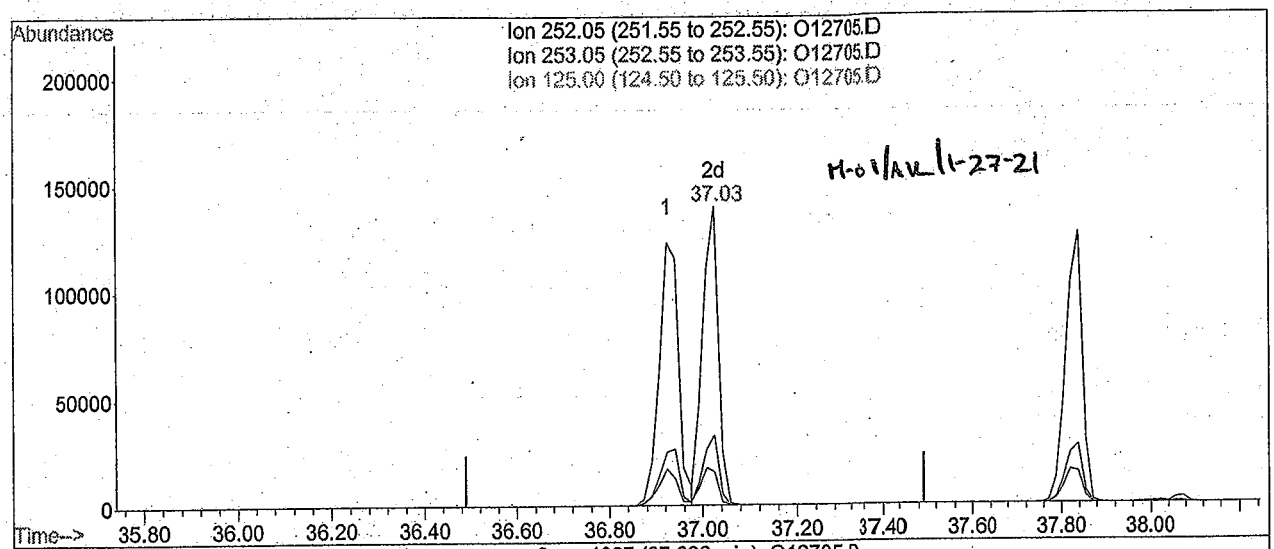
Quantitation Report (Qedit)

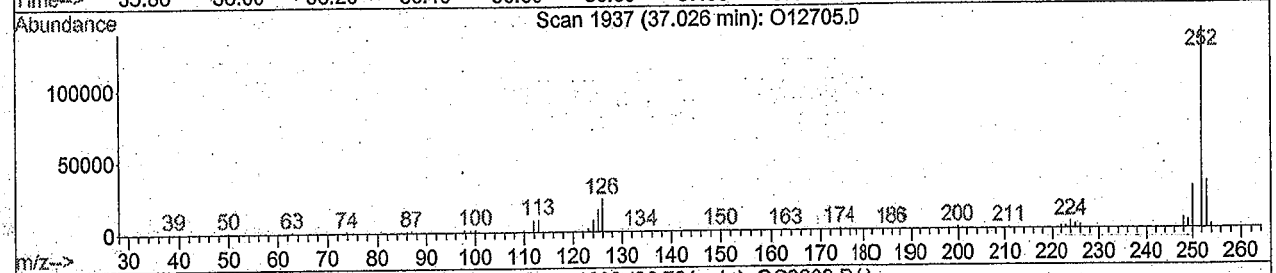
Data File : C:\OTIS\O1-27-21\O12705.D
Acq On : 27 Jan 2021 12:00 pm
Sample : 20ppm BNA CALB / 21A1823
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 12:50 2021

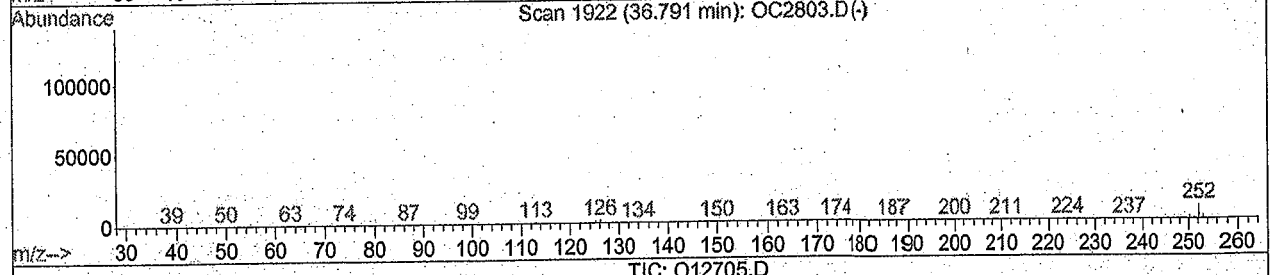
Vial: 5
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 11:54:16 2021
Response via : Multiple Level Calibration







TIC: O12705.D

(81) Benzo(k)fluoranthene (M)

37.03min 23.84mg/L m

response 330450

AFTER

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	23.59
125.00	17.20	11.22#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.62	152	165034	40.00	ng/ml	0.00
19) Naphthalene-d8	15.33	136	588206	40.00	ng/ml	0.00
35) Acenaphthene-d10	20.72	164	358339	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.32	188	677785	40.00	ng/ml	0.00
68) Chrysene-d12	33.69	240	565738	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	617325	40.00	ng/ml	0.02
System Monitoring Compounds						
4) 2-Fluorophenol	8.16	112	251557	50.75	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 50.75%			
7) Phenol-d5	10.74	99	321833	49.61	mg/L	0.03
Spiked Amount 100.000	Range 11 - 40		Recovery = 49.61%#			
20) Nitrobenzene-d5	13.23	82	266962	53.05	mg/L	0.02
Spiked Amount 100.000	Range 36 - 103		Recovery = 53.05%			
40) 2-Fluorobiphenyl	18.76	172	591603	55.27	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 55.27%			
60) 2,4,6-Tribromophenol	23.19	330	103844	51.34	mg/L	0.02
Spiked Amount 100.000	Range 30 - 105		Recovery = 51.34%			
72) Terphenyl-d14	30.50	244	454749	56.01	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 56.01%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.83	42	171178	59.38	mg/L #	60
3) Pyridine	4.88	79	277472	42.62	mg/L	98
5) Aniline	10.74	93	377988	46.19	mg/L #	85
6) bis(2-Chloroethyl)ether	11.01	93	263389	48.12	mg/L	93
8) 2-Chlorophenol	11.03	128	260344	51.64	mg/L	93
9) Phenol	10.80	94	346834	49.74	mg/L #	88
10) 1,3-Dichlorobenzene	11.45	146	277752m	52.55	mg/L	
11) 1,4-Dichlorobenzene	11.67	146	289634	51.59	mg/L #	96
12) 1,2-Dichlorobenzene	12.08	146	271779	51.95	mg/L	95
13) Benzyl Alcohol	12.11	108	170406	49.44	mg/L	94
14) bis(2-Chloroisopropyl)ethe	12.55	45	398694m	42.30	mg/L	
15) 2-Methylphenol (o-Cresol)	12.47	107	225185	51.50	mg/L	92
16) 3,4-Methylphenol(m,p Creso	12.96	107	329364	51.20	mg/L	97
17) N-Nitroso-di-n-propylamine	12.93	70	178800	49.18	mg/L #	86
18) Hexachloroethane	13.04	117	127784	53.59	mg/L #	57
21) Nitrobenzene	13.30	77	262619	50.65	mg/L #	88
22) Isophorone	14.08	82	503436	52.94	mg/L #	91
23) N-Ethylaniline	14.18	106	441321	55.67	mg/L	95
24) 2-Nitrophenol	14.23	139	134458	55.80	mg/L #	88
25) 2,4-Dimethylphenol	14.52	122	227746	57.87	mg/L	90
26) bis(2-Chloroethoxy)methane	14.82	93	299446	48.90	mg/L #	91
27) Benzoic Acid	15.07	122	145971m	52.91	mg/L	
28) 1,2,4-Trichlorobenzene	15.19	180	284943	71.96	mg/L	96
29) 2,4-Dichlorophenol	14.97	162	235680	66.38	mg/L	92
30) Naphthalene	15.40	128	712948	54.40	mg/L	94
31) 4-Chloroaniline	15.65	127	322525	54.69	mg/L	94
32) Hexachlorobutadiene	15.85	225	166160	67.72	mg/L	96
33) 4-Chloro-3-methylphenol	17.24	107	235024	62.26	mg/L	98
34) 2-Methylnaphthalene	17.53	142	468811	58.31	mg/L	94
36) 1,2,4,5-Tetrachlorobenzene	18.05	216	289101	57.44	mg/L	97
37) Hexachlorocyclopentadiene	18.05	237	172035	60.58	mg/L	97
38) 2,4,6-Trichlorophenol	18.46	196	195421	59.72	mg/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.52	196	216719	61.15	mg/L		96
41)	2-Chloronaphthalene	19.01	162	467943	50.47	mg/L		99
42)	2-Nitroaniline	19.42	65	161941	40.90	mg/L		95
43)	Dimethylphthalate	20.15	163	534546	52.09	mg/L	#	95
44)	Acenaphthylene	20.27	152	740687	48.37	mg/L		99
45)	2,6-Dinitrotoluene	20.27	165	134484	55.79	mg/L	#	87
46)	3-Nitroaniline	20.72	138	128462	38.18	mg/L	#	69
47)	Acenaphthene	20.82	154	421099	48.26	mg/L		96
48)	Dibenzofuran	21.38	168	702955	54.44	mg/L	#	83
49)	2,4-Dinitrotoluene	21.48	165	182716	58.43	mg/L	#	85
50)	4-Nitrophenol	21.38	65	130182	46.20	mg/L	#	1
51)	2,4-Dinitrophenol	21.06	184	69884	43.90	mg/L	#	41
52)	Diethylphthalate	22.40	149	548015	51.12	mg/L	#	89
53)	Fluorene	22.45	166	510959	51.32	mg/L		99
54)	4-Chlorophenyl-phenylether	22.57	204	300527	63.77	mg/L		96
55)	4-Nitroaniline	22.65	138	134616	40.73	mg/L	#	78
57)	4,6-Dinitro-2-methylphenol	22.74	198	107131	46.77	mg/L	#	81
58)	N-Nitrosodiphenylamine	22.97	169	357233	49.75	mg/L		97
59)	1,2-Diphenylhydrazine	23.06	77	594058	35.72	mg/L	#	84
61)	4-Bromophenyl-phenylether	24.07	248	182131	52.84	mg/L		96
62)	Hexachlorobenzene	24.12	284	196742	53.70	mg/L		96
63)	Pentachlorophenol	24.78	266	141080	58.24	mg/L		98
64)	Phenanthrene	25.41	178	821449	52.61	mg/L		97
65)	Anthracene	25.56	178	837327	52.57	mg/L	#	93
66)	Carbazole	26.15	167	703261	47.29	mg/L	#	88
67)	Di-n-butylphthalate	27.57	149	1081684	46.85	mg/L	#	98
69)	Fluoranthene	29.09	202	957492	57.24	mg/L	#	80
70)	Benzidine	29.72	184	1015843	127.20	mg/L	#	87
71)	Pyrene	29.77	202	943407	57.43	mg/L	#	72
73)	Butylbenzylphthalate	32.26	149	452775	48.67	mg/L	#	96
74)	Benzo(a)anthracene	33.64	228	846249	51.84	mg/L		99
75)	Chrysene	33.78	228	837006	51.91	mg/L		95
76)	3,3'-Dichlorobenzidine	33.76	252	665576	110.53	mg/L	#	94
77)	bis(2-Ethylhexyl)phthalate	34.30	149	654785	47.85	mg/L	#	91
78)	Di-n-octylphthalate	36.35	149	1225318	49.16	mg/L		99
80)	Benzo(b)fluoranthene	36.96	252	855348	52.58	mg/L	#	88
81)	Benzo(k)fluoranthene	37.06	252	831659m	55.88	mg/L		
82)	Benzo(a)pyrene	37.87	252	770844	52.46	mg/L	#	84
83)	Indeno(1,2,3-cd)pyrene	41.12	276	758736	52.37	mg/L	#	70
84)	Dibenzo(a,h)anthracene	41.25	278	759819	53.57	mg/L	#	80
85)	Benzo(g,h,i)perylene	41.98	276	746121	52.92	mg/L	#	82

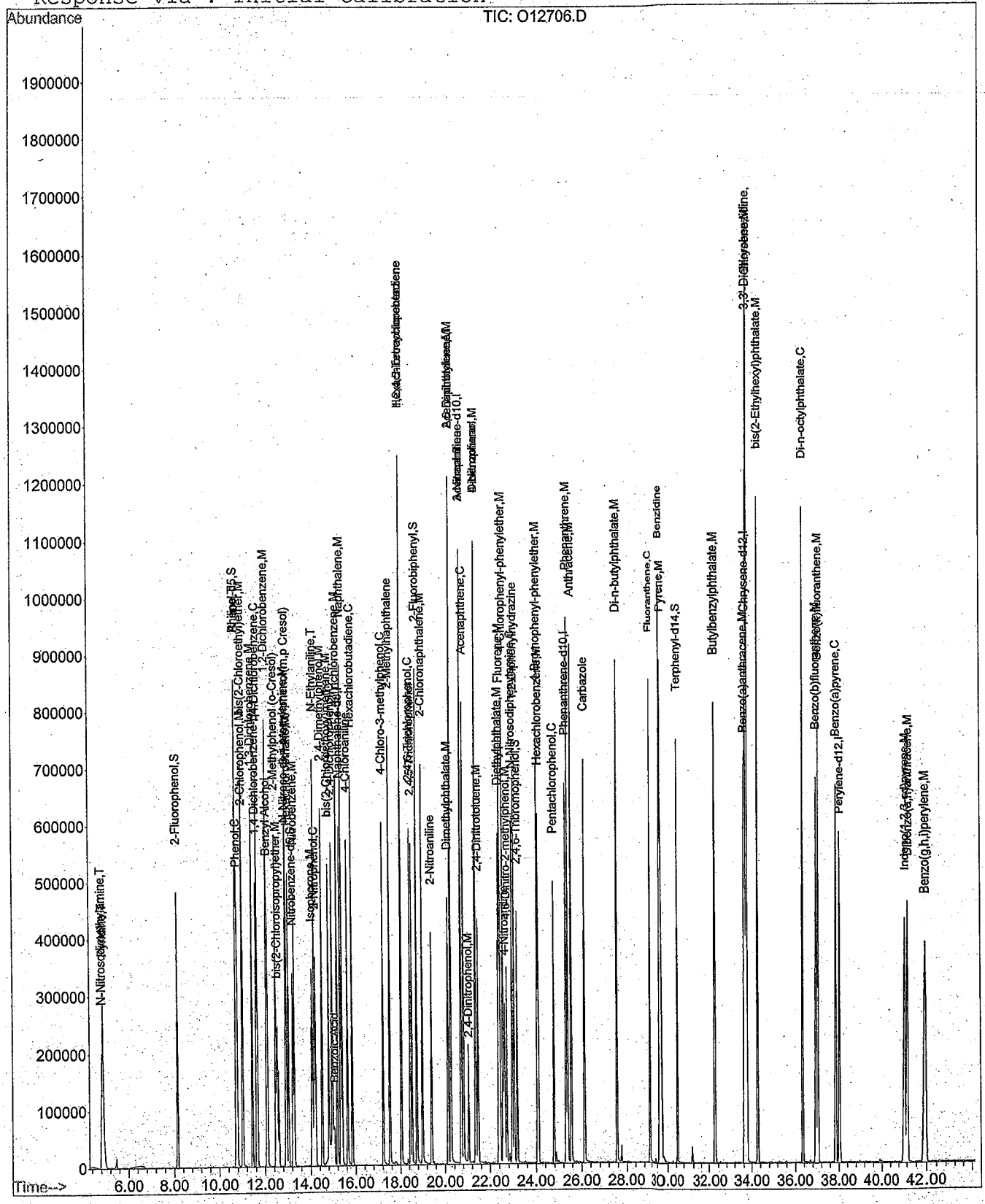
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration



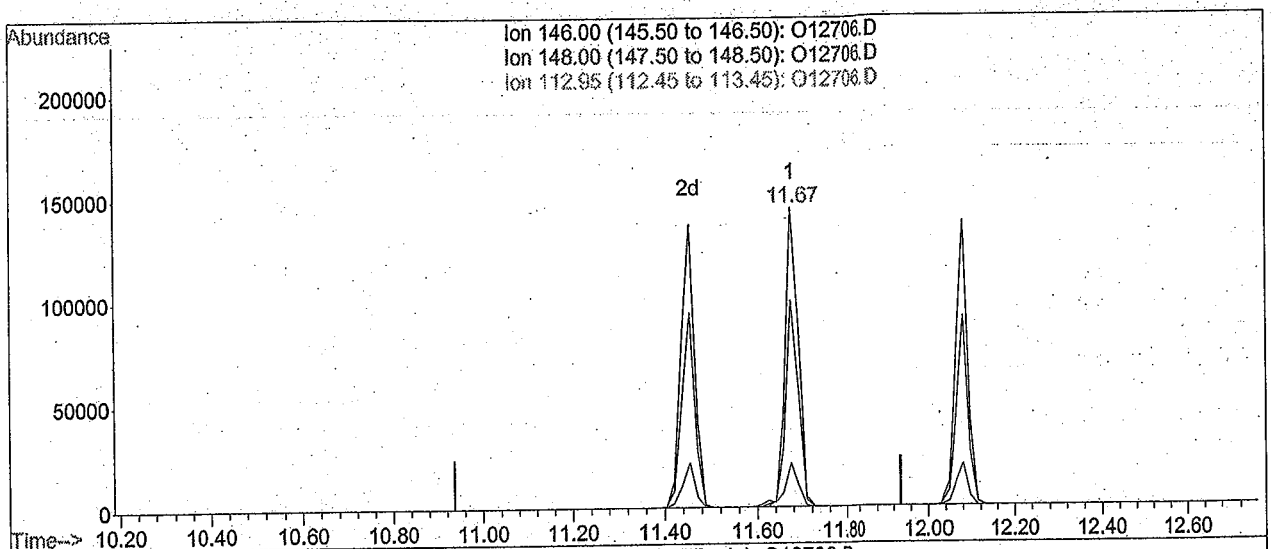
Quantitation Report (Qedit)

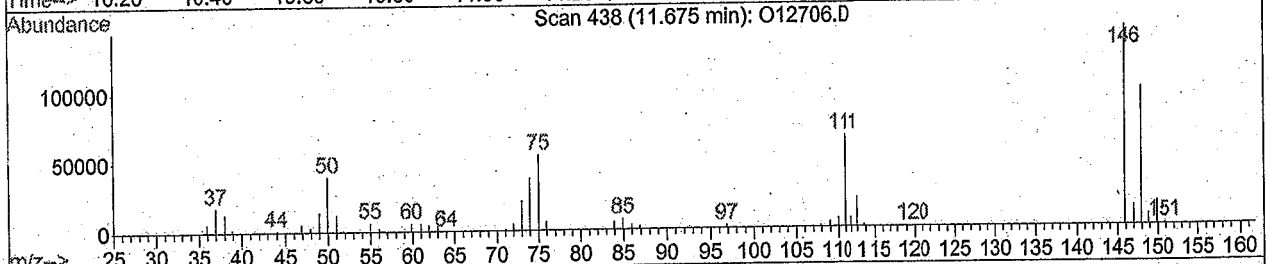
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:37 2021

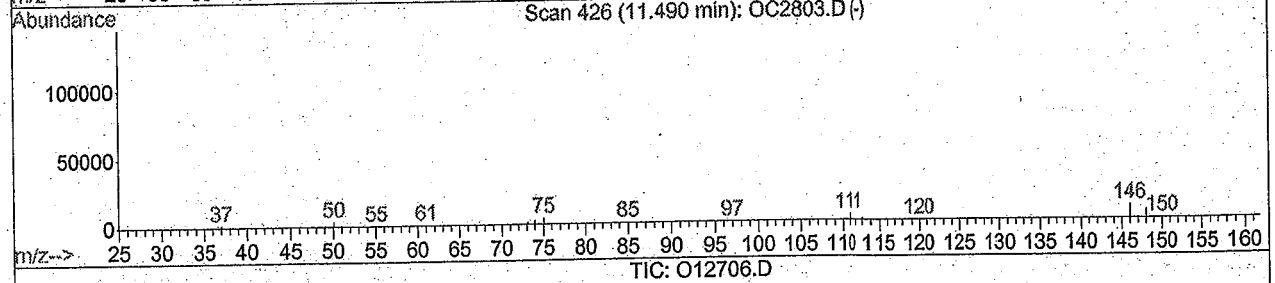
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(10) 1,3-Dichlorobenzene (M)

11.67min 54.80mg/L

response 289634

BEFORE

Ion	Exp%	Act%
146.00	100	100
148.00	63.30	69.06
112.95	12.70	14.65
0.00	0.00	0.00

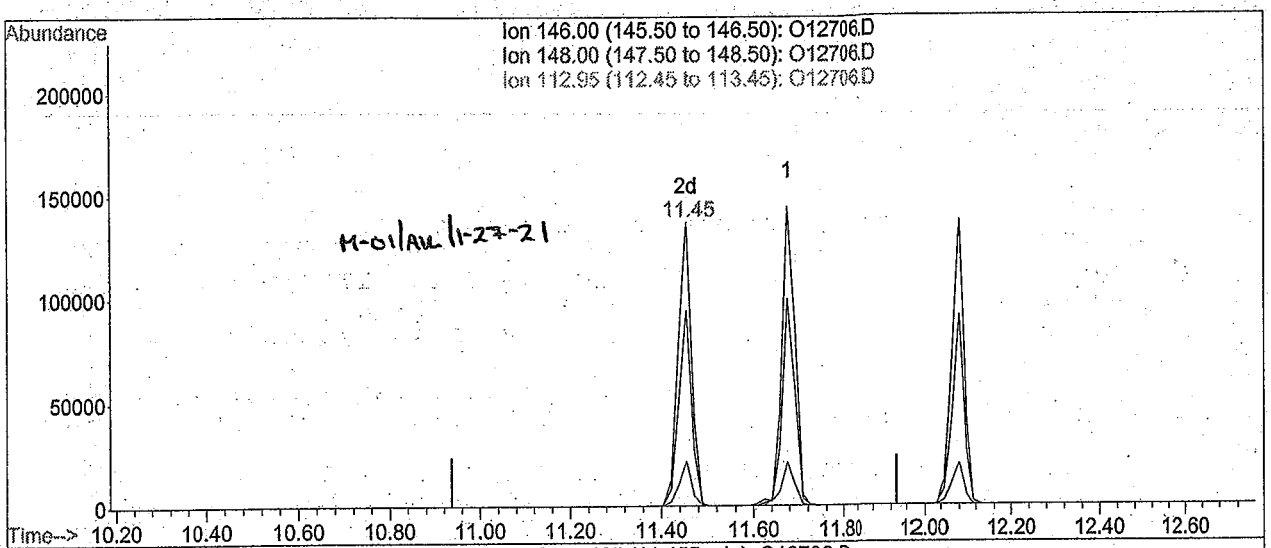
Quantitation Report (Qedit)

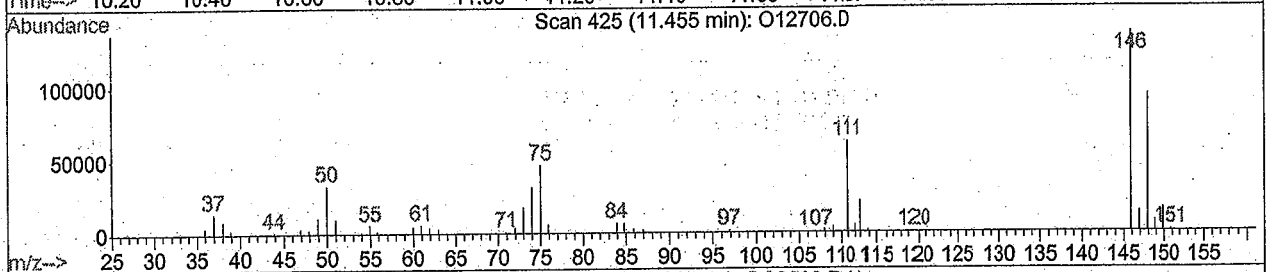
Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

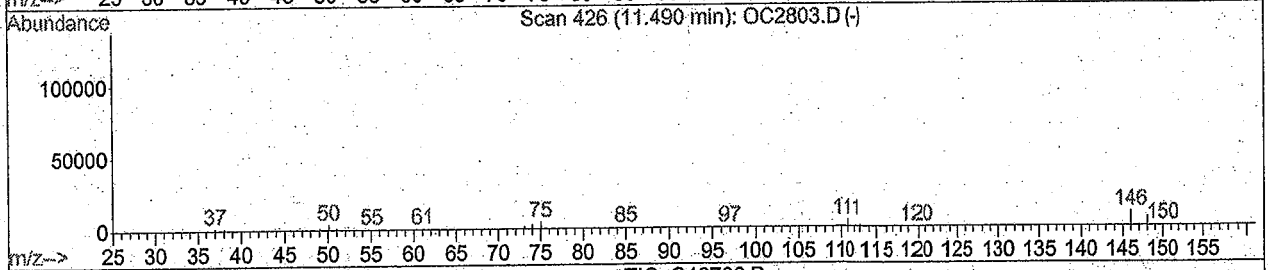
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(10) 1,3-Dichlorobenzene (M)

11.45min 52.55mg/L m

AFTER

response 277752

Ion	Exp%	Act%
146.00	100	100
148.00	63.30	68.87
112.95	12.70	15.86#
0.00	0.00	0.00

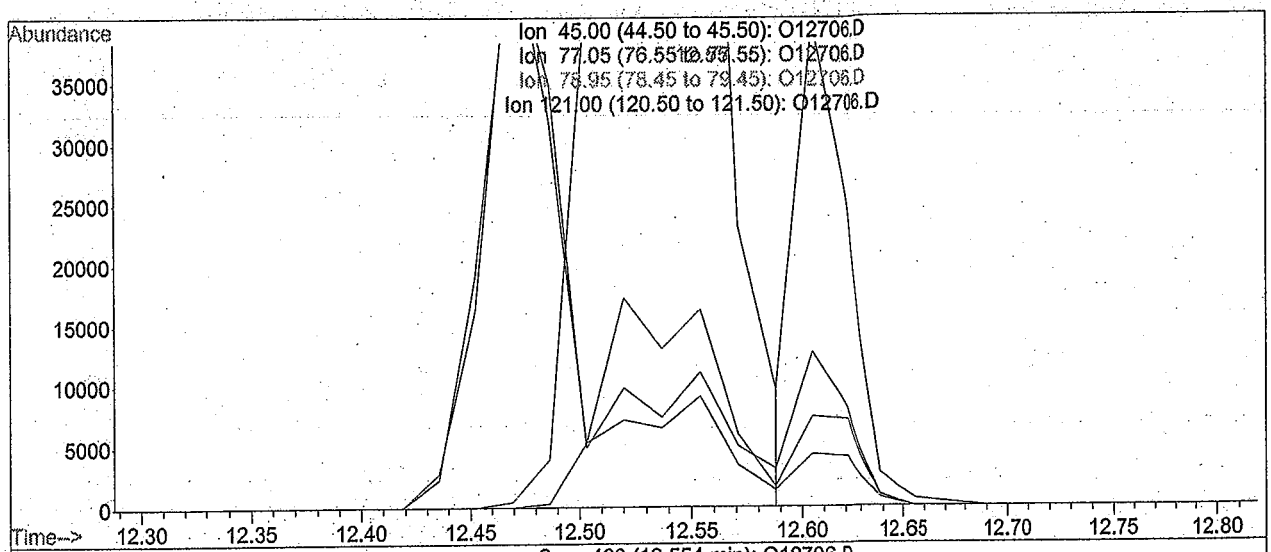
Quantitation Report (Qedit)

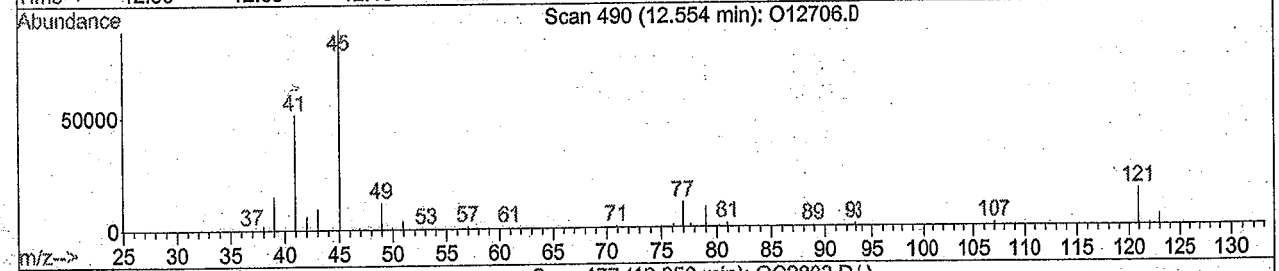
Data File : C:\OTIS\01-27-21\012706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

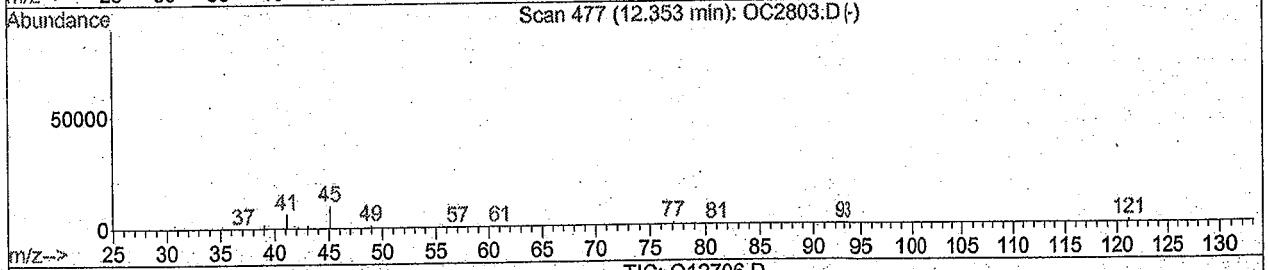
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(14) bis(2-Chloroisopropyl)ether (M)

12.55min 35.00mg/L

response 329906

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.52#
78.95	8.00	10.27#
121.00	13.30	18.39#

BEFORE

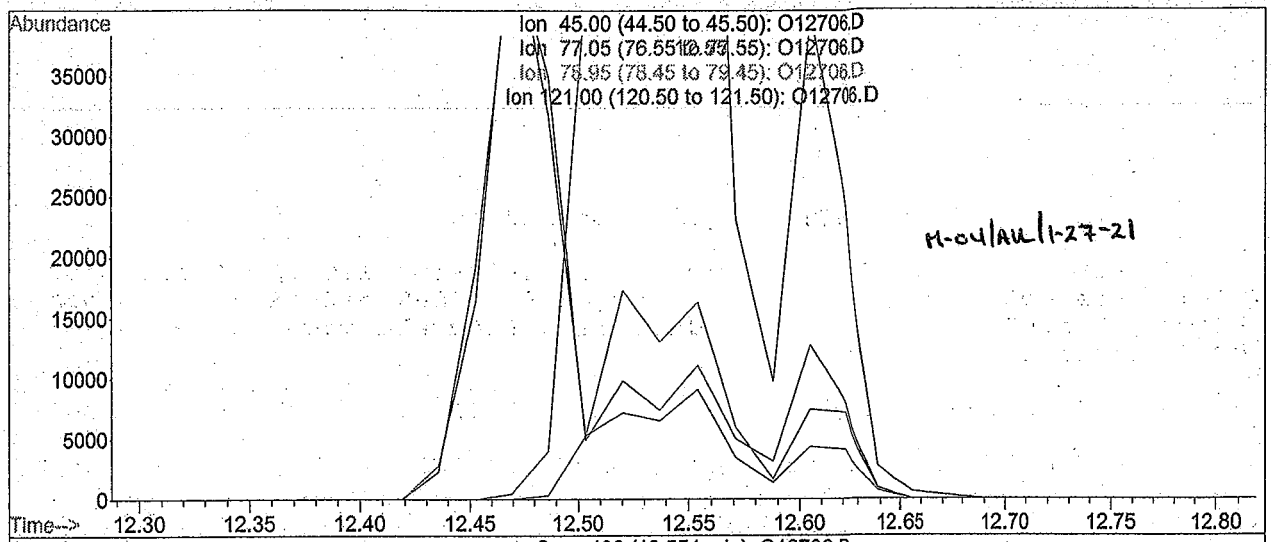
Quantitation Report (Qedit)

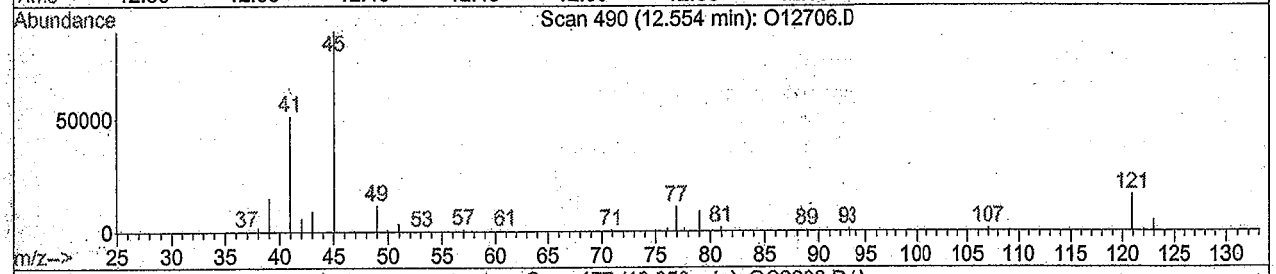
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

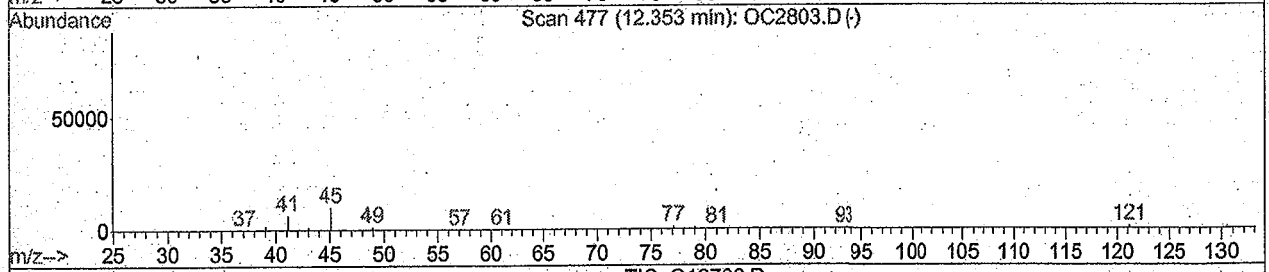
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(14) bis(2-Chloroisopropyl)ether (M)

12.55min 42.30mg/L m

response 398694

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	9.60	12.52#
78.95	8.00	10.27#
121.00	13.30	18.39#

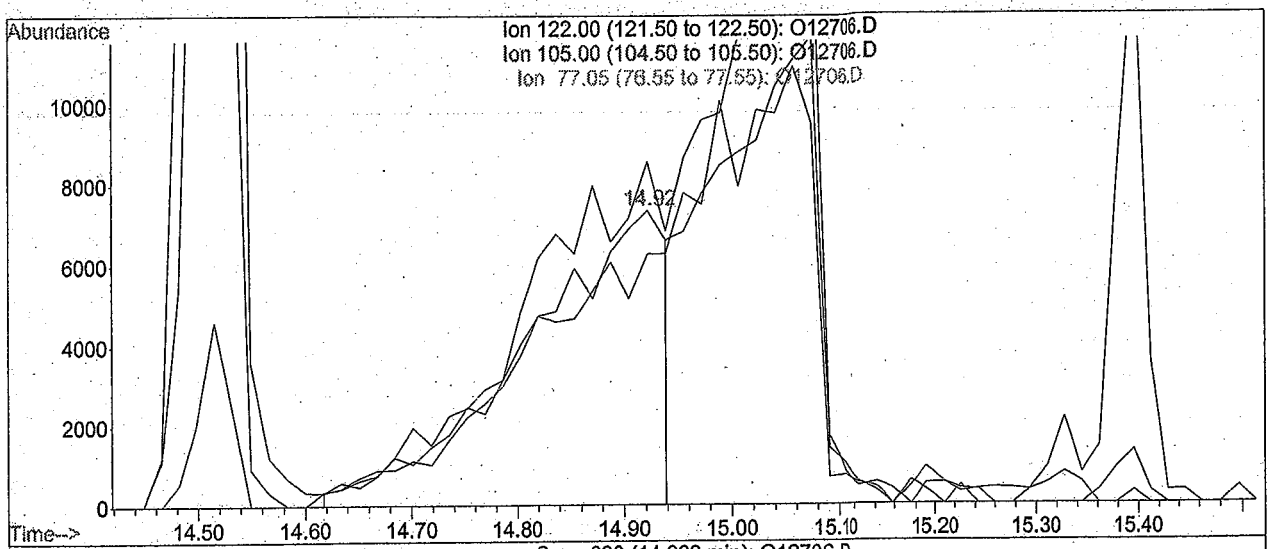
Quantitation Report (Qedit)

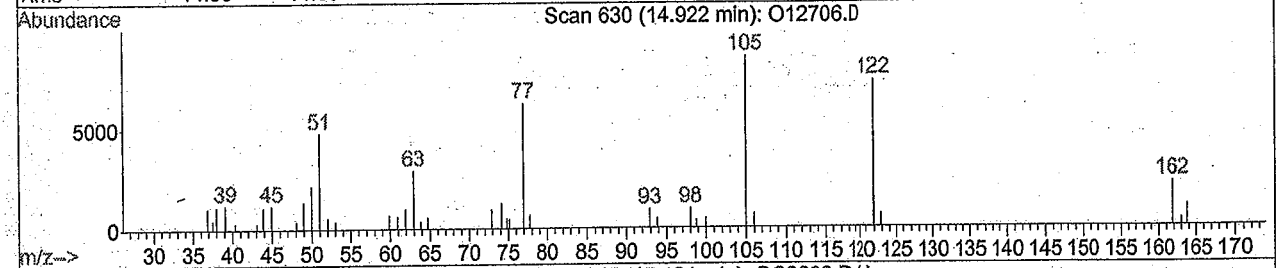
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

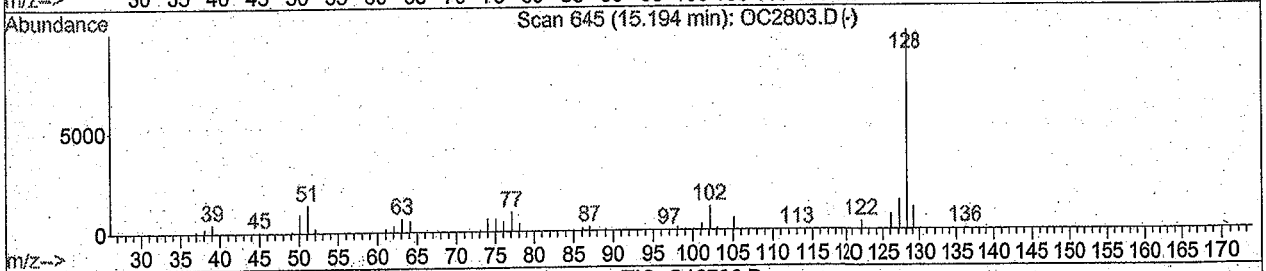
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(27) Benzoic Acid

14.92min 24.33mg/L

response 67125

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	116.62
77.05	93.20	85.24
0.00	0.00	0.00

BEFORE

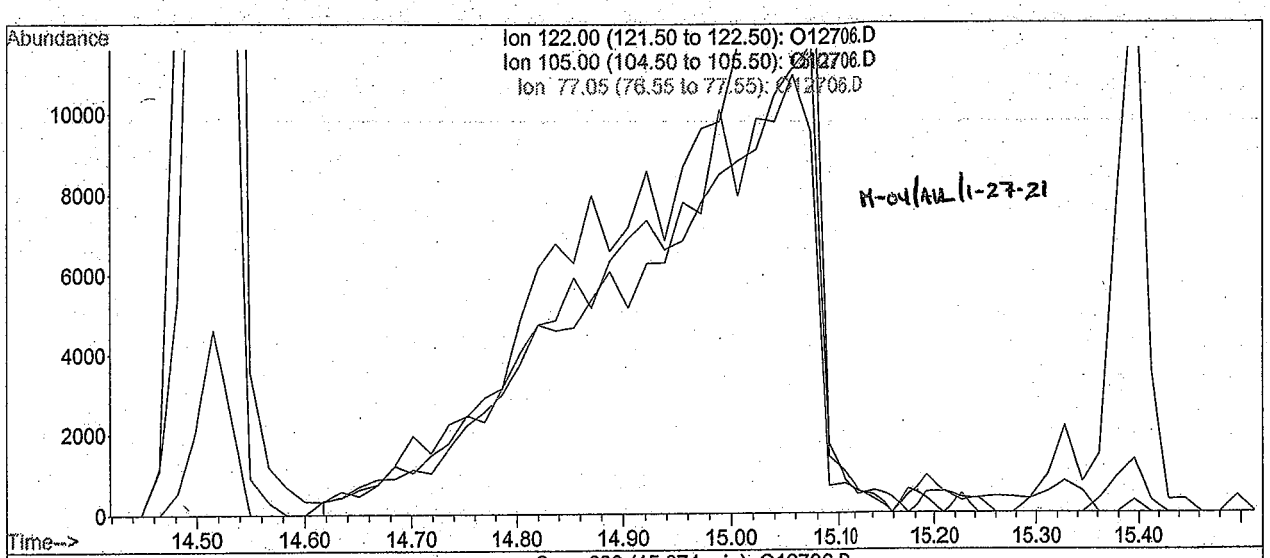
Quantitation Report (Qedit)

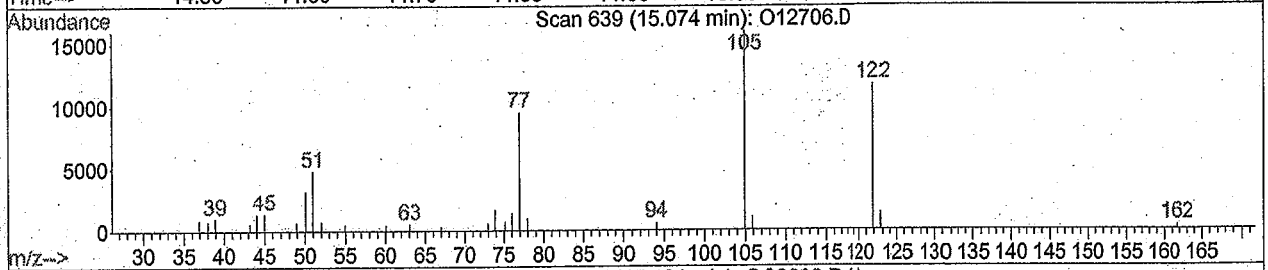
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

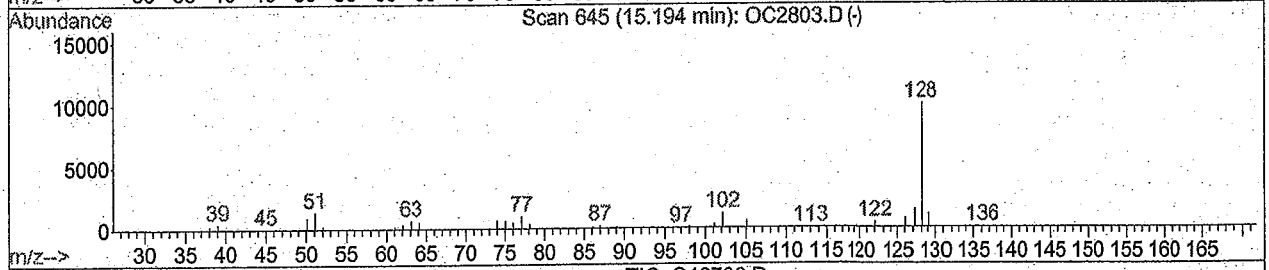
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(27) Benzoic Acid

15.07min 52.91mg/L m

response 145971

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	115.70	136.87
77.05	93.20	81.43
0.00	0.00	0.00

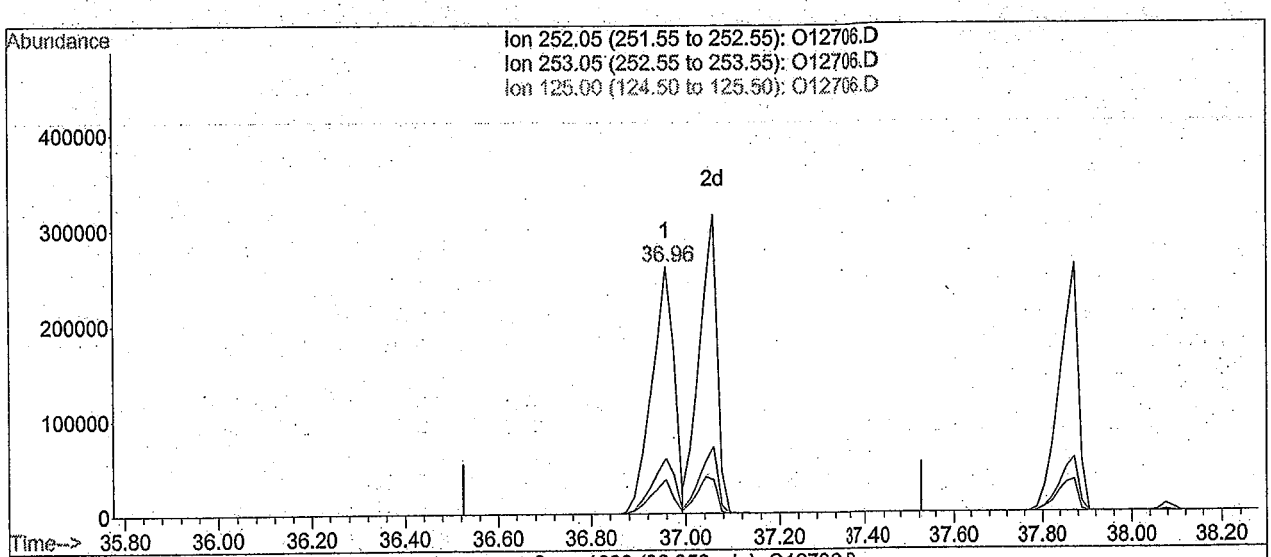
Quantitation Report (Qedit)

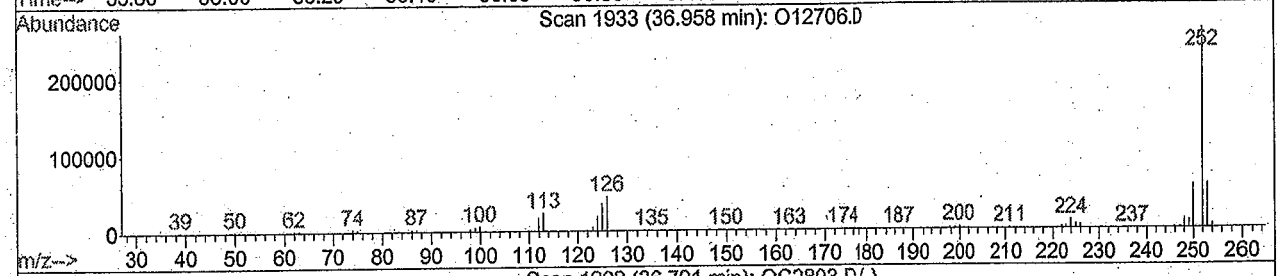
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:42 2021

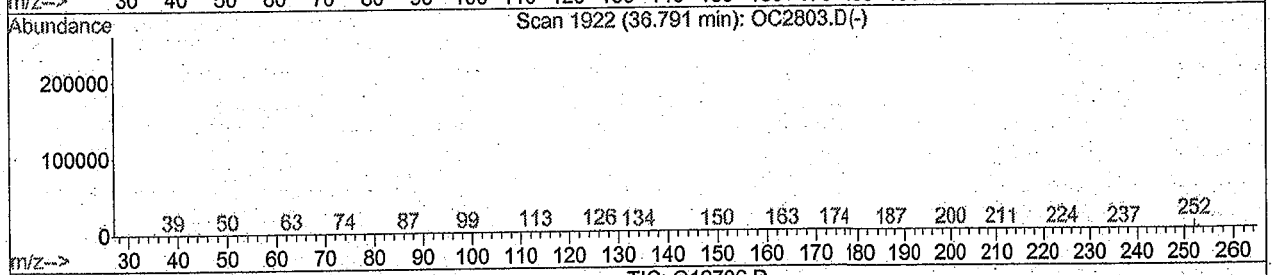
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(81) Benzo(k)fluoranthene (M)

36.96min 57.47mg/L

response 855348

BEFORE

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	22.41
125.00	17.20	13.86
0.00	0.00	0.00

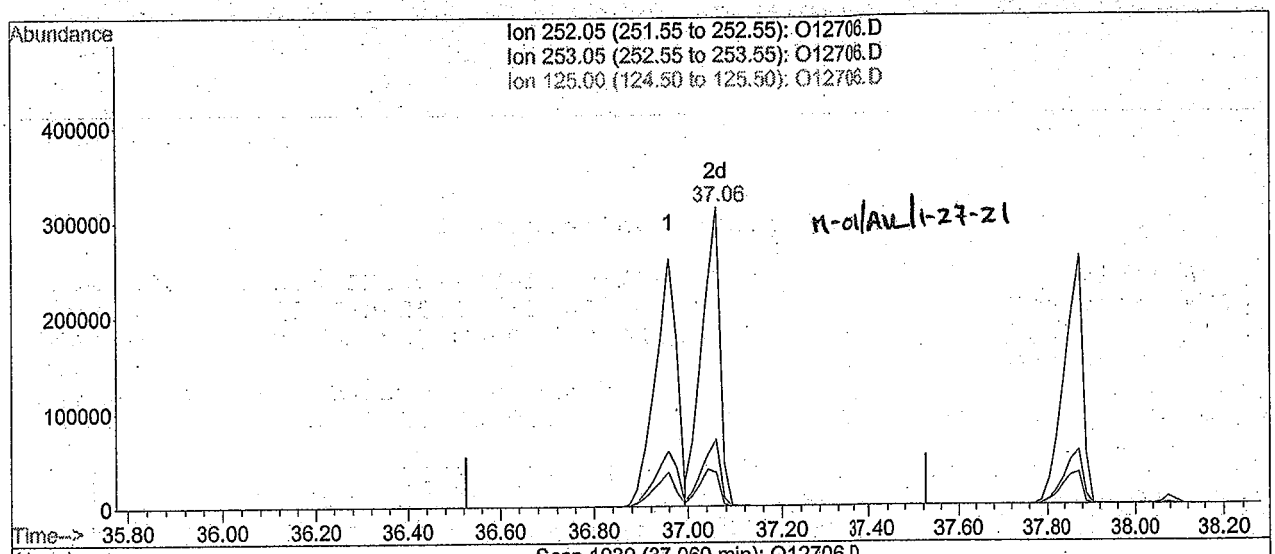
Quantitation Report (Qedit)

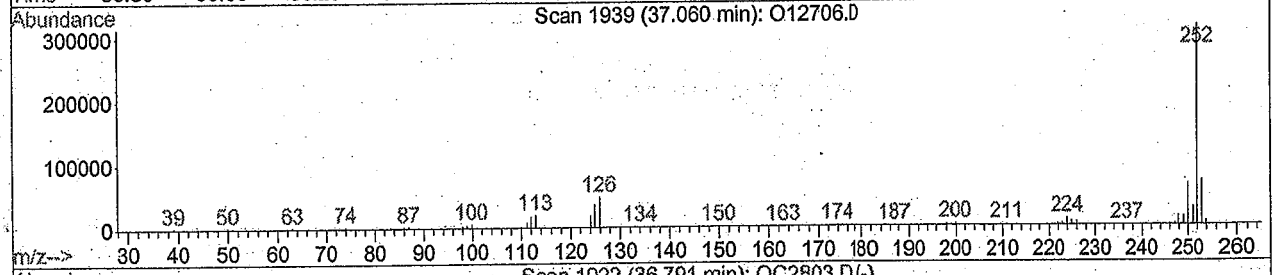
Data File : C:\OTIS\O1-27-21\O12706.D
Acq On : 27 Jan 2021 12:53 pm
Sample : 50ppm BNA CALB / 21A1820
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 13:43 2021

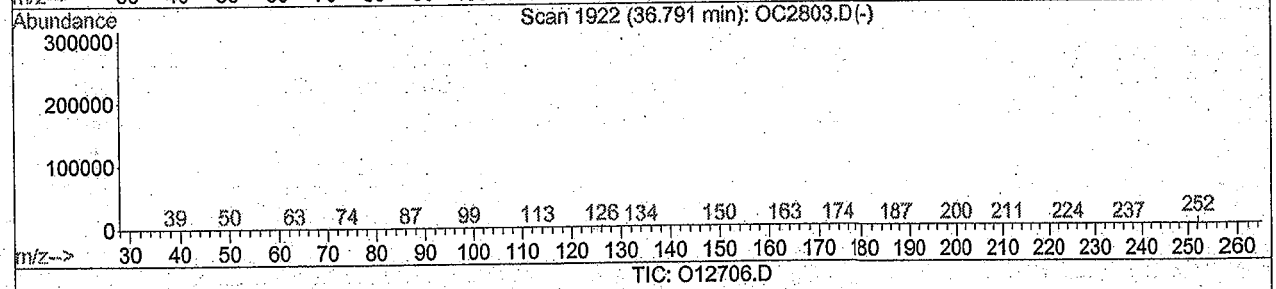
Vial: 6
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 12:51:54 2021
Response via : Multiple Level Calibration







TIC: O12706.D

(81) Benzo(k)fluoranthene (M)

37.06min 55.88mg/L m

response 831659

AFTER

Ion	Exp%	Act%
252.05	100	100
253.05	21.80	22.43
125.00	17.20	11.28#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	171496	40.00	ng/ml	0.02
19) Naphthalene-d8	15.35	136	562187	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	361387	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	672138	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	554290	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	608832	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.16	112	391563	75.07	mg/L	0.00
Spiked Amount 100.000	Range 20 - 53		Recovery = 75.07%#			
7) Phenol-d5	10.78	99	539998	80.12	mg/L	0.04
Spiked Amount 100.000	Range 11 - 40		Recovery = 80.12%#			
20) Nitrobenzene-d5	13.25	82	447905	91.98	mg/L	0.02
Spiked Amount 100.000	Range 36 - 103		Recovery = 91.98%			
40) 2-Fluorobiphenyl	18.76	172	1004779	89.63	mg/L	0.00
Spiked Amount 100.000	Range 36 - 119		Recovery = 89.63%			
60) 2,4,6-Tribromophenol	23.21	330	176491	88.02	mg/L	0.02
Spiked Amount 100.000	Range 30 - 105		Recovery = 88.02%			
72) Terphenyl-d14	30.52	244	770733	93.34	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 93.34%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.84	42	273883	86.75	mg/L	90
3) Pyridine	4.88	79	453128	69.15	mg/L	89
5) Aniline	10.76	93	599278	71.28	mg/L	97
6) bis(2-Chloroethyl)ether	11.03	93	410691	73.43	mg/L	98
8) 2-Chlorophenol	11.05	128	414727	78.25	mg/L	93
9) Phenol	10.81	94	568462	77.46	mg/L	90
10) 1,3-Dichlorobenzene	11.46	146	444290	79.09	mg/L	99
11) 1,4-Dichlorobenzene	11.69	146	461781	77.78	mg/L	97
12) 1,2-Dichlorobenzene	12.08	146	433156	78.13	mg/L	95
13) Benzyl Alcohol	12.15	108	289681	79.93	mg/L	97
14) bis(2-Chloroisopropyl)ethe	12.56	45	642227	68.06	mg/L	97
15) 2-Methylphenol (o-Cresol)	12.49	107	353189	77.16	mg/L	95
16) 3,4-Methylphenol(m,p Creso	12.98	107	515519	75.68	mg/L	95
17) N-Nitroso-di-n-propylamine	12.96	70	305503	81.38	mg/L	99
18) Hexachloroethane	13.05	117	215550	85.06	mg/L	92
21) Nitrobenzene	13.32	77	415504	83.13	mg/L	93
22) Isophorone	14.13	82	802602	86.59	mg/L	97
23) N-Ethylaniline	14.20	106	749521	94.81	mg/L	95
24) 2-Nitrophenol	14.25	139	229810	96.61	mg/L	99
25) 2,4-Dimethylphenol	14.53	122	373578	95.14	mg/L	97
26) bis(2-Chloroethoxy)methane	14.84	93	496028	84.44	mg/L	95
27) Benzoic Acid	15.18	122	254350m	94.46	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	434458	103.25	mg/L	98
29) 2,4-Dichlorophenol	14.99	162	388625	105.83	mg/L	97
30) Naphthalene	15.41	128	1240631	96.36	mg/L	98
31) 4-Chloroaniline	15.67	127	531809	91.50	mg/L	99
32) Hexachlorobutadiene	15.87	225	282071	107.53	mg/L	97
33) 4-Chloro-3-methylphenol	17.26	107	383787	99.79	mg/L	96
34) 2-Methylnaphthalene	17.54	142	762555	94.63	mg/L	94
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	454325	84.94	mg/L	98
37) Hexachlorocyclopentadiene	18.07	237	293525	96.97	mg/L	100
38) 2,4,6-Trichlorophenol	18.47	196	330332	94.42	mg/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-27-21\O12707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.54	196	330449	87.31	mg/L		96
41)	2-Chloronaphthalene	19.03	162	809371	85.09	mg/L		94
42)	2-Nitroaniline	19.44	65	263044	68.67	mg/L		97
43)	Dimethylphthalate	20.17	163	917551	86.79	mg/L		97
44)	Acenaphthylene	20.28	152	1237625	79.78	mg/L		98
45)	2,6-Dinitrotoluene	20.28	165	215412	86.15	mg/L		92
46)	3-Nitroaniline	20.76	138	240079	74.71	mg/L	#	77
47)	Acenaphthene	20.84	154	679049	77.02	mg/L		93
48)	Dibenzofuran	21.40	168	1204667	89.67	mg/L		93
49)	2,4-Dinitrotoluene	21.52	165	315590	97.30	mg/L	#	92
50)	4-Nitrophenol	21.42	65	215977	77.28	mg/L	#	31
51)	2,4-Dinitrophenol	21.08	184	133404	85.12	mg/L	#	82
52)	Diethylphthalate	22.42	149	933635	85.24	mg/L		94
53)	Fluorene	22.47	166	936304	91.20	mg/L		95
54)	4-Chlorophenyl-phenylether	22.58	204	485036	95.06	mg/L		96
55)	4-Nitroaniline	22.70	138	232570	72.15	mg/L		96
57)	4,6-Dinitro-2-methylphenol	22.77	198	190015	85.09	mg/L	#	88
58)	N-Nitrosodiphenylamine	22.99	169	573226	79.68	mg/L		96
59)	1,2-Diphenylhydrazine	23.07	77	1099683	71.47	mg/L		99
61)	4-Bromophenyl-phenylether	24.09	248	290798	83.41	mg/L		96
62)	Hexachlorobenzene	24.14	284	328634	88.81	mg/L		98
63)	Pentachlorophenol	24.80	266	230181	91.91	mg/L		96
64)	Phenanthrene	25.43	178	1395048	87.84	mg/L		99
65)	Anthracene	25.58	178	1427497	88.82	mg/L		99
66)	Carbazole	26.17	167	1190767	81.00	mg/L		98
67)	Di-n-butylphthalate	27.57	149	1779442	78.65	mg/L		99
69)	Fluoranthene	29.11	202	1596633	91.93	mg/L		99
70)	Benzidine	29.74	184	1714335	203.63	mg/L		98
71)	Pyrene	29.79	202	1620652	95.83	mg/L		98
73)	Butylbenzylphthalate	32.27	149	752147	81.90	mg/L		86
74)	Benzo(a)anthracene	33.66	228	1438576	87.06	mg/L		98
75)	Chrysene	33.81	228	1401850	85.74	mg/L		98
76)	3,3'-Dichlorobenzidine	33.80	252	1126503	184.52	mg/L		91
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1130052	84.13	mg/L	#	97
78)	Di-n-octylphthalate	36.37	149	1953116	79.62	mg/L		100
80)	Benzo(b)fluoranthene	36.99	252	1536906	92.53	mg/L		98
81)	Benzo(k)fluoranthene	37.09	252	1340128	87.87	mg/L		96
82)	Benzo(a)pyrene	37.89	252	1350855	90.90	mg/L		98
83)	Indeno(1,2,3-cd)pyrene	41.15	276	1281944	87.17	mg/L		100
84)	Dibenzo(a,h)anthracene	41.29	278	1291057	89.28	mg/L		97
85)	Benzo(g,h,i)perylene	42.03	276	1242721	86.30	mg/L		96

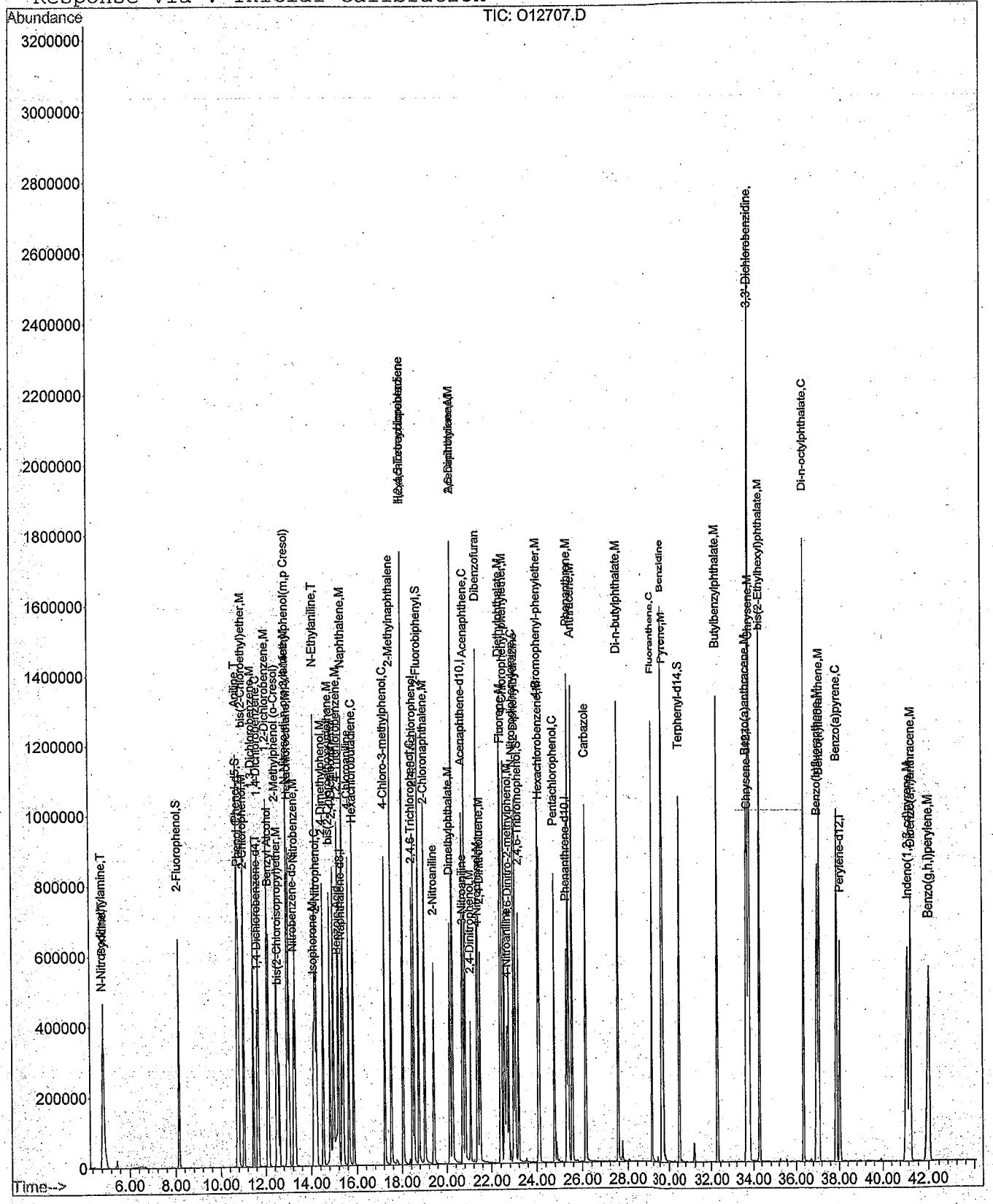
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration



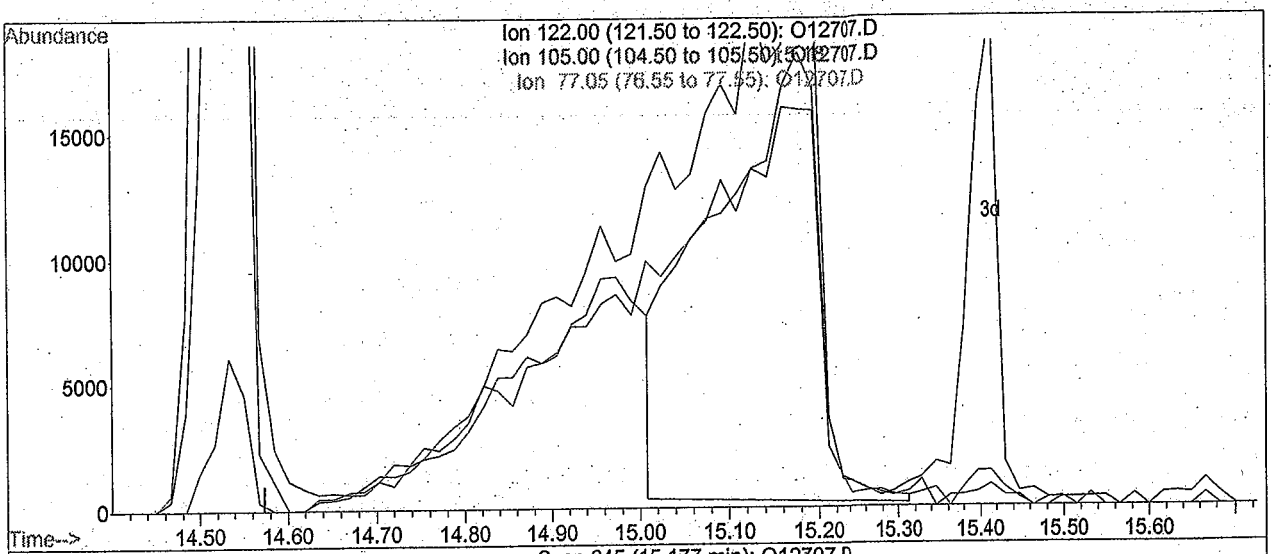
Quantitation Report (Qedit)

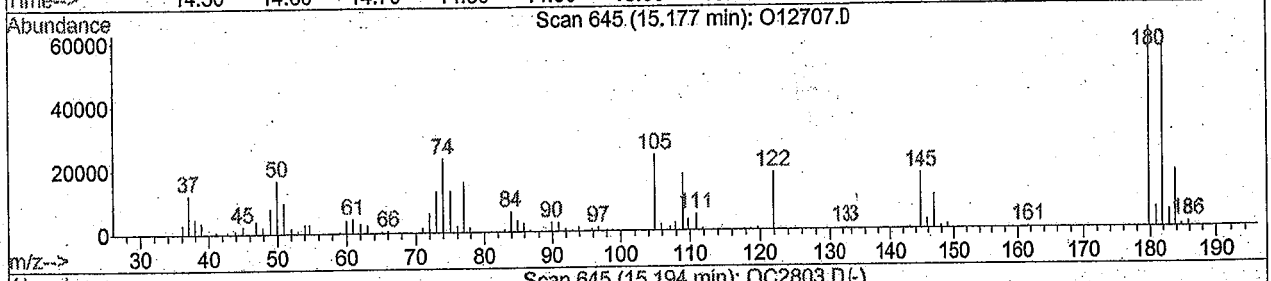
Data File : C:\OTIS\O1-27-21\O12707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:31 2021

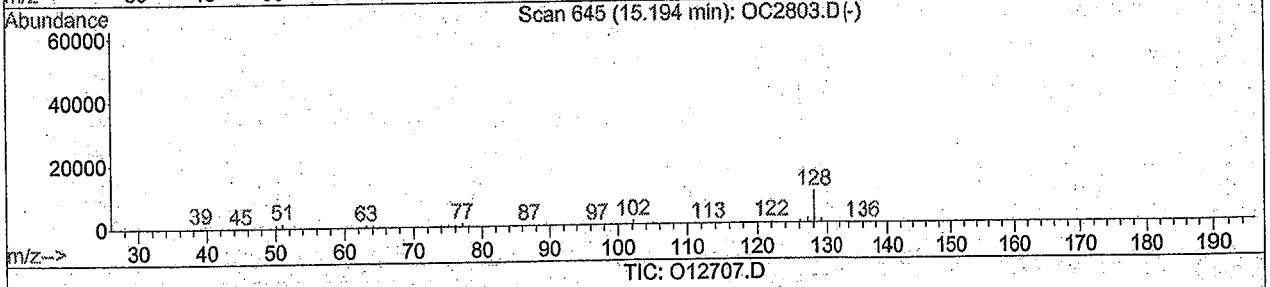
Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Multiple Level Calibration







TIC: O12707.D

(27) Benzoic Acid

15.18min 55.70mg/L

response 149995

BEFORE

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	131.98
77.05	81.40	87.50
0.00	0.00	0.00

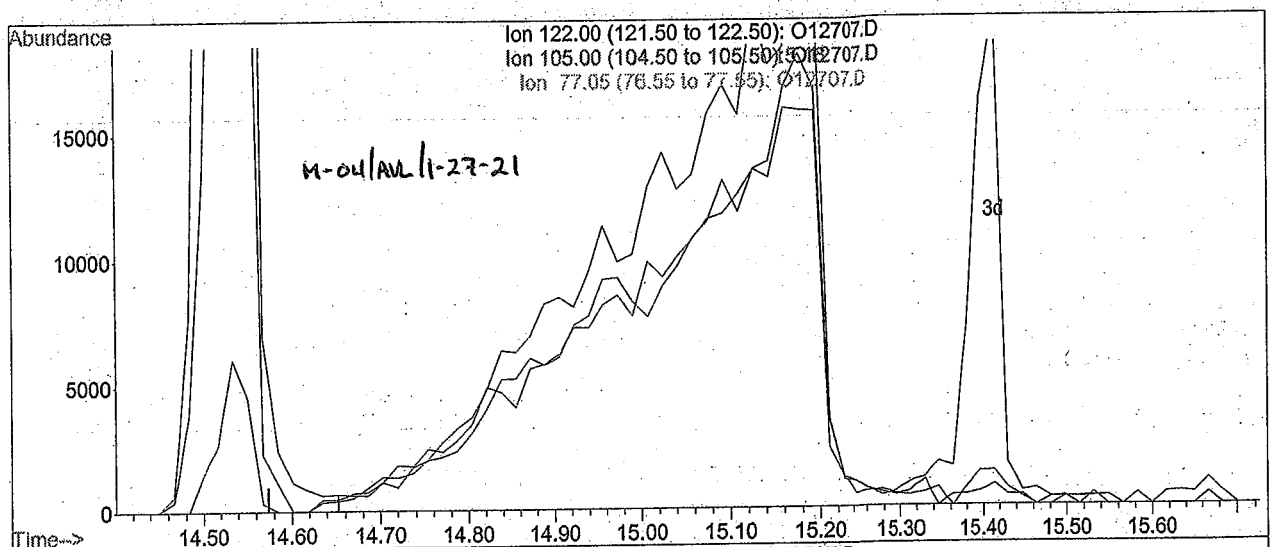
Quantitation Report (Qedit)

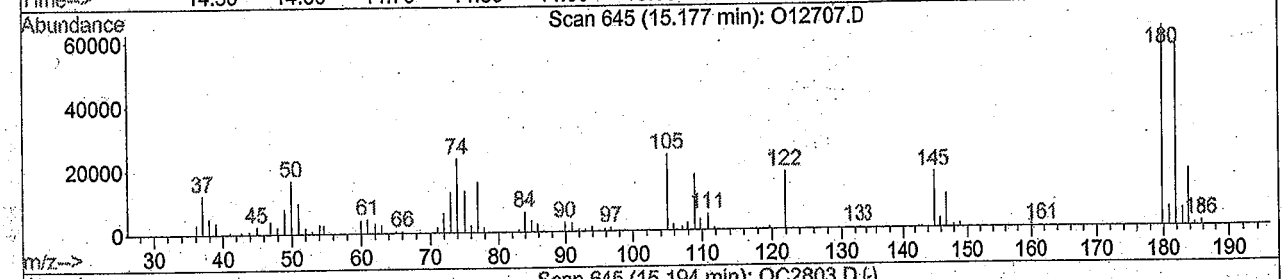
Data File : C:\OTIS\O1-27-21\O12707.D
Acq On : 27 Jan 2021 1:47 pm
Sample : 80ppm BNA CALB / 21A1818
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 14:35 2021

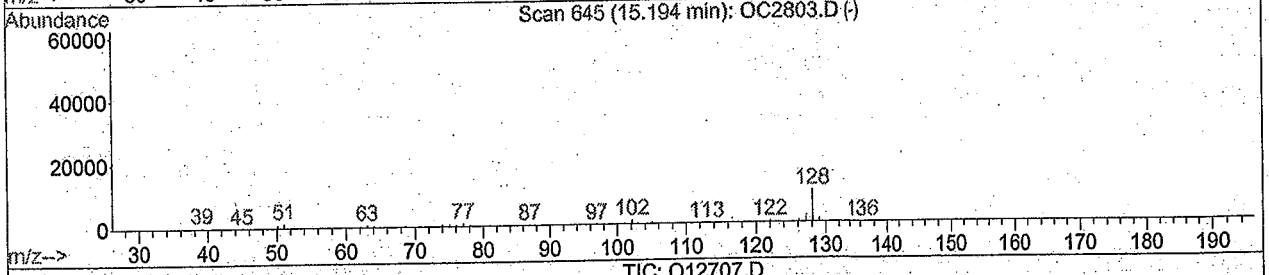
Vial: 7
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 13:45:22 2021
Response via : Multiple Level Calibration







TIC: O12707.D

(27) Benzoic Acid

15.18min 94.46mg/L m

response 254350

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	131.98
77.05	81.40	87.50
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	171159	40.00	ng/ml	0.02
19) Naphthalene-d8	15.35	136	601595	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	364054	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	661448	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	540985	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	610776	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.17	112	517491	100.61	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 100.61%#			
7) Phenol-d5	10.80	99	673270	100.51	mg/L	0.05
Spiked Amount 100.000	Range 11 - 40		Recovery = 100.51%#			
20) Nitrobenzene-d5	13.26	82	558278	104.29	mg/L	0.03
Spiked Amount 100.000	Range 36 - 103		Recovery = 104.29%#			
40) 2-Fluorobiphenyl	18.78	172	1242746	106.15	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 106.15%			
60) 2,4,6-Tribromophenol	23.23	330	210483	105.55	mg/L	0.03
Spiked Amount 100.000	Range 30 - 105		Recovery = 105.55%#			
72) Terphenyl-d14	30.52	244	945682	111.94	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 111.94%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.86	42	354732	109.37	mg/L	95
3) Pyridine	4.88	79	588928	94.42	mg/L	90
5) Aniline	10.76	93	770358	93.99	mg/L	98
6) bis(2-Chloroethyl)ether	11.03	93	525632	97.21	mg/L	95
8) 2-Chlorophenol	11.05	128	530843	100.42	mg/L #	91
9) Phenol	10.83	94	709873	97.55	mg/L	98
10) 1,3-Dichlorobenzene	11.47	146	575768	101.80	mg/L	94
11) 1,4-Dichlorobenzene	11.69	146	613632	102.80	mg/L	93
12) 1,2-Dichlorobenzene	12.10	146	561534	100.49	mg/L	97
13) Benzyl Alcohol	12.17	108	382414	105.69	mg/L	89
14) bis(2-Chloroisopropyl)ethe	12.57	45	781826m	86.86	mg/L	
15) 2-Methylphenol (o-Cresol)	12.50	107	441858	97.43	mg/L	95
16) 3,4-Methylphenol(m,p Creso	12.99	107	673716	99.79	mg/L	91
17) N-Nitroso-di-n-propylamine	12.98	70	377205	101.22	mg/L	95
18) Hexachloroethane	13.05	117	265148	103.21	mg/L	88
21) Nitrobenzene	13.33	77	564178	104.78	mg/L	92
22) Isophorone	14.14	82	1009258	99.71	mg/L	98
23) N-Ethylaniline	14.20	106	976301	109.78	mg/L	94
24) 2-Nitrophenol	14.26	139	309731	117.15	mg/L	93
25) 2,4-Dimethylphenol	14.55	122	456983	103.87	mg/L	96
26) bis(2-Chloroethoxy)methane	14.85	93	641187	100.98	mg/L	96
27) Benzoic Acid	15.26	122	323737m	109.12	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	571159	115.86	mg/L	95
29) 2,4-Dichlorophenol	15.01	162	472537	110.75	mg/L	95
30) Naphthalene	15.41	128	1484486	103.03	mg/L	98
31) 4-Chloroaniline	15.67	127	687642	106.39	mg/L	97
32) Hexachlorobutadiene	15.87	225	329810	104.46	mg/L	91
33) 4-Chloro-3-methylphenol	17.26	107	482106	109.97	mg/L	100
34) 2-Methylnaphthalene	17.54	142	974688	106.98	mg/L	93
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	587537	104.39	mg/L	99
37) Hexachlorocyclopentadiene	18.07	237	352259	109.29	mg/L	96
38) 2,4,6-Trichlorophenol	18.47	196	392966	105.72	mg/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.56	196	421086	106.81	mg/L		97
41)	2-Chloronaphthalene	19.03	162	988904	101.56	mg/L		92
42)	2-Nitroaniline	19.45	65	347708	95.17	mg/L		98
43)	Dimethylphthalate	20.18	163	1128061	102.92	mg/L		99
44)	Acenaphthylene	20.28	152	1497336	96.40	mg/L		99
45)	2,6-Dinitrotoluene	20.30	165	275054	108.19	mg/L		90
46)	3-Nitroaniline	20.77	138	309099	98.83	mg/L	#	74
47)	Acenaphthene	20.86	154	903908	102.44	mg/L		93
48)	Dibenzofuran	21.40	168	1453041	104.42	mg/L		92
49)	2,4-Dinitrotoluene	21.54	165	400415	118.90	mg/L	#	93
50)	4-Nitrophenol	21.43	65	278047	101.75	mg/L	#	23
51)	2,4-Dinitrophenol	21.10	184	182088	117.18	mg/L	#	81
52)	Diethylphthalate	22.43	149	1182504	105.58	mg/L		95
53)	Fluorene	22.47	166	1112603	104.27	mg/L		97
54)	4-Chlorophenyl-phenylether	22.58	204	618781	113.70	mg/L		97
55)	4-Nitroaniline	22.74	138	301598	96.53	mg/L		93
57)	4,6-Dinitro-2-methylphenol	22.79	198	262164	120.37	mg/L		98
58)	N-Nitrosodiphenylamine	23.01	169	718207	101.11	mg/L		89
59)	1,2-Diphenylhydrazine	23.07	77	1313316	91.89	mg/L		95
61)	4-Bromophenyl-phenylether	24.09	248	351965	101.12	mg/L	#	90
62)	Hexachlorobenzene	24.16	284	412251	110.32	mg/L	#	85
63)	Pentachlorophenol	24.82	266	295055	115.00	mg/L		92
64)	Phenanthrene	25.42	178	1720897	107.46	mg/L		99
65)	Anthracene	25.59	178	1763956	108.16	mg/L		99
66)	Carbazole	26.19	167	1533351	105.74	mg/L		98
67)	Di-n-butylphthalate	27.59	149	2210653	101.04	mg/L		100
69)	Fluoranthene	29.13	202	1944489	108.59	mg/L		98
70)	Benzidine	29.75	184	1964689	222.33	mg/L		99
71)	Pyrene	29.81	202	1977288	113.63	mg/L		99
73)	Butylbenzylphthalate	32.29	149	965777	107.27	mg/L	#	82
74)	Benzo(a)anthracene	33.68	228	1818265	107.90	mg/L		98
75)	Chrysene	33.83	228	1802862	109.43	mg/L		98
76)	3,3'-Dichlorobenzidine	33.81	252	1470478	237.57	mg/L		95
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1363830	103.26	mg/L		96
78)	Di-n-octylphthalate	36.38	149	2507529	105.36	mg/L		99
80)	Benzo(b)fluoranthene	37.01	252	1941621	111.63	mg/L		99
81)	Benzo(k)fluoranthene	37.09	252	1612790	101.05	mg/L		97
82)	Benzo(a)pyrene	37.91	252	1640074	105.67	mg/L		97
83)	Indeno(1,2,3-cd)pyrene	41.17	276	1559427	102.36	mg/L		97
84)	Dibenzo(a,h)anthracene	41.31	278	1574957	104.04	mg/L		94
85)	Benzo(g,h,i)perylene	42.07	276	1478561	98.77	mg/L		98

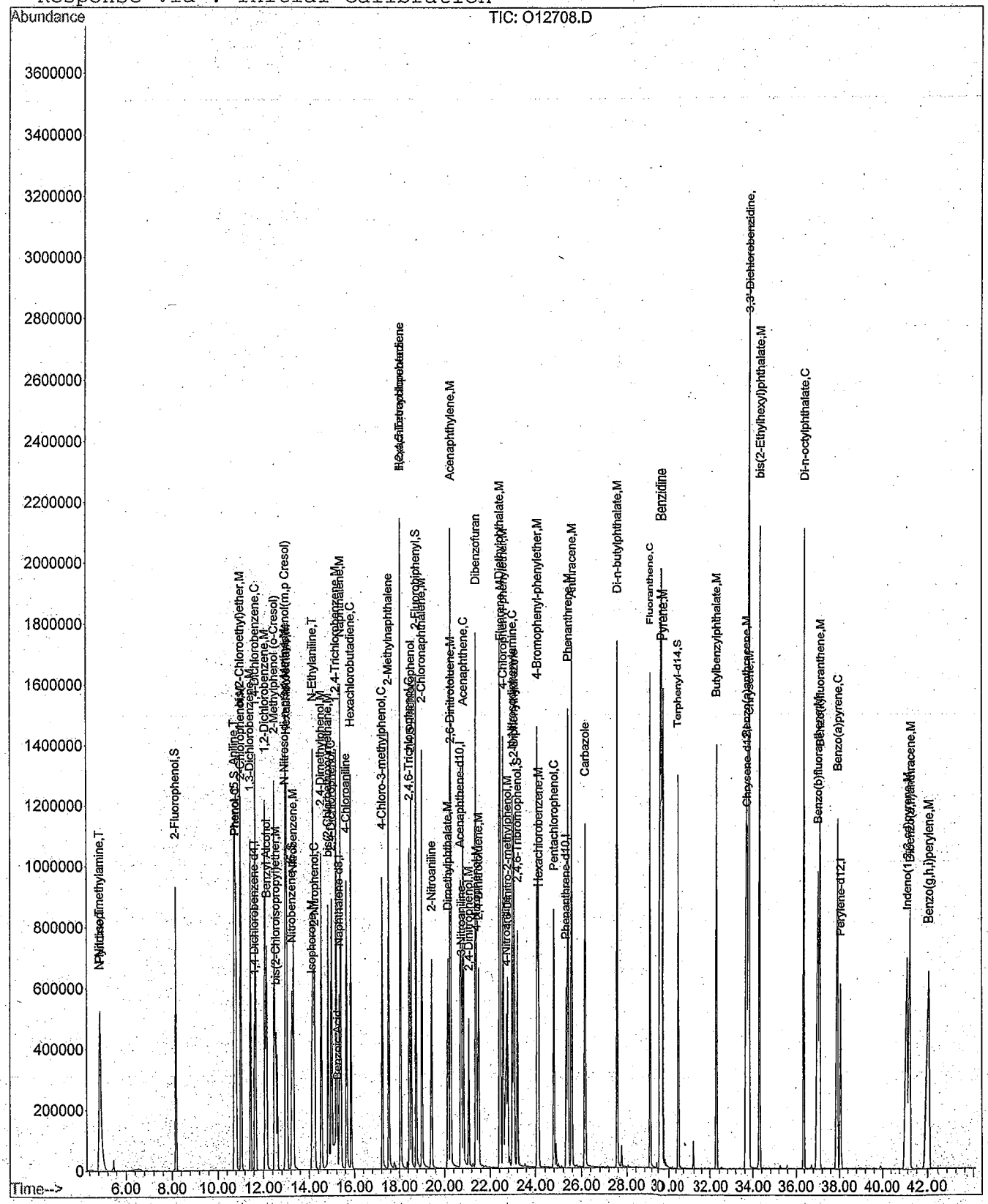
(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration

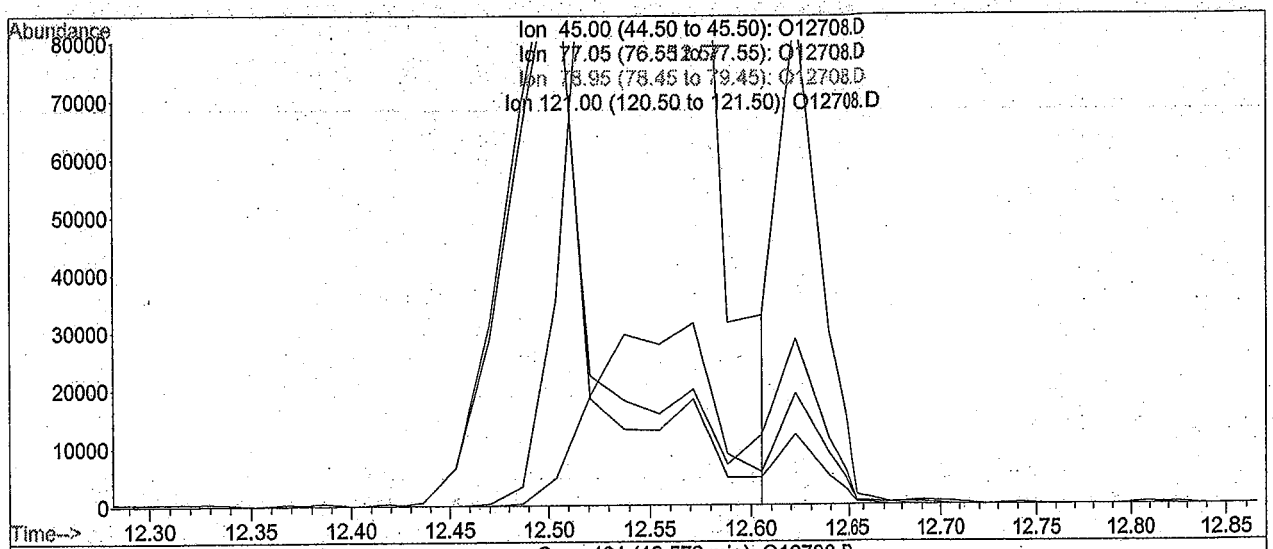


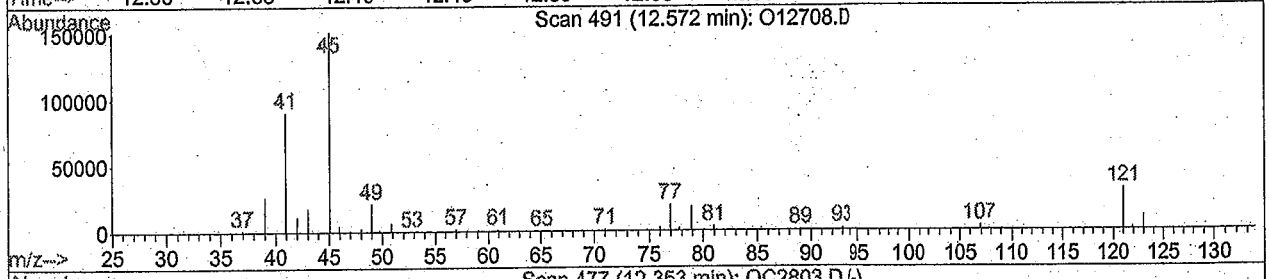
Quantitation Report (Qedit)

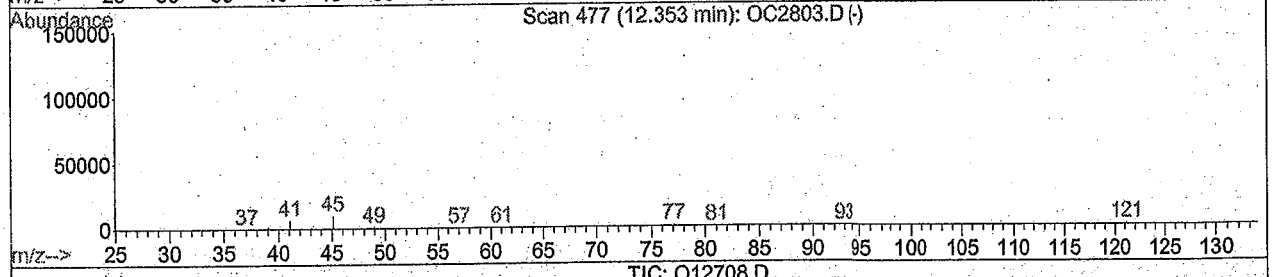
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Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:25 2021

Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 73.41mg/L

response 660805

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	13.22
78.95	10.30	12.12
121.00	18.40	20.82

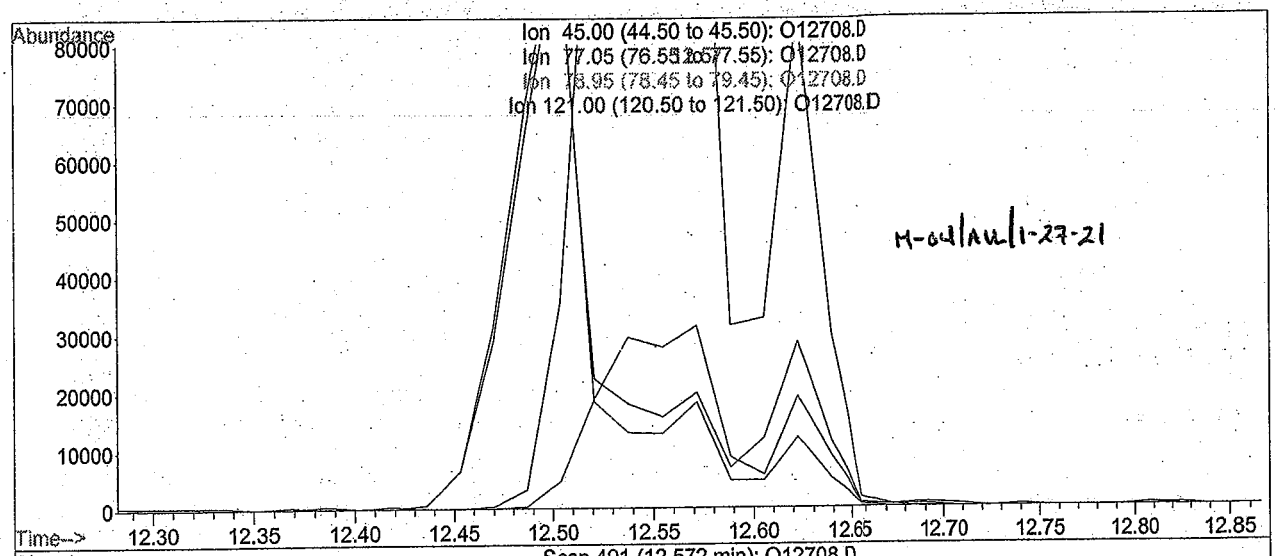
Quantitation Report (Qedit)

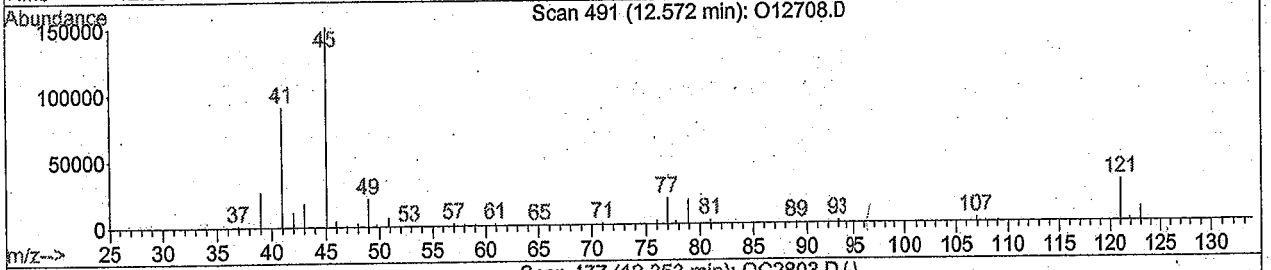
Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

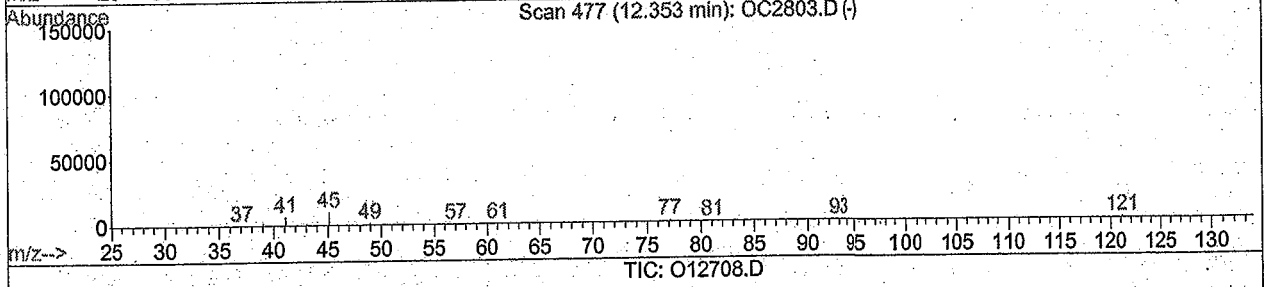
Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 86.86mg/L m

response 781826

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	13.22
78.95	10.30	12.12
121.00	18.40	20.82

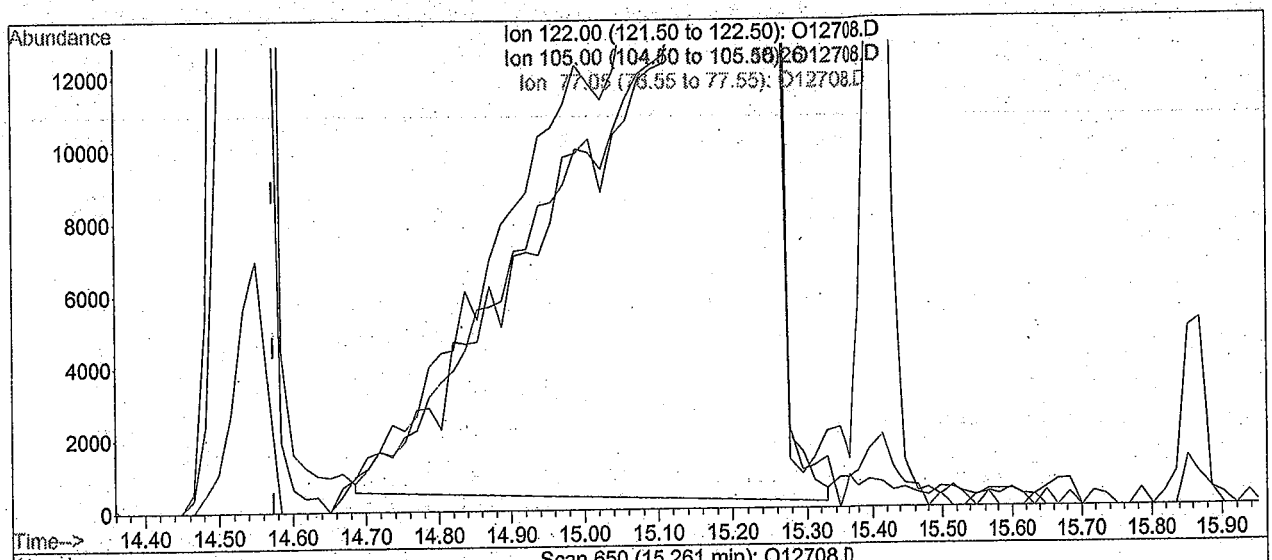
Quantitation Report (Qedit)

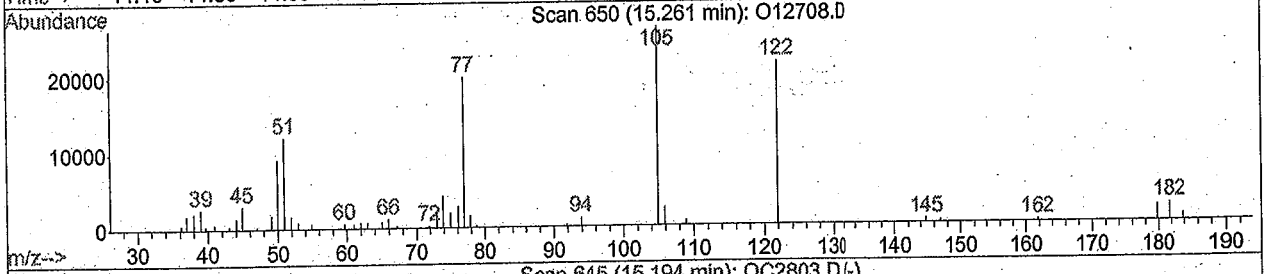
Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

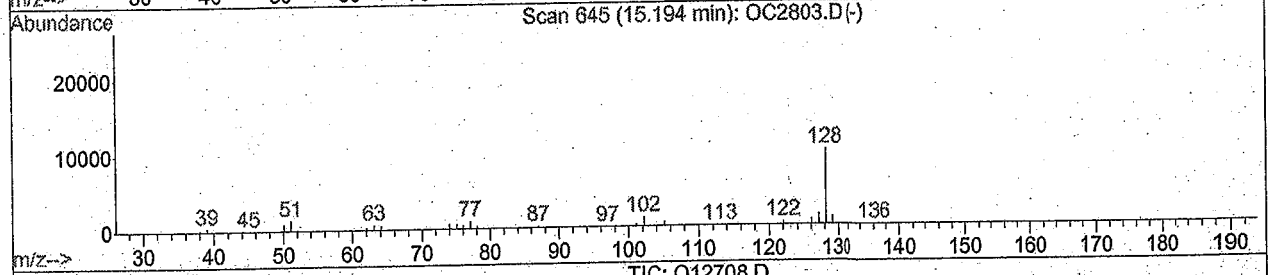
Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(27) Benzoic Acid

15.26min 110.85mg/L

response 328865

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.49
77.05	81.40	91.85
0.00	0.00	0.00

BEFORE

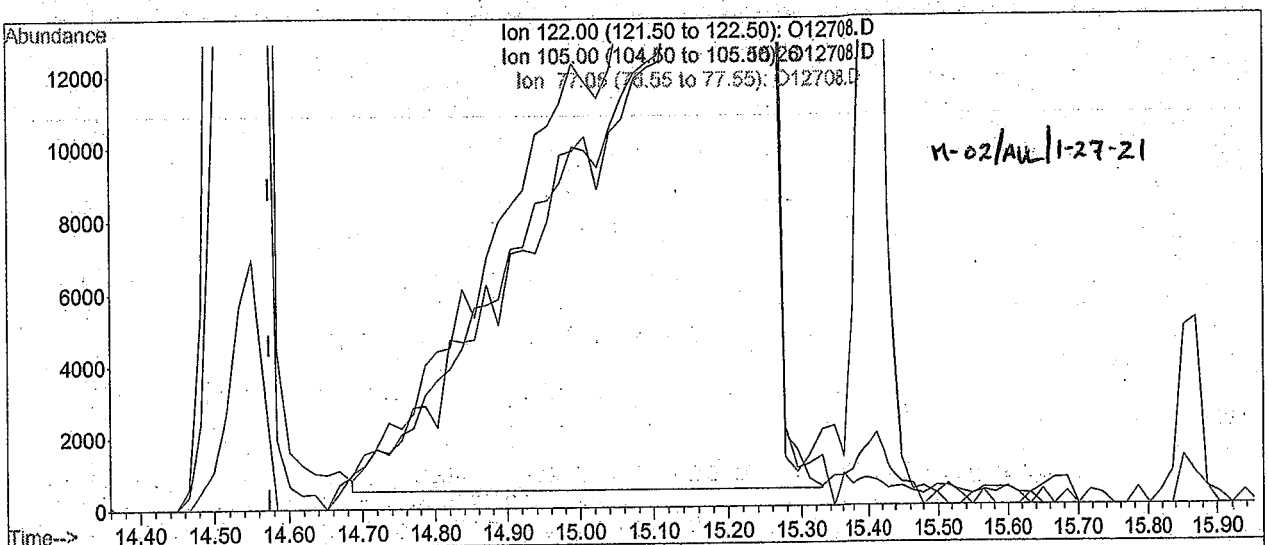
Quantitation Report (Qedit)

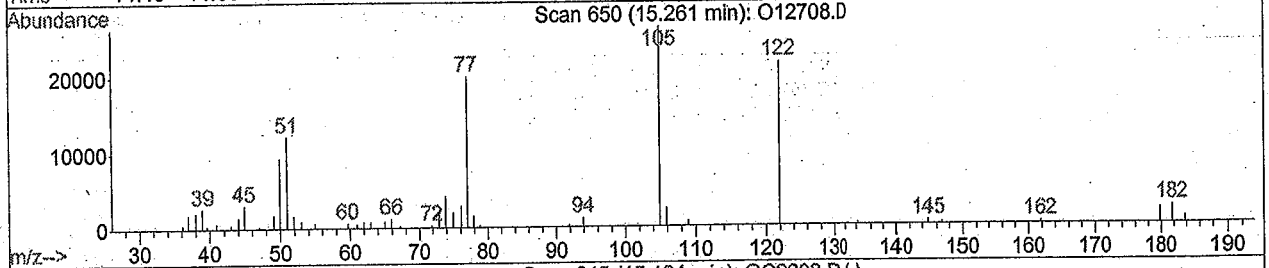
Data File : C:\OTIS\O1-27-21\O12708.D
Acq On : 27 Jan 2021 2:41 pm
Sample : 100ppm BNA CALB / 21A1816
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 15:27 2021

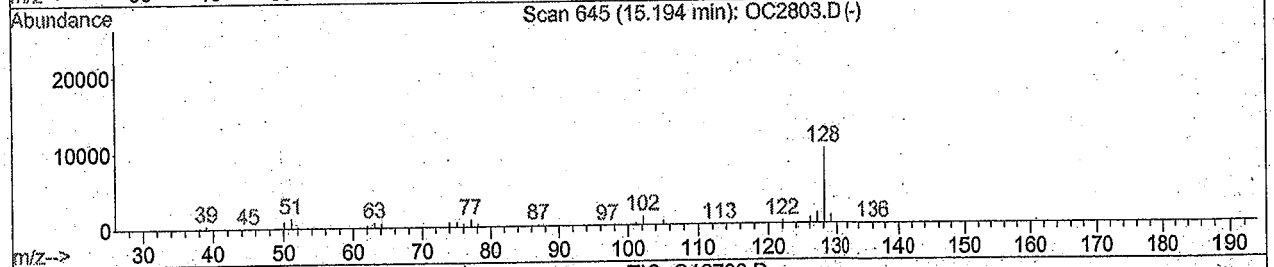
Vial: 8
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 14:38:18 2021
Response via : Multiple Level Calibration







TIC: O12708.D

(27) Benzoic Acid

15.26min 109.12mg/L m

response 323737

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.49
77.05	81.40	91.85
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.64	152	152077	40.00	ng/ml	0.02
19) Naphthalene-d8	15.34	136	499534	40.00	ng/ml	0.02
35) Acenaphthene-d10	20.72	164	316211	40.00	ng/ml	0.00
56) Phenanthrene-d10	25.34	188	556243	40.00	ng/ml	0.02
68) Chrysene-d12	33.71	240	452453	40.00	ng/ml	0.02
79) Perylene-d12	38.04	264	514686	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	8.17	112	524173	115.04	mg/L	0.02
Spiked Amount 100.000	Range 20 - 53		Recovery = 115.04%#			
7) Phenol-d5	10.80	99	688335	116.18	mg/L	0.05
Spiked Amount 100.000	Range 11 - 40		Recovery = 116.18%#			
20) Nitrobenzene-d5	13.26	82	578338	129.04	mg/L	0.03
Spiked Amount 100.000	Range 36 - 103		Recovery = 129.04%#			
40) 2-Fluorobiphenyl	18.78	172	1272374	120.96	mg/L	0.02
Spiked Amount 100.000	Range 36 - 119		Recovery = 120.96%#			
60) 2,4,6-Tribromophenol	23.23	330	216314	127.58	mg/L	0.03
Spiked Amount 100.000	Range 30 - 105		Recovery = 127.58%#			
72) Terphenyl-d14	30.51	244	945188	127.97	mg/L	0.02
Spiked Amount 100.000	Range 37 - 109		Recovery = 127.97%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.86	42	362333	121.37	mg/L	94
3) Pyridine	4.88	79	588381	111.19	mg/L	90
5) Aniline	10.76	93	797184	111.47	mg/L	99
6) bis(2-Chloroethyl)ether	11.03	93	536714	115.16	mg/L	96
8) 2-Chlorophenol	11.05	128	551650	117.09	mg/L #	91
9) Phenol	10.83	94	743596	115.69	mg/L	92
10) 1,3-Dichlorobenzene	11.47	146	603020	118.34	mg/L	93
11) 1,4-Dichlorobenzene	11.69	146	638679	118.47	mg/L	91
12) 1,2-Dichlorobenzene	12.10	146	586308	116.75	mg/L	95
13) Benzyl Alcohol	12.16	108	373597	115.26	mg/L	94
14) bis(2-Chloroisopropyl)ethe	12.57	45	807388m	106.48	mg/L	
15) 2-Methylphenol (o-Cresol)	12.50	107	444310	111.17	mg/L	90
16) 3,4-Methylphenol(m,p Creso	12.99	107	705760	117.58	mg/L	91
17) N-Nitroso-di-n-propylamine	12.98	70	391214	119.33	mg/L	99
18) Hexachloroethane	13.04	117	274254	118.37	mg/L	89
21) Nitrobenzene	13.33	77	593283	131.08	mg/L	98
22) Isophorone	14.16	82	1041267	122.95	mg/L	94
23) N-Ethylaniline	14.21	106	1022509	132.96	mg/L	93
24) 2-Nitrophenol	14.26	139	321549	141.93	mg/L	97
25) 2,4-Dimethylphenol	14.55	122	480213	127.10	mg/L	96
26) bis(2-Chloroethoxy)methane	14.85	93	669783	127.17	mg/L	94
27) Benzoic Acid	15.24	122	346275m	138.07	mg/L	
28) 1,2,4-Trichlorobenzene	15.21	180	590106	133.18	mg/L	96
29) 2,4-Dichlorophenol	15.01	162	491551	131.13	mg/L	96
30) Naphthalene	15.41	128	1562978	127.63	mg/L	99
31) 4-Chloroaniline	15.68	127	707044	128.26	mg/L	93
32) Hexachlorobutadiene	15.87	225	345729	121.64	mg/L	93
33) 4-Chloro-3-methylphenol	17.26	107	493850	129.10	mg/L	99
34) 2-Methylnaphthalene	17.54	142	999877	127.20	mg/L	92
36) 1,2,4,5-Tetrachlorobenzene	18.07	216	595648	116.23	mg/L	97
37) Hexachlorocyclopentadiene	18.07	237	347661	118.62	mg/L	96
38) 2,4,6-Trichlorophenol	18.47	196	404269	119.94	mg/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.56	196	430581	120.79	mg/L		98
41)	2-Chloronaphthalene	19.03	162	1024282	119.25	mg/L		93
42)	2-Nitroaniline	19.45	65	351001	115.59	mg/L		99
43)	Dimethylphthalate	20.18	163	1153027	117.92	mg/L		98
44)	Acenaphthylene	20.28	152	1543379	115.54	mg/L		98
45)	2,6-Dinitrotoluene	20.30	165	284819	127.79	mg/L		94
46)	3-Nitroaniline	20.77	138	313857	120.41	mg/L	#	78
47)	Acenaphthene	20.86	154	925047	120.10	mg/L		94
48)	Dibenzofuran	21.40	168	1494908	121.30	mg/L		88
49)	2,4-Dinitrotoluene	21.53	165	389364	129.50	mg/L		99
50)	4-Nitrophenol	21.43	65	265634	113.60	mg/L	#	23
51)	2,4-Dinitrophenol	21.09	184	184205	136.33	mg/L	#	79
52)	Diethylphthalate	22.43	149	1199139	121.08	mg/L		95
53)	Fluorene	22.46	166	1128095	118.91	mg/L		96
54)	4-Chlorophenyl-phenylether	22.58	204	623363	124.11	mg/L		97
55)	4-Nitroaniline	22.74	138	314489	121.21	mg/L	#	86
57)	4,6-Dinitro-2-methylphenol	22.79	198	266320	142.85	mg/L		99
58)	N-Nitrosodiphenylamine	23.01	169	725361	120.39	mg/L		92
59)	1,2-Diphenylhydrazine	23.07	77	1339786	119.14	mg/L		93
61)	4-Bromophenyl-phenylether	24.09	248	374811	126.19	mg/L	#	91
62)	Hexachlorobenzene	24.16	284	408916	125.48	mg/L	#	91
63)	Pentachlorophenol	24.82	266	291323	128.61	mg/L		94
64)	Phenanthrene	25.42	178	1698228	123.01	mg/L		99
65)	Anthracene	25.59	178	1741131	122.76	mg/L		98
66)	Carbazole	26.19	167	1545984	125.36	mg/L		97
67)	Di-n-butylphthalate	27.59	149	2217443	123.11	mg/L		99
69)	Fluoranthene	29.13	202	1938281	123.43	mg/L		97
70)	Benzidine	29.75	184	2089760	266.74	mg/L		99
71)	Pyrene	29.80	202	1984770	129.84	mg/L		99
73)	Butylbenzylphthalate	32.29	149	955912	125.49	mg/L	#	82
74)	Benzo(a)anthracene	33.68	228	1770430	119.95	mg/L		98
75)	Chrysene	33.83	228	1776953	123.58	mg/L		99
76)	3,3'-Dichlorobenzidine	33.81	252	1485674	271.18	mg/L		95
77)	bis(2-Ethylhexyl)phthalate	34.32	149	1365767	123.70	mg/L		95
78)	Di-n-octylphthalate	36.38	149	2519848	126.52	mg/L		100
80)	Benzo(b)fluoranthene	37.03	252	2165713	144.28	mg/L		98
81)	Benzo(k)fluoranthene	37.11	252	1356778m	95.47	mg/L		
82)	Benzo(a)pyrene	37.91	252	1678302	124.59	mg/L		97
83)	Indeno(1,2,3-cd)pyrene	41.17	276	1563395	119.06	mg/L		96
84)	Dibenzo(a,h)anthracene	41.30	278	1632495	123.66	mg/L		96
85)	Benzo(g,h,i)perylene	42.07	276	1505059	116.13	mg/L		99

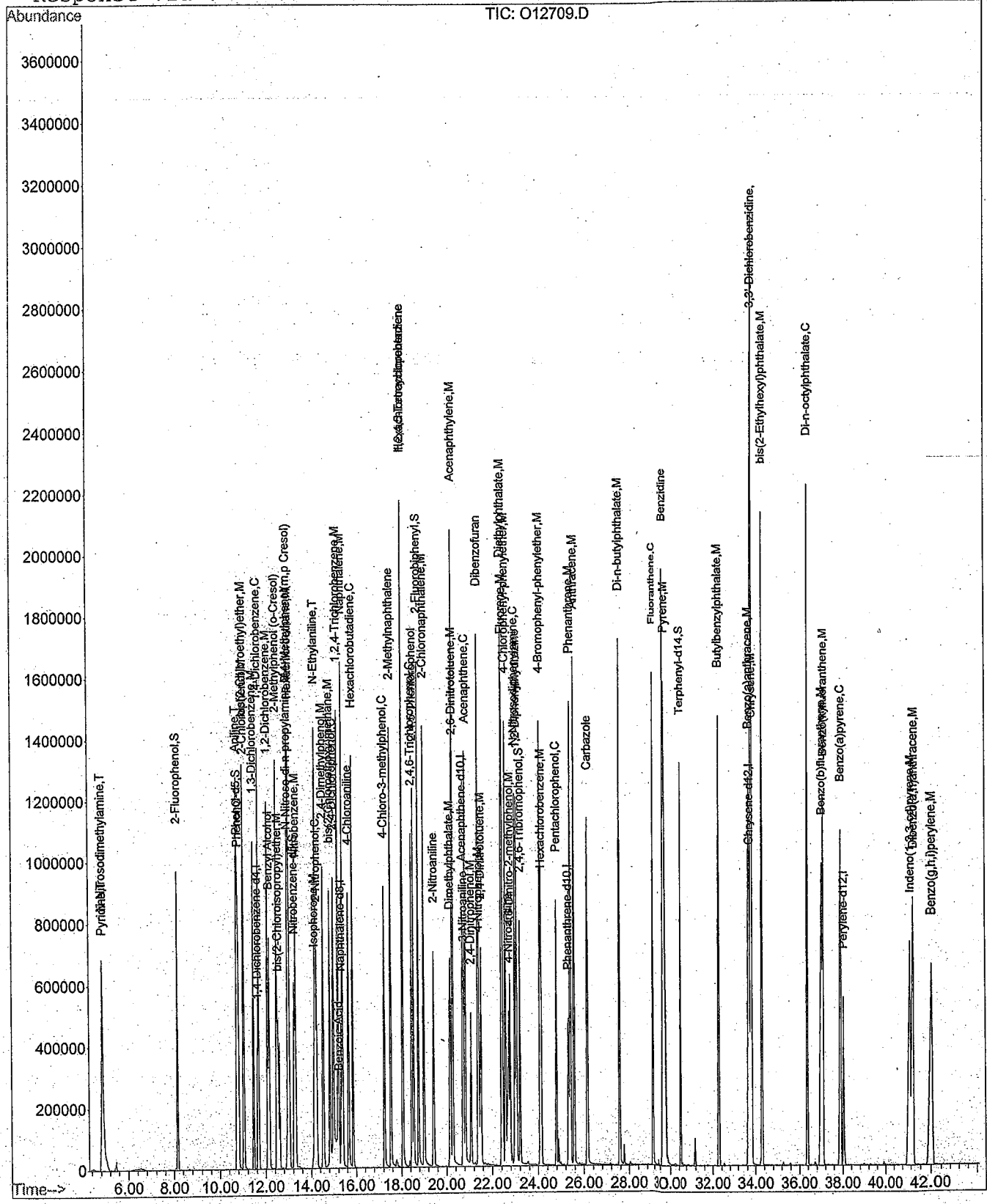
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Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:22:52 2021
Response via : Initial Calibration



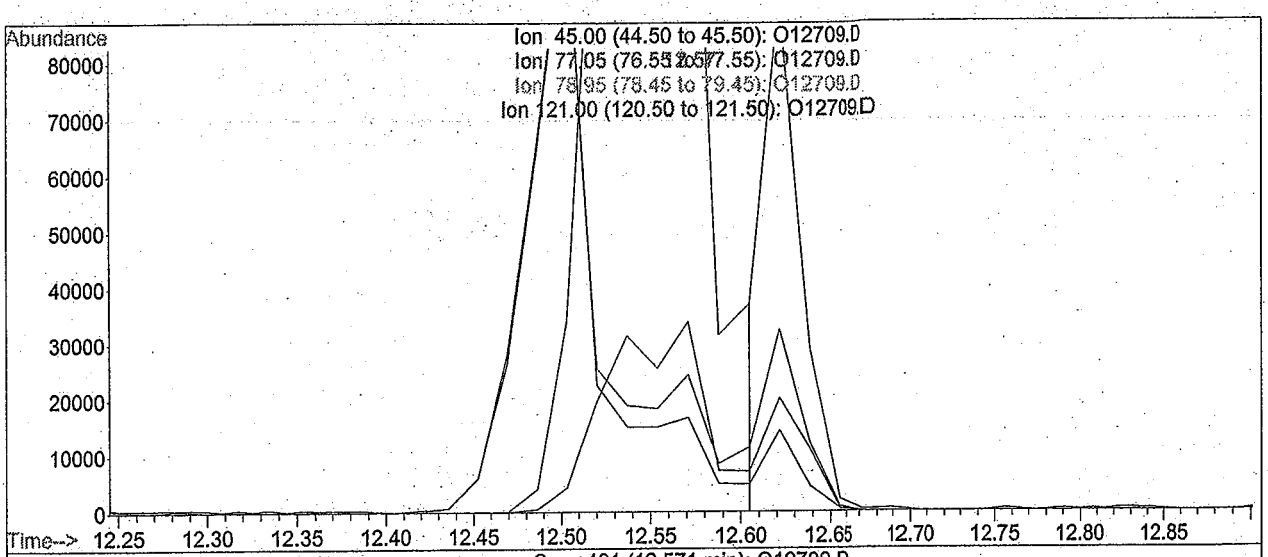
Quantitation Report (Qedit)

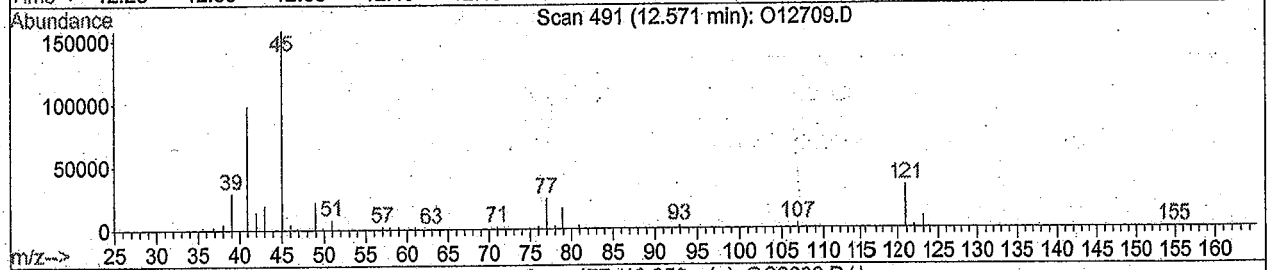
Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:19 2021

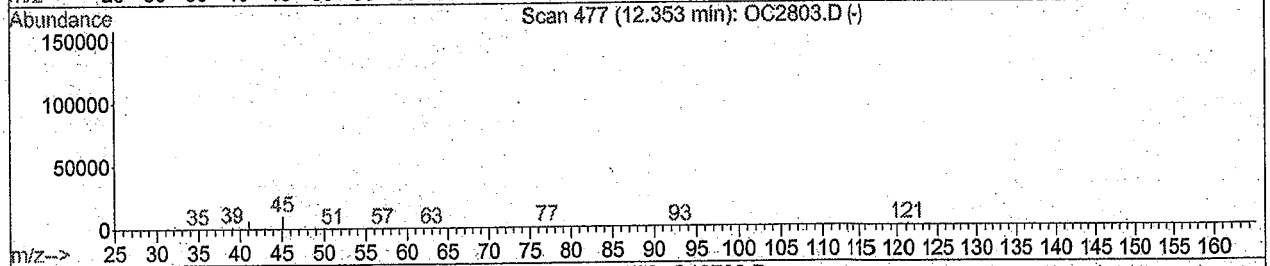
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 89.91mg/L

response 681766

BEFORE

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	15.50#
78.95	10.30	10.64
121.00	18.40	21.51

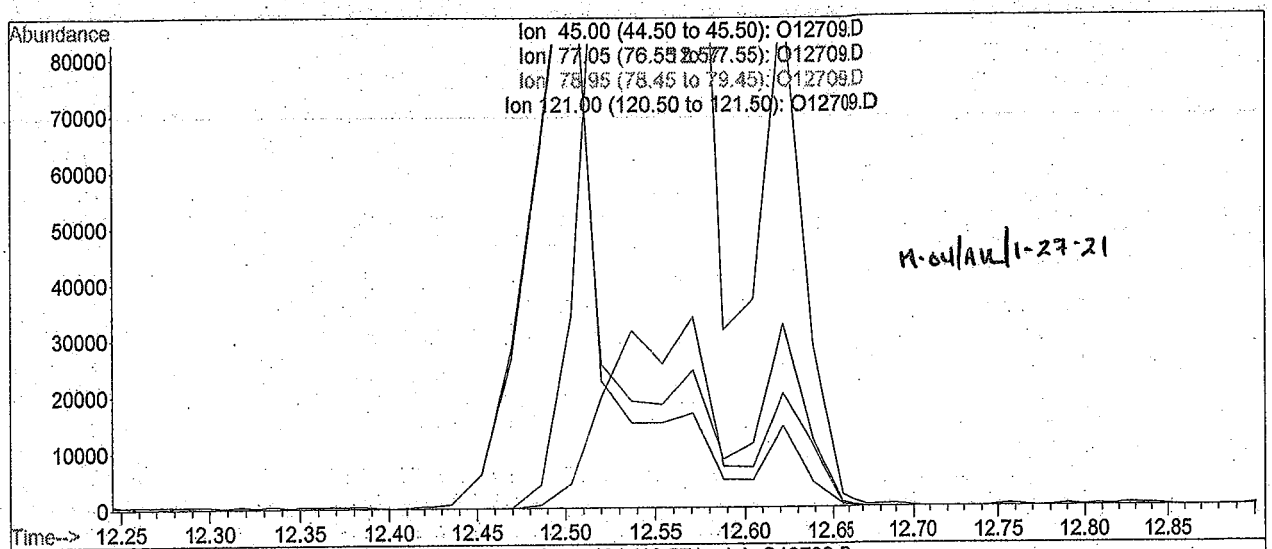
Quantitation Report (Qedit)

Data File : C:\OTIS\01-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:20 2021

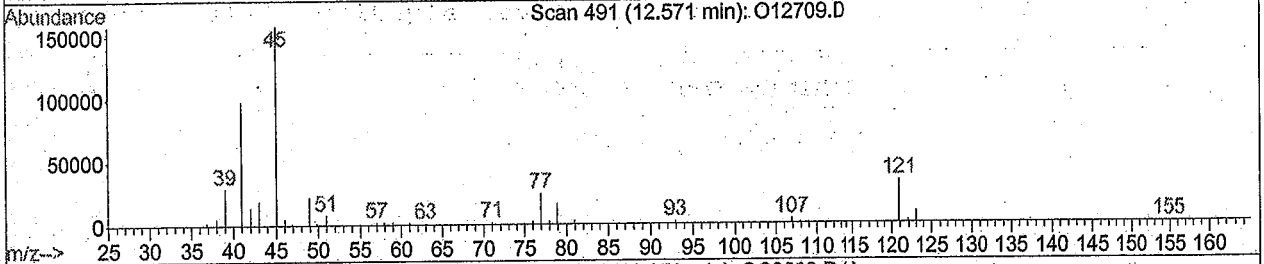
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

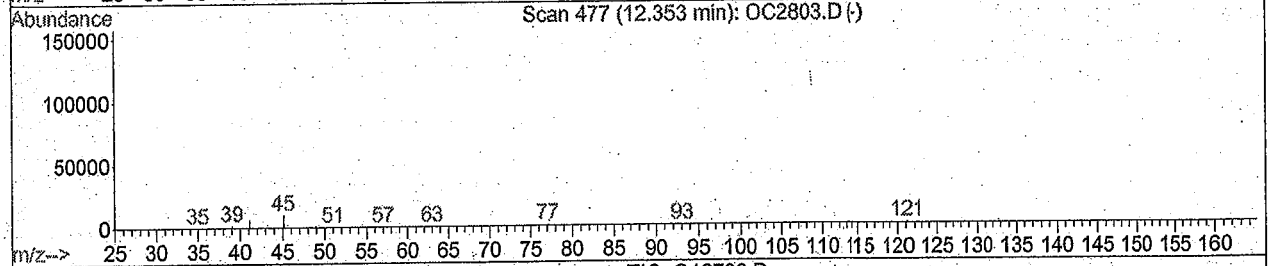
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration



M-04/AVL 1-27-21





TIC: O12709.D

(14) bis(2-Chloroisopropyl)ether (M)

12.57min 106.48mg/L m

response 807388

AFTER

Ion	Exp%	Act%
45.00	100	100
77.05	12.50	15.50#
78.95	10.30	10.64
121.00	18.40	21.51

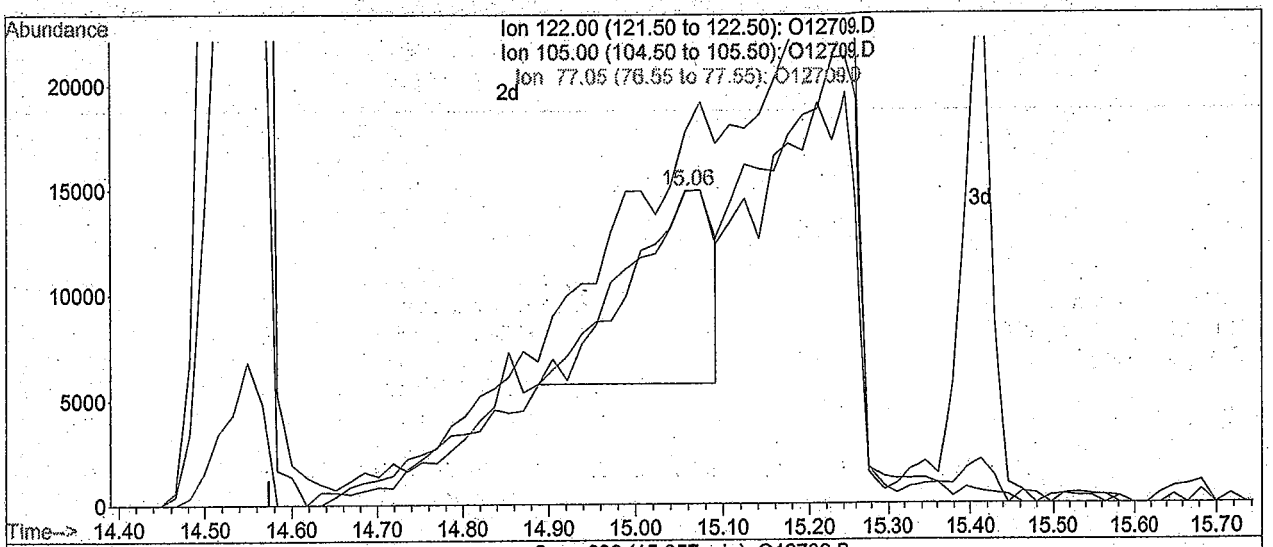
Quantitation Report (Qedit)

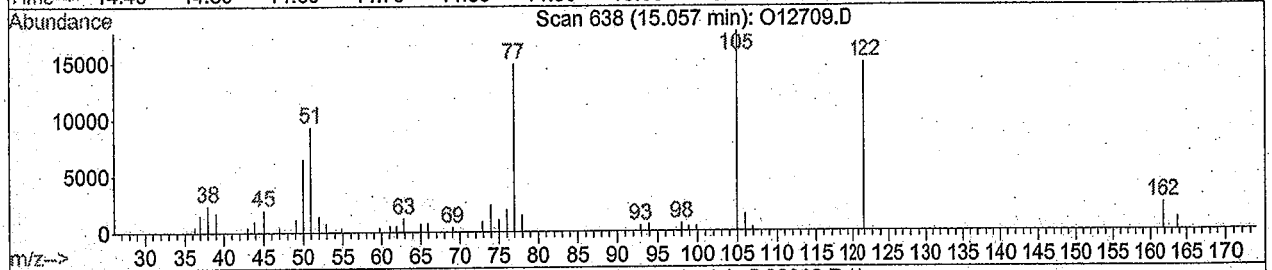
Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:20 2021

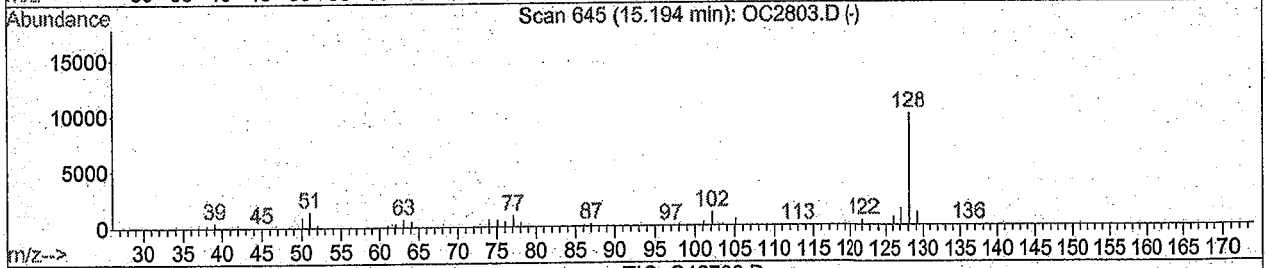
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(27) Benzoic Acid

15.06min 24.37mg/L

response 61118

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	118.91
77.05	81.40	99.55#
0.00	0.00	0.00

BEFORE

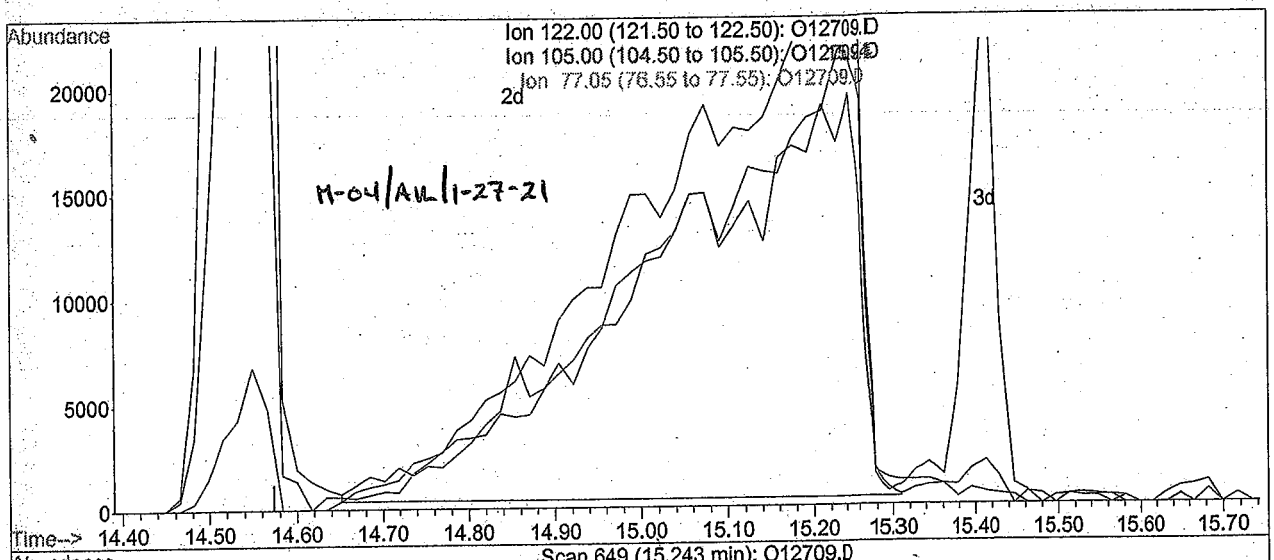
Quantitation Report (Qedit)

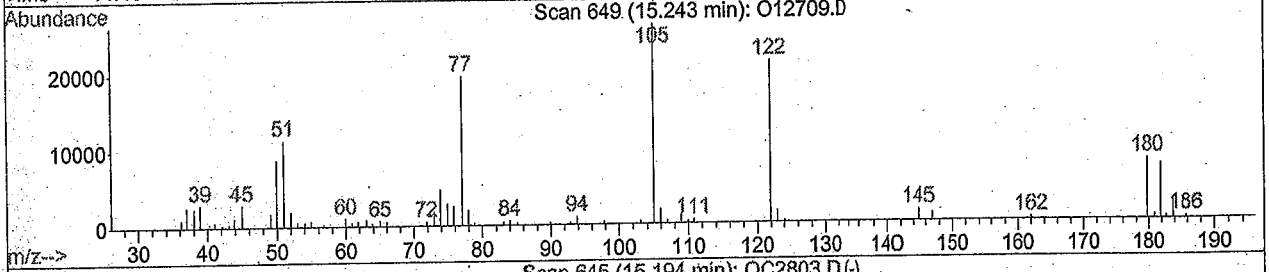
Data File : C:\OTIS\O1-27-21\O12709.D
Acq On : 27 Jan 2021 3:35 pm
Sample : 120ppm BNA CALB / 21A1814
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 27 16:21 2021

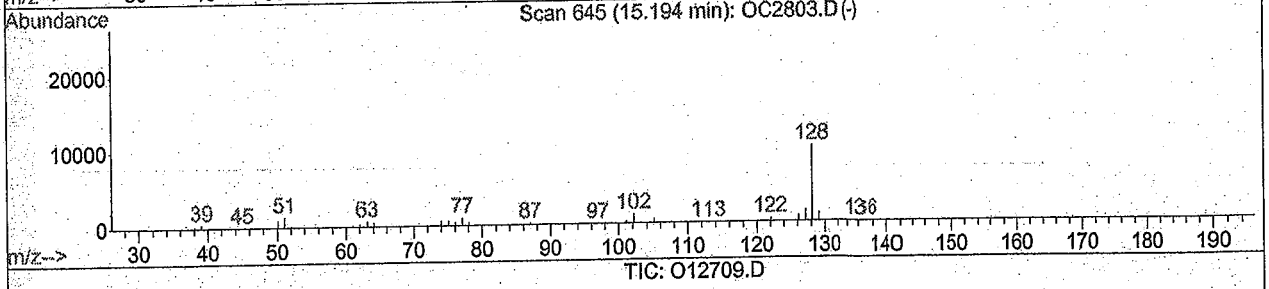
Vial: 9
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 15:29:53 2021
Response via : Multiple Level Calibration







TIC: O12709.D

(27) Benzoic Acid

15.24min 138.07mg/L m

response 346275

AFTER

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	123.29
77.05	81.40	92.03
0.00	0.00	0.00

Initial Calibration Verification Summary Report (Semi-Volatile)

Std. Lot ID : 18J2412/16G2005
Analytical Batch: O127021
Analysis Date : 1-27-21/1-28-21
Instrument: OTIS

Analyst Initials: AVL
Method: 8270E/625
Curve Analysis Date: 1-27-21

Multiplier: 1 1

Compound Name	Blank Conc. ug/L	Spike Added ug/L	SCV Spk Added ug/L	SCV Results ug/L	SCV Final ug/L	SCV %Rec		%Rec
N-Nitrosodimethylamine	0	100	100	103	103	103		70-130
Pyridine	0	100	100	96	96	96		70-130
Aniline	0	100	100	97	97	97		70-130
bis(2-Chloroethyl)ether	0	100	100	93	93	93		70-130
2-Chlorophenol	0	100	100	99	99	99		70-130
Phenol	0	100	100	96	96	96		70-130
1,3-Dichlorobenzene	0	100	100	99	99	99		70-130
1,4-Dichlorobenzene	0	100	100	95	95	95		70-130
1,2-Dichlorobenzene	0	100	100	99	99	99		70-130
Benzyl Alcohol	0	100	100	100	100	100		70-130
bis(2-Chloroisopropyl)ethe	0	100	100	107	107	107		70-130
2-Methylphenol (o-Cresol)	0	100	100	95	95	95		70-130
3,4-Methylphenol(m,p Creso	0	100	100	81	81	81		70-130
N-Nitroso-di-n-propylamine	0	100	100	109	109	109		70-130
Hexachloroethane	0	100	100	102	102	102		70-130
Nitrobenzene	0	100	100	92	92	92		70-130
Isophorone	0	100	100	96	96	96		70-130
2-Nitrophenol	0	100	100	106	106	106		70-130
2,4-Dimethylphenol	0	100	100	94	94	94		70-130
bis(2-Chloroethoxy)methane	0	100	100	102	102	102		70-130
Benzoic Acid	0	100	100	94	94	94		70-130
1,2,4-Trichlorobenzene	0	100	100	98	98	98		70-130
2,4-Dichlorophenol	0	100	100	97	97	97		70-130
Naphthalene	0	100	100	99	99	99		70-130
4-Chloroaniline	0	100	100	94	94	94		70-130
Hexachlorobutadiene	0	100	100	98	98	98		70-130
4-Chloro-3-methylphenol	0	100	100	90	90	90		70-130
2-Methylnaphthalene	0	100	100	97	97	97		70-130
Hexachlorocyclopentadiene	0	100	100	80	80	80		70-130
2,4,6-Trichlorophenol	0	100	100	93	93	93		70-130
2,4,5-Trichlorophenol	0	100	100	93	93	93		70-130
2-Chloronaphthalene	0	100	100	97	97	97		70-130
2-Nitroaniline	0	100	100	105	105	105		70-130
Dimethylphthalate	0	100	100	94	94	94		70-130
Acenaphthylene	0	100	100	99	99	99		70-130
2,6-Dinitrotoluene	0	100	100	120	120	120		70-130
3-Nitroaniline	0	100	100	103	103	103		70-130
Acenaphthene	0	100	100	99	99	99		70-130
Dibenzofuran	0	100	100	99	99	99		70-130
2,4-Dinitrotoluene	0	100	100	109	109	109		70-130
4-Nitrophenol	0	100	100	105	105	105		70-130
2,4-Dinitrophenol	0	100	100	98	98	98		70-130
Diethylphthalate	0	100	100	95	95	95		70-130
Fluorene	0	100	100	100	100	100		70-130
4-Chlorophenyl-phenylether	0	100	100	95	95	95		70-130

Initial Calibration Verification Summary Report (Semi-Volatile)

Std. Lot ID : 18J2412/16G2005
Analytical Batch: O127021
Analysis Date : 1-27-21/1-28-21

Analyst Initials: AVL
Method: 8270E/625
Curve Analysis Date: 1-27-21

Multiplier: 1 1

Compound Name	Blank Conc. ug/L	Spike Added ug/L	LCS Spk Added ug/L	LCS Results ug/L	LCS Final ug/L	LCS %Rec		%Rec
4-Nitroaniline	0	100	100	103	103	**103**		70-130
4,6-Dinitro-2-methylphenol	0	100	100	108	108	**108**		70-130
N-Nitrosodiphenylamine#	0	100	100	72	72	**72**		70-130
1,2-Diphenylhydrazine	0	100	100	98	98	**98**		70-130
4-Bromophenyl-phenylether	0	100	100	83	83	**83**		70-130
Hexachlorobenzene	0	100	100	95	95	**95**		70-130
Pentachlorophenol	0	100	100	112	112	**112**		70-130
Phenanthrene	0	100	100	102	102	**102**		70-130
Anthracene	0	100	100	98	98	**98**		70-130
Carbazole	0	100	100	104	104	**104**		70-130
Di-n-butylphthalate	0	100	100	91	91	**91**		70-130
Fluoranthene	0	100	100	104	104	**104**		70-130
Benzidine	0	100	100	81	81	**81**		70-130
Pyrene	0	100	100	105	105	**105**		70-130
Butylbenzylphthalate	0	100	100	100	100	**100**		70-130
Benzo(a)anthracene	0	100	100	102	102	**102**		70-130
Chrysene	0	100	100	101	101	**101**		70-130
3,3'-Dichlorobenzidine	0	100	100	92	92	**92**		70-130
bis(2-Ethylhexyl)phthalate	0	100	100	105	105	**105**		70-130
Di-n-octylphthalate	0	100	100	104	104	**104**		70-130
Benzo(b)fluoranthene	0	100	100	101	101	**101**		70-130
Benzo(k)fluoranthene	0	100	100	102	102	**102**		70-130
Benzo(a)pyrene	0	100	100	101	101	**101**		70-130
Indeno(1,2,3-cd)pyrene	0	100	100	93	93	**93**		70-130
Dibenzo(a,h)anthracene	0	100	100	98	98	**98**		70-130
Benzo(g,h,i)perylene	0	100	100	94	94	**94**		70-130

Quantitation Report (QT Reviewed)

Data File : C:\OTIS\O1-27-21\O12711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.63	152	197958	40.00	ng/ml	0.00
19) Naphthalene-d8	15.33	136	688008	40.00	ng/ml	0.00
35) Acenaphthene-d10	20.75	164	410683	40.00	ng/ml	0.02
56) Phenanthrene-d10	25.35	188	769477	40.00	ng/ml	0.02
68) Chrysene-d12	33.72	240	618128	40.00	ng/ml	0.02
79) Perylene-d12	38.05	264	671757	40.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	mg/L	
Spiked Amount 100.000	Range 20 - 53		Recovery =	0.00%#		
7) Phenol-d5	0.00	99	0	0.00	mg/L	
Spiked Amount 100.000	Range 11 - 40		Recovery =	0.00%#		
20) Nitrobenzene-d5	0.00	82	0d	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 103		Recovery =	0.00%#		
40) 2-Fluorobiphenyl	0.00	172	0d	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 119		Recovery =	0.00%#		
60) 2,4,6-Tribromophenol	0.00	330	0	0.00	mg/L	
Spiked Amount 100.000	Range 30 - 105		Recovery =	0.00%#		
72) Terphenyl-d14	0.00	244	0	0.00	mg/L	
Spiked Amount 100.000	Range 37 - 109		Recovery =	0.00%#		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.85	42	412287	102.77	mg/L	92
3) Pyridine	4.87	79	625308	95.51	mg/L	89
5) Aniline	10.77	93	880901	96.97	mg/L	93
6) bis(2-Chloroethyl)ether	11.02	93	561738	92.59	mg/L	98
8) 2-Chlorophenol	11.04	128	601774	98.73	mg/L #	89
9) Phenol	10.82	94	791350	96.24	mg/L	97
10) 1,3-Dichlorobenzene	11.46	146	663969	99.00	mg/L	90
11) 1,4-Dichlorobenzene	11.68	146	672477	95.20	mg/L	87
12) 1,2-Dichlorobenzene	12.09	146	650046	98.72	mg/L	89
13) Benzyl Alcohol	12.15	108	416000	99.71	mg/L	92
14) bis(2-Chloroisopropyl)ethe	12.56	45	989889	106.88	mg/L	96
15) 2-Methylphenol (o-Cresol)	12.49	107	485844	95.17	mg/L	92
16) 3,4-Methylphenol(m,p Creso	13.00	107	631793	81.33	mg/L #	89
17) N-Nitroso-di-n-propylamine	12.97	70	459342	108.64	mg/L	95
18) Hexachloroethane	13.03	117	310033	101.55	mg/L #	75
21) Nitrobenzene	13.30	77	573296	91.97	mg/L	98
22) Isophorone	14.13	82	1143097	96.37	mg/L	96
23) N-Ethylaniline	0.00	106	0	N.D.	d	
24) 2-Nitrophenol	14.25	139	343319	106.48	mg/L	96
25) 2,4-Dimethylphenol	14.56	122	509083	94.02	mg/L	94
26) bis(2-Chloroethoxy)methane	14.86	93	754734	102.18	mg/L	96
27) Benzoic Acid	15.27	122	336267m	94.12	mg/L	
28) 1,2,4-Trichlorobenzene	15.20	180	648474	97.79	mg/L	97
29) 2,4-Dichlorophenol	15.01	162	533691	97.17	mg/L	92
30) Naphthalene	15.42	128	1729015	98.83	mg/L	98
31) 4-Chloroaniline	15.67	127	736344	93.50	mg/L	98
32) Hexachlorobutadiene	15.86	225	382627	97.75	mg/L	96
33) 4-Chloro-3-methylphenol	17.26	107	500563	89.82	mg/L	98
34) 2-Methylnaphthalene	17.55	142	1098566	96.83	mg/L	93
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.		
37) Hexachlorocyclopentadiene	18.06	237	315006	79.64	mg/L	95
38) 2,4,6-Trichlorophenol	18.46	196	426563	93.49	mg/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

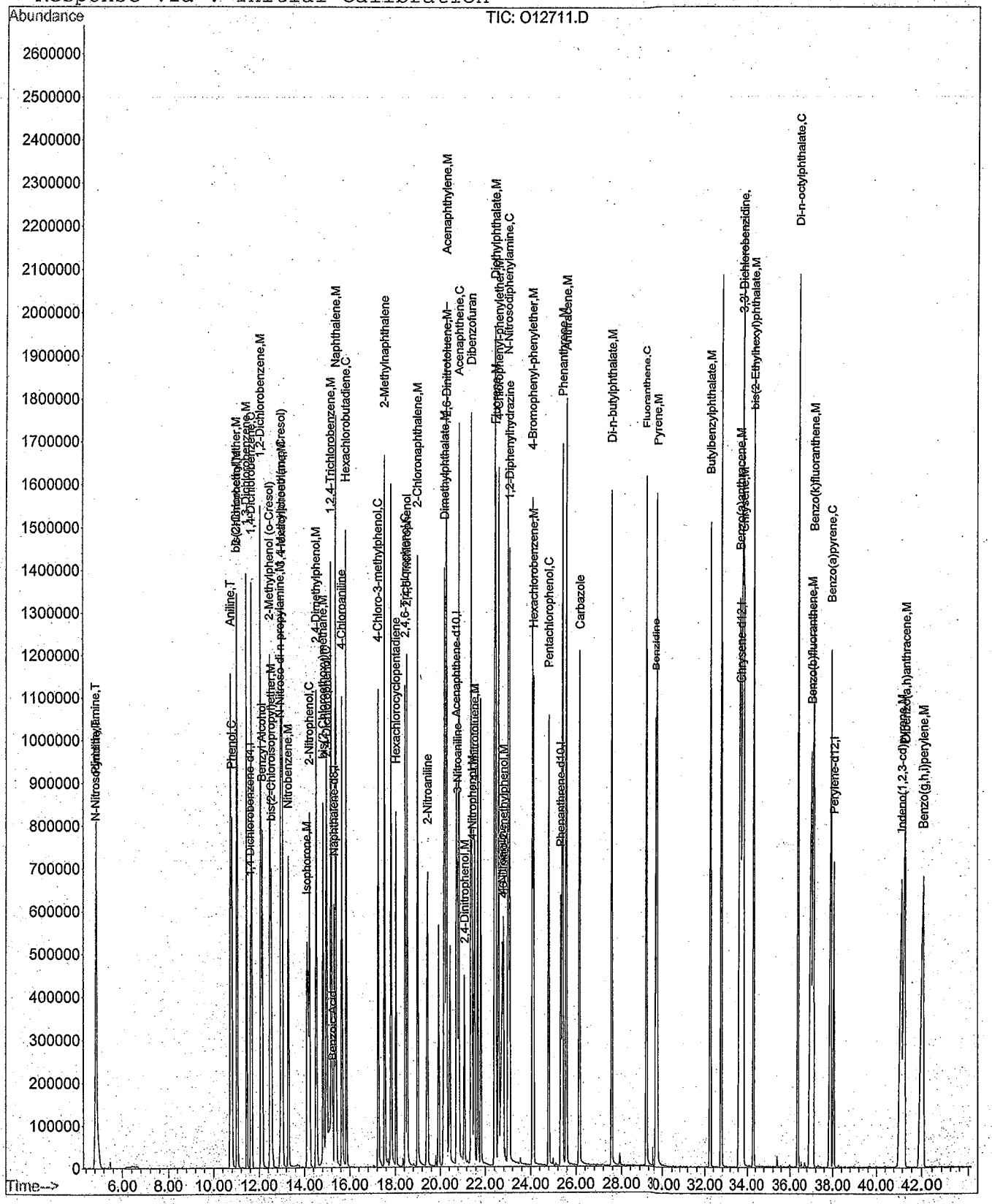
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	18.55	196	445755	92.74	mg/L		98
41)	2-Chloronaphthalene	19.02	162	1097982	96.93	mg/L		94
42)	2-Nitroaniline	19.46	65	389997	104.71	mg/L		90
43)	Dimethylphthalate	20.22	163	1221511	94.13	mg/L		96
44)	Acenaphthylene	20.29	152	1700597	98.53	mg/L		99
45)	2,6-Dinitrotoluene	20.31	165	350350	120.37	mg/L		96
46)	3-Nitroaniline	20.80	138	334845	103.38	mg/L		86
47)	Acenaphthene	20.86	154	997566	99.34	mg/L	#	93
48)	Dibenzofuran	21.41	168	1618567	98.75	mg/L		89
49)	2,4-Dinitrotoluene	21.56	165	432359	109.03	mg/L	#	99
50)	4-Nitrophenol	21.46	65	310977	105.49	mg/L	#	26
51)	2,4-Dinitrophenol	21.12	184	191331	97.95	mg/L	#	87
52)	Diethylphthalate	22.44	149	1245651	95.41	mg/L		95
53)	Fluorene	22.47	166	1244428	99.63	mg/L		96
54)	4-Chlorophenyl-phenylether	22.59	204	657143	95.15	mg/L		92
55)	4-Nitroaniline	22.74	138	337931	103.31	mg/L		92
57)	4,6-Dinitro-2-methylphenol	22.81	198	283578	107.52	mg/L	#	79
58)	N-Nitrosodiphenylamine	23.01	169	1103595	132.36	mg/L		93
59)	1,2-Diphenylhydrazine	23.08	77	1443181	98.42	mg/L		93
61)	4-Bromophenyl-phenylether	24.09	248	350478	82.76	mg/L	#	90
62)	Hexachlorobenzene	24.15	284	440222	95.15	mg/L	#	90
63)	Pentachlorophenol	24.82	266	364193	112.25	mg/L		96
64)	Phenanthrene	25.43	178	1942457	101.71	mg/L		99
65)	Anthracene	25.60	178	1949562	97.64	mg/L		98
66)	Carbazole	26.19	167	1771431	103.93	mg/L		97
67)	Di-n-butylphthalate	27.58	149	2250880	91.02	mg/L		98
69)	Fluoranthene	29.13	202	2234957	104.17	mg/L		96
70)	Benzidine	29.73	184	930952	81.21	mg/L		98
71)	Pyrene	29.81	202	2295005	104.63	mg/L	#	93
73)	Butylbenzylphthalate	32.28	149	1032985	99.55	mg/L		89
74)	Benzo(a)anthracene	33.68	228	2048248	101.58	mg/L		97
75)	Chrysene	33.84	228	1985400	101.07	mg/L		99
76)	3,3'-Dichlorobenzidine	33.79	252	722823	91.82	mg/L		92
77)	bis(2-Ethylhexyl)phthalate	34.33	149	1585809	105.13	mg/L	#	98
78)	Di-n-octylphthalate	36.37	149	2809315	103.94	mg/L		100
80)	Benzo(b)fluoranthene	37.02	252	1986109	101.38	mg/L		96
81)	Benzo(k)fluoranthene	37.10	252	1893231m	102.07	mg/L		
82)	Benzo(a)pyrene	37.91	252	1774975	100.95	mg/L		98
83)	Indeno(1,2,3-cd)pyrene	41.16	276	1587864	92.65	mg/L		93
84)	Dibenzo(a,h)anthracene	41.31	278	1685481	97.82	mg/L		96
85)	Benzo(g,h,i)perylene	42.07	276	1583401	93.61	mg/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\OTIS\O1-27-21\O12711.D Vial: 11
Acq On : 27 Jan 2021 5:22 pm Operator: AVL
Sample : 100ppm BNA ICV / 18J2412 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021 Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration



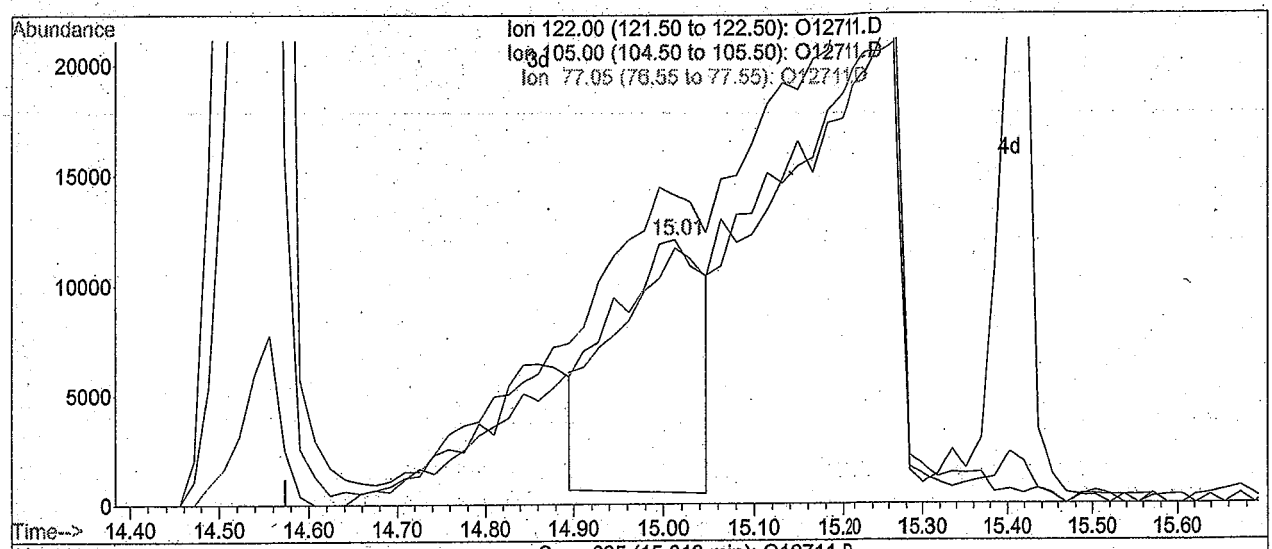
Quantitation Report (Qedit)

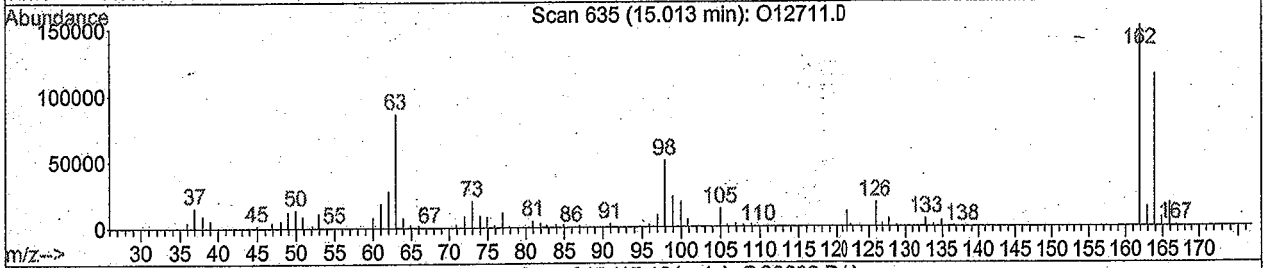
Data File : C:\OTIS\O1-27-21\O12711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:17 2021

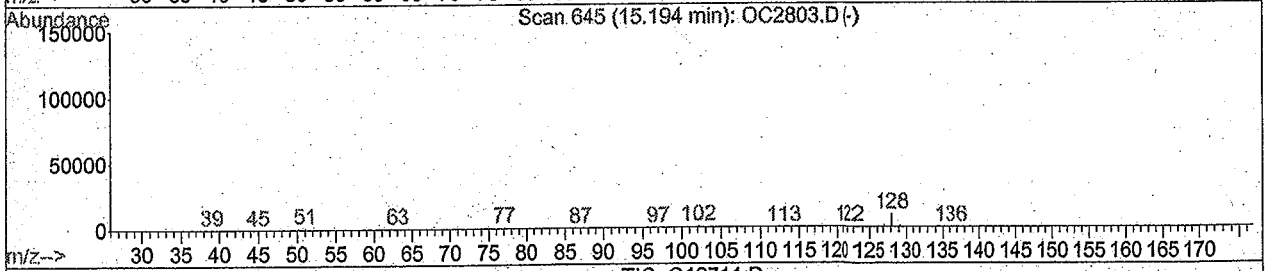
Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: O12711.D

(27) Benzoic Acid

15.01min 23.49mg/L

response 83904

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	116.73
77.05	81.40	96.89
0.00	0.00	0.00

BEFORE

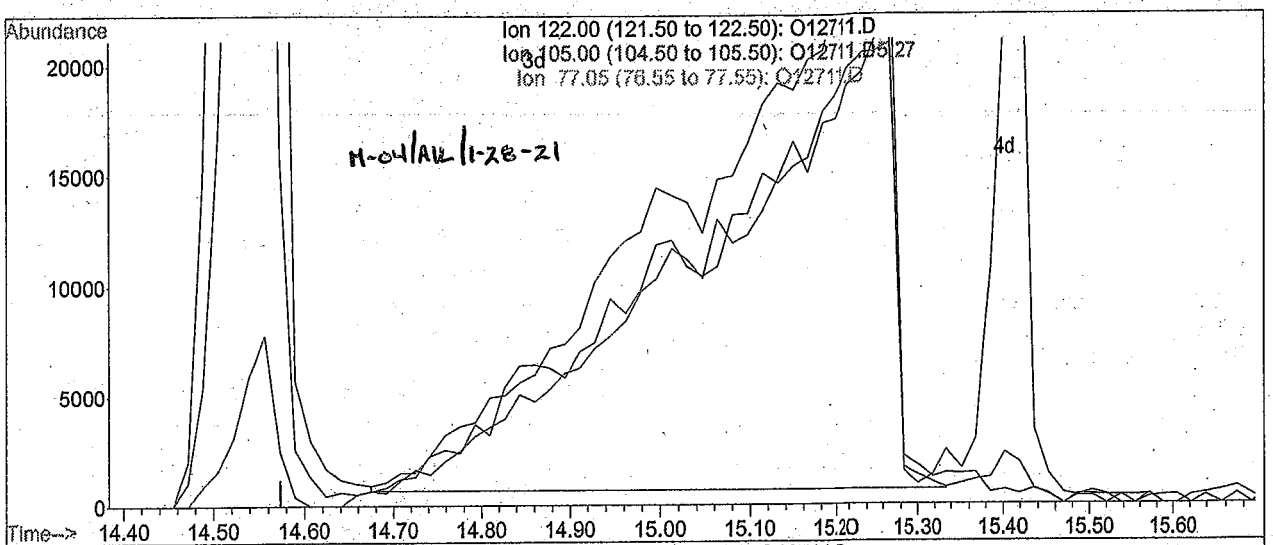
Quantitation Report (Qedit)

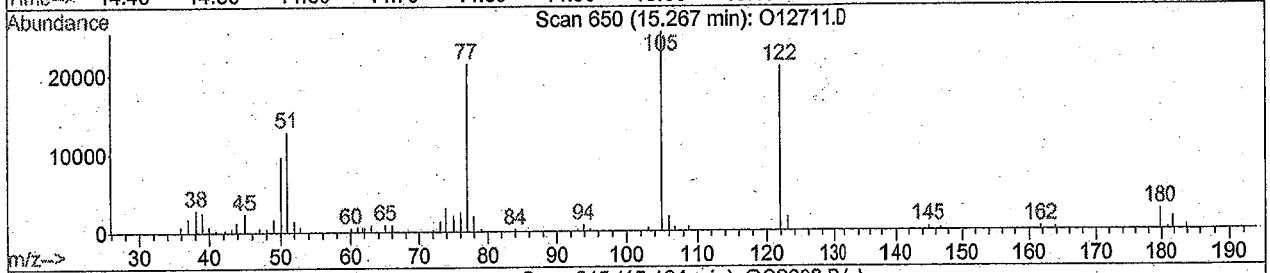
Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:18 2021

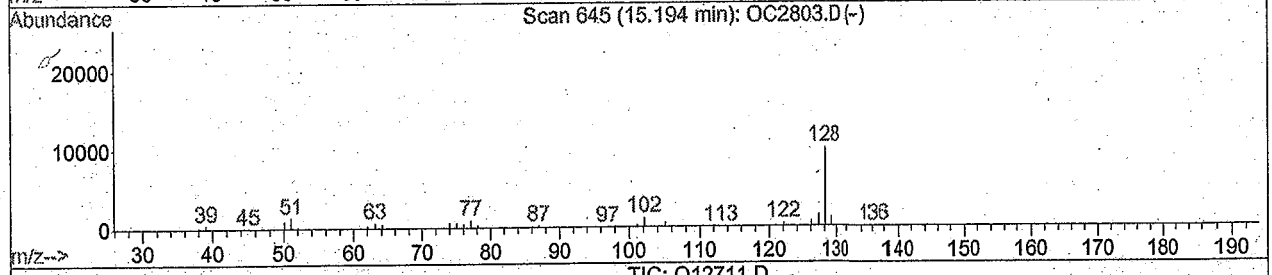
Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: O12711.D

(27) Benzoic Acid

15.27min 94.12mg/L m

response 336267

Ion	Exp%	Act%
122.00	100	100
105.00	136.90	121.15
77.05	81.40	101.87#
0.00	0.00	0.00

AFTER

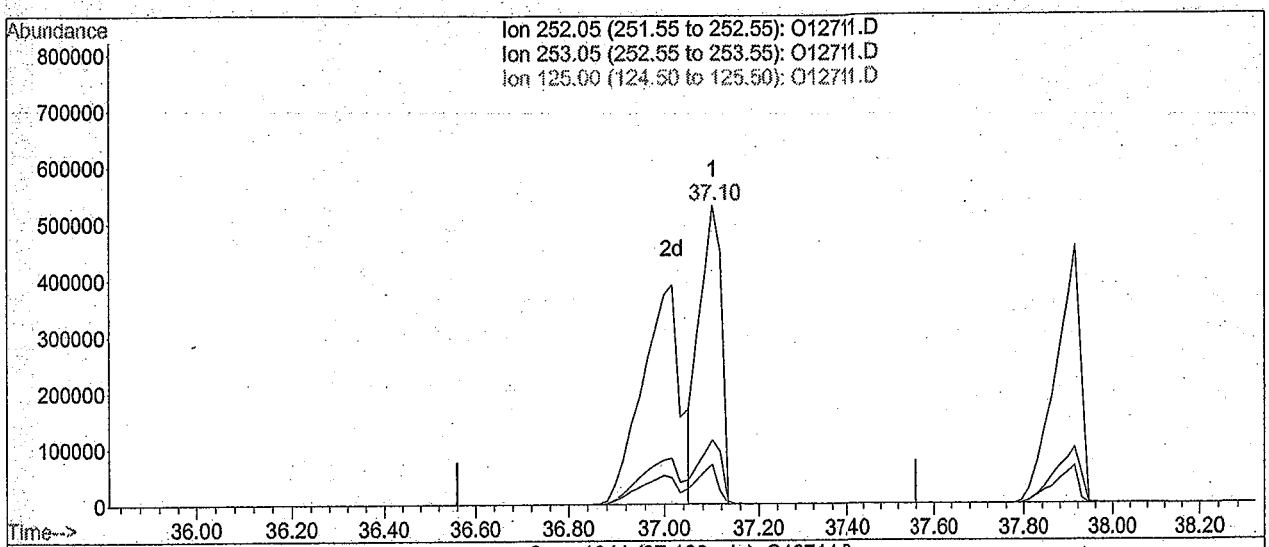
Quantitation Report (Qedit)

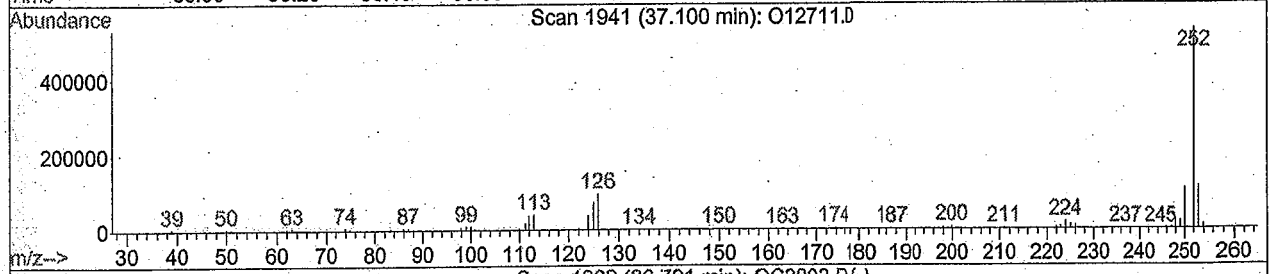
Data File : C:\OTIS\O1-27-21\O12711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:19 2021

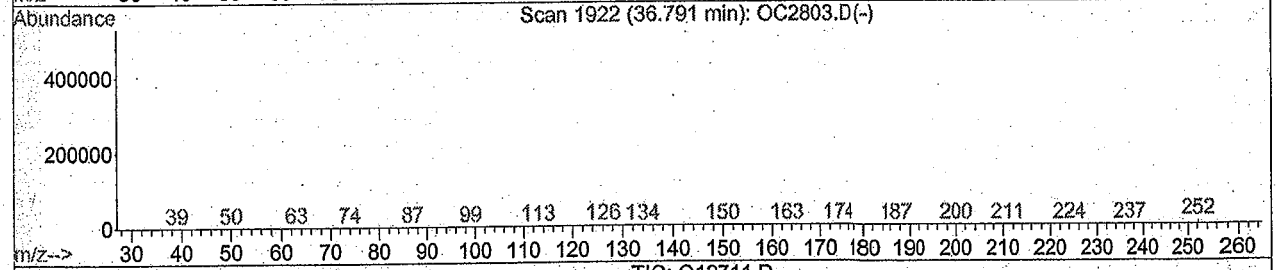
Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: O12711.D

(81) Benzo(k)fluoranthene (M)

37.10min 92.44mg/L

response 1714668

Ion	Exp%	Act%
252.05	100	100
253.05	22.40	21.60
125.00	11.30	13.33
0.00	0.00	0.00

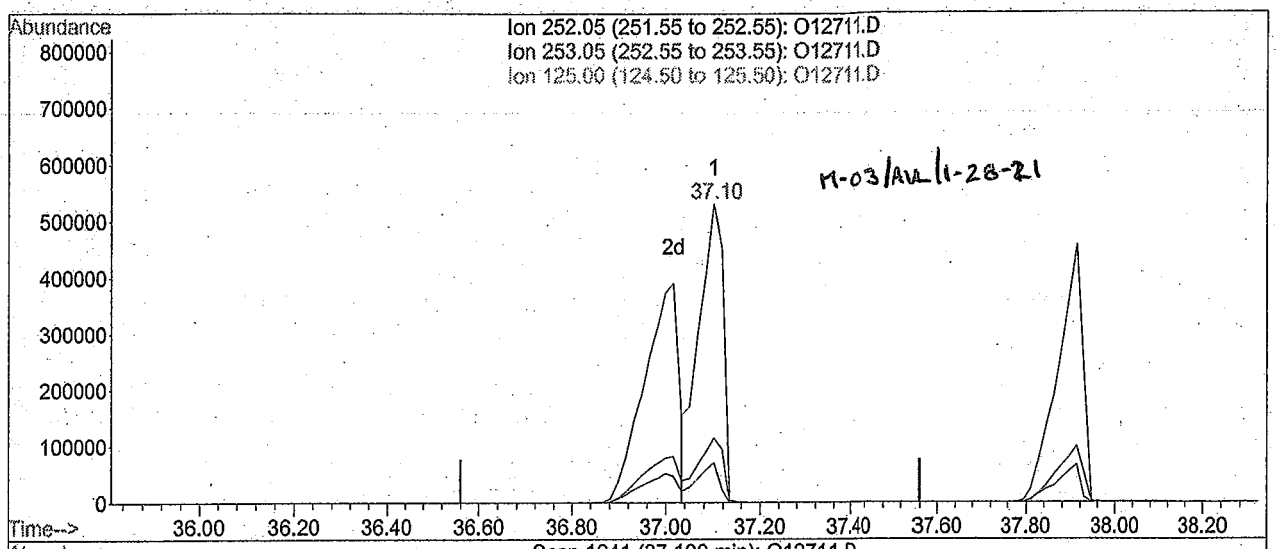
BEFORE

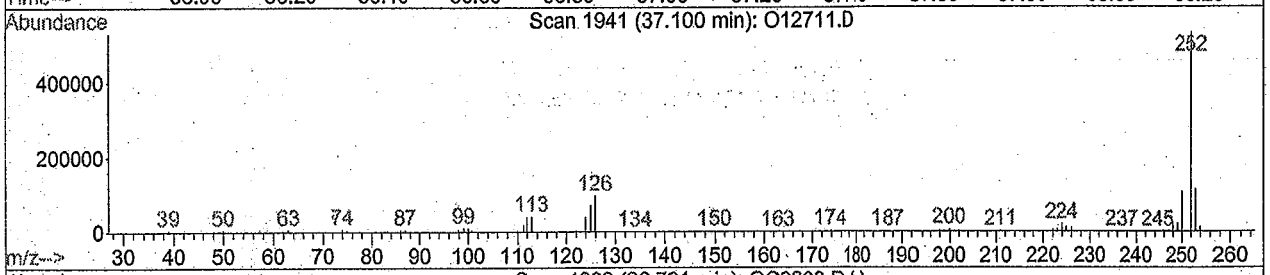
Quantitation Report (Qedit)

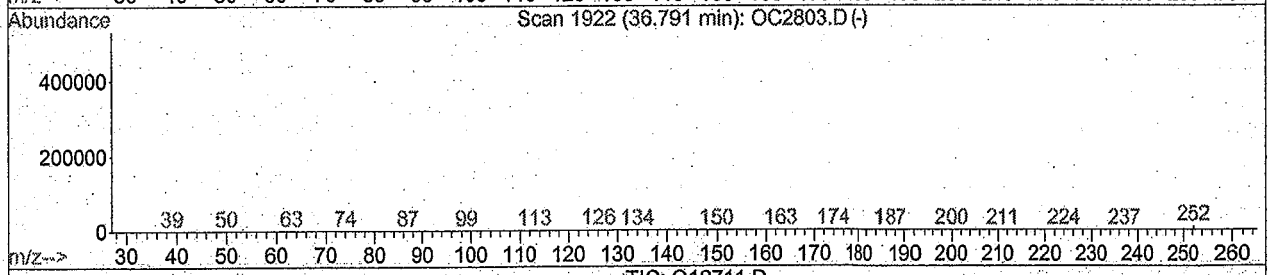
Data File : C:\OTIS\01-27-21\012711.D
Acq On : 27 Jan 2021 5:22 pm
Sample : 100ppm BNA ICV / 18J2412
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 8:20 2021

Vial: 11
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Multiple Level Calibration







TIC: 012711.D

(81) Benzo(k)fluoranthene (M)

37.10min 102.07mg/L m

response 1893231

Ion	Exp%	Act%
252.05	100	100
253.05	22.40	21.60
125.00	11.30	13.33
0.00	0.00	0.00

AFTER

Quantitation Report (Not Reviewed)

Data File : C:\OTIS\01-28-21\012804.D Vial: 4
Acq On : 28 Jan 2021 11:58 am Operator: AVL
Sample : 100ppm N-Ndpa ICV / 16G2005 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	11.61	152	150158	40.00	ng/ml	-0.02
19) Naphthalene-d8	15.29	136	502926	40.00	ng/ml	-0.04
35) Acenaphthene-d10	20.69	164	316263	40.00	ng/ml	-0.04
56) Phenanthrene-d10	25.30	188	588316	40.00	ng/ml	-0.02
68) Chrysene-d12	33.64	240	464857	40.00	ng/ml	-0.05
79) Perylene-d12	37.99	264	496929	40.00	ng/ml	-0.05

System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	mg/L	
Spiked Amount 100.000	Range 20 - 53		Recovery =	0.00%#		
7) Phenol-d5	0.00	99	0	0.00	mg/L	
Spiked Amount 100.000	Range 11 - 40		Recovery =	0.00%#		
20) Nitrobenzene-d5	0.00	82	0	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 103		Recovery =	0.00%#		
40) 2-Fluorobiphenyl	0.00	172	0	0.00	mg/L	
Spiked Amount 100.000	Range 36 - 119		Recovery =	0.00%#		
60) 2,4,6-Tribromophenol	0.00	330	0	0.00	mg/L	
Spiked Amount 100.000	Range 30 - 105		Recovery =	0.00%#		
72) Terphenyl-d14	0.00	244	0	0.00	mg/L	
Spiked Amount 100.000	Range 37 - 109		Recovery =	0.00%#		

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.00	42	0	N.D.
3) Pyridine	0.00	79	0	N.D.
5) Aniline	0.00	93	0	N.D.
6) bis(2-Chloroethyl)ether	0.00	93	0	N.D.
8) 2-Chlorophenol	0.00	128	0	N.D.
9) Phenol	0.00	94	0	N.D.
10) 1,3-Dichlorobenzene	0.00	146	0	N.D.
11) 1,4-Dichlorobenzene	0.00	146	0	N.D.
12) 1,2-Dichlorobenzene	0.00	146	0	N.D.
13) Benzyl Alcohol	0.00	108	0	N.D.
14) bis(2-Chloroisopropyl)ethe	0.00	45	0	N.D.
15) 2-Methylphenol (o-Cresol)	0.00	107	0	N.D.
16) 3,4-Methylphenol(m,p Creso	0.00	107	0	N.D.
17) N-Nitroso-di-n-propylamine	0.00	70	0	N.D.
18) Hexachloroethane	0.00	117	0	N.D.
21) Nitrobenzene	0.00	77	0	N.D.
22) Isophorone	0.00	82	0	N.D.
23) N-Ethylaniline	0.00	106	0	N.D.
24) 2-Nitrophenol	0.00	139	0	N.D.
25) 2,4-Dimethylphenol	0.00	122	0	N.D.
26) bis(2-Chloroethoxy)methane	0.00	93	0	N.D.
27) Benzoic Acid	0.00	122	0	N.D.
28) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.
29) 2,4-Dichlorophenol	0.00	162	0	N.D.
30) Naphthalene	0.00	128	0	N.D.
31) 4-Chloroaniline	0.00	127	0	N.D.
32) Hexachlorobutadiene	0.00	225	0	N.D.
33) 4-Chloro-3-methylphenol	0.00	107	0	N.D.
34) 2-Methylnaphthalene	0.00	142	0	N.D.
36) 1,2,4,5-Tetrachlorobenzene	0.00	216	0	N.D.
37) Hexachlorocyclopentadiene	0.00	237	0	N.D.
38) 2,4,6-Trichlorophenol	0.00	196	0	N.D.

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\01-28-21\012804.D Vial: 4
Acq On : 28 Jan 2021 11:58 am Operator: AVL
Sample : 100ppm N-Ndpa ICV / 16G2005 Inst : OTIS
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021 Quant Results File: TBNA.RES

Quant Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration
DataAcq Meth : TBNA

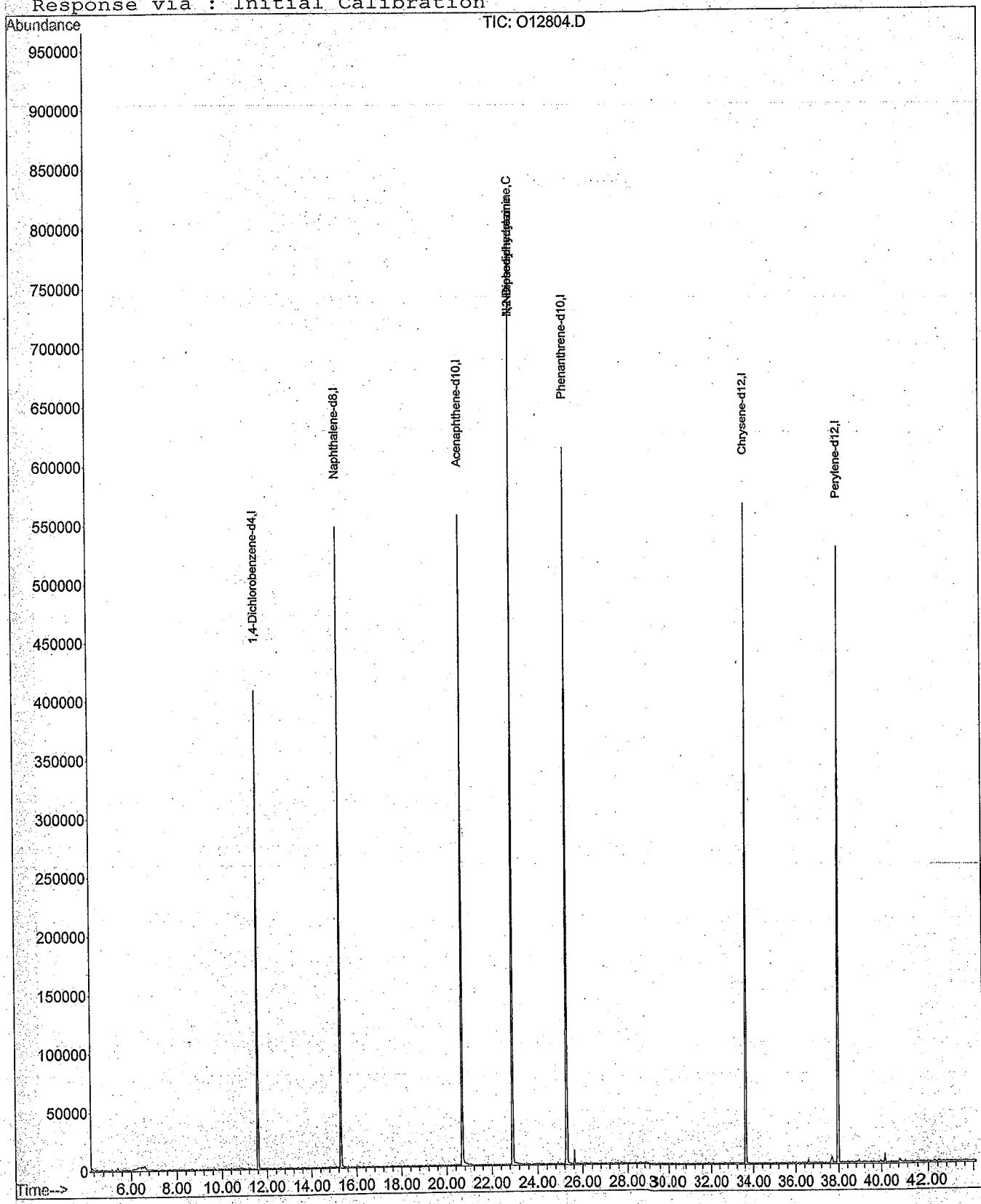
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	2,4,5-Trichlorophenol	0.00	196	0	N.D.			
41)	2-Chloronaphthalene	0.00	162	0	N.D.			
42)	2-Nitroaniline	0.00	65	0	N.D.			
43)	Dimethylphthalate	0.00	163	0	N.D.			
44)	Acenaphthylene	0.00	152	0	N.D.			
45)	2,6-Dinitrotoluene	0.00	165	0	N.D.			
46)	3-Nitroaniline	0.00	138	0	N.D.			
47)	Acenaphthene	20.70	154	505	N.D.			
48)	Dibenzofuran	0.00	168	0	N.D.			
49)	2,4-Dinitrotoluene	0.00	165	0	N.D.			
50)	4-Nitrophenol	0.00	65	0	N.D.			
51)	2,4-Dinitrophenol	0.00	184	0	N.D.			
52)	Diethylphthalate	0.00	149	0	N.D.			
53)	Fluorene	0.00	166	0	N.D.			
54)	4-Chlorophenyl-phenylether	0.00	204	0	N.D.			
55)	4-Nitroaniline	22.92	138	584	N.D.			
57)	4,6-Dinitro-2-methylphenol	0.00	198	0	N.D.			
58)	N-Nitrosodiphenylamine	22.94	169	460173	72.19	mg/L		97
59)	1,2-Diphenylhydrazine	22.94	77	53856	4.80	mg/L	#	53
61)	4-Bromophenyl-phenylether	0.00	248	0	N.D.			
62)	Hexachlorobenzene	0.00	284	0	N.D.			
63)	Pentachlorophenol	0.00	266	0	N.D.			
64)	Phenanthrene	25.63	178	3206	N.D.			
65)	Anthracene	25.63	178	3206	N.D.			
66)	Carbazole	0.00	167	0	N.D.			
67)	Di-n-butylphthalate	0.00	149	0	N.D.			
69)	Fluoranthene	0.00	202	0	N.D.			
70)	Benzidine	0.00	184	0	N.D.			
71)	Pyrene	0.00	202	0	N.D.			
73)	Butylbenzylphthalate	0.00	149	0	N.D.			
74)	Benzo(a)anthracene	33.64	228	1063	N.D.			
75)	Chrysene	33.64	228	1063	N.D.			
76)	3,3'-Dichlorobenzidine	0.00	252	0	N.D.			
77)	bis(2-Ethylhexyl)phthalate	0.00	149	0	N.D.			
78)	Di-n-octylphthalate	0.00	149	0	N.D.			
80)	Benzo(b)fluoranthene	0.00	252	0	N.D.			
81)	Benzo(k)fluoranthene	0.00	252	0	N.D.			
82)	Benzo(a)pyrene	37.99	252	1059	N.D.			
83)	Indeno(1,2,3-cd)pyrene	0.00	276	0	N.D.			
84)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.			
85)	Benzo(g,h,i)perylene	0.00	276	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Data File : C:\OTIS\O1-28-21\O12804.D
Acq On : 28 Jan 2021 11:58 am
Sample : 100ppm N-Ndpa ICV / 16G2005
Misc :
MS Integration Params: rteint.p
Quant Time: Jan 28 12:42 2021

Vial: 4
Operator: AVL
Inst : OTIS
Multiplr: 1.00
Quant Results File: TBNA.RES

Method : C:\HPCHEM\1\METHODS\TBNA.M (RTE Integrator)
Title : Method 8270C
Last Update : Wed Jan 27 16:25:33 2021
Response via : Initial Calibration



Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21J1202

Metals

Data Package

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

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General Outline for Metals Raw Data Deliverables

1) **Data Review Sheet**

2) **Preservation verification – If applicable (Sample Log In Checklist)**

3) **Analytical Parameter**

4) **Digestion Logs**

5) **Raw Data-----In the order by analysis date:**
   - Daily Tune (if applicable)
   - Instrument Data which includes the following:
     - Calibration, ICV, CCVs, Blanks, Batch QC, Samples, and Low Level Verifications as applicable

Trace Analytical Laboratories, Inc. **Metals Data Review** Trace I.D. No. 21J1202

Analyst Review	1631	1631 *	7470/1	7470/1 *	6010	6010 *	6020	6020 *
Calibration Curve is valid			MH✓				✓	
Sample preparation information is correct and complete								
LCS MS/MSDs are within established control limits								
Blanks are within established control limits								
Second Source Standard within control limits								
Qualifiers have been added, where appropriate								
Copies of digestion logs and run logs are included								
Analyst's initials and analysis date are on bench sheet								
Quantitative results are correct and complete								
RPDs have been calculated where appropriate								
Method, Instrument, Reagents, Standards identified								
Reporting limits have been adjusted where necessary								
Samples were diluted to within LDR or Curve, as necessary								
Internal Standards are within established limits	---	---	---	---				
PDS performed for ICP-MS, where applicable			NA				NA	
CCV and CCB run every 10-samples			✓				✓	
Notations/Comments:								
Sign & Date			MH 11/30/21				CB 11-30-21	
Manager Review								
Appropriate SOPs have been followed			✓				✓	
Digestion date, analyst initials, and analysis date are correct								
Analyses match Chain-of-Custody								
Calibration data are scientifically sound, appropriate, and documented								
Second Source Standard in control								
Quantitative results, reporting limits, and detection limits reviewed								
Detection limit multiplier is correct								
QC issues explained and set to report, if necessary								
Significant figures are correct								
Instrument report data matches LIMS data								
Digestion amount in LIMS matches Digestion Log								
Method numbers are correct								
Samples were diluted to within LDR or Curve, as necessary								
Internal Standards are within established limits							✓	
PDS performed for ICP-MS, where applicable			NA				NA	
CCV and CCB run every 10-samples			✓				✓	
Analyst review has been checked			✓				✓	
Analysis is approved for release to reporting			✓				✓	
Notations/Comments:								
Sign & Date			CB 11/30/21				11/30/21 CB	

* Column for 100% review of data.

Form 10-D.0
Effective 10/24/11

Trace Analytical Laboratories, Inc.
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Muskegon, MI 49444-2673

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21J1202

6020

Raw Data

EPA 3015/3051 PREPARATION BENCH SHEET

T116268

Prepared using: Metals - EPA 3015 **Matrix: Aqueous** **Analyst:** MH **Analysis Date:** 11/1/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: MET1000.3 ✓ MET100.2 _____

Acid Volumes: Nitric 5.0 mls HCL _____ mls

Reviewer Initals: CD Review Date: 11/01/21

Standard	Description
21D2031	50ml Digestion Tubes
21H0408	Nitric Acid 61119

Printed: 11/1/2021 10:43:54AM

21J1202-01 H CL-GW-TMW-1 (20') I/MS/MSD — Fishbeck — WO Due Date 11/05/21 — Pos. 1

Inital: 45 g/ml Final 50 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

21J1202-02 D CL-GW-TMW-2 (4.5-9.5') I — Fishbeck — 11/05/21 — 2

Inital: 45 g/ml Final 50 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

21J1202-03 D CL-GW-TMW-2 (4.5-9.5') D — Fishbeck — 11/05/21 — 3

Inital: 45 g/ml Final 30 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

21J1202-05 D CL-GW-GCEB-01 — Fishbeck — 11/05/21 — 4

Inital: 45 g/ml Final 50 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

21J1202-06 D CL-GW-TMW-3 (1-1.5') I — Fishbeck — 11/05/21 — 5

Inital: 45 g/ml Final 50 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

21J1202-07 D CL-SB-QCEB-02 — Fishbeck — 11/05/21 — 6

Inital: 45 g/ml Final 41 mls

by 6020 As Ba Cd Cr Pb Se Ag Cu Zn

Level IV with Forms must sequence in LIMS

EPA 3015/3051 PREPARATION BENCH SHEET

T116268

Prepared using: Metals - EPA 3015 **Matrix: Aqueous**

Analyst: MH **Analysis Date:** 11/1/21

Instrument:MARSX Digestion Microwave SNXM3209

Balance: Mettler Toledo PG503-S SN1119022310

Pipettes Used: MET1000.3 ✓ MET100.2 ____

Acid Volumes: Nitric 5.0 mls HCL ____ mls

Reviewer Initals: QD Review Date: 11/01/21

Standard	Description
21D2031	50ml Digestion Tubes
21H0408	Nitric Acid 61119

Printed: 11/1/2021 10:43:54AM

		Spike Standard	Spike Amount (ul)	WO Due Date	Pos.
T116268-BLK1	Blank				
Inital: 45 g/ml Final 50 mls					7
T116268-BS1	LCS	Spike Standard	Spike Amount (ul)		
Inital: 45 g/ml Final 50 mls		21J1804	500		8
T116268-MS1	Matrix Spike [21J1202-01]	Spike Standard	Spike Amount (ul)		
Inital: 45 g/ml Final 50 mls		21J1804	500		9
T116268-MSD1	Matrix Spike Dup [21J1202-01]	Spike Standard	Spike Amount (ul)		
Inital: 45 g/ml Final 50 mls		21J1804	500		10

ICP-MS Run Logsheet

Method:

- EPA 6020B Aqueous

Instrument Information:

- Thermo Fisher Scientific iCAP RQ ICP-MS (S/N: iCAPRQ00820)

Analyst Initials:	ACS
Date:	11-04-21
Batch / Sequence:	T116174,T116267, T116268 / 110421B

LIMS IDs

Cal Blk / ICB / CCB:	21J2210
Cal Std 1 / LCV:	21H0228
Cal Std 2:	21H0227
Cal Std 3:	21H0226
Cal Std 4 / CCV / Mid-Point:	21H0224
Cal Std 5:	21H0219
ICV1:	21H0220
ICV2:	21H0223
SIC:	21H0221
LDR:	21H0222
Internal Standard:	21K0301
Diluent:	21J2210
Rinse:	21G2832

Review Date:	11/09/21
Reviewer Initials:	CCD
Comments:	

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Instrument ID: Qtegra
Control Limt: +/- 10.00%

SDG:
Project: OC Grant Phase IIs
Calibration: UNASSIGNED
Sequence: 1K04003

Lab Sample ID	Analyte	True	Found	%R	Units	Method
1K04003-ICV1	Arsenic	50.0	49.9	100	ug/L	EPA 6020B
	Barium	50.0	49.9	100	ug/L	EPA 6020B
	Cadmium	50.0	50.5	101	ug/L	EPA 6020B
	Chromium	50.0	49.9	100	ug/L	EPA 6020B
	Copper	50.0	50.1	100	ug/L	EPA 6020B
	Lead	50.0	51.3	103	ug/L	EPA 6020B
	Selenium	50.0	49.5	99	ug/L	EPA 6020B
	Silver	50.0	49.8	100	ug/L	EPA 6020B
	Zinc	50.0	50.4	101	ug/L	EPA 6020B
1K04003-CCV1	Arsenic	50.0	50.3	101	ug/L	EPA 6020B
	Barium	50.0	49.0	98	ug/L	EPA 6020B
	Cadmium	50.0	50.0	100	ug/L	EPA 6020B
	Chromium	50.0	50.5	101	ug/L	EPA 6020B
	Copper	50.0	51.1	102	ug/L	EPA 6020B
	Lead	50.0	51.1	102	ug/L	EPA 6020B
	Selenium	50.0	50.2	100	ug/L	EPA 6020B
	Silver	50.0	49.4	99	ug/L	EPA 6020B
	Zinc	50.0	50.2	100	ug/L	EPA 6020B
1K04003-CCV2	Arsenic	50.0	50.8	102	ug/L	EPA 6020B
	Barium	50.0	48.6	97	ug/L	EPA 6020B
	Cadmium	50.0	49.9	100	ug/L	EPA 6020B
	Chromium	50.0	52.1	104	ug/L	EPA 6020B
	Copper	50.0	51.2	102	ug/L	EPA 6020B
	Lead	50.0	50.6	101	ug/L	EPA 6020B
	Selenium	50.0	49.7	99	ug/L	EPA 6020B
	Silver	50.0	50.0	100	ug/L	EPA 6020B
	Zinc	50.0	50.5	101	ug/L	EPA 6020B
1K04003-CCV3	Arsenic	50.0	50.1	100	ug/L	EPA 6020B
	Barium	50.0	48.9	98	ug/L	EPA 6020B
	Cadmium	50.0	50.0	100	ug/L	EPA 6020B
	Chromium	50.0	51.0	102	ug/L	EPA 6020B
	Copper	50.0	50.6	101	ug/L	EPA 6020B
	Lead	50.0	50.4	101	ug/L	EPA 6020B
	Selenium	50.0	48.6	97	ug/L	EPA 6020B
	Silver	50.0	50.1	100	ug/L	EPA 6020B
	Zinc	50.0	49.9	100	ug/L	EPA 6020B

* Values outside of QC limits

BLANKS
EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Instrument ID: Qtegra
Sequence: 1K04003

SDG:
Project: QC Grant Phase IIs
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1K04003-ICB1	Arsenic	-0.0402	0.90	ug/L		EPA 6020B
	Barium	-0.0601	9.0	ug/L		EPA 6020B
	Cadmium	-0.0502	0.90	ug/L		EPA 6020B
	Chromium	-0.0485	0.81	ug/L		EPA 6020B
	Copper	-0.0547	3.6	ug/L		EPA 6020B
	Lead	-0.0722	1.8	ug/L		EPA 6020B
	Selenium	-0.0625	1.8	ug/L		EPA 6020B
	Silver	0.0187	0.90	ug/L		EPA 6020B
	Zinc	-0.0474	27	ug/L		EPA 6020B
1K04003-CCB1	Arsenic	-0.062	0.90	ug/L		EPA 6020B
	Barium	-0.045	9.0	ug/L		EPA 6020B
	Cadmium	-0.055	0.90	ug/L		EPA 6020B
	Chromium	-0.040	0.81	ug/L		EPA 6020B
	Copper	-0.045	3.6	ug/L		EPA 6020B
	Lead	-0.084	1.8	ug/L		EPA 6020B
	Selenium	-0.11	1.8	ug/L		EPA 6020B
	Silver	0.013	0.90	ug/L		EPA 6020B
	Zinc	-0.028	27	ug/L		EPA 6020B
T116268-BLK1	Arsenic	-0.000074	0.0050	mg/L		EPA 6020B
	Barium	0.00073	0.10	mg/L		EPA 6020B
	Cadmium	-0.000074	0.0010	mg/L		EPA 6020B
	Chromium	0.000056	0.010	mg/L		EPA 6020B
	Copper	0.00021	0.0040	mg/L		EPA 6020B
	Lead	-0.000088	0.0030	mg/L		EPA 6020B
	Selenium	-0.000086	0.0050	mg/L		EPA 6020B
	Silver	0.0000091	0.0010	mg/L		EPA 6020B
	Zinc	0.0028	0.050	mg/L		EPA 6020B
1K04003-CCB2	Arsenic	0.068	0.90	ug/L		EPA 6020B
	Barium	-0.023	9.0	ug/L		EPA 6020B
	Cadmium	-0.035	0.90	ug/L		EPA 6020B
	Chromium	-0.039	0.81	ug/L		EPA 6020B
	Copper	-0.035	3.6	ug/L		EPA 6020B
	Lead	-0.066	1.8	ug/L		EPA 6020B

BLANKS
EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
SDG:
Instrument ID: Qtegra
Project: OC Grant Phase IIs
Sequence: 1K04003
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1K04003-CCB2	Selenium	-0.020	1.8	ug/L		EPA 6020B
	Silver	0.035	0.90	ug/L		EPA 6020B
	Zinc	-0.023	27	ug/L		EPA 6020B
1K04003-CCB3	Arsenic	-0.0016	0.90	ug/L		EPA 6020B
	Barium	0.035	9.0	ug/L		EPA 6020B
	Cadmium	-0.026	0.90	ug/L		EPA 6020B
	Chromium	-0.028	0.81	ug/L		EPA 6020B
	Copper	-0.037	3.6	ug/L		EPA 6020B
	Lead	-0.054	1.8	ug/L		EPA 6020B
	Selenium	-0.061	1.8	ug/L		EPA 6020B
	Silver	0.047	0.90	ug/L		EPA 6020B
	Zinc	-0.025	27	ug/L		EPA 6020B

METHOD BLANK DATA SHEET
EPA 6020B

Laboratory:	Trace Analytical Laboratories, Inc.			SDG:	
Client:	Fishbeck			Project:	OC Grant Phase IIs
Matrix:	Aqueous	Laboratory ID:	T116268-BLK1	File ID:	110421B-051
Prepared:	11/01/21 10:43	Preparation:	EPA 3015	Initial/Final:	45 mL / 50 mL
Analyzed:	11/04/21 14:53	Instrument:	Qtegra		
Batch:	T116268	Sequence:	1K04003	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7440-38-2	Arsenic	0.0050	U
7440-39-3	Barium	0.10	U
7440-43-9	Cadmium	0.0010	U
7440-47-3	Chromium	0.010	U
7440-50-8	Copper	0.0040	U
7439-92-1	Lead	0.0030	U
7782-49-2	Selenium	0.0050	U
7440-22-4	Silver	0.0010	U
7440-66-6	Zinc	0.050	U

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Instrument ID: Qtegra

Sequence: 1K04003

SDG:

Project: OC Grant Phase IIs

Calibration: UNASSIGNED

Lab Sample ID	Analyte	True	Found	%R	Units
1K04003-IFA1	Arsenic		-0.01		ug/L
	Barium		0.04		ug/L
	Cadmium		0.37		ug/L
	Chromium		0.96		ug/L
	Copper		0.29		ug/L
	Lead		0.00		ug/L
	Selenium		0.03		ug/L
	Silver		0.07		ug/L
	Zinc		0.55		ug/L

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6020B

L-GW-TMW-1 (20') I/MS/MS

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Matrix: Aqueous

Batch: T116268

Preparation: EPA 3015

Source Sample Name: CL-GW-TMW-1 (20') I/MS/MSD

SDG:

Project: OC Grant Phase IIs

Laboratory ID: T116268-MS1

Initial/Final: 45 mL / 50 mL

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Arsenic	0.0556	0.00194	0.0527	91	75 - 125
Barium	0.889	0.0762	0.970	101	75 - 125
Cadmium	0.0278	0	0.0287	103	75 - 125
Chromium	0.0278	0.0295	0.0548	91	75 - 125
Copper	0.890	0.0207	0.714	78	75 - 125
Lead	0.0556	0.00712	0.0489	75	75 - 125
Selenium	0.0556	0.00703	0.0559	88	75 - 125
Silver	0.0278	0	0.0309	111	75 - 125
Zinc	0.889	0.0379	0.744	79	75 - 125

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Arsenic	0.0556	0.0543	94	3	20	75 - 125
Barium	0.889	0.977	101	0.7	20	75 - 125
Cadmium	0.0278	0.0287	103	0.01	20	75 - 125
Chromium	0.0278	0.0553	93	2	20	75 - 125
Copper	0.890	0.740	81	4	20	75 - 125
Lead	0.0556	0.0496	76	2	20	75 - 125
Selenium	0.0556	0.0572	90	3	20	75 - 125
Silver	0.0278	0.0312	112	0.7	20	75 - 125
Zinc	0.889	0.753	80	1	20	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

SERIAL DILUTION

EPA 6020B

L-GW-TMW-1 (20') I/MS/MS

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Matrix: Aqueous

Sequence: 1K04003

Preparation: T116268

Source Sample Name: CL-GW-TMW-1 (20') I/MS/MSD

SDG:

Project: OC Grant Phase IIs

Laboratory ID: 1K04003-SRD1

Lab Source ID: 21J1202-01

Initial/Final: 45 / 50

% Solids:

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method	QC Limits % Difference
Arsenic	0.00194		ND				EPA 6020B	20
Barium	0.0762		ND				EPA 6020B	20
Cadmium	<		ND				EPA 6020B	20
Chromium	0.0295		0.0320		8		EPA 6020B	20
Copper	0.0207		0.0253		20		EPA 6020B	20
Lead	0.00712		0.00862		19		EPA 6020B	20
Selenium	0.00703		0.00738		5		EPA 6020B	20
Silver	<		ND				EPA 6020B	20
Zinc	0.0379		ND				EPA 6020B	20

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Matrix: Aqueous
Batch: T116268
Laboratory ID: T116268-BS1
Preparation: EPA 3015
Initial/Final: 45 mL / 50 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Arsenic	0.0556	0.0567	102	80 - 120
Barium	0.889	0.940	106	80 - 120
Cadmium	0.0278	0.0292	105	80 - 120
Chromium	0.0278	0.0287	103	80 - 120
Copper	0.890	0.836	94	80 - 120
Lead	0.0556	0.0538	97	80 - 120
Selenium	0.0556	0.0557	100	80 - 120
Silver	0.0278	0.0317	114	80 - 120
Zinc	0.889	0.821	92	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Batch: T116268
Batch Matrix: Aqueous
Preparation: EPA 3015

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
CL-GW-TMW-1 (20') I/MS/MS	21J1202-01	110421B-055	11/01/21 10:43	Level IV with Forms must sequence in LIMS
CL-GW-TMW-2 (4.5-9.5') I	21J1202-02	110421B-057	11/01/21 10:43	Level IV with Forms must sequence in LIMS
CL-GW-TMW-2 (4.5-9.5') D	21J1202-03	110421B-058	11/01/21 10:43	Level IV with Forms must sequence in LIMS
CL-GW-GCEB-01	21J1202-05	110421B-059	11/01/21 10:43	Level IV with Forms must sequence in LIMS
CL-GW-TMW-3 (1-1.5') I	21J1202-06	110421B-062	11/01/21 10:43	Level IV with Forms must sequence in LIMS
CL-SB-QCEB-02	21J1202-07	110421B-063	11/01/21 10:43	Level IV with Forms must sequence in LIMS
Blank	T116268-BLK1	110421B-051	11/01/21 10:43	
LCS	T116268-BS1	110421B-052	11/01/21 10:43	
CL-GW-TMW-1 (20') I/MS/MS	T116268-MS1	110421B-053	11/01/21 10:43	
CL-GW-TMW-1 (20') I/MS/MS	T116268-MSD1	110421B-054	11/01/21 10:43	

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Sequence: 1K04003
Matrix: Aqueous

SDG:
Project: OC Grant Phase IIs
Instrument: Qtegra
Calibration: UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
cal 1	1K04003-CAL2	110421B-003	11/04/21 13:25
cal 10	1K04003-CAL3	110421B-004	11/04/21 13:27
cal 20	1K04003-CAL4	110421B-005	11/04/21 13:29
cal 50	1K04003-CAL5	110421B-006	11/04/21 13:31
cal 100	1K04003-CAL6	110421B-007	11/04/21 13:32
Secondary Cal Check	1K04003-SCV1	110421B-008	11/04/21 13:34
Initial Cal Blank	1K04003-ICB1	110421B-009	11/04/21 13:36
low cal check 1	1K04003-LCV1	110421B-010	11/04/21 13:38
low cal check 2	1K04003-LCV2	110421B-011	11/04/21 13:40
midpoint	1K04003-ICV1	110421B-012	11/04/21 13:42
SIC	1K04003-IFA1	110421B-013	11/04/21 13:43
LDR	1K04003-HCV1	110421B-015	11/04/21 13:47
Calibration Check	1K04003-CCV1	110421B-049	11/04/21 14:50
Calibration Blank	1K04003-CCB1	110421B-050	11/04/21 14:52
Blank	T116268-BLK1	110421B-051	11/04/21 14:53
LCS	T116268-BS1	110421B-052	11/04/21 14:55
CL-GW-TMW-1 (20') I/MS/MSI	T116268-MS1	110421B-053	11/04/21 14:57
CL-GW-TMW-1 (20') I/MS/MSI	T116268-MSD1	110421B-054	11/04/21 14:59
CL-GW-TMW-1 (20') I/MS/MSI	21J1202-01	110421B-055	11/04/21 15:00
CL-GW-TMW-1 (20') I/MS/MSI	1K04003-SRD1	110421B-056	11/04/21 15:02
CL-GW-TMW-2 (4.5-9.5') I	21J1202-02	110421B-057	11/04/21 15:04
CL-GW-TMW-2 (4.5-9.5') D	21J1202-03	110421B-058	11/04/21 15:06
CL-GW-GCEB-01	21J1202-05	110421B-059	11/04/21 15:08
Calibration Check	1K04003-CCV2	110421B-060	11/04/21 15:09
Calibration Blank	1K04003-CCB2	110421B-061	11/04/21 15:11
CL-GW-TMW-3 (1-1.5') I	21J1202-06	110421B-062	11/04/21 15:13
CL-SB-QCEB-02	21J1202-07	110421B-063	11/04/21 15:15
Calibration Check	1K04003-CCV3	110421B-069	11/04/21 15:28
Calibration Blank	1K04003-CCB3	110421B-070	11/04/21 15:30

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Calibration: UNASSIGNED

Sequence: 1K04003

SDG:

Project: OC Grant Phase IIs

Laboratory ID: 1K04003-LCV1

Standard ID: 21H0228

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic	1.00	1.05	4.9	20.00
Barium	1.00	1.06	5.7	20.00
Cadmium	1.00	0.935	-6.5	20.00
Chromium	1.00	0.977	-2.3	20.00
Copper	1.00	1.20	19.6	20.00
Lead	1.00	1.09	8.6	20.00
Selenium	1.00	0.860	-14.0	20.00
Silver	1.00	1.12	11.6	20.00
Zinc	1.00	1.09	8.8	20.00

* Values outside of QC limits

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Calibration: UNASSIGNED

Sequence: 1K04003

SDG:

Project: OC Grant Phase IIs

Laboratory ID: 1K04003-LCV2

Standard ID: 21H0227

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic	10.0	10.0	0.4	20.00
Barium	10.0	11.4	13.6	20.00
Cadmium	10.0	10.1	0.6	20.00
Chromium	10.0	10.2	2.5	20.00
Copper	10.0	11.3	12.7	20.00
Lead	10.0	11.4	13.8	20.00
Selenium	10.0	9.97	-0.3	20.00
Silver	10.0	11.2	11.8	20.00
Zinc	10.0	10.3	3.4	20.00

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Calibration: UNASSIGNED

Sequence: 1K04003

SDG:

Project: OC Grant Phase IIs

Laboratory ID: 1K04003-HCV1

Standard ID: 21H0222

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic	2000	1890	-5.4	10.00
Barium	2000	2050	2.4	10.00
Cadmium	2000	1830	-8.3	10.00
Chromium	2000	2060	3.2	10.00
Copper	2000	2070	3.5	10.00
Lead	2000	2070	3.3	10.00
Selenium	2000	1930	-3.3	10.00
Zinc	2000	1870	-6.4	10.00

* Values outside of QC limits

Performance Report

QTEGRA

System

Start time:	11/4/2021 11:12:06 AM
Instrument:	iCAP RQ
Operator:	ADMINTH-R7387AH\Administrator
Template:	KED Performance Report Trace 5 rep
Instrument Serial Number:	RQ00820
Last Autotune:	Autotune-SourceTune High Matrix-20211104-095450770.imatdat
Solution:	A Tune B solution (1 ppb Li, Co, In, Ba, Ce, Bi, U) in 2% HNO3 and 0.5% HCl is recommended for this performance report.

Sensitivity & Stability Test

Result	Runs	Sweeps
Passed	5	60

Sensitivity

Analyte	Result	Value	Condition	Limit
59Co/35Cl.16O	Passed	40.5	Greater than	18.0
59Co	Passed	97,186.0 CPS	Greater than	30,000.0 CPS
238U	Passed	628,280.0 CPS	Greater than	85,000.0 CPS
209Bi	Passed	395,119.0 CPS	Greater than	42,500.0 CPS
140Ce.16O/140Ce	Passed	0.0035	Less than	0.05
115In	Passed	60,333.0 CPS	Greater than	35,000.0 CPS

Stability

Analyte	Value	Limit
59Co	0.5 %	2
238U	0.8 %	2
209Bi	0.5 %	2
115In	0.8 %	2

Mass Calibration Test

Result	Channels	Dwell	MeasureWidth	PointSpacing	Sweeps
Passed	75	0.04	1.5	0.02	5

Analyte	Result	Centroid Mass [u]	Offset	Peak width [u]	Peak width min [u]	Peak width max [u]
59Co	Passed	58.9384	0.0052	0.715	0.650	0.850
115In	Passed	114.9083	0.0044	0.712	0.650	0.850
209Bi	Passed	209.0138	0.0334	0.682	0.650	0.850

Performance Report

QTEGRA

Tune Settings

Parameter	Value
Additional Gas Flow 1	0.00
Additional Gas Flow 2	0.00
Additional Gas Flow 3	0.00
Angular Deflection	-368.02
Auxilliary Flow	0.80
CCT Bias	-21.00
CCT Entry Lens	-60.01
CCT Exit Lens	-40.00
CCT Focus Lens	-4.08
CCT1 Flow	4.74
CCT1 Shut-Off Valve	1.00
Cool Flow	14.00
D1 Lens	-356.40
D2 Lens	-158.00
Deflection Entry Lens	-35.01
Extraction Lens 1 Negative	0.00
Extraction Lens 1 Polarity	0.00
Extraction Lens 1 Positive	0.00
Extraction Lens 2	-128.00
Focus Lens	-3.38
Nebulizer Flow	1.06
Peristaltic Pump Speed	40.00
Plasma Power	1550.00
Pole Bias	-18.00
Quad Entry Lens	-50.00
Sampling Depth	5.00
Spray Chamber Temperature	2.70
Torch Horizontal Position	0.84
Torch Vertical Position	0.67
Virtual CCT Mass Maximum Dac Limit Set	4095.00
Virtual CCT Mass parameter b	1.00
Virtual CCT Mass to Dac Factor	60.00
Virtual CCT Mass to Dac Offset	35.00

Vacuum Check

Parameter	Result	Value
Analyzer Pressure		7.240e-7
Interface Pressure		1.617e+0

Detector Voltages

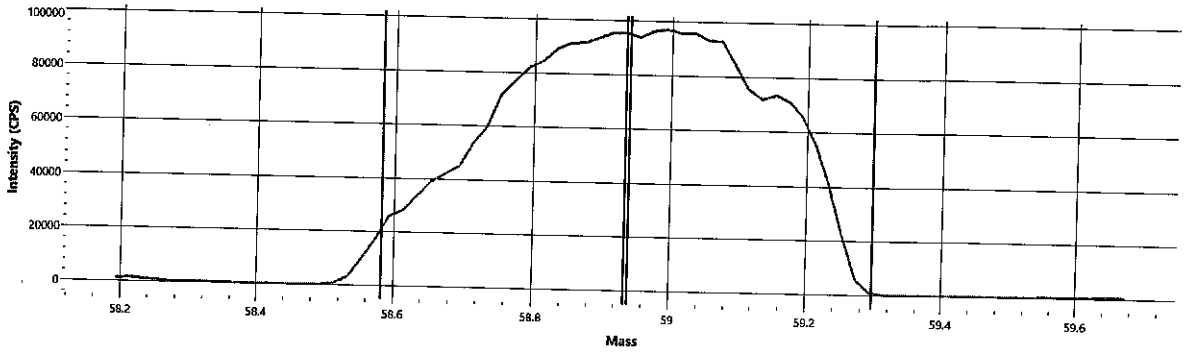
Analog	Counting
-1800.00	975.00

Performance Report

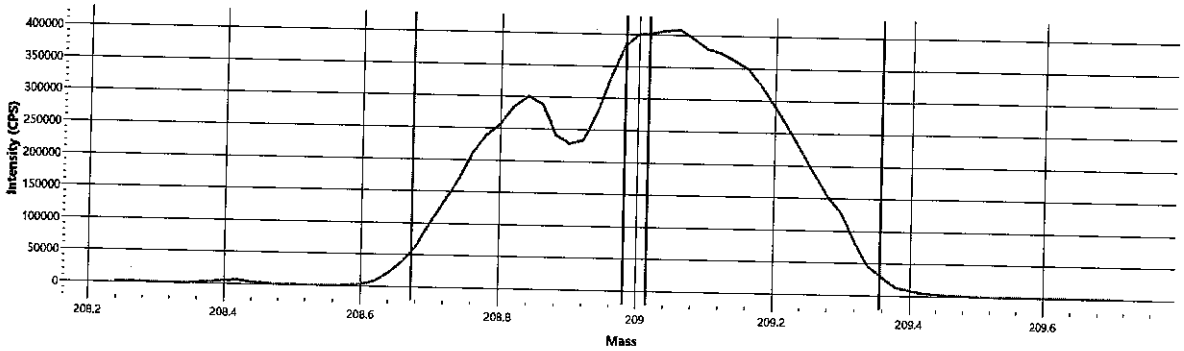
QTEGRA

Mass Calibration Peaks

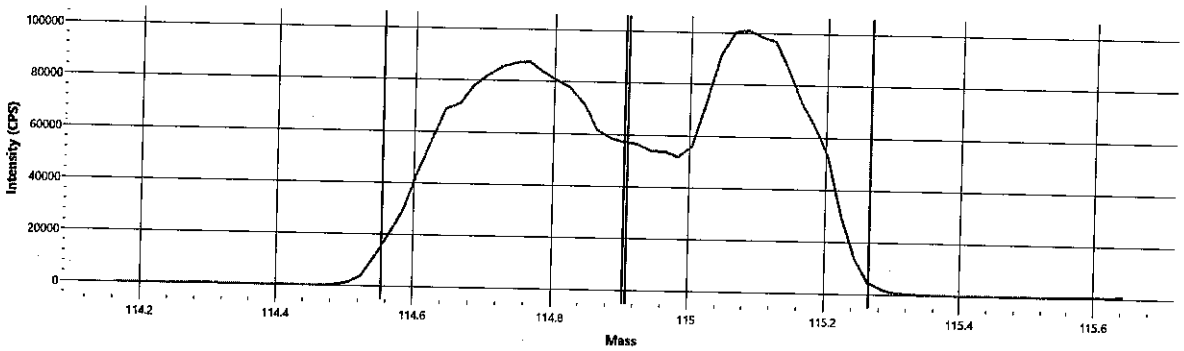
Analyte: 59Co



Analyte: 209Bi



Analyte: 115In



Performance Report

QTEGRA

System

Start time:	11/4/2021 10:38:18 AM
Instrument:	iCAP RQ
Operator:	ADMINTH-R7387AH\Administrator
Template:	STD Performance Report Trace1
Instrument Serial Number:	RQ00820
Last Autotune:	Autotune-SourceTune High Matrix-20211104-095450770.imatdat
Solution:	THERMO-4AREV

Sensitivity & Stability Test

Result	Runs	Sweeps
Passed	10	60

Sensitivity

Analyte	Result	Value	Condition	Limit
7Li	Passed	108,802.0 CPS	Greater than	40,000.0 CPS
59Co	Passed	361,264.0 CPS	Greater than	80,000.0 CPS
238U	Passed	641,806.0 CPS	Greater than	330,000.0 CPS
209Bi	Passed	477,479.0 CPS	Greater than	165,000.0 CPS
140Ce.16O/140Ce	Passed	0.0161	Less than	0.05
137Ba++/137Ba	Passed	0.0542	Less than	0.07
115In	Passed	468,563.0 CPS	Greater than	240,000.0 CPS

Stability

Analyte	Value	Limit
7Li	2.9 %	5
59Co	1.3 %	5
238U	1.8 %	5
209Bi	1.8 %	5
115In	1.7 %	5

Mass Calibration Test

Result	Channels	Dwell	MeasureWidth	PointSpacing	Sweeps
Passed	75	0.04	1.5	0.02	5

Analyte	Result	Centroid Mass [u]	Offset	Peak width [u]	Peak width min [u]	Peak width max [u]
7Li	Passed	7.0425	0.0265	0.702	0.650	0.850
59Co	Passed	58.9267	0.0065	0.728	0.650	0.850
115In	Passed	114.8981	0.0058	0.724	0.650	0.850
209Bi	Passed	209.0081	0.0277	0.701	0.650	0.850

Performance Report

QTEGRA

Tune Settings

Parameter	Value
Additional Gas Flow 1	0.00
Additional Gas Flow 2	0.00
Additional Gas Flow 3	0.00
Angular Deflection	-368.02
Auxilliary Flow	0.80
CCT Bias	-2.01
CCT Entry Lens	-60.01
CCT Exit Lens	-160.01
CCT Focus Lens	-4.08
CCT1 Flow	0.00
CCT1 Shut-Off Valve	0.00
Cool Flow	14.00
D1 Lens	-196.83
D2 Lens	-80.00
Deflection Entry Lens	-35.01
Extraction Lens 1 Negative	0.00
Extraction Lens 1 Polarity	0.00
Extraction Lens 1 Positive	0.00
Extraction Lens 2	-128.00
Focus Lens	20.61
Nebulizer Flow	1.06
Peristaltic Pump Speed	40.00
Plasma Power	1550.00
Pole Bias	-1.00
Quad Entry Lens	-21.00
Sampling Depth	5.00
Spray Chamber Temperature	2.70
Torch Horizontal Position	0.84
Torch Vertical Position	0.67
Virtual CCT Mass Maximum Dac Limit Set	4095.00
Virtual CCT Mass parameter b	0.65
Virtual CCT Mass to Dac Factor	130.00
Virtual CCT Mass to Dac Offset	-237.49

Vacuum Check

Parameter	Result	Value
Analyzer Pressure	Vacuum ok	3.769e-7
Interface Pressure		1.654e+0

Detector Voltages

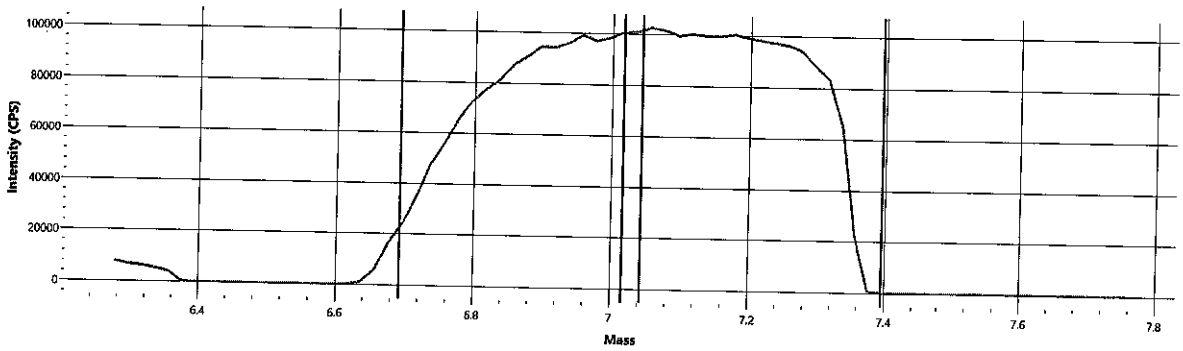
Analog	Counting
-1800.00	975.00

Performance Report

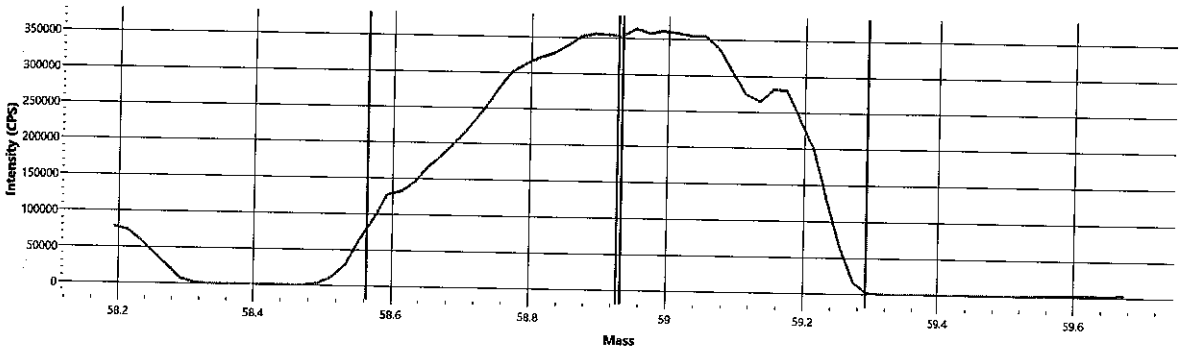
QTEGRA

Mass Calibration Peaks

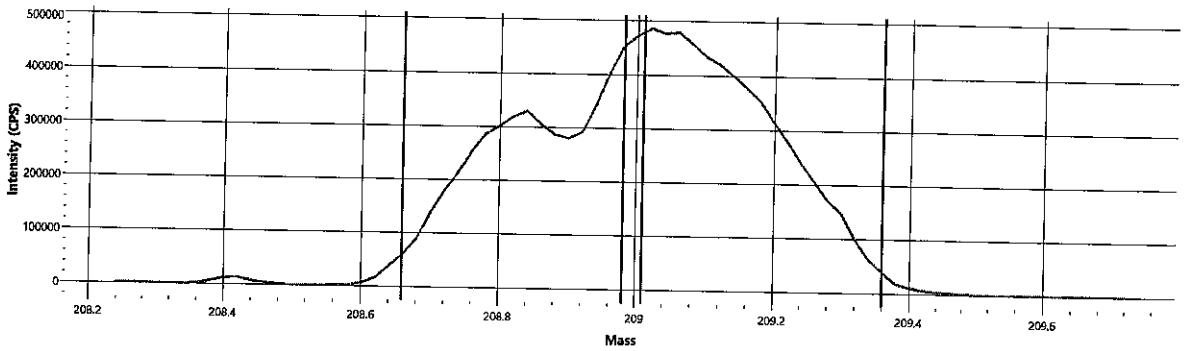
Analyte: 7Li



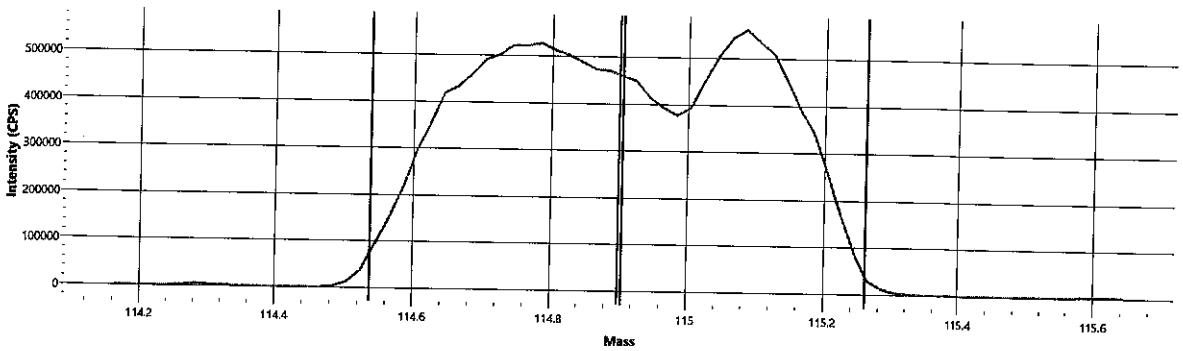
Analyte: 59Co



Analyte: 209Bi



Analyte: 115In



LabBook name	Number of samples	LabBook started
110421B.imexp	91	11/4/2021 1:22:28 PM

Index	Label	Main runs	Survey runs	Start time	prepFAST DF	Dilution Factor	Total Dilution Factor	QC Reference
1	System Flush	1	1	11/4/2021 12:47:11 PM	1	1	1	
2	System Flush	1	1	11/4/2021 12:48:29 PM	1	1	1	
3	System Flush	1	1	11/4/2021 12:49:47 PM	1	1	1	
4	Calibration Blank	3	1	11/4/2021 12:51:06 PM	1	1	1	
5	Calibration Std 1	3	1	11/4/2021 12:52:52 PM	100	1	100	
6	Calibration Std 2	3	1	11/4/2021 12:54:38 PM	10	1	10	
7	Calibration Std 3	3	1	11/4/2021 12:56:24 PM	5	1	5	
8	Calibration Std 4	3	1	11/4/2021 12:58:11 PM	2	1	2	
9	Calibration Std 5	3	1	11/4/2021 12:59:57 PM	1	1	1	
10	ICV	3	1	11/4/2021 1:01:43 PM	1	1	1	
11	ICB	3	1	11/4/2021 1:03:29 PM	1	1	1	
12	LCV1	3	1	11/4/2021 1:05:16 PM	100	0.01	1	
13	LCV2	3	1	11/4/2021 1:07:02 PM	10	0.1	1	
14	Mid Point	3	1	11/4/2021 1:08:48 PM	2	0.5	1	
15	SIC	3	1	11/4/2021 1:10:34 PM	1	1	1	
16	Rinse	3	1	11/4/2021 1:12:21 PM	1	1	1	
17	LCV1	3	1	11/4/2021 1:14:07 PM	100	0.01	1	
18	Rinse	3	1	11/4/2021 1:15:54 PM	1	1	1	
19	LDR	3	1	11/4/2021 1:17:41 PM	1	1	1	
20	Blank	3	1	11/4/2021 1:19:26 PM	1	1	1	
21	System Flush.	1	1	11/4/2021 1:22:36 PM	1	1	1	
22	1K04003-CAL1	3	1	11/4/2021 1:23:55 PM	1	1	1	
23	1K04003-CAL2	3	1	11/4/2021 1:25:42 PM	1	100	100	
24	1K04003-CAL3	3	1	11/4/2021 1:27:29 PM	10	1	10	
25	1K04003-CAL4	3	1	11/4/2021 1:29:18 PM	5	1	5	
26	1K04003-CAL5	3	1	11/4/2021 1:31:05 PM	2	1	2	
27	1K04003-CAL6	3	1	11/4/2021 1:32:57 PM	1	1	1	
28	1K04003-HCV-SCV1	3	1	11/4/2021 1:34:48 PM	1	1	1	
29	1K04003-ICB	3	1	11/4/2021 1:36:34 PM	1	1	1	
30	1K04003-LCV1	3	1	11/4/2021 1:38:25 PM	1	1	1	
31	LCV2 1K04003-LCV2	3	1	11/4/2021 1:40:16 PM	10	0.1	1	
32	1K04003-HCV4-FCV1	3	1	11/4/2021 1:42:08 PM	2	0.5	1	
33	1K04003-IFA1	3	1	11/4/2021 1:43:54 PM	1	1	1	
34	Rinse	3	1	11/4/2021 1:45:41 PM	1	1	1	
35	LDR 1K04003-FCV1	3	1	11/4/2021 1:47:32 PM	1	1	1	
36	Blank	3	1	11/4/2021 1:49:24 PM	1	1	1	
37	Rinse	3	1	11/4/2021 1:51:18 PM	1	1	1	
38	21J1034-04	3	1	11/4/2021 1:53:09 PM	1	1	1	
39	21J1034-05	3	1	11/4/2021 1:55:00 PM	1	1	1	
40	21J1034-06	3	1	11/4/2021 1:56:50 PM	1	1	1	
41	21J1034-07	3	1	11/4/2021 1:58:41 PM	1	1	1	
42	21J1034-08	3	1	11/4/2021 2:00:32 PM	1	1	1	
43	21J1034-09	3	1	11/4/2021 2:02:19 PM	1	1	1	
44	21J1034-10	3	1	11/4/2021 2:04:12 PM	1	1	1	
45	21J1082-01	3	1	11/4/2021 2:06:04 PM	1	1	1	
46	21J1082-02	3	1	11/4/2021 2:07:55 PM	1	1	1	
47	21J1082-03	3	1	11/4/2021 2:09:44 PM	1	1	1	
48	CCV	3	1	11/4/2021 2:11:33 PM	2	0.5	1	
49	CCB	3	1	11/4/2021 2:13:23 PM	1	1	1	
50	21J1082-04	3	1	11/4/2021 2:15:15 PM	1	1	1	
51	21J1082-05	3	1	11/4/2021 2:17:07 PM	1	1	1	
52	21J1082-06	3	1	11/4/2021 2:18:56 PM	1	1	1	
53	21J1085-01	3	1	11/4/2021 2:20:46 PM	1	1	1	
54	T116267-BLK1	3	1	11/4/2021 2:22:38 PM	1	1	1	
55	T116267-BS1	3	1	11/4/2021 2:24:30 PM	1	1	1	
56	T116267-MS1	3	1	11/4/2021 2:26:16 PM	1	1	1	

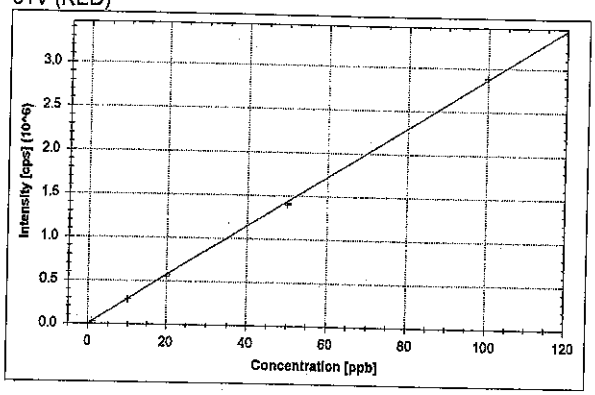
-u fails
std I.S were
ulting.
e-calibrated
CS
11/4/21

CCB
11/9/21

CCB
11/9/21

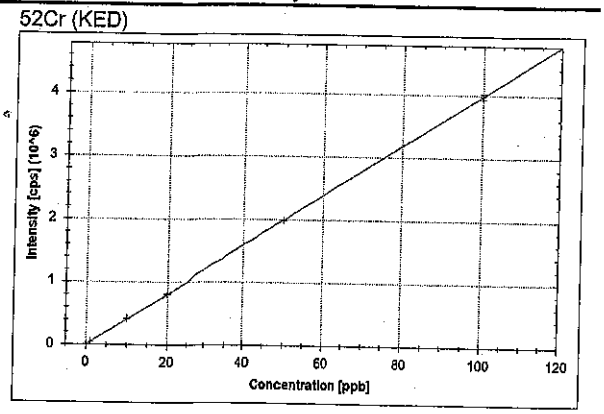
Index	Label	Main runs	Survey runs	Start time	prepFAST DF	Dilution Factor	Total Dilution Factor	QC Reference
57	T116267-MSD1	3	1	11/4/2021 2:28:04 PM	1	1	1	B
58	DIL TEST	3	1	11/4/2021 2:29:55 PM	5	1	5	B
59	21J1148-01	3	1	11/4/2021 2:31:43 PM	1	1	1	
60	CCV	3	1	11/4/2021 2:33:33 PM	2	0.5	1	
61	CCB	3	1	11/4/2021 2:35:21 PM	1	1	1	
62	21J1148-02	3	1	11/4/2021 2:37:13 PM	1	1	1	
63	21J1148-03	3	1	11/4/2021 2:39:04 PM	1	1	1	
64	21J1148-04	3	1	11/4/2021 2:40:56 PM	1	1	1	
65	21J1157-01	3	1	11/4/2021 2:42:42 PM	1	1	1	
66	21J1157-02	3	1	11/4/2021 2:44:35 PM	1	1	1	
67	21J1157-03	3	1	11/4/2021 2:46:25 PM	1	1	1	
68	21J1157-04	3	1	11/4/2021 2:48:18 PM	1	1	1	
69	1K04003-CCV1	3	1	11/4/2021 2:50:07 PM	2	0.5	1	
70	1K04003-CCB1	3	1	11/4/2021 2:52:01 PM	1	1	1	
71	T116268-BLK1	3	1	11/4/2021 2:53:48 PM	1	1	1	
72	T116268-BS1	3	1	11/4/2021 2:55:34 PM	1	1	1	
73	T116268-MS1	3	1	11/4/2021 2:57:20 PM	1	1	1	
74	T116268-MSD1	3	1	11/4/2021 2:59:05 PM	1	1	1	
75	21J1202-01	3	1	11/4/2021 3:00:51 PM	1	1	1	C
76	DIL TEST - SRD	3	1	11/4/2021 3:02:37 PM	5	1	5	C
77	21J1202-02	3	1	11/4/2021 3:04:25 PM	1	1	1	
78	21J1202-03	3	1	11/4/2021 3:06:16 PM	1	1	1	
79	21J1202-05	3	1	11/4/2021 3:08:05 PM	1	1	1	
80	1K04003-CCV2	3	1	11/4/2021 3:09:56 PM	2	0.5	1	
81	1K04003-CCB2	3	1	11/4/2021 3:11:48 PM	1	1	1	
82	21J1202-06	3	1	11/4/2021 3:13:42 PM	1	1	1	
83	21J1202-07	3	1	11/4/2021 3:15:30 PM	1	1	1	
84	21J1034-03@10	3	1	11/4/2021 3:17:19 PM	10	0.1	1	
85	EMPTY CUP	3	1	11/4/2021 3:19:06 PM	5	0.2	1	
86	21J1034-09@10	3	1	11/4/2021 3:20:53 PM	10	0.1	1	
87	21J1082-05@5	3	1	11/4/2021 3:22:44 PM	5	0.2	1	
88	CCV	3	1	11/4/2021 3:24:37 PM	2	0.5	1	
89	21J1034-06@5	3	1	11/4/2021 3:26:29 PM	5	0.2	1	
90	1K04003-CCV3	3	1	11/4/2021 3:28:19 PM	2	0.5	1	
91	1K04003-CCB3	3	1	11/4/2021 3:30:08 PM	1	1	1	

51V (KED)



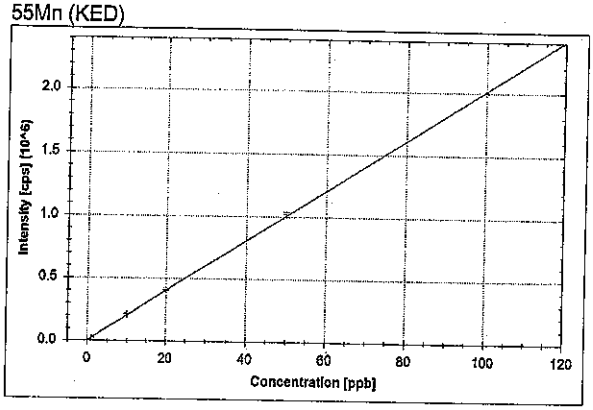
f(x) = 28643.4189*x + 1996.4867
R² = 0.9998
BEC = 0.070 ppb
LoD = 0.0657 ppb

52Cr (KED)



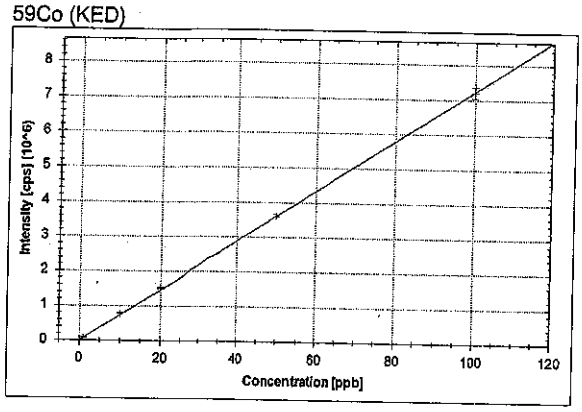
f(x) = 39755.8305*x + 2548.3851
R² = 1.0000
BEC = 0.064 ppb
LoD = 0.0680 ppb

55Mn (KED)



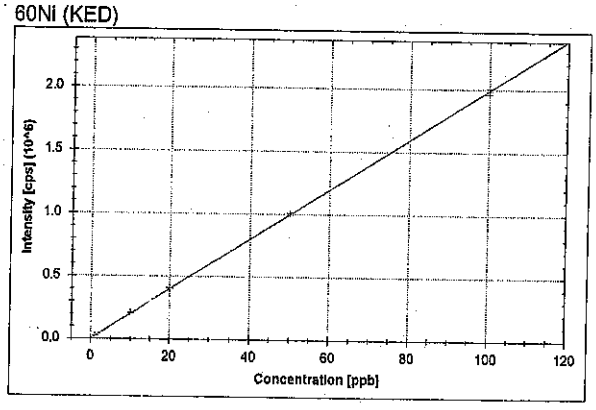
f(x) = 20080.2430*x + 1621.8304
R² = 0.9999
BEC = 0.081 ppb
LoD = 0.0818 ppb

59Co (KED)



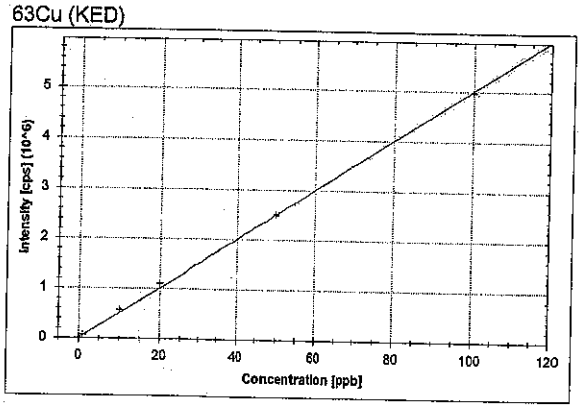
f(x) = 72161.2707*x + 5574.5603
R² = 0.9998
BEC = 0.077 ppb
LoD = 0.0726 ppb

60Ni (KED)



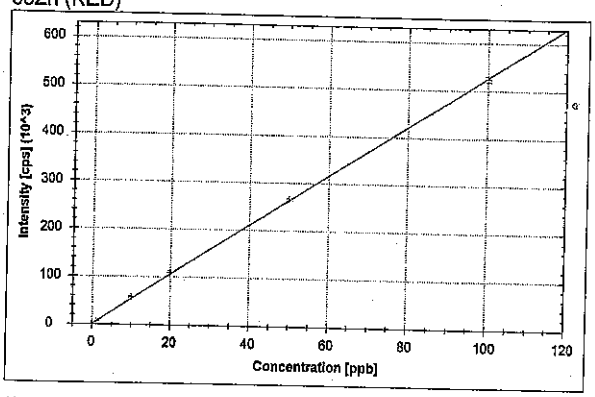
f(x) = 19889.8863*x + 1724.4643
R² = 0.9999
BEC = 0.087 ppb
LoD = 0.0467 ppb

63Cu (KED)



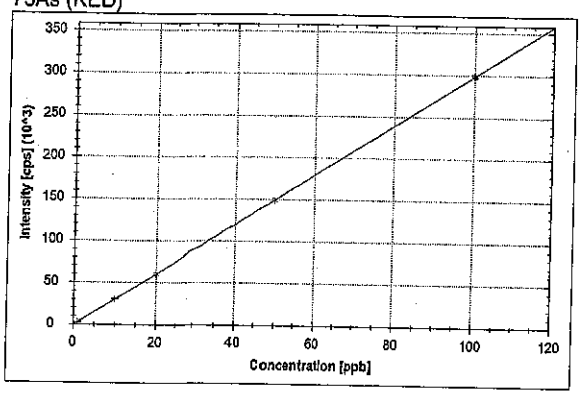
f(x) = 49946.9590*x + 5035.6412
R² = 0.9991
BEC = 0.101 ppb
LoD = 0.0876 ppb

68Zn (KED)



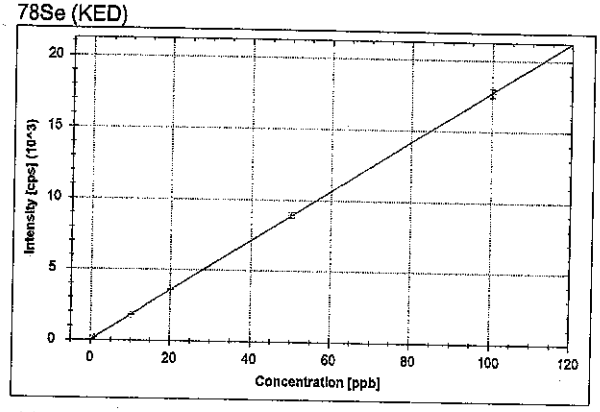
f(x) = 5256.0389*x + 578.6826
R² = 0.9998
BEC = 0.110 ppb
LoD = 0.0421 ppb

75As (KED)



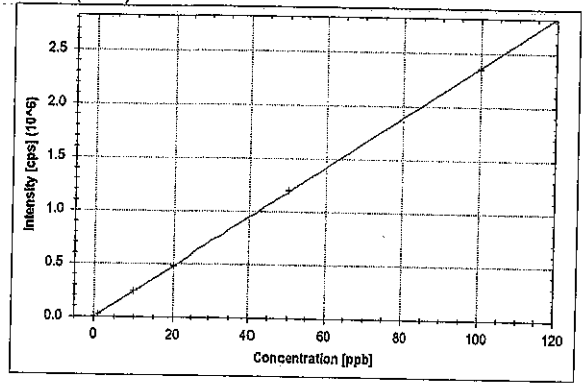
f(x) = 2984.0036*x + -38.4321
R² = 1.0000
BEC = -0.013 ppb
LoD = 0.3297 ppb

78Se (KED)



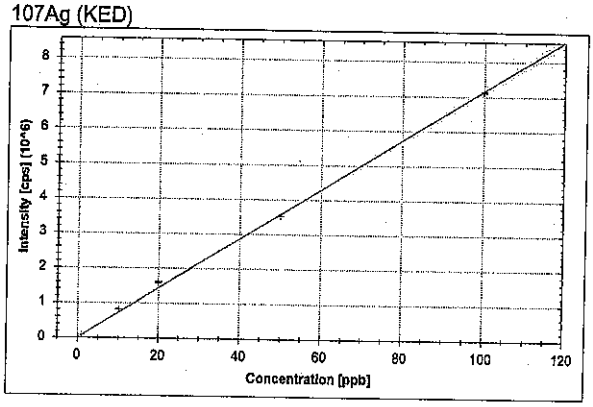
f(x) = 177.0587*x + 15.3307
R² = 1.0000
BEC = 0.087 ppb
LoD = 0.4379 ppb

95Mo (KED)



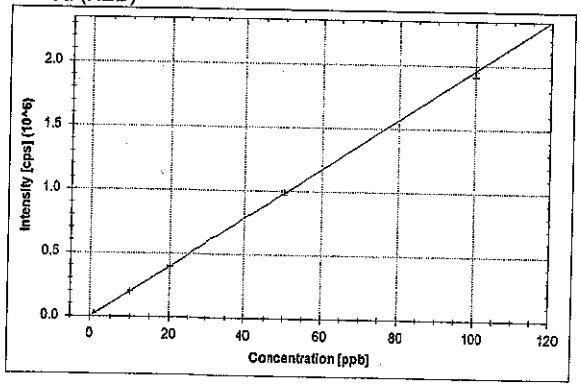
f(x) = 23575.5301*x + 3570.2314
R² = 0.9999
BEC = 0.151 ppb
LoD = 0.0813 ppb

107Ag (KED)



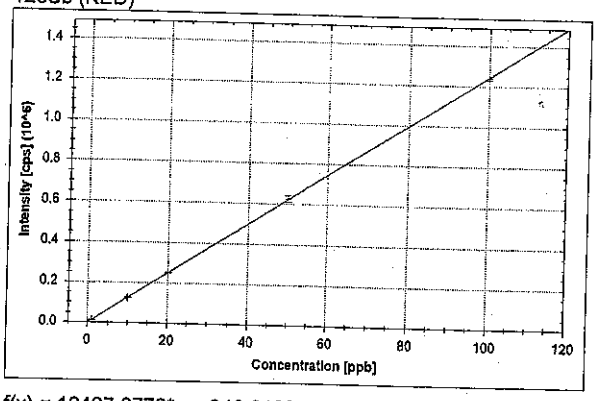
f(x) = 71500.0775*x + 719.7982
R² = 0.9990
BEC = 0.010 ppb
LoD = 0.0019 ppb

114Cd (KED)



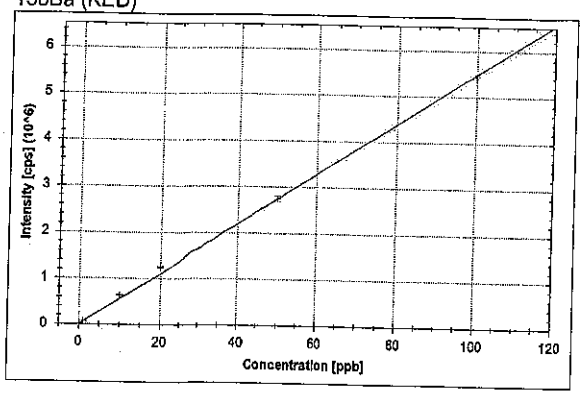
f(x) = 19554.1397*x + 1326.8817
R² = 1.0000
BEC = 0.068 ppb
LoD = 0.0506 ppb

123Sb (KED)



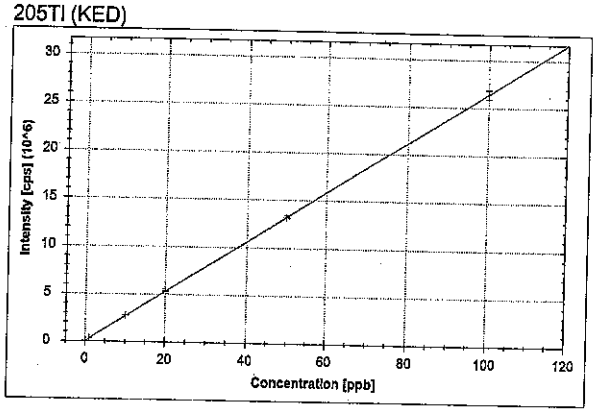
f(x) = 12427.0778*x + 340.0183
R^2 = 1.0000
BEC = 0.027 ppb
LoD = 0.0084 ppb

138Ba (KED)



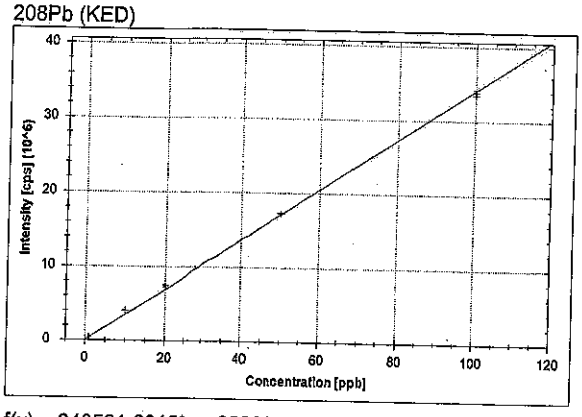
f(x) = 54696.0269*x + 4817.7190
R^2 = 0.9987
BEC = 0.088 ppb
LoD = 0.0746 ppb

205Tl (KED)



f(x) = 263605.0631*x + 27776.6881
R^2 = 1.0000
BEC = 0.105 ppb
LoD = 0.0864 ppb

208Pb (KED)



f(x) = 340581.6815*x + 35300.2993
R^2 = 0.9992
BEC = 0.104 ppb
LoD = 0.0971 ppb

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
21	System Flush	11/4/2021 1:22:36 PM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			905 cps
13C (KED)			1,685 cps
35Cl (KED)			13,252 cps
45Sc (KED)		N/A	33,926 cps
51V (KED)	0.024 ppb	N/A	2,701 cps
52Cr (KED)	0.024 ppb	N/A	3,526 cps
53Cr (KED)			610 cps
55Mn (KED)	0.028 ppb	N/A	2,185 cps
59Co (KED)	0.026 ppb	N/A	7,507 cps
60Ni (KED)	0.032 ppb	N/A	2,370 cps
63Cu (KED)	0.033 ppb	N/A	6,687 cps
65Cu (KED)		N/A	3,345 cps
66Zn (KED)			790 cps
68Zn (KED)	0.024 ppb	N/A	705 cps
69Ga (KED)			51,220 cps
73Ge (KED)	100.295 %	N/A	74,180 cps
75As (KED)	0.131 ppb	N/A	354 cps
40Ar.37Cl (KED)			20 cps
78Se (KED)	0.023 ppb	N/A	19 cps
82Se (KED)			24 cps
83Kr (KED)			1,335 cps
89Y (KED)		N/A	202,113 cps
95Mo (KED)	0.115 ppb	N/A	6,226 cps
98Mo (KED)		N/A	9,612 cps
101Ru (KED)			0 cps
103Rh (KED)	98.565 %	N/A	341,248 cps
105Pd (KED)			120 cps
107Ag (KED)	0.023 ppb	N/A	2,300 cps
111Cd (KED)		N/A	650 cps
114Cd (KED)	0.018 ppb	N/A	1,641 cps
115In (KED)	98.265 %	N/A	178,411 cps
118Sn (KED)			340 cps
121Sb (KED)		N/A	688 cps
123Sb (KED)	0.023 ppb	N/A	612 cps
125Te (KED)			0 cps
138Ba (KED)	0.033 ppb	N/A	6,512 cps
139La (KED)			0 cps
140Ce (KED)			45 cps
159Tb (KED)	99.103 %	N/A	968,603 cps
165Ho (KED)	98.702 %	N/A	485,429 cps
205Tl (KED)	0.049 ppb	N/A	40,195 cps
206Pb (KED)			11,991 cps
207Pb (KED)			10,089 cps
208Pb (KED)	0.043 ppb	N/A	49,179 cps
209Bi (KED)		N/A	1,143,260 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF
22	Calibration Blank	11/4/2021 1:23:55 PM	4	1	1

1K040003-CAL1

Dilution Factor	Total DF	QC Reference
1	1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			957 cps

Category	Concentration average	Concentration RSD	Intensity average
13C (KED)			1,637 cps
35Cl (KED)			13,624 cps
45Sc (KED)		N/A	34,712 cps
51V (KED)	0.000 ppb	0.3 %	1,995 cps
52Cr (KED)	0.000 ppb	0.4 %	2,545 cps
53Cr (KED)			387 cps
55Mn (KED)	0.000 ppb	0.3 %	1,620 cps
59Co (KED)	0.000 ppb	0.3 %	5,570 cps
60Ni (KED)	0.000 ppb	0.2 %	1,723 cps
63Cu (KED)	0.000 ppb	0.3 %	5,031 cps
65Cu (KED)			2,397 cps
66Zn (KED)			697 cps
68Zn (KED)	0.000 ppb	0.1 %	578 cps
69Ga (KED)			53,017 cps
73Ge (KED)	100.000 %	N/A	73,962 cps
75As (KED)	0.000 ppb	-8.5 %	-40 cps
40Ar.37Cl (KED)			23 cps
78Se (KED)	0.000 ppb	1.7 %	15 cps
82Se (KED)			-87 cps
83Kr (KED)			1,297 cps
89Y (KED)		N/A	203,230 cps
95Mo (KED)	0.000 ppb	0.2 %	3,567 cps
98Mo (KED)			5,582 cps
101Ru (KED)			2 cps
103Rh (KED)	100.000 %	N/A	346,215 cps
105Pd (KED)			87 cps
107Ag (KED)	0.000 ppb	0.1 %	720 cps
111Cd (KED)			518 cps
114Cd (KED)	0.000 ppb	0.2 %	1,325 cps
115In (KED)	100.000 %	N/A	181,561 cps
118Sn (KED)			322 cps
121Sb (KED)			378 cps
123Sb (KED)	0.000 ppb	0.1 %	340 cps
125Te (KED)			0 cps
138Ba (KED)	0.000 ppb	0.3 %	4,804 cps
139La (KED)			8 cps
140Ce (KED)			35 cps
159Tb (KED)	100.000 %	N/A	977,370 cps
165Ho (KED)	100.000 %	N/A	491,813 cps
205Tl (KED)	0.000 ppb	0.3 %	27,716 cps
206Pb (KED)			8,710 cps
207Pb (KED)			7,608 cps
208Pb (KED)	0.000 ppb	0.3 %	35,196 cps
209Bi (KED)		N/A	1,138,833 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
23	Calibration Std 1	11/4/2021 1:25:42 PM	4	21	1	100

Total DF	QC Reference
100	

1K04003-CAL2

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				953 cps
13C (KED)				1,482 cps
35Cl (KED)				13,286 cps
45Sc (KED)		N/A		34,743 cps
51V (KED)	0.964 ppb	5.4 %	1.000 ppb	29,868 cps
52Cr (KED)	1.011 ppb	4.3 %	1.000 ppb	43,142 cps
53Cr (KED)				5,333 cps
55Mn (KED)	1.009 ppb	4.9 %	1.000 ppb	22,090 cps
59Co (KED)	1.050 ppb	4.3 %	1.000 ppb	82,119 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
60Ni (KED)	1.024 ppb	5.6 %	1.000 ppb	22,298 cps
63Cu (KED)	1.199 ppb	5.3 %	1.000 ppb	65,498 cps
65Cu (KED)				32,847 cps
66Zn (KED)				7,654 cps
68Zn (KED)	1.130 ppb	4.7 %	1.000 ppb	6,577 cps
69Ga (KED)				59,540 cps
73Ge (KED)	100.991 %	N/A		74,694 cps
75As (KED)	0.879 ppb	13.5 %	1.000 ppb	2,603 cps
40Ar.37Cl (KED)				60 cps
78Se (KED)	0.964 ppb	9.8 %	1.000 ppb	187 cps
82Se (KED)				-136 cps
83Kr (KED)				1,415 cps
89Y (KED)		N/A		206,428 cps
95Mo (KED)	0.977 ppb	4.2 %	1.000 ppb	26,513 cps
98Mo (KED)				42,547 cps
101Ru (KED)				3 cps
103Rh (KED)	99.250 %	N/A		343,617 cps
105Pd (KED)				98 cps
107Ag (KED)	1.084 ppb	1.0 %	1.000 ppb	77,854 cps
111Cd (KED)				8,154 cps
114Cd (KED)	0.991 ppb	2.0 %	1.000 ppb	20,708 cps
115In (KED)	100.144 %	N/A		181,822 cps
118Sn (KED)				1,098 cps
121Sb (KED)				14,444 cps
123Sb (KED)	0.964 ppb	0.8 %	1.000 ppb	12,351 cps
125Te (KED)				0 cps
138Ba (KED)	1.130 ppb	3.5 %	1.000 ppb	66,917 cps
139La (KED)				30 cps
140Ce (KED)				65 cps
159Tb (KED)	100.767 %	N/A		984,867 cps
165Ho (KED)	99.636 %	N/A		490,022 cps
205Tl (KED)	1.105 ppb	4.0 %	1.000 ppb	317,722 cps
206Pb (KED)				103,188 cps
207Pb (KED)				91,054 cps
208Pb (KED)	1.133 ppb	3.6 %	1.000 ppb	419,617 cps
209Bi (KED)		N/A		1,148,672 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
24	Calibration Std 2	11/4/2021 1:27:29 PM	4	2	10	1

1K041003-CAL3

Total DF	QC Reference
10	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				883 cps
13C (KED)				1,497 cps
35Cl (KED)				16,354 cps
45Sc (KED)		N/A		34,367 cps
51V (KED)	9.880 ppb	1.4 %	10.000 ppb	286,720 cps
52Cr (KED)	10.287 ppb	1.4 %	10.000 ppb	413,982 cps
53Cr (KED)				51,253 cps
55Mn (KED)	10.397 ppb	1.6 %	10.000 ppb	211,648 cps
59Co (KED)	10.693 ppb	2.3 %	10.000 ppb	781,758 cps
60Ni (KED)	10.420 ppb	2.0 %	10.000 ppb	210,239 cps
63Cu (KED)	11.411 ppb	1.9 %	10.000 ppb	578,416 cps
65Cu (KED)				287,686 cps
66Zn (KED)				66,726 cps
68Zn (KED)	10.748 ppb	1.7 %	10.000 ppb	57,408 cps
69Ga (KED)				108,741 cps
73Ge (KED)	100.610 %	N/A		74,413 cps
75As (KED)	10.292 ppb	3.0 %	10.000 ppb	30,806 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
40Ar.37Cl (KED)				562 cps
78Se (KED)	10.002 ppb	1.0 %	10.000 ppb	1,791 cps
82Se (KED)				884 cps
83Kr (KED)				1,305 cps
89Y (KED)		N/A		203,741 cps
95Mo (KED)	10.248 ppb	1.4 %	10.000 ppb	242,718 cps
98Mo (KED)				383,565 cps
101Ru (KED)				3 cps
103Rh (KED)	98.439 %	N/A		340,811 cps
105Pd (KED)				62 cps
107Ag (KED)	11.360 ppb	0.6 %	10.000 ppb	804,221 cps
111Cd (KED)				79,147 cps
114Cd (KED)	10.159 ppb	1.4 %	10.000 ppb	199,532 cps
115In (KED)	99.903 %	N/A		181,385 cps
118Sn (KED)				3,627 cps
121Sb (KED)				146,060 cps
123Sb (KED)	10.022 ppb	2.5 %	10.000 ppb	124,330 cps
125Te (KED)				0 cps
138Ba (KED)	11.473 ppb	1.3 %	10.000 ppb	625,373 cps
139La (KED)				58 cps
140Ce (KED)				103 cps
159Tb (KED)	97.968 %	N/A		957,514 cps
165Ho (KED)	97.064 %	N/A		477,375 cps
205Tl (KED)	10.318 ppb	1.4 %	10.000 ppb	2,667,143 cps
206Pb (KED)				967,345 cps
207Pb (KED)				842,157 cps
208Pb (KED)	11.762 ppb	0.5 %	10.000 ppb	3,922,716 cps
209Bi (KED)		N/A		1,146,949 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
25	Calibration Std 3	11/4/2021 1:29:18 PM	4	2	5	1

1K04003-C9C4

Total DF	QC Reference
5	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				1,050 cps
13C (KED)				1,628 cps
35Cl (KED)				16,429 cps
45Sc (KED)		N/A		35,190 cps
51V (KED)	19.551 ppb	2.4 %	20.000 ppb	572,085 cps
52Cr (KED)	20.190 ppb	1.8 %	20.000 ppb	819,724 cps
53Cr (KED)				102,043 cps
55Mn (KED)	20.313 ppb	1.8 %	20.000 ppb	416,867 cps
59Co (KED)	20.926 ppb	1.6 %	20.000 ppb	1,542,895 cps
60Ni (KED)	20.328 ppb	0.8 %	20.000 ppb	413,401 cps
63Cu (KED)	22.054 ppb	1.3 %	20.000 ppb	1,126,529 cps
65Cu (KED)				562,545 cps
66Zn (KED)				129,252 cps
68Zn (KED)	20.744 ppb	1.8 %	20.000 ppb	111,580 cps
69Ga (KED)				166,247 cps
73Ge (KED)	101.816 %	N/A		75,305 cps
75As (KED)	19.975 ppb	2.4 %	20.000 ppb	60,548 cps
40Ar.37Cl (KED)				1,042 cps
78Se (KED)	20.051 ppb	1.2 %	20.000 ppb	3,617 cps
82Se (KED)				1,686 cps
83Kr (KED)				1,403 cps
89Y (KED)		N/A		206,032 cps
95Mo (KED)	20.194 ppb	1.1 %	20.000 ppb	480,715 cps
98Mo (KED)				764,833 cps
101Ru (KED)				0 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
103Rh (KED)	99.652 %	N/A		345,009 cps
105Pd (KED)				102 cps
107Ag (KED)	22.193 ppb	1.3 %	20.000 ppb	1,579,321 cps
111Cd (KED)				154,652 cps
114Cd (KED)	20.091 ppb	1.5 %	20.000 ppb	390,961 cps
115In (KED)	99.161 %	N/A		180,039 cps
118Sn (KED)				3,791 cps
121Sb (KED)				287,266 cps
123Sb (KED)	19.994 ppb	0.8 %	20.000 ppb	247,244 cps
125Te (KED)				0 cps
138Ba (KED)	22.615 ppb	0.8 %	20.000 ppb	1,239,110 cps
139La (KED)				68 cps
140Ce (KED)				147 cps
159Tb (KED)	100.364 %	N/A		980,925 cps
165Ho (KED)	99.663 %	N/A		490,157 cps
205Tl (KED)	20.047 ppb	3.9 %	20.000 ppb	**5,291,496 cps**
206Pb (KED)				1,901,514 cps
207Pb (KED)				1,672,577 cps
208Pb (KED)	21.419 ppb	2.4 %	20.000 ppb	**7,303,102 cps**
209Bi (KED)		N/A		1,161,401 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
26	Calibration Std 4	11/4/2021 1:31:05 PM	4	2	2	1

11C04003-CAL5

Total DF	QC Reference
2	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				1,002 cps
13C (KED)				1,680 cps
35Cl (KED)				14,861 cps
45Sc (KED)		N/A		35,432 cps
51V (KED)	48.962 ppb	0.9 %	50.000 ppb	1,441,305 cps
52Cr (KED)	49.922 ppb	0.4 %	50.000 ppb	**2,039,416 cps**
53Cr (KED)				258,485 cps
55Mn (KED)	50.545 ppb	1.9 %	50.000 ppb	1,043,278 cps
59Co (KED)	50.117 ppb	1.0 %	50.000 ppb	**3,717,232 cps**
60Ni (KED)	50.415 ppb	1.0 %	50.000 ppb	1,030,838 cps
63Cu (KED)	50.010 ppb	0.6 %	50.000 ppb	**2,568,616 cps**
65Cu (KED)				1,385,806 cps
66Zn (KED)				317,528 cps
68Zn (KED)	50.361 ppb	0.9 %	50.000 ppb	272,241 cps
69Ga (KED)				338,630 cps
73Ge (KED)	102.625 %	N/A		75,903 cps
75As (KED)	49.949 ppb	1.0 %	50.000 ppb	152,739 cps
40Ar.37Cl (KED)				2,670 cps
78Se (KED)	50.301 ppb	1.9 %	50.000 ppb	9,128 cps
82Se (KED)				4,341 cps
83Kr (KED)				1,448 cps
89Y (KED)		N/A		208,711 cps
95Mo (KED)	50.683 ppb	0.3 %	50.000 ppb	1,213,667 cps
98Mo (KED)				1,924,797 cps
101Ru (KED)				3 cps
103Rh (KED)	100.778 %	N/A		348,908 cps
105Pd (KED)				82 cps
107Ag (KED)	49.474 ppb	0.7 %	50.000 ppb	**3,550,017 cps**
111Cd (KED)				389,113 cps
114Cd (KED)	50.446 ppb	1.7 %	50.000 ppb	983,352 cps
115In (KED)	99.464 %	N/A		180,588 cps
118Sn (KED)				3,622 cps
121Sb (KED)				726,418 cps

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
123Sb (KED)	50.335 ppb	2.5 %	50.000 ppb	622,535 cps
125Te (KED)				0 cps
138Ba (KED)	50.131 ppb	2.1 %	50.000 ppb	**2,734,481 cps**
139La (KED)				108 cps
140Ce (KED)				120 cps
159Tb (KED)	99.681 %	N/A		974,253 cps
165Ho (KED)	100.033 %	N/A		491,976 cps
205Tl (KED)	50.053 ppb	1.3 %	50.000 ppb	**13,225,269 cps**
206Pb (KED)				**4,262,628 cps**
207Pb (KED)				**3,718,425 cps**
208Pb (KED)	50.622 ppb	0.6 %	50.000 ppb	**17,281,412 cps**
209Bi (KED)		N/A		1,134,394 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
27	Calibration Std 5	11/4/2021 1:32:57 PM	4	2	1	1

110041003-CAL6

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
6Li (KED)				957 cps
13C (KED)				1,742 cps
35Cl (KED)				12,144 cps
45Sc (KED)		N/A		34,880 cps
51V (KED)	100.621 ppb	0.3 %	100.000 ppb	**2,913,856 cps**
52Cr (KED)	99.972 ppb	1.1 %	100.000 ppb	**4,018,127 cps**
53Cr (KED)				507,609 cps
55Mn (KED)	99.625 ppb	0.4 %	100.000 ppb	**2,022,719 cps**
59Co (KED)	99.686 ppb	2.2 %	100.000 ppb	**7,273,835 cps**
60Ni (KED)	99.685 ppb	1.1 %	100.000 ppb	2,004,937 cps
63Cu (KED)	99.441 ppb	0.2 %	100.000 ppb	**5,023,031 cps**
65Cu (KED)				**2,496,998 cps**
66Zn (KED)				628,461 cps
68Zn (KED)	99.595 ppb	1.2 %	100.000 ppb	529,477 cps
69Ga (KED)				608,820 cps
73Ge (KED)	101.029 %	N/A		74,723 cps
75As (KED)	100.002 ppb	0.7 %	100.000 ppb	300,557 cps
40Ar.37Cl (KED)				5,246 cps
78Se (KED)	99.839 ppb	1.7 %	100.000 ppb	17,743 cps
82Se (KED)				8,943 cps
83Kr (KED)				1,402 cps
89Y (KED)		N/A		205,416 cps
95Mo (KED)	99.595 ppb	0.4 %	100.000 ppb	**2,299,174 cps**
98Mo (KED)				**3,691,441 cps**
101Ru (KED)				7 cps
103Rh (KED)	96.588 %	N/A		334,402 cps
105Pd (KED)				73 cps
107Ag (KED)	99.688 ppb	0.3 %	100.000 ppb	**6,924,236 cps**
111Cd (KED)				752,509 cps
114Cd (KED)	99.743 ppb	2.2 %	100.000 ppb	1,914,412 cps
115In (KED)	98.232 %	N/A		178,351 cps
118Sn (KED)				3,235 cps
121Sb (KED)				1,425,802 cps
123Sb (KED)	99.832 ppb	0.8 %	100.000 ppb	1,219,595 cps
125Te (KED)				0 cps
138Ba (KED)	99.263 ppb	0.7 %	100.000 ppb	**5,344,606 cps**
139La (KED)				157 cps
140Ce (KED)				93 cps
159Tb (KED)	98.468 %	N/A		962,392 cps
165Ho (KED)	98.947 %	N/A		486,632 cps
205Tl (KED)	99.931 ppb	1.8 %	100.000 ppb	**26,093,655 cps**

Category	Concentration average	Concentration RSD	Standard Concentration	Intensity average
206Pb (KED)				8,303,891 cps
207Pb (KED)				7,275,825 cps
208Pb (KED)	99.227 ppb	1.2 %	100.000 ppb	33,472,865 cps
209Bi (KED)		N/A		1,108,667 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
28	ICV	11/4/2021 1:34:48 PM	4	3	1	1

1K041003-SCV1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,012 cps
13C (KED)				1,595 cps
35Cl (KED)				13,092 cps
45Sc (KED)				35,738 cps
51V (KED)	58.796 ppb	97.994 %	0.9 %	1,732,557 cps
52Cr (KED)	64.100 ppb	106.833 %	1.1 %	2,621,128 cps
53Cr (KED)				330,303 cps
55Mn (KED)	63.459 ppb	105.765 %	1.1 %	1,310,928 cps
59Co (KED)	62.453 ppb	104.088 %	1.7 %	4,635,942 cps
60Ni (KED)	61.935 ppb	103.225 %	1.9 %	1,267,385 cps
63Cu (KED)	63.328 ppb	105.546 %	1.7 %	3,254,888 cps
65Cu (KED)				1,765,529 cps
66Zn (KED)				390,588 cps
68Zn (KED)	61.257 ppb	102.094 %	1.4 %	331,394 cps
69Ga (KED)				404,776 cps
73Ge (KED)	102.757 %		1.4 %	76,001 cps
75As (KED)	62.933 ppb	104.889 %	1.7 %	192,618 cps
40Ar.37Cl (KED)				3,435 cps
78Se (KED)	61.062 ppb	101.770 %	0.7 %	11,084 cps
82Se (KED)				5,490 cps
83Kr (KED)				1,385 cps
89Y (KED)				209,383 cps
95Mo (KED)	60.971 ppb	101.618 %	1.3 %	1,456,057 cps
98Mo (KED)				2,270,139 cps
101Ru (KED)				7 cps
103Rh (KED)	100.429 %		0.8 %	347,700 cps
105Pd (KED)				105 cps
107Ag (KED)	61.995 ppb	103.325 %	1.1 %	4,444,233 cps
111Cd (KED)				476,930 cps
114Cd (KED)	61.728 ppb	102.880 %	0.7 %	1,207,280 cps
115In (KED)	99.865 %		0.5 %	181,316 cps
118Sn (KED)				437 cps
121Sb (KED)				882,438 cps
123Sb (KED)	60.969 ppb	101.615 %	1.1 %	756,575 cps
125Te (KED)				0 cps
138Ba (KED)	61.933 ppb	103.222 %	0.9 %	3,382,273 cps
139La (KED)				372 cps
140Ce (KED)				618 cps
159Tb (KED)	99.551 %		0.4 %	972,977 cps
165Ho (KED)	99.771 %		0.8 %	490,686 cps
205Tl (KED)	62.712 ppb	104.520 %	1.0 %	16,520,664 cps
206Pb (KED)				5,188,601 cps
207Pb (KED)				4,819,553 cps
208Pb (KED)	63.265 ppb	105.442 %	0.4 %	21,532,528 cps
209Bi (KED)				1,144,680 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
29	ICB	11/4/2021 1:36:34 PM	4	1	1	1

1K041003-ICB1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				902 cps
13C (KED)				1,642 cps
35Cl (KED)				13,080 cps
45Sc (KED)				35,146 cps
51V (KED)	-0.052 ppb	-5.169 %	4.5 %	524 cps
52Cr (KED)	-0.049 ppb	-4.853 %	7.2 %	629 cps
53Cr (KED)				123 cps
55Mn (KED)	-0.055 ppb	-5.463 %	6.3 %	533 cps
59Co (KED)	-0.056 ppb	-5.559 %	2.2 %	1,590 cps
60Ni (KED)	-0.047 ppb	-4.667 %	1.3 %	810 cps
63Cu (KED)	-0.055 ppb	-5.470 %	14.3 %	2,344 cps
65Cu (KED)				1,235 cps
66Zn (KED)				410 cps
68Zn (KED)	-0.047 ppb	-0.005 %	32.0 %	335 cps
69Ga (KED)				53,970 cps
73Ge (KED)	101.759 %		1.6 %	75,263 cps
75As (KED)	-0.040 ppb	-4.016 %	40.1 %	-160 cps
40Ar.37Cl (KED)				13 cps
78Se (KED)	-0.062 ppb	-6.246 %	72.4 %	4 cps
82Se (KED)				-91 cps
83Kr (KED)				1,203 cps
89Y (KED)				206,964 cps
95Mo (KED)	-0.103 ppb	-0.010 %	7.2 %	1,145 cps
98Mo (KED)				1,954 cps
101Ru (KED)				3 cps
103Rh (KED)	99.516 %		1.2 %	344,539 cps
105Pd (KED)				93 cps
107Ag (KED)	0.019 ppb	1.869 %	22.4 %	2,047 cps
111Cd (KED)				97 cps
114Cd (KED)	-0.050 ppb	-5.024 %	4.0 %	343 cps
115In (KED)	99.638 %		1.4 %	180,904 cps
118Sn (KED)				253 cps
121Sb (KED)				5,534 cps
123Sb (KED)	0.361 ppb	36.112 %	11.1 %	4,798 cps
125Te (KED)				0 cps
138Ba (KED)	-0.060 ppb	-6.012 %	4.8 %	1,510 cps
139La (KED)				5 cps
140Ce (KED)				27 cps
159Tb (KED)	97.862 %		1.0 %	956,477 cps
165Ho (KED)	98.963 %		1.1 %	486,712 cps
205Tl (KED)	-0.072 ppb	-7.211 %	4.1 %	8,682 cps
206Pb (KED)				2,672 cps
207Pb (KED)				2,289 cps
208Pb (KED)	-0.072 ppb	-7.222 %	2.9 %	10,597 cps
209Bi (KED)				1,125,521 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
30	LCV1	11/4/2021 1:38:25 PM	4	21	1	1

IC041003-LCV1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				937 cps
13C (KED)				1,665 cps
35Cl (KED)				13,502 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
45Sc (KED)				36,251 cps
51V (KED)	0.933 ppb	93.347 %	1.7 %	29,751 cps
52Cr (KED)	0.977 ppb	97.708 %	2.2 %	42,852 cps
53Cr (KED)				5,473 cps
55Mn (KED)	0.978 ppb	97.803 %	3.3 %	22,009 cps
59Co (KED)	1.010 ppb	101.042 %	2.2 %	81,254 cps
60Ni (KED)	1.010 ppb	101.033 %	2.9 %	22,587 cps
63Cu (KED)	1.196 ppb	119.626 %	3.3 %	67,065 cps
65Cu (KED)				33,423 cps
66Zn (KED)				7,797 cps
68Zn (KED)	1.088 ppb		4.0 %	6,518 cps
69Ga (KED)				60,578 cps
73Ge (KED)	103.539 %		1.2 %	76,579 cps
75As (KED)	1.049 ppb	104.881 %	5.7 %	3,196 cps
40Ar.37Cl (KED)				53 cps
78Se (KED)	0.860 ppb	85.957 %	19.1 %	173 cps
82Se (KED)				108 cps
83Kr (KED)				1,073 cps
89Y (KED)				213,306 cps
95Mo (KED)	0.916 ppb	91.580 %	2.4 %	25,642 cps
98Mo (KED)				40,442 cps
101Ru (KED)				13 cps
103Rh (KED)	101.331 %		0.9 %	350,824 cps
105Pd (KED)				105 cps
107Ag (KED)	1.116 ppb	111.609 %	1.1 %	81,998 cps
111Cd (KED)				7,886 cps
114Cd (KED)	0.935 ppb	93.521 %	4.0 %	20,143 cps
115In (KED)	102.863 %		1.5 %	186,760 cps
118Sn (KED)				1,108 cps
121Sb (KED)				16,244 cps
123Sb (KED)	1.054 ppb	105.406 %	2.4 %	13,750 cps
125Te (KED)				0 cps
138Ba (KED)	1.057 ppb	105.713 %	2.8 %	63,457 cps
139La (KED)				25 cps
140Ce (KED)				65 cps
159Tb (KED)	99.936 %		1.5 %	976,747 cps
165Ho (KED)	100.214 %		2.1 %	492,866 cps
205Tl (KED)	1.055 ppb	105.479 %	3.3 %	306,348 cps
206Pb (KED)				101,103 cps
207Pb (KED)				88,580 cps
208Pb (KED)	1.086 ppb	108.608 %	4.6 %	405,827 cps
209Bi (KED)				1,145,554 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
31	LCV2	11/4/2021 1:40:16 PM	4	2	10	0.1

IK04003-LCV2

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				990 cps
13C (KED)				1,533 cps
35Cl (KED)				16,828 cps
45Sc (KED)				36,684 cps
51V (KED)	9.955 ppb		2.7 %	300,306 cps
52Cr (KED)	10.247 ppb		2.8 %	428,672 cps
53Cr (KED)				53,685 cps
55Mn (KED)	10.329 ppb		0.8 %	218,646 cps
59Co (KED)	10.583 ppb		1.9 %	804,489 cps
60Ni (KED)	10.409 ppb		1.9 %	218,318 cps
63Cu (KED)	11.274 ppb		1.7 %	594,216 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
65Cu (KED)				297,467 cps
66Zn (KED)				68,571 cps
68Zn (KED)	10.344 ppb	103.437 %	3.0 %	57,452 cps
69Ga (KED)				113,714 cps
73Ge (KED)	104.611 %		2.4 %	77,372 cps
75As (KED)	10.040 ppb		1.5 %	31,255 cps
40Ar.37Cl (KED)				540 cps
78Se (KED)	9.974 ppb		1.0 %	1,858 cps
82Se (KED)				801 cps
83Kr (KED)				1,410 cps
89Y (KED)				211,173 cps
95Mo (KED)	10.005 ppb		0.6 %	246,920 cps
98Mo (KED)				393,929 cps
101Ru (KED)				2 cps
103Rh (KED)	102.589 %		0.3 %	355,179 cps
105Pd (KED)				73 cps
107Ag (KED)	11.184 ppb		0.8 %	818,628 cps
111Cd (KED)				78,489 cps
114Cd (KED)	10.059 ppb		2.2 %	201,435 cps
115In (KED)	101.662 %		1.2 %	184,579 cps
118Sn (KED)				3,899 cps
121Sb (KED)				146,908 cps
123Sb (KED)	9.943 ppb		0.9 %	125,733 cps
125Te (KED)				0 cps
138Ba (KED)	11.359 ppb		1.5 %	633,278 cps
139La (KED)				75 cps
140Ce (KED)				88 cps
159Tb (KED)	100.661 %		1.5 %	983,834 cps
165Ho (KED)	101.323 %		1.8 %	498,321 cps
205Tl (KED)	10.067 ppb		1.8 %	2,716,404 cps
206Pb (KED)				975,361 cps
207Pb (KED)				850,688 cps
208Pb (KED)	11.377 ppb		2.1 %	3,960,785 cps
209Bi (KED)				1,171,429 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
32	Mid Point	11/4/2021 1:42:08 PM	4	2	2	0.5

IK04003-ICV1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				923 cps
13C (KED)				1,650 cps
35Cl (KED)				15,475 cps
45Sc (KED)				36,574 cps
51V (KED)	49.318 ppb	98.637 %	1.8 %	1,494,129 cps
52Cr (KED)	49.889 ppb	99.778 %	1.0 %	2,097,678 cps
53Cr (KED)				266,785 cps
55Mn (KED)	50.308 ppb	100.616 %	1.1 %	1,068,705 cps
59Co (KED)	49.878 ppb	99.756 %	1.2 %	3,807,377 cps
60Ni (KED)	50.366 ppb	100.732 %	1.1 %	1,059,934 cps
63Cu (KED)	50.127 ppb	100.253 %	1.0 %	2,649,884 cps
65Cu (KED)				1,439,332 cps
66Zn (KED)				330,294 cps
68Zn (KED)	50.425 ppb	100.850 %	1.9 %	280,517 cps
69Ga (KED)				351,424 cps
73Ge (KED)	105.634 %		1.7 %	78,129 cps
75As (KED)	49.933 ppb	99.867 %	1.2 %	156,941 cps
40Ar.37Cl (KED)				2,760 cps
78Se (KED)	49.550 ppb	99.099 %	0.7 %	9,225 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
82Se (KED)				4,531 cps
83Kr (KED)				1,323 cps
89Y (KED)				213,694 cps
95Mo (KED)	51.147 ppb	102.293 %	0.8 %	1,241,951 cps
98Mo (KED)				1,974,610 cps
101Ru (KED)				10 cps
103Rh (KED)	101.631 %		1.7 %	351,862 cps
105Pd (KED)				90 cps
107Ag (KED)	49.761 ppb	99.522 %	1.6 %	**3,603,337 cps**
111Cd (KED)				392,603 cps
114Cd (KED)	50.471 ppb	100.941 %	0.7 %	994,543 cps
115In (KED)	100.552 %		1.4 %	182,564 cps
118Sn (KED)				3,509 cps
121Sb (KED)				732,353 cps
123Sb (KED)	50.215 ppb	100.431 %	0.8 %	627,142 cps
125Te (KED)				0 cps
138Ba (KED)	49.897 ppb	99.795 %	1.4 %	**2,739,922 cps**
139La (KED)				120 cps
140Ce (KED)				110 cps
159Tb (KED)	99.937 %		1.8 %	976,750 cps
165Ho (KED)	100.719 %		1.5 %	495,350 cps
205Tl (KED)	50.687 ppb	101.374 %	1.8 %	**13,483,010 cps**
206Pb (KED)				**4,324,524 cps**
207Pb (KED)				**3,798,418 cps**
208Pb (KED)	51.278 ppb	102.556 %	1.0 %	**17,623,818 cps**
209Bi (KED)				1,165,842 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
33	SIC	11/4/2021 1:43:54 PM	4	4	1	1

IK04003-IFA1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				820 cps
13C (KED)				20,001 cps
35Cl (KED)				**4,387,293 cps**
45Sc (KED)				39,317 cps
51V (KED)	-0.328 ppb	-32.772 %	6.6 %	-6,836 cps
52Cr (KED)	0.959 ppb	95.887 %	1.8 %	37,601 cps
53Cr (KED)				5,865 cps
55Mn (KED)	0.523 ppb	52.253 %	5.1 %	11,197 cps
59Co (KED)	0.231 ppb	23.108 %	6.4 %	20,564 cps
60Ni (KED)	0.215 ppb	21.536 %	6.0 %	5,553 cps
63Cu (KED)	0.288 ppb	28.791 %	2.8 %	17,948 cps
65Cu (KED)				9,130 cps
66Zn (KED)				4,221 cps
68Zn (KED)	0.546 ppb	0.055 %	7.4 %	3,190 cps
69Ga (KED)				49,650 cps
73Ge (KED)	92.451 %		0.9 %	68,378 cps
75As (KED)	-0.015 ppb	-1.457 %	146.5 %	-74 cps
40Ar.37Cl (KED)				30 cps
78Se (KED)	0.026 ppb	2.551 %	456.9 %	18 cps
82Se (KED)				-168 cps
83Kr (KED)				1,368 cps
89Y (KED)				181,849 cps
95Mo (KED)	2,276.858 ppb		1.0 %	**42,542,424 cps**
98Mo (KED)				**67,815,729 cps**
101Ru (KED)				52 cps
103Rh (KED)	74.448 %		1.3 %	257,750 cps
105Pd (KED)				107 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
107Ag (KED)	0.072 ppb	7.214 %	53.4 %	4,493 cps
111Cd (KED)				3,811 cps
114Cd (KED)	0.375 ppb	37.486 %	11.0 %	6,913 cps
115In (KED)	80.409 %		1.4 %	145,992 cps
118Sn (KED)				2,002 cps
121Sb (KED)				4,438 cps
123Sb (KED)	0.353 ppb	35.252 %	2.3 %	3,752 cps
125Te (KED)				0 cps
138Ba (KED)	0.037 ppb	3.690 %	90.7 %	5,304 cps
139La (KED)				1,068 cps
140Ce (KED)				1,805 cps
159Tb (KED)	75.357 %		1.6 %	736,517 cps
165Ho (KED)	74.513 %		0.8 %	366,462 cps
205Tl (KED)	-0.053 ppb	-5.253 %	43.6 %	10,389 cps
206Pb (KED)				6,072 cps
207Pb (KED)				5,460 cps
208Pb (KED)	-0.004 ppb	-0.438 %	404.3 %	25,199 cps
209Bi (KED)				719,066 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
34	Rinse	11/4/2021 1:45:41 PM	4	5	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,015 cps
13C (KED)			1,770 cps
35Cl (KED)			17,469 cps
45Sc (KED)			38,708 cps
51V (KED)	-0.042 ppb	28.4 %	915 cps
52Cr (KED)	-0.046 ppb	19.2 %	822 cps
53Cr (KED)			173 cps
55Mn (KED)	-0.029 ppb	42.2 %	1,198 cps
59Co (KED)	-0.045 ppb	17.8 %	2,675 cps
60Ni (KED)	-0.032 ppb	35.1 %	1,270 cps
63Cu (KED)	-0.043 ppb	21.9 %	3,386 cps
65Cu (KED)			1,860 cps
66Zn (KED)			2,357 cps
68Zn (KED)	0.176 ppb	8.5 %	1,753 cps
69Ga (KED)			57,085 cps
73Ge (KED)	116.674 %	3.2 %	86,294 cps
75As (KED)	-0.044 ppb	117.1 %	-197 cps
40Ar.37Cl (KED)			20 cps
78Se (KED)	-0.059 ppb	45.7 %	6 cps
82Se (KED)			-114 cps
83Kr (KED)			1,382 cps
89Y (KED)			212,561 cps
95Mo (KED)	2.035 ppb	77.5 %	55,562 cps
98Mo (KED)			98,699 cps
101Ru (KED)			3 cps
103Rh (KED)	105.569 %	1.1 %	365,497 cps
105Pd (KED)			93 cps
107Ag (KED)	0.038 ppb	132.6 %	3,553 cps
111Cd (KED)			418 cps
114Cd (KED)	-0.016 ppb	298.0 %	1,021 cps
115In (KED)	101.216 %	0.7 %	183,768 cps
118Sn (KED)			1,515 cps
121Sb (KED)			1,042 cps
123Sb (KED)	0.039 ppb	71.6 %	830 cps
125Te (KED)			0 cps

Category	Concentration average	Concentration RSD	Intensity average
138Ba (KED)	-0.042 ppb	52.8 %	2,492 cps
139La (KED)			22 cps
140Ce (KED)			55 cps
159Tb (KED)	96.252 %	1.0 %	940,739 cps
165Ho (KED)	94.763 %	0.5 %	466,056 cps
205Tl (KED)	-0.061 ppb	27.3 %	11,164 cps
206Pb (KED)			4,004 cps
207Pb (KED)			3,446 cps
208Pb (KED)	-0.054 ppb	30.0 %	16,032 cps
209Bi (KED)			1,078,834 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
35	LDR	11/4/2021 1:47:32 PM	4	6	1	1

112404003-HCV1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,013 cps
13C (KED)				1,815 cps
35Cl (KED)				15,735 cps
45Sc (KED)				38,071 cps
51V (KED)	2,044.349 ppb	102.217 %	1.1 %	64,087,610 cps
52Cr (KED)	2,063.443 ppb	103.172 %	1.1 %	89,780,583 cps
53Cr (KED)				11,119,559 cps
55Mn (KED)	2,028.713 ppb	101.436 %	1.7 %	44,582,179 cps
59Co (KED)	2,051.313 ppb	102.566 %	1.3 %	162,003,217 cps
60Ni (KED)	1,933.708 ppb	96.685 %	1.7 %	42,091,803 cps
63Cu (KED)	2,069.794 ppb	103.490 %	0.7 %	113,147,377 cps
65Cu (KED)				56,021,433 cps
66Zn (KED)				12,423,668 cps
68Zn (KED)	1,872.183 ppb	93.609 %	0.7 %	10,770,090 cps
69Ga (KED)				15,905,171 cps
73Ge (KED)	109.448 %		1.1 %	80,950 cps
75As (KED)	1,891.760 ppb	94.588 %	0.8 %	6,171,884 cps
40Ar.37Cl (KED)				112,479 cps
78Se (KED)	1,933.526 ppb	96.676 %	0.5 %	373,781 cps
82Se (KED)				189,076 cps
83Kr (KED)				1,690 cps
89Y (KED)				221,414 cps
95Mo (KED)	1,950.527 ppb	97.526 %	1.8 %	49,780,280 cps
98Mo (KED)				80,227,366 cps
101Ru (KED)				45 cps
103Rh (KED)	107.827 %		1.2 %	373,313 cps
105Pd (KED)				97 cps
107Ag (KED)	0.009 ppb		11.0 %	1,475 cps
111Cd (KED)				14,643,993 cps
114Cd (KED)	1,834.872 ppb	91.744 %	1.1 %	37,439,700 cps
115In (KED)	104.025 %		0.5 %	188,869 cps
118Sn (KED)				2,609 cps
121Sb (KED)				2,947 cps
123Sb (KED)	0.166 ppb		9.3 %	2,498 cps
125Te (KED)				2 cps
138Ba (KED)	2,048.543 ppb	102.427 %	1.2 %	115,430,600 cps
139La (KED)				1,235 cps
140Ce (KED)				710 cps
159Tb (KED)	102.080 %		1.2 %	997,699 cps
165Ho (KED)	102.844 %		1.0 %	505,799 cps
205Tl (KED)	2,069.219 ppb	103.461 %	1.7 %	560,965,510 cps
206Pb (KED)				177,605,646 cps
207Pb (KED)				156,597,768 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
208Pb (KED)	2,066.778 ppb	103.339 %	1.3 %	723,908,226 cps
209Bi (KED)				1,176,091 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
36	Blank	11/4/2021 1:49:24 PM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			987 cps
13C (KED)			1,632 cps
35Cl (KED)			13,613 cps
45Sc (KED)			34,872 cps
51V (KED)	0.288 ppb	48.8 %	10,543 cps
52Cr (KED)	0.274 ppb	57.8 %	13,803 cps
53Cr (KED)			1,889 cps
55Mn (KED)	0.262 ppb	57.7 %	7,066 cps
59Co (KED)	0.290 ppb	62.0 %	27,211 cps
60Ni (KED)	0.281 ppb	54.1 %	7,521 cps
63Cu (KED)	0.353 ppb	56.5 %	23,311 cps
65Cu (KED)			11,483 cps
66Zn (KED)			2,610 cps
68Zn (KED)	0.304 ppb	55.1 %	2,239 cps
69Ga (KED)			55,505 cps
73Ge (KED)	102.965 %	0.7 %	76,155 cps
75As (KED)	0.343 ppb	43.2 %	1,010 cps
40Ar.37Cl (KED)			48 cps
78Se (KED)	0.325 ppb	33.7 %	75 cps
82Se (KED)			30 cps
83Kr (KED)			1,370 cps
89Y (KED)			208,160 cps
95Mo (KED)	0.857 ppb	14.6 %	24,059 cps
98Mo (KED)			37,954 cps
101Ru (KED)			3 cps
103Rh (KED)	100.434 %	1.2 %	347,719 cps
105Pd (KED)			70 cps
107Ag (KED)	0.000 ppb	235.6 %	690 cps
111Cd (KED)			2,620 cps
114Cd (KED)	0.272 ppb	60.1 %	6,503 cps
115In (KED)	97.695 %	0.3 %	177,375 cps
118Sn (KED)			257 cps
121Sb (KED)			657 cps
123Sb (KED)	0.017 ppb	27.3 %	542 cps
125Te (KED)			0 cps
138Ba (KED)	0.293 ppb	58.8 %	20,424 cps
139La (KED)			8 cps
140Ce (KED)			22 cps
159Tb (KED)	98.458 %	1.5 %	962,300 cps
165Ho (KED)	100.107 %	1.9 %	492,340 cps
205Tl (KED)	0.338 ppb	52.8 %	116,931 cps
206Pb (KED)			38,228 cps
207Pb (KED)			33,790 cps
208Pb (KED)	0.350 ppb	54.1 %	154,550 cps
209Bi (KED)			1,158,082 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
37	Rinse	11/4/2021 1:51:18 PM	4	5	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,167 cps
13C (KED)			2,870 cps
35Cl (KED)			186,488 cps
45Sc (KED)			41,756 cps
51V (KED)	0.771 ppb	2.4 %	24,670 cps
52Cr (KED)	1.568 ppb	1.8 %	66,472 cps
53Cr (KED)			8,223 cps
55Mn (KED)	89.732 ppb	1.8 %	1,847,927 cps
59Co (KED)	0.125 ppb	6.9 %	14,946 cps
60Ni (KED)	1.735 ppb	3.3 %	37,130 cps
63Cu (KED)	1.000 ppb	3.0 %	56,347 cps
65Cu (KED)			28,417 cps
66Zn (KED)			15,505 cps
68Zn (KED)	8.666 ppb	1.9 %	47,268 cps
69Ga (KED)			402,655 cps
73Ge (KED)	102.482 %	1.4 %	75,798 cps
75As (KED)	0.818 ppb	17.4 %	2,443 cps
40Ar.37Cl (KED)			110 cps
78Se (KED)	0.267 ppb	31.2 %	63 cps
82Se (KED)			-145 cps
83Kr (KED)			1,575 cps
89Y (KED)			243,134 cps
95Mo (KED)	0.907 ppb	1.5 %	23,720 cps
98Mo (KED)			37,533 cps
101Ru (KED)			5 cps
103Rh (KED)	92.322 %	1.2 %	319,634 cps
105Pd (KED)			142 cps
107Ag (KED)	-0.002 ppb	59.3 %	530 cps
111Cd (KED)			98 cps
114Cd (KED)	-0.059 ppb	2.0 %	169 cps
115In (KED)	95.043 %	0.9 %	172,562 cps
118Sn (KED)			6,754 cps
121Sb (KED)			1,547 cps
123Sb (KED)	0.086 ppb	4.6 %	1,335 cps
125Te (KED)			0 cps
138Ba (KED)	60.527 ppb	0.4 %	3,137,170 cps
139La (KED)			75,300 cps
140Ce (KED)			166,965 cps
159Tb (KED)	94.248 %	2.6 %	921,150 cps
165Ho (KED)	96.903 %	1.2 %	476,583 cps
205Tl (KED)	-0.086 ppb	0.3 %	4,954 cps
206Pb (KED)			22,616 cps
207Pb (KED)			19,018 cps
208Pb (KED)	0.166 ppb	2.3 %	88,978 cps
209Bi (KED)			990,192 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
69	1K04003-CCV1	11/4/2021 2:50:07 PM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				977 cps
13C (KED)				1,770 cps
35Cl (KED)				15,271 cps
45Sc (KED)				37,628 cps
51V (KED)	50.470 ppb	100.940 %	1.2 %	1,534,425 cps
52Cr (KED)	50.514 ppb	101.028 %	0.8 %	2,131,136 cps
53Cr (KED)				272,698 cps
55Mn (KED)	51.433 ppb	102.866 %	0.3 %	1,096,380 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
59Co (KED)	50.612 ppb	101.223 %	0.3 %	3,876,934 cps
60Ni (KED)	51.254 ppb	102.508 %	0.5 %	1,082,338 cps
63Cu (KED)	51.092 ppb	102.183 %	1.0 %	2,710,156 cps
65Cu (KED)				1,459,298 cps
66Zn (KED)				329,688 cps
68Zn (KED)	50.190 ppb	100.379 %	0.4 %	280,218 cps
69Ga (KED)				356,867 cps
73Ge (KED)	105.990 %		0.8 %	78,392 cps
75As (KED)	50.267 ppb	100.533 %	0.2 %	158,488 cps
40Ar.37Cl (KED)				2,895 cps
78Se (KED)	50.206 ppb	100.412 %	1.2 %	9,371 cps
82Se (KED)				4,635 cps
83Kr (KED)				1,352 cps
89Y (KED)				213,137 cps
95Mo (KED)	51.056 ppb	102.111 %	1.6 %	1,239,354 cps
98Mo (KED)				1,955,588 cps
101Ru (KED)				3 cps
103Rh (KED)	101.453 %		0.7 %	351,246 cps
105Pd (KED)				82 cps
107Ag (KED)	49.444 ppb	98.889 %	1.1 %	**3,569,186 cps**
111Cd (KED)				387,710 cps
114Cd (KED)	49.995 ppb	99.990 %	1.1 %	979,361 cps
115In (KED)	99.923 %		1.2 %	181,421 cps
118Sn (KED)				4,283 cps
121Sb (KED)				719,069 cps
123Sb (KED)	49.456 ppb	98.913 %	0.4 %	613,056 cps
125Te (KED)				0 cps
138Ba (KED)	48.959 ppb	97.918 %	1.1 %	**2,663,195 cps**
139La (KED)				187 cps
140Ce (KED)				173 cps
159Tb (KED)	98.681 %		1.9 %	964,475 cps
165Ho (KED)	100.017 %		1.5 %	491,895 cps
205Tl (KED)	50.945 ppb	101.889 %	0.7 %	**13,459,494 cps**
206Pb (KED)				**4,319,835 cps**
207Pb (KED)				**3,812,339 cps**
208Pb (KED)	51.056 ppb	102.112 %	0.7 %	**17,425,972 cps**
209Bi (KED)				1,152,796 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
70	1K04003-CCB1	11/4/2021 2:52:01 PM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,040 cps
13C (KED)				1,772 cps
35Cl (KED)				11,939 cps
45Sc (KED)				36,002 cps
51V (KED)	-0.042 ppb	-4.201 %	59.2 %	817 cps
52Cr (KED)	-0.040 ppb	-3.990 %	60.0 %	992 cps
53Cr (KED)				167 cps
55Mn (KED)	-0.014 ppb	-1.417 %	215.1 %	1,372 cps
59Co (KED)	-0.042 ppb	-4.170 %	62.7 %	2,639 cps
60Ni (KED)	-0.029 ppb	-2.864 %	96.2 %	1,185 cps
63Cu (KED)	-0.045 ppb	-4.481 %	48.5 %	2,869 cps
65Cu (KED)				1,297 cps
66Zn (KED)				510 cps
68Zn (KED)	-0.028 ppb	-0.003 %	87.9 %	442 cps
69Ga (KED)				53,945 cps
73Ge (KED)	102.228 %		1.3 %	75,610 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
75As (KED)	-0.062 ppb	-6.162 %	40.3 %	-227 cps
40Ar.37Cl (KED)				17 cps
78Se (KED)	-0.112 ppb	-11.160 %	16.6 %	-5 cps
82Se (KED)				-113 cps
83Kr (KED)				1,375 cps
89Y (KED)				208,504 cps
95Mo (KED)	-0.100 ppb	-0.010 %	8.8 %	1,215 cps
98Mo (KED)				1,812 cps
101Ru (KED)				2 cps
103Rh (KED)	100.169 %		0.8 %	346,801 cps
105Pd (KED)				105 cps
107Ag (KED)	0.013 ppb	1.285 %	53.1 %	1,634 cps
111Cd (KED)				92 cps
114Cd (KED)	-0.055 ppb	-5.511 %	8.7 %	246 cps
115In (KED)	98.702 %		1.5 %	179,205 cps
118Sn (KED)				628 cps
121Sb (KED)				4,115 cps
123Sb (KED)	0.259 ppb	25.917 %	6.6 %	3,508 cps
125Te (KED)				0 cps
138Ba (KED)	-0.045 ppb	-4.497 %	23.0 %	2,307 cps
139La (KED)				55 cps
140Ce (KED)				63 cps
159Tb (KED)	97.416 %		1.8 %	952,118 cps
165Ho (KED)	99.420 %		0.6 %	488,958 cps
205Tl (KED)	-0.082 ppb	-8.209 %	3.6 %	6,098 cps
206Pb (KED)				1,680 cps
207Pb (KED)				1,410 cps
208Pb (KED)	-0.084 ppb	-8.361 %	4.0 %	6,783 cps
209Bi (KED)				1,151,465 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
71	T116268-BLK1	11/4/2021 2:53:48 PM	2	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			980 cps
13C (KED)			1,765 cps
35Cl (KED)			12,093 cps
45Sc (KED)			36,824 cps
51V (KED)	-0.040 ppb	13.3 %	887 cps
52Cr (KED)	0.050 ppb	9.0 %	4,733 cps
53Cr (KED)			632 cps
55Mn (KED)	1.024 ppb	2.9 %	23,111 cps
59Co (KED)	-0.059 ppb	7.4 %	1,375 cps
60Ni (KED)	0.446 ppb	2.2 %	11,033 cps
63Cu (KED)	0.186 ppb	3.3 %	14,926 cps
65Cu (KED)			7,371 cps
66Zn (KED)			18,445 cps
68Zn (KED)	2.554 ppb	1.4 %	14,595 cps
69Ga (KED)			59,172 cps
73Ge (KED)	104.230 %	1.4 %	77,091 cps
75As (KED)	-0.067 ppb	194.7 %	-244 cps
40Ar.37Cl (KED)			8 cps
78Se (KED)	-0.077 ppb	54.6 %	2 cps
82Se (KED)			-119 cps
83Kr (KED)			1,355 cps
89Y (KED)			214,279 cps
95Mo (KED)	-0.121 ppb	7.5 %	742 cps
98Mo (KED)			1,295 cps

Category	Concentration average	Concentration RSD	Intensity average
101Ru (KED)			2 cps
103Rh (KED)	101.903 %	0.9 %	352,804 cps
105Pd (KED)			103 cps
107Ag (KED)	0.008 ppb	52.1 %	1,317 cps
111Cd (KED)			37 cps
114Cd (KED)	-0.066 ppb	6.1 %	27 cps
115In (KED)	99.389 %	0.8 %	180,451 cps
118Sn (KED)			9,909 cps
121Sb (KED)			1,059 cps
123Sb (KED)	0.045 ppb	3.0 %	896 cps
125Te (KED)			0 cps
138Ba (KED)	0.657 ppb	2.2 %	40,591 cps
139La (KED)			675 cps
140Ce (KED)			1,530 cps
159Tb (KED)	99.907 %	1.8 %	976,459 cps
165Ho (KED)	101.823 %	2.2 %	500,777 cps
205Tl (KED)	-0.093 ppb	2.6 %	3,309 cps
206Pb (KED)			2,157 cps
207Pb (KED)			1,862 cps
208Pb (KED)	-0.079 ppb	4.6 %	8,424 cps
209Bi (KED)			1,176,977 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
72	T116268-BS1	11/4/2021 2:55:34 PM	2	2	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			13,529 cps
13C (KED)			1,960 cps
35Cl (KED)			11,582 cps
45Sc (KED)			36,455 cps
51V (KED)	829.443 ppb	0.9 %	**24,411,875 cps**
52Cr (KED)	25.823 ppb	0.6 %	1,057,398 cps
53Cr (KED)			131,943 cps
55Mn (KED)	791.006 ppb	1.1 %	**16,320,308 cps**
59Co (KED)	791.928 ppb	0.8 %	**58,717,889 cps**
60Ni (KED)	744.573 ppb	1.3 %	**15,216,514 cps**
63Cu (KED)	752.094 ppb	1.3 %	**38,598,490 cps**
65Cu (KED)			**19,209,937 cps**
66Zn (KED)			**4,657,720 cps**
68Zn (KED)	739.063 ppb	2.1 %	**3,991,827 cps**
69Ga (KED)			**5,809,675 cps**
73Ge (KED)	102.745 %	1.0 %	75,992 cps
75As (KED)	51.030 ppb	0.5 %	155,466 cps
40Ar.37Cl (KED)			2,787 cps
78Se (KED)	50.165 ppb	0.3 %	9,004 cps
82Se (KED)			4,387 cps
83Kr (KED)			1,430 cps
89Y (KED)			211,470 cps
95Mo (KED)	823.770 ppb	0.8 %	**18,632,061 cps**
98Mo (KED)			**29,712,230 cps**
101Ru (KED)			37 cps
103Rh (KED)	93.436 %	0.4 %	323,491 cps
105Pd (KED)			210 cps
107Ag (KED)	28.491 ppb	0.2 %	1,837,667 cps
111Cd (KED)			189,910 cps
114Cd (KED)	26.268 ppb	2.3 %	434,941 cps
115In (KED)	83.663 %	1.8 %	151,900 cps
118Sn (KED)			12,052,178 cps

Category	Concentration average	Concentration RSD	Intensity average
121Sb (KED)			677,042 cps
123Sb (KED)	53.897 ppb	1.5 %	576,557 cps
125Te (KED)			25 cps
138Ba (KED)	846.051 ppb	1.4 %	41,891,756 cps
139La (KED)			1,773 cps
140Ce (KED)			3,020 cps
159Tb (KED)	96.775 %	1.4 %	945,845 cps
165Ho (KED)	99.371 %	2.0 %	488,720 cps
205Tl (KED)	49.047 ppb	1.8 %	12,873,463 cps
206Pb (KED)			4,073,449 cps
207Pb (KED)			3,584,600 cps
208Pb (KED)	48.397 ppb	1.1 %	16,412,066 cps
209Bi (KED)			1,066,012 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
73	T116268-MS1	11/4/2021 2:57:20 PM	2	3	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			13,242 cps
13C (KED)			2,977 cps
35Cl (KED)			181,569 cps
45Sc (KED)			75,452 cps
51V (KED)	785.200 ppb	0.9 %	26,046,814 cps
52Cr (KED)	49.352 ppb	0.8 %	2,274,841 cps
53Cr (KED)			284,063 cps
55Mn (KED)	794.212 ppb	0.9 %	18,466,900 cps
59Co (KED)	692.333 ppb	0.6 %	57,852,534 cps
60Ni (KED)	647.505 ppb	0.5 %	14,914,000 cps
63Cu (KED)	642.718 ppb	0.6 %	37,177,956 cps
65Cu (KED)			18,556,572 cps
66Zn (KED)			4,707,856 cps
68Zn (KED)	669.963 ppb	0.7 %	4,077,873 cps
69Ga (KED)			6,216,614 cps
73Ge (KED)	115.796 %	2.1 %	85,644 cps
75As (KED)	47.460 ppb	1.2 %	161,231 cps
40Ar.37Cl (KED)			5,451 cps
78Se (KED)	50.327 ppb	1.6 %	9,910 cps
82Se (KED)			4,973 cps
83Kr (KED)			2,032 cps
89Y (KED)			787,252 cps
95Mo (KED)	825.855 ppb	2.2 %	18,477,028 cps
98Mo (KED)			29,530,935 cps
101Ru (KED)			23 cps
103Rh (KED)	87.321 %	3.0 %	302,318 cps
105Pd (KED)			582 cps
107Ag (KED)	27.840 ppb	1.6 %	1,688,497 cps
111Cd (KED)			177,503 cps
114Cd (KED)	25.798 ppb	1.4 %	406,802 cps
115In (KED)	79.798 %	0.3 %	144,882 cps
118Sn (KED)			11,007,466 cps
121Sb (KED)			640,069 cps
123Sb (KED)	52.525 ppb	0.8 %	545,745 cps
125Te (KED)			17 cps
138Ba (KED)	873.184 ppb	2.2 %	43,293,063 cps
139La (KED)			2,341,133 cps
140Ce (KED)			5,142,753 cps
159Tb (KED)	100.520 %	1.6 %	982,451 cps
165Ho (KED)	112.002 %	1.6 %	550,839 cps

Category	Concentration average	Concentration RSD	Intensity average
205Tl (KED)	39.806 ppb	1.1 %	11,783,497 cps
206Pb (KED)			4,191,371 cps
207Pb (KED)			3,640,319 cps
208Pb (KED)	44.028 ppb	1.0 %	16,833,280 cps
209Bi (KED)			969,291 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
74	T116268-MSD1	11/4/2021 2:59:05 PM	2	4	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			14,198 cps
13C (KED)			3,152 cps
35Cl (KED)			185,231 cps
45Sc (KED)			76,227 cps
51V (KED)	816.986 ppb	1.0 %	27,490,993 cps
52Cr (KED)	49.792 ppb	2.0 %	2,327,953 cps
53Cr (KED)			292,244 cps
55Mn (KED)	810.719 ppb	2.5 %	19,122,697 cps
59Co (KED)	712.693 ppb	1.4 %	60,417,739 cps
60Ni (KED)	665.852 ppb	1.0 %	15,558,919 cps
63Cu (KED)	666.356 ppb	0.9 %	39,101,842 cps
65Cu (KED)			19,486,381 cps
66Zn (KED)			4,843,884 cps
68Zn (KED)	677.757 ppb	0.5 %	4,185,516 cps
69Ga (KED)			6,444,713 cps
73Ge (KED)	117.482 %	2.1 %	86,892 cps
75As (KED)	48.826 ppb	0.7 %	168,341 cps
40Ar.37Cl (KED)			5,611 cps
78Se (KED)	51.505 ppb	0.6 %	10,298 cps
82Se (KED)			5,258 cps
83Kr (KED)			1,908 cps
89Y (KED)			797,769 cps
95Mo (KED)	846.595 ppb	1.4 %	19,280,331 cps
98Mo (KED)			30,828,259 cps
101Ru (KED)			25 cps
103Rh (KED)	88.984 %	0.4 %	308,076 cps
105Pd (KED)			532 cps
107Ag (KED)	28.040 ppb	0.5 %	1,739,219 cps
111Cd (KED)			181,851 cps
114Cd (KED)	25.802 ppb	0.9 %	418,633 cps
115In (KED)	82.193 %	0.7 %	149,231 cps
118Sn (KED)			11,267,175 cps
121Sb (KED)			655,722 cps
123Sb (KED)	52.308 ppb	0.8 %	555,384 cps
125Te (KED)			27 cps
138Ba (KED)	878.982 ppb	1.1 %	43,946,372 cps
139La (KED)			2,192,025 cps
140Ce (KED)			5,093,507 cps
159Tb (KED)	99.797 %	1.7 %	975,387 cps
165Ho (KED)	112.510 %	0.7 %	553,340 cps
205Tl (KED)	40.769 ppb	0.9 %	12,122,268 cps
206Pb (KED)			4,272,464 cps
207Pb (KED)			3,712,704 cps
208Pb (KED)	44.620 ppb	1.2 %	17,137,583 cps
209Bi (KED)			973,255 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
75	21J1202-01	11/4/2021 3:00:51 PM	2	5	1	1

Total DF	QC Reference
1	C

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,122 cps
13C (KED)			2,900 cps
35Cl (KED)			184,361 cps
45Sc (KED)			78,493 cps
51V (KED)	26.251 ppb	2.6 %	904,292 cps
52Cr (KED)	26.573 ppb	0.4 %	1,270,371 cps
53Cr (KED)			157,935 cps
55Mn (KED)	91.421 ppb	1.2 %	**2,204,108 cps**
59Co (KED)	6.785 ppb	5.0 %	593,873 cps
60Ni (KED)	14.421 ppb	3.7 %	346,095 cps
63Cu (KED)	18.598 ppb	1.9 %	1,120,265 cps
65Cu (KED)			560,922 cps
66Zn (KED)			225,616 cps
68Zn (KED)	34.079 ppb	0.6 %	215,566 cps
69Ga (KED)			514,601 cps
73Ge (KED)	119.962 %	0.8 %	88,726 cps
75As (KED)	1.745 ppb	7.6 %	6,107 cps
40Ar.37Cl (KED)			3,010 cps
78Se (KED)	6.331 ppb	4.6 %	1,311 cps
82Se (KED)			570 cps
83Kr (KED)			2,104 cps
89Y (KED)			822,817 cps
95Mo (KED)	6.677 ppb	5.0 %	160,882 cps
98Mo (KED)			255,055 cps
101Ru (KED)			0 cps
103Rh (KED)	92.630 %	1.1 %	320,700 cps
105Pd (KED)			360 cps
107Ag (KED)	0.062 ppb	33.8 %	4,845 cps
111Cd (KED)			977 cps
114Cd (KED)	0.058 ppb	32.6 %	2,343 cps
115In (KED)	95.384 %	2.5 %	173,180 cps
118Sn (KED)			35,986 cps
121Sb (KED)			7,529 cps
123Sb (KED)	0.493 ppb	9.9 %	6,244 cps
125Te (KED)			8 cps
138Ba (KED)	68.571 ppb	0.4 %	**3,728,822 cps**
139La (KED)			**2,319,863 cps**
140Ce (KED)			**5,210,803 cps**
159Tb (KED)	102.870 %	0.4 %	1,005,418 cps
165Ho (KED)	115.882 %	1.0 %	569,922 cps
205Tl (KED)	0.079 ppb	39.0 %	56,189 cps
206Pb (KED)			680,744 cps
207Pb (KED)			537,441 cps
208Pb (KED)	6.408 ppb	1.2 %	2,569,800 cps
209Bi (KED)			1,007,968 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
76	DIL TEST	11/4/2021 3:02:37 PM	2	5	5	1

1K04003-SR01

Total DF	QC Reference
5	C

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,030 cps
13C (KED)				1,947 cps
35Cl (KED)				51,156 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
45Sc (KED)				48,002 cps
51V (KED)	28.032 ppb	6.563 %	0.7 %	185,130 cps
52Cr (KED)	28.762 ppb	7.912 %	1.8 %	263,265 cps
53Cr (KED)				33,082 cps
55Mn (KED)	101.782 ppb	10.726 %	3.0 %	467,144 cps
59Co (KED)	7.636 ppb	11.799 %	5.1 %	131,793 cps
60Ni (KED)	17.224 ppb	17.714 %	3.9 %	79,990 cps
63Cu (KED)	22.800 ppb	20.300 %	3.9 %	265,049 cps
65Cu (KED)				131,177 cps
66Zn (KED)				53,383 cps
68Zn (KED)	40.531 ppb	17.296 %	2.1 %	49,179 cps
69Ga (KED)				155,744 cps
73Ge (KED)	113.879 %		2.1 %	84,227 cps
75As (KED)	2.074 ppb	17.192 %	28.4 %	1,350 cps
40Ar.37Cl (KED)				678 cps
78Se (KED)	6.642 ppb	4.794 %	7.7 %	280 cps
82Se (KED)				125 cps
83Kr (KED)				1,488 cps
89Y (KED)				344,285 cps
95Mo (KED)	6.198 ppb	7.441 %	4.5 %	34,309 cps
98Mo (KED)				54,262 cps
101Ru (KED)				5 cps
103Rh (KED)	101.232 %		0.9 %	350,480 cps
105Pd (KED)				145 cps
107Ag (KED)	0.037 ppb	51.505 %	17.7 %	1,263 cps
111Cd (KED)				217 cps
114Cd (KED)	-0.206 ppb	358.230 %	0.6 %	529 cps
115In (KED)	101.461 %		2.3 %	184,214 cps
118Sn (KED)				10,339 cps
121Sb (KED)				1,676 cps
123Sb (KED)	0.429 ppb	13.840 %	4.0 %	1,425 cps
125Te (KED)				0 cps
138Ba (KED)	79.484 ppb	14.741 %	1.4 %	883,724 cps
139La (KED)				526,811 cps
140Ce (KED)				1,202,435 cps
159Tb (KED)	100.721 %		0.8 %	984,418 cps
165Ho (KED)	104.765 %		1.3 %	515,250 cps
205Tl (KED)	-0.225 ppb	414.455 %	4.2 %	16,660 cps
206Pb (KED)				155,984 cps
207Pb (KED)				122,953 cps
208Pb (KED)	7.762 ppb	19.108 %	0.1 %	590,893 cps
209Bi (KED)				1,119,450 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
77	21J1202-02	11/4/2021 3:04:25 PM	2	6	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,030 cps
13C (KED)			3,757 cps
35Cl (KED)			1,191,726 cps
45Sc (KED)			42,098 cps
51V (KED)	0.858 ppb	5.5 %	26,818 cps
52Cr (KED)	0.588 ppb	1.2 %	26,188 cps
53Cr (KED)			3,544 cps
55Mn (KED)	84.115 ppb	1.4 %	1,706,625 cps
59Co (KED)	0.246 ppb	17.0 %	23,534 cps
60Ni (KED)	1.649 ppb	2.3 %	34,855 cps
63Cu (KED)	3.125 ppb	1.2 %	162,635 cps

Category	Concentration average	Concentration RSD	Intensity average
65Cu (KED)			80,910 cps
66Zn (KED)			249,501 cps
68Zn (KED)	41.704 ppb	1.8 %	221,846 cps
69Ga (KED)			370,700 cps
73Ge (KED)	100.954 %	1.2 %	74,668 cps
75As (KED)	2.901 ppb	2.0 %	8,626 cps
40Ar.37Cl (KED)			80 cps
78Se (KED)	0.088 ppb	97.0 %	31 cps
82Se (KED)			71 cps
83Kr (KED)			1,493 cps
89Y (KED)			224,139 cps
95Mo (KED)	0.378 ppb	8.5 %	11,397 cps
98Mo (KED)			17,657 cps
101Ru (KED)			0 cps
103Rh (KED)	87.699 %	0.5 %	303,626 cps
105Pd (KED)			130 cps
107Ag (KED)	0.008 ppb	35.0 %	1,117 cps
111Cd (KED)			838 cps
114Cd (KED)	0.055 ppb	12.7 %	2,129 cps
115In (KED)	88.522 %	2.7 %	160,722 cps
118Sn (KED)			10,488 cps
121Sb (KED)			1,093 cps
123Sb (KED)	0.057 ppb	3.3 %	932 cps
125Te (KED)			0 cps
138Ba (KED)	54.064 ppb	1.2 %	2,635,294 cps
139La (KED)			40,740 cps
140Ce (KED)			82,725 cps
159Tb (KED)	89.385 %	0.7 %	873,617 cps
165Ho (KED)	91.851 %	1.1 %	451,735 cps
205Tl (KED)	-0.075 ppb	4.9 %	7,309 cps
206Pb (KED)			297,199 cps
207Pb (KED)			249,254 cps
208Pb (KED)	3.606 ppb	1.1 %	1,160,366 cps
209Bi (KED)			868,937 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
78	21J1202-03	11/4/2021 3:06:16 PM	2	7	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,125 cps
13C (KED)			3,374 cps
35Cl (KED)			1,889,239 cps
45Sc (KED)			42,822 cps
51V (KED)	4.580 ppb	5.3 %	122,675 cps
52Cr (KED)	2.945 ppb	0.7 %	110,175 cps
53Cr (KED)			13,948 cps
55Mn (KED)	161.511 ppb	1.0 %	2,988,709 cps
59Co (KED)	1.114 ppb	22.0 %	79,193 cps
60Ni (KED)	4.299 ppb	5.3 %	80,351 cps
63Cu (KED)	22.597 ppb	1.2 %	1,044,118 cps
65Cu (KED)			518,037 cps
66Zn (KED)			1,272,469 cps
68Zn (KED)	211.851 ppb	1.1 %	1,026,009 cps
69Ga (KED)			658,662 cps
73Ge (KED)	92.102 %	1.0 %	68,120 cps
75As (KED)	8.265 ppb	1.5 %	22,463 cps
40Ar.37Cl (KED)			247 cps
78Se (KED)	0.773 ppb	21.6 %	137 cps

Category	Concentration average	Concentration RSD	Intensity average
82Se (KED)			145 cps
83Kr (KED)			1,408 cps
89Y (KED)			263,416 cps
95Mo (KED)	1.183 ppb	6.7 %	25,948 cps
98Mo (KED)			40,554 cps
101Ru (KED)			7 cps
103Rh (KED)	78.974 %	0.8 %	273,421 cps
105Pd (KED)			167 cps
107Ag (KED)	0.030 ppb	10.4 %	2,277 cps
111Cd (KED)			5,398 cps
114Cd (KED)	0.740 ppb	2.8 %	12,964 cps
115In (KED)	82.377 %	0.8 %	149,565 cps
118Sn (KED)			33,249 cps
121Sb (KED)			5,088 cps
123Sb (KED)	0.396 ppb	1.3 %	4,348 cps
125Te (KED)			0 cps
138Ba (KED)	115.255 ppb	1.6 %	5,232,843 cps
139La (KED)			160,036 cps
140Ce (KED)			305,068 cps
159Tb (KED)	83.483 %	1.9 %	815,939 cps
165Ho (KED)	85.474 %	0.5 %	420,372 cps
205Tl (KED)	0.004 ppb	130.3 %	24,682 cps
206Pb (KED)			1,888,964 cps
207Pb (KED)			1,602,548 cps
208Pb (KED)	24.258 ppb	0.6 %	7,091,862 cps
209Bi (KED)			759,669 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
79	21J1202-05	11/4/2021 3:08:05 PM	2	8	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,080 cps
13C (KED)			1,942 cps
35Cl (KED)			18,215 cps
45Sc (KED)			40,542 cps
51V (KED)	-0.009 ppb	332.9 %	1,953 cps
52Cr (KED)	0.595 ppb	2.2 %	29,259 cps
53Cr (KED)			3,706 cps
55Mn (KED)	1.362 ppb	6.1 %	32,334 cps
59Co (KED)	-0.014 ppb	150.2 %	5,054 cps
60Ni (KED)	0.769 ppb	3.2 %	18,996 cps
63Cu (KED)	0.369 ppb	9.8 %	26,209 cps
65Cu (KED)			12,908 cps
66Zn (KED)			33,685 cps
68Zn (KED)	4.182 ppb	2.9 %	25,180 cps
69Ga (KED)			60,541 cps
73Ge (KED)	111.626 %	0.4 %	82,560 cps
75As (KED)	-0.066 ppb	41.7 %	-262 cps
40Ar.37Cl (KED)			25 cps
78Se (KED)	-0.087 ppb	47.5 %	0 cps
82Se (KED)			-118 cps
83Kr (KED)			1,450 cps
89Y (KED)			226,653 cps
95Mo (KED)	-0.071 ppb	33.5 %	2,068 cps
98Mo (KED)			3,247 cps
101Ru (KED)			3 cps
103Rh (KED)	107.982 %	1.0 %	373,852 cps
105Pd (KED)			132 cps

Category	Concentration average	Concentration RSD	Intensity average
107Ag (KED)	0.002 ppb	67.5 %	933 cps
111Cd (KED)			23 cps
114Cd (KED)	-0.064 ppb	2.1 %	70 cps
115In (KED)	105.629 %	1.8 %	191,781 cps
118Sn (KED)			7,581 cps
121Sb (KED)			292 cps
123Sb (KED)	-0.007 ppb	38.2 %	261 cps
125Te (KED)			0 cps
138Ba (KED)	0.288 ppb	24.8 %	21,124 cps
139La (KED)			1,237 cps
140Ce (KED)			2,660 cps
159Tb (KED)	100.354 %	1.2 %	980,833 cps
165Ho (KED)	103.205 %	1.7 %	507,576 cps
205Tl (KED)	-0.092 ppb	4.5 %	3,582 cps
206Pb (KED)			4,976 cps
207Pb (KED)			4,204 cps
208Pb (KED)	-0.047 ppb	27.6 %	19,715 cps
209Bi (KED)			1,156,169 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
80	1K04003-CCV2	11/4/2021 3:09:56 PM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,065 cps
13C (KED)				1,875 cps
35Cl (KED)				16,473 cps
45Sc (KED)				39,823 cps
51V (KED)	51.308 ppb	102.616 %	1.6 %	1,618,086 cps
52Cr (KED)	52.111 ppb	104.223 %	2.4 %	2,280,561 cps
53Cr (KED)				287,782 cps
55Mn (KED)	51.714 ppb	103.427 %	1.7 %	1,143,555 cps
59Co (KED)	51.424 ppb	102.847 %	1.7 %	4,086,480 cps
60Ni (KED)	52.057 ppb	104.114 %	0.9 %	1,140,435 cps
63Cu (KED)	51.213 ppb	102.427 %	0.1 %	2,818,570 cps
65Cu (KED)				1,528,282 cps
66Zn (KED)				342,849 cps
68Zn (KED)	50.494 ppb	100.989 %	1.1 %	292,471 cps
69Ga (KED)				378,973 cps
73Ge (KED)	109.972 %		2.0 %	81,337 cps
75As (KED)	50.819 ppb	101.638 %	0.6 %	166,247 cps
40Ar.37Cl (KED)				2,910 cps
78Se (KED)	49.742 ppb	99.484 %	1.2 %	9,634 cps
82Se (KED)				4,821 cps
83Kr (KED)				1,417 cps
89Y (KED)				222,005 cps
95Mo (KED)	51.433 ppb	102.866 %	1.3 %	1,296,207 cps
98Mo (KED)				2,039,325 cps
101Ru (KED)				3 cps
103Rh (KED)	105.362 %		0.8 %	364,779 cps
105Pd (KED)				120 cps
107Ag (KED)	50.024 ppb	100.047 %	0.2 %	3,749,912 cps
111Cd (KED)				399,022 cps
114Cd (KED)	49.922 ppb	99.844 %	0.5 %	1,015,406 cps
115In (KED)	103.740 %		0.8 %	188,352 cps
118Sn (KED)				5,123 cps
121Sb (KED)				741,268 cps
123Sb (KED)	49.505 ppb	99.009 %	1.1 %	632,431 cps
125Te (KED)				0 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
138Ba (KED)	48.640 ppb	97.279 %	1.6 %	2,688,610 cps
139La (KED)				193 cps
140Ce (KED)				292 cps
159Tb (KED)	98.253 %		1.2 %	960,299 cps
165Ho (KED)	101.956 %		2.0 %	501,433 cps
205Tl (KED)	50.190 ppb	100.380 %	0.6 %	13,516,683 cps
206Pb (KED)				4,380,721 cps
207Pb (KED)				3,787,854 cps
208Pb (KED)	50.640 ppb	101.280 %	0.9 %	17,618,597 cps
209Bi (KED)				1,161,492 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
81	1K04003-CCB2	11/4/2021 3:11:48 PM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,040 cps
13C (KED)				1,778 cps
35Cl (KED)				14,674 cps
45Sc (KED)				39,850 cps
51V (KED)	-0.028 ppb	-2.761 %	106.2 %	1,324 cps
52Cr (KED)	-0.039 ppb	-3.923 %	65.0 %	1,086 cps
53Cr (KED)				230 cps
55Mn (KED)	-0.020 ppb	-2.023 %	121.6 %	1,335 cps
59Co (KED)	-0.033 ppb	-3.331 %	83.5 %	3,484 cps
60Ni (KED)	-0.024 ppb	-2.375 %	94.9 %	1,375 cps
63Cu (KED)	-0.035 ppb	-3.482 %	90.0 %	3,621 cps
65Cu (KED)				1,729 cps
66Zn (KED)				648 cps
68Zn (KED)	-0.023 ppb	-0.002 %	105.8 %	505 cps
69Ga (KED)				58,061 cps
73Ge (KED)	109.766 %		0.3 %	81,185 cps
75As (KED)	0.068 ppb	6.775 %	83.5 %	180 cps
40Ar.37Cl (KED)				12 cps
78Se (KED)	-0.020 ppb	-2.038 %	63.3 %	13 cps
82Se (KED)				30 cps
83Kr (KED)				1,287 cps
89Y (KED)				223,769 cps
95Mo (KED)	-0.074 ppb	-0.007 %	58.9 %	1,984 cps
98Mo (KED)				3,138 cps
101Ru (KED)				2 cps
103Rh (KED)	108.128 %		1.1 %	374,355 cps
105Pd (KED)				97 cps
107Ag (KED)	0.035 ppb	3.480 %	124.4 %	3,416 cps
111Cd (KED)				267 cps
114Cd (KED)	-0.035 ppb	-3.485 %	94.6 %	667 cps
115In (KED)	102.504 %		2.2 %	186,108 cps
118Sn (KED)				1,118 cps
121Sb (KED)				3,799 cps
123Sb (KED)	0.232 ppb	23.204 %	13.5 %	3,285 cps
125Te (KED)				0 cps
138Ba (KED)	-0.023 ppb	-2.271 %	159.6 %	3,604 cps
139La (KED)				70 cps
140Ce (KED)				147 cps
159Tb (KED)	98.775 %		2.2 %	965,397 cps
165Ho (KED)	101.209 %		2.1 %	497,757 cps
205Tl (KED)	-0.064 ppb	-6.412 %	52.6 %	10,972 cps
206Pb (KED)				3,313 cps
207Pb (KED)				2,738 cps

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
208Pb (KED)	-0.066 ppb	-6.608 %	50.6 %	12,912 cps
209Bi (KED)				1,151,553 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
82	21J1202-06	11/4/2021 3:13:42 PM	2	9	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,077 cps
13C (KED)			2,327 cps
35Cl (KED)			225,576 cps
45Sc (KED)			40,586 cps
51V (KED)	0.580 ppb	1.9 %	19,449 cps
52Cr (KED)	0.501 ppb	2.7 %	23,450 cps
53Cr (KED)			2,789 cps
55Mn (KED)	3.866 ppb	2.7 %	82,785 cps
59Co (KED)	0.027 ppb	32.4 %	7,866 cps
60Ni (KED)	0.540 ppb	3.1 %	13,025 cps
63Cu (KED)	1.363 ppb	1.4 %	76,366 cps
65Cu (KED)			37,899 cps
66Zn (KED)			20,757 cps
68Zn (KED)	4.708 ppb	3.0 %	26,450 cps
69Ga (KED)			160,534 cps
73Ge (KED)	104.484 %	1.8 %	77,278 cps
75As (KED)	0.238 ppb	12.3 %	697 cps
40Ar.37Cl (KED)			42 cps
78Se (KED)	0.364 ppb	6.5 %	82 cps
82Se (KED)			-67 cps
83Kr (KED)			1,435 cps
89Y (KED)			214,073 cps
95Mo (KED)	1.354 ppb	0.6 %	34,282 cps
98Mo (KED)			53,808 cps
101Ru (KED)			5 cps
103Rh (KED)	93.733 %	1.0 %	324,519 cps
105Pd (KED)			97 cps
107Ag (KED)	0.003 ppb	85.4 %	892 cps
111Cd (KED)			107 cps
114Cd (KED)	-0.052 ppb	7.8 %	303 cps
115In (KED)	96.558 %	1.3 %	175,312 cps
118Sn (KED)			6,360 cps
121Sb (KED)			2,855 cps
123Sb (KED)	0.178 ppb	3.8 %	2,452 cps
125Te (KED)			0 cps
138Ba (KED)	19.030 ppb	2.4 %	995,421 cps
139La (KED)			1,368 cps
140Ce (KED)			2,232 cps
159Tb (KED)	93.939 %	1.6 %	918,133 cps
165Ho (KED)	97.735 %	2.5 %	480,673 cps
205Tl (KED)	-0.082 ppb	1.7 %	5,970 cps
206Pb (KED)			67,417 cps
207Pb (KED)			56,263 cps
208Pb (KED)	0.690 ppb	3.0 %	264,045 cps
209Bi (KED)			1,003,781 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
83	21J1202-07	11/4/2021 3:15:30 PM	3	10	1	1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,345 cps
13C (KED)			3,874 cps
35Cl (KED)			14,887,342 cps
45Sc (KED)			33,884 cps
51V (KED)	-0.931 ppb	3.0 %	-23,473 cps
52Cr (KED)	1.488 ppb	3.6 %	58,723 cps
53Cr (KED)			8,221 cps
55Mn (KED)	13.437 ppb	2.6 %	258,292 cps
59Co (KED)	0.091 ppb	11.8 %	11,575 cps
60Ni (KED)	11.219 ppb	2.4 %	213,984 cps
63Cu (KED)	22.639 ppb	2.8 %	1,080,707 cps
65Cu (KED)			539,452 cps
66Zn (KED)			370,116 cps
68Zn (KED)	56.948 ppb	2.9 %	285,348 cps
69Ga (KED)			79,985 cps
73Ge (KED)	95.182 %	1.9 %	70,398 cps
75As (KED)	0.494 ppb	16.0 %	1,353 cps
40Ar.37Cl (KED)			25 cps
78Se (KED)	-0.027 ppb	140.7 %	10 cps
82Se (KED)			-42 cps
83Kr (KED)			1,228 cps
89Y (KED)			193,780 cps
95Mo (KED)	0.315 ppb	2.0 %	9,618 cps
98Mo (KED)			15,185 cps
101Ru (KED)			7 cps
103Rh (KED)	84.589 %	1.0 %	292,859 cps
105Pd (KED)			98 cps
107Ag (KED)	0.174 ppb	6.2 %	11,155 cps
111Cd (KED)			688 cps
114Cd (KED)	0.004 ppb	275.7 %	1,191 cps
115In (KED)	85.034 %	0.5 %	154,389 cps
118Sn (KED)			90,339 cps
121Sb (KED)			8,587 cps
123Sb (KED)	0.671 ppb	0.7 %	7,413 cps
125Te (KED)			2 cps
138Ba (KED)	6.769 ppb	1.6 %	322,964 cps
139La (KED)			5,460 cps
140Ce (KED)			11,530 cps
159Tb (KED)	87.069 %	2.4 %	850,983 cps
165Ho (KED)	90.405 %	1.4 %	444,622 cps
205Tl (KED)	-0.085 ppb	2.3 %	4,786 cps
206Pb (KED)			575,124 cps
207Pb (KED)			489,704 cps
208Pb (KED)	7.296 ppb	0.4 %	2,278,282 cps
209Bi (KED)			993,745 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
84	21J1034-03@10	11/4/2021 3:17:19 PM	1	9	10	0.1

Total DF	QC Reference
1	

Category	Concentration average	Concentration RSD	Intensity average
6Li (KED)			1,060 cps
13C (KED)			2,420 cps
35Cl (KED)			184,837 cps
45Sc (KED)			40,348 cps
51V (KED)	0.019 ppb	13.0 %	2,652 cps
52Cr (KED)	0.195 ppb	3.8 %	10,736 cps

Category	Concentration average	Concentration RSD	Intensity average
159Tb (KED)	93.377 %	1.3 %	912,635 cps
165Ho (KED)	97.123 %	1.5 %	477,661 cps
205Tl (KED)	-0.036 ppb	137.1 %	17,506 cps
206Pb (KED)			33,661 cps
207Pb (KED)			28,025 cps
208Pb (KED)	0.295 ppb	16.9 %	131,643 cps
209Bi (KED)			983,422 cps

Analysis index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
90	1K04003-CCV3	11/4/2021 3:28:19 PM	4	2	2	0.5

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,050 cps
13C (KED)				1,772 cps
35Cl (KED)				16,895 cps
45Sc (KED)				39,824 cps
51V (KED)	50.386 ppb	100.772 %	1.3 %	1,612,465 cps
52Cr (KED)	50.975 ppb	101.951 %	0.4 %	**2,263,852 cps**
53Cr (KED)				286,591 cps
55Mn (KED)	51.048 ppb	102.096 %	1.1 %	1,145,486 cps
59Co (KED)	50.854 ppb	101.708 %	0.9 %	**4,100,534 cps**
60Ni (KED)	51.018 ppb	102.035 %	0.6 %	1,134,068 cps
63Cu (KED)	50.636 ppb	101.272 %	1.3 %	**2,827,332 cps**
65Cu (KED)				1,533,490 cps
66Zn (KED)				344,749 cps
68Zn (KED)	49.940 ppb	99.880 %	2.0 %	293,503 cps
69Ga (KED)				376,217 cps
73Ge (KED)	111.569 %		0.4 %	82,518 cps
75As (KED)	50.138 ppb	100.276 %	0.4 %	166,378 cps
40Ar.37Cl (KED)				2,847 cps
78Se (KED)	48.626 ppb	97.252 %	0.7 %	9,551 cps
82Se (KED)				4,860 cps
83Kr (KED)				1,348 cps
89Y (KED)				223,675 cps
95Mo (KED)	50.878 ppb	101.756 %	0.1 %	1,297,962 cps
98Mo (KED)				2,048,749 cps
101Ru (KED)				2 cps
103Rh (KED)	106.549 %		1.8 %	368,890 cps
105Pd (KED)				80 cps
107Ag (KED)	50.081 ppb	100.163 %	0.4 %	**3,773,510 cps**
111Cd (KED)				399,921 cps
114Cd (KED)	49.975 ppb	99.951 %	1.1 %	1,010,661 cps
115In (KED)	102.989 %		0.7 %	186,989 cps
118Sn (KED)				3,959 cps
121Sb (KED)				733,995 cps
123Sb (KED)	48.903 ppb	97.806 %	1.6 %	622,957 cps
125Te (KED)				0 cps
138Ba (KED)	48.858 ppb	97.715 %	2.1 %	**2,716,093 cps**
139La (KED)				137 cps
140Ce (KED)				162 cps
159Tb (KED)	100.049 %		1.1 %	977,846 cps
165Ho (KED)	103.199 %		2.0 %	507,544 cps
205Tl (KED)	50.634 ppb	101.268 %	1.4 %	**13,800,552 cps**
206Pb (KED)				**4,450,853 cps**
207Pb (KED)				**3,801,755 cps**
208Pb (KED)	50.364 ppb	100.728 %	1.7 %	**17,734,008 cps**
209Bi (KED)				1,173,930 cps

Analysis Index:	Analysis label:	Analysis started at:	Rack Number	Vial Numbers	prepFAST DF	Dilution Factor
91	1K04003-CCB3	11/4/2021 3:30:08 PM	4	1	1	1

Total DF	QC Reference
1	

Category	Concentration average	Recovery Percentage 1	Concentration RSD	Intensity average
6Li (KED)				1,062 cps
13C (KED)				1,880 cps
35Cl (KED)				14,492 cps
45Sc (KED)				39,554 cps
51V (KED)	-0.030 ppb	-3.004 %	97.5 %	1,235 cps
52Cr (KED)	-0.028 ppb	-2.752 %	108.8 %	1,581 cps
53Cr (KED)				308 cps
55Mn (KED)	-0.015 ppb	-1.476 %	232.7 %	1,438 cps
59Co (KED)	-0.032 ppb	-3.152 %	86.8 %	3,584 cps
60Ni (KED)	-0.022 ppb	-2.227 %	111.5 %	1,390 cps
63Cu (KED)	-0.037 ppb	-3.750 %	81.3 %	3,432 cps
65Cu (KED)				1,657 cps
66Zn (KED)				652 cps
68Zn (KED)	-0.025 ppb	-0.003 %	111.3 %	485 cps
69Ga (KED)				57,603 cps
73Ge (KED)	108.283 %		0.9 %	80,088 cps
75As (KED)	-0.002 ppb	-0.159 %	2,164.2 %	-46 cps
40Ar.37Cl (KED)				8 cps
78Se (KED)	-0.061 ppb	-6.087 %	73.6 %	5 cps
82Se (KED)				-84 cps
83Kr (KED)				1,405 cps
89Y (KED)				222,006 cps
95Mo (KED)	-0.078 ppb	-0.008 %	15.6 %	1,821 cps
98Mo (KED)				2,927 cps
101Ru (KED)				0 cps
103Rh (KED)	104.880 %		2.1 %	363,112 cps
105Pd (KED)				97 cps
107Ag (KED)	0.047 ppb	4.669 %	34.8 %	4,230 cps
111Cd (KED)				340 cps
114Cd (KED)	-0.026 ppb	-2.604 %	51.8 %	840 cps
115In (KED)	102.339 %		1.6 %	185,807 cps
118Sn (KED)				455 cps
121Sb (KED)				4,115 cps
123Sb (KED)	0.254 ppb	25.447 %	8.4 %	3,560 cps
125Te (KED)				0 cps
138Ba (KED)	0.035 ppb	3.461 %	135.6 %	6,721 cps
139La (KED)				32 cps
140Ce (KED)				75 cps
159Tb (KED)	98.027 %		2.0 %	958,090 cps
165Ho (KED)	101.334 %		2.2 %	498,372 cps
205Tl (KED)	-0.051 ppb	-5.140 %	35.6 %	14,457 cps
206Pb (KED)				4,153 cps
207Pb (KED)				3,719 cps
208Pb (KED)	-0.054 ppb	-5.432 %	35.0 %	17,071 cps
209Bi (KED)				1,164,830 cps

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21J1202

Mercury

Raw Data

EPA 7470 PREPARATION BENCH SHEET

T116319

Prepared using: Metals - EPA 7470A Prep **Matrix: Aqueous** **Analyst:** MH **Analysis Date:** 11/3/21 **Printed: 11/3/2021 10:17:10AM**

Digestion Start Time: 10:01 Stop Time: 12:01

Hot Block Temperature: 93.0 °C (90-95°C)

Hg CIS: 21J2829 Hg CVIS: 21J2830

Daily Calibration Digested: (Y) or N

Env. Express (Metals) Hot Block (#3), S/N: 2019CECW5147 (Thermometer S/N: 031609)

Env. Express (Metals) Hot Block #1, S/N: 615CEC0823 (Thermometer S/N: 030774)

Pipettes Used:

Dig 100.2 ✓ Dig 1000.3 ✓

Dig 5000.2 ✓ Dig 10ml.2 ___

Standard	Description	Volume
21D2031	50ml Digestion Tubes	NA mls
21H0406	Hydroxylamine Sulfate Solution	3.0 mls
21H0408	Nitric Acid 61119	1.25 mls
21H0409	Sulfuric Acid 61069	2.5 mls
21I0837	Potassium Permanganate Solution	7.5 mls
21I0902	Potassium Persulfate Soln 0.05 g/mL	4.0 mls

Reviewer Initals: CP

Review Date: 11/3/21

		KMnO4 Additions	Purple Color after Digestion?		WO Due Date
21J1202-01 H	CL-GW-TMW-1 (20') I/MS/MSD	7.5 mls	(Y) or N	Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg				Level IV with Forms must sequence in LIMS	
21J1202-02 D	CL-GW-TMW-2 (4.5-9.5') I	7.5 mls	(Y) or N	Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg				Level IV with Forms must sequence in LIMS	
21J1202-03 D	CL-GW-TMW-2 (4.5-9.5') D	7.5 mls	(Y) or N	Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg				Level IV with Forms must sequence in LIMS	
21J1202-05 D	CL-GW-GCEB-01	7.5 mls	(Y) or N	Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg				Level IV with Forms must sequence in LIMS	

EPA 7470 PREPARATION BENCH SHEET

T116319

Prepared using: Metals - EPA 7470A Prep **Matrix: Aqueous** **Analyst:** MH **Analysis Date:** 11/3/21 **Printed: 11/3/2021 10:17:10AM**

Digestion Start Time: 10:01 Stop Time: 12:01

Hot Block Temperature: 93.0 °C (90-95°C)

Hg CIS: 21J2829 Hg CVIS: 21J2830

Daily Calibration Digested (Y) or N

Pipettes Used:

Dig 100.2 ✓ Dig 1000.3 ✓

Dig 5000.2 ✓ Dig 10ml.2 ___

Env. Express (Metals) Hot Block #3, S/N: 2019CECW5147 (Thermometer S/N: 031609)

Env. Express (Metals) Hot Block #1, S/N: 615CEC0823 (Thermometer S/N: 030774)

Reviewer Initals: CMP

Review Date: 11/3/21

Standard	Description	Volume
21D2031	50ml Digestion Tubes	NA mls
21H0406	Hydroxylamine Sulfate Solution	3.0 mls
21H0408	Nitric Acid 61119	1.25 mls
21H0409	Sulfuric Acid 61069	2.5 mls
21I0837	Potassium Permanganate Solution	7.5 mls
21I0902	Potassium Persulfate Soln 0.05 g/mL	4.0 mls

	KMnO4 Additions	Purple Color after Digestion?		WO Due Date
21J1202-06 D CL-GW-TMW-3 (1-1.5') I			Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg	7.5 mls	(Y) or N	Level IV with Forms must sequence in LIMS	
21J1202-07 D CL-SB-QCEB-02			Fishbeck	11/05/21
Inital: 25 mls Final 50 mls Hg	7.5 mls	(Y) or N	Level IV with Forms must sequence in LIMS	
T116319-BLK1 Blank				
Inital: 25 mls Final 50 mls	7.5 mls	(Y) or N	Spike Standard	Spike Amount (ul)
T116319-BS1 LCS				
Inital: 25 mls Final 50 mls	7.5 mls	(Y) or N	Spike Standard: 21J2829	Spike Amount (ul): ~~500~~ ~~400~~ ~~800~~ 1000ul 11/3/21
T116319-MS1 Matrix Spike [21J1202-01]				
Inital: 25 mls Final 50 mls	7.5 mls	(Y) or N	Spike Standard: 21J2829	Spike Amount (ul): ~~500~~ ~~400~~ ~~800~~ 1000ul 11/3/21
T116319-MSD1 Matrix Spike Dup [21J1202-01]				
Inital: 25 mls Final 50 mls	7.5 mls	(Y) or N	Spike Standard: 21J2829	Spike Amount (ul): ~~500~~ ~~400~~ ~~800~~ 1000ul 11/3/21

Mercury Run Logsheet

Method(s):
__ EPA 245.1
_X_ EPA 7470A
__ EPA 7471B

Instrument Information:
- QuickTrace Mercury Analyzer M-7600 (S/N: US19270021R) with CETAC ASX-280 Autosampler (S/N: 032065A280)

Analyst Initials:	MRH
Date:	11-03-21
Batch / Sequence (es):	T116319 / HG110321A

Stannous Chloride LIMS ID:	21J2120

Review Date:	11/05/21
Reviewer Initials:	AP
Comments:	SEQUENCE: 1K09002 Calibration: 211004

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Instrument ID: CETAC

Control Limt: +/- 10.00%

SDG:

Project: OC Grant Phase IIs

Calibration: 2111004

Sequence: 1K09002

Lab Sample ID	Analyte	True	Found	%R	Units	Method
1K09002-ICV1	Mercury	2.00	2.06	103	ug/L	EPA 7470A
1K09002-CCV1	Mercury	2.00	2.00	100	ug/L	EPA 7470A

* Values outside of QC limits

BLANKS
EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.
Client: Fishbeck
Instrument ID: CETAC
Sequence: 1K09002

SDG:
Project: OC Grant Phase IIs
Calibration: 2111004

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
1K09002-ICB1	Mercury	0.0140	0.10	ug/L		EPA 7470A
T116319-BLK1	Mercury	-0.0000040	0.00020	mg/L		EPA 7470A
1K09002-CCB1	Mercury	0.011	0.10	ug/L		EPA 7470A

METHOD BLANK DATA SHEET
EPA 7470A

Laboratory:	Trace Analytical Laboratories, Inc.		SDG:		
Client:	Fishbeck		Project:	OC Grant Phase IIs	
Matrix:	Aqueous	Laboratory ID:	T116319-BLK1	File ID:	HG110321A-009
Prepared:	11/03/21 10:01	Preparation:	EPA 7470A Prep	Initial/Final:	25 mL / 50 mL
Analyzed:	11/03/21 11:51	Instrument:	CETAC		
Batch:	T116319	Sequence:	1K09002	Calibration:	2111004

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7439-97-6	Mercury	0.00020	U

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 7470A

CL-GW-TMW-1 (20') I/MS/MS

Laboratory: Trace Analytical Laboratories, Inc.

Client: Fishbeck

Matrix: Aqueous

Batch: T116319

Preparation: EPA 7470A Prep

Source Sample Name: CL-GW-TMW-1 (20') I/MS/MSD

SDG:

Project: QC Grant Phase IIs

Laboratory ID: T116319-MS1

Initial/Final: 25 mL / 50 mL

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Mercury	0.00400	0	0.00346	86	76 - 123

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Mercury	0.00400	0.00364	91	5	20	76 - 123

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY
EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Matrix: Aqueous
Batch: T116319
Laboratory ID: T116319-BS1
Preparation: EPA 7470A Prep
Initial/Final: 25 mL / 50 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Mercury	0.00400	0.00356	89	77 - 122

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

METHOD DETECTION AND REPORTING LIMITS

EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.

SDG:

Client: Fishbeck

Project: OC Grant Phase IIs

Matrix: Aqueous

Instrument: CETAC

Analyte	MDL	MRL	Units
Mercury	0.00016	0.00020	mg/L

PREPARATION BATCH SUMMARY
EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Batch: T116319
Batch Matrix: Aqueous
Preparation: EPA 7470A Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
CL-GW-TMW-1 (20') I/MS/MS	21J1202-01	HG110321A-013	11/03/21 10:01	Level IV with Forms must sequence in LIMS
CL-GW-TMW-2 (4.5-9.5') I	21J1202-02	HG110321A-014	11/03/21 10:01	Level IV with Forms must sequence in LIMS
CL-GW-TMW-2 (4.5-9.5') D	21J1202-03	HG110321A-015	11/03/21 10:01	Level IV with Forms must sequence in LIMS
CL-GW-GCEB-01	21J1202-05	HG110321A-016	11/03/21 10:01	Level IV with Forms must sequence in LIMS
CL-GW-TMW-3 (1-1.5') I	21J1202-06	HG110321A-017	11/03/21 10:01	Level IV with Forms must sequence in LIMS
CL-SB-QCEB-02	21J1202-07	HG110321A-018	11/03/21 10:01	Level IV with Forms must sequence in LIMS
Blank	T116319-BLK1	HG110321A-009	11/03/21 10:01	
LCS	T116319-BS1	HG110321A-010	11/03/21 10:01	
CL-GW-TMW-1 (20') I/MS/MS	T116319-MS1	HG110321A-011	11/03/21 10:01	
CL-GW-TMW-1 (20') I/MS/MS	T116319-MSD1	HG110321A-012	11/03/21 10:01	

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 7470A

Laboratory: Trace Analytical Laboratories, Inc.
SDG:
Client: Fishbeck
Project: OC Grant Phase IIs
Sequence: 1K09002
Instrument: CETAC
Matrix: Aqueous
Calibration: 2111004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
cal blank	1K09002-CAL1	HG110321A-001	11/03/21 11:37
0.05ppb	1K09002-CAL2	HG110321A-002	11/03/21 11:39
0.2ppb	1K09002-CAL3	HG110321A-003	11/03/21 11:40
1.0ppb	1K09002-CAL4	HG110321A-004	11/03/21 11:42
2.5ppb	1K09002-CAL5	HG110321A-005	11/03/21 11:44
5.0ppb	1K09002-CAL6	HG110321A-006	11/03/21 11:46
Initial Cal Check	1K09002-ICV1	HG110321A-007	11/03/21 11:48
cal blank	1K09002-ICB1	HG110321A-008	11/03/21 11:49
Blank	T116319-BLK1	HG110321A-009	11/03/21 11:51
LCS	T116319-BS1	HG110321A-010	11/03/21 11:53
CL-GW-TMW-1 (20') I/MS/MSD	T116319-MS1	HG110321A-011	11/03/21 11:55
CL-GW-TMW-1 (20') I/MS/MSD	T116319-MSD1	HG110321A-012	11/03/21 11:57
CL-GW-TMW-1 (20') I/MS/MSD	21J1202-01	HG110321A-013	11/03/21 11:58
CL-GW-TMW-2 (4.5-9.5') I	21J1202-02	HG110321A-014	11/03/21 12:00
CL-GW-TMW-2 (4.5-9.5') D	21J1202-03	HG110321A-015	11/03/21 12:02
CL-GW-GCEB-01	21J1202-05	HG110321A-016	11/03/21 12:04
CL-GW-TMW-3 (1-1.5') I	21J1202-06	HG110321A-017	11/03/21 12:06
CL-SB-QCEB-02	21J1202-07	HG110321A-018	11/03/21 12:07
Calibration Check	1K09002-CCV1	HG110321A-019	11/03/21 12:09
Calibration Blank	1K09002-CCB1	HG110321A-020	11/03/21 12:11

Report Generated By Teledyne Leeman QuickTrace

Analyst: laboffice

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\HG110321A.wszf

Creation Date: 11/3/2021 11:17:31 AM

Comment:

Results

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual Flags	% Recovery
Calibration Blank		STD	11/03/21 11:37:20 am	0.000	444	6.24		N/A
Replicates	404.0	467.6	454.1	450.1				
Standard #1		STD	11/03/21 11:39:07 am	0.050	1025	3.82	2.47%	N/A
Replicates	976.1	1012.0	1045.1	1065.5				
Standard #2		STD	11/03/21 11:40:54 am	0.200	2801	2.24	6.60%	N/A
Replicates	2715.3	2799.1	2828.6	2862.1				
Standard #3		STD	11/03/21 11:42:41 am	1.000	11656	2.40	2.04%	N/A
Replicates	11284.6	11606.5	11812.3	11921.5				
Standard #4		STD	11/03/21 11:44:29 am	2.500	27261	2.32	-2.28%	N/A
Replicates	26454.1	27112.7	27552.2	27926.9				
Standard #5		STD	11/03/21 11:46:16 am	5.000	55573	2.38	0.48%	N/A
Replicates	53889.6	55243.2	56197.2	56963.5				

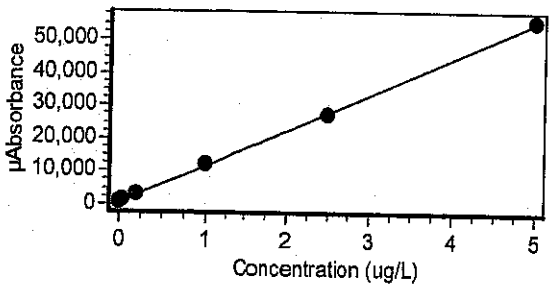
Calibration

Equation: Abs = 10969.746x + 462.605

R2: 0.99977 RSE: 4.44%

SEE: 364.5222

Flags:



CVS		ICV	11/03/21 11:48:08 am	2.060	23013	2.73		102.78
Replicates	22239.4	22840.2	23307.2	23664.7				
ICB		ICB	11/03/21 11:49:54 am	0.014	620	7.45		N/A
Replicates	635.3	614.0	608.2	622.0				
T116319-BLK1		UNK	11/03/21 11:51:41 am	-0.002	445	150.47		N/A
Replicates	426.8	447.1	426.4	481.4				
T116319-BS1		UNK	11/03/21 11:53:28 am	1.780	20029	2.15		N/A
Replicates	19485.6	19943.2	20222.8	20465.5				
T116319-MS1		UNK	11/03/21 11:55:15 am	1.730	19402	1.95		N/A
Replicates	18907.1	19343.4	19618.2	19737.7				
T116319-MSD1		UNK	11/03/21 11:57:03 am	1.820	20403	2.13		N/A
Replicates	19866.7	20288.9	20606.6	20848.4				
21J1202-01		UNK	11/03/21 11:58:50 am	0.020	682	8.45		N/A
Replicates	657.2	677.9	692.1	699.2				

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual Flags	% Recovery
21J1202-02		UNK	11/03/21 12:00:38 pm	0.001	479	88.59		N/A
Replicates	461.8	472.9	494.3	486.1				
21J1202-03		UNK	11/03/21 12:02:26 pm	0.040	905	6.76		N/A
Replicates	872.7	906.7	895.9	944.4				
21J1202-05		UNK	11/03/21 12:04:13 pm	0.002	490	33.88		N/A
Replicates	484.9	489.0	502.9	482.2				
21J1202-06		UNK	11/03/21 12:06:00 pm	0.009	560	26.18		N/A
Replicates	540.6	562.3	542.7	595.8				
21J1202-07		UNK	11/03/21 12:07:47 pm	-0.006	398	30.64		N/A
Replicates	387.4	396.5	380.7	425.9				
CCV		CCV	11/03/21 12:09:35 pm	2.000	22411	2.54		100.04
Replicates	21700.0	22269.7	22689.2	22983.8				
CCB		CCB	11/03/21 12:11:22 pm	0.011	581	18.68		N/A
Replicates	550.5	581.2	590.7	602.1				

Analysis Parameters

Instrument M-7600 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	30.00	70.00	42.00	4	1.50	50	253.65

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
15.00	20.00		

Standby Mode

Enabled: Yes

Standby Options: pump slow, gas off, lamp off

Action Thresholds

Smart Rinse: 100000

Abort on Over-range: 1000000

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. ofDetermination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99000

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ug/L)
0.0500

Failure flag: Q

Error action for manually inserted QC: Repeat, flag and continue

ICB

Concentration (ug/L)
0.0500

Failure flag: Z

Error action for manually inserted QC: Repeat, flag and continue

CCV

Concentration (ug/L)	Low Limit %	High Limit %
2.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ug/L)	Low Limit %	High Limit %
2.0000	90.0000	110.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

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21J1202

PCB

Data Package

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General Outline for Organics Data Deliverables

1) **Data Review Sheet**

2) **Manual Integration Narratives Sheet**

3) **Extraction Logs and or Balance Logs**

4) **Instrument Run Logbook----(Chronological Order)**

GC/MS Data
Surrogate Data
Method Blank Summary (VOA)
Tune Data
Calibration Verification Data
Internal Standards Data
All raw data as applicable

GC Data
Calibration Verification
Column Breakdown Data
All raw data as applicable

5) **Calibration Curves-----By Date**

Trace Analytical Laboratories, Inc. Organics **GC/HPLC Semi Volatile Data Review** Trace I. D. No. 21J1202

Analyst Review	8081	8081*	8082	8082*	8015	8015*	8151/515.1	8330	8310
Calibration Curve is valid			✓						
Sample preparation information is correct and complete			✓						
Samples analyzed within hold time			✓						
DDT and Endrin breakdown passes QC criteria (pesticides)			---	---	---	---	---	---	---
ICV, CCV, LCS, MS/MSD meet control criteria			✓						
Method blank and reagent blank are in control			✓						
CCV has been analyzed at the proper frequency			✓						
Surrogate recoveries are in control			✓						
Internal Standard areas are in control			✓		---	---		---	---
Quantitation is within the calibration curve			✓						
Second column confirmation performed, where appropriate			---	---	---	---			---
Qualifiers have been provided, as necessary			✓						
Method, Instrument, Standards, Reagents identified			✓						
Data has been entered into LIMS			✓						
Notations/Comments/Batch Numbers: T116303 DUE: 11-5 / Sign & Date			TM2 11-5-21						
Manager Review									
Extraction date, analyst initials, and analysis date are correct			↓						
Analyses match Chain-of-Custody									
Calibration data are scientifically sound, appropriate, and documented									
Second Source Standard in control									
Quantitative results and detection limits reviewed									
Detection limit multiplier is correct									
QC issues explained and set to report, if necessary									
Significant figures are correct									
Quantitation report data matches LIMS data									
Extraction amount in LIMS matches Extraction Log									
Extraction hold times were met									
Analyst review has been checked									
Analysis is approved for release to reporting									

Notations/Comments:

Sign/Date: [signature] 11/5/21

* Column for 100% review of data (shaded column).

Form 10-E.0
Effective 10/24/11

F:\Support Documentation Worksheets\10-Quality\10-E.0 Organics GC SemiVol Data Review Checklist 2011.doc

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Manual Integration Narratives

(Reason and Rationale)

Narrative Number

M-01 An incorrect peak was integrated by the computer software. The analyst identified the correct peak and integrated it manually.

M-02 A high amount of baseline interference caused a poor integration. The analyst manually integrated the peak by including/excluding any additional baseline.

M-03 The integration did not begin or end at the valley point. The analyst manually integrated the peak so that the integration began or ended at the valley point.

M-04 The entire peak was not integrated. The analyst manually integrated the peak so as to include its entire area.

M-05 The reference time for the peak of interest had shifted and the peak was not integrated by the computer software. The analyst identified the shifted peak and integrated it manually.

M-06 An interfering shoulder peak was integrated initially. The analyst manually integrated to remove the interfering shoulder peak.

PCB/8121 WATER

EPA 3510 EXTRACTION BENCH SHEET

T116303

Trace Analytical Laboratories, Inc.

Matrix: Aqueous

Printed: 11/2/2021 6:09:42AM

Date: 11/2/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Balance #10 S/N H14350

N-EVAP Temp: 35 °C (Limits=30-35 °C)

Surrogate LIMS: 21J2901

Surrogate Spike Amount(ul): 1000

Reviewers Initial: TM2 Date Reviewed: 11-3-21

Standard	Description
21H0501	HEXANE
21H3106	SILICA GEL DEACTIVATED
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Cleanup Method (if applicable):

Silica Gel (3630C) Date: 11/2/21

Copper (3660B) Date: 11-3-21

Copper LIMS#: 21E0329

Sulfuric (3660) Date: NA

Sulfuric LIMS# NA

			Due Date	
21J1183-01 AB	LS-9970-JCB-102921	Pace Analytical Labs	11/05/21	Cleanup Data

Inital Volume: 1046 mls Final Volume: 1 mls

Volume Cleaned: 1 mls

Final Volume: 1 mls

8121 Chlorinated Hydrocarbons

Include: OCCP, Hexachloroethane, Mirex Do not run with 612 Samples

21J1202-07 A	CL-SB-QCEB-02	Fishbeck	11/05/21	Cleanup Data

Inital Volume: 1058 mls Final Volume: 1 mls

Volume Cleaned: 1 mls

Final Volume: 1 mls

PCBs EPA 8082A

Level IV with Forms must sequence in LIMS

21K0003-08 A	Lab Composites 1-4 G	Kalamazoo, City of	11/05/21	Cleanup Data

Inital Volume: 1101 mls Final Volume: 1 mls

Volume Cleaned: 1 mls

Final Volume: 1 mls

PCBs 608 - Wastewater

T116303-BLK1	Blank	Spike Std:	Amount Used (ul):	Cleanup Data

Inital Volume: 1000 mls Final Volume: 1 mls

Volume Cleaned: 1 mls

Final Volume: 1 mls

T116303-BS1	PCB	Spike Std:	Amount Used (ul):	Cleanup Data
		21H3005	1000	

Inital Volume: 1000 mls Final Volume: 1 mls

Volume Cleaned: 1 mls

Final Volume: 1 mls

EPA 3510 EXTRACTION BENCH SHEET

T116303

Trace Analytical Laboratories, Inc.

Matrix: Aqueous

Printed: 11/2/2021 6:09:42AM

Date: 11/2/21 Analyst: KBC

Water Bath Temp: 75 °C (Limits=75 ± 5 °C) Balance #10 S/N H14350

N-EVAP Temp: 35 °C (Limits=30-35 °C)

Surrogate LIMS: 21J2901

Surrogate Spike Amount(ul): 1000

Reviewers Initial:_____ Date Reviewed:_____

Standard	Description
21H0501	HEXANE
21H3106	SILICA GEL DEACTIVATED
21J2116	Methylene Chloride
21J2708	KILNED SODIUM SULFATE

Cleanup Method (if applicable):

Silica Gel (3630C) Date: 11/2/21

Copper (3660B) Date:_____

Copper LIMS#:_____

Sulfuric (3660) Date:_____

Sulfuric LIMS#_____

Due Date

T116303-BS2 612

Spike Std: 21J2701

Amount Used (ul): 1000

Inital Volume: 1000 mls Final Volume:_____mls

Cleanup Data

Volume Cleaned: 1 mls

Final Volume: 1 mls

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21J1202

PCB

Raw Data

TotalChrom Sequence File C:\Norton\11-4-21\NPCB.seq
Printed by : Manager on: 11/5/2021 8:25:01 AM
Created by : Manager on: 11/19/2020 6:57:16 AM
Edited by : Manager on: 11/5/2021 7:26:19 AM
Number of Times Edited : 1166

Description: NORTON PCB
Method 8082
Hewlett-Packard 5890A
S/N: 2443A04016
DB-5 Column
IS: 21J2713

Sequence File Header Information:

Number of Rows : 14
Instrument Type : NCI 901/902 Series Intelligent Interface
Injection Type : SINGLE
Raw tokens channel A :
Result tokens channel A :
Modified tokens channel A :
Raw tokens channel B :
Result tokens channel B :
Modified tokens channel B :

Sequence Sample Descriptions - Channel A

Row	Name	Dil Factor
1	21J0501 10. ppm PCB Primer	1.000000
2	21J2101 Hexane	1.000000
3	21J2012 0.60 ppm PCB Std	1.000000
4	T116303-BLK1 Water	1.000000
5	T116303-BS1 Water	1.000000
6	21J1202-07 A	1.000000
7	21K0059-01 A	1.000000
8	21J2101 Hexane	1.000000
9	21K0059-01 A, 2X, H2SO4 clean-up, 5X	10.000000
10	T116348-BLK1 Water	1.000000
11	T116348-BS1 Water	1.000000
12	21K0003-08 A	1.000000
13	21J2101 Hexane	1.000000
14	21J2012 0.60 ppm PCB Std	1.000000

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
1	c:\norton\npcb-102021		C:\Norton\11-4-21\1001
2	c:\norton\npcb-102021		C:\Norton\11-4-21\1002
3	c:\norton\npcb-102021	c:\norton\npcbcv60	C:\Norton\11-4-21\1003
4	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1004
5	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1005
6	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1006
7	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1007
8	c:\norton\npcb-102021		C:\Norton\11-4-21\1008
9	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1009
10	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1010
11	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1011
12	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\11-4-21\1012
13	c:\norton\npcb-102021		C:\Norton\11-4-21\1013
14	c:\norton\npcb-102021	c:\norton\npcbcv60	C:\Norton\11-4-21\1014

User Data / LIMS ID's - Channel A

Row	User1	User2	User3
1			
2			
3	CV: Pass	Calib. IS Area: Pass	
4		IS Area: Pass	Surrogate Recovery: Pass
5		IS Area: Pass	Surrogate Recovery: Pass

11/5/2021 8:25:01 AM Sequence: C:\Norton\11-4-21\NPCB.seq

User Data / LIMS ID's - Channel A

Row	User1	User2	User3
6		IS Area: Pass	Surrogate Recovery: Pass
7	Not used; matrix interference	IS Area: Fail high due to matrix	
8			
9	1260 quant.	IS Area: Pass	
10		IS Area: Pass	Surrogate Recovery: Pass
11		IS Area: Pass	Surrogate Recovery: Pass
12		IS Area: Pass	Surrogate Recovery: Fail (both low)
13			
14	CV: Pass	IS Area: Pass	

Norton I.S. Peak Area Summary

File Name	Sample Name	Date of Injection	TCBP I.S. Area [µV·s]
1001.rst	21J0501 10. ppm PCB Primer	11/4/2021	~~759764~~
1002.rst	21J2101 Hexane	11/4/2021	~~6264~~
1003.rst	21J2012 0.60 ppm PCB Std	11/4/2021	1094193
1004.rst	T116303-BLK1 Water	11/4/2021	1110658
1005.rst	T116303-BS1 Water	11/4/2021	1094413
1006.rst	21J1202-07 A	11/4/2021	1067390
1007.rst	21K0059-01 A	11/4/2021	4074281
1008.rst	21J2101 Hexane	11/4/2021	~~16264~~
1009.rst	21K0059-01 A, 2X, H2SO4 clean-up, 5	11/4/2021	1116174
1010.rst	T116348-BLK1 Water	11/4/2021	1189969
1011.rst	T116348-BS1 Water	11/4/2021	1081369
1012.rst	21K0003-08 A	11/4/2021	1233375
1013.rst	21J2101 Hexane	11/4/2021	~~633~~
1014.rst	21J2012 0.60 ppm PCB Std	11/4/2021	1138565

RANGE = 550,000 TO 1,640,000

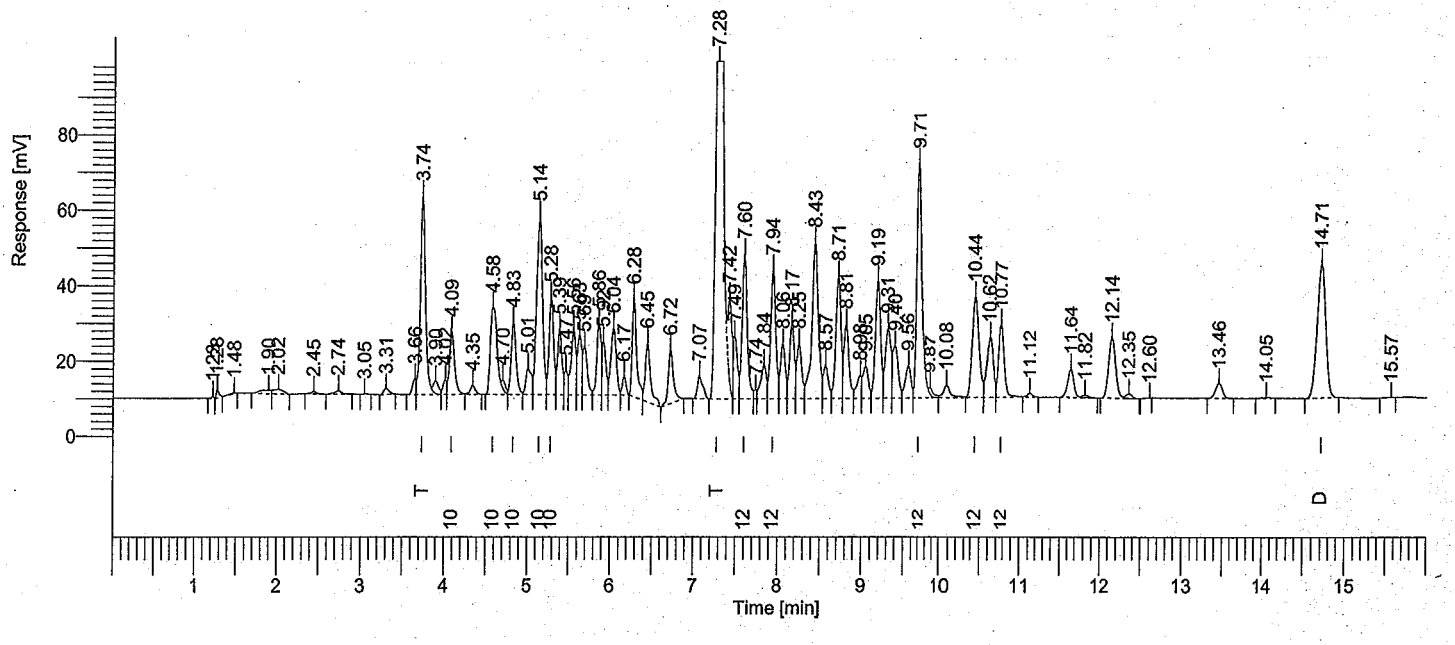
OK

HIGH (DUE TO MATRIX); NOT USED

OK

Software Version	: 6.3.2.0646	Date	: 11/4/2021 7:48:31 AM
Sample Name	: 21J2012 0.60 ppm PCB Std	Data Acquisition Time	: 11/4/2021 7:27:36 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 3		

Result File : C:\Norton\11-4-21\1003.rst
Sequence File : C:\Norton\NPCB.seq



NORTON PCB 0.60 ppm CV Method 8082

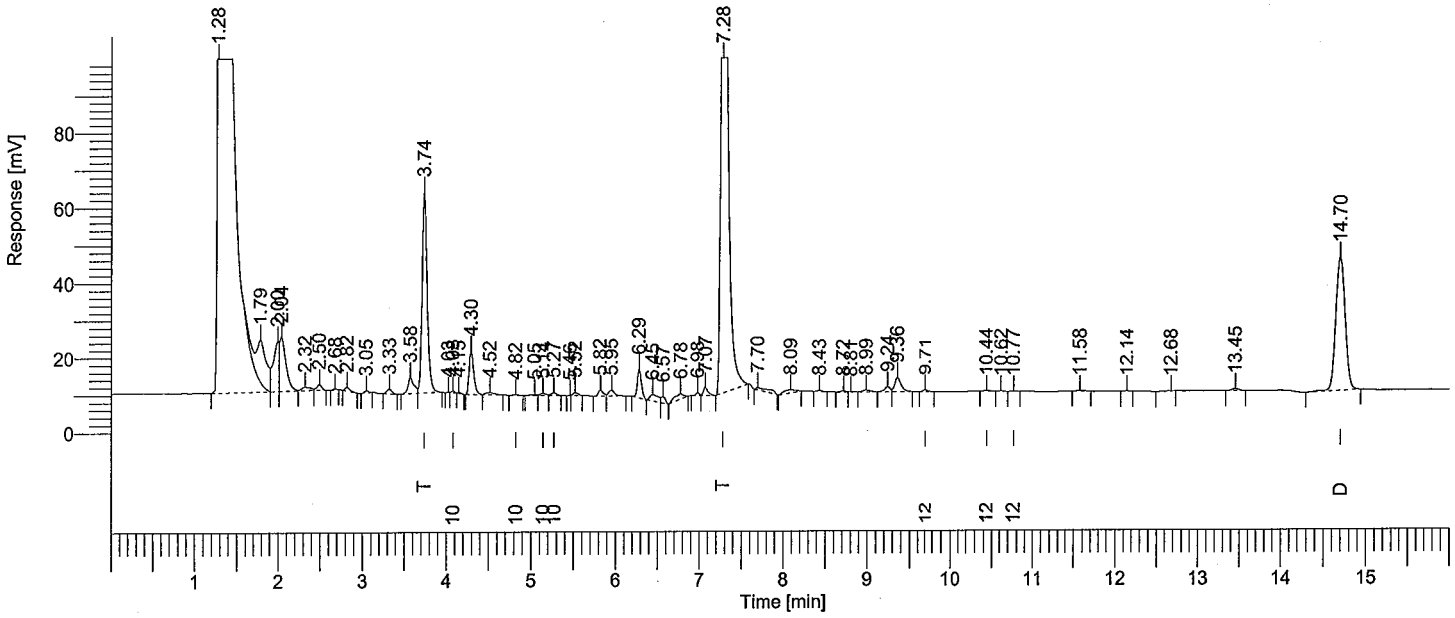
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	CV % Recov
3.737	TCmX Surrogate	226183	0.207	0.0410	0.0410	102.5	6.8
5.144	Aroclor 1016 (5 Pe	618999	0.566	0.5761	0.5761	1e+03	96.0
7.278	TCBP I.S.	1094193	1.000	-------	-------	-----	-----
9.710	Aroclor 1260 (5 Pe	873983	0.799	0.5848	0.5848	1e+03	97.5
14.706	DCBP Surrogate	263197	0.241	0.0408	0.0408	102.0	6.8

ALL OK

Calibration IS area range = 520,000 to 1,560,000 OK / ~~Not OK~~

Software Version : 6.3.2.0646		Date	: 11/4/2021 8:04:00 AM
Sample Name : T116303-BLK1	Water	Data Acquisition Time	: 11/4/2021 7:46:57 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 4			

Result File : C:\Norton\11-4-21\1004.rst
Sequence File : C:\Norton\NPCB.seq



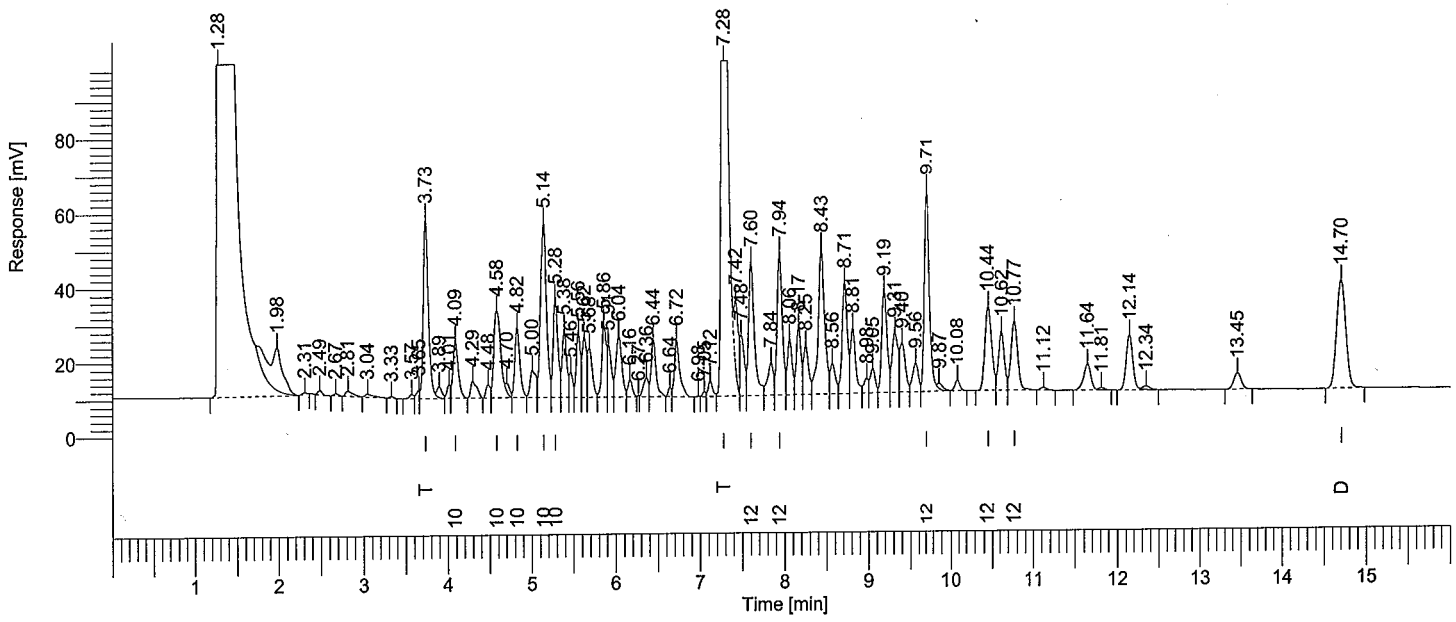
NORTON Water - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.737	TCmX Surrogate	222126	0.200	0.0396	0.0396	65.9	4.9
5.273	Aroclor 1016 (5 Pe	8472	0.008	-0.0111	-0.0111	-18.5	-1.4
7.278	TCBP I.S.	1110658	1.000	-------	--------	-----	-----
9.708	Aroclor 1260 (5 Pe	3952	0.004	-0.0253	-0.0253	-42.1	-3.2
14.702	DCBP Surrogate	269776	0.243	0.0413	0.0413	68.8	5.2

Report stored in ASCII file: C:\Norton\11-4-21\1004.TX0

Software Version	: 6.3.2.0646		Date	: 11/4/2021 8:34:07 AM
Sample Name	: T116303-BS1	Water	Data Acquisition Time	: 11/4/2021 8:06:17 AM
Instrument Name	: BACCHUS		Channel	: A
Rack/Vial	: 0/0		Operator	: Manager
Sample Amount	: 1.000000		Dilution Factor	: 1.000000
Cycle	: 5			

Result File : C:\Norton\11-4-21\1005.rst
Sequence File : C:\Norton\NPCB.seq



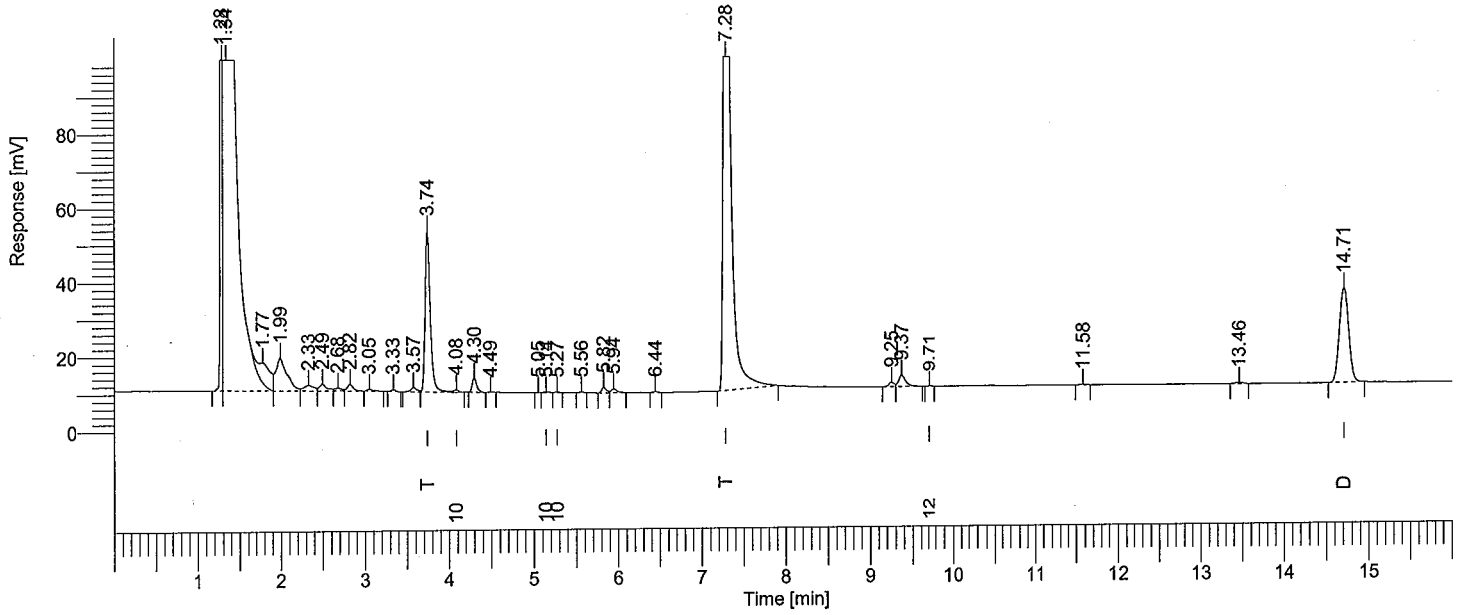
NORTON Water - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.731	TCmX Surrogate	205042	0.187	0.0369	0.0369	61.4	4.6
5.140	Aroclor 1016 (5 Pe	624890	0.571	0.5827	0.5827	971.1	72.8
7.276	TCBP I.S.	1094413	1.000	-------	--------	-----	----
9.709	Aroclor 1260 (5 Pe	839831	0.767	0.5566	0.5566	927.7	69.6
14.704	DCBP Surrogate	217488	0.199	0.0328	0.0328	54.7	4.1

Report stored in ASCII file: C:\Norton\11-4-21\1005.TX0

Software Version	: 6.3.2.0646	Date	: 11/4/2021 8:46:17 AM
Sample Name	: 21J1202-07 A	Data Acquisition Time	: 11/4/2021 8:25:39 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 6		

Result File : C:\Norton\11-4-21\1006.rst
Sequence File : C:\Norton\NPCB.seq



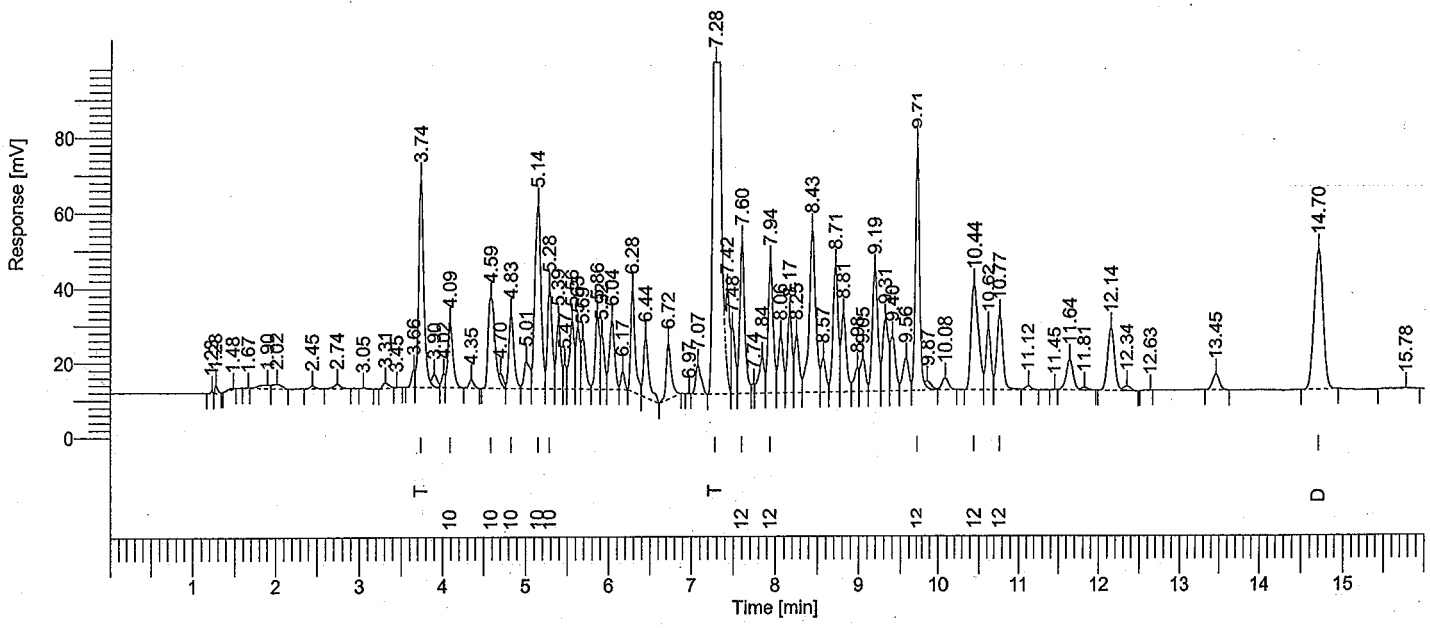
NORTON Water - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	Spike % Rec.
3.737	TCmX Surrogate	184555	0.173	0.0338	0.0338	56.4	4.2
4.082	Aroclor 1016 (5 Pe	5830	0.005	-0.0131	-0.0131	-21.8	-1.6
7.279	TCBP I.S.	1067390	1.000	--------	---------	-----	-----
9.711	Aroclor 1260 (5 Pe	377	0.000	-0.0274	-0.0274	-45.7	-3.4
14.705	DCBP Surrogate	190119	0.178	0.0291	0.0291	48.5	3.6

Report stored in ASCII file: C:\Norton\11-4-21\1006.TX0

Software Version	: 6.3.2.0646	Date	: 11/5/2021 7:23:44 AM
Sample Name	: 21J2012 0.60 ppm PCB Std	Data Acquisition Time	: 11/4/2021 11:11:29 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 14		

Result File : C:\Norton\11-4-21\1014.rst
Sequence File : C:\Norton\NPCB.seq



NORTON PCB 0.60 ppm CV Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	Surr. % Rec.	CV % Recov
3.737	TCmX Surrogate	241427	0.212	0.0421	0.0421	105.4	7.0
5.145	Aroclor 1016 (5 Pe	654105	0.574	0.5871	0.5871	1e+03	97.9
7.277	TCBP I.S.	1138565	1.000	-------	--------	-----	---
9.711	Aroclor 1260 (5 Pe	915772	0.804	0.5898	0.5898	1e+03	98.3
14.703	DCBP Surrogate	279014	0.245	0.0417	0.0417	104.3	7.0

ALL OK

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE
ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
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21J1202

PCB

Calibration

TotalChrom Sequence File C:\Norton\10-20-21\NPCB.seq

Printed by : Manager on: 11/5/2021 8:18:29 AM
Created by : Manager on: 11/19/2020 6:57:16 AM
Edited by : Manager on: 11/1/2021 8:09:53 AM
Number of Times Edited : 1084

Description: NORTON PCB
Method 8082
Hewlett-Packard 5890A
S/N: 2443A04016
DB-5 Column
IS: 21H0201
(Some runs were incorrectly dated as 10/19/21)

Sequence File Header Information:

Number of Rows : 27
Instrument Type : NCI 901/902 Series Intelligent Interface
Injection Type : SINGLE
Raw tokens channel A :
Result tokens channel A :
Modified tokens channel A :
Raw tokens channel B :
Result tokens channel B :
Modified tokens channel B :

Sequence Sample Descriptions - Channel A

Row	Name	Dil Factor
1	21J0501 10. ppm PCB Primer	1.000000
2	21G0802 Hexane	1.000000
3	21J1101 0.50 ppm PCB Std	1.000000
4	21J2007 0.50 ppm PCB Std	1.000000
5	21J2014 1.0 ppm PCB Std	1.000000
6	21J2013 0.75 ppm PCB Std	1.000000
7	21J2012 0.60 ppm PCB Std	1.000000
8	21J2011 0.25 ppm PCB Std	1.000000
9	21J2010 0.10 ppm PCB Std	1.000000
10	21J0403 Restek 32039 0.50 ppm PCB	1.000000
11	T115771-BLK1 Water	1.000000
12	T115771-BS1 Water	1.000000
13	21J0522-06 C	1.000000
14	21J0534-06 E	1.000000
15	21J0537-06 B	1.000000
16	21J0651-01 E	1.000000
17	21G0802 Hexane	1.000000
18	21J2007 0.50 ppm PCB Std	1.000000
19	21J0573-01 A	1.000000
20	21J0573-02 A	1.000000
21	21J0574-01 D	1.000000
22	21J0575-01 B	1.000000
23	21J0575-02 B	1.000000
24	21J0576-01 A	1.000000
25	21J0576-02 G	1.000000
26	21G0802 Hexane	1.000000
27	21J2007 0.50 ppm PCB Std	1.000000

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
1	c:\norton\npcb-102021		C:\Norton\10-20-21\1001
2	c:\norton\npcb-102021		C:\Norton\10-20-21\1002
3	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1003
4	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1004
5	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1005
6	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1006
7	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1007
8	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1008
9	c:\norton\npcb-102021	c:\norton\npcb cal std	C:\Norton\10-20-21\1009
10	c:\norton\npcb-102021	c:\norton\npcbicv50-congeners	C:\Norton\10-20-21\1010

11/5/2021 8:18:29 AM Sequence: C:\Norton\10-20-21\NPCB.seq

Sequence Process Information - Channel A

Row	Inst Method	Rpt Fmt File	Raw Data File
11	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1011
12	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1012
13	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1013
14	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1014
15	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1015
16	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1016
17	c:\norton\npcb-102021		C:\Norton\10-20-21\1017
18	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1018
19	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1019
20	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1020
21	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1021
22	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1022
23	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1023
24	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1024
25	c:\norton\npcb-102021	c:\norton\npcbw	C:\Norton\10-20-21\1025
26	c:\norton\npcb-102021		C:\Norton\10-20-21\1026
27	c:\norton\npcb-102021	c:\norton\npcbcv50	C:\Norton\10-20-21\1027

User Data / LIMS ID's - Channel A

Row	User1	User2	User3
1			
2			
3	CV: Pass	Calib. IS Area: Pass	Not used
4	Calibrant		
5	Calibrant		
6	Calibrant		
7	Calibrant		
8	Calibrant		
9	Calibrant		
10	ICV: Pass	IS Area: Pass	
11		IS Area: Pass	Surrogate Recovery: Pass
12		IS Area: Pass	Surrogate Recovery: Pass
13		IS Area: Pass	Surrogate Recovery: Pass
14		IS Area: Pass	Surrogate Recovery: Pass
15		IS Area: Pass	Surrogate Recovery: Pass
16		IS Area: Pass	Surrogate Recovery: Pass
17			
18	CV: Pass	IS Area: Pass	
19		IS Area: Pass	Surrogate Recovery: Fail (both low)
20		IS Area: Pass	Surrogate Recovery: Pass
21		IS Area: Pass	Surrogate Recovery: Pass
22		IS Area: Pass	Surrogate Recovery: Pass
23		IS Area: Pass	Surrogate Recovery: Pass
24		IS Area: Pass	Surrogate Recovery: Pass
25		IS Area: Pass	Surrogate Recovery: Pass
26			
27	CV: Pass	IS Area: Pass	

Norton I.S. Peak Area Summary

File Name	Sample Name	Date of Injection	TCBP I.S. Area [µV·s]
1001.rst	21J0501 10. ppm PCB Primer	10/20/2021	~~673532~~
1002.rst	21G0802 Hexane	10/20/2021	~~1428~~
1003.rst	21J1101 0.50 ppm PCB Std	10/20/2021	~~4025798~~
1004.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1006725
1005.rst	21J2014 1.0 ppm PCB Std	10/20/2021	1044180
1006.rst	21J2013 0.75 ppm PCB Std	10/20/2021	1046427
1007.rst	21J2012 0.60 ppm PCB Std	10/20/2021	1028145
1008.rst	21J2011 0.25 ppm PCB Std	10/20/2021	1038107
1009.rst	21J2010 0.10 ppm PCB Std	10/20/2021	1091459
1010.rst	21J0403 Restek 32039 0.50 ppm PCB	10/20/2021	1078684
1011.rst	T115771-BLK1 Water	10/20/2021	996839
1012.rst	T115771-BS1 Water	10/20/2021	998797
1013.rst	21J0522-06 C	10/20/2021	1017758
1014.rst	21J0534-06 E	10/20/2021	1029871
1015.rst	21J0537-06 B	10/20/2021	974230
1016.rst	21J0651-01 E	10/20/2021	994650
1017.rst	21G0802 Hexane	10/20/2021	~~1629~~
1018.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1129756
1019.rst	21J0573-01 A	10/20/2021	1163707
1020.rst	21J0573-02 A	10/20/2021	1123975
1021.rst	21J0574-01 D	10/20/2021	1270860
1022.rst	21J0575-01 B	10/20/2021	1119556
1023.rst	21J0575-02 B	10/20/2021	1133448
1024.rst	21J0576-01 A	10/20/2021	1167150
1025.rst	21J0576-02 G	10/20/2021	1214737
1026.rst	21G0802 Hexane	10/20/2021	~~1425~~
1027.rst	21J2007 0.50 ppm PCB Std	10/20/2021	1139186

$\bar{X}_6 = 1{,}043{,}000$

RANGE = 520,000 TO 1,560,000

ALL OK

Software Version : 6.3.2.0646		Date	: 11/5/2021 8:22:36 AM
Sample Name : 21J2007	0.50 ppm PCB Std	Data Acquisition Time	: 10/20/2021 8:35:12 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 4			

Result File : C:\Norton\10-20-21\1004.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.725	TCmX Surrogate	153411	0.152
5.139	Aroclor 1016 (5 Peaks)	500719	0.497
7.280	TCBP I.S.	1006725	1.000
9.718	Aroclor 1260 (5 Peaks)	689117	0.685
14.725	DCBP Surrogate	172937	0.172

Group Report For : Aroclor 1016 (5 Peaks)

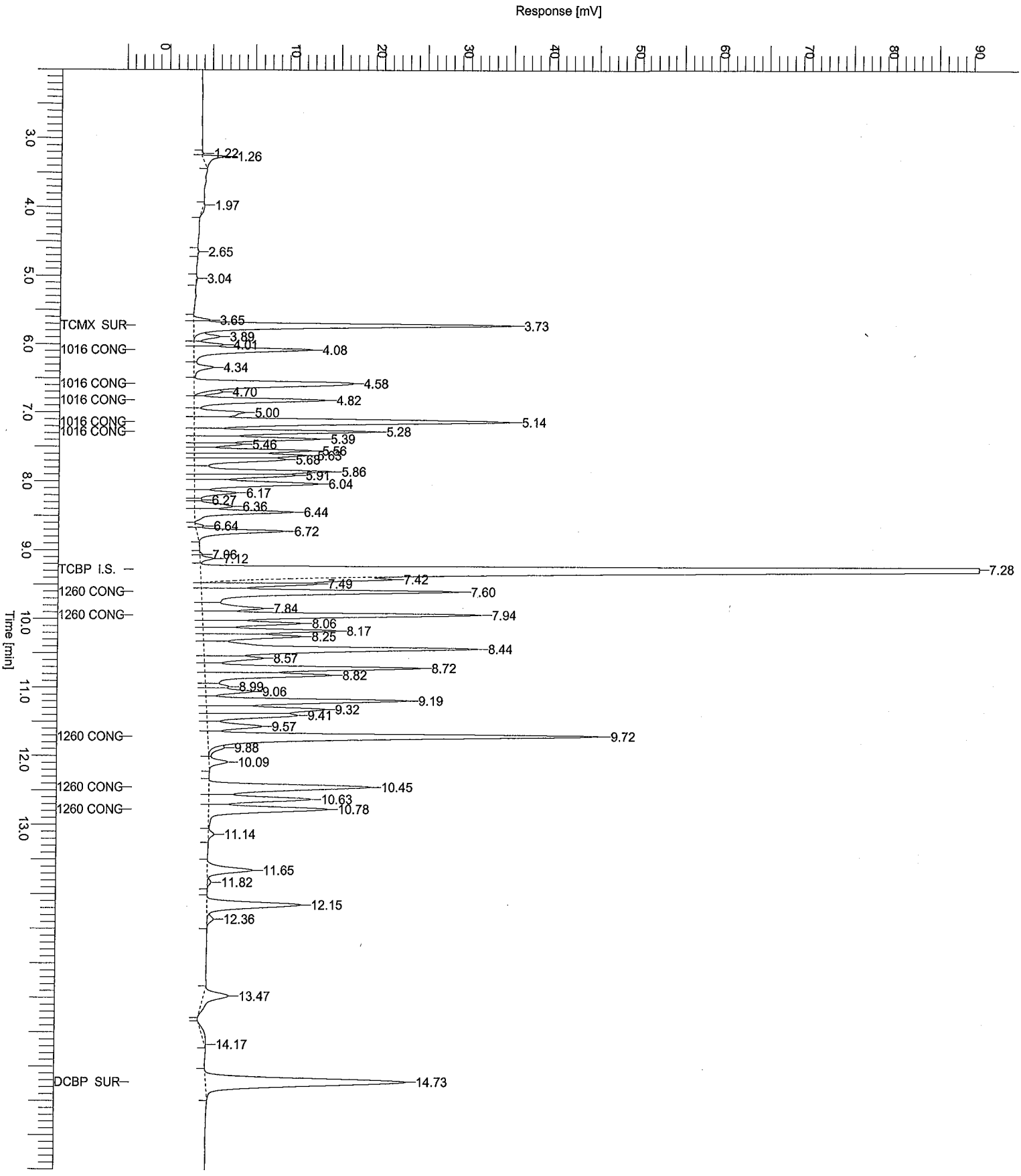
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.082	1016 Congener #1	62893	0.062
4.579	1016 Congener #2	107974	0.107
4.823	1016 Congener #3	66651	0.066
5.139	1016 Congener #4	183030	0.182
5.280	1016 Congener #5	80172	0.080

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.604	1260 Congener #1	138434	0.138
7.942	1260 Congener #2	136049	0.135
9.718	1260 Congener #3	231731	0.230
10.454	1260 Congener #4	108542	0.108
10.777	1260 Congener #5	74361	0.074

NORTON - DB-5 Method 8082

Sample Name : 21J2007 0.50 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1004.raw
Date : 11/5/2021 8:22:58 AM
Method :
Time of Injection: 10/20/2021 8:35:12 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version : 6.3.2.0646		Date	: 11/5/2021 8:22:46 AM
Sample Name : 21J2014	1.0 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:14:50 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 5			

Result File : C:\Norton\10-20-21\1005.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.724	TCmX Surrogate	392963	0.376
5.139	Aroclor 1016 (5 Peaks)	897900	0.860
7.279	TCBP I.S.	1044180	1.000
9.718	Aroclor 1260 (5 Peaks)	1250322	1.197
14.723	DCBP Surrogate	424611	0.407

Group Report For : Aroclor 1016 (5 Peaks)

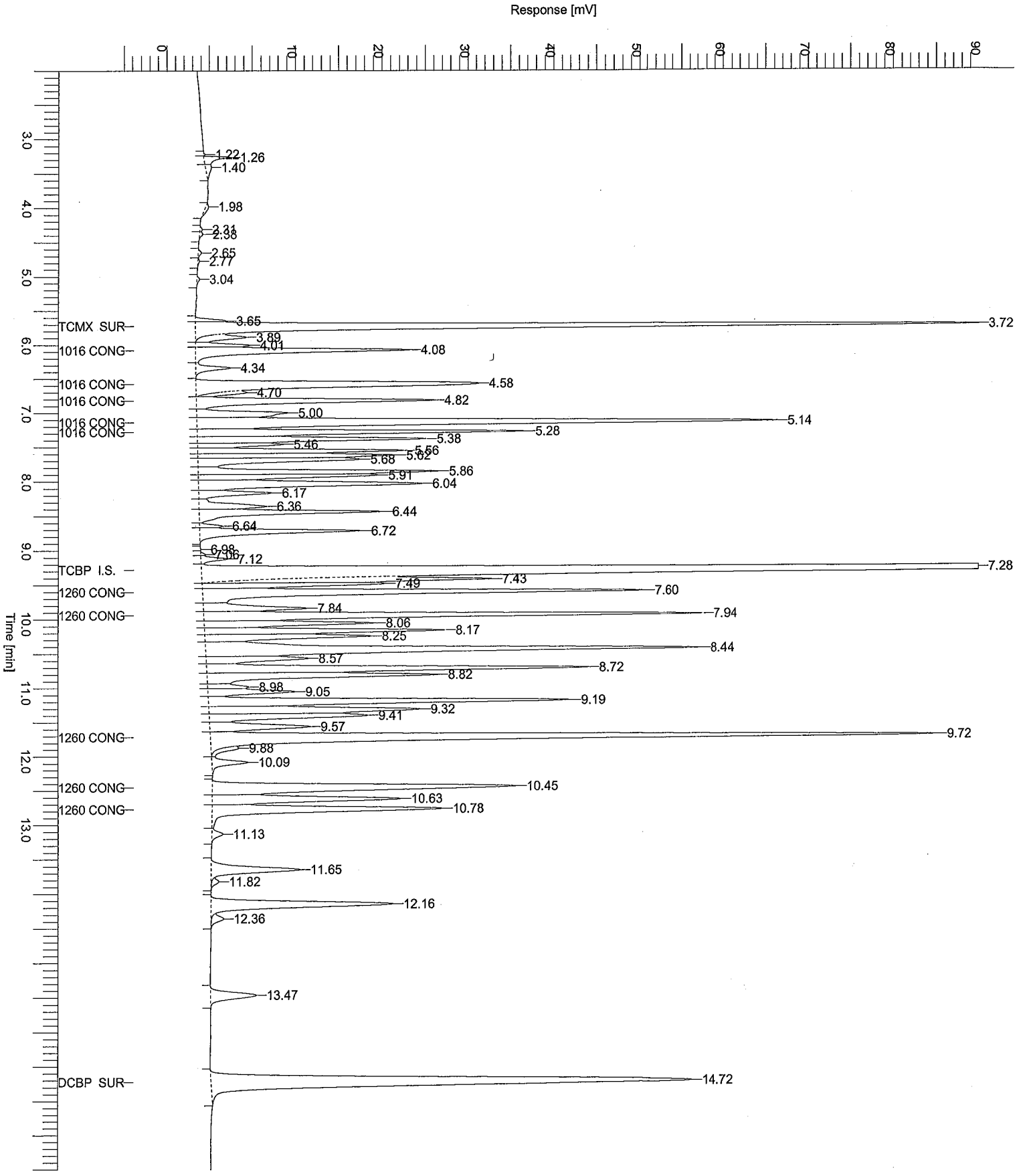
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.080	1016 Congener #1	111788	0.107
4.577	1016 Congener #2	190395	0.182
4.821	1016 Congener #3	118633	0.114
5.139	1016 Congener #4	332470	0.318
5.279	1016 Congener #5	144613	0.138

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.602	1260 Congener #1	229936	0.220
7.941	1260 Congener #2	237356	0.227
9.718	1260 Congener #3	432329	0.414
10.452	1260 Congener #4	209035	0.200
10.776	1260 Congener #5	141667	0.136

NORTON - DB-5 Method 8082

Sample Name : 21J2014 1.0 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1005.raw
Date : 11/5/2021 8:22:47 AM
Method :
Time of Injection: 10/20/2021 10:14:50 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version : 6.3.2.0646		Date	: 11/5/2021 8:23:09 AM
Sample Name : 21J2013	0.75 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:34:08 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 6			

Result File : C:\Norton\10-20-21\1006.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.716	TCmX Surrogate	302744	0.289
5.129	Aroclor 1016 (5 Peaks)	726544	0.694
7.267	TCBP I.S.	1046427	1.000
9.700	Aroclor 1260 (5 Peaks)	1021956	0.977
14.697	DCBP Surrogate	348586	0.333

Group Report For : Aroclor 1016 (5 Peaks)

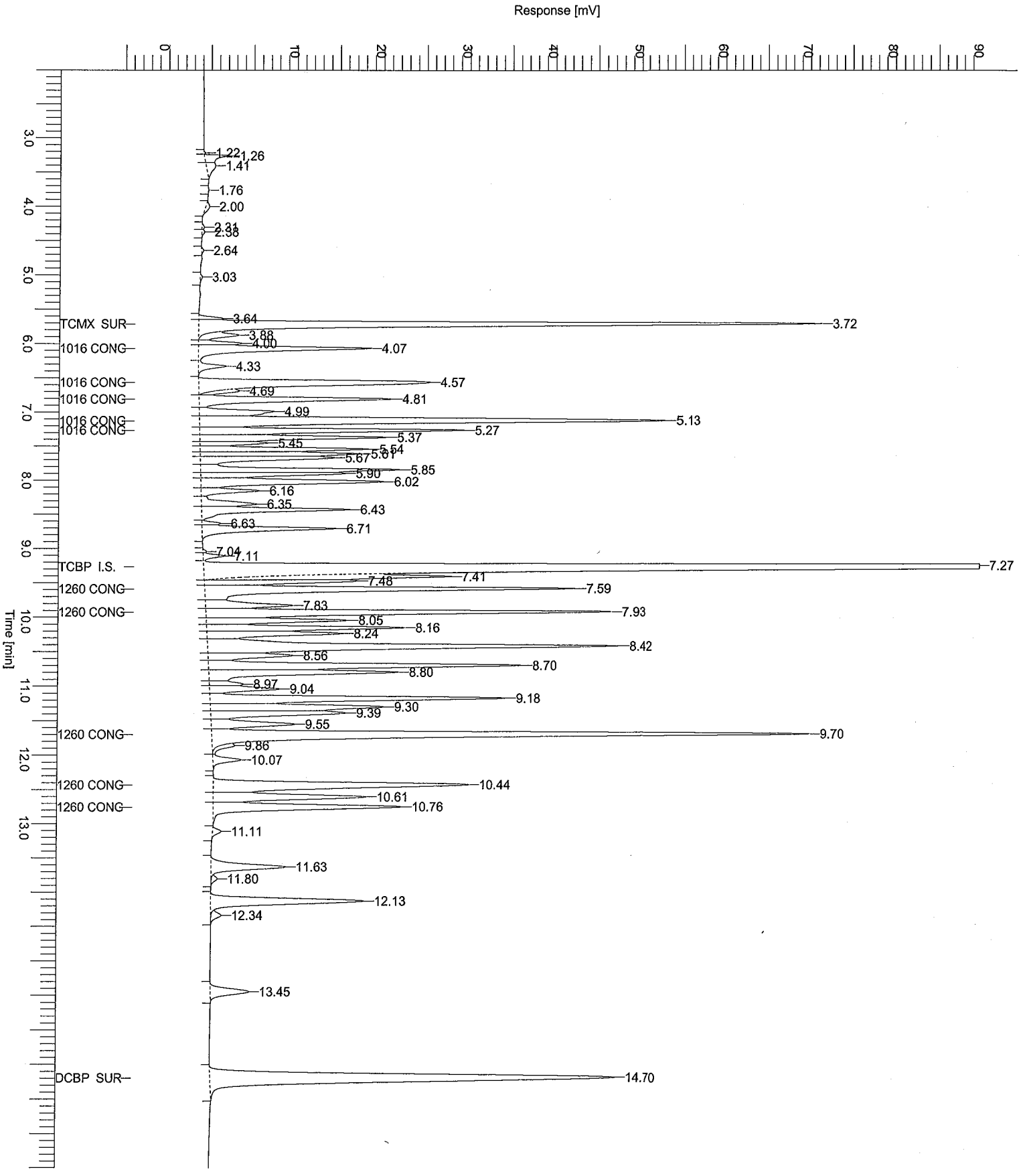
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.071	1016 Congener #1	89450	0.085
4.566	1016 Congener #2	154148	0.147
4.812	1016 Congener #3	95697	0.091
5.129	1016 Congener #4	269695	0.258
5.268	1016 Congener #5	117553	0.112

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	190506	0.182
7.927	1260 Congener #2	194873	0.186
9.700	1260 Congener #3	351087	0.336
10.435	1260 Congener #4	172686	0.165
10.758	1260 Congener #5	112805	0.108

NORTON - DB-5 Method 8082

Sample Name : 21J2013 0.75 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1006.raw
Date : 11/5/2021 8:23:11 AM
Method : Time of Injection: 10/20/2021 10:34:08 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version	: 6.3.2.0646	Date	: 11/5/2021 8:23:16 AM
Sample Name	: 21J2012 0.60 ppm PCB Std	Data Acquisition Time	: 10/20/2021 10:53:29 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 7		

Result File : C:\Norton\10-20-21\1007.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.713	TCmX Surrogate	210589	0.205
5.128	Aroclor 1016 (5 Peaks)	608171	0.592
7.266	TCBP I.S.	1028145	1.000
9.698	Aroclor 1260 (5 Peaks)	857289	0.834
14.695	DCBP Surrogate	248253	0.241

Group Report For : Aroclor 1016 (5 Peaks)

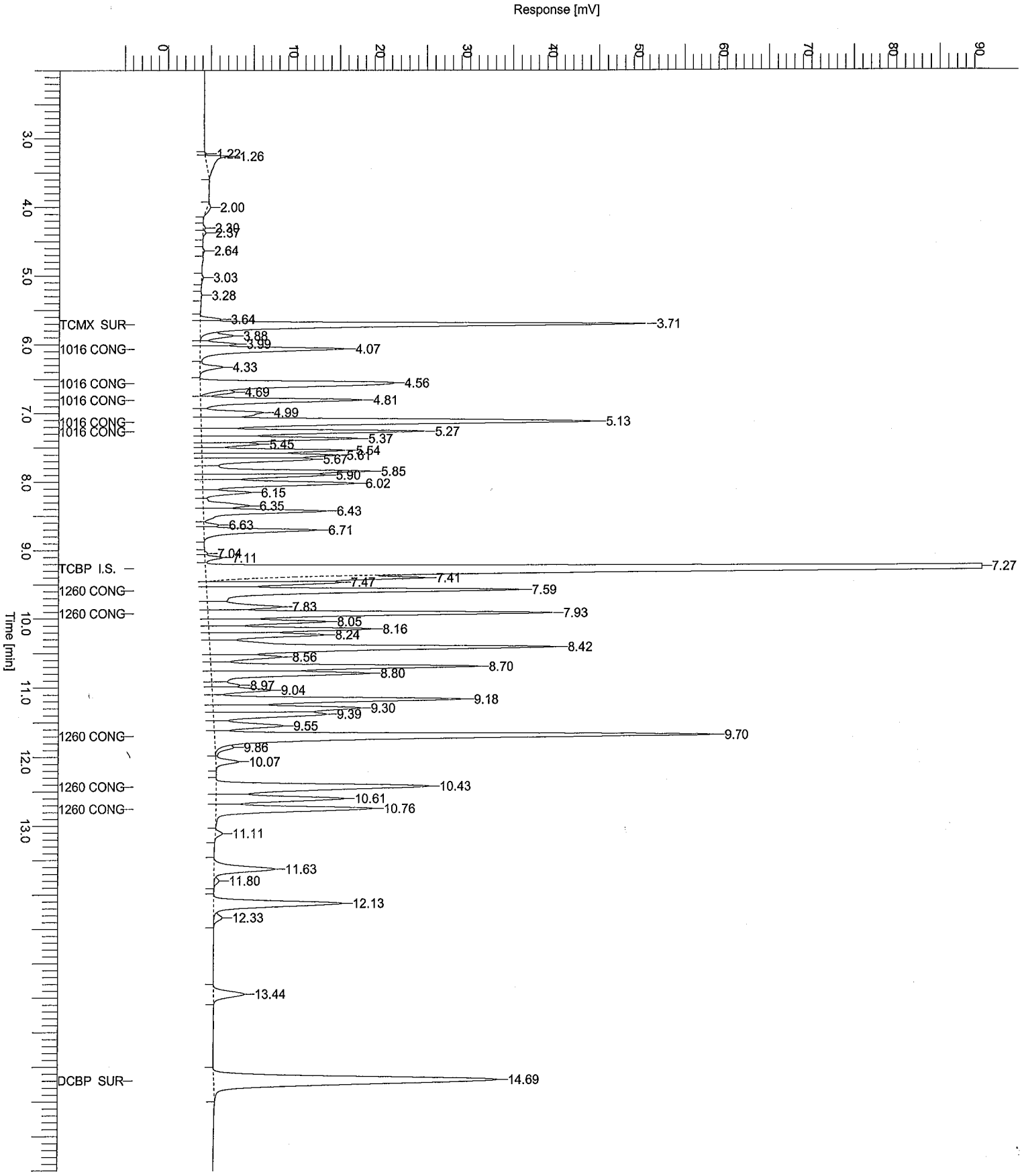
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.069	1016 Congener #1	74156	0.072
4.564	1016 Congener #2	129621	0.126
4.810	1016 Congener #3	79984	0.078
5.128	1016 Congener #4	225852	0.220
5.267	1016 Congener #5	98558	0.096

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	164327	0.160
7.927	1260 Congener #2	165206	0.161
9.698	1260 Congener #3	291140	0.283
10.433	1260 Congener #4	143125	0.139
10.755	1260 Congener #5	93491	0.091

NORTON - DB-5 Method 8082

Sample Name : 21J2012 0.60 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1007.raw
Date : 11/5/2021 8:23:17 AM
Method : Time of Injection: 10/20/2021 10:53:29 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Software Version	: 6.3.2.0646	Date	: 11/5/2021 8:23:24 AM
Sample Name	: 21J2011 0.25 ppm PCB Std	Data Acquisition Time	: 10/20/2021 11:12:47 AM
Instrument Name	: BACCHUS	Channel	: A
Rack/Vial	: 0/0	Operator	: Manager
Sample Amount	: 1.000000	Dilution Factor	: 1.000000
Cycle	: 8		

Result File : C:\Norton\10-20-21\1008.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.714	TCmX Surrogate	112118	0.108
5.129	Aroclor 1016 (5 Peaks)	290842	0.280
7.267	TCBP I.S.	1038107	1.000
9.699	Aroclor 1260 (5 Peaks)	400708	0.386
14.694	DCBP Surrogate	135432	0.130

Group Report For : Aroclor 1016 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.071	1016 Congener #1	34382	0.033
4.566	1016 Congener #2	62775	0.060
4.812	1016 Congener #3	37556	0.036
5.129	1016 Congener #4	108752	0.105
5.269	1016 Congener #5	47378	0.046

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.589	1260 Congener #1	89060	0.086
7.928	1260 Congener #2	81322	0.078
9.699	1260 Congener #3	125414	0.121
10.432	1260 Congener #4	63908	0.062
10.755	1260 Congener #5	41005	0.039

Software Version : 6.3.2.0646		Date	: 11/5/2021 8:23:36 AM
Sample Name : 21J2010	0.10 ppm PCB Std	Data Acquisition Time	: 10/20/2021 11:32:10 AM
Instrument Name : BACCHUS		Channel	: A
Rack/Vial : 0/0		Operator	: Manager
Sample Amount : 1.000000		Dilution Factor	: 1.000000
Cycle : 9			

Result File : C:\Norton\10-20-21\1009.rst
Sequence File : C:\Norton\NPCB.seq

NORTON Method 8082 PCB Calibration Std

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
3.712	TCmX Surrogate	57889	0.053
5.126	Aroclor 1016 (5 Peaks)	137015	0.126
7.264	TCBP I.S.	1091459	1.000
9.696	Aroclor 1260 (5 Peaks)	210278	0.193
14.688	DCBP Surrogate	71551	0.066

Group Report For : Aroclor 1016 (5 Peaks)

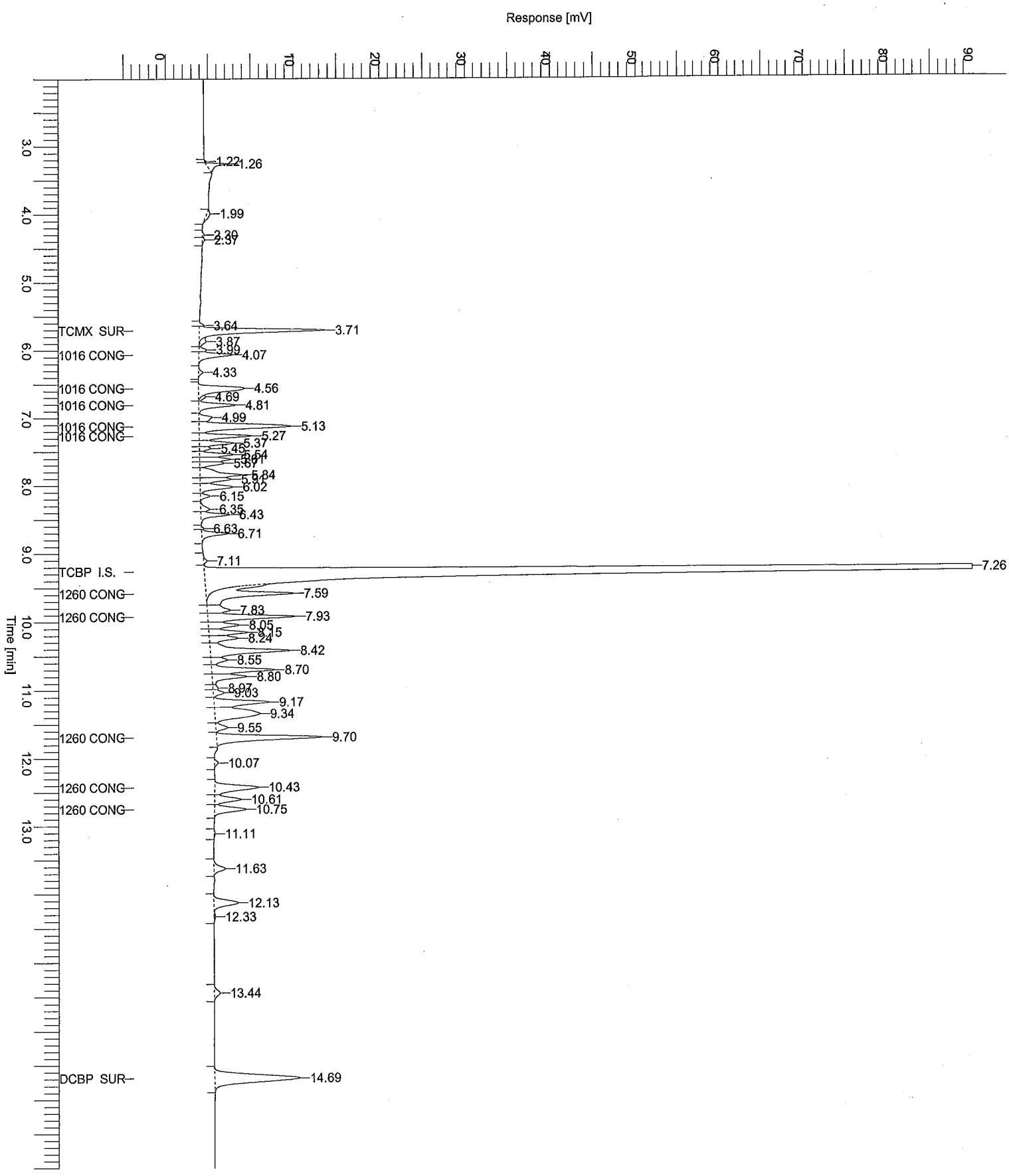
R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
4.069	1016 Congener #1	16057	0.015
4.564	1016 Congener #2	29764	0.027
4.809	1016 Congener #3	17222	0.016
5.126	1016 Congener #4	51866	0.048
5.266	1016 Congener #5	22106	0.020

Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio
7.588	1260 Congener #1	64462	0.059
7.926	1260 Congener #2	43255	0.040
9.696	1260 Congener #3	56444	0.052
10.428	1260 Congener #4	28397	0.026
10.753	1260 Congener #5	17720	0.016

NORTON - DB-5 Method 8082

Sample Name : 21J2010 0.10 ppm PCB Std Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1009.raw
Date : 11/5/2021 8:23:38 AM
Method :
Time of Injection: 10/20/2021 11:32:10 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



TotalChrom Method File C:\Norton\11-4-21\NPCB-102021.mth

Printed by	: Manager on: 11/5/2021 8:17:51 AM
Created by	: Manager on: 10/20/2021 11:53:35 AM
Edited by	: Manager on: 10/20/2021 11:55:42 AM
Number of Times Edited	: 3
Number of Times Calibrated	: 281

Description: NORTON PCB Method 8082; DB-5 Column
TCBP I.S., 5 congeners for each Aroclor
All 6 point, 2nd order curves; >0.990 R-squared values
Calibration range = 0.10 to 1.0 ppm
Surrogate calibration range = 0.010 to 0.080 ppm
IS area range = 520,000 to 1,560,000
10-20-21

Instrument Conditions

Column: DB-5
Carrier gas: He
Head pressure: 6.0 psi
Detector: ECD
Det temp: 300 C
Injector temp: 250 C
Inject volume: 1.0 uL
Program:
- Initial: 200 - 0 min
- Ramp: 14.0
- Final: 300 - 8.86 min
- Total time : 16.0 min

Purge off: 0. min.
Purge on: 0.75 min.
Range: 2
Atten: 1

Instrument Control Method

Instrument Name : NORTON
Instrument Type : NCI 901/902 Series Intelligent Interface

Interface Parameters

Delay Time	: 0.00 min
Run Time	: 16.00 min
Sampling Rate	: 3.5710 pts/s
Interface Type	: NCI 901/902 Series Intelligent Interface
Analog Voltage Input	: 1000 mV

Data will be collected from channel A

Timed Events

There are no timed events in the method

11/5/2021 8:17:51 AM Method: C:\Norton\11-4-21\NPCB-102021.mth

Real Time Plot Parameters

	Pages	Offset (mV)	Scale (mV)
Channel A	1	0.000	100.000

Processing Parameters

Bunch Factor : 1 points
Noise Threshold : 10 µV
Area Threshold : 24.00 µV

Peak Separation Criteria

Width Ratio : 0.200
Valley-to-Peak Ratio : 0.010

Exponential Skim Criteria

Peak Height Ratio : 5.000
Adjusted Height Ratio : 4.000
Valley Height Ratio : 3.000

Baseline Timed Events

No baseline timed events

Optional Reports

No report format files given

Optional Report Plot Parameters

Plot Number	1	2	3	4
Generate this plot	No	No	No	No
Start plot at end of delay time	Yes	Yes	Yes	Yes
Start Time				
End Time				
Scale Type	Vertical Scaling	Vertical Scaling	Vertical Scaling	Vertical Scaling
Scale Factor	1.000	1.000	1.000	1.000
Full Scale				
Offset				

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Optional Report Plot Parameters

Plot Number	5
Generate this plot	No
Start plot at end of delay time	Yes
Start Time	
End Time	
Scale Type	Vertical Scaling
Scale Factor	1.000
Full Scale	
Offset	

Annotated Replot Parameters

Offset & Scale set to absolute values
Draw baselines
Include timed event annotations

Plot Offset	: 0.000 µV
Plot Scale	: 100.000 µV
Number of Pages	: 1
Plot Title	: NORTON - DB-5 Method 8082
X-Axis Label	: Time [min]
Y-Axis Label	: Response [mV]
Orientation	: Landscape
Retention Labels	: Peak Crests
Component Labels	: Actual Time
Start Time	: 0.00
End Time	: 16.00

User Programs

No user programs will be executed

Global Sample Information

Default Sample Volume	: 1.000 uL
Quantitation Units	: ng
Void Time	: 0.000 min
Correct amounts during calibration	: Yes
Convert unknowns to concentration units	: Yes
Reject outliers during calibration	: No

An Internal Standard calibration will be used
Unknown peaks will be quantitated using a response factor of 1.000000e+06
First peak will be relative retention reference

Component Information

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TCmX Surrogate
Component Type : Single Peak Component
Retention Time : 3.717 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find largest peak in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.0100	57889.13	14762.88	0.0100	0.0530	1
2	0.0200	112117.72	28148.59	0.0200	0.1080	1
3	0.0300	153410.91	37223.50	0.0300	0.1524	1
4	0.0400	210589.42	51958.01	0.0400	0.2048	1
5	0.0600	302744.17	72968.52	0.0600	0.2893	1
6	0.0800	392962.92	93898.29	0.0800	0.3763	1

Calibration Curve : y = (0.002020) + (5.335369)x + (-8.362381)x^2 + (0.000000)x^3
R-squared : 0.999581

1016 Congener #1
Component Type : Single Peak Component
Retention Time : 4.074 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find largest peak in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	16057.17	3950.83	0.1000	0.0147	1
2	0.2500	34381.93	8221.54	0.2500	0.0331	1
3	0.5000	62892.52	13838.60	0.5000	0.0625	1
4	0.6000	74156.05	16926.20	0.6000	0.0721	1
5	0.7500	89450.43	20140.40	0.7500	0.0855	1
6	1.0000	111788.33	24979.13	1.0000	0.1071	1

Calibration Curve : y = (0.001323) + (0.136303)x + (-0.030795)x^2 + (0.000000)x^3
R-squared : 0.999785

1016 Congener #2
Component Type : Single Peak Component
Retention Time : 4.569 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	29764.29	5400.15	0.1000	0.0273	1
2	0.2500	62774.78	11234.11	0.2500	0.0605	1
3	0.5000	107973.60	18639.25	0.5000	0.1073	1
4	0.6000	129620.94	22581.88	0.6000	0.1261	1
5	0.7500	154148.13	26972.68	0.7500	0.1473	1
6	1.0000	190395.32	32944.18	1.0000	0.1823	1

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Calibration Curve : y = (0.004750) + (0.234876)x + (-0.057635)x^2 + (0.000000)x^3
R-squared : 0.999776

1016 Congener #3
Component Type : Single Peak Component
Retention Time : 4.814 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	17221.99	4342.98	0.1000	0.0158	1
2	0.2500	37555.61	9134.14	0.2500	0.0362	1
3	0.5000	66650.84	15448.20	0.5000	0.0662	1
4	0.6000	79983.86	18911.61	0.6000	0.0778	1
5	0.7500	95696.96	22459.68	0.7500	0.0915	1
6	1.0000	118632.93	27644.47	1.0000	0.1136	1

Calibration Curve : y = (0.001461) + (0.147496)x + (-0.035516)x^2 + (0.000000)x^3
R-squared : 0.999866

1016 Congener #4
Component Type : Single Peak Component
Retention Time : 5.132 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	51865.75	10786.92	0.1000	0.0475	1
2	0.2500	108751.80	22211.90	0.2500	0.1048	1
3	0.5000	183029.66	36889.53	0.5000	0.1818	1
4	0.6000	225851.79	45783.76	0.6000	0.2197	1
5	0.7500	269695.24	54432.51	0.7500	0.2577	1
6	1.0000	332470.40	67867.05	1.0000	0.3184	1

Calibration Curve : y = (0.009033) + (0.398669)x + (-0.089109)x^2 + (0.000000)x^3
R-squared : 0.999321

Aroclor 1016 (5 Peaks)
Component Type : Named Group
Internal Standard : TCBP I.S.
Group Members
1016 Congener #1
1016 Congener #2
1016 Congener #3
1016 Congener #4
1016 Congener #5
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

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Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	137014.96	30638.19	0.1000	0.1255	1
2	0.2500	290842.31	63529.13	0.2500	0.2802	1
3	0.5000	500718.87	106034.28	0.5000	0.4974	1
4	0.6000	608171.11	130142.30	0.6000	0.5915	1
5	0.7500	726544.08	154776.34	0.7500	0.6943	1
6	1.0000	897899.91	191588.50	1.0000	0.8599	1

Calibration Curve : y = (0.019796) + (1.094435)x + (-0.254857)x^2 + (0.000000)x^3
R-squared : 0.999728

1016 Congener #5
Component Type : Single Peak Component
Retention Time : 5.271 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	22105.75	6157.31	0.1000	0.0203	1
2	0.2500	47378.19	12727.44	0.2500	0.0456	1
3	0.5000	80172.26	21218.70	0.5000	0.0796	1
4	0.6000	98558.47	25938.85	0.6000	0.0959	1
5	0.7500	117553.34	30771.07	0.7500	0.1123	1
6	1.0000	144612.94	38153.68	1.0000	0.1385	1

Calibration Curve : y = (0.003229) + (0.177092)x + (-0.041801)x^2 + (0.000000)x^3
R-squared : 0.999412

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TCBP I.S.
Component Type : Single Peak Component
Retention Time : 7.270 min
Search Window : 4.20 s, 0.00 %
This component is a reference
Find largest peak in window
This component is an internal standard
Use Average Calibration Factor (Area ratio / Amount ratio)

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	1.0000	1091458.62	243603.66	1.0000	1.0000	1
2	1.0000	1038106.63	233868.28	1.0000	1.0000	1
3	1.0000	1006725.30	225299.31	1.0000	1.0000	1
4	1.0000	1028144.83	239324.88	1.0000	1.0000	1
5	1.0000	1046427.02	243990.07	1.0000	1.0000	1
6	1.0000	1044180.37	231519.50	1.0000	1.0000	1

Average Calibration Factor = 1.000000 (%RSD = 0.00)

1260 Congener #1
Component Type : Single Peak Component
Retention Time : 7.594 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

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Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	64461.55	9825.26	0.1000	0.0591	1
2	0.2500	89059.89	18915.11	0.2500	0.0858	1
3	0.5000	138433.57	30110.37	0.5000	0.1375	1
4	0.6000	164327.46	36568.52	0.6000	0.1598	1
5	0.7500	190505.57	43185.42	0.7500	0.1821	1
6	1.0000	229935.64	51522.37	1.0000	0.2202	1

Calibration Curve : y = (0.034430) + (0.229964)x + (-0.043660)x^2 + (0.000000)x^3
R-squared : 0.998505

1260 Congener #2
Component Type : Single Peak Component
Retention Time : 7.932 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	43255.17	10321.78	0.1000	0.0396	1
2	0.2500	81322.26	19899.13	0.2500	0.0783	1
3	0.5000	136049.12	32391.45	0.5000	0.1351	1
4	0.6000	165206.02	40071.53	0.6000	0.1607	1
5	0.7500	194872.70	47179.58	0.7500	0.1862	1
6	1.0000	237355.70	58349.27	1.0000	0.2273	1

Calibration Curve : y = (0.011232) + (0.287488)x + (-0.071281)x^2 + (0.000000)x^3
R-squared : 0.999524

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1260 Congener #3
Component Type : Single Peak Component
Retention Time : 9.705 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	56444.31	12391.11	0.1000	0.0517	1
2	0.2500	125413.60	26276.52	0.2500	0.1208	1
3	0.5000	231731.20	45647.36	0.5000	0.2302	1
4	0.6000	291139.54	58258.48	0.6000	0.2832	1
5	0.7500	351086.91	70017.08	0.7500	0.3355	1
6	1.0000	432329.28	84973.42	1.0000	0.4140	1

Calibration Curve : y = (-0.003732) + (0.540550)x + (-0.121131)x^2 + (0.000000)x^3
R-squared : 0.998928

Aroclor 1260 (5 Peaks)
Component Type : Named Group
Internal Standard : TCBP I.S.
Group Members
1260 Congener #1
1260 Congener #2
1260 Congener #3
1260 Congener #4
1260 Congener #5
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

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User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	210278.27	41378.15	0.1000	0.1927	1
2	0.2500	400708.29	84555.98	0.2500	0.3860	1
3	0.5000	689117.07	140840.91	0.5000	0.6845	1
4	0.6000	857288.67	177892.74	0.6000	0.8338	1
5	0.7500	1021955.75	211962.14	0.7500	0.9766	1
6	1.0000	1250322.43	257039.67	1.0000	1.1974	1

Calibration Curve : y = (0.041307) + (1.485398)x + (-0.325206)x^2 + (0.000000)x^3
R-squared : 0.998883

1260 Congener #4
Component Type : Single Peak Component
Retention Time : 10.439 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	28397.43	5131.21	0.1000	0.0260	1
2	0.2500	63907.76	11350.15	0.2500	0.0616	1
3	0.5000	108542.10	18843.33	0.5000	0.1078	1
4	0.6000	143125.02	24702.40	0.6000	0.1392	1
5	0.7500	172685.83	29697.34	0.7500	0.1650	1
6	1.0000	209034.55	35419.54	1.0000	0.2002	1

11/5/2021 8:17:51 AM Method: C:\Norton\11-4-21\NPCB-102021.mth

Calibration Curve : y = (-0.000064) + (0.258771)x + (-0.056956)x^2 + (0.000000)x^3
R-squared : 0.995948

1260 Congener #5
Component Type : Single Peak Component
Retention Time : 10.762 min
Search Window : 3.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.1000	17719.81	3708.80	0.1000	0.0162	1
2	0.2500	41004.78	8115.07	0.2500	0.0395	1
3	0.5000	74361.08	13848.40	0.5000	0.0739	1
4	0.6000	93490.62	18291.81	0.6000	0.0909	1
5	0.7500	112804.75	21882.71	0.7500	0.1078	1
6	1.0000	141667.26	26775.07	1.0000	0.1357	1

Calibration Curve : y = (-0.000560) + (0.168625)x + (-0.032177)x^2 + (0.000000)x^3
R-squared : 0.999265

DCBP Surrogate
Component Type : Single Peak Component
Retention Time : 14.704 min
Search Window : 6.00 s, 0.00 %
Reference Component : TCBP I.S.
Internal Standard : TCBP I.S.
Find peak closest to expected RT in window
Calibrating Area ratio versus Amount ratio using a 2nd Order Fit
Curve will ignore the origin
Amounts will not be scaled prior to the regression
Weighting factor for the regression: 1
Component standard purity percentage : 100.0000%

11/5/2021 8:17:51 AM Method: C:\Norton\11-4-21\NPCB-102021.mth

User Values
Label :
Value 1 : 0.000000
Value 2 : 0.000000
Value 3 : 0.000000
Value 4 : 0.000000
Value 5 : 0.000000

Calibration Level

Level Name	Amount	Area	Height	ISTD Amt.	ISTD Resp.	# Replicates
1	0.0100	71550.90	9978.45	0.0100	0.0656	1
2	0.0200	135431.59	18585.28	0.0200	0.1305	1
3	0.0300	172936.91	23268.27	0.0300	0.1718	1
4	0.0400	248252.64	32966.68	0.0400	0.2415	1
5	0.0600	348585.96	47084.64	0.0600	0.3331	1
6	0.0800	424610.81	56157.51	0.0800	0.4066	1

Calibration Curve : y = (-0.000513) + (6.736105)x + (-20.351392)x^2 + (0.000000)x^3
R-squared : 0.997724

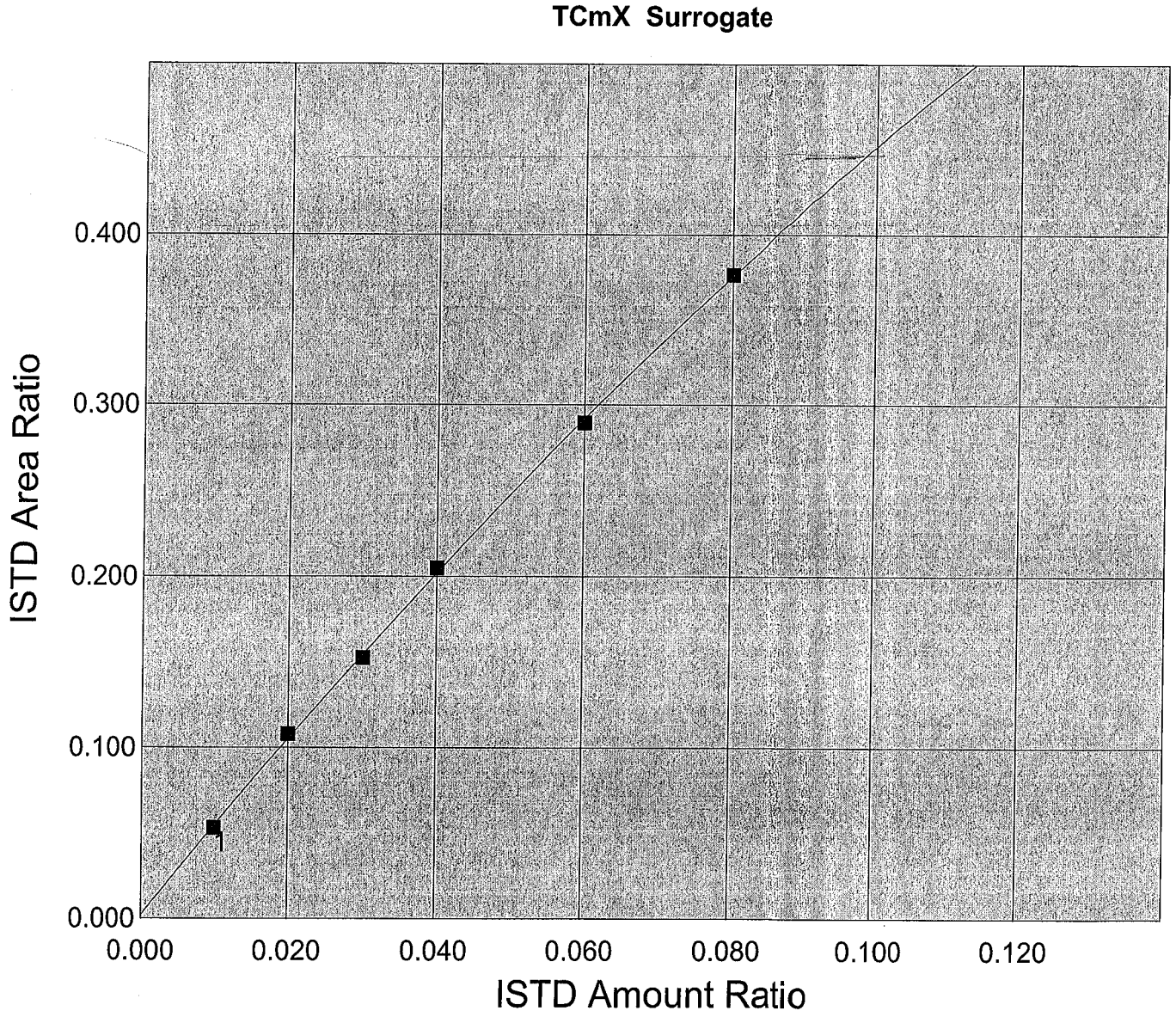
Fit Analysis Output For Method File: C:\NORTON\11-4-21\NPCB-102021.MTH
Reprocess Number : semivol-gc: 49635
Component Name : TCmX Surrogate
Date : 11/5/2021 8:17:59 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.999581
Calibration Curve : Y = (0.002020) +(5.335369) X +(-8.362381) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.010000	0.009710	0.000290	2.987	0.053038	0.055	-0.001	-2.749
2	0.020000	0.020524	-5.242e-04	-2.554	0.108002	0.105	0.003	2.486
3	0.030000	0.029552	0.000448	1.517	0.152386	0.155	-0.002	-1.404
4	0.040000	0.040594	-5.941e-04	-1.464	0.204825	0.202	0.003	1.371
5	0.060000	0.059372	0.000628	1.058	0.289312	0.292	-0.003	-0.933
6	0.080000	0.080252	-2.517e-04	-0.314	0.376336	0.375	0.001	0.268



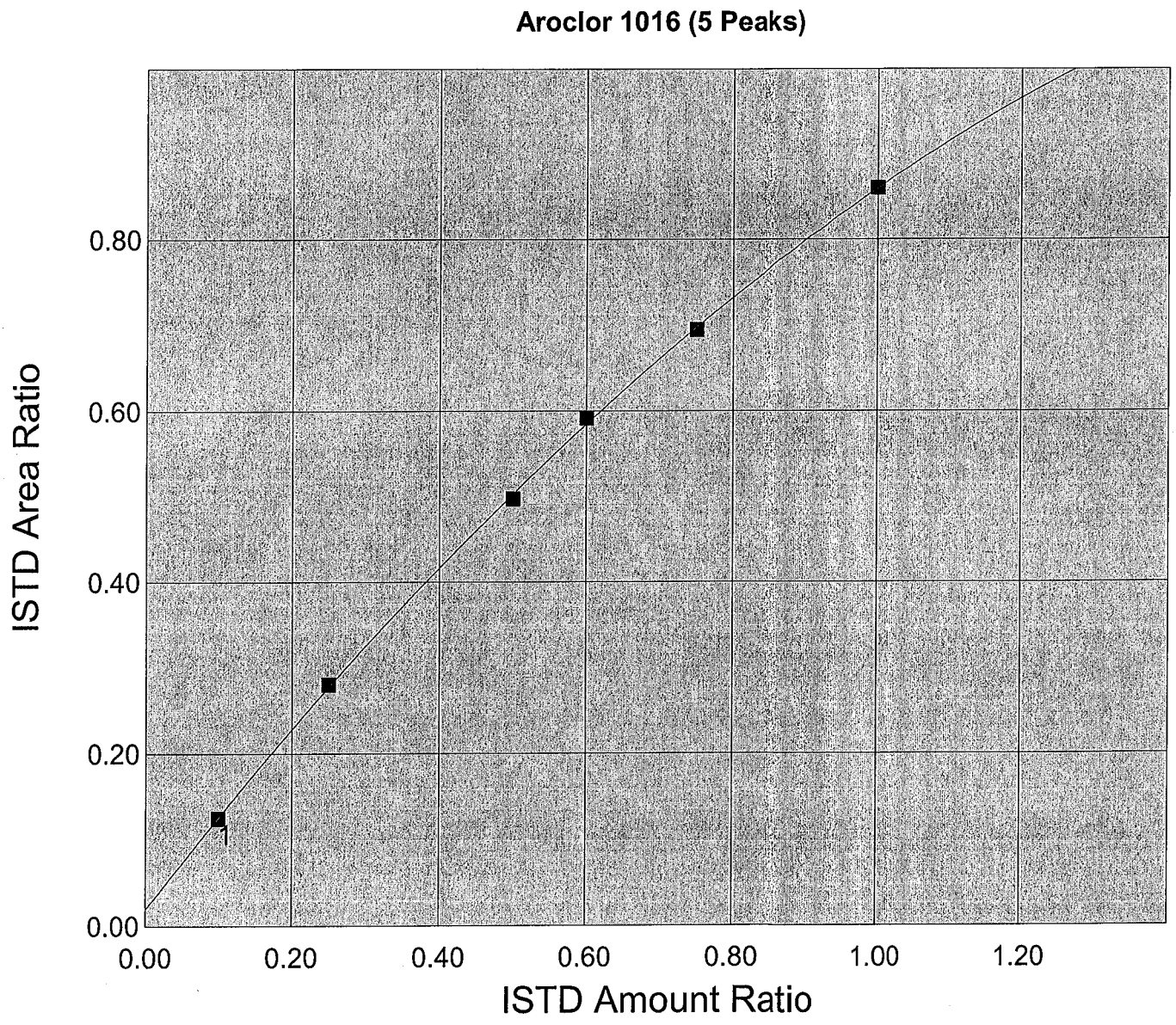
Fit Analysis Output For Method File: C:\NORTON\11-4-21\NPCB-102021.MTH
Reprocess Number : semivol-gc: 49635
Component Name : Aroclor 1016 (5 Peaks)
Date : 11/5/2021 8:18:04 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.999728
Calibration Curve : Y = (0.019796) +(1.094435) X +(-0.254857) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.100000	0.098891	0.001109	1.121	0.125534	0.127	-0.001	-0.913
2	0.250000	0.252784	-0.002784	-1.101	0.280166	0.277	0.003	0.969
3	0.500000	0.492957	0.007043	1.429	0.497374	0.503	-0.006	-1.177
4	0.600000	0.608665	-0.008665	-1.424	0.591523	0.585	0.007	1.165
5	0.750000	0.745855	0.004145	0.556	0.694309	0.697	-0.003	-0.424
6	1.000000	1.000914	-9.145e-04	-0.091	0.859909	0.859	0.001	0.062



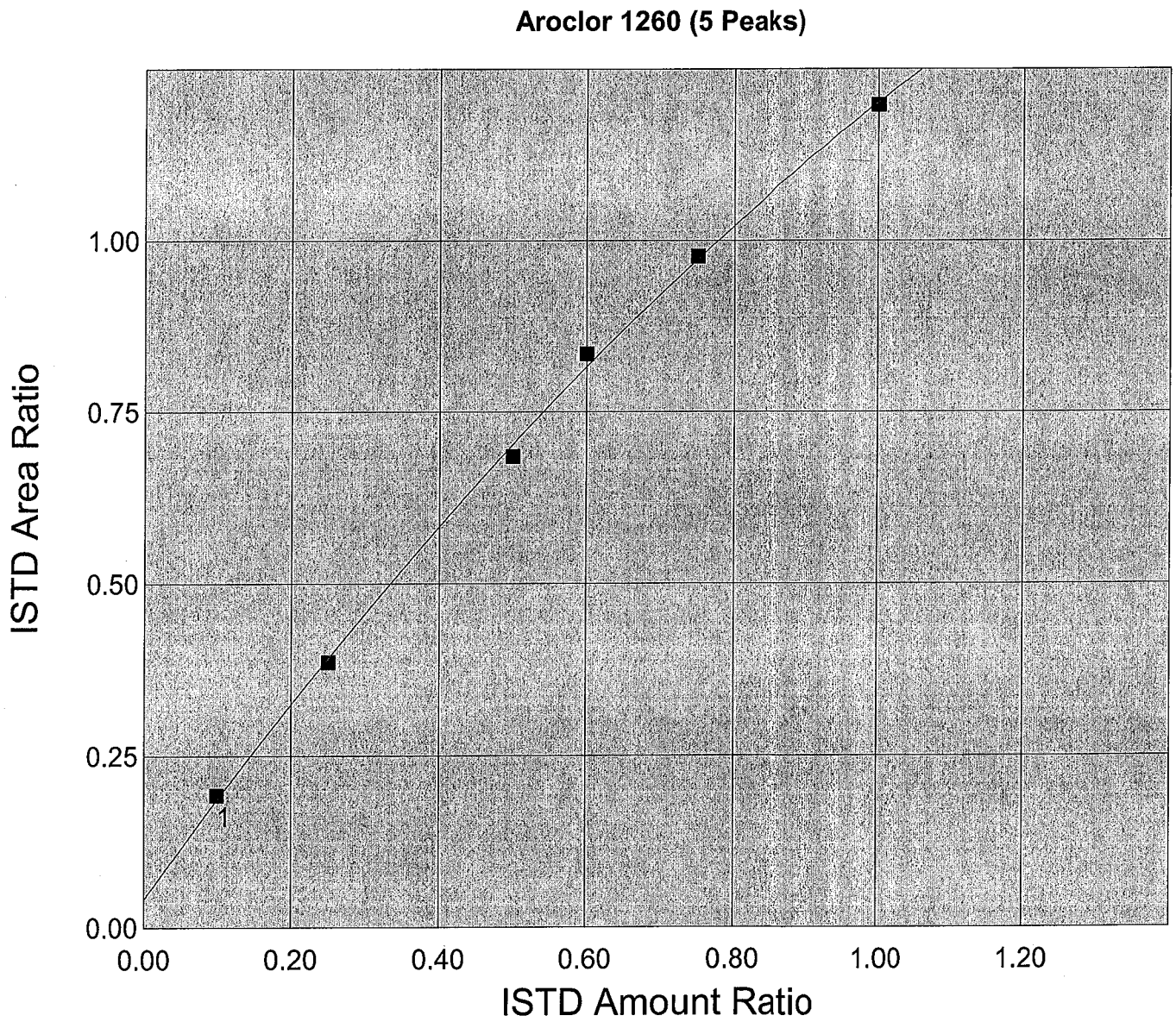
Fit Analysis Output For Method File: C:\NORTON\11-4-21\NPCB-102021.MTH
Reprocess Number : semivol-gc: 49635
Component Name : Aroclor 1260 (5 Peaks)
Date : 11/5/2021 8:18:09 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.998883
Calibration Curve : Y = (0.041307) +(1.485398) X +(-0.325206) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.100000	0.104273	-0.004273	-4.098	0.192658	0.187	0.006	3.250
2	0.250000	0.245219	0.004781	1.950	0.385999	0.392	-0.006	-1.614
3	0.500000	0.484389	0.015611	3.223	0.684514	0.703	-0.018	-2.589
4	0.600000	0.616840	-0.016840	-2.730	0.833821	0.815	0.018	2.250
5	0.750000	0.754204	-0.004204	-0.557	0.976614	0.972	0.004	0.431
6	1.000000	0.995124	0.004876	0.490	1.197420	1.201	-0.004	-0.339



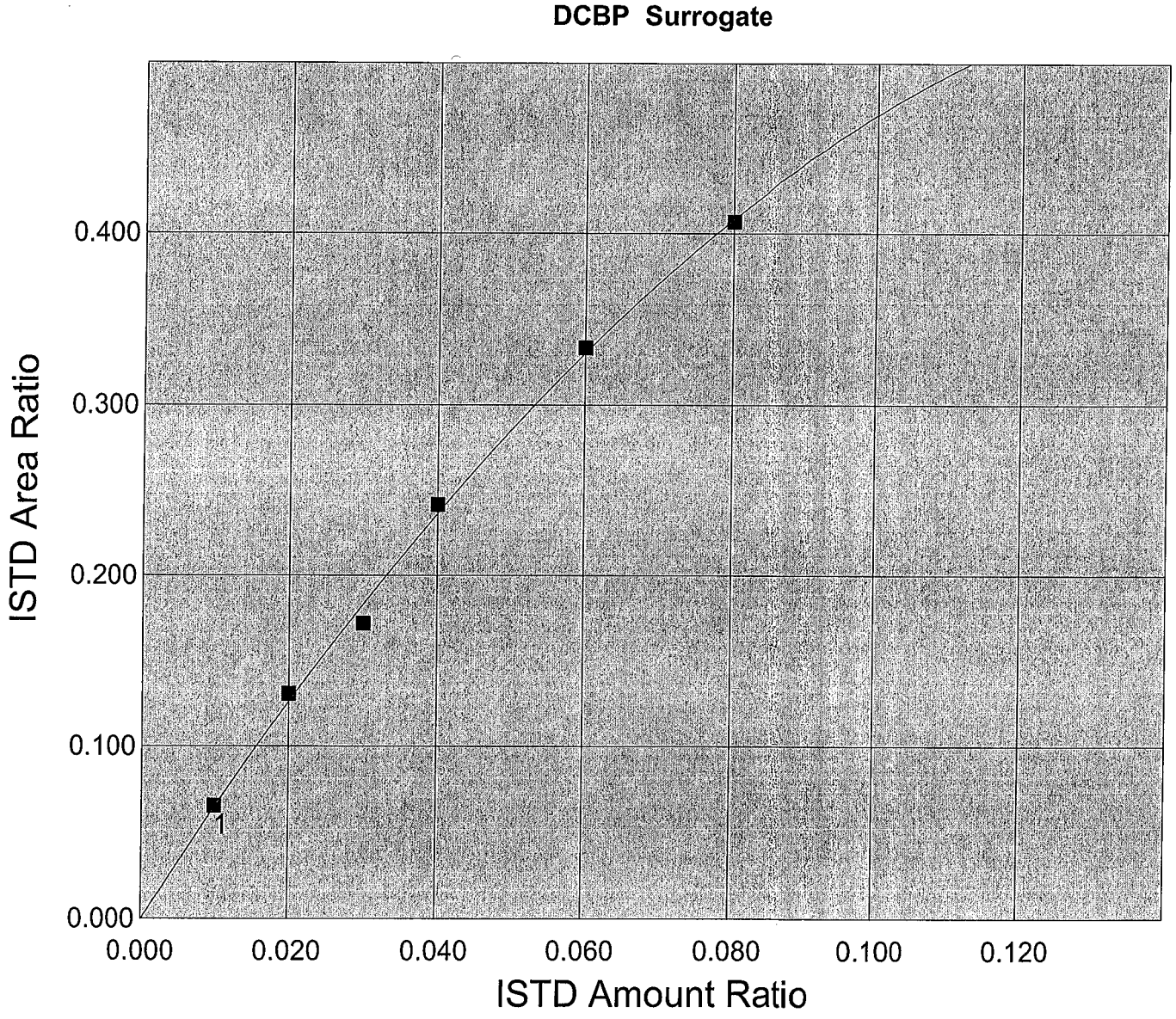
Fit Analysis Output For Method File: C:\NORTON\11-4-21\NPCB-102021.MTH
Reprocess Number : semivol-gc: 49635
Component Name : DCBP Surrogate
Date : 11/5/2021 8:18:13 AM

Curve Parameters:

Curve #1 : 2nd Order
Weighting Factor = 1 (No Weighting) R-Squared = 0.997724
Calibration Curve : Y = (-0.000513) +(6.736105) X +(-20.351392) X^2

Curve #1 :

Level Name	Observed X-Value	Calculated X-Value	Delta	%Diff.	Observed Y-Value	Calculated Y-Value	Delta	%Diff.
1	0.010000	0.010117	-1.173e-04	-1.160	0.065555	0.065	0.001	1.145
2	0.020000	0.020743	-7.435e-04	-3.584	0.130460	0.126	0.004	3.484
3	0.030000	0.027936	0.002064	7.390	0.171782	0.183	-0.011	-6.260
4	0.040000	0.041000	-0.001000	-2.439	0.241457	0.236	0.005	2.153
5	0.060000	0.060638	-6.381e-04	-1.052	0.333120	0.330	0.003	0.827
6	0.080000	0.079575	0.000425	0.534	0.406645	0.408	-0.001	-0.363



Software Version : 6.3.2.0646
Sample Name : 21J0403 Restek 32039 0.50 ppm PCB
Instrument Name : BACCHUS
Rack/Vial : 0/0
Sample Amount : 1.000000
Cycle : 1
Date : 11/5/2021 8:19:43 AM
Data Acquisition Time : 10/20/2021 11:51:31 AM
Channel : A
Operator : Manager
Dilution Factor : 1.000000

Result File : C:\Norton\10-20-21\1010.rst
Sequence File : C:\Norton\NPCB.seq

NORTON 0.50 ppm ICV - Method 8082

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.	
3.705	TCmX Surrogate	4079	0.004	3.3e-04	0.0003	0.1	
5.127	Aroclor 1016 (5 Peak	555433	0.515	0.5139	0.5139	102.8	OK
7.264	TCBP I.S.	1078684	1.000	-------	--------	-----	
9.697	Aroclor 1260 (5 Peak	799291	0.741	0.5333	0.5333	106.7	OK
14.687	DCBP Surrogate	5033	0.005	7.7e-04	0.0008	0.2	

Group Report For : Aroclor 1016 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.
4.069	1016 Congener #1	62790	0.058	0.4665	0.4665	93.3
4.563	1016 Congener #2	118848	0.110	0.5136	0.5136	102.7
4.810	1016 Congener #3	73564	0.068	0.5168	0.5168	103.4
5.127	1016 Congener #4	208998	0.194	0.5249	0.5249	105.0
5.267	1016 Congener #5	91234	0.085	0.5242	0.5242	104.8

11/5/2021 8:19:43 AM Result: C:\Norton\10-20-21\1010.rst

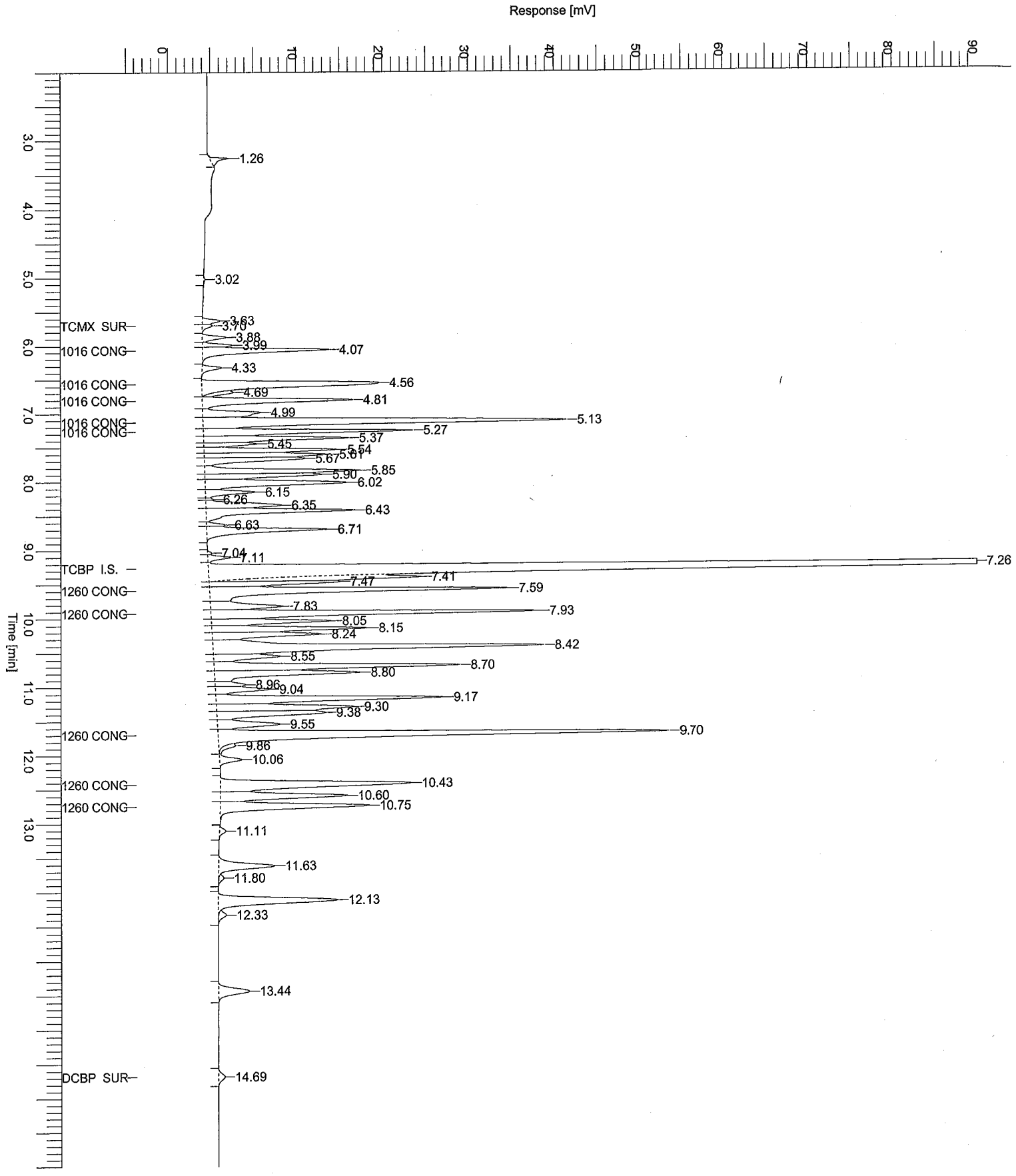
Group Report For : Aroclor 1260 (5 Peaks)

R.T. [min]	Component Name	Area [µV·s]	I.S. Resp Ratio	Raw Amount	Adjusted Amount	ICV % Rec.
7.588	1260 Congener #1	159492	0.148	0.5509	0.5509	110.2
7.926	1260 Congener #2	156415	0.145	0.5368	0.5368	107.4
9.697	1260 Congener #3	265739	0.246	0.5242	0.5242	104.8
10.429	1260 Congener #4	128206	0.119	0.5188	0.5188	103.8
10.752	1260 Congener #5	89439	0.083	0.5535	0.5535	110.7

Report stored in ASCII file: C:\Norton\10-20-21\1010.TX0

NORTON - DB-5 Method 8082

Sample Name : 21J0403 Restek 32039 0.50 ppm PCB Sample #: Page 1 of 1
FileName : C:\Norton\10-20-21\1010.raw
Date : 11/5/2021 8:19:44 AM
Method :
Time of Injection: 10/20/2021 11:51:31 AM
Start Time : 0.00 min End Time : 16.00 min Low Point : 0.00 mV High Point : 100.00 mV
Plot Offset: 0.00 mV Plot Scale: 100.0 mV



Fishbeck, Thompson, Carr & Huber

Ottawa CO P&P/518 S. Harbor Dr. Phase II ESA/211365

Fibertec A05022

Level IV Data Package

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TO-15 INITIAL CALIBRATION, VN400B77

- ICAL RESPONSE FACTOR REPORT
- TUNE RAW DATA
- ICAL RAW DATA
- ICV RAW DATA

SECTION #4: RAW DATA, by batch

PAH AIR SAMPLE RAW DATA

SJ21K11A

TUNE	A05022-008.01	A05022-010.02
SIM01	A05022-009.01	A05022-011.02
PS21K11C.MB-PNA	A05022-010.01	A05022-012.02
PS21K11C.LCS-PNA	A05022-011.01	
PS21K11C.LCD-PNA	A05022-012.01	
A05022-013.01	A05022-007.02	
A05022-014.01	A05022-008.02	
A05022-007.01	A05022-009.02	

TO-15 SAMPLE RAW DATA WITH DETAILED SUMMARY REPORT

VN2109A

TUNE	VBLK01	A05022-003.02
VCCV01	A05022-001.01	A05022-004.01
VLCS01	A05022-002.01	A05022-005.01
VLCD01	A05022-003.01	A05022-006.01

VN21K10B

TUNE	VBLK01
VCCV01	A05022-004.02
VLCS01	A05022-005.02
VLCD01	

SECTION #5: SAMPLE AND STANDARD PREPARATION DOCUMENTATION

PAH PREPARATION BENCH SHEET

TO-15 PREPARATION BATCH REPORT

TO-15 CALIBRATION CURVE PREPARATION REPORT

PAH STANDARD PREPARATION

TO-15 STANDARD PREPARATION

PAH STANDARD CERTIFICATES OF ANALYSIS

TO-15 STANDARD CERTIFICATES OF ANALYSIS

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PAH VAPOR TUBE SAMPLING FIELD WORKSHEET

SECTION #1: WORK SUMMARY

CASE NARRATIVE

COC

EGLE LETTER OF APPROVAL FOR NIOSH 5515

FIBERTEC ANALYSIS VERIFICATION LETTER

COVER LETTER

LABORATORY REPORT

Client: Fishbeck, Thompson, Carr & Huber
Project Name: Ottawa CO P&P/518 S. Harbor Dr Phase II ESA

Fourteen air samples, including blanks, were collected on November 1, 2021 and received by Fibertec, Inc. on November 3, 2021. TO-15 samples arrived at room temperature. The shipping cooler temperature was received at 6.9°C, exceeding specifications (0 – 6 °C), but was on ice and in the process of cooling. All samples arrived without any visible signs of tampering or breakage. The samples were prepared and analyzed within the required hold times. Samples placed on hold were not analyzed.

This case narrative references the amended report issued on December 21, 2021.

Back sections of PAH tubes were analyzed and show no signs of breakthrough.

Upon analysis, it was discovered that the field spike tube had not been spiked prior to going to the field and therefore could not be evaluated. Batch precision and accuracy were evaluated by LCS and LCD, which met all criteria.

Exceptions are noted below.

Cross reference

Lab ID #	Client ID #	Matrix	Requested Tests
A05022-001	CL-SG-GP-1 (7')I	Air	VOCs
A05022-002	CL-SG-GP-2 (4.5')I	Air	VOCs
A05022-003	CL-SG-GP-3 (4.5')I	Air	VOCs
A05022-004	CL-SG-GP-4 (1.75')I	Air	VOCs
A05022-005	CL-SG-GP-5 (10')I	Air	VOCs
A05022-006	CL-SG-GP-1 (7') (D)	Air	VOCs
A05022-007	CL-SG-GP-1 (7')I	Air	SVOCs
A05022-008	CL-SG-GP-2 (4.5')I	Air	SVOCs
A05022-009	CL-SG-GP-3 (4.5')I	Air	SVOCs
A05022-010	CL-SG-GP-5 (10')I	Air	SVOCs
A05022-011	CL-SG-GP-4 (1.75') (D)	Air	SVOCs
A05022-012	CL-SG-GP-4 (1.75')I	Air	SVOCs
A05022-013	Field Blank	Air	SVOCs
A05022-014	Field Spike	Air	HOLD

Exceptions

TO-15 Method: EPA TO-15

Samples -001 through -006 were qualified for 1,4-Dichlorobenzene due to high Laboratory Control Sample and/or the Laboratory Control Sample Duplicate. Results may be biased high, but were non-detect.

Samples -001 through -006 were qualified as estimated for the listed compounds due to high Initial Calibration Verification. Results may be biased high, but were non-detect.

Bromoform	1,4-Dichlorobenzene

Samples -004 and -005 were qualified as estimated for the listed compounds due to high Continuing Calibration Verification. Results may be biased high, but were non-detect.

Benzyl Chloride	Bromoform	1,2-Dichlorobenzene
1,3-Dichlorobenzene	1,4-Dichlorobenzene	Hexachlorobutadiene
Naphthalene		

No further exceptions were observed.

Canister Samples Chain of Custody Record

Client Contact Information	Client Project Manager: Kirk Perschbacher	Samples Collected By: MRH	COC No: 199451
Company Name: fishbeck	Phone: 616.464.3956		1 of 1 COCs
Address: 1515 Arboretum Dr. SE	Email: kperschbacher@fishbeck.com		TALS Project #:
City/State/Zip: Grand Rapids, MI 49546			For Lab Use Only:
Phone: 616.575.3824	Site Contact:		Walk-in Client:
FAX:	Tel/Fax		Lab Sampling:
Project Name: Ottawa CO P&P/518 S. Harbor Dr Phase II ESA	Analysis Turnaround Time		Job / SDG No.:
Site/Location: Grand Haven, MI	Standard (Specific): X		(See below for Add'l Items)
211365	Rush (Specifiy):		

Sample Identification	Sample Start Date	Time Start	Sample End Date	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 (Full List)	TO-17 (PNAs)	Sample Type	Indoor Air/Ambient Air	Sub-Slab	Soil Gas	Soil Vapor Extraction (SVE)	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
CL-SG-GP-1 (7')I	11/1/21	13:46	11/1/21	13:53	30	3	2506	2340	X					X				
CL-SG-GP-2(4.5')I		12:53		13:00	27	2	2633	3021						X				
CL-SG-GP-3(4.5')I		11:48		11:55	27	2	3259	3567						X				
CL-SG-GP-4(1.75')I		14:36		14:42	28	3.5	3988	2589					X					
CL-SG-GP-5(10') I		15:27		15:34	26	4	3379	2269					X					
~~CL-SG-GP-6(~~) MRH														X				
CL-SG-GP-1 (7') (D)		13:54		14:01	30+	3.5	2506	3680										

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:

Samples Shipped by: Mel to fishbeck storage	Date / Time: 11/2/21 17:00	Samples Received by: 11B @ 11-3-21	
Samples Relinquished by: fishbeck Storage	Date / Time: 11/3/21 11:20	Received by:	
Relinquished by: Oleanne Jeannot	Date / Time: 11/3/21 11:20	Received by:	Received By Lab
Lab Use Only: Shipper Name:	Opened by: 11-3-21 1521	Condition: Seplific	NOV 03 2021
		AO5022 Room Temp	Initials: SS

Fibertec environmental services

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: osbestos@fibertechs.com

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 203577

PAGE ___ of ___

Client Name: fishbeck
Contact Persan: Kirk Perschbacher
Project Name/ Number: Ottawa CO P&P/518 S. Harbor Dr Phase II ESA - 211365
Email distribution list: pdmahler@fishbeck.com tcampbell@fishbeck.com
Quote#
Purchase Order# 211365

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS: TO-15 PAH 13	HOLD SAMPLE
11/1/21	14:16		CL-SG-GP-1 (7')I	A	1	X	
	13:31		CL-SG-GP-2(4.5')I		1		
	12:34		CL-SG-GP-3(4.5')I				
13:48 MLH	[illegible]		CL-SG-GP-5( ) (10') I				
			~~CL-SG-GP-6(~~ ~~)~~ MLH				
	15:11		CL-SG-GP-4 (1.75') (D)				
	14:58		CL-SG-GP-4 (1.75') I				
	12:00		Field Blank				
	—		Field Spike				

Matrix Code: S Soil; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Deliverables: Level 2; Level 3; Level 4; EDD

Remarks:

Received By Lab
NOV 03 2021
Initials: SS

Comments:

Sampled/Relinquished By: Mel to Fishbeck Storage 11/2/21 17:00	Date/ Time 11-3-21 1118	Received By:	
Relinquished By: Fishbeck Storge to Leanne Jennet	Date/ Time 11-3-21 1120	Received By:	
Relinquished By: Leanne Jennet	Date/ Time 11/3/21 11:20	Received By Laboratory:	
	Date/ Time 11-3-21 1521		

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY

Fibertec project number: A05022

Temperature upon receipt at Lab: 6.9°C

RCVD ON ICE

Please see back for terms and conditions

2021-1101-01

LABORATORY SERVICES REQUEST – Fishbeck

PROJECT INFORMATION

Number:	211365
Name:	Ottawa CO P&P/518 South Harbor Drive Phase II ESA
Manager:	Kirk Perschbacher
Sampling Date:	10/21/2021
Laboratory/Location:	Fibertec/Holt

REGULATORY PROGRAM (REPORTING LIMITS)

Part 201	■
Part 213	
NPDES Permit	
Other:	Due Care

BILLING INFORMATION

FTC&H	■	Quote No.
Client		

SAMPLE QUANTITY/MATRIX

Indicate number of samples in box provided.
A separate form must be completed per matrix type.

REPORTING INFORMATION

Fishbeck	■	
Client		
Std QC Report (Level II)		← *Must specify QC report for all projects*
Full Deliverables (Level IV)	■	
Turnaround Time:	■	Standard
		Priority:

If direct reporting or billing client, please provide information below

Company Name:	
Attention:	
Email Address:	

INVESTIGATIVE		Groundwater
		Soil
		Surface Water
		Drinking Water
		Wastewater
	6	SOIL GAS
QA/QC	1	Duplicates
		MS/MSDs
		Equipment Blanks
		Field Blanks
		Trip Blanks

ADDITIONAL PROJECT INFORMATION FOR LABORATORY

CL-SG-GP-1 through CL-SG-GP-6

GENERAL CHEMISTRY

Alkalinity, Total		Cyanide, Total		pH		Solids, V.S.	
Bicarbonate Alkalinity		Fluoride		Phenols, T		Specific Conductivity	
Carbonate Alkalinity		Hardness		Phosphorus, D.		Specific Gravity	
BOD		MBAS (surfactants)		Phosphorus, O		Sulfate	
Chloride		N, Ammonia		Phosphorus, T.		Sulfide	
COD		N, Nitrate		Solids, Total		TPH	
Color		N, Nitrite		Solids, T.D.		TOC	
Cyanide, Amenable		N, Total Kjeldahl		Solids, T.S.			
Cyanide, Available		Oil & Grease		Solids, V.			

METALS		**DISSOLVED**		**TOTAL**			
Aluminum		Chromium, Hexavalent		Manganese		Sodium	
Antimony		Chromium, Total		Mercury		Thallium	
Arsenic		Cobalt		Mercury (EPA 1631)		Vanadium	
Barium		Copper		Molybdenum		Zinc	
Beryllium		Iron		Nickel		Michigan 10	
Boron		Lead		Potassium		OM 2/ATT 8/Table 3	
Cadmium		Lead (Total, Fine, Coarse)		Selenium			
Calcium		Magnesium		Silver			

ORGANICS

EPA 601 (Halocarbons)		EPA 608 (Pest/PCBs)		EPA 8270 (PNAs)		EPA 8082 (PCBs)	
EPA 602 (Aromatics)		EPA 8260 (VOCs)		EPA 8270 (Acids)		EPA 8015/GRO	
EPA 624 (VOCs)		EPA 8260 Plus (VOCs)		EPA 8270 (B/N)		TO-15 VOCs (8260+)	■
EPA 625 (A/BN)		EPA 8270 (SVOCs)		EPA 8081A (Pest)		TO-17 PNAs	■

WASTE CHARACTERIZATION		***Federal regulatory parameters and limits unless specified***					
TCLP/Metals		SPLP/SVOCs (A/BN)		ASTM D3987-85/SVOCs		Paint Filter Test	
TCLP/SVOCs (Full)		SPLP/PCBs		ASTM D3987-85/Pest & PCBs		Cyanide, Reactive	
TCLP/SVOCs (A/BN)		SPLP/Cyanide		ASTM D3987-85/Cyanide		Sulfide, Reactive	
TCLP/VOCs		SPLP/Sulfide		ASTM D3987-85/Cyanide		Flash Point	
SPLP/Metals		SPLP/VOCs		ASTM D3987-85/Sulfide		pH	
SPLP/SVOCs (Full)		SPLP/Hex Cr		ASTM D3987-85/Hex Cr			

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

August 12, 2020

Fibertec Environmental Services
c/o Mr. Daryl Strandbergh, Laboratory Director
1914 Holloway Drive
Holt, Michigan 48842

Dear Mr. Strandbergh**:**

SUBJECT: Notice of Approval with Conditions of NIOSH 5515/TO-13A – Modified for Polycyclic Aromatic Hydrocarbon (PAH) Analysis in Soil Gas

The Michigan Department of Environment, Great Lakes, and Energy, Remediation and Redevelopment Division (EGLE-RRD) has reviewed the proposed modifications to the National Institute for Occupational Safety and Health's analytical method NIOSH 5515/TO-13A modified for polycyclic aromatic hydrocarbon (PAH) analysis in soil gas (NIOSH 5515M/TO-13AM). The NIOSH 5515M/TO-13AM was submitted and proposed by Fibertec Environmental Services of Holt, Michigan (Fibertec). In addition to EGLE's review, the modifications underwent a technical review by Geosyntec Consultants of Ann Arbor, Michigan (Geosyntec). Based upon EGLE's review and Geosyntec's recommendation, EGLE conditionally approves of Fibertec's use of NIOSH 5515M/TO-13AM for the analysis of PAHs in soil gas or subsurface vapor.

Geosyntec verified and validated that the proposed NIOSH 5515M/TO-13AM air method will produce defensible data that are reproducible, traceable, transparent, and of known quality for the analysis of mercury in soil gas. The final version of the NIOSH 5515M/TO-13AM method as reviewed by Geosyntec was submitted to EGLE on August 5, 2020 and is attached.

This approval is conditioned on the inclusion of the following information with each final laboratory data package:

1. A copy of this approval letter (without the attachments);
2. Written verification from Fibertech that the samples were analyzed in accordance with the approach and modifications identified in the August 7, 2020 letter as attached, and;
3. Written verification from the field sampling collection team that all field sampling methodology including sampling collection rates and volumes, calibration of sampling pumps, and the collection of blanks used in the collection of the soil gas or subsurface vapor sample were performed as outlined and described in the August 7, 2020 letter as attached.

If the above conditions are not met, EGLE approval of the data generated from the use of the NIOSH 5515M/TO-13AM air method may not be possible. This approval with conditions is based upon the representations and information contained in the August 7, 2020 that contains information on the modifications as provided by Fibertech and does not speak to the representativeness of the sample, nor that sufficient sampling was completed.

If you should have further questions or concerns, please contact Matthew Williams at williamsm13@michigan.gov at your earliest convenience.

Sincerely,



Joshua M. Mosher, Assistant Director
Remediation and Redevelopment Division

Attachment
cc: Matthew Williams, Vapor Intrusion Specialist
Patricia Brandt, Program Specialist
file

Geosyntec consultants
Geosyntec Consultants of Michigan, Inc.

2100 Commonwealth Blvd., Suite 100
Ann Arbor, Michigan 48015
PH 734.332.8004
www.geosyntec.com

7 August 2020

Matthew Williams
Volatilization to Indoor Air Specialist
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy
517-284-5171 | WilliamsM13@Michigan.gov

Subject: Approval of NIOSH 5515M / TO-13AM for Polycyclic Aromatic Hydrocarbon (PAH) Analysis in Soil Gas by Fibertec, Inc.

Dear Mr. Williams:

Geosyntec Consultants of Michigan, Inc (Geosyntec) was retained by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to evaluate whether the methods used by the environmental analytical laboratory of Fibertec, Inc of Holt, Michigan (Fibertec laboratory) for collection and analysis of soil gas samples for PAH analysis by modified NIOSH Method 5515 and modified USEPA Method TO-13A will provide data of acceptable data quality in order to support EGLE's approval.

Geosyntec prepared a request for information (**Table 1**) and reviewed the documents provided by the Fibertec laboratory on July 27, 2020, in response to the request, which are included in **Attachment A**, specifically:

- The laboratory standard operating procedure(s) associated with the sample preparation and analysis.
- A full or EPA Contract Laboratory Program (CLP)-like data package that has been validated for samples prepared and analyzed by modified NIOSH Method 5515.
- Method detection limit study
- Standards traceability documentation
- Analyst training records
- Laboratory accreditations

- Reporting and detection limits

Geosyntec also reviewed the reporting limits for the method, provided by Fibertec (**Table 2**) to assure that the Fibertec analytical method is sensitive enough to reliably quantify PAHs from 0.001 to 0.25 µg. In order to have a concentration reporting limit equal to or less than the criteria for PAHs in residential soil vapor or subslab vapor provided by Shane Morrison of Michigan EGLE via email on 10 March 2020, the sample volume would need to be at least 0.75 liter (L), which is necessary to quantify phenanthrene at 3.5 microgram per cubic meter ($\mu g/m^3$). We consider the sample volume of 2 L recommended by Fibertec to be appropriate because it provides a margin above the minimum volume that will help to avoid uncertainties that may be associated with barely reportable concentrations. We recommend that the samples be collected at a flow rate no greater than 0.2 liters per minute (L/min). This corresponds to a sample duration of about 10 minutes, which is practical, affordable and easily measured.

Review and approval of Fibertec's sampling standard operating procedure (SOP) will be done under a separate cover. We recommend that the SOP includes: purging of at least one tubing volume of soil gas through a sacrificial tube prior to sampling; confirming that the sampling flow rate can be sustained without laboring the pump (permeability is adequate); and confirming water is not drawn up from the probe. Additionally, we recommend that language be added to the SOP that indicates that the sampling protocol can be modified, but only in ways that meet project specific data quality objectives, through submittal of a request for EGLE to review a Response Activity Plan, under Section 20114b, Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Geosyntec also performed a Stage 4 validation of the data package submitted by Fibertec and concluded that the reported results were correctly produced per the specifications of the provided laboratory SOPs.

Geosyntec concludes that Fibertec laboratory can provide defensible data that are traceable, transparent and of known quality, if analyses are conducted in accordance with the attached documents and Fibertec receives the volumetric flow rate through the sampling apparatus, total sample volume, and a fortified field blank to demonstrate acceptable recoveries is carried to sampling sites by the field representative who collects the samples.

Regards,



Julia K. Caprio MBA ASQ-CMQ/OE
Sr. Principal/Quality Assurance



Todd A. McAlary, Ph.D., CUT, P.Eng.ON, BC, P.G.NC
Practice Leader – Vapor Intrusion Services

Attachments:
Table 1 – Documentation Checklist for PAHs by Modified NIOSH 5515 / USEPA TO-13A
Table 2 – Reporting Limits and Volume Requirements for Soil Vapor
Attachment A - Submitted Documentation

Copies to: Sam Baushke, Geosyntec

Fibertec Project Number: A05022

The analysis of the samples included in this report were analyzed in accordance with the approach and modifications identified in the attached EGLE approval letter(s).

Reviewed and Approved by:

Signature: Ken Mueller

Printed Name: Ken Mueller

Date: 11/18/2021

Title: Quality Assurance Officer

Fibertec environmental services

Tuesday, December 21, 2021

Fibertec Project Number:	A05022
Project Identification:	Ottawa CO P&P/518 S. Harbor Dr Phase II ESA /211365
Submittal Date:	11/03/2021

Mr. Kirk Perschbacher
Fishbeck, Thompson, Carr & Huber - G.R.
1515 Arboretum Dr., S.E.
Grand Rapids, Michigan 49546

Dear Mr. Perschbacher,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Back sections of PAH tubes were analyzed and show no signs of breakthrough unless otherwise noted.

Upon analysis, it was discovered that the field spike tube had not been spiked prior to going to the field and therefore could not be evaluated.

Batch precision and accuracy were evaluated by LCS and LCD, which met all criteria.

This report has been amended to update the TO-15 qualifiers for Bromoform and 1,4-Dichlorobenzene and replaced the report issued on November 18, 2021.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,



By Sharon Rakow at 2:07 PM, Dec 21, 2021

For Daryl P. Strandbergh
Laboratory Director

Enclosures

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A05022
Laboratory Sample Number: A05022-001

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:46**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-001** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:46**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-001** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 15:49	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**95**	%	80-120	VN	VN21K09A	11/9/2021 15:49	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:53**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-002** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:53**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-002** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 16:36	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**105**	%	80-120	VN	VN21K09A	11/9/2021 16:36	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**11:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-003** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**11:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-003** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 17:23	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**107**	%	80-120	VN	VN21K09A	11/9/2021 17:23	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:36**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-004** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
2. Benzene	U		µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
3. Benzyl Chloride	U	V+	µg/m3	6.2	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
5. Bromoform	U	V+ ICV+	µg/m3	62	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
17. 1,2-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
18. 1,3-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
19. 1,4-Dichlorobenzene	U	V+ L+ ICV+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
34. Hexachlorobutadiene	U	V+	µg/m3	5.1	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:36**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-004** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
41. MTBE	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 42. Naphthalene	U	V+	µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
43. Styrene	U		µg/m3	51	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
47. Toluene	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/10/21	VN21K10B	11/10/21 17:22	VN21K10B	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**89**	%	80-120	VN	VN21K10B	11/10/2021 17:22	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:27**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-005** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
2. Benzene	U		µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
3. Benzyl Chloride	U	V+	µg/m3	6.2	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
5. Bromoform	U	V+ ICV+	µg/m3	62	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
17. 1,2-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
18. 1,3-Dichlorobenzene	U	V+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
19. 1,4-Dichlorobenzene	U	V+ L+ ICV+	µg/m3	36	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
34. Hexachlorobutadiene	U	V+	µg/m3	5.1	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:27**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-005** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
41. MTBE	U		µg/m3	22	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 42. Naphthalene	U	V+	µg/m3	19	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
43. Styrene	U		µg/m3	51	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
47. Toluene	U		µg/m3	23	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
51. Trichloroethene	**6.4**		µg/m3	1.6	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/10/21	VN21K10B	11/10/21 18:09	VN21K10B	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**98**	%	80-120	VN	VN21K10B	11/10/2021 18:09	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7') (D)**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:54**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-006** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acetone	U		µg/m3	57	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
2. Benzene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
3. Benzyl Chloride	U		µg/m3	6.2	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
4. Bromodichloromethane	U		µg/m3	8.0	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
5. Bromoform	U	ICV+	µg/m3	62	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
6. Bromomethane	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
7. 1,3-Butadiene	U		µg/m3	0.66	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
8. 2-Butanone	U		µg/m3	35	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 9. Carbon Disulfide	U		µg/m3	37	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
10. Carbon Tetrachloride	U		µg/m3	7.5	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
11. Chlorobenzene	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
12. Chloroethane	U		µg/m3	16	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
13. Chloroform	U		µg/m3	5.9	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
14. Chloromethane	U		µg/m3	12	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
15. Cyclohexane	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
16. Dibromochloromethane	U		µg/m3	4.1	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
17. 1,2-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
18. 1,3-Dichlorobenzene	U		µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
19. 1,4-Dichlorobenzene	U	L+ ICV+	µg/m3	36	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
20. Dichlorodifluoromethane	U		µg/m3	30	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
21. 1,1-Dichloroethane	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
22. 1,2-Dichloroethane	U		µg/m3	4.9	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
23. 1,1-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
24. cis-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
25. trans-1,2-Dichloroethene	U		µg/m3	24	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
26. 1,2-Dichloropropane	U		µg/m3	28	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
27. cis-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
28. trans-1,3-Dichloropropene	U		µg/m3	27	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
29. 1,4-Dioxane	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 30. Ethyl Acetate	U		µg/m3	43	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
31. Ethylbenzene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
32. Ethylene Dibromide	U		µg/m3	0.92	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
33. n-Heptane	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
34. Hexachlorobutadiene	U		µg/m3	5.1	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
35. n-Hexane	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 36. 2-Hexanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7') (D)**	Chain of Custody:	**199451**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01 - 11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:54**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Bottle-Vac) **Aliquot ID: A05022-006** **Matrix: Air**
Method: EPA TO-15 **Description: CL-SG-GP-1 (7') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 37. Isopropanol	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
38. 4-Methyl-2-pentanone	U		µg/m3	49	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
39. Methylene Chloride	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 40. 2-Methylnaphthalene	U		µg/m3	140	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
41. MTBE	U		µg/m3	22	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 42. Naphthalene	U		µg/m3	19	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
43. Styrene	U		µg/m3	51	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
44. 1,1,2,2-Tetrachloroethane	U		µg/m3	3.3	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
45. Tetrachloroethene	U		µg/m3	41	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 46. Tetrahydrofuran	U		µg/m3	4.0	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
47. Toluene	U		µg/m3	23	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
48. 1,2,4-Trichlorobenzene	U		µg/m3	89	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
49. 1,1,1-Trichloroethane	U		µg/m3	33	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
50. 1,1,2-Trichloroethane	U		µg/m3	6.5	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
51. Trichloroethene	U		µg/m3	1.6	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
52. Trichlorofluoromethane	U		µg/m3	34	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 53. 1,1,2-Trichlorotrifluoroethane	U		µg/m3	46	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
54. 1,2,4-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
55. 1,3,5-Trimethylbenzene	U		µg/m3	29	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
56. Vinyl Acetate	U		µg/m3	42	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
57. Vinyl Chloride	U		µg/m3	15	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
58. m&p-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
59. o-Xylene	U		µg/m3	52	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM
‡ 60. Xylenes	U		µg/m3	100	4.0	11/09/21	VN21K09A	11/09/21 20:31	VN21K09A	KCM

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
4-Bromofluorobenzene(S)	**106**	%	80-120	VN	VN21K09A	11/9/2021 20:31	1	VN400

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-1 (7')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:16**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-007** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-1 (7')I**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:07	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**88**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR
1-Fluoronaphthalene(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR
4-Terphenyl-d14(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 20:07	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-2 (4.5')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:31**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-008** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-2 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 20:44	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**87**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR
1-Fluoronaphthalene(S)	**84**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR
4-Terphenyl-d14(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 20:44	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-3 (4.5')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**12:34**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-009** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-3 (4.5')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:21	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**82**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR
1-Fluoronaphthalene(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR
4-Terphenyl-d14(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:21	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-5 (10')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**13:48**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-010** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-5 (10')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 21:57	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR
1-Fluoronaphthalene(S)	**76**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR
4-Terphenyl-d14(S)	**77**	%	70-130	SJ	SJ21K11A	11/11/2021 21:57	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75') (D)**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**15:11**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-011** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-4 (1.75') (D)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 22:34	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**90**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR
1-Fluoronaphthalene(S)	**84**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR
4-Terphenyl-d14(S)	**85**	%	70-130	SJ	SJ21K11A	11/11/2021 22:34	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**CL-SG-GP-4 (1.75')I**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Air**	Collect Time:	**14:58**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-012** **Matrix: Air**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: CL-SG-GP-4 (1.75')I**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg/m3	2.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg/m3	5.0	1.0	11/11/21	PS21K11C	11/11/21 23:11	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**81**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR
1-Fluoronaphthalene(S)	**73**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR
4-Terphenyl-d14(S)	**78**	%	70-130	SJ	SJ21K11A	11/11/2021 23:11	1	SJAIR

Client Identification:	**Fishbeck, Thompson, Carr & Huber - G.R.**	Sample Description:	**Field Blank**	Chain of Custody:	**203577**
Client Project Name:	**Ottawa CO P&P/518 S. Harbor Dr Phase II ESA**	Sample No:		Collect Date:	**11/01/21**
Client Project No:	**211365**	Sample Matrix:	**Blank: Tube**	Collect Time:	**12:00**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons - Modified for GC/MS **Aliquot ID: A05022-013** **Matrix: Blank: Tube**
Method: NIOSH 5515 (Modified)/EPA TO-13A (Modified) **Description: Field Blank**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Acenaphthene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 2. Acenaphthylene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 3. Anthracene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 4. Benzo(a)anthracene (SIM)	U		µg	0.0020	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 5. Fluorene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 6. 2-Methylnaphthalene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 7. Naphthalene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 8. Phenanthrene (SIM)	U		µg	0.0025	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA
‡ 9. Pyrene (SIM)	U		µg	0.0050	1.0	11/11/21	PS21K11C	11/11/21 18:54	SJ21K11A	BDA

Surrogate Summary			Control Limits	Instrument	Batch	Run Time	Column	Inst. Method
2-Fluorobiphenyl(S)	**86**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR
1-Fluoronaphthalene(S)	**80**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR
4-Terphenyl-d14(S)	**82**	%	70-130	SJ	SJ21K11A	11/11/2021 18:54	1	SJAIR

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits
D: The sample or extract was analyzed at a DF greater than 1.

Exception Summary:

ICV+ : Recovery in the associated initial calibration verification sample exceeds the upper control limit. Results may be biased high.
L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.

Accreditation Number(s):

T104704518-19-8 (TX)

SECTION #2: QC SUMMARY

QC SUMMARY

TO-15 DUPLICATE RESULTS SUMMARY SHEET

SURROGATE RECOVERY (FORM II)

TO-15 TUNE (FORM IV) ***(See raw data for PAH Tune)***

CCV (FORM VII)

ICV SUMMARY

INTERNAL STANDARD (FORM VIII)

PAH FIELD SPIKE SUMMARY

PS21K11C: Method Blank (MB)

EPA TO-13A (Modified

Run Time: PS21K11C.MB 11/11/2021 17:03 [SJ21K11A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/tube		µg/tube
Acenaphthene (SIM)	U		5.0
Acenaphthylene (SIM)	U		5.0
Anthracene (SIM)	U		5.0
Benzo(a)anthracene (SIM)	U		2.0
Fluorene (SIM)	U		5.0
2-Methylnaphthalene (SIM)	U		5.0
Naphthalene (SIM)	U		5.0
Phenanthrene (SIM)	U		2.0
Pyrene (SIM)	U		5.0
2-Fluorobiphenyl(S)	***103***		***70-130***
1-Fluoronaphthalene(S)	***87***		***70-130***
4-Terphenyl-d14(S)	***114***		***70-130***

PS21K11C: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-13A (Modified

Run Time: PS21K11C.LCS: 11/11/2021 17:40 [SJ21K11A] PS21K11C.LCSD: 11/11/2021 18:17 [SJ21K11A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/tube	µg/tube	%	%		µg/tube	µg/tube	%		%	%	
Acenaphthene (SIM)	0.0200	0.0159	79	70-130		0.0200	0.0148	74		7	30	
Acenaphthylene (SIM)	0.0200	0.0183	91	70-130		0.0200	0.0173	86		6	30	
Anthracene (SIM)	0.0200	0.0150	75	70-130		0.0200	0.0170	85		13	30	
Benzo(a)anthracene (SIM)	0.0200	0.0182	91	70-130		0.0200	0.0173	86		6	30	
Fluorene (SIM)	0.0200	0.0165	82	70-130		0.0200	0.0157	79		4	30	
2-Methylnaphthalene (SIM)	0.0200	0.0173	86	70-130		0.0200	0.0181	91		6	30	
Naphthalene (SIM)	0.0200	0.0208	104	70-130		0.0200	0.0203	101		3	30	
Phenanthrene (SIM)	0.0200	0.0171	85	70-130		0.0200	0.0178	89		5	30	
Pyrene (SIM)	0.0200	0.0165	83	70-130		0.0200	0.0151	76		9	30	
2-Fluorobiphenyl(S)			***91***	***70-130***				***88***				
1-Fluoronaphthalene(S)			***77***	***70-130***				***79***				
4-Terphenyl-d14(S)			***86***	***70-130***				***83***				

VN21K09A: Method Blank (MB)

EPA TO-15

Run Time: VN21K09A.MB 11/09/2021 15:01 [VN21K09A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Acetone	U		57
Benzene	U		19
Benzyl Chloride	U		6.2
Bromodichloromethane	U		8.0
Bromoform	U		62
Bromomethane	U		23
1,3-Butadiene	U		0.66
2-Butanone	U		35
Carbon Disulfide	U		37
Carbon Tetrachloride	U		7.5
Chlorobenzene	U		28
Chloroethane	U		16
Chloroform	U		5.9
Chloromethane	U		12
Cyclohexane	U		41
Dibromochloromethane	U		4.1
1,2-Dichlorobenzene	U		36
1,3-Dichlorobenzene	U		36
1,4-Dichlorobenzene	U		36
Dichlorodifluoromethane	U		30
1,1-Dichloroethane	U		24
1,2-Dichloroethane	U		4.9
1,1-Dichloroethene	U		24
cis-1,2-Dichloroethene	U		24
trans-1,2-Dichloroethene	U		24
1,2-Dichloropropane	U		28
cis-1,3-Dichloropropene	U		27
trans-1,3-Dichloropropene	U		27
1,4-Dioxane	U		22
Ethyl Acetate	U		43
Ethylbenzene	U		52
Ethylene Dibromide	U		0.92
n-Heptane	U		49

VN21K09A: Method Blank (MB)

EPA TO-15

Run Time: VN21K09A.MB 11/09/2021 15:01 [VN21K09A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Hexachlorobutadiene	U		5.1
n-Hexane	U		42
2-Hexanone	U		49
Isopropanol	U		29
4-Methyl-2-pentanone	U		49
Methylene Chloride	U		42
2-Methylnaphthalene	U		140
MTBE	U		22
Naphthalene	U		19
Styrene	U		51
1,1,2,2-Tetrachloroethane	U		3.3
Tetrachloroethene	U		41
Tetrahydrofuran	U		3.5
Toluene	U		23
1,2,4-Trichlorobenzene	U		89
1,1,1-Trichloroethane	U		33
1,1,2-Trichloroethane	U		6.5
Trichloroethene	U		1.6
Trichlorofluoromethane	U		34
1,1,2-Trichlorotrifluoroethane	U		46
1,2,4-Trimethylbenzene	U		29
1,3,5-Trimethylbenzene	U		29
Vinyl Acetate	U		42
Vinyl Chloride	U		15
m&p-Xylene	U		52
o-Xylene	U		52
4-Bromofluorobenzene(S)	***95***		***80-120***

VN21K09A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K09A.LCS: 11/09/2021 12:35 [VN21K09A] VN21K09A.LCSD: 11/09/2021 13:23 [VN21K09A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Acetone	18.8	16.6	88	70-130		18.8	16.6	88		0	20	
Benzene	41.2	38.1	92	70-130		41.2	37.8	92		0	20	
Benzyl Chloride	75.7	100	132	70-150		75.7	102	134		2	20	
Bromodichloromethane	84.7	82.6	97	70-130		84.7	81.8	97		0	20	
Bromoform	134	170	127	70-138		134	176	131		3	20	
Bromomethane	51.7	51.4	99	70-133		51.7	51.9	100		1	20	
1,3-Butadiene	24.2	18.6	77	70-134		24.2	19.2	79		3	20	
2-Butanone	30.7	29.7	97	70-130		30.7	28.3	92		5	20	
Carbon Disulfide	38.8	36.6	95	70-130		38.8	35.2	91		4	20	
Carbon Tetrachloride	81.7	82.9	102	70-131		81.7	83.0	102		0	20	
Chlorobenzene	59.5	66.6	112	70-130		59.5	68.5	115		3	20	
Chloroethane	35.2	30.2	86	70-130		35.2	30.5	87		1	20	
Chloroform	64.0	60.8	95	70-130		64.0	59.8	93		2	20	
Chloromethane	26.9	20.8	77	70-130		26.9	21.0	78		1	20	
Cyclohexane	43.9	40.9	93	70-130		43.9	40.7	93		0	20	
Dibromochloromethane	99.3	117	118	70-135		99.3	122	123		4	20	
1,2-Dichlorobenzene	83.4	90.9	109	70-130		83.4	94.4	113		4	20	
1,3-Dichlorobenzene	91.7	117	127	70-131		91.7	120	131		3	20	
1,4-Dichlorobenzene	86.4	116	134	70-134		86.4	120	138	*	3	20	
Dichlorodifluoromethane	64.7	60.5	93	70-132		64.7	61.2	95		2	20	
1,1-Dichloroethane	51.4	45.7	89	70-130		51.4	44.6	87		2	20	
1,2-Dichloroethane	50.8	46.5	92	70-130		50.8	45.6	90		2	20	
1,1-Dichloroethene	51.0	43.0	84	70-133		51.0	42.9	84		0	20	
cis-1,2-Dichloroethene	50.4	46.9	93	70-130		50.4	45.7	91		2	20	
trans-1,2-Dichloroethene	45.5	45.1	99	70-130		45.5	44.5	98		1	20	
1,2-Dichloropropane	60.3	56.8	94	70-130		60.3	54.9	91		3	20	
cis-1,3-Dichloropropene	58.8	58.0	99	70-131		58.8	57.2	97		2	20	
trans-1,3-Dichloropropene	57.7	59.2	103	70-134		57.7	58.6	102		1	20	
1,4-Dioxane	46.6	46.9	101	70-130		46.6	47.4	102		1	20	
Ethyl Acetate	45.7	42.9	94	70-130		45.7	41.6	91		3	20	
Ethylbenzene	54.1	60.8	112	70-130		54.1	62.4	115		3	20	
Ethylene Dibromide	101	115	114	70-130		101	119	118		3	20	
n-Heptane	52.7	52.5	100	70-132		52.7	51.6	98		2	20	

VN21K09A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K09A.LCS: 11/09/2021 12:35 [VN21K09A] VN21K09A.LCSD: 11/09/2021 13:23 [VN21K09A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Hexachlorobutadiene	112	137	123	70-134		112	144	129		5	20	
n-Hexane	38.8	34.3	88	70-130		38.8	33.4	86		2	20	
2-Hexanone	43.0	49.3	115	70-139		43.0	49.4	115		0	20	
Isopropanol	32.0	22.6	71	54-144		32.0	22.6	71		0	20	
4-Methyl-2-pentanone	45.8	44.3	97	70-130		45.8	43.9	96		1	20	
Methylene Chloride	43.8	36.9	84	70-132		43.8	36.7	84		0	20	
2-Methylnaphthalene	73.7	79.0	107	70-146		73.7	80.6	109		2	20	
MTBE	46.7	44.4	95	70-130		46.7	43.5	93		2	20	
Naphthalene	65.2	78.1	120	70-148		65.2	80.3	123		2	20	
Styrene	54.4	65.3	120	70-130		54.4	66.9	123		2	20	
1,1,2,2-Tetrachloroethane	88.3	94.3	107	70-130		88.3	96.3	109		2	20	
Tetrachloroethene	86.7	103	118	70-130		86.7	105	122		3	20	
Tetrahydrofuran	49.0	47.9	98	70-138		49.0	46.8	96		2	20	
Toluene	48.1	53.3	111	70-130		48.1	54.5	113		2	20	
1,2,4-Trichlorobenzene	93.0	110	118	70-140		93.0	113	122		3	20	
1,1,1-Trichloroethane	69.9	69.6	100	70-130		69.9	69.3	99		1	20	
1,1,2-Trichloroethane	72.7	80.9	111	70-130		72.7	82.9	114		3	20	
Trichloroethene	68.4	67.5	99	70-130		68.4	66.7	98		1	20	
Trichlorofluoromethane	71.3	82.9	116	70-132		71.3	83.1	117		1	20	
1,1,2-Trichlorotrifluoroethane	95.2	90.8	95	70-130		95.2	87.9	92		3	20	
1,2,4-Trimethylbenzene	61.2	67.4	110	70-132		61.2	69.5	114		4	20	
1,3,5-Trimethylbenzene	62.7	70.9	113	70-131		62.7	73.2	117		3	20	
Vinyl Acetate	55.4	53.7	97	70-131		55.4	54.3	98		1	20	
Vinyl Chloride	32.0	26.3	82	70-131		32.0	26.9	84		2	20	
m&p-Xylene	110	124	113	70-130		110	128	116		3	20	
o-Xylene	55.2	61.0	111	70-130		55.2	62.3	113		2	20	
4-Bromofluorobenzene(S)			***107***	***80-120***				***109***				

VN21K10B: Method Blank (MB)

EPA TO-15

Run Time: VN21K10B.MB 11/10/2021 16:35 [VN21K10B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Acetone	U		57
Benzene	U		19
Benzyl Chloride	U		6.2
Bromodichloromethane	U		8.0
Bromoform	U		62
Bromomethane	U		23
1,3-Butadiene	U		0.66
2-Butanone	U		35
Carbon Disulfide	U		37
Carbon Tetrachloride	U		7.5
Chlorobenzene	U		28
Chloroethane	U		16
Chloroform	U		5.9
Chloromethane	U		12
Cyclohexane	U		41
Dibromochloromethane	U		4.1
1,2-Dichlorobenzene	U		36
1,3-Dichlorobenzene	U		36
1,4-Dichlorobenzene	U		36
Dichlorodifluoromethane	U		30
1,1-Dichloroethane	U		24
1,2-Dichloroethane	U		4.9
1,1-Dichloroethene	U		24
cis-1,2-Dichloroethene	U		24
trans-1,2-Dichloroethene	U		24
1,2-Dichloropropane	U		28
cis-1,3-Dichloropropene	U		27
trans-1,3-Dichloropropene	U		27
1,4-Dioxane	U		22
Ethyl Acetate	U		43
Ethylbenzene	U		52
Ethylene Dibromide	U		0.92
n-Heptane	U		49

VN21K10B: Method Blank (MB)

EPA TO-15

Run Time: VN21K10B.MB 11/10/2021 16:35 [VN21K10B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/m3		µg/m3
Hexachlorobutadiene	U		5.1
n-Hexane	U		42
2-Hexanone	U		49
Isopropanol	U		29
4-Methyl-2-pentanone	U		49
Methylene Chloride	U		42
2-Methylnaphthalene	U		140
MTBE	U		22
Naphthalene	U		19
Styrene	U		51
1,1,2,2-Tetrachloroethane	U		3.3
Tetrachloroethene	U		41
Tetrahydrofuran	U		3.5
Toluene	U		23
1,2,4-Trichlorobenzene	U		89
1,1,1-Trichloroethane	U		33
1,1,2-Trichloroethane	U		6.5
Trichloroethene	U		1.6
Trichlorofluoromethane	U		34
1,1,2-Trichlorotrifluoroethane	U		46
1,2,4-Trimethylbenzene	U		29
1,3,5-Trimethylbenzene	U		29
Vinyl Acetate	U		42
Vinyl Chloride	U		15
m&p-Xylene	U		52
o-Xylene	U		52
4-Bromofluorobenzene(S)	***90***		***80-120***

VN21K10B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K10B.LCS: 11/10/2021 14:10 [VN21K10B] VN21K10B.LCSD: 11/10/2021 14:57 [VN21K10B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Acetone	18.8	17.4	92	70-130		18.8	17.9	95		3	20	
Benzene	41.2	38.3	93	70-130		41.2	39.5	96		3	20	
Benzyl Chloride	75.7	106	140	70-150		75.7	104	138		1	20	
Bromodichloromethane	84.7	83.3	98	70-130		84.7	84.4	100		2	20	
Bromoform	134	166	124	70-138		134	159	119		4	20	
Bromomethane	51.7	55.0	106	70-133		51.7	54.8	106		0	20	
1,3-Butadiene	24.2	22.5	93	70-134		24.2	22.5	93		0	20	
2-Butanone	30.7	29.2	95	70-130		30.7	31.4	102		7	20	
Carbon Disulfide	38.8	37.1	96	70-130		38.8	38.1	98		2	20	
Carbon Tetrachloride	81.7	83.5	102	70-131		81.7	83.3	102		0	20	
Chlorobenzene	59.5	66.1	111	70-130		59.5	64.5	108		3	20	
Chloroethane	35.2	33.5	95	70-130		35.2	33.6	95		0	20	
Chloroform	64.0	61.7	96	70-130		64.0	62.5	98		2	20	
Chloromethane	26.9	25.3	94	70-130		26.9	25.4	94		0	20	
Cyclohexane	43.9	41.5	95	70-130		43.9	43.7	100		5	20	
Dibromochloromethane	99.3	115	116	70-135		99.3	112	113		3	20	
1,2-Dichlorobenzene	83.4	94.3	113	70-130		83.4	90.1	108		5	20	
1,3-Dichlorobenzene	91.7	120	131	70-131		91.7	114	124		5	20	
1,4-Dichlorobenzene	86.4	119	137	70-134	*	86.4	113	131		4	20	
Dichlorodifluoromethane	64.7	70.8	109	70-132		64.7	70.0	108		1	20	
1,1-Dichloroethane	51.4	45.4	88	70-130		51.4	47.6	93		6	20	
1,2-Dichloroethane	50.8	47.0	92	70-130		50.8	48.0	94		2	20	
1,1-Dichloroethene	51.0	46.7	91	70-133		51.0	48.3	95		4	20	
cis-1,2-Dichloroethene	50.4	46.9	93	70-130		50.4	48.5	96		3	20	
trans-1,2-Dichloroethene	45.5	45.5	100	70-130		45.5	46.8	103		3	20	
1,2-Dichloropropane	60.3	57.4	95	70-130		60.3	59.5	99		4	20	
cis-1,3-Dichloropropene	58.8	59.4	101	70-131		58.8	60.8	104		3	20	
trans-1,3-Dichloropropene	57.7	61.0	106	70-134		57.7	62.2	108		2	20	
1,4-Dioxane	46.6	47.4	102	70-130		46.6	49.9	107		5	20	
Ethyl Acetate	45.7	42.6	93	70-130		45.7	44.0	96		3	20	
Ethylbenzene	54.1	60.4	112	70-130		54.1	59.7	110		2	20	
Ethylene Dibromide	101	113	112	70-130		101	111	110		2	20	
n-Heptane	52.7	54.5	103	70-132		52.7	57.7	109		6	20	

VN21K10B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA TO-15

Run Time: VN21K10B.LCS: 11/10/2021 14:10 [VN21K10B] VN21K10B.LCSD: 11/10/2021 14:57 [VN21K10B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/m3	µg/m3	%	%		µg/m3	µg/m3	%		%	%	
Hexachlorobutadiene	112	139	125	70-134		112	131	117		7	20	
n-Hexane	38.8	34.7	90	70-130		38.8	36.2	93		3	20	
2-Hexanone	43.0	50.2	117	70-139		43.0	51.8	121		3	20	
Isopropanol	32.0	24.1	75	54-144		32.0	24.6	77		3	20	
4-Methyl-2-pentanone	45.8	45.2	99	70-130		45.8	47.4	104		5	20	
Methylene Chloride	43.8	40.5	92	70-132		43.8	41.8	96		4	20	
2-Methylnaphthalene	73.7	86.4	117	70-146		73.7	84.6	115		2	20	
MTBE	46.7	44.5	95	70-130		46.7	45.2	97		2	20	
Naphthalene	65.2	86.3	132	70-148		65.2	83.1	127		4	20	
Styrene	54.4	66.3	122	70-130		54.4	64.7	119		2	20	
1,1,2,2-Tetrachloroethane	88.3	95.6	108	70-130		88.3	95.2	108		0	20	
Tetrachloroethene	86.7	100	116	70-130		86.7	97.2	112		4	20	
Tetrahydrofuran	49.0	48.4	99	70-138		49.0	51.8	106		7	20	
Toluene	48.1	52.8	110	70-130		48.1	52.1	108		2	20	
1,2,4-Trichlorobenzene	93.0	113	122	70-140		93.0	108	116		5	20	
1,1,1-Trichloroethane	69.9	69.8	100	70-130		69.9	70.3	101		1	20	
1,1,2-Trichloroethane	72.7	78.8	108	70-130		72.7	78.4	108		0	20	
Trichloroethene	68.4	68.6	100	70-130		68.4	68.8	101		1	20	
Trichlorofluoromethane	71.3	86.6	122	70-132		71.3	85.5	120		2	20	
1,1,2-Trichlorotrifluoroethane	95.2	90.7	95	70-130		95.2	91.5	96		1	20	
1,2,4-Trimethylbenzene	61.2	72.0	118	70-132		61.2	69.7	114		3	20	
1,3,5-Trimethylbenzene	62.7	73.2	117	70-131		62.7	71.7	114		3	20	
Vinyl Acetate	55.4	56.2	101	70-131		55.4	55.9	101		0	20	
Vinyl Chloride	32.0	30.9	97	70-131		32.0	30.8	96		1	20	
m&p-Xylene	110	124	113	70-130		110	121	110		3	20	
o-Xylene	55.2	62.2	113	70-130		55.2	61.0	110		3	20	
4-Bromofluorobenzene(S)			***110***	***80-120***				***108***				

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Sue Ricketts at 9:29 AM, Nov 18, 2021

TO-15 Replicate / Duplicate Relative Percent Difference

DCSID: V-408.2 (07/01/14)

Batch # VN21K09A

Parameter	Sample Result (ppbv) A05022-003.01	Duplicate / Replicate Result (ppbv) A05022-003.02	RPD (%)	RPD UCL (%)	Flag
Acetone	0.44963	0.49185	9	25	
Acrolein	0	0.02063	200	25	*
Benzene	0.02925	0.03072	5	25	
Bromodichloromethane	0.00153	0.00332	74	25	*
t-Butanol	0.2599	0.26058	0	25	
2-Butanone	0.0412	0.0365	12	25	
Carbon Disulfide	0.29583	0.28309	4	25	
Carbon Tetrachloride	0.00807	0.0116	36	25	*
Chloroform	0.12994	0.12579	3	25	
Chloromethane	0	0.01718	200	25	*
Cyclohexane	0.01525	0.01422	7	25	
Dibromochloromethane	0	0.00764	200	25	*
Dibromomethane	0	0.00937	200	25	*
Dichlorodifluoromethane	0.13668	0.15824	15	25	
1,1-Dichloroethene	0	0.00332	200	25	*
cis-1,3-Dichloropropene	0	0.00477	200	25	*
trans-1,3-Dichloropropene	0	0.00376	200	25	*
Dichlorotetrafluoroethane	0.00774	0.01204	43	25	*
1,4-Dioxane	0.0069	0	200	25	*
Ethanol	2.32184	2.39333	3	25	
Ethylbenzene	0.03208	0.0386	18	25	
Ethylene Dibromide	0	0.00595	200	25	*
n-Heptane	0.08493	0.07892	7	25	
Hexachlorobutadiene	0.01897	0.02542	29	25	*
n-Hexane	0.15222	0.13198	14	25	
Isopropanol	0.19995	0.19855	1	25	
Isopropylbenzene	0.02377	0.0271	13	25	
4-Methyl-2-pentanone	0.03933	0.03996	2	25	
Methylcyclopentane	0.07882	0.07519	5	25	
Methylene Chloride	0.078	0.09647	21	25	
2-Methylnaphthalene	0.05397	0.06088	12	25	
n-Pentane	0.08966	0.08504	5	25	
n-Propylbenzene	0.06681	0.07487	11	25	
Styrene	0.00884	0.01247	34	25	*
1,1,2,2-Tetrachloroethane	0.03727	0.04638	22	25	
Tetrachloroethene	0.3382	0.38622	13	25	
Toluene	0.1996	0.21392	7	25	
1,1,1-Trichloroethane	0.00446	0.00177	86	25	*
Trichloroethene	0.00335	0.00759	78	25	*
Trichlorofluoromethane	0.07079	0.08681	20	25	
Trichlorotrifluoroethane	0.01721	0.02013	16	25	
1,3,5-Trimethylbenzene	0.08256	0.09267	12	25	
2,2,4-Trimethylpentane	0.00613	0.01071	54	25	*
m&p-Xylene	0.13704	0.13507	1	25	
o-Xylene	0.06386	0.06875	7	25	

TO-15 Replicate / Duplicate Relative Percent Difference

DCSID: V-408.2 (07/01/14)

Batch # VN21K09A

Parameter	Sample Result (ppbv) A05022-003.01	Duplicate / Replicate Result (ppbv) A05022-003.02	RPD (%)	RPD UCL (%)	Flag

Analyst KM 11/10/21
Sign and Date

Peer 11-10-21
Sign and Date

TO-15 Replicate / Duplicate Relative Percent Difference

DCSID: V-408.2 (07/01/14)

Batch # VN21K10B

Parameter	Sample Result (ppbv) bv 2795	Duplicate / Replicate Result (ppbv) bv 2795 DUP	RPD (%)	RPD UCL (%)	Flag
Acetone	0.09967	0.11863	17	25	
Benzene	0.00804	0.00994	21	25	
Benzyl Chloride	0.00879	0.00362	83	25	* BQL
Bromobenzene	0.00275	0.00254	8	25	
2-Butanone	0	0.01543	200	25	* BQL
n-Butylbenzene	0.00684	0.00542	23	25	
sec-Butylbenzene	0.00246	0.00229	7	25	
tert-Butylbenzene	0.00474	0.00195	83	25	* BQL
Carbon Disulfide	0.08594	0.10271	18	25	
chloropropane	0.01641	0.00745	75	25	* BQL
1,2-Dichlorobenzene	0.00781	0.00689	13	25	
1,3-Dichlorobenzene	0.00848	0.00603	34	25	* BQL
1,4-Dichlorobenzene	0.0112	0.0069	48	25	* BQL
Ethanol	0.02611	0	200	25	* BQL
Ethylbenzene	0.00885	0.00629	34	25	* BQL
4-Ethyltoluene	0.00825	0.00703	16	25	
n-Heptane	0	0.00229	200	25	* BQL
Hexachlorobutadiene	0.00841	0.00702	18	25	
n-Hexane	0.00257	0.00304	17	25	
Isopropanol	0.00244	0.02852	168	25	* BQL
Isopropylbenzene	0.0034	0.00277	20	25	
Methylene Chloride	0.08027	0.11952	39	25	* BQL
2-Methylnaphthalene	0.04156	0.02437	52	25	* BQL
Naphthalene	0.02934	0.02029	36	25	* BQL
n-Pentane	0	0.00232	200	25	* BQL
n-Propylbenzene	0.00743	0.00775	4	25	
Styrene	0.00395	0	200	25	* BQL
1,1,2,2-Tetrachloroethane	0.00213	0	200	25	* BQL
Tetrachloroethene	0.00684	0.00433	45	25	* BQL
Toluene	0.00607	0.00563	8	25	
1,2,3-Trichlorobenzene	0.03197	0.01955	48	25	* BQL
1,2,4-Trichlorobenzene	0.01702	0.01111	42	25	* BQL
Trichloroethene	0.00225	0	200	25	* BQL
1,2,3-Trimethylbenzene	0.00848	0.00726	16	25	
1,2,4-Trimethylbenzene	0.0174	0.01519	14	25	
1,3,5-Trimethylbenzene	0.01221	0.01051	15	25	
2,2,4-Trimethylpentane	0.00075	0	200	25	* BQL
m&p-Xylene	0.04922	0.04616	6	25	
o-Xylene	0.02013	0.018	11	25	

Analyst VM 11/1/21
Sign and Date

Peer DH 11-1-21

TO-15 Replicate / Duplicate Relative Percent Difference

DCSID: V-408.2 (07/01/14)

Batch # VN21K10B

Parameter	Sample Result (ppbv) bv 2795	Duplicate / Replicate Result (ppbv) bv 2795 DUP	RPD (%)	RPD UCL (%)	Flag

Sign and Date

ANALYTICAL SEQUENCE

SJ21K11A

FORM 2A-OR/2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.:

Analytical Method: SVOA

Matrix: Air and Emissions

EPA SAMPLE NO.	DMC1	DMC2	DMC3	DMC4	DMC5	DMC6	DMC7	DMC8	TOT OUT
A05022-007.01	77	88	81						0
A05022-007.02	83	86	85						0
A05022-008.01	84	87	81						0
A05022-008.02	81	85	85						0
A05022-009.01	77	82	77						0
A05022-009.02	79	86	83						0
A05022-010.01	76	81	77						0
A05022-010.02	80	82	80						0
A05022-011.01	84	90	85						0
A05022-011.02	81	86	83						0
A05022-012.01	73	81	78						0
A05022-012.02	83	89	84						0
A05022-013.01	80	86	82						0
A05022-014.01	79	84	81						0
PS21K11C.LCD-PNA	16 *	18 *	17 *						3
PS21K11C.LCS-PNA	0 *	0 *	0 *						3
PS21K11C.MB*-PNA	0 *	0 *	0 *						3

	QC LIMITS
DMC1 = 1-Fluoronaphthalene(S)	(70-130)
DMC2 = 2-Fluorobiphenyl(S)	(70-130)
DMC3 = 4-Terphenyl-d14(S)	(70-130)

* Values outside of contract required QC limits
D Deuterated Monitoring Compound diluted out

ANALYTICAL SEQUENCE

VN21K09A

FORM 2A-OR/2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.:

Analytical Method: VOA

Matrix: Air and Emissions

EPA SAMPLE NO.	DMC1	DMC2	DMC3	DMC4	DMC5	DMC6	DMC7	DMC8	TOT OUT
A05020-001.01	98								0
A05022-001.01	95								0
A05022-002.01	105								0
A05022-003.01	107								0
A05022-003.02	112								0
A05022-004.01	114								0
A05022-005.01	107								0
A05022-006.01	106								0
A05023-001.02	107								0
A05030-001.02	101								0
A05030-002.02	97								0
A05030-003.02	100								0
A05031-001.02	96								0
A05031-002.02	95								0
A05031-003.02	95								0
A05036-001.01	94								0
A05036-002.01	96								0
A05036-003.01	95								0
A05076-001.01	96								0
VN21K09A.VBLK01	0 *								1
VN21K09A.VLCD01	0 *								1
VN21K09A.VLCS01	0 *								1

DMC1 = 4-Bromofluorobenzene(S) QC LIMITS (80-120)

* Values outside of contract required QC limits
D Deuterated Monitoring Compound diluted out

ANALYTICAL SEQUENCE

VN21K10B

FORM 2A-OR/2B-OR
DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.:

Analytical Method: VOA

Matrix: Air and Emissions

EPA SAMPLE NO.	DMC1	DMC2	DMC3	DMC4	DMC5	DMC6	DMC7	DMC8	TOT OUT
A04889-002.02	86								0
A04889-004.02	85								0
A04889-005.02	84								0
A04889-011.02	86								0
A04993-002.03	84								0
A04993-004.03	82								0
A05022-004.02	89								0
A05022-005.02	98								0
A05102-001.01	85								0
A05102-002.01	84								0
A05102-003.01	81								0
A05102-004.01	83								0
A05102-005.01	80								0
VN21K10B.VBLK01	0 *								1
VN21K10B.VLCD01	0 *								1
VN21K10B.VLCS01	0 *								1

DMC1 = 4-Bromofluorobenzene(S) QC LIMITS (80-120)

* Values outside of contract required QC limits
D Deuterated Monitoring Compound diluted out

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.
VRNS01

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

Lab File ID: VN21JV01.D BFB Injection Date:: 10/31/2021

Instrument ID: VN(VN21J31A) BFB Injection Time:: 15:33

GC Column: Rxi-1ms ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	17.3	
75	30.0 - 60.0% of mass 95	51.5	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	6.3	
173	Less than 2.0% of mass 174	0.0	(0.0)1
174	50.0 - 100% of mass 95	69.2	
175	5.0 - 9.0% of mass 174	1.8	(8.2)1
176	95.0 - 101% of mass 174	20.6	(95.5)1
177	5.0 - 9.0% of mass 176	1.4	(6.8)2

1-Value is %mass 174 2-Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VRNS01	VRNS01	VN21JV01.D	10/31/2021	15:33
02	VRNS02	VRNS02	VN21JV02.D	10/31/2021	16:21
03	0.025 STD	0	VN21JV03.D	10/31/2021	17:08
04	0.063 STD	0	VN21JV04.D	10/31/2021	17:56
05	0.1 STD	0	VN21JV05.D	10/31/2021	18:43
06	0.25 STD	0	VN21JV06.D	10/31/2021	19:34
07	0.75 STD	0	VN21JV07.D	10/31/2021	20:21
08	1.25 STD	1	VN21JV08.D	10/31/2021	21:09
09	2.5 STD	2	VN21JV09.D	10/31/2021	21:59
10	5.0 STD	5	VN21JV10.D	10/31/2021	22:55
11	12.5 STD	12	VN21JV11.D	10/31/2021	23:43
12	25 STD	25	VN21JV12.D	11/01/2021	00:33
13	37.5 STD	37	VN21JV13.D	11/01/2021	01:26
14	50 STD	50	VN21JV14.D	11/01/2021	02:20
15	RNS	RNS	VN21JV15.D	11/01/2021	03:08
16	VLCS01	VLCS01	VN21JV16.D	11/01/2021	03:56

4A - FORM IV VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

VCCV01

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

Lab File ID: VN21K901.D BFB Injection Date:: 11/09/2021

Instrument ID: VN(VN21K09A) BFB Injection Time:: 11:47

GC Column: Rxi-1ms ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	14.7	
75	30.0 - 66.0% of mass 95	48.6	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.0	(0.0)1
174	50.0 - 120.0% of mass 95	78.2	
175	4.0 - 9.0% of mass 174	1.7	(7.2)1
176	93.0 - 101.0% of mass 174	22.8	(97.7)1
177	5.0 - 9.0% of mass 176	1.5	(6.6)2

1-Value is %mass 174 2-Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VCCV01	VCCV01	VN21K901.D	11/09/2021	11:47
02	VLCS01	VLCS01	VN21K902.D	11/09/2021	12:35
03	VLCD01	VLCD01	VN21K903.D	11/09/2021	13:23
04	RNS	RNS	VN21K904.D	11/09/2021	14:11
05	VBLK01	VBLK01	VN21K905.D	11/09/2021	15:01
06	A05022-001.01	A05022-001	VN21K906.D	11/09/2021	15:49
07	A05022-002.01	A05022-002	VN21K907.D	11/09/2021	16:36
08	A05022-003.01	A05022-003	VN21K908.D	11/09/2021	17:23
09	A05022-003.02	A05022-003	VN21K909.D	11/09/2021	18:10
10	A05022-004.01	A05022-004	VN21K910.D	11/09/2021	18:57
11	A05022-005.01	A05022-005	VN21K911.D	11/09/2021	19:44
12	A05022-006.01	A05022-006	VN21K912.D	11/09/2021	20:31
13	A05023-001.02	A05023-001	VN21K913.D	11/09/2021	21:18
14	A05030-001.02	A05030-001	VN21K914.D	11/09/2021	22:05
15	A05030-002.02	A05030-002	VN21K915.D	11/09/2021	22:53
16	A05030-003.02	A05030-003	VN21K916.D	11/09/2021	23:40
17	A05031-001.02	A05031-001	VN21K917.D	11/10/2021	00:26
18	A05031-002.02	A05031-002	VN21K918.D	11/10/2021	01:13
19	A05031-003.02	A05031-003	VN21K919.D	11/10/2021	02:00
20	A05036-001.01	A05036-001	VN21K920.D	11/10/2021	02:47
21	A05036-002.01	A05036-002	VN21K921.D	11/10/2021	03:34
22	A05036-003.01	A05036-003	VN21K922.D	11/10/2021	04:21
23	A05076-001.01	A05076-001	VN21K923.D	11/10/2021	05:08
24	A05020-001.01	A05020-001	VN21K924.D	11/10/2021	05:55

4A - FORM IV VOA
VOLATILE ORGANICS INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

VCCV01

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

Lab File ID: VN21KA01.D BFB Injection Date:: 11/10/2021

Instrument ID: VN(VN21K10B) BFB Injection Time:: 13:22

GC Column: Rxi-1ms ID: 0.32 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	14.7	
75	30.0 - 66.0% of mass 95	48.5	
95	Base peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	6.3	
173	Less than 2.0% of mass 174	0.0	(0.0)1
174	50.0 - 120.0% of mass 95	81.2	
175	4.0 - 9.0% of mass 174	1.6	(6.8)1
176	93.0 - 101.0% of mass 174	23.2	(97.4)1
177	5.0 - 9.0% of mass 176	1.5	(6.4)2

1-Value is %mass 174 2-Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VCCV01	VCCV01	VN21KA01.D	11/10/2021	13:22
02	VLCS01	VLCS01	VN21KA02.D	11/10/2021	14:10
03	VLCD01	VLCD01	VN21KA03.D	11/10/2021	14:57
04	RNS	RNS	VN21KA04.D	11/10/2021	15:45
05	VBLK01	VBLK01	VN21KA05.D	11/10/2021	16:35
06	A05022-004.02	A05022-004	VN21KA06.D	11/10/2021	17:22
07	A05022-005.02	A05022-005	VN21KA07.D	11/10/2021	18:09
08	BV 2795	BV	VN21KA08.D	11/10/2021	18:59
09	BV 2795	BV	VN21KA09.D	11/10/2021	19:50
10	BV 3628	BV	VN21KA10.D	11/10/2021	20:41
11	BVFC 3072	BVFC	VN21KA11.D	11/10/2021	21:32
12	A04889-002.02	A04889-002	VN21KA12.D	11/10/2021	22:20
13	A04889-004.02	A04889-004	VN21KA13.D	11/10/2021	23:08
14	A04889-005.02	A04889-005	VN21KA14.D	11/10/2021	23:56
15	A04889-011.02	A04889-011	VN21KA15.D	11/11/2021	00:43
16	A04993-002.03	A04993-002	VN21KA16.D	11/11/2021	01:31
17	A04993-004.03	A04993-004	VN21KA17.D	11/11/2021	02:18
18	BVFC 2792	BVFC	VN21KA18.D	11/11/2021	03:09
19	BVFC 21399	BVFC	VN21KA19.D	11/11/2021	04:00
20	A05102-001.01	A05102-001	VN21KA20.D	11/11/2021	04:47
21	A05102-002.01	A05102-002	VN21KA21.D	11/11/2021	05:35
22	A05102-003.01	A05102-003	VN21KA22.D	11/11/2021	06:23
23	A05102-004.01	A05102-004	VN21KA23.D	11/11/2021	07:11
24	A05102-005.01	A05102-005	VN21KA24.D	11/11/2021	08:00

FORM 7A-OR
INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: SVOA Level: MED

Instrument ID: SJ (SJ21K11A) Date Analyzed: 11/11/2021 Time: 16:02

Lab File ID: sj21kb03.D (SJAIR) Init. Calib Date(s): 07/22 - 10/30/2021

EPA Sample No.: sim01 Init. Calib Time(s): 15:23 01:38

GC Column: ID: (mm) Length: (m)

Heated Purge: (Y/N) NA Purge Volume: NA (mL)

ANALYTE		$\overline{RRF}$	RRF 10 #	MIN RRF	%D	MAX %D
1-Fluoronaphthalene(S)		0.891	0.825		-7	20
Naphthalene (SIM)##	(SPCC)	10.0	11.2	0.700	12	20
2-Methylnaphthalene (SIM)	(SPCC)	0.561	0.559	0.400	0	20
2-Fluorobiphenyl(S)		1.120	1.221		9	20
Acenaphthylene (SIM)	(SPCC)	1.456	1.500	0.900	3	20
Acenaphthene (SIM)	(SPCC)	1.345	1.148	0.900	-15	20
Fluorene (SIM)	(SPCC)	1.226	1.182	0.900	-4	20
Phenanthrene (SIM)##	(SPCC)	10.0	10.4	0.700	4	20
Anthracene (SIM)##	(SPCC)	10.0	10.3	0.700	3	20
Fluoranthene (SIM)	(SPCC)	0.852	0.859	0.600	1	20
Pyrene (SIM)	(SPCC)	1.610	1.427	0.600	-11	20
4-Terphenyl-d14(S)		1.025	1.122		9	20
Benzo(a)anthracene (SIM)##	(SPCC)	10.0	11.1	0.800	11	20
Chrysene (SIM)##	(SPCC)	10.0	9.1	0.700	-9	20
Benzo(b)fluoranthene (SIM)	(SPCC)	0.951	0.954	0.700	0	20
Benzo(k)fluoranthene (SIM)	(SPCC)	1.168	1.044	0.700	-11	20
Benzo(a)pyrene (SIM)	(SPCC)	0.854	0.912	0.700	7	20
Indeno(1,2,3-cd)pyrene (SIM)	(SPCC)	0.597	0.573	0.500	-4	20
Dibenzo(a,h)anthracene (SIM)	(SPCC)	0.844	0.692	0.400	-18	20
Benzo(ghi)perylene (SIM)	(SPCC)	0.894	0.740	0.500	-17	20

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K09A) Date Analyzed: 11/09/2021 Time: 11:47

Lab File ID: VN21K901.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	2.174	2.245	0.010	3	30
Chloromethane	0.479	0.407	0.010	-15	30
Dichlorotetrafluoroethane	1.878	1.918		2	30
Vinyl Chloride	0.651	0.588	0.100	-10	30
1,3-Butadiene	0.572	0.481	0.100	-16	30
Bromomethane	0.559	0.586	0.100	5	30
Chloroethane	0.335	0.309	0.010	-8	30
Ethanol	0.199	0.162	0.010	-18	30
Acrolein	0.226	0.194		-14	30
Trichlorofluoromethane	1.862	2.226	0.010	20	30
Isopropanol	1.310	0.986	0.010	-25	30
Acetone	0.483	0.431	0.010	-11	30
Acrylonitrile	0.651	0.641	0.100	-2	30
n-Pentane	1.270	1.248		-2	30
Diethyl Ether	0.760	0.729	0.100	-4	30
1,1-Dichloroethene	1.667	1.656	0.100	-1	30
t-Butanol	2.106	2.127		1	30
Methylene Chloride	0.975	0.979	0.010	0	30
1,1,2-Trichlorotrifluoroethane	2.298	2.328	0.010	1	30
Carbon Disulfide	2.765	2.822	0.010	2	30
trans-1,2-Dichloroethene	1.484	1.437	0.010	-3	30
MTBE	3.022	3.069	0.010	2	30
1,1-Dichloroethane	1.780	1.731	0.200	-3	30
Vinyl Acetate	0.214	0.223	0.010	4	30
n-Hexane	1.603	1.641	0.100	2	30
2-Butanone	1.751	1.852	0.010	6	30
cis-1,2-Dichloroethene	1.359	1.388	0.010	2	30
Chloroform	2.395	2.378	0.200	-1	30
Ethyl Acetate	0.292	0.288	0.010	-1	30
Diisopropyl Ether	2.349	2.481	0.100	6	30
Tetrahydrofuran	0.829	0.885	0.100	7	30
ETBE	3.116	3.133	0.100	1	30
1,2-Dichloroethane	1.570	1.523	0.100	-3	30
Methylcyclopentane	1.789	1.782		0	30
1,1,1-Trichloroethane	0.720	0.733	0.100	2	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K09A) Date Analyzed: 11/09/2021 Time: 11:47

Lab File ID: VN21K901.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Cyclohexane	0.394	0.393	0.010	0	30
Carbon Tetrachloride	0.757	0.780	0.100	3	30
Benzene	0.884	0.850	0.400	-4	30
Dibromomethane	0.388	0.407	0.100	5	30
n-Heptane	0.350	0.415	0.100	18	30
1,2-Dichloropropane	0.285	0.285	0.010	0	30
Trichloroethene	0.419	0.422	0.300	1	30
Bromodichloromethane	0.713	0.716	0.200	0	30
1,4-Dioxane	0.196	0.204	0.005	4	30
2,2,4-Trimethylpentane	1.231	1.266		3	30
cis-1,3-Dichloropropene	0.517	0.525	0.200	2	30
4-Methyl-2-pentanone	0.286	0.293	0.010	2	30
trans-1,3-Dichloropropene	0.483	0.512	0.100	6	30
1,1,1,2-Tetrachloroethane	0.248	0.264	0.010	6	30
1,1,2-Trichloroethane	4.059	4.429	0.100	9	30
Toluene	12.726	13.690	0.400	8	30
2-Hexanone	6.091	7.060	0.010	16	30
Dibromochloromethane	7.059	8.050	0.100	14	30
Ethylene Dibromide	6.614	7.286	0.010	10	30
Tetrachloroethene	6.251	6.973	0.100	12	30
Chlorobenzene	5.063	5.482	0.500	8	30
Ethylbenzene	8.423	9.071	0.100	8	30
m&p-Xylene	3.212	3.463	0.300	8	30
Bromoform	4.189	4.971	0.050	19	30
Styrene	4.800	5.457	0.300	14	30
1,1,2,2-Tetrachloroethane	4.686	4.812	0.300	3	30
o-Xylene	6.986	7.439	0.300	6	30
4-Bromofluorobenzene(S)	1.543	1.607	0.010	4	30
Isopropylbenzene	8.820	9.270	0.050	5	30
n-Propylbenzene	9.779	10.455	0.010	7	30
4-Ethyltoluene	9.377	10.423	0.100	11	30
1,3,5-Trimethylbenzene	8.483	9.081	0.100	7	30
tert-Butylbenzene	7.859	8.175	0.100	4	30
1,2,4-Trimethylbenzene	8.136	8.527	0.100	5	30
1,3-Dichlorobenzene	3.786	4.519	0.600	19	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K09A) Date Analyzed: 11/09/2021 Time: 11:47

Lab File ID: VN21K901.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Benzyl Chloride	4.772	5.912	0.050	24	30
1,4-Dichlorobenzene	3.580	4.469	0.500	25	30
sec-Butylbenzene	10.848	11.281	0.100	4	30
1,2,3-Trimethylbenzene	7.299	7.650	0.100	5	30
1,2-Dichlorobenzene	4.828	5.396	0.400	12	30
n-Butylbenzene	9.232	9.574	0.100	4	30
Bromobenzene	4.362	4.809	0.100	10	30
1,2-Dibromo-3-chloropropane	1.896	2.128	0.100	12	30
Hexachloroethane	3.773	3.924	0.100	4	30
1,2,4-Trichlorobenzene	3.500	3.716	0.200	6	30
Naphthalene	9.166	9.960	0.010	9	30
1,2,3-Trichlorobenzene	3.697	3.791	0.100	3	30
Hexachlorobutadiene	4.944	5.693	0.050	15	30
2-Methylnaphthalene	4.399	3.866	0.010	-12	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K10B) Date Analyzed: 11/10/2021 Time: 13:22

Lab File ID: VN21KA01.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	2.174	2.405	0.010	11	30
Chloromethane	0.479	0.433	0.010	-10	30
Dichlorotetrafluoroethane	1.878	2.024		8	30
Vinyl Chloride	0.651	0.614	0.100	-6	30
1,3-Butadiene	0.572	0.495	0.100	-13	30
Bromomethane	0.559	0.607	0.100	9	30
Chloroethane	0.335	0.318	0.010	-5	30
Ethanol	0.199	0.168	0.010	-15	30
Acrolein	0.226	0.197		-13	30
Trichlorofluoromethane	1.862	2.340	0.010	26	30
Isopropanol	1.310	1.027	0.010	-22	30
Acetone	0.483	0.435	0.010	-10	30
Acrylonitrile	0.651	0.501	0.100	-23	30
n-Pentane	1.270	1.002		-21	30
Diethyl Ether	0.760	0.622	0.100	-18	30
1,1-Dichloroethene	1.667	1.420	0.100	-15	30
t-Butanol	2.106	1.845		-12	30
Methylene Chloride	0.975	0.809	0.010	-17	30
1,1,2-Trichlorotrifluoroethane	2.298	2.206	0.010	-4	30
Carbon Disulfide	2.765	2.523	0.010	-9	30
trans-1,2-Dichloroethene	1.484	1.237	0.010	-17	30
MTBE	3.022	2.783	0.010	-8	30
1,1-Dichloroethane	1.780	1.492	0.200	-16	30
Vinyl Acetate	0.214	0.206	0.010	-4	30
n-Hexane	1.603	1.421	0.100	-11	30
2-Butanone	1.751	1.486	0.010	-15	30
cis-1,2-Dichloroethene	1.359	1.209	0.010	-11	30
Chloroform	2.395	2.258	0.200	-6	30
Ethyl Acetate	0.292	0.258	0.010	-12	30
Diisopropyl Ether	2.349	2.087	0.100	-11	30
Tetrahydrofuran	0.829	0.747	0.100	-10	30
ETBE	3.116	2.888	0.100	-7	30
1,2-Dichloroethane	1.570	1.423	0.100	-9	30
Methylcyclopentane	1.789	1.605		-10	30
1,1,1-Trichloroethane	0.720	0.733	0.100	2	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K10B) Date Analyzed: 11/10/2021 Time: 13:22

Lab File ID: VN21KA01.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Cyclohexane	0.394	0.359	0.010	-9	30
Carbon Tetrachloride	0.757	0.800	0.100	6	30
Benzene	0.884	0.802	0.400	-9	30
Dibromomethane	0.388	0.442	0.100	14	30
n-Heptane	0.350	0.369	0.100	5	30
1,2-Dichloropropane	0.285	0.264	0.010	-7	30
Trichloroethene	0.419	0.418	0.300	0	30
Bromodichloromethane	0.713	0.706	0.200	-1	30
1,4-Dioxane	0.196	0.200	0.005	2	30
2,2,4-Trimethylpentane	1.231	1.159		-6	30
cis-1,3-Dichloropropene	0.517	0.516	0.200	0	30
4-Methyl-2-pentanone	0.286	0.276	0.010	-4	30
trans-1,3-Dichloropropene	0.483	0.511	0.100	6	30
1,1,1,2-Tetrachloroethane	0.248	0.279	0.010	12	30
1,1,2-Trichloroethane	4.059	4.604	0.100	13	30
Toluene	12.726	14.264	0.400	12	30
2-Hexanone	6.091	6.741	0.010	11	30
Dibromochloromethane	7.059	8.742	0.100	24	30
Ethylene Dibromide	6.614	7.806	0.010	18	30
Tetrachloroethene	6.251	7.692	0.100	23	30
Chlorobenzene	5.063	5.848	0.500	15	30
Ethylbenzene	8.423	9.539	0.100	13	30
m&p-Xylene	3.212	3.736	0.300	16	30
Bromoform	4.189	5.611	0.050	34 *	30
Styrene	4.800	6.023	0.300	25	30
1,1,2,2-Tetrachloroethane	4.686	5.284	0.300	13	30
o-Xylene	6.986	8.209	0.300	18	30
4-Bromofluorobenzene(S)	1.543	1.738	0.010	13	30
Isopropylbenzene	8.820	10.472	0.050	19	30
n-Propylbenzene	9.779	11.990	0.010	23	30
4-Ethyltoluene	9.377	11.896	0.100	27	30
1,3,5-Trimethylbenzene	8.483	10.464	0.100	23	30
tert-Butylbenzene	7.859	9.567	0.100	22	30
1,2,4-Trimethylbenzene	8.136	9.928	0.100	22	30
1,3-Dichlorobenzene	3.786	5.244	0.600	39 *	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: A05022

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21K10B) Date Analyzed: 11/10/2021 Time: 13:22

Lab File ID: VN21KA01.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VCCV01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Benzyl Chloride	4.772	7.036	0.050	47 *	30
1,4-Dichlorobenzene	3.580	5.236	0.500	46 *	30
sec-Butylbenzene	10.848	13.249	0.100	22	30
1,2,3-Trimethylbenzene	7.299	9.022	0.100	24	30
1,2-Dichlorobenzene	4.828	6.334	0.400	31 *	30
n-Butylbenzene	9.232	11.672	0.100	26	30
Bromobenzene	4.362	5.422	0.100	24	30
1,2-Dibromo-3-chloropropane	1.896	2.540	0.100	34 *	30
Hexachloroethane	3.773	4.807	0.100	27	30
1,2,4-Trichlorobenzene	3.500	4.474	0.200	28	30
Naphthalene	9.166	12.394	0.010	35 *	30
1,2,3-Trichlorobenzene	3.697	4.563	0.100	23	30
Hexachlorobutadiene	4.944	6.646	0.050	34 *	30
2-Methylnaphthalene	4.399	4.755	0.010	8	30

* Value outside QC limits.
\# RRF value represents calibration verification level. Analyte concentrations may vary.
Compound calibrated using a regression fit model. Values represent % drift evaluation.

DCSID: G-6028.0 (11/12/21)

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: NA

Analytical Method: SVOA Level: MED

Instrument ID: SJ (SJ21J29D) Date Analyzed: 10/30/2021 Time: 02:52

Lab File ID: sj21jt14.D (SJAIR) Init. Calib Date(s): 07/22 - 10/30/2021

EPA Sample No.: 40 AIR ICV01/SIM01 Init. Calib Time(s): 15:23 01:38

GC Column: ID: (mm) Length: (m)

Heated Purge: (Y/N) NA Purge Volume: NA (mL)

ANALYTE		$\overline{RRF}$	RRF 16 #	MIN RRF	%D	MAX %D
1-Fluoronaphthalene(S)		0.891	1.743		96 *	30
Naphthalene (SIM)##	(SPCC)	40.0 (1.052)	31.2 (0.821)	0.700	-22	30
2-Methylnaphthalene (SIM)	(SPCC)	0.561	0.416	0.400	-26	30
2-Fluorobiphenyl(S)		1.120	2.399		114 *	30
Acenaphthylene (SIM)	(SPCC)	1.456	1.219	0.900	-16	30
Acenaphthene (SIM)	(SPCC)	1.345	0.950	0.900	-29	30
Fluorene (SIM)	(SPCC)	1.226	0.907	0.900	-26	30
Phenanthrene (SIM)##	(SPCC)	40.0 (0.952)	34.7 (0.826)	0.700	-13	30
Anthracene (SIM)##	(SPCC)	40.0 (0.706)	39.8 (0.702)	0.700	-1	30
Fluoranthene (SIM)	(SPCC)	0.852	0.642	0.600	-25	30
Pyrene (SIM)	(SPCC)	1.610	1.162	0.600	-28	30
4-Terphenyl-d14(S)		1.025	1.818		77 *	30
Benzo(a)anthracene (SIM)##	(SPCC)	40.0 (0.903)	28.2 (0.636)	0.800	-30	30
Chrysene (SIM)##	(SPCC)	40.0 (1.114)	37.8 (1.052)	0.700	-6	30
Benzo(b)fluoranthene (SIM)	(SPCC)	0.951	0.684	0.700	-28	30
Benzo(k)fluoranthene (SIM)	(SPCC)	1.168	0.965	0.700	-17	30
Benzo(a)pyrene (SIM)	(SPCC)	0.854	0.697	0.700	-18	30
Indeno(1,2,3-cd)pyrene (SIM)	(SPCC)	0.597	0.477	0.500	-20	30
Dibenzo(a,h)anthracene (SIM)	(SPCC)	0.844	0.667	0.400	-21	30
Benzo(ghi)perylene (SIM)	(SPCC)	0.894	0.769	0.500	-14	30

Surrogate (S) recovery evaluation can be found on raw data.

* Value outside QC limits.

\# RRF value represents calibration verification level. Analyte concentrations may vary.

Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: NA

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21J31A) Date Analyzed: 11/01/2021 Time: 03:56

Lab File ID: VN21JV16.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VICV01/VLCS01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	2.174	1.969	0.010	-9	30
Chloromethane	0.479	0.435	0.010	-9	30
Dichlorotetrafluoroethane	1.878	1.951		4	30
Vinyl Chloride	0.651	0.633	0.100	-3	30
1,3-Butadiene	0.572	0.511	0.100	-11	30
Bromomethane	0.559	0.608	0.100	9	30
Chloroethane	0.335	0.331	0.010	-1	30
Ethanol	0.199	0.162	0.010	-18	30
Acrolein	0.226	0.213		-6	30
Trichlorofluoromethane	1.862	1.978	0.010	6	30
Isopropanol	1.310	1.097	0.010	-16	30
Acetone	0.483	0.467	0.010	-3	30
Acrylonitrile	0.651	0.514	0.100	-21	30
n-Pentane	1.270	0.940		-26	30
Diethyl Ether	0.760	0.647	0.100	-15	30
1,1-Dichloroethene	1.667	1.370	0.100	-18	30
t-Butanol	2.106	1.720		-18	30
Methylene Chloride	0.975	0.770	0.010	-21	30
1,1,2-Trichlorotrifluoroethane	2.298	2.115	0.010	-8	30
Carbon Disulfide	2.765	2.406	0.010	-13	30
trans-1,2-Dichloroethene	1.484	1.158	0.010	-22	30
MTBE	3.022	2.593	0.010	-14	30
1,1-Dichloroethane	1.780	1.392	0.200	-22	30
Vinyl Acetate	0.214	0.194	0.010	-9	30
n-Hexane	1.603	1.190	0.100	-26	30
2-Butanone	1.751	1.323	0.010	-24	30
cis-1,2-Dichloroethene	1.359	1.120	0.010	-18	30
Chloroform	2.395	2.085	0.200	-13	30
Ethyl Acetate	0.292	0.225	0.010	-23	30
Diisopropyl Ether	2.349	1.775	0.100	-24	30
Tetrahydrofuran	0.829	0.591	0.100	-29	30
ETBE	3.116	2.461	0.100	-21	30
1,2-Dichloroethane	1.570	1.287	0.100	-18	30
Methylcyclopentane	1.789	1.274		-29	30
1,1,1-Trichloroethane	0.720	0.668	0.100	-7	30

* Value outside QC limits.

\# RRF value represents calibration verification level. Analyte concentrations may vary.

Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: NA

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21J31A) Date Analyzed: 11/01/2021 Time: 03:56

Lab File ID: VN21JV16.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VICV01/VLCS01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Cyclohexane	0.394	0.295	0.010	-25	30
Carbon Tetrachloride	0.757	0.734	0.100	-3	30
Benzene	0.884	0.725	0.400	-18	30
Dibromomethane	0.388	0.416	0.100	7	30
n-Heptane	0.350	0.277	0.100	-21	30
1,2-Dichloropropane	0.285	0.226	0.010	-20	30
Trichloroethene	0.419	0.382	0.300	-9	30
Bromodichloromethane	0.713	0.638	0.200	-11	30
1,4-Dioxane	0.196	0.181	0.005	-8	30
2,2,4-Trimethylpentane	1.231	0.935		-24	30
cis-1,3-Dichloropropene	0.517	0.451	0.200	-13	30
4-Methyl-2-pentanone	0.286	0.221	0.010	-23	30
trans-1,3-Dichloropropene	0.483	0.435	0.100	-10	30
1,1,1,2-Tetrachloroethane	0.248	0.251	0.010	1	30
1,1,2-Trichloroethane	4.059	4.513	0.100	11	30
Toluene	12.726	13.805	0.400	8	30
2-Hexanone	6.091	5.386	0.010	-12	30
Dibromochloromethane	7.059	8.476	0.100	20	30
Ethylene Dibromide	6.614	7.541	0.010	14	30
Tetrachloroethene	6.251	7.814	0.100	25	30
Chlorobenzene	5.063	5.756	0.500	14	30
Ethylbenzene	8.423	9.069	0.100	8	30
m&p-Xylene	3.212	3.531	0.300	10	30
Bromoform	4.189	5.489	0.050	31 *	30
Styrene	4.800	5.582	0.300	16	30
1,1,2,2-Tetrachloroethane	4.686	4.617	0.300	-1	30
o-Xylene	6.986	7.392	0.300	6	30
4-Bromofluorobenzene(S)	1.543	1.756	0.010	14	30
Isopropylbenzene	8.820	9.571	0.050	9	30
n-Propylbenzene	9.779	10.484	0.010	7	30
4-Ethyltoluene	9.377	10.436	0.100	11	30
1,3,5-Trimethylbenzene	8.483	9.274	0.100	9	30
tert-Butylbenzene	7.859	8.491	0.100	8	30
1,2,4-Trimethylbenzene	8.136	8.585	0.100	6	30
1,3-Dichlorobenzene	3.786	4.877	0.600	29	30

* Value outside QC limits.

\# RRF value represents calibration verification level. Analyte concentrations may vary.

Compound calibrated using a regression fit model. Values represent % drift evaluation.

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA MA No.: NA SDG No.: NA

Analytical Method: VOA Level: MED

Instrument ID: VN (VN21J31A) Date Analyzed: 11/01/2021 Time: 03:56

Lab File ID: VN21JV16.D (VN400) Init. Calib Date(s): 10/31 - 11/01/2021

EPA Sample No.: VICV01/VLCS01 Init. Calib Time(s): 17:08 02:20

GC Column: Rxi-1ms ID: 0.32 (mm) Length: 60 (m)

Heated Purge: (Y/N) N Purge Volume: 100 (mL)

ANALYTE	$\overline{RRF}$	RRF 7 #	MIN RRF	%D	MAX %D
Benzyl Chloride	4.772	5.907	0.050	24	30
1,4-Dichlorobenzene	3.580	4.786	0.500	34 *	30
sec-Butylbenzene	10.848	11.556	0.100	7	30
1,2,3-Trimethylbenzene	7.299	7.856	0.100	8	30
1,2-Dichlorobenzene	4.828	5.863	0.400	21	30
n-Butylbenzene	9.232	9.691	0.100	5	30
Bromobenzene	4.362	4.588	0.100	5	30
1,2-Dibromo-3-chloropropane	1.896	2.412	0.100	27	30
Hexachloroethane	3.773	4.178	0.100	11	30
1,2,4-Trichlorobenzene	3.500	4.333	0.200	24	30
Naphthalene	9.166	11.181	0.010	22	30
1,2,3-Trichlorobenzene	3.697	4.317	0.100	17	30
Hexachlorobutadiene	4.944	6.344	0.050	28	30
2-Methylnaphthalene	4.399	4.139	0.010	-6	30

* Value outside QC limits.

\# RRF value represents calibration verification level. Analyte concentrations may vary.

Compound calibrated using a regression fit model. Values represent % drift evaluation.

8E - FORM VIII SV-SIM1

SEMIVOLATILE SIM INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

GC Column: ID: (mm) Init. Calib. Date(s): 10/31/2021

EPA Sample No.(SSTD020##): SIM01 Date Analyzed: 11/11/2021

Lab File ID (Standard): SJ21KB03.D Time Analyzed: 16:02

Instrument ID: SJ(SJ21K11A)

		IS1 (DCB)				IS2 (NPT)				IS3 (ANT)			
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD					620261		5.50		307418		9.93	
	UPPER LIMIT					1240522		6.00		614836		10.43	
	LOWER LIMIT					310131		5.00		153709		9.43	
	EPA SAMPLE NO.												
01	PS21K11C.MB*-PNA					486726		5.50		242920		9.95	
02	PS21K11C.LCS-PNA					539815		5.50		257610		9.93	
03	PS21K11C.LCD-PNA					531458		5.50		273433		9.93	
04	A05022-013.01					515858		5.50		251386		9.93	
05	A05022-014.01					508742		5.50		249700		9.93	
06	A05022-007.01					518093		5.50		254464		9.93	
07	A05022-008.01					488169		5.50		243772		9.92	
08	A05022-009.01					495641		5.50		243626		9.92	
09	A05022-010.01					509124		5.50		254489		9.92	
10	A05022-011.01					462838		5.50		233320		9.93	
11	A05022-012.01					507582		5.50		255772		9.92	
12	A05022-007.02					509206		5.50		247966		9.92	
13	A05022-008.02					489677		5.50		239081		9.92	
14	A05022-009.02					493886		5.50		239723		9.92	
15	A05022-010.02					510855		5.50		244246		9.92	
16	A05022-011.02					500991		5.50		239366		9.92	
17	A05022-012.02					496770		5.50		238092		9.92	

IS1 (DCB) = 1,4-Dichlorobenzene-d4(I)
IS2 (NPT) = Naphthalene-d8(I)
IS3 (ANT) = Acenaphthene-d10(I)

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

8F - FORM VIII SV-SIM2

SEMIVOLATILE SIM INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

GC Column: ID: (mm) Init. Calib. Date(s): 10/31/2021

EPA Sample No.(SSTD020##): SIM01 Date Analyzed: 11/11/2021

Lab File ID (Standard): SJ21KB03.D Time Analyzed: 16:02

Instrument ID: SJ(SJ21K11A)

		IS4 (PHN)				IS5 (CRY)				IS6 (PRY)			
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD	532802		12.90		322111		21.16		284700		25.92	
	UPPER LIMIT	1065604		13.40		644222		21.66		569400		26.42	
	LOWER LIMIT	266401		12.40		161056		20.66		142350		25.42	
	EPA SAMPLE NO.												
01	PS21K11C.MB*-PNA	415780		12.90		248506		21.18		225182		25.92	
02	PS21K11C.LCS-PNA	436163		12.90		261594		21.18		230685		25.92	
03	PS21K11C.LCD-PNA	446943		12.90		271288		21.16		235384		25.92	
04	A05022-013.01	409411		12.88		240238		21.16		206450		25.92	
05	A05022-014.01	408027		12.89		241876		21.16		200868		25.92	
06	A05022-007.01	420898		12.88		245811		21.16		205017		25.90	
07	A05022-008.01	389664		12.90		231344		21.16		190510		25.90	
08	A05022-009.01	395886		12.89		235336		21.16		191351		25.90	
09	A05022-010.01	397168		12.90		238846		21.16		198032		25.90	
10	A05022-011.01	371955		12.90		218982		21.16		176043		25.90	
11	A05022-012.01	409152		12.88		238930		21.16		199470		25.90	
12	A05022-007.02	391029		12.88		226420		21.16		190555		25.90	
13	A05022-008.02	376455		12.88		215488		21.16		178202		25.90	
14	A05022-009.02	384742		12.88		217475		21.16		179888		25.90	
15	A05022-010.02	392219		12.88		222845		21.16		182163		25.90	
16	A05022-011.02	385333		12.88		215192		21.16		176052		25.90	
17	A05022-012.02	376559		12.88		215805		21.16		175793		25.90	

IS4 (PHN) = Phenanthrene-d10(I)
IS5 (CRY) = Chrysene-d12(I)
IS6 (PRY) = Perylene-d12(I)

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

7A - FORM VII VOA-1
VOLATILE ORGANICS ANALYSIS
INTERNAL STANDARD AREA AND RETENTION TIME STUDY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

GC Column: Rxi-1ms ID: 0.32 (mm) Init. Calib. Date(s): 10/31 - 11/01/2021

EPA Sample No.(VSTD#####): VCCV01 Date Analyzed: 11/09/2021

Lab File ID (Standard): VN21K901.D Time Analyzed: 11:47

Instrument ID: VN(VN21K09A)

		IS1 (BCM)			IS2 (CBZ)			IS3 (DFB)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 HOUR STD	482272		8.80	141479		15.37	1754527		10.90
	UPPER LIMIT	675181		9.13	198071		15.70	2456338		11.23
	LOWER LIMIT	289363		8.47	84887		15.04	1052716		10.57
	EPA SAMPLE NO.									
01	VLCS01	466925		8.81	128657		15.38	1677644		10.91
02	VLCD01	466923		8.81	123266		15.38	1658635		10.91
03	RNS	450216		8.81	126359		15.38	1639640		10.90
04	VBLK01	477097		8.81	134133		15.38	1692283		10.91
05	A05022-001.01	461687		8.81	132524		15.38	1650171		10.91
06	A05022-002.01	383947		8.81	101150		15.37	1402370		10.90
07	A05022-003.01	385616		8.81	99926		15.38	1393147		10.90
08	A05022-003.02	337399		8.81	81040	*	15.38	1198689		10.91
09	A05022-004.01	338356		8.81	77469	*	15.38	1197171		10.91
10	A05022-005.01	345256		8.81	80253	*	15.38	1229871		10.90
11	A05022-006.01	389529		8.81	95446		15.38	1385902		10.91
12	A05023-001.02	360516		8.81	89217		15.37	1290798		10.90
13	A05030-001.02	407978		8.81	105742		15.38	1440160		10.90
14	A05030-002.02	421842		8.81	117587		15.37	1518888		10.91
15	A05030-003.02	409684		8.81	108325		15.38	1457752		10.90
16	A05031-001.02	426822		8.81	124934		15.38	1537137		10.91
17	A05031-002.02	440794		8.81	129411		15.38	1597505		10.90
18	A05031-003.02	433312		8.81	125231		15.38	1563687		10.91
19	A05036-001.01	440275		8.81	130454		15.38	1576338		10.90
20	A05036-002.01	440879		8.81	130383		15.38	1593199		10.90
21	A05036-003.01	440892		8.81	128087		15.38	1547734		10.91
22	A05076-001.01	441302		8.81	129721		15.38	1584744		10.90
23	A05020-001.01	441999		8.81	132556		15.38	1569588		10.91

IS1 (BCM) = Bromochloromethane
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DFB) = 1,4-Difluorobenzene

AREA UPPER LIMIT = 140% of Internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

7A - FORM VII VOA-1
VOLATILE ORGANICS ANALYSIS
INTERNAL STANDARD AREA AND RETENTION TIME STUDY

Lab Name: Fibertec, Inc. Contract: NA

Lab Code: NA Case No.: NA Mod. Ref No.: NA SDG No.: NA

GC Column: Rxi-1ms ID: 0.32 (mm) Init. Calib. Date(s): 10/31 - 11/01/2021

EPA Sample No.(VSTD#####): VCCV01 Date Analyzed: 11/10/2021

Lab File ID (Standard): VN21KA01.D Time Analyzed: 13:22

Instrument ID: VN(VN21K10B)

		IS1 (BCM)			IS2 (CBZ)			IS3 (DFB)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 HOUR STD	429373		8.80	122092		15.37	1554439		10.90
	UPPER LIMIT	601122		9.13	170929		15.70	2176215		11.23
	LOWER LIMIT	257624		8.47	73255		15.04	932663		10.57
	EPA SAMPLE NO.									
01	VLCS01	463475		8.81	134616		15.37	1674772		10.91
02	VLCD01	483865		8.81	144200		15.38	1756099		10.90
03	RNS	488788		8.80	140889		15.38	1784210		10.90
04	VBLK01	485898		8.81	152380		15.38	1785203		10.90
05	A05022-004.02	468845		8.81	159031		15.38	1718590		10.90
06	A05022-005.02	421685		8.81	123176		15.38	1572182		10.90
07	BV 2795	469733		8.81	149181		15.38	1724393		10.90
08	BV 2795	454442		8.81	163268		15.38	1715241		10.90
09	BV 3628	463874		8.81	173356	*	15.38	1732807		10.91
10	BVFC 3072	458728		8.81	170880		15.38	1736131		10.90
11	A04889-002.02	440359		8.81	168490		15.38	1659297		10.90
12	A04889-004.02	448303		8.81	167254		15.38	1666406		10.90
13	A04889-005.02	442537		8.81	168284		15.38	1654256		10.91
14	A04889-011.02	440984		8.82	172149	*	15.37	1650310		10.91
15	A04993-002.03	454892		8.82	172245	*	15.38	1678809		10.91
16	A04993-004.03	452140		8.81	170587		15.38	1689461		10.91
17	BVFC 2792	451842		8.81	167821		15.37	1697752		10.91
18	BVFC 21399	451855		8.81	169070		15.38	1686391		10.91
19	A05102-001.01	457842		8.81	174554	*	15.38	1687440		10.91
20	A05102-002.01	453992		8.82	169742		15.38	1677946		10.91
21	A05102-003.01	440847		8.81	168205		15.38	1662118		10.91
22	A05102-004.01	439223		8.81	163398		15.38	1642874		10.91
23	A05102-005.01	435590		8.81	163579		15.38	1635917		10.91

IS1 (BCM) = Bromochloromethane
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DFB) = 1,4-Difluorobenzene

AREA UPPER LIMIT = 140% of Internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

PAH FIELD SPIKE NARRATION

Upon analysis, it was discovered that the field spike tube had not been spiked prior to going to the field and therefore could not be evaluated. Batch precision and accuracy were evaluated by LCS and LCD, which met all criteria.

SECTION #3: INITIAL CALIBRATION RAW DATA

PAH AIR INITIAL CALIBRATION, SJAIRA11

- ICAL RESPONSE FACTOR REPORT
- %RE EVALUATIONS
- TUNE RAW DATA
- ICAL RAW DATA
- ICV RAW DATA

TO-15 INITIAL CALIBRATION, VN400B77

- ICAL RESPONSE FACTOR REPORT
- TUNE RAW DATA
- ICAL RAW DATA
- ICV RAW DATA

PAH AIR INITIAL CALIBRATION

SJAIRA11

Vial List---C:\SJ\SJ SEQUENCES\SJ21j29d.sld

Position	Sample Type	Level	Sample ID	Sample Name
112	Unknown		1	bake
111	Unknown		2	bake
1	Unknown		3	tune01
121	Unknown		4	500 pna 102921
122	Unknown		5	100 pna 102921
123	Unknown		6	50 pna 102921
124	Unknown		7	10 pna 102921
125	Unknown		8	5 pna 102921
126	Unknown		9	2.5 pna 102921
127	Unknown		10	1.0 pna 102921
128	Unknown		11	0.5 pna 102921
129	Unknown		12	0.25 pna 102921
130	Unknown		13	0.1 pna 102921
131	Unknown		14	4 air icv
132	Unknown		15	ps21j28h.mb*-pna
133	Unknown		16	ps21j28h.lcs-pna
134	Unknown		17	ps21j28h.lcd-pna
135	Unknown		18	A04750-001.01
136	Unknown		19	A04750-002.01
137	Unknown		20	A04750-003.01
138	Unknown		21	A04750-004.01
139	Unknown		22	A04750-005.01
140	Unknown		23	A04750-001.02
141	Unknown		24	A04750-002.02
142	Unknown		25	A04750-003.02

Response Factor Report

Method Path : C:\SJ\SJ METHODS\
Method File : SJAIRA11.M
Title : 8270 COMPOUNDS BY 8270
Last Update : Sun Oct 31 17:07:02 2021
Response Via : Initial Calibration

Calibration Files
1000=SJ21Gm06.D 500 =sj21jt04.D 100 =sj21jt05.D 50 =sj21jt06.D 10 =sj21jt07.D 5 =sj21jt08.D 2.5 =sj21jt09.D 1 =sj21jt10.D
0.5 =sj21jt11.D 0.25=sj21jt12.D

		Compound	1000	~~500~~ 250	100	~~50~~ 25	10	~~5~~ 2.5	~~2.5~~ 1.25	1	~~0.5~~ 0.25	~~0.25~~ 0.125	Avg	%RSD	
								ISTD							
1)	I	Naphthalene-d8(I) ...													
2)	S	1-Fluoronaphth...	0.658	0.782	0.794	0.898	1.040	0.912	1.007	0.953	0.975	0.891		13.91	
3)	TP	Naphthalene (SIM)	1.045	1.013	1.184	1.012	1.428	1.288	1.282	1.781		1.254		20.77	0.998
4)	TP	2-Methylnaphth...	0.549	0.510	0.615	0.502	0.727	0.511	0.503	0.573		0.561		13.92	
								ISTD							
5)	I	Acenaphthene-d10(I...													
6)	S	2-Fluorobiphen...	1.001	1.161	1.126	1.097	1.109	0.976	1.077	1.027	1.505	1.120		13.98	
7)	TP	Acenaphthylene...	1.531	1.367	1.538	1.256	1.382	1.573	1.221	1.588	1.647	1.456		10.53	
8)	TP	Acenaphthene (...	1.200	1.148	1.342	1.155	1.523	1.369	1.301	1.725		1.345		14.73	
9)	TP	Fluorene (SIM)	1.203	1.094	1.241	0.999	1.233	1.132	1.028	1.610	1.498	1.226		16.78	
								ISTD							
10)	I	Phenanthrene-d10(I...													
11)	TP	Phenanthrene (...	0.947	0.918	1.063	0.899	1.182	1.063	1.287	2.370		1.216		39.89	0.998
12)	TP	Anthracene (SIM)	0.710	0.678	0.788	0.631	0.883	0.557	0.728	1.119		0.762		22.86	0.997
13)	TP	Fluoranthene (...	0.900	0.805	0.838	0.718	0.977	0.904	0.824			0.852		9.80	
								ISTD							
14)	I	Chrysene-d12(I) (SIM)													
15)	TP	Pyrene (SIM)	1.361	1.322	1.489	1.347	1.792	1.735	1.607	2.230		1.610		19.09	
16)	S	4-Terphenyl-d1...	0.801	0.960	0.927	1.008	1.150	1.050	1.277			1.025		15.12	
17)	TP	Benzo(a)anthra...	0.924	0.825	0.853	0.767	1.162	1.262	1.404	3.250		1.306		62.65	0.996
18)	TP	Chrysene (SIM)	1.037	1.137	1.429	1.282	1.850	1.953	1.743			1.490		24.28	0.991
								ISTD							
19)	I	Perylene-d12(I) (SIM)													
20)	TP	Benzo(b)fluora...	1.045	0.953	0.964	0.824	1.052	0.968	0.850			0.951		9.19	
21)	TP	Benzo(k)fluora...	1.019	1.024	1.226	0.980	1.378	1.266	1.283			1.168		13.48	
22)	TP	Benzo(a)pyrene...	0.991	0.824	0.848	0.674	0.900	0.844	0.811	0.942		0.854		11.21	
23)	TP	Indeno(1,2,3-c...	0.746	0.612	0.645	0.459	0.595	0.526				0.597		16.55	
24)	TP	Dibenzo(a,h)an...	0.888	0.786	0.936	0.706	0.896	0.871	0.825			0.844		9.25	
25)	TP	Benzo(ghi)pery...	0.878	0.840	0.995	0.786	1.008	0.915	0.835			0.894		9.36	

(#) = Out of Range

11-1-21

11-2-21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt05.D
Acq On : 29 Oct 21 21:17
Operator :
Sample : 100 pna 102921
Misc : air cal
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Oct 31 17:11:28 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	601743	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	290396	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	494687	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.177	240	307789	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	259629	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	235197	87.72	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 548.25%#
6) 2-Fluorobiphenyl(S)	7.584	172	170232	104.69	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 654.31%#
16) 4-Terphenyl-d14(S)	17.230	244	150129	95.20	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 595.00%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	304827	96.79	ug/L	# 93
4) 2-Methylnaphthalene (SIM)	6.673	142	156524	92.68	ug/L	89
7) Acenaphthylene (SIM)	9.338	152	198544	93.92	ug/L	99
8) Acenaphthene (SIM)	10.049	153	166757	85.37	ug/L	91
9) Fluorene (SIM)	11.340	166	159828	89.75	ug/L	98
11) Phenanthrene (SIM)	12.928	178	226946	97.03	ug/L	# 95
12) Anthracene (SIM)	13.028	178	172680m	99.01	ug/L	
13) Fluoranthene (SIM)	15.667	202	200167	94.95	ug/L	98
15) Pyrene (SIM)	16.399	202	204377	82.47	ug/L	98
17) Benzo(a)anthracene (SIM)	21.152	228	126890	92.62	ug/L	98
18) Chrysene (SIM)	21.276	228	161638	95.95	ug/L	99
20) Benzo(b)fluoranthene (...	24.821	252	126024m	102.07	ug/L	
21) Benzo(k)fluoranthene (...	24.904	252	139896m	92.27	ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	106967	96.48	ug/L	96
23) Indeno(1,2,3-cd)pyrene...	28.687	276	79441	102.49	ug/L	92
24) Dibenzo(a,h)anthracene...	28.770	278	104744	95.61	ug/L	# 77
25) Benzo(ghi)perylene (SIM)	29.266	276	109474	94.34	ug/L	# 86

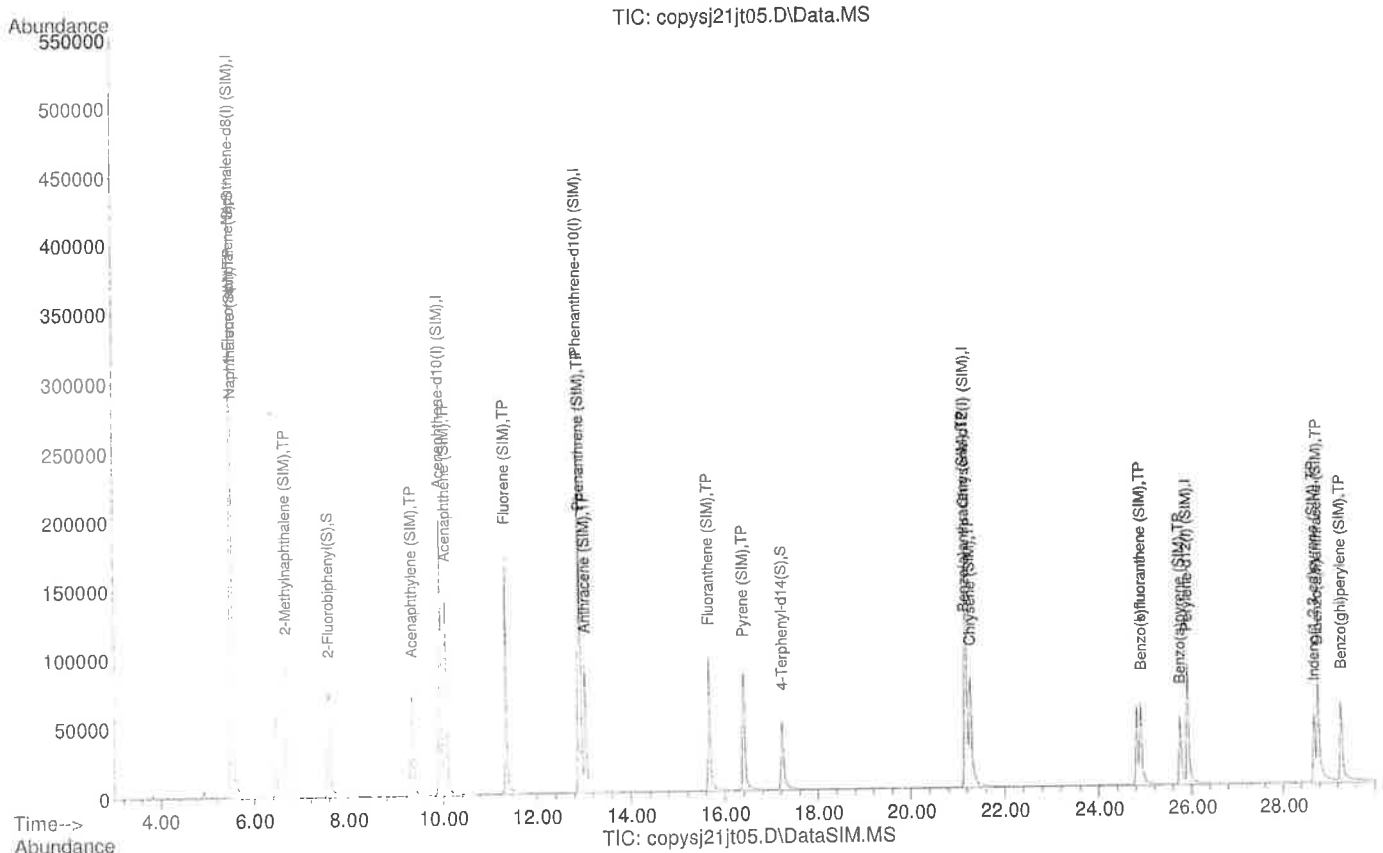
(#) = qualifier out of range (m) = manual integration (+) = signals summed

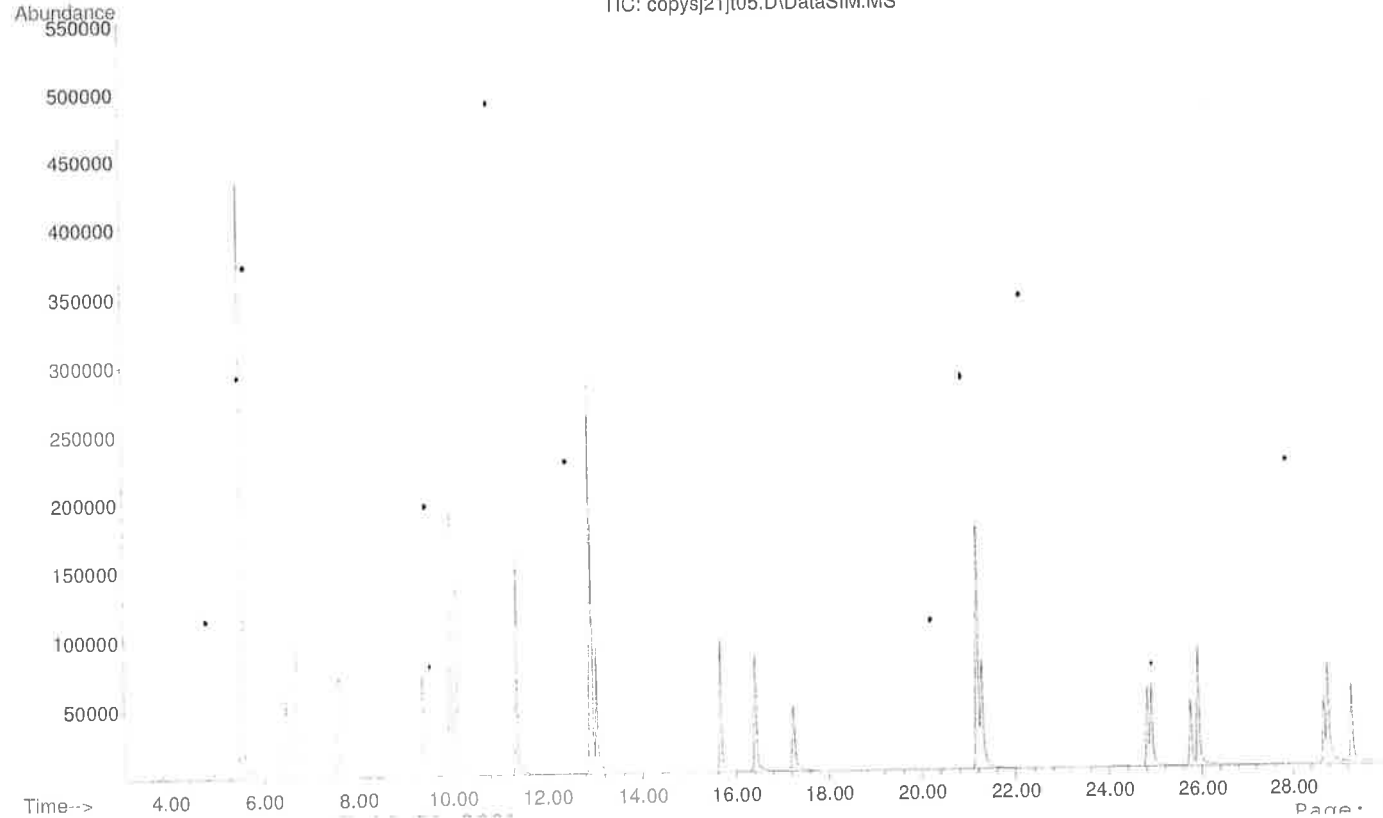
SJAIRA11.M Sun Oct 31 17:11:36 2021

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt05.D
Acq On : 29 Oct 21 21:17
Operator :
Sample : 100 pna 102921
Misc : air cal
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Oct 31 17:10:54 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt05.D
Acq On : 29 Oct 21 21:17
Operator :
Sample : 100 pna 102921
Misc : air cal
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Oct 31 17:10:54 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	601743	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	290396	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	494687	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.177	240	307789	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	259629	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	235197	87.72	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery =	548.25%#
6) 2-Fluorobiphenyl(S)	7.584	172	170232	104.69	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	654.31%#
16) 4-Terphenyl-d14(S)	17.230	244	150129	95.20	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery =	595.00%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	304827	96.79	ug/L #	93
4) 2-Methylnaphthalene (SIM)	6.673	142	156524	92.68	ug/L	89
7) Acenaphthylene (SIM)	9.338	152	198544	93.92	ug/L	99
8) Acenaphthene (SIM)	10.049	153	166757	85.37	ug/L	91
9) Fluorene (SIM)	11.340	166	159828	89.75	ug/L	98
11) Phenanthrene (SIM)	12.928	178	226946	97.03	ug/L #	95
12) Anthracene (SIM)	13.028	178	152533	87.45	ug/L #	96
13) Fluoranthene (SIM)	15.667	202	200167	94.95	ug/L	98
15) Pyrene (SIM)	16.399	202	204377	82.47	ug/L	98
17) Benzo(a)anthracene (SIM)	21.152	228	126890	92.62	ug/L	98
18) Chrysene (SIM)	21.276	228	161638	95.95	ug/L	99
20) Benzo(b)fluoranthene (...	24.904	252	86383	69.96	ug/L	93
21) Benzo(k)fluoranthene (...	24.904	252	119554	78.86	ug/L #	91
22) Benzo(a)pyrene (SIM)	25.751	252	106967	96.48	ug/L	96
23) Indeno(1,2,3-cd)pyrene...	28.687	276	79441	102.49	ug/L	92
24) Dibenzo(a,h)anthracene...	28.770	278	104744	95.61	ug/L #	77
25) Benzo(ghi)perylene (SIM)	29.266	276	109474	94.34	ug/L #	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt11.D
Acq On : 30 Oct 2021 01:01
Operator : 0.25 DAT 11.1.21
Sample : 0.5 pna 102921
Misc : air cal
ALS Vial : 128 Sample Multiplier: 1

0.175 - 0.325

Quant Time: Oct 31 17:14:32 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

%RE

DAT 11.1.21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	508512	200.00	ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	262428	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	420532	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	224975	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	178428	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	1212	0.53	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery =	3.31%#
6) 2-Fluorobiphenyl(S)	7.634	172	516	0.35	ug/L	0.03
Spiked Amount 16.000	Range 70 - 130				Recovery =	2.19%#
16) 4-Terphenyl-d14(S)	17.342	244	574	0.50	ug/L	0.10
Spiked Amount 16.000	Range 70 - 130				Recovery =	3.13%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.548	128	1298m	0.24	ug/L	
4) 2-Methylnaphthalene (SIM)	6.739	142	273	0.19	ug/L	95
7) Acenaphthylene (SIM)	9.354	152	521	0.27	ug/L #	89
8) Acenaphthene (SIM)	10.065	153	566	0.32	ug/L	96
9) Fluorene (SIM)	11.390	166	541	0.34	ug/L #	93
11) Phenanthrene (SIM)	12.945	178	1246	0.26	ug/L #	88
12) Anthracene (SIM)	13.044	178	581m	0.29	ug/L	
13) Fluoranthene (SIM)	15.754	202	413	0.23	ug/L #	91
15) Pyrene (SIM)	16.486	202	408	0.23	ug/L #	83
17) Benzo(a)anthracene (SIM)	21.189	228	913m	0.32	ug/L	
18) Chrysene (SIM)	21.301	228	811m	Below	Cal	
20) Benzo(b)fluoranthene (...	24.842	252	351	0.41	ug/L #	1
21) Benzo(k)fluoranthene (...	24.945	252	355m	0.34	ug/L	
22) Benzo(a)pyrene (SIM)	25.772	252	210	0.28	ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.687	276	9	0.02	ug/L #	1
24) Dibenzo(a,h)anthracene...	28.791	278	4	0.01	ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.349	276	282	0.35	ug/L #	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

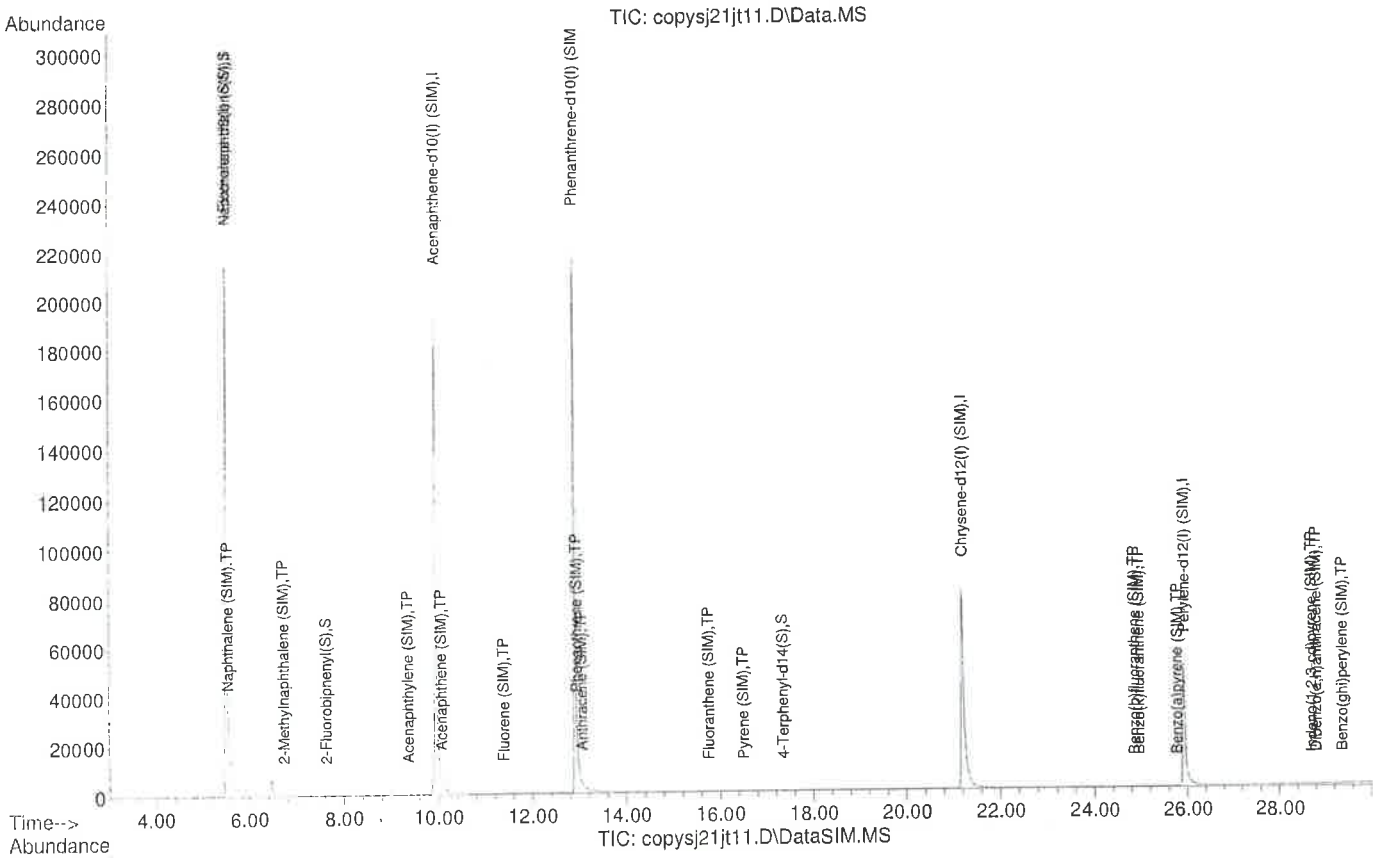
SJAIRA11.M Sun Oct 31 17:14:38 2021

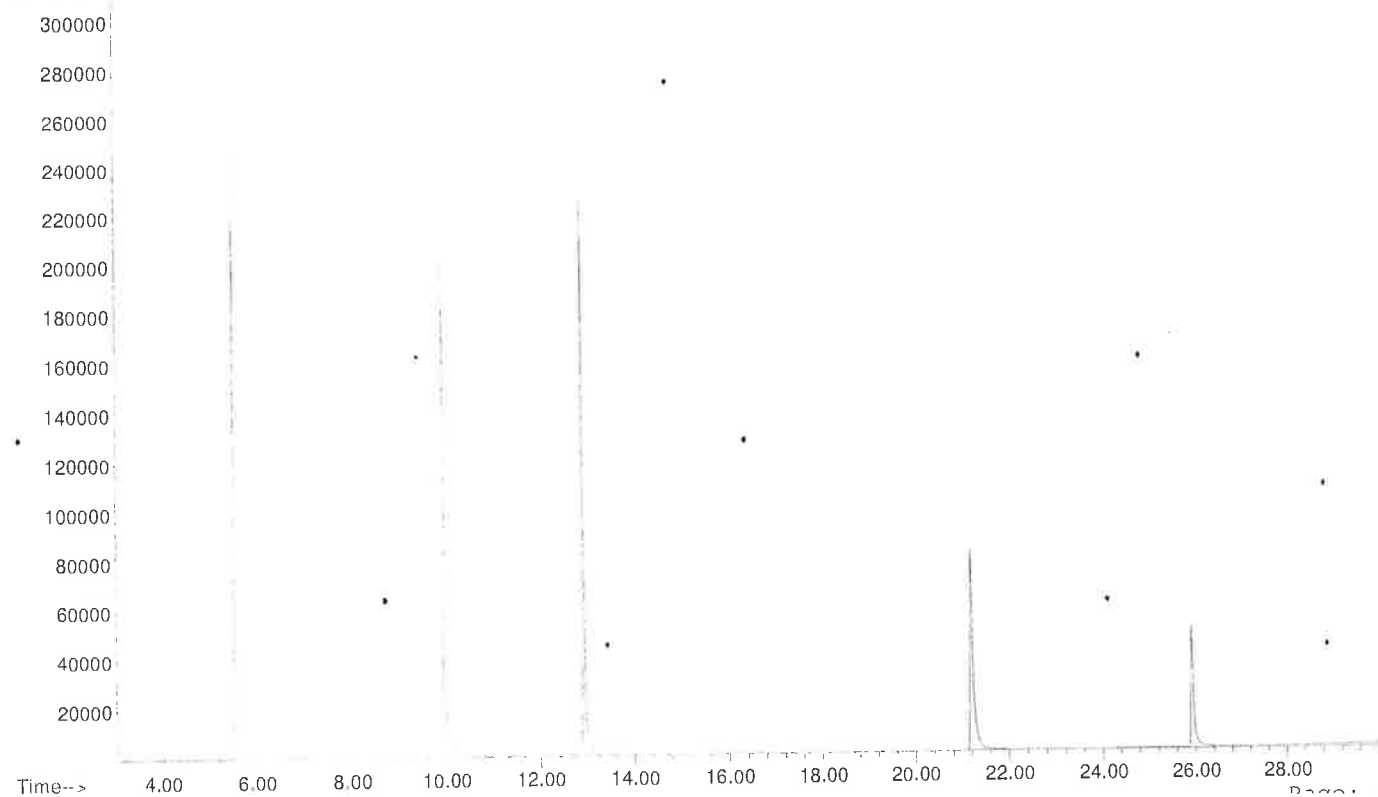
AT 11.2.21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt11.D
Acq On : 30 Oct 2021 01:01
Operator :
Sample : 8.5 pna 102921 12.8.21
Misc : air cal
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Oct 31 17:12:31 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt11.D
Acq On : 30 Oct 2021 01:01
Operator :
Sample : 0.25 pna 102921 BM 12.8.21
Misc : air cal
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Oct 31 17:12:31 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	508512	200.00	ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	262428	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	420532	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	224975	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	178428	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	1212	0.53	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery =	3.31%#
6) 2-Fluorobiphenyl(S)	7.634	172	516	0.35	ug/L	0.03
Spiked Amount 16.000	Range 70 - 130				Recovery =	2.19%#
16) 4-Terphenyl-d14(S)	17.342	244	574	0.50	ug/L	0.10
Spiked Amount 16.000	Range 70 - 130				Recovery =	3.13%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.548	128	1132	0.17	ug/L #	77
4) 2-Methylnaphthalene (SIM)	6.739	142	273	0.19	ug/L	95
7) Acenaphthylene (SIM)	9.354	152	521	0.27	ug/L #	89
8) Acenaphthene (SIM)	10.065	153	566	0.32	ug/L	96
9) Fluorene (SIM)	11.390	166	541	0.34	ug/L #	93
11) Phenanthrene (SIM)	12.945	178	1246	0.26	ug/L #	88
12) Anthracene (SIM)	13.044	178	414	0.18	ug/L #	77
13) Fluoranthene (SIM)	15.754	202	413	0.23	ug/L #	91
15) Pyrene (SIM)	16.486	202	408	0.23	ug/L #	83
17) Benzo(a)anthracene (SIM)	21.301	228	246	Below	Cal	98
18) Chrysene (SIM)	21.301	228	692	Below	Cal	96
20) Benzo(b)fluoranthene (...	24.842	252	351	0.41	ug/L #	1
21) Benzo(k)fluoranthene (...	24.945	252	269	0.26	ug/L #	1
22) Benzo(a)pyrene (SIM)	25.772	252	210	0.28	ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.687	276	9	0.02	ug/L #	1
24) Dibenzo(a,h)anthracene...	28.791	278	4	0.01	ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.349	276	282	0.35	ug/L #	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt10.D
Acq On : 30 Oct 2021 00:23
Operator :
Sample : 1.0 pna 102921
Misc : air cal
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Oct 31 17:12:11 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	499316	200.00 ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	258590	200.00 ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	433555	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	227248	200.00 ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	181593	200.00 ug/L	0.00
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.515	146	2531	1.14 ug/L	0.00
Spiked Amount 16.000	Range 70 - 130			Recovery =	7.12%#
6) 2-Fluorobiphenyl(S)	7.634	172	1166	0.81 ug/L	0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	5.06%#
16) 4-Terphenyl-d14(S)	17.329	244	1013	0.87 ug/L	0.09
Spiked Amount 16.000	Range 70 - 130			Recovery =	5.44%#
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.548	128	3200	0.97 ug/L #	90
4) 2-Methylnaphthalene (SIM)	6.739	142	955	0.68 ug/L	99
7) Acenaphthylene (SIM)	9.354	152	1579	0.84 ug/L	99
8) Acenaphthene (SIM)	10.065	153	1682	0.97 ug/L	94
9) Fluorene (SIM)	11.373	166	1344	0.85 ug/L #	89
11) Phenanthrene (SIM)	12.945	178	2791	1.00 ug/L #	97
12) Anthracene (SIM)	13.044	178	1267	0.73 ug/L #	93
13) Fluoranthene (SIM)	15.729	202	642	0.35 ug/L	93
15) Pyrene (SIM)	16.461	202	1432	0.78 ug/L #	95
17) Benzo(a)anthracene (SIM)	21.288	228	628	0.03 ug/L	98
18) Chrysene (SIM)	21.288	228	1918m	0.44 ug/L	
20) Benzo(b)fluoranthene (...	24.842	252	772	0.89 ug/L #	50
21) Benzo(k)fluoranthene (...	24.924	252	744	0.70 ug/L #	64
22) Benzo(a)pyrene (SIM)	25.772	252	736	0.95 ug/L #	34
23) Indeno(1,2,3-cd)pyrene...	28.770	276	380	0.70 ug/L #	49
24) Dibenzo(a,h)anthracene...	28.894	278	345	0.45 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.328	276	774	0.95 ug/L #	45

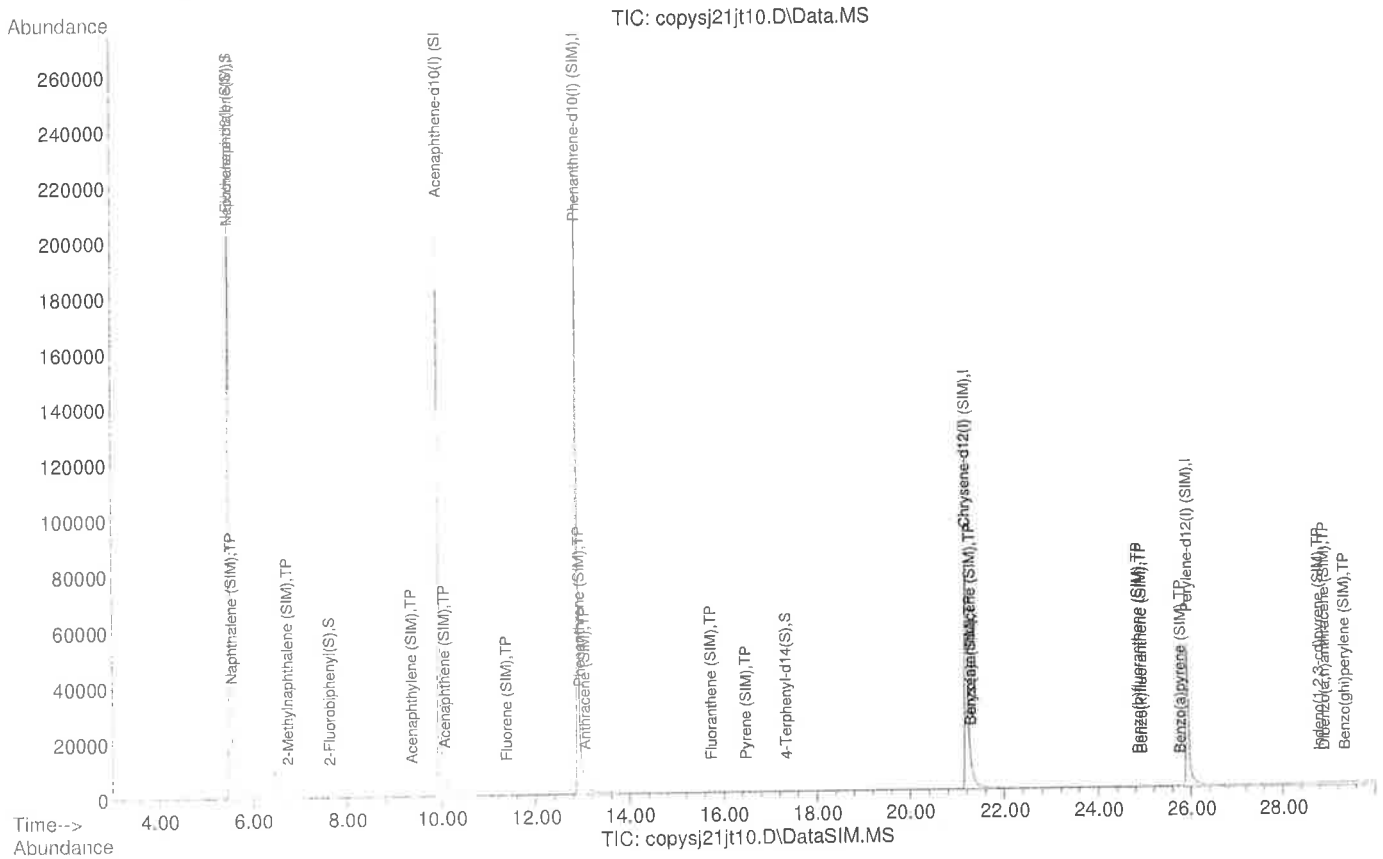
(#) = qualifier out of range (m) = manual integration (+) = signals summed

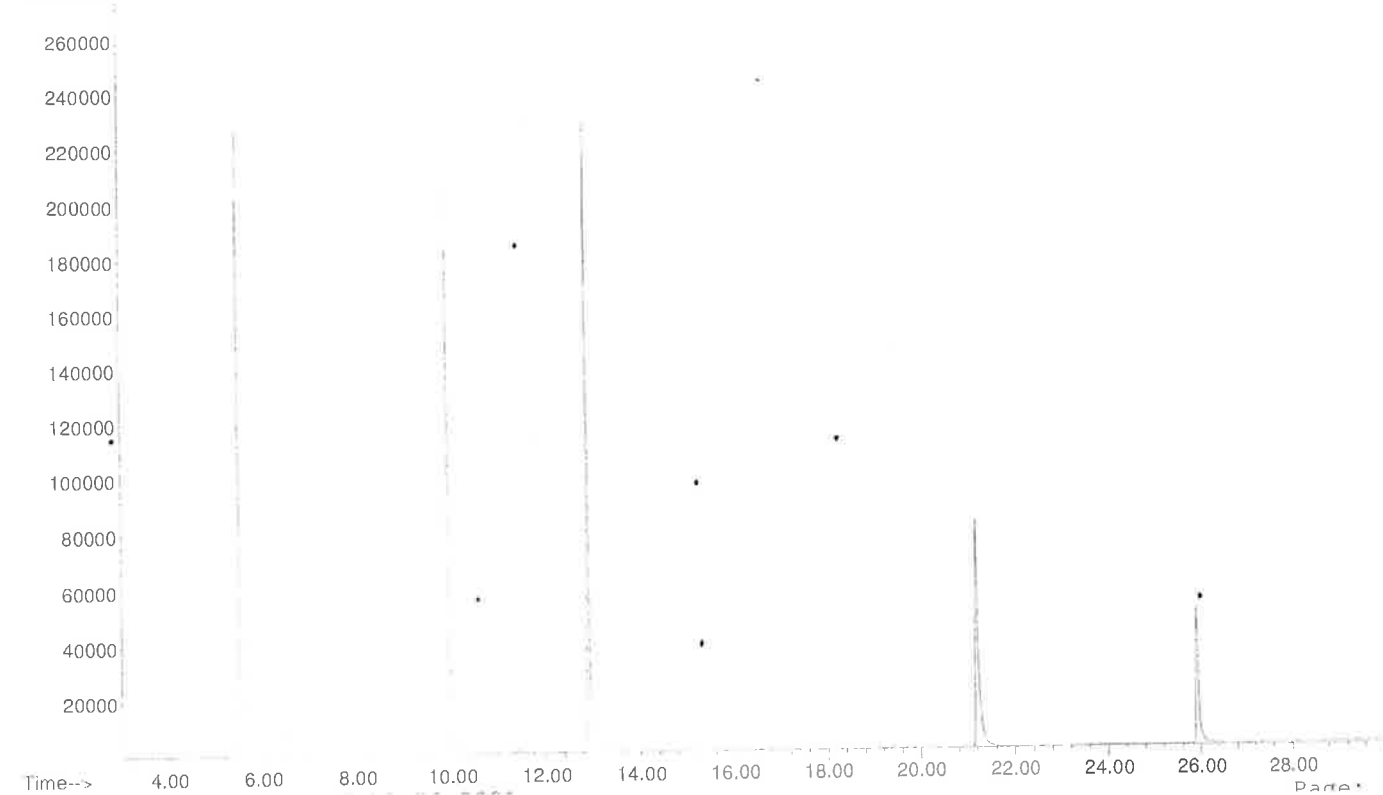
SJAIRA11.M Sun Oct 31 17:12:17 2021

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt10.D
Acq On : 30 Oct 2021 00:23
Operator :
Sample : 1.0 pna 102921
Misc : air cal
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Oct 31 17:11:55 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : copysj21jt10.D
Acq On : 30 Oct 2021 00:23
Operator :
Sample : 1.0 pna 102921
Misc : air cal
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Oct 31 17:11:55 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	499316	200.00	ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	258590	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	433555	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	227248	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	181593	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	2531	1.14	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery =	7.12%#
6) 2-Fluorobiphenyl(S)	7.634	172	1166	0.81	ug/L	0.03
Spiked Amount 16.000	Range 70 - 130				Recovery =	5.06%#
16) 4-Terphenyl-d14(S)	17.329	244	1013	0.87	ug/L	0.09
Spiked Amount 16.000	Range 70 - 130				Recovery =	5.44%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.548	128	3200	0.97	ug/L #	90
4) 2-Methylnaphthalene (SIM)	6.739	142	955	0.68	ug/L	99
7) Acenaphthylene (SIM)	9.354	152	1579	0.84	ug/L	99
8) Acenaphthene (SIM)	10.065	153	1682	0.97	ug/L	94
9) Fluorene (SIM)	11.373	166	1344	0.85	ug/L #	89
11) Phenanthrene (SIM)	12.945	178	2791	1.00	ug/L #	97
12) Anthracene (SIM)	13.044	178	1267	0.73	ug/L #	93
13) Fluoranthene (SIM)	15.729	202	642	0.35	ug/L	93
15) Pyrene (SIM)	16.461	202	1432	0.78	ug/L #	95
17) Benzo(a)anthracene (SIM)	21.288	228	628	0.03	ug/L	98
18) Chrysene (SIM)	21.288	228	1615	0.19	ug/L	95
20) Benzo(b)fluoranthene (...	24.842	252	772	0.89	ug/L #	50
21) Benzo(k)fluoranthene (...	24.924	252	744	0.70	ug/L #	64
22) Benzo(a)pyrene (SIM)	25.772	252	736	0.95	ug/L #	34
23) Indeno(1,2,3-cd)pyrene...	28.770	276	380	0.70	ug/L #	49
24) Dibenzo(a,h)anthracene...	28.894	278	345	0.45	ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.328	276	774	0.95	ug/L #	45

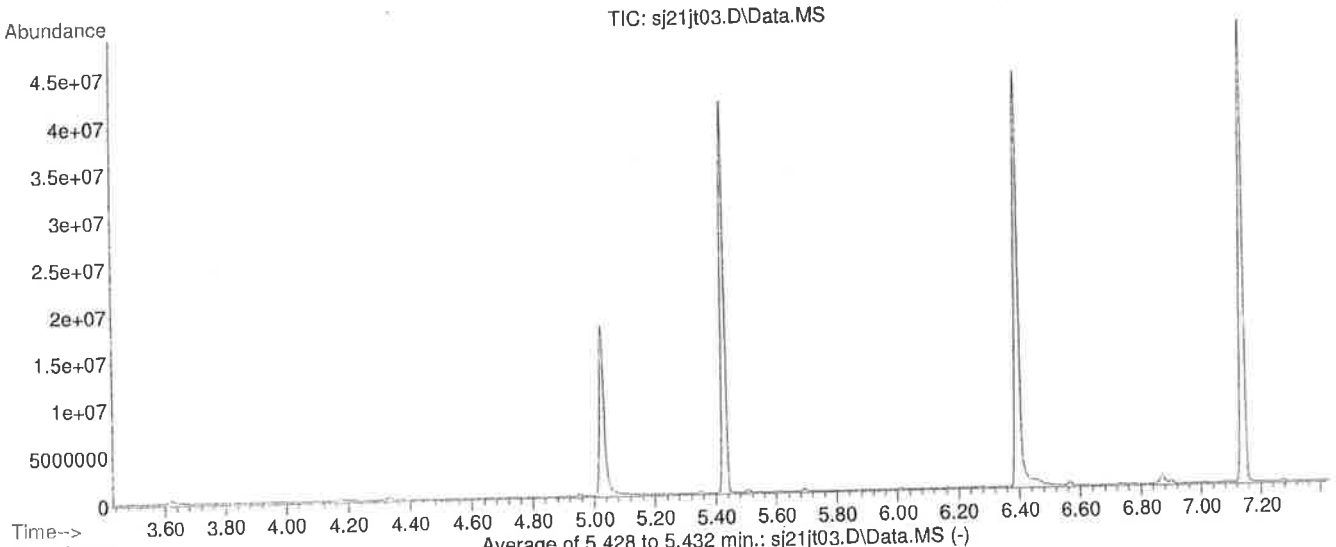
(#) = qualifier out of range (m) = manual integration (+) = signals summed

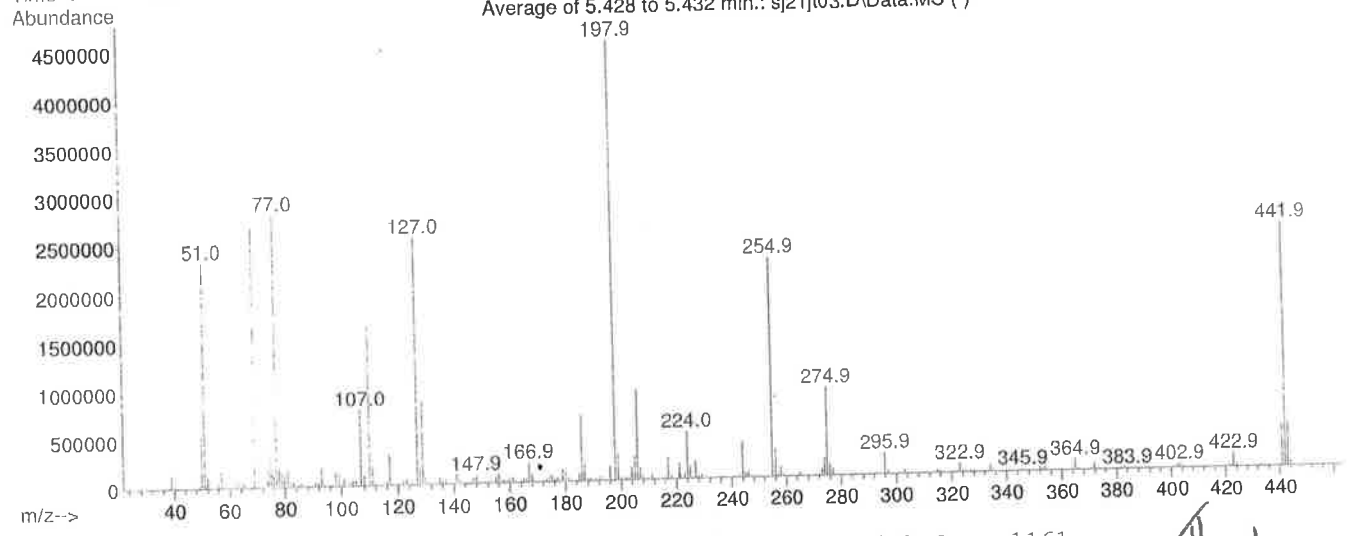
DFTPP

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\SJ\SJ METHODS\SJDFTA01.M
Title :
Last Update : Mon May 17 18:08:15 2021





AutoFind: Scans 1175, 1176, 1177;, Background Corrected with Scan 1161

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.1	2329415	PASS
68	69	0.00	2	0.5	14383	PASS
69	198	0.00	100	59.0	2688639	PASS
70	69	0.00	2	0.4	11545	PASS
127	198	40	60	56.0	2549577	PASS
197	198	0.00	1	0.2	9083	PASS
198	198	100	100	100.0	4554949	PASS
199	198	5	9	6.2	280597	PASS
275	198	10	30	20.3	922473	PASS
365	198	1	100	2.4	109664	PASS
441	443	0.01	100	95.0	433088	PASS
442	198	40	100	55.2	2513208	PASS
443	442	17	23	18.1	455930	PASS

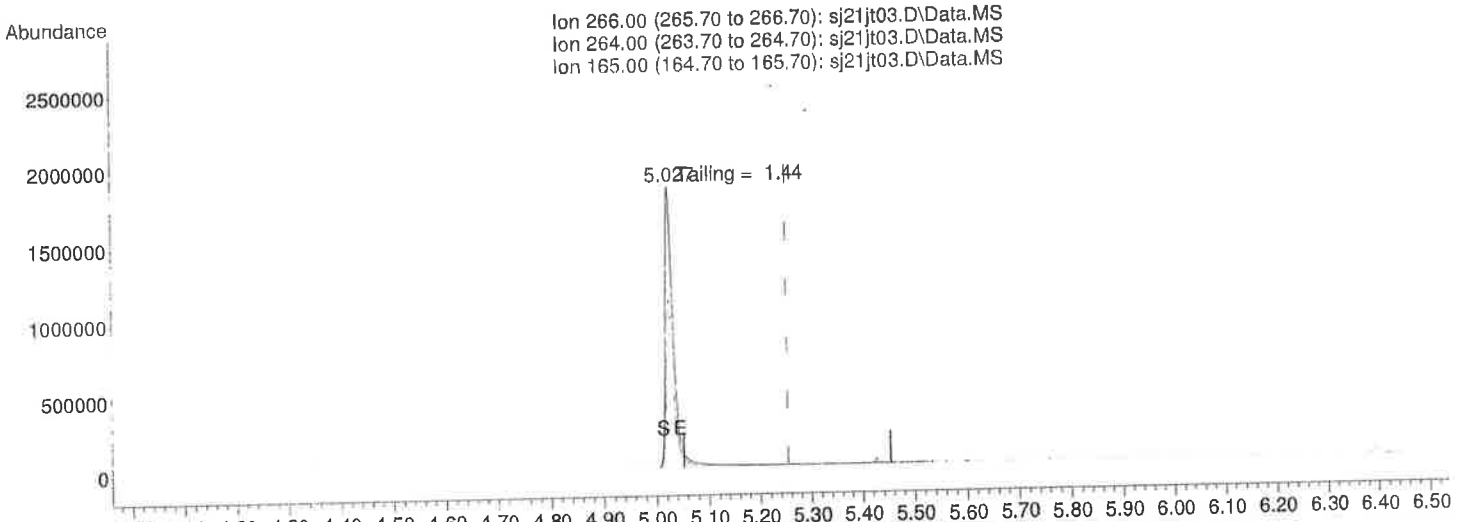
11.2.21

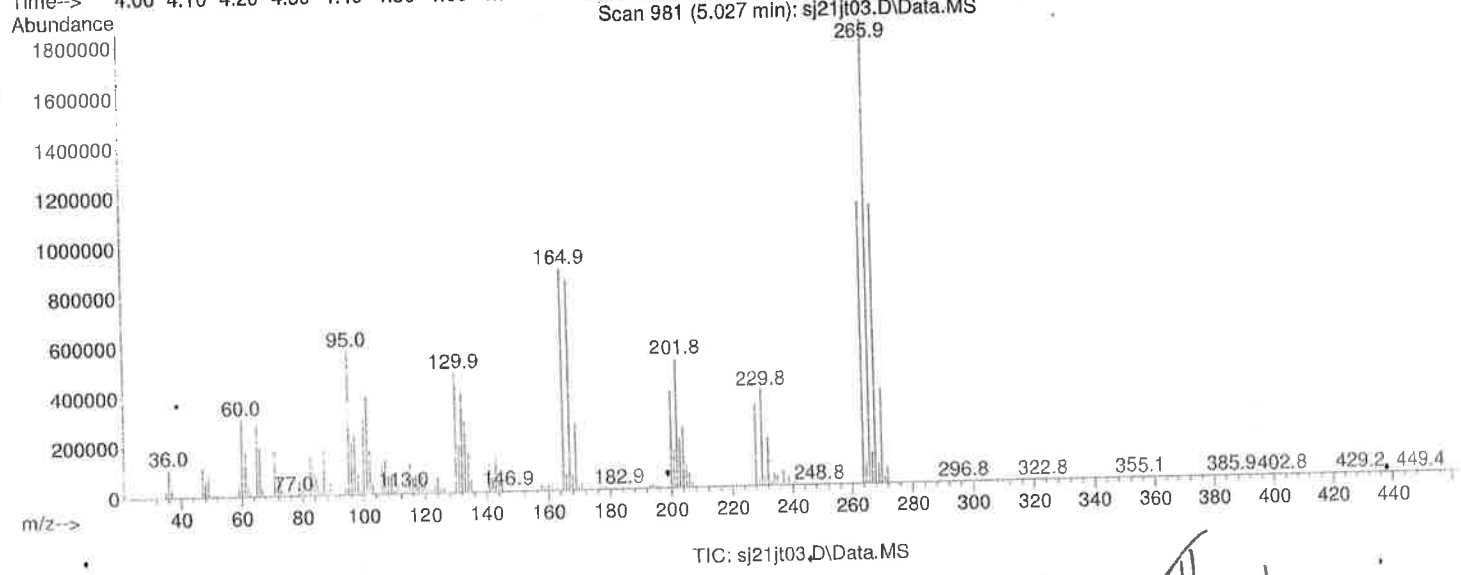
11/2/21

Quantitation Report (Qedit)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 02 07:42:52 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Mon May 17 18:08:15 2021
Response via : Initial Calibration





TIC: sj21jt03.D\Data.MS

11.2.21

(1) Pentachlorophenol

5.027min (-0.226) 469.33 mg/L m

response 2092836

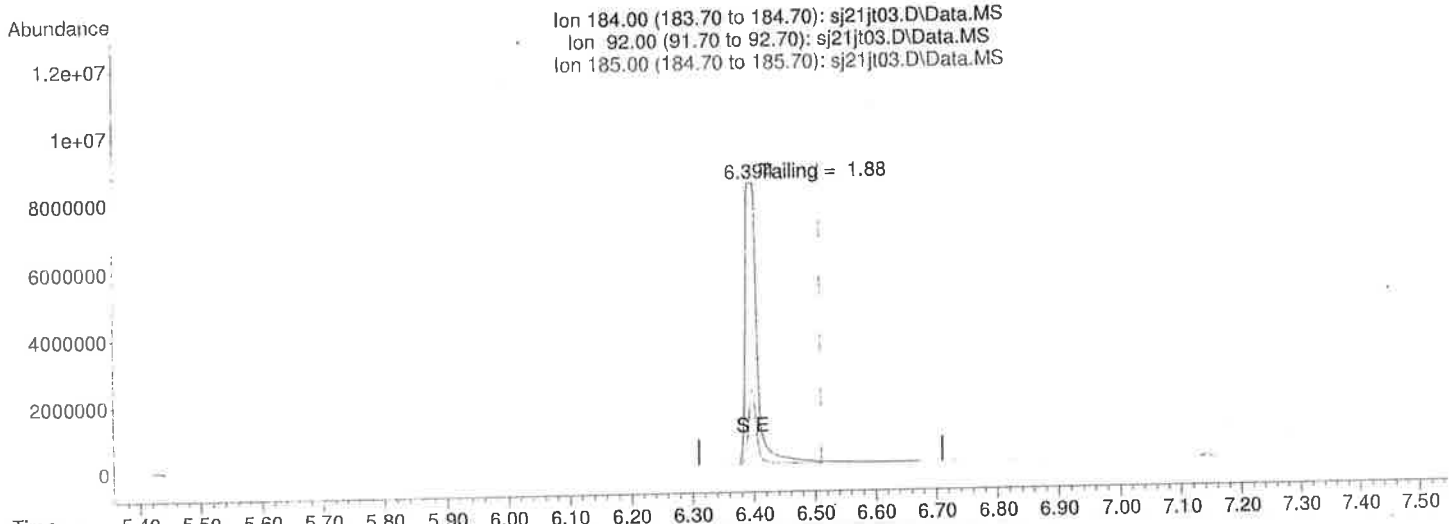
Ion	Exp%	Act%
266.00	100.00	100.00
264.00	63.40	0.12#
165.00	51.60	1.37#
0.00	0.00	0.00

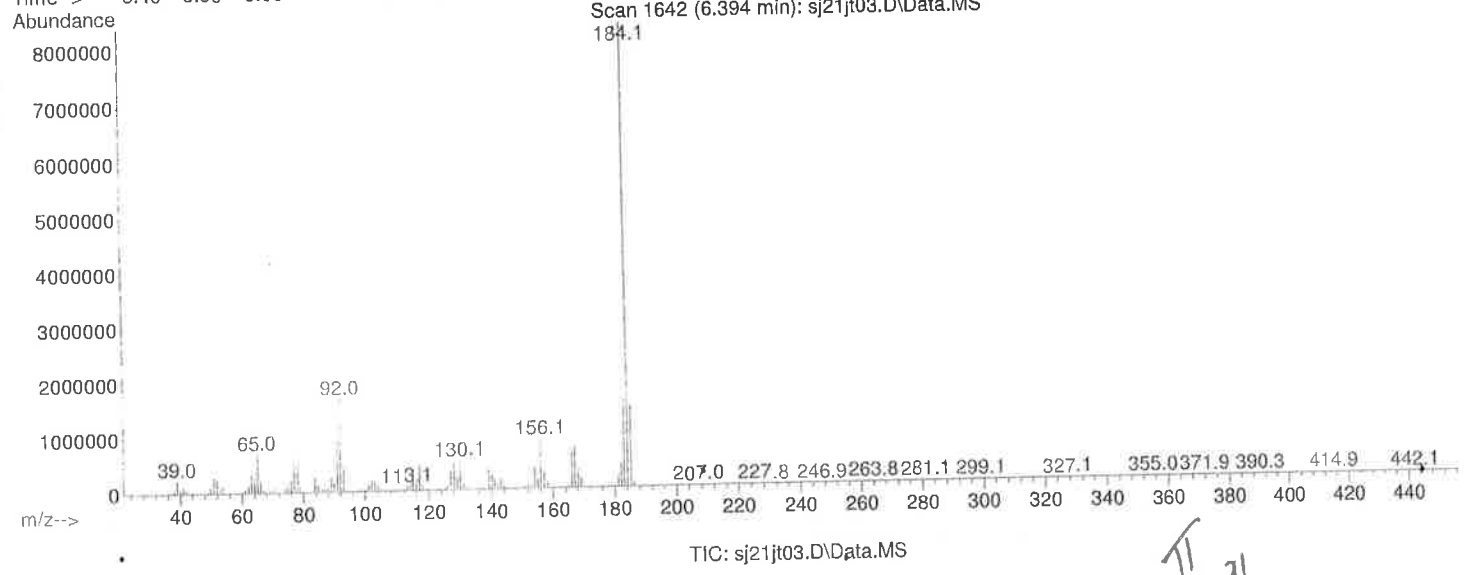
11/2/21

Quantitation Report (Qedit)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 02 07:42:52 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Mon May 17 18:08:15 2021
Response via : Initial Calibration





TIC: sj21jt03.D\Data.MS

TT 11.2.21

(3) Benzidine

6.394min (-0.116) 543.01 mg/L m

response 11320668

Ion	Exp%	Act%
184.00	100.00	100.00
92.00	15.10	0.00#
185.00	13.90	0.00#
0.00	0.00	0.00

11/2/21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 02 07:43:11 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Mon May 17 18:08:15 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Qvalue Dev(Min)	
Target Compounds (Multiplier applied to Results = YES)								
1) Pentachlorophenol	5.027	266	2092836m mp	469.33	mg/L			OR
2) DFTPP	5.430	198	3680349	838.73	ppb		92	OR
3) Benzidine	6.394	184	11320668m mp	543.01	mg/L			OR
4) 4,4'-DDE	6.568	246	27771	234.00	mg/L	#	1	
5) 4,4'-DDD	6.872	235	127074m mp	442.21	mg/L			OR
6) 4,4'-DDT	7.142	235	6845928	684.34	mg/L		96	OR

(#) = qualifier out of range (m) = manual integration (+) = signals summed

TT 11.2.21

P.B. 11/2/21

QUALITY CONTROL SUMMARY REPORT
SEMIVOLATILE DDT BREAKDOWN EVALUATION

Instrument : SJ

Sequence : SJ21J29D

Data File : sj21jt03.D

Acq On : 10/29/2021 20:24

Sample : tune01

Response via : Initial Calibration

DataAcq Method : SJDFTA01.M

Target Compounds	R.T.	QIon	Response	#
1) 4,4'-DDE	6.57	246	27771	
2) 4,4'-DDD	6.87	235	127074	
3) 4,4'-DDT	7.14	235	6845928	

Evaluation

4,4'-DDE + 4,4'-DDD	154845
4,4'-DDE + 4,4'-DDD + 4,4'-DDT	7000773
((4,4'-DDE + 4,4'-DDD)/(4,4'-DDE + 4,4'-DDD + 4,4'-DDT)) x 100%	2 %

TT
11.2.21

% BREAKDOWN UPPER LIMIT = The sum of the instrument responses for 4,4'-DDE + 4,4'-DDD must be less than or equal to 20% of the sum of the reponses of 4,4'-DDE, 4,4'-DDD and 4,4'-DDT.

Column used to flag values outside QC limits with an asterisk

R.P.
11/2/21

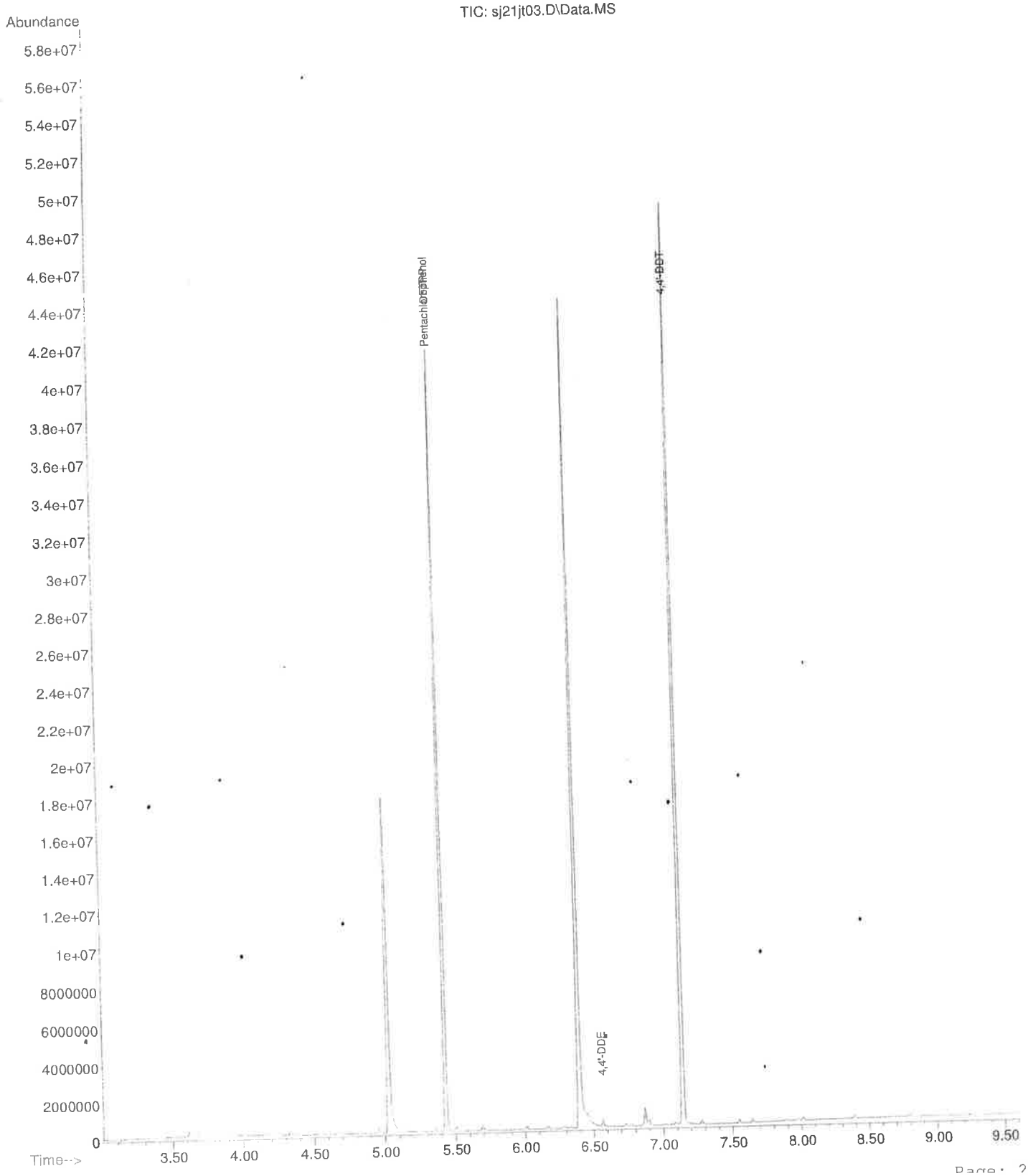
DCSID: S-613.0 (11/19/10)

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 02 07:42:52 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Mon May 17 18:08:15 2021
Response via : Initial Calibration

TIC: sj21jt03.D\Data.MS



Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt03.D
Acq On : 29 Oct 21 20:24
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 02 07:42:52 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Mon May 17 18:08:15 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Qvalue Dev(Min)
Target Compounds (Multiplier applied to Results = YES)							
1) Pentachlorophenol	5.428	266	4510	1.01	mg/L	#	1
2) DFTPP	5.430	198	3680349	838.73	ppb		92 OR
4) 4,4'-DDE	6.568	246	27771	234.00	mg/L	#	1
6) 4,4'-DDT	7.142	235	6845928	684.34	mg/L		96 OR

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt04.D
Acq On : 29 Oct 21 20:40
Operator : ZSD
Sample : 500 pna 102921
Misc : air cal
ALS Vial : 121 Sample Multiplier: 1

BAT 11-1-21

Quant Time: Oct 31 17:02:48 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

BAT 11-1-21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.498	136	690674	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	322337	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	563703	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	376521	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.916	264	315928	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.498	146	1136987	363.54	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 2272.13%#
6) 2-Fluorobiphenyl(S)	7.584	172	806378	372.16	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 2326.00%#
16) 4-Terphenyl-d14(S)	17.217	244	753667	457.25	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 2857.81%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	902441	174.44	ug/L	96
4) 2-Methylnaphthalene (SIM)	6.673	142	474040	163.68	ug/L	97
7) Acenaphthylene (SIM)	9.337	152	617045	177.41	ug/L	100
8) Acenaphthene (SIM)	10.048	153	483437	183.54	ug/L	93
9) Fluorene (SIM)	11.340	166	484697	181.21	ug/L	96
11) Phenanthrene (SIM)	12.928	178	667108	185.28	ug/L #	94
12) Anthracene (SIM)	13.027	178	500463	177.13	ug/L #	94
13) Fluoranthene (SIM)	15.667	202	634245	179.73	ug/L	97
15) Pyrene (SIM)	16.399	202	640510	205.10	ug/L	99
17) Benzo(a)anthracene (SIM)	21.151	228	435000mb	176.89	ug/L	
18) Chrysene (SIM)	21.275	228	487878	182.85	ug/L	98
20) Benzo(b)fluoranthene (...	24.800	252	412807	197.11	ug/L	96
21) Benzo(k)fluoranthene (...	24.883	252	402240mD	209.35	ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	391467	212.69	ug/L	99
23) Indeno(1,2,3-cd)pyrene...	28.666	276	294551	181.92	ug/L #	83
24) Dibenzo(a,h)anthracene...	28.749	278	350663	200.67	ug/L	96
25) Benzo(ghi)perylene (SIM)	29.266	276	346845	186.23	ug/L #	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

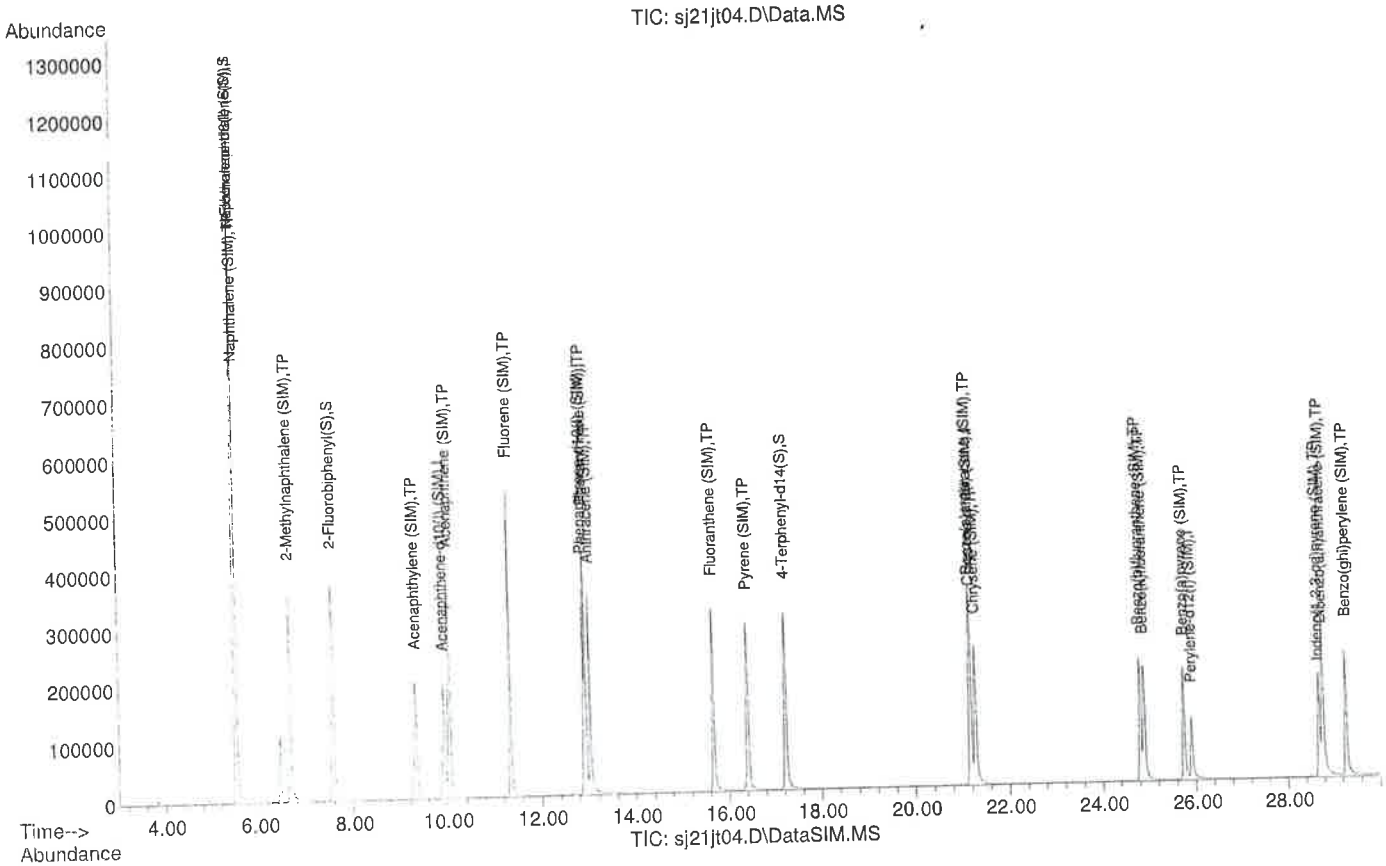
TT 11-2-21

Quantitation Report (QT Reviewed)

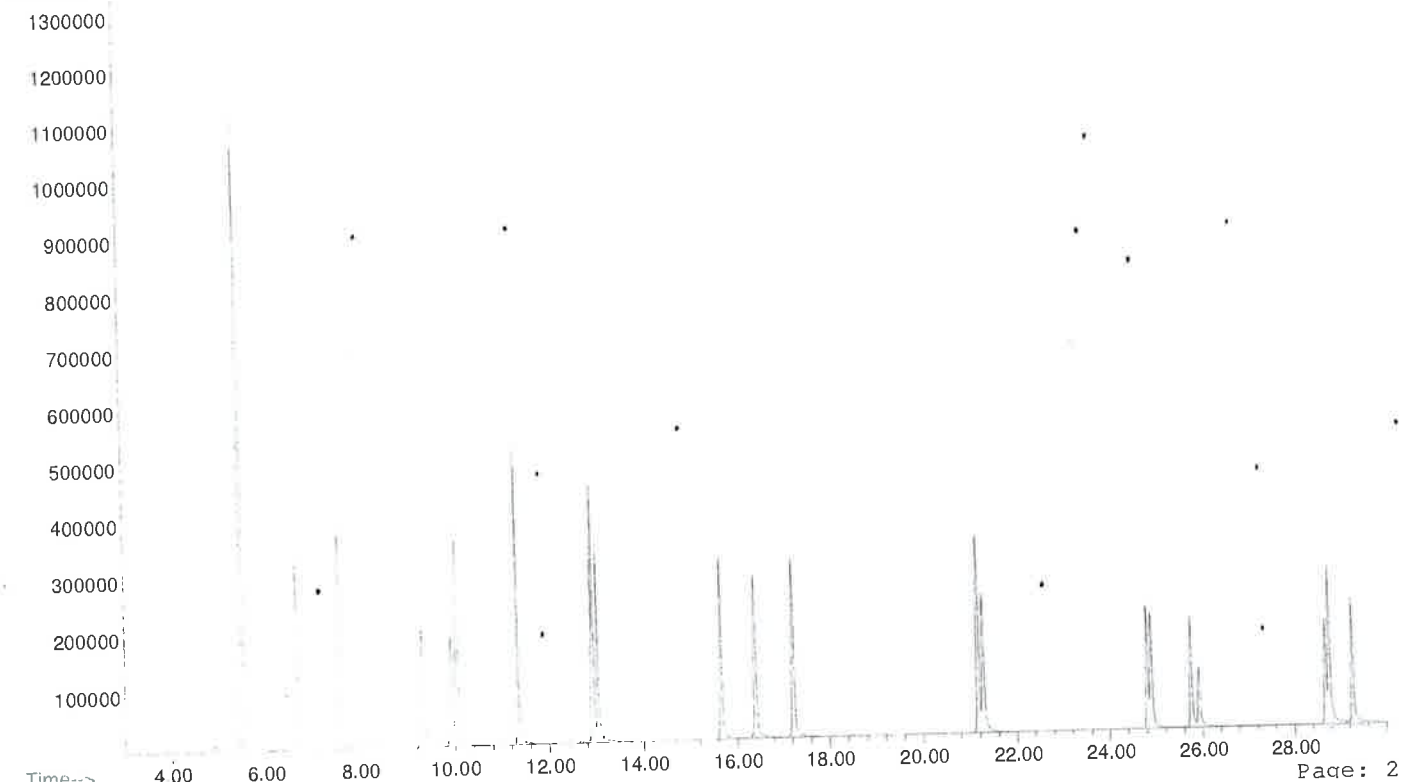
Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt04.D
Acq On : 29 Oct 21 20:40
Operator :
Sample : 500 pna 102921 2.50 BM 12-8-21
Misc : air cal
ALS Vial : 121 Sample Multiplier: 1

Quant Time: Oct 31 17:02:48 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

TIC: sj21jt04.D\Data.MS



TIC: sj21jt04.D\DataSIM.MS



Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt05.D
Acq On : 29 Oct 21 21:17
Operator :
Sample : 100 pna 102921
Misc : air cal
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Oct 30 17:58:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	601743	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	290396	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	494687	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.177	240	307789	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	259629	200.00	ug/L	0.00

System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	235197	86.32	ug/L	0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	539.50%#
6) 2-Fluorobiphenyl(S)	7.584	172	168509	86.32	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery =	539.50%#
16) 4-Terphenyl-d14(S)	17.230	244	147785	109.09	ug/L	0.01
Spiked Amount 16.000	Range 70 - 130				Recovery =	681.81%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	304827	67.63	ug/L #	93
4) 2-Methylnaphthalene (SIM)	6.673	142	153396m	60.79	ug/L	
7) Acenaphthylene (SIM)	9.338	152	198544	63.36	ug/L	99
8) Acenaphthene (SIM)	10.049	153	166757	70.27	ug/L	91
9) Fluorene (SIM)	11.340	166	158780	65.89	ug/L	98
11) Phenanthrene (SIM)	12.928	178	226946	71.43	ug/L #	95
12) Anthracene (SIM)	13.028	178	167706m	67.64	ug/L	
13) Fluoranthene (SIM)	15.667	202	199123	64.30	ug/L	98
15) Pyrene (SIM)	16.399	202	203408	79.68	ug/L	98
17) Benzo(a)anthracene (SIM)	21.152	228	126890	62.78	ug/L	98
18) Chrysene (SIM)	21.276	228	174994m	80.23	ug/L	
20) Benzo(b)fluoranthene (...	24.821	252	123750m	71.90	ug/L	
21) Benzo(k)fluoranthene (...	24.904	252	132936m	84.19	ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	106967	70.72	ug/L	96
23) Indeno(1,2,3-cd)pyrene...	28.687	276	79441	59.70	ug/L	92
24) Dibenzo(a,h)anthracene...	28.770	278	101990	71.02	ug/L #	77
25) Benzo(ghi)perylene (SIM)	29.266	276	109096	71.28	ug/L #	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

11-1-21

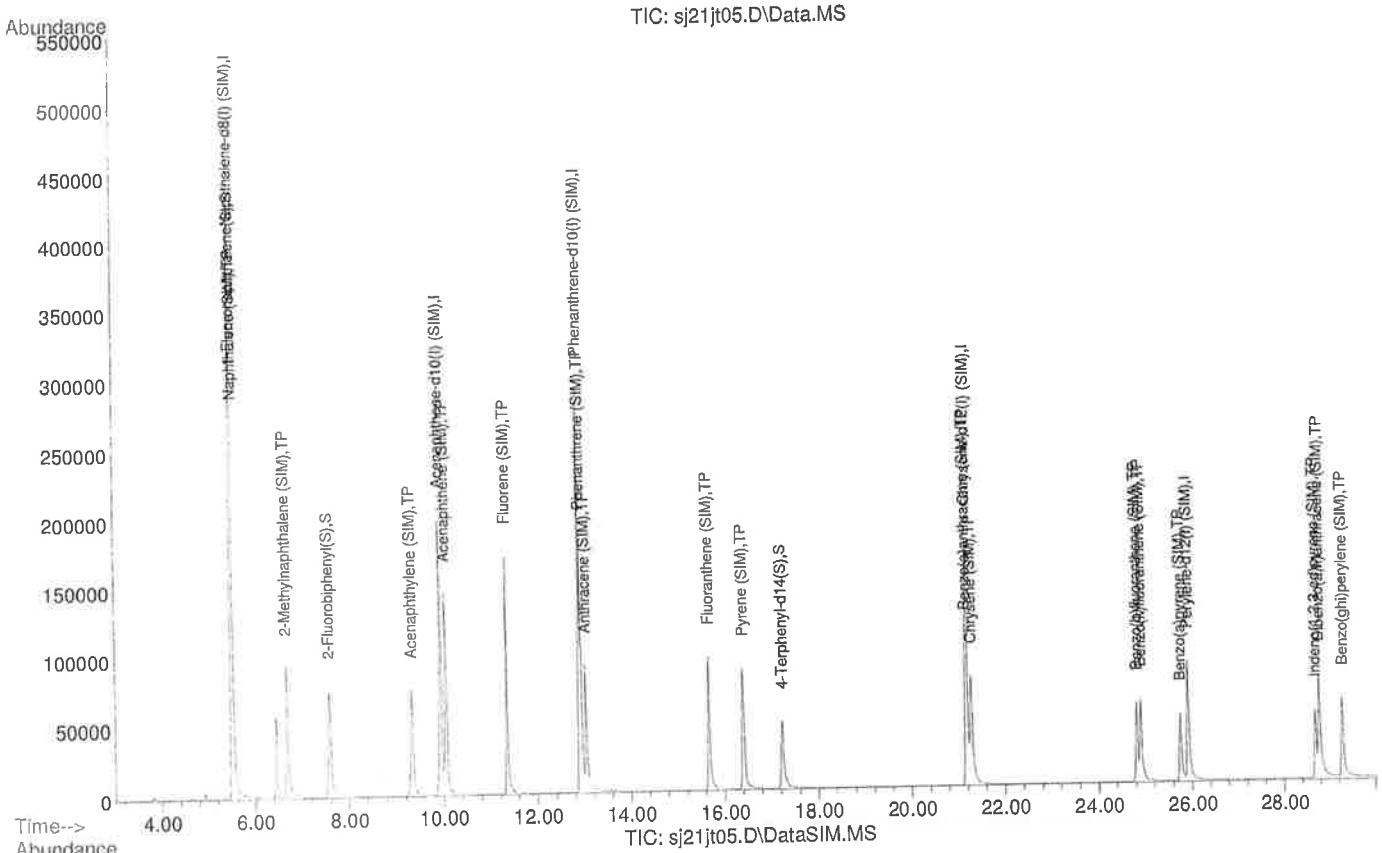
11-2-21

Quantitation Report (QT Reviewed)

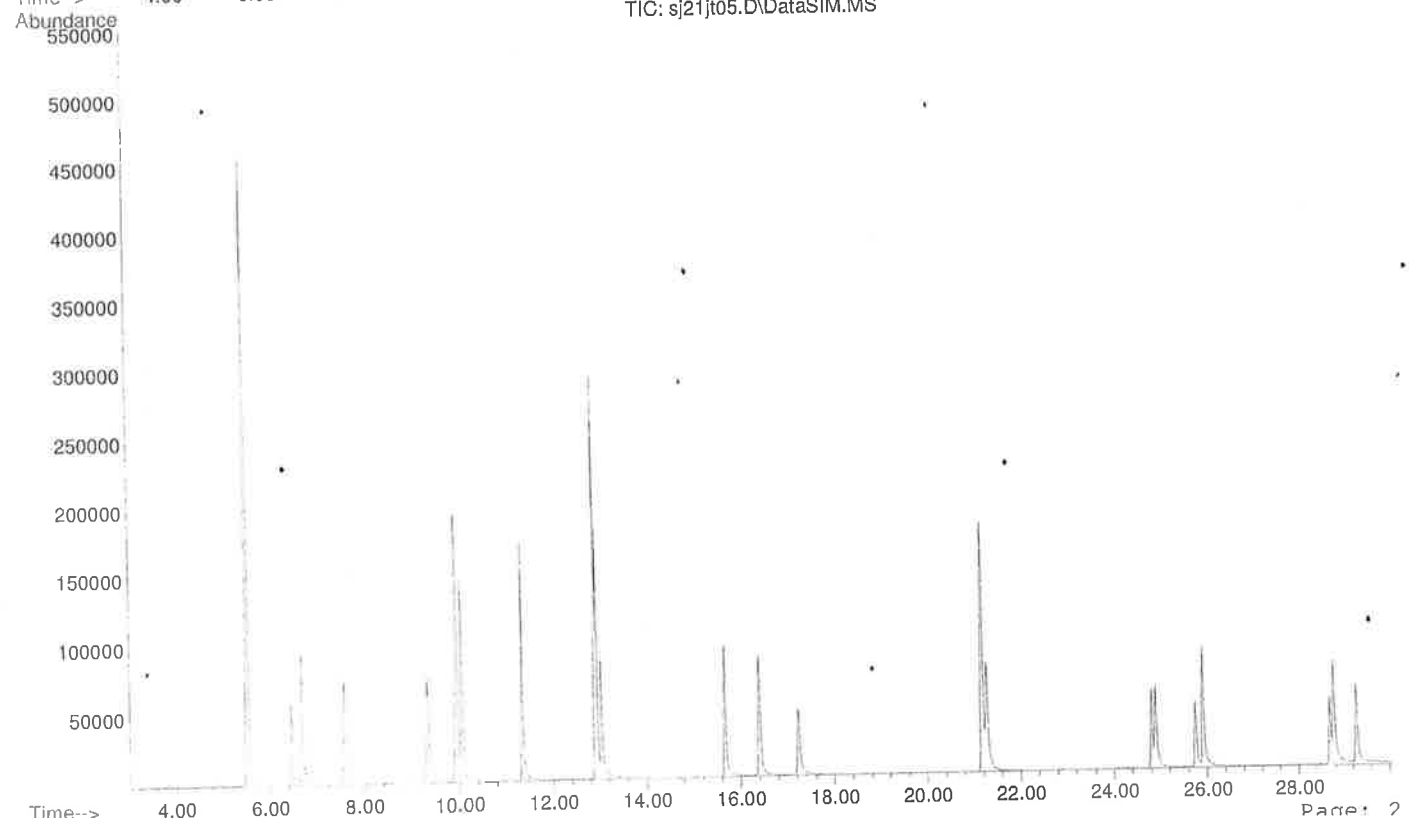
Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt05.D
Acq On : 29 Oct 21 21:17
Operator :
Sample : 100 pna 102921
Misc : air cal
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Oct 30 17:58:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

TIC: sj21jt05.D\Data.MS



TIC: sj21jt05.D\DataSIM.MS



Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt06.D
Acq On : 29 Oct 21 21:55
Operator : 25 BM 11.1.21
Sample : 50 pna 102921
Misc : air cal
ALS Vial : 123 Sample Multiplier: 1

Quant Time: Oct 31 17:03:17 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

BM 11.1.21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	594322	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	290206	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	497278	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	285088	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	232054	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	117922	43.82	ug/L	0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	273.88%#
6) 2-Fluorobiphenyl(S)	7.601	172	81659m	41.86	ug/L	0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	261.63%#
16) 4-Terphenyl-d14(S)	17.243	244	66102m	52.28	ug/L	0.03
Spiked Amount 16.000	Range 70 - 130				Recovery =	326.75%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	87988	19.77	ug/L #	92
4) 2-Methylnaphthalene (SIM)	6.690	142	45694m	18.34	ug/L	
7) Acenaphthylene (SIM)	9.338	152	55784	17.81	ug/L	98
8) Acenaphthene (SIM)	10.049	153	48681	20.53	ug/L	91
9) Fluorene (SIM)	11.357	166	45019	18.69	ug/L	92
11) Phenanthrene (SIM)	12.945	178	66052	20.22	ug/L #	95
12) Anthracene (SIM)	13.044	178	48967m	19.65	ug/L	
13) Fluoranthene (SIM)	15.679	202	52082	16.73	ug/L	97
15) Pyrene (SIM)	16.411	202	53070	22.44	ug/L	98
17) Benzo(a)anthracene (SIM)	21.164	228	30401m	15.84	ug/L	
18) Chrysene (SIM)	21.288	228	50930m	25.21	ug/L	
20) Benzo(b)fluoranthene (...	24.821	252	27974	18.19	ug/L	99
21) Benzo(k)fluoranthene (...	24.904	252	35573m	25.21	ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	24588	18.19	ug/L	94
23) Indeno(1,2,3-cd)pyrene...	28.708	276	18698	15.72	ug/L #	84
24) Dibenzo(a,h)anthracene...	28.791	278	27143m	21.15	ug/L	
25) Benzo(ghi)perylene (SIM)	29.287	276	28870	21.10	ug/L #	70

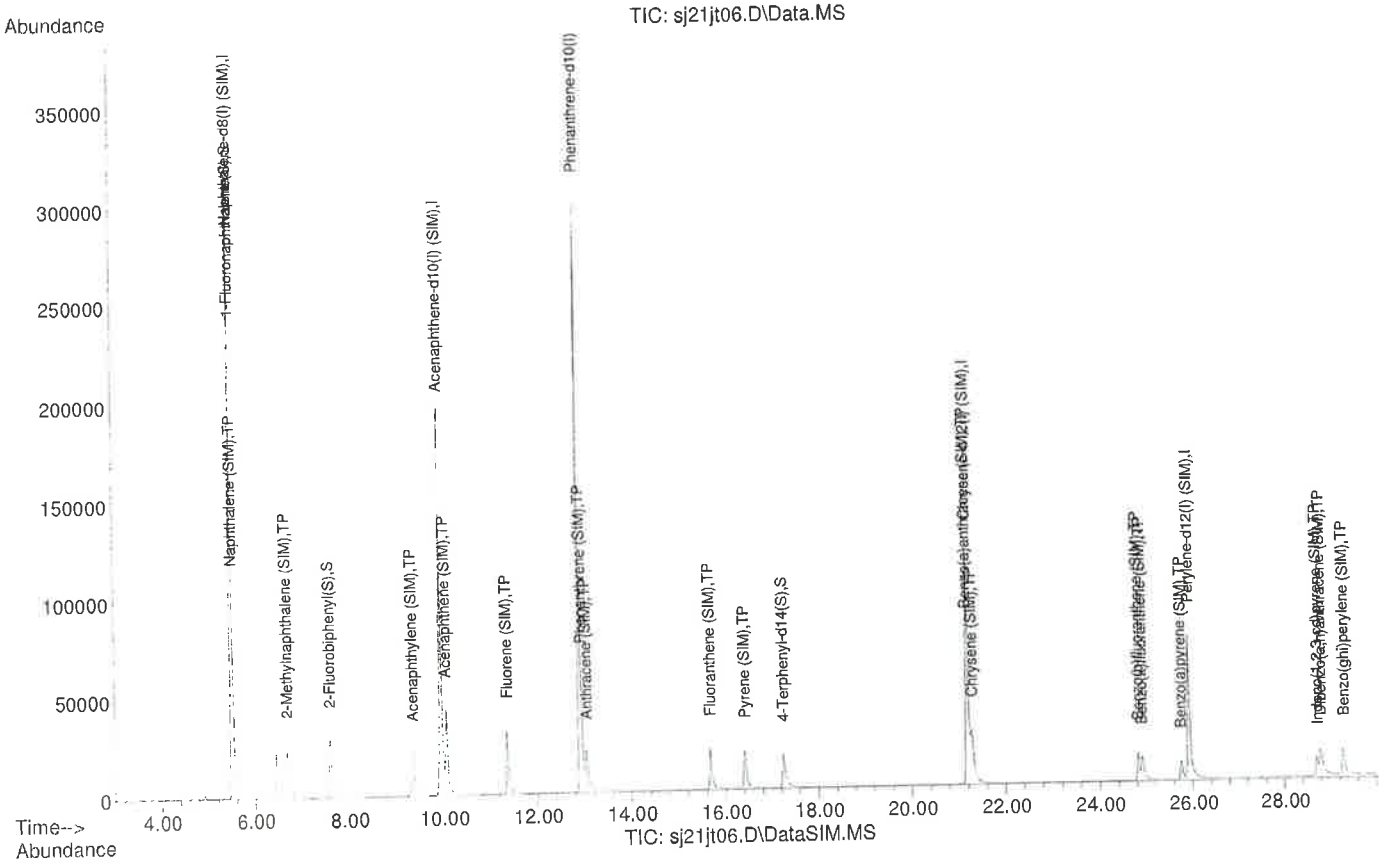
(#) = qualifier out of range (m) = manual integration (+) = signals summed

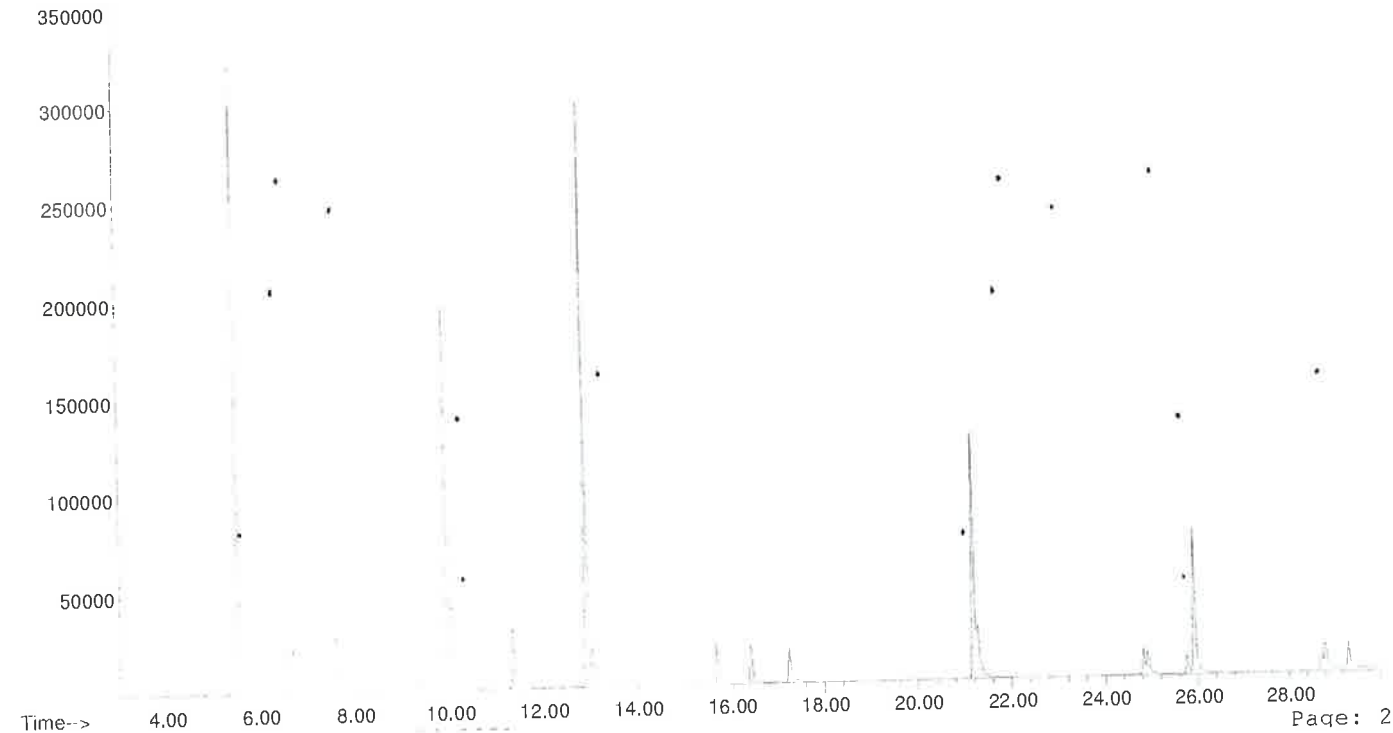
11.2.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt06.D
Acq On : 29 Oct 21 21:55
Operator : 15
Sample : 50 pna 102921 BM 12.3.21
Misc : air cal
ALS Vial : 123 Sample Multiplier: 1

Quant Time: Oct 31 17:03:17 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





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Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt07.D
Acq On : 29 Oct 21 22:31
Operator :
Sample : 10 pna 102921
Misc : air cal
ALS Vial : 124 Sample Multiplier: 1

Quant Time: Oct 30 17:59:51 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	553591	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.950	164	281851	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	471619	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	257026	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	204296	200.00	ug/L	0.00

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.515	146	24857	9.92	ug/L	0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	62.00%#
6) 2-Fluorobiphenyl(S)	7.617	172	15458m	8.16	ug/L	0.03	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	51.00%#
16) 4-Terphenyl-d14(S)	17.267	244	12948m	10.75	ug/L	0.05	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	67.19%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	28006	6.75	ug/L #	89
4) 2-Methylnaphthalene (SIM)	6.706	142	13903m	5.99	ug/L	
7) Acenaphthylene (SIM)	9.338	152	17703	5.82	ug/L	96
8) Acenaphthene (SIM)	10.065	153	16270	7.06	ug/L	98
9) Fluorene (SIM)	11.357	166	14085	6.02	ug/L	98
11) Phenanthrene (SIM)	12.945	178	21211	6.42	ug/L #	96
12) Anthracene (SIM)	13.044	178	14890m	6.30	ug/L	
13) Fluoranthene (SIM)	15.692	202	16931m	5.73	ug/L	
15) Pyrene (SIM)	16.424	202	17306m	8.12	ug/L	
17) Benzo(a)anthracene (SIM)	21.164	228	9861	5.36	ug/L	96
18) Chrysene (SIM)	21.288	228	16470m	9.04	ug/L	
20) Benzo(b)fluoranthene (...	24.842	252	8418	6.22	ug/L #	88
21) Benzo(k)fluoranthene (...	24.924	252	10006m	8.05	ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	6880	5.78	ug/L	97
23) Indeno(1,2,3-cd)pyrene...	28.708	276	4685	4.47	ug/L	95
24) Dibenzo(a,h)anthracene...	28.811	278	7213m	6.38	ug/L	
25) Benzo(ghi)perylene (SIM)	29.287	276	8026	6.66	ug/L #	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

11.1.21

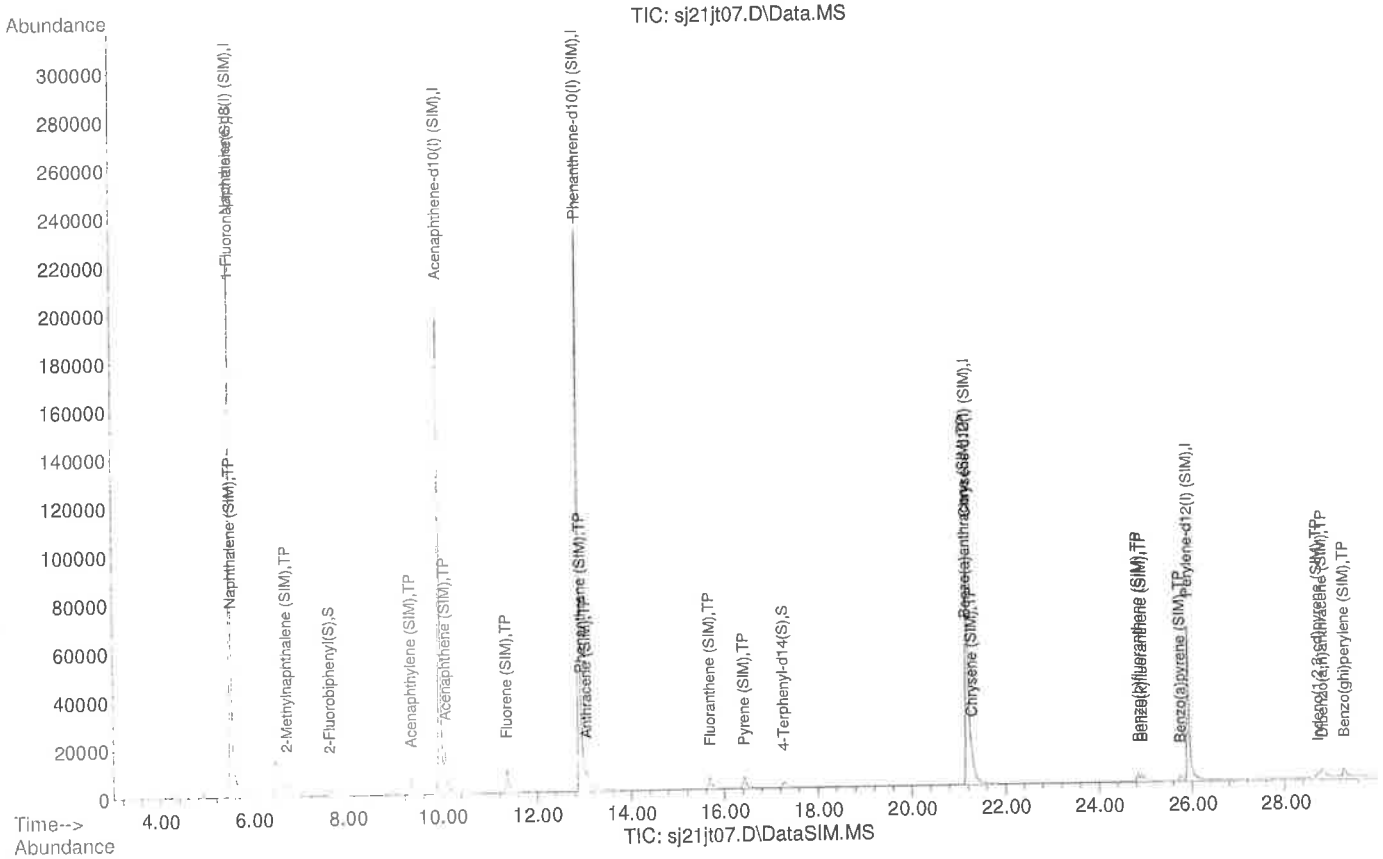
11.2.21

Quantitation Report (QT Reviewed)

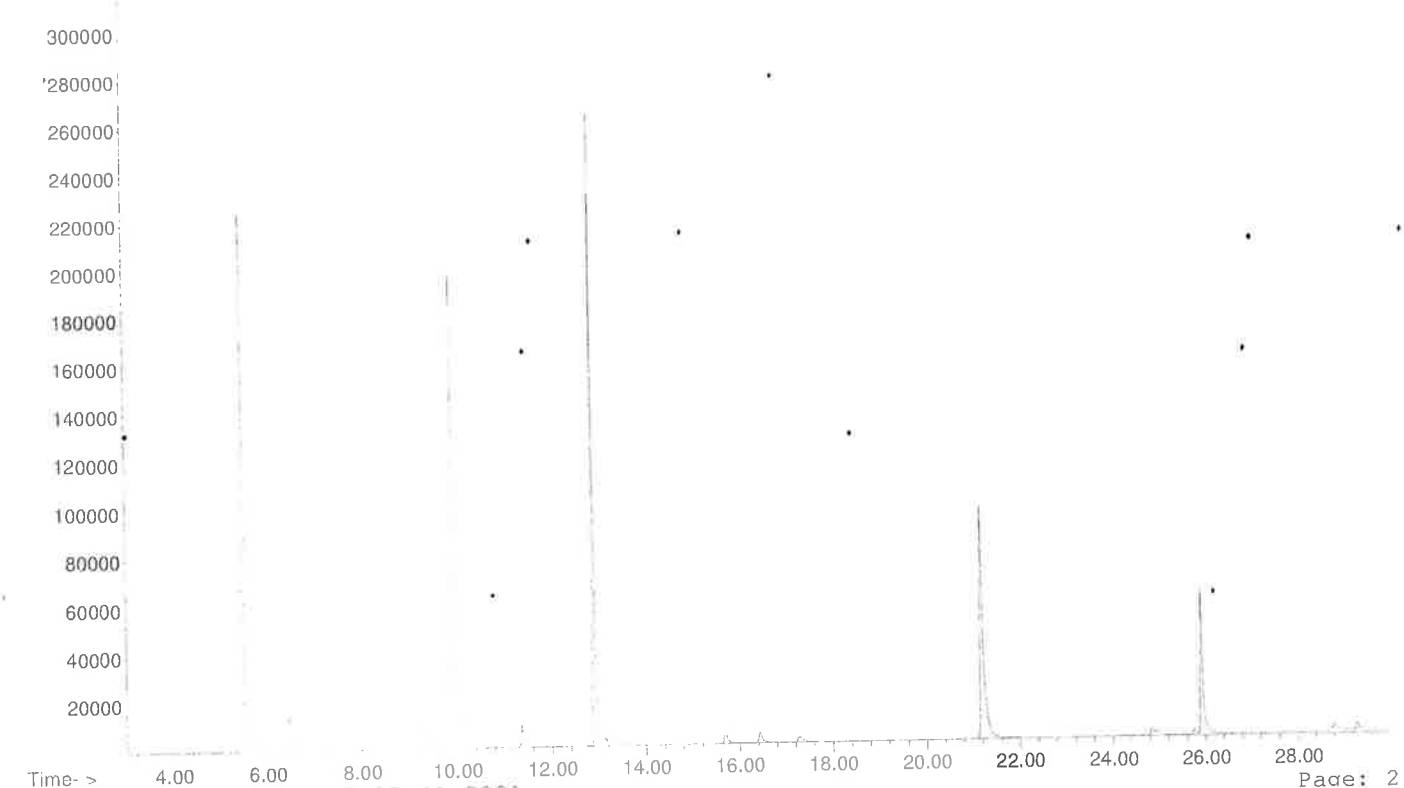
Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt07.D
Acq On : 29 Oct 21 22:31
Operator :
Sample : 10 pna 102921
Misc : air cal
ALS Vial : 124 Sample Multiplier: 1

Quant Time: Oct 30 17:59:51 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

TIC: sj21jt07.D\Data.MS



TIC: sj21jt07.D\DataSIM.MS



Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt08.D
Acq On : 29 Oct 21 23:08
Operator : 2.5 SDT 11.1.21
Sample : pna 102921
Misc : air cal
ALS Vial : 125 Sample Multiplier: 1

Quant Time: Oct 31 17:02:06 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

SDT 11.1.21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	552198	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.950	164	280546	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	473655	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	253863	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	199811	200.00	ug/L	0.00

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.516	146	14363	5.74	ug/L	0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	35.88%#
6) 2-Fluorobiphenyl(S)	7.618	172	7780m	4.13	ug/L	0.03	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	25.81%#
16) 4-Terphenyl-d14(S)	17.280	244	7296m	5.80	ug/L	0.06	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	36.25%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	9858	2.38	ug/L #	89
4) 2-Methylnaphthalene (SIM)	6.723	142	5020m	2.17	ug/L	
7) Acenaphthylene (SIM)	9.354	152	4846	1.60	ug/L	99
8) Acenaphthene (SIM)	10.066	153	5340	2.33	ug/L	98
9) Fluorene (SIM)	11.374	166	4324	1.86	ug/L	97
11) Phenanthrene (SIM)	12.945	178	6999	1.68	ug/L #	98
12) Anthracene (SIM)	13.044	178	5228m	2.20	ug/L	
13) Fluoranthene (SIM)	15.704	202	5787m	1.95	ug/L	
15) Pyrene (SIM)	16.436	202	5687m	2.70	ug/L	
17) Benzo(a)anthracene (SIM)	21.189	228	3686m	1.69	ug/L	
18) Chrysene (SIM)	21.288	228	5872m	3.26	ug/L	
20) Benzo(b)fluoranthene (...	24.842	252	2628	1.98	ug/L #	89
21) Benzo(k)fluoranthene (...	24.925	252	3441m	2.83	ug/L	
22) Benzo(a)pyrene (SIM)	25.772	252	2248	1.93	ug/L #	70
23) Indeno(1,2,3-cd)pyrene...	28.750	276	1487m	1.45	ug/L	
24) Dibenzo(a,h)anthracene...	28.832	278	2238m	2.03	ug/L	
25) Benzo(ghi)perylene (SIM)	29.308	276	2517	2.14	ug/L #	70

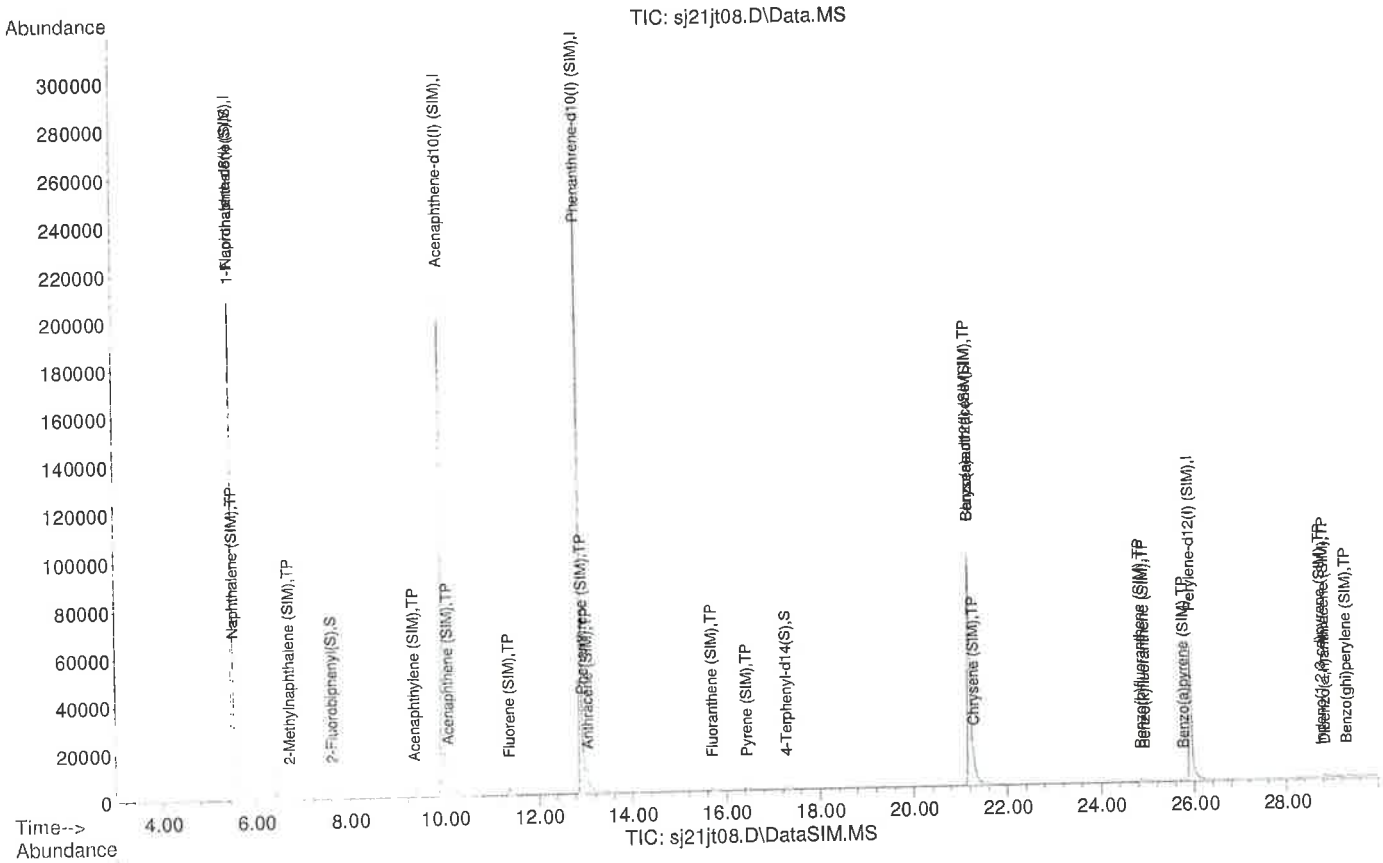
(#) = qualifier out of range (m) = manual integration (+) = signals summed

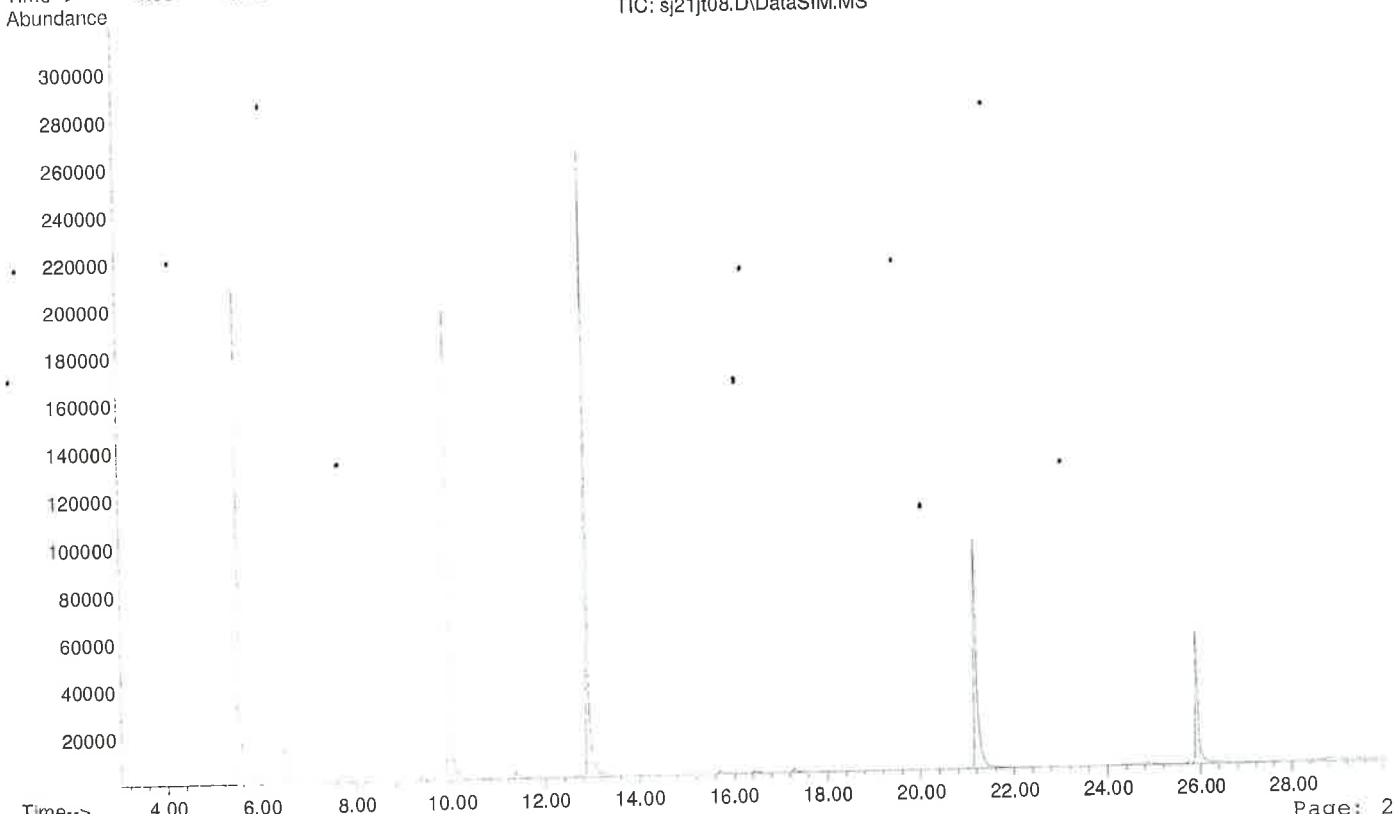
11.2.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt08.D
Acq On : 29 Oct 21 23:08
Operator :
Sample : 5 pna 102921
Misc : air cal
ALS Vial : 125 Sample Multiplier: 1

Quant Time: Oct 31 17:02:06 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt09.D
Acq On : 29 Oct 21 23:45
Operator :
Sample : 25 pna 102921
Misc : air cal
ALS Vial : 126 Sample Multiplier: 1

Quant Time: Oct 30 17:57:24 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

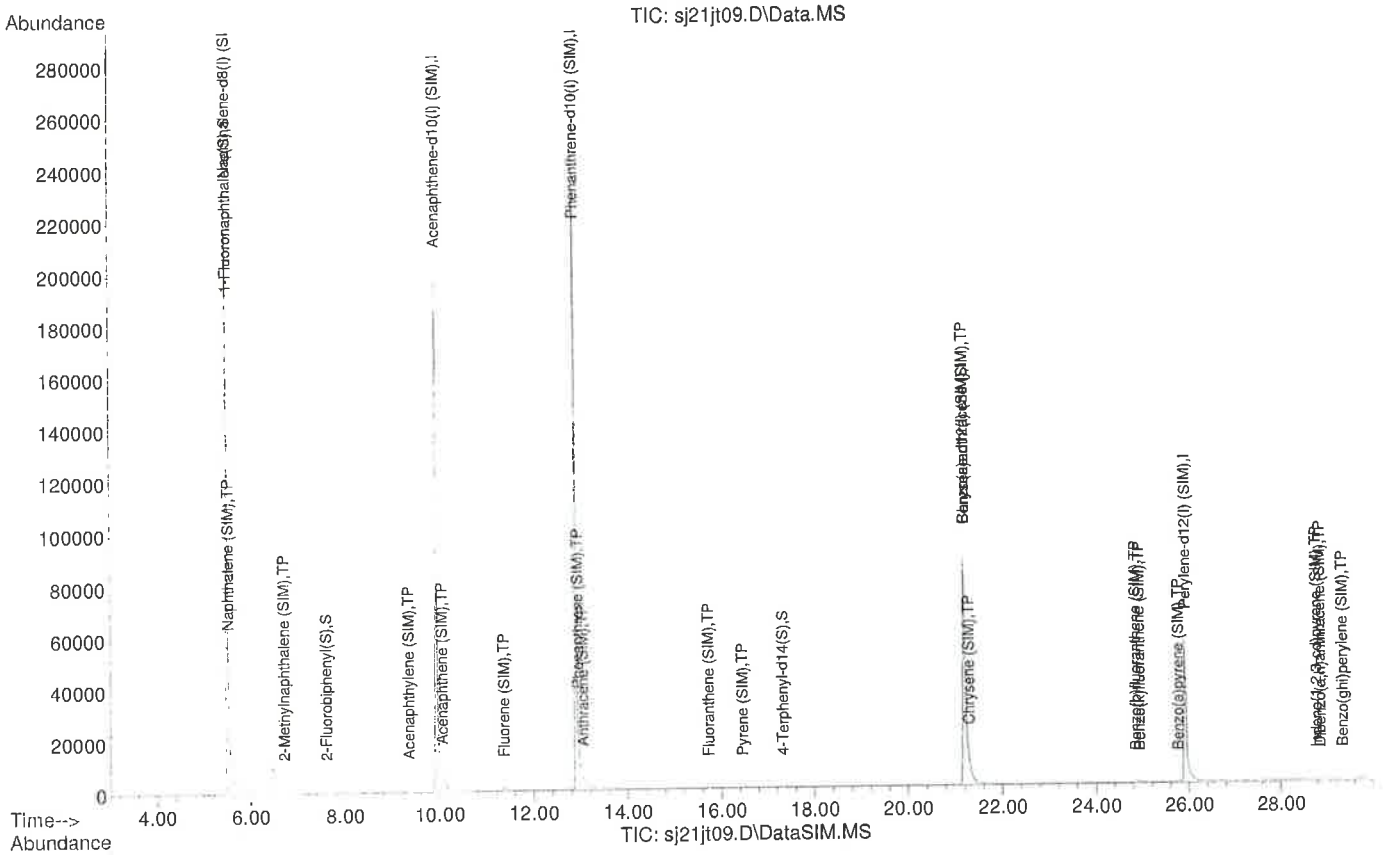
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.498	136	524400	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.949	164	266467	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	452016	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	237615	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.916	264	186420	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	5978	2.52	ug/L	0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =		15.75%#
6) 2-Fluorobiphenyl(S)	7.617	172	3252m	1.82	ug/L	0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =		11.38%#
16) 4-Terphenyl-d14(S)	17.317	244	3119m	2.23	ug/L	0.10
Spiked Amount 16.000	Range 70 - 130			Recovery =		13.94%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.531	128	4220	1.07	ug/L #	91
4) 2-Methylnaphthalene (SIM)	6.722	142	1676m	0.76	ug/L	
7) Acenaphthylene (SIM)	9.354	152	2619	0.91	ug/L	97
8) Acenaphthene (SIM)	10.065	153	2280	1.05	ug/L	93
9) Fluorene (SIM)	11.373	166	1886	0.85	ug/L	98
11) Phenanthrene (SIM)	12.944	178	3003	0.40	ug/L #	99
12) Anthracene (SIM)	13.044	178	1574	0.69	ug/L #	94
13) Fluoranthene (SIM)	15.729	202	2553m	0.90	ug/L	
15) Pyrene (SIM)	16.448	202	2576m	1.31	ug/L	
17) Benzo(a)anthracene (SIM)	21.189	228	1874m	0.68	ug/L	
18) Chrysene (SIM)	21.288	228	2901m	1.72	ug/L	
20) Benzo(b)fluoranthene (...	24.841	252	1128	0.91	ug/L #	71
21) Benzo(k)fluoranthene (...	24.924	252	1475m	1.30	ug/L	
22) Benzo(a)pyrene (SIM)	25.772	252	983	0.91	ug/L #	48
23) Indeno(1,2,3-cd)pyrene...	28.770	276	613m	0.64	ug/L	
24) Dibenzo(a,h)anthracene...	28.852	278	1015m	0.98	ug/L	
25) Benzo(ghi)perylene (SIM)	29.328	276	1066	0.97	ug/L #	51

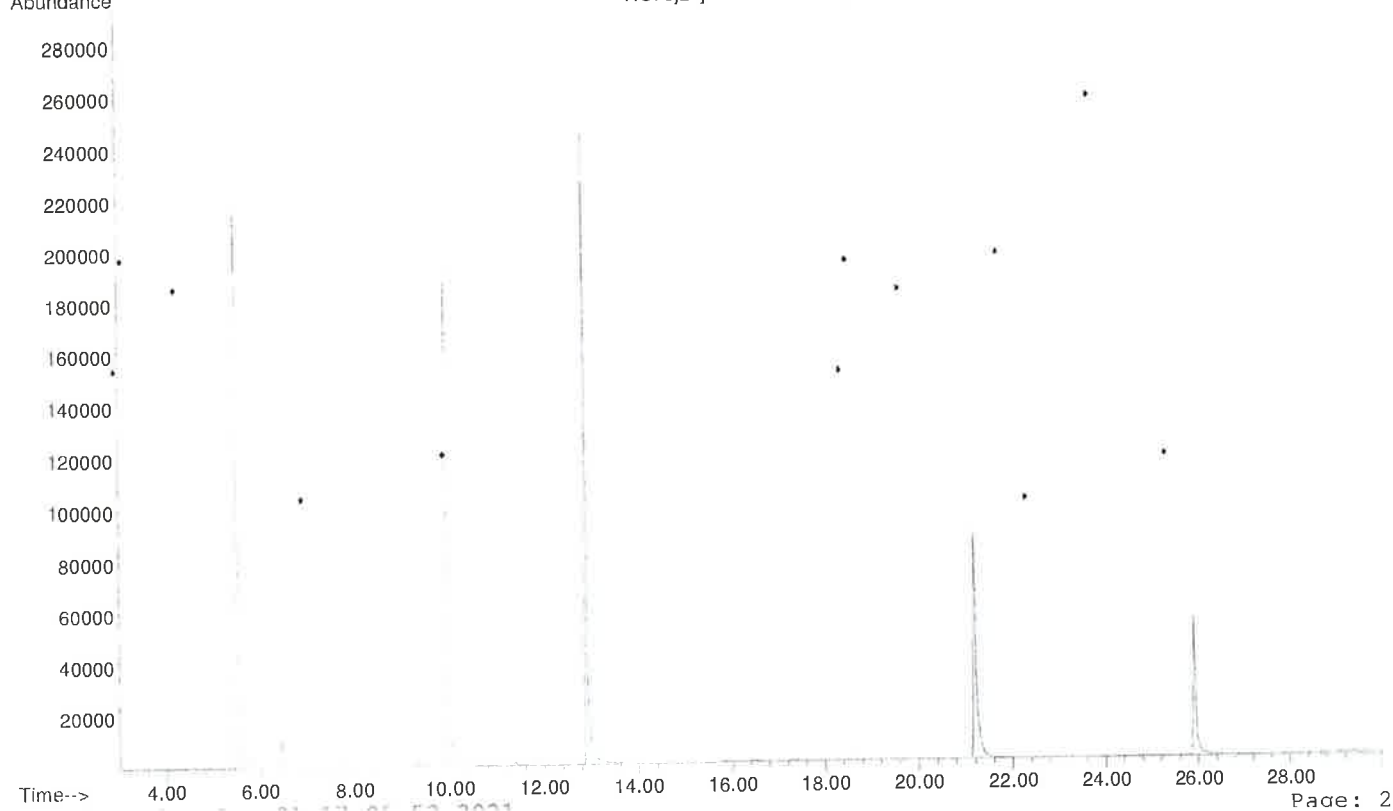
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt09.D
Acq On : 29 Oct 21 23:45
Operator : 1-25
Sample : 25 pna 102921 bnk 12-8-21
Misc : air cal
ALS Vial : 126 Sample Multiplier: 1

Quant Time: Oct 30 17:57:24 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt10.D
Acq On : 30 Oct 2021 00:23
Operator :
Sample : 1.0 pna 102921
Misc : air cal
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Oct 30 17:55:10 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	499316	200.00	ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	258590	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	433555	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	227248	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	181593	200.00	ug/L	0.00

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.515	146	2515	1.11	ug/L	0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	6.94%#
6) 2-Fluorobiphenyl(S)	7.634	172	1393m	0.80	ug/L	0.05	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	5.00%#
16) 4-Terphenyl-d14(S)	17.329	244	1451m	0.69	ug/L	0.11	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	4.31%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue	
3) Naphthalene (SIM)	5.548	128	3200	0.86	ug/L	#	90
4) 2-Methylnaphthalene (SIM)	6.739	142	1256m	0.60	ug/L		
7) Acenaphthylene (SIM)	9.354	152	1579	0.57	ug/L		99
8) Acenaphthene (SIM)	10.065	153	1682	0.80	ug/L		94
9) Fluorene (SIM)	11.373	166	1329	0.62	ug/L	#	89
11) Phenanthrene (SIM)	12.945	178	2791	0.37	ug/L	#	97
12) Anthracene (SIM)	13.044	178	1579m	0.73	ug/L		
13) Fluoranthene (SIM)	15.729	202	1786m	0.66	ug/L		
15) Pyrene (SIM)	16.461	202	1826m	0.97	ug/L		
17) Benzo(a)anthracene (SIM)	21.189	228	1595m	0.54	ug/L		
18) Chrysene (SIM)	21.288	228	1980m	1.23	ug/L		
20) Benzo(b)fluoranthene (...	24.842	252	772	0.64	ug/L	#	50
21) Benzo(k)fluoranthene (...	24.924	252	1165m	1.05	ug/L		
22) Benzo(a)pyrene (SIM)	25.772	252	736	0.70	ug/L	#	34
23) Indeno(1,2,3-cd)pyrene...	28.770	276	695m	0.75	ug/L		
24) Dibenzo(a,h)anthracene...	28.894	278	749m	0.75	ug/L		
25) Benzo(ghi)perylene (SIM)	29.328	276	758	0.71	ug/L	#	45

(#) = qualifier out of range (m) = manual integration (+) = signals summed

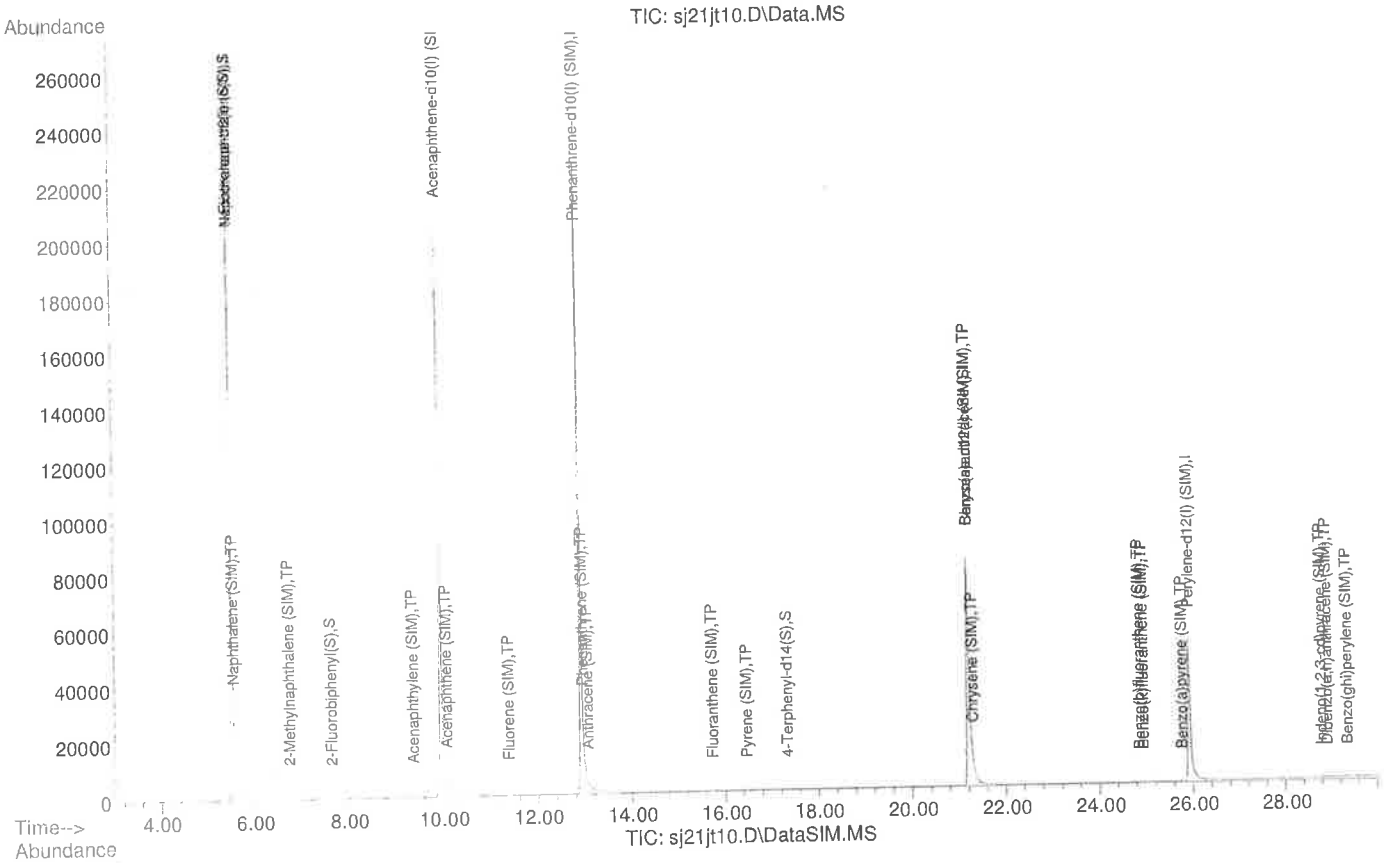
11.1.21

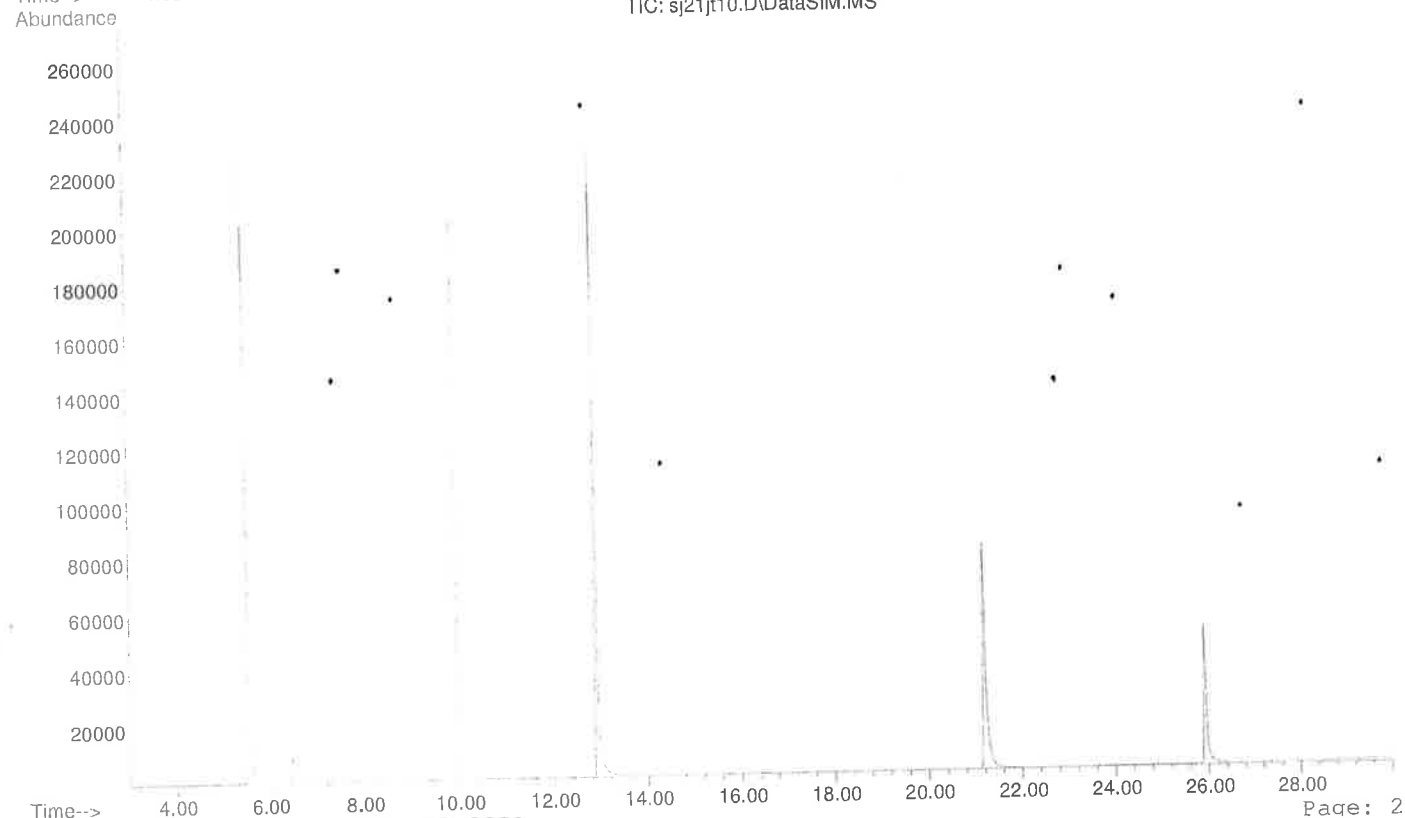
11.2.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt10.D
Acq On : 30 Oct 2021 00:23
Operator :
Sample : 1.0 pna 102921
Misc : air cal
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Oct 30 17:55:10 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt11.D
Acq On : 30 Oct 2021 01:01
Operator : 0.25
Sample : 0.5 pna 102921 SAA 11.1.21
Misc : air cal
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Oct 30 18:01:05 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

SAA 11.1.21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.515	136	508512	200.00	ug/L	0.02
5) Acenaphthene-d10(I) (SIM)	9.950	164	262428	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	420532	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	224975	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	178428	200.00	ug/L	0.00

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.515	146	1212	0.53	ug/L	0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	3.31%#
6) 2-Fluorobiphenyl(S)	7.634	172	674m	0.38	ug/L	0.05	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	2.38%#
16) 4-Terphenyl-d14(S)	17.342	244	826m	0.07	ug/L	0.12	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	0.44%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue	
3) Naphthalene (SIM)	5.548	128	1132	0.30	ug/L	#	77
4) 2-Methylnaphthalene (SIM)	6.739	142	364m	0.17	ug/L		
7) Acenaphthylene (SIM)	9.354	152	521	0.18	ug/L	#	89
8) Acenaphthene (SIM)	10.065	153	566	0.26	ug/L		96
9) Fluorene (SIM)	11.390	166	528	0.24	ug/L	#	93
11) Phenanthrene (SIM)	12.945	178	1246	Below	Cal	#	88
12) Anthracene (SIM)	13.044	178	588m	0.28	ug/L		
13) Fluoranthene (SIM)	15.754	202	709m	0.27	ug/L		
15) Pyrene (SIM)	16.486	202	627m	0.34	ug/L		
17) Benzo(a)anthracene (SIM)	21.189	228	914m	0.09	ug/L		
18) Chrysene (SIM)	21.301	228	836m	0.52	ug/L		
20) Benzo(b)fluoranthene (...	24.842	252	351	0.30	ug/L	#	1
21) Benzo(k)fluoranthene (...	24.945	252	464m	0.43	ug/L		
22) Benzo(a)pyrene (SIM)	25.772	252	210	0.20	ug/L	#	1
25) Benzo(ghi)perylene (SIM)	29.349	276	334m	0.32	ug/L		

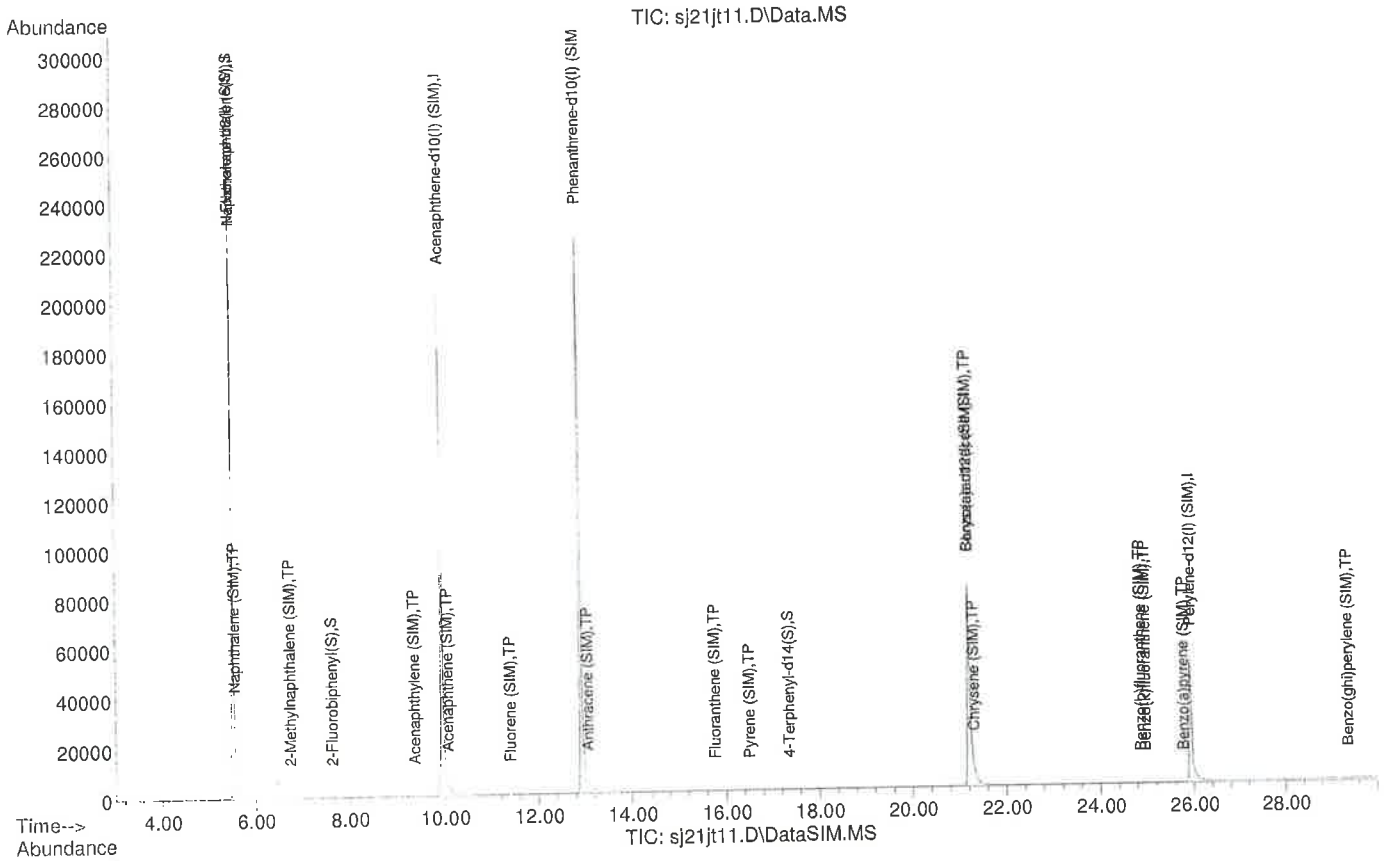
(#) = qualifier out of range (m) = manual integration (+) = signals summed

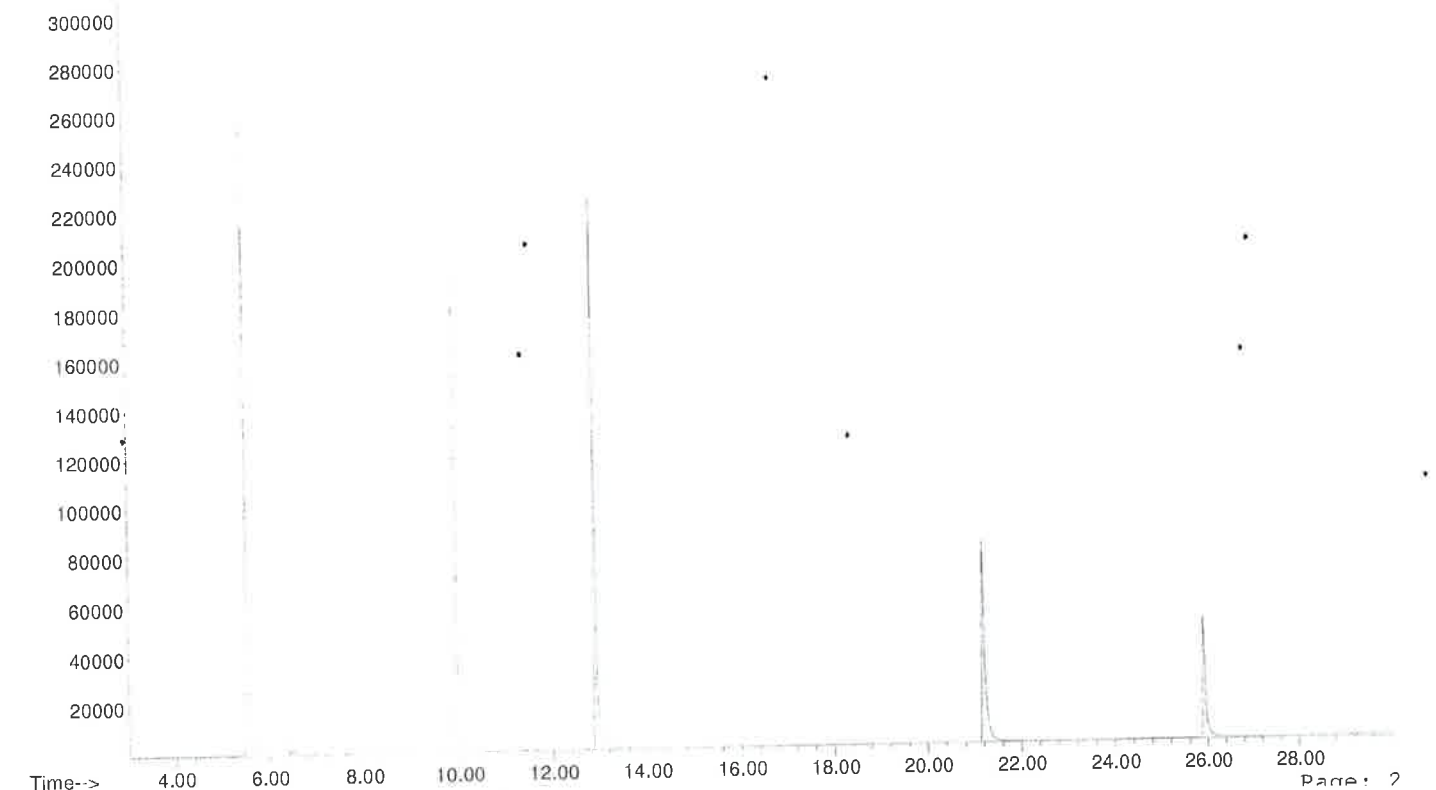
TT 11.2.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt11.D
Acq On : 30 Oct 2021 01:01
Operator :
Sample : 0.25 pna 102921
Misc : air cal
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Oct 30 18:01:05 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt12.D
Acq On : 30 Oct 2021 01:38
Operator :
Sample : 0.25 pna 102921
Misc : air cal
ALS Vial : 129 Sample Multiplier: 1

0.125 BAA 11.1.21

Quant Time: Oct 30 18:01:57 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

BAA 11.1.21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	506908	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	226404	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	417244	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	220405	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	173052	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	618	0.27	ug/L	0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	1.69%#
6) 2-Fluorobiphenyl(S)	7.634	172	426m	0.28	ug/L	0.05
Spiked Amount 16.000	Range 70 - 130				Recovery =	1.75%#
16) 4-Terphenyl-d14(S)	17.342	244	392m	-0.37	ug/L	0.12
Spiked Amount 16.000	Range 70 - 130				Recovery =	-2.31%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	603	0.16	ug/L #	78
7) Acenaphthylene (SIM)	9.337	152	233	0.10	ug/L #	85
8) Acenaphthene (SIM)	10.049	153	255	0.14	ug/L #	85
9) Fluorene (SIM)	11.390	166	212m	0.11	ug/L	
11) Phenanthrene (SIM)	12.945	178	804	Below	Cal #	74
12) Anthracene (SIM)	13.044	178	356m	0.17	ug/L	
13) Fluoranthene (SIM)	15.779	202	350m	0.13	ug/L	
15) Pyrene (SIM)	16.511	202	393m	0.21	ug/L	
17) Benzo(a)anthracene (SIM)	21.189	228	742	Below	Cal #	68
18) Chrysene (SIM)	21.288	228	485m	0.31	ug/L	
22) Benzo(a)pyrene (SIM)	25.772	252	176	0.17	ug/L #	1

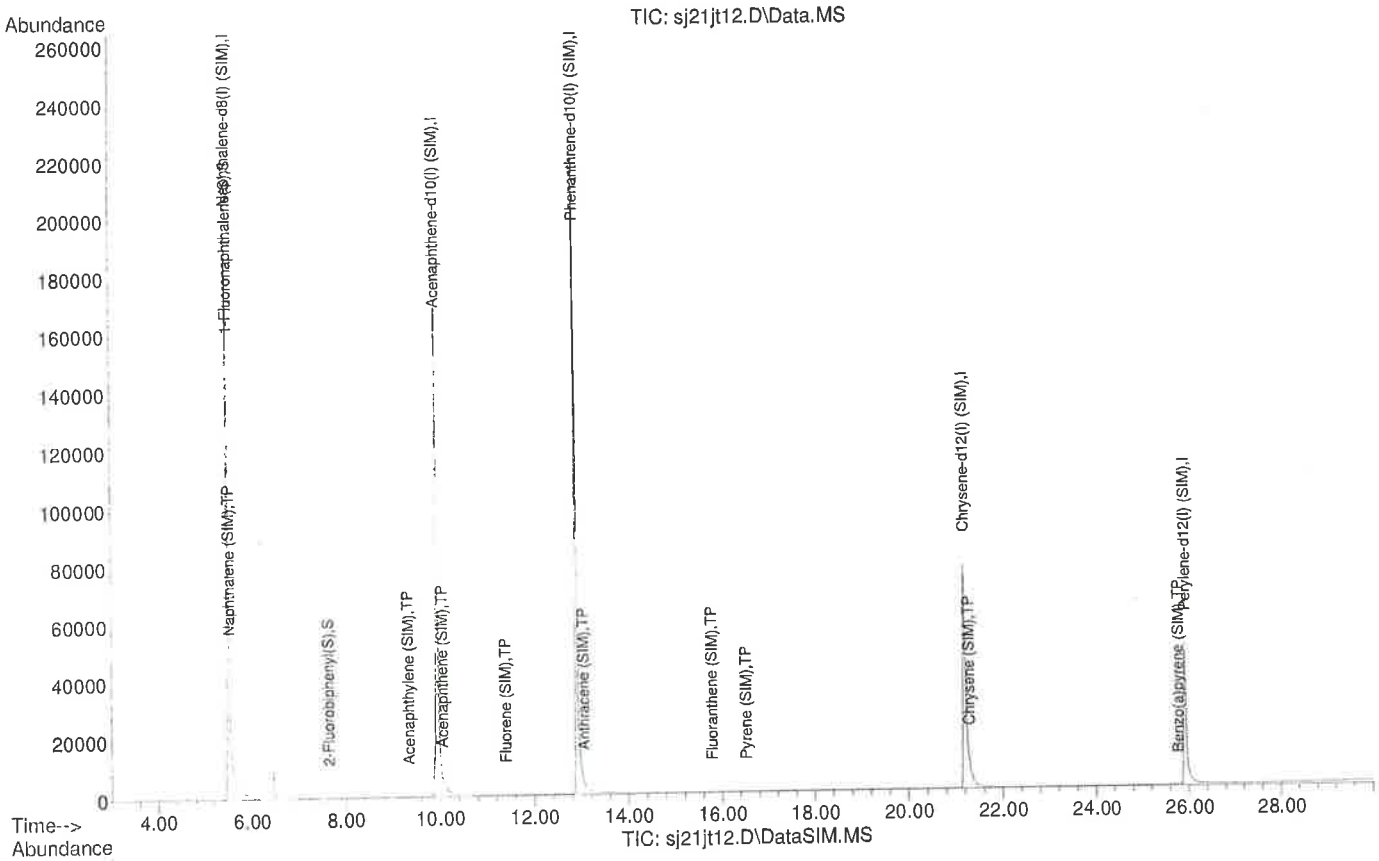
(#) = qualifier out of range (m) = manual integration (+) = signals summed

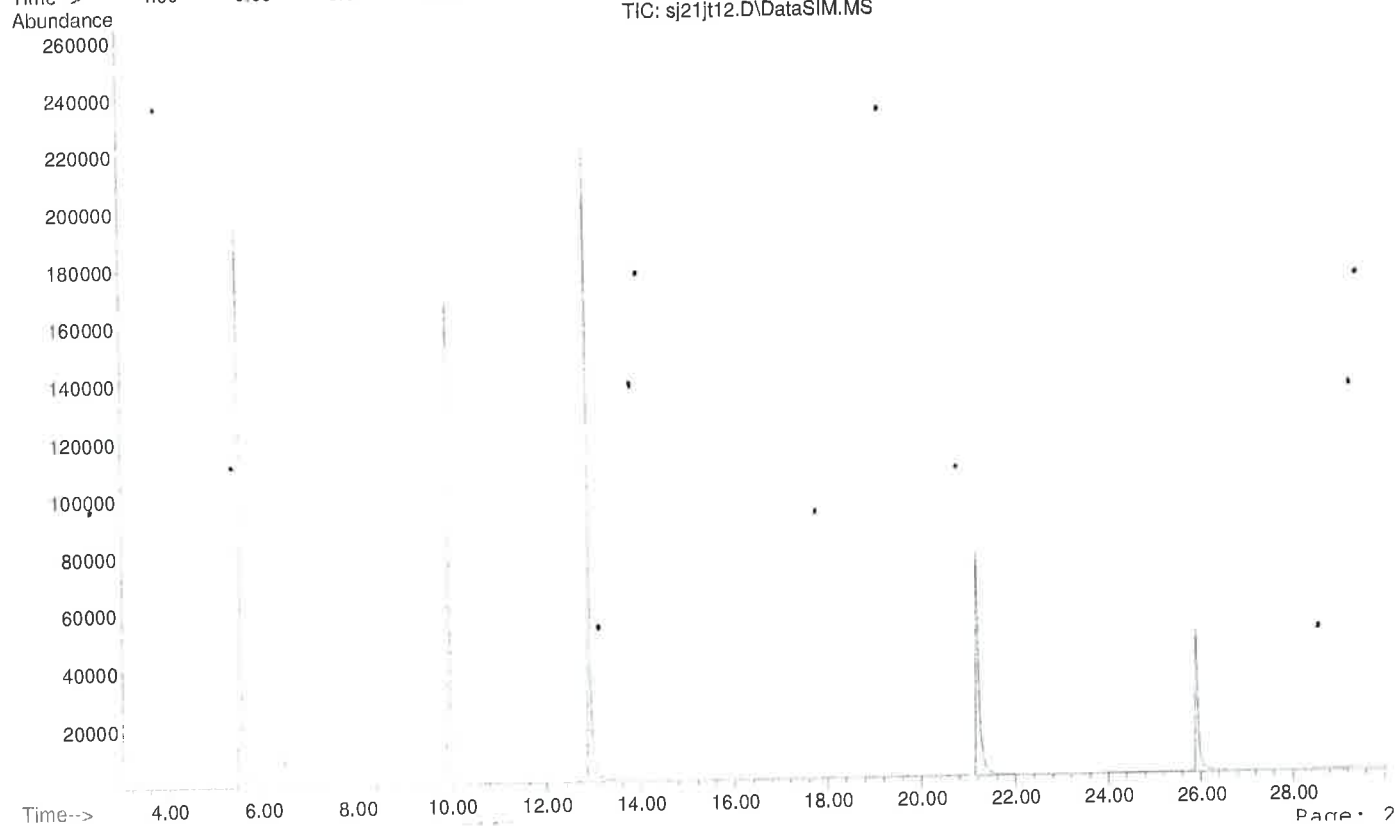
11.2.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt12.D
Acq On : 30 Oct 2021 01:38
Operator :
Sample : 0.25 pna 102921 0.125 BM 12.3.21
Misc : air cal
ALS Vial : 129 Sample Multiplier: 1

Quant Time: Oct 30 18:01:57 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt13.D
Acq On : 30 Oct 2021 02:15
Operator :
Sample : 0.1 pna 102921
Misc : air cal
ALS Vial : 130 Sample Multiplier: 1

Quant Time: Oct 30 18:02:47 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	516227	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.949	164	254720	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	424837	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.189	240	225828	200.00	ug/L	0.01
19) Perylene-d12(I) (SIM)	25.917	264	181177	200.00	ug/L	0.00

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.515	146	307	0.13	ug/L	0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	0.81%#
6) 2-Fluorobiphenyl(S)	7.634	172	137m	0.08	ug/L	0.05	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	0.50%#
16) 4-Terphenyl-d14(S)	17.329	244	311m	-0.46	ug/L	0.11	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	-2.88%#

Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	536	0.14	ug/L	# 70
7) Acenaphthylene (SIM)	9.354	152	178	0.06	ug/L	# 80
8) Acenaphthene (SIM)	10.065	153	188	0.09	ug/L	88
9) Fluorene (SIM)	11.390	166	152	0.07	ug/L	# 87
11) Phenanthrene (SIM)	12.945	178	715	Below	Cal	# 73
13) Fluoranthene (SIM)	15.779	202	331m	0.12	ug/L	
17) Benzo(a)anthracene (SIM)	21.189	228	758	Below	Cal	# 68
18) Chrysene (SIM)	21.276	228	409m	0.26	ug/L	
20) Benzo(b)fluoranthene (...	24.862	252	174	0.14	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	196m	0.18	ug/L	
22) Benzo(a)pyrene (SIM)	25.772	252	107	0.10	ug/L	# 1

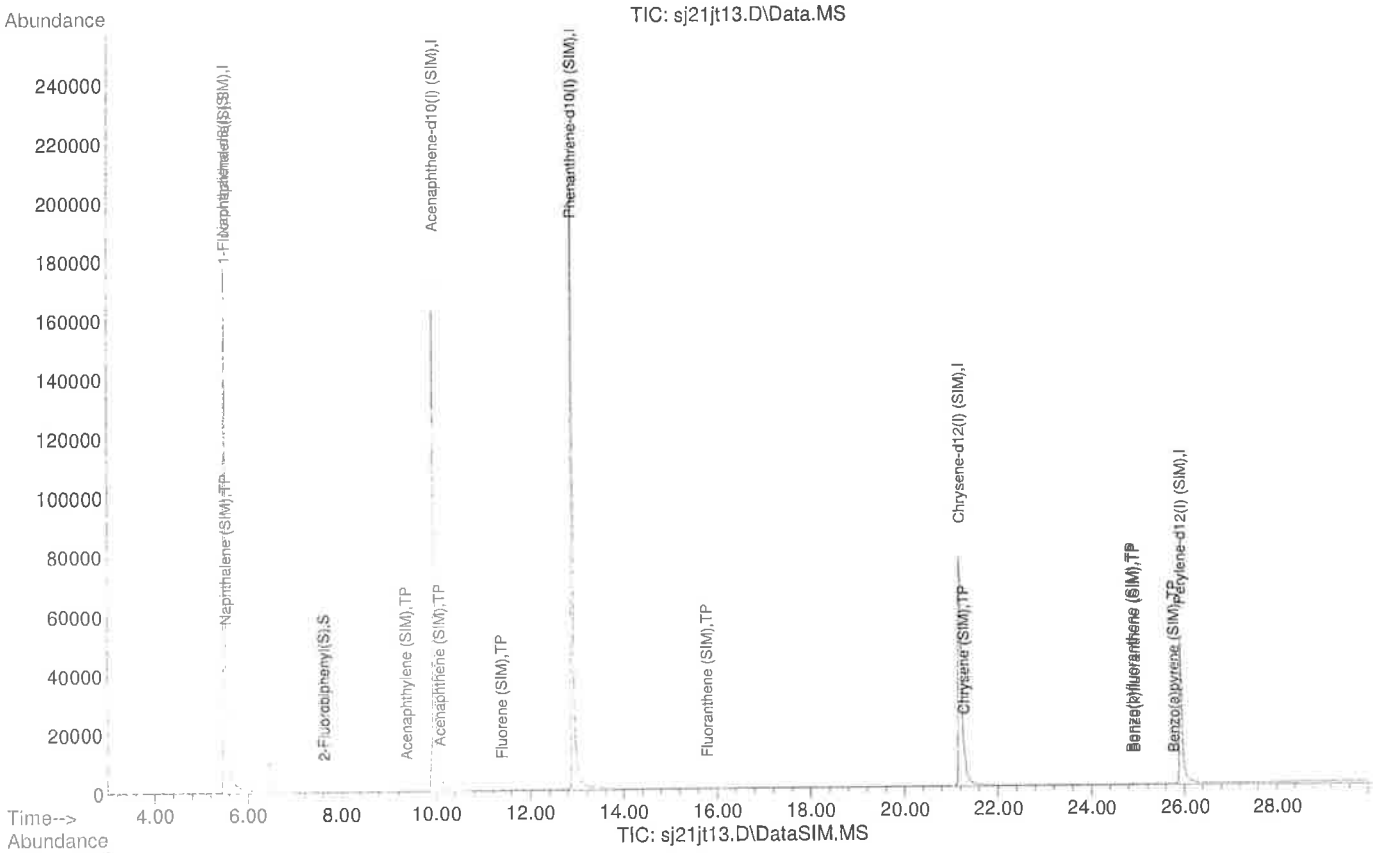
(#) = qualifier out of range (m) = manual integration (+) = signals summed

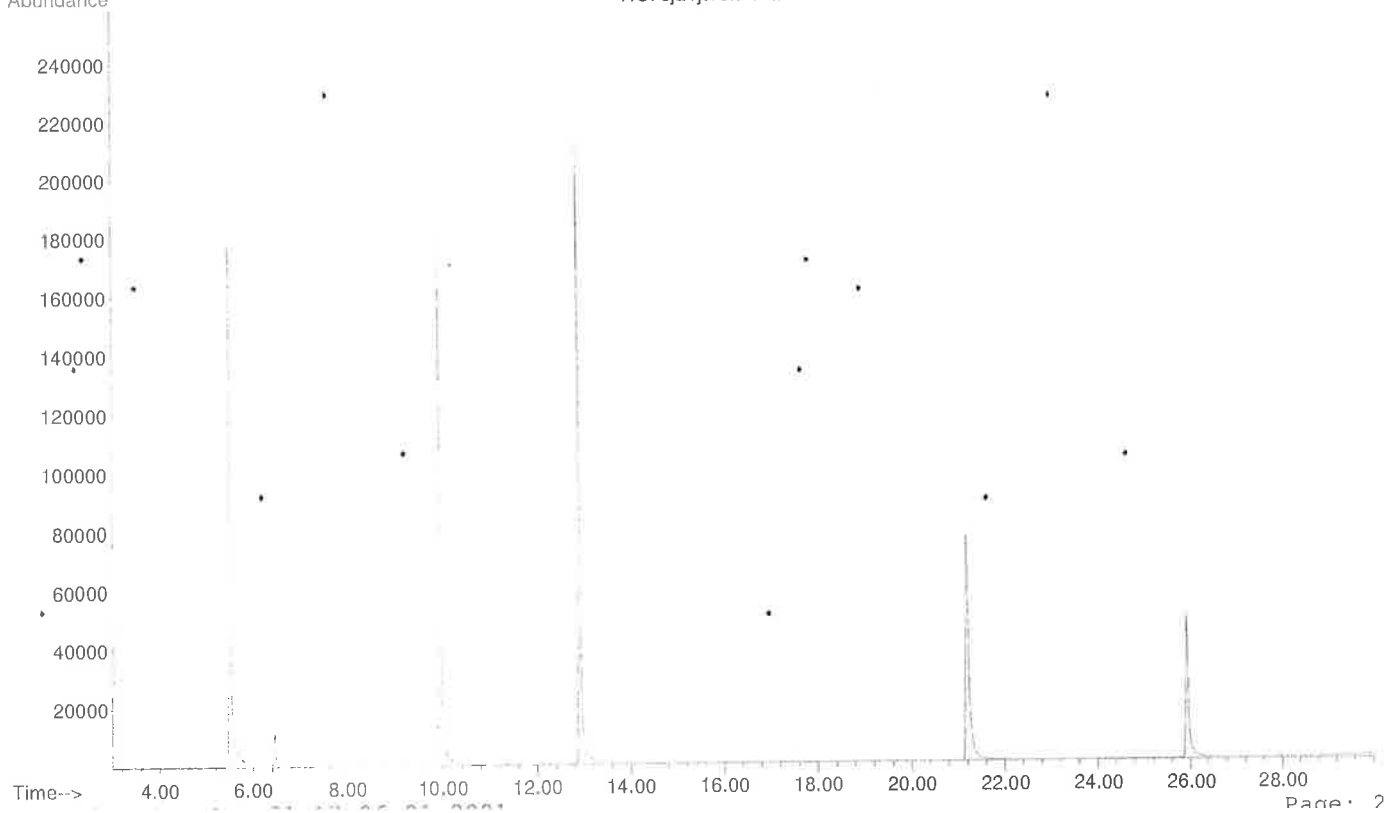
BAT 11.1.21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt13.D
Acq On : 30 Oct 2021 02:15
Operator :
Sample : 0.1 pna 102921
Misc : air cal
ALS Vial : 130 Sample Multiplier: 1

Quant Time: Oct 30 18:02:47 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sat Oct 30 17:50:28 2021
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt14.D
Acq On : 30 Oct 2021 02:52
Operator :
Sample : 40 air icv 11-1-21
Misc : 102921
ALS Vial : 131 Sample Multiplier: 1

28-52

Quant Time: Oct 31 17:08:06 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

11-1-21

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	516643	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	253325	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	394318	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	228826	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	184037	200.00	ug/L	0.00

Surrogates are at 40ug/L. Criteria 28-52ug/L.

System Monitoring Compounds							
2) 1-Fluoronaphthalene(S)	5.515	146	72038	31.29	ug/L	0.00	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	195.56%#
6) 2-Fluorobiphenyl(S)	7.584	172	48611	34.27	ug/L	-0.02	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	214.19%#
16) 4-Terphenyl-d14(S)	17.255	244	33278m	28.39	ug/L	0.01	
Spiked Amount 16.000	Range 70 - 130				Recovery	=	177.44%#

Target Compounds (Multiplier applied to Results = NO)							Qvalue
3) Naphthalene (SIM)	5.532	128	84870	31.22	ug/L	#	90
4) 2-Methylnaphthalene (SIM)	6.690	142	42998	29.65	ug/L		99
7) Acenaphthylene (SIM)	9.338	152	61754m	33.49	ug/L		
8) Acenaphthene (SIM)	10.049	153	48113	28.23	ug/L		90
9) Fluorene (SIM)	11.340	166	45951	29.58	ug/L		98
11) Phenanthrene (SIM)	12.928	178	65114m	34.69	ug/L		
12) Anthracene (SIM)	13.027	178	55351m	39.75	ug/L		
13) Fluoranthene (SIM)	15.680	202	50656m	30.15	ug/L		
15) Pyrene (SIM)	16.411	202	53179m	28.87	ug/L		
17) Benzo(a)anthracene (SIM)	21.164	228	29096	28.15	ug/L		99
18) Chrysene (SIM)	21.288	228	48162m	37.78	ug/L		
20) Benzo(b)fluoranthene (...	24.821	252	25169	28.76	ug/L		96
21) Benzo(k)fluoranthene (...	24.904	252	35514m	33.05	ug/L		
22) Benzo(a)pyrene (SIM)	25.751	252	25666m	32.66	ug/L		
23) Indeno(1,2,3-cd)pyrene...	28.708	276	17568	31.97	ug/L	#	83
24) Dibenzo(a,h)anthracene...	28.791	278	24567m	31.63	ug/L		
25) Benzo(ghi)perylene (SIM)	29.287	276	28298	34.40	ug/L	#	64

(#) = qualifier out of range (m) = manual integration (+) = signals summed

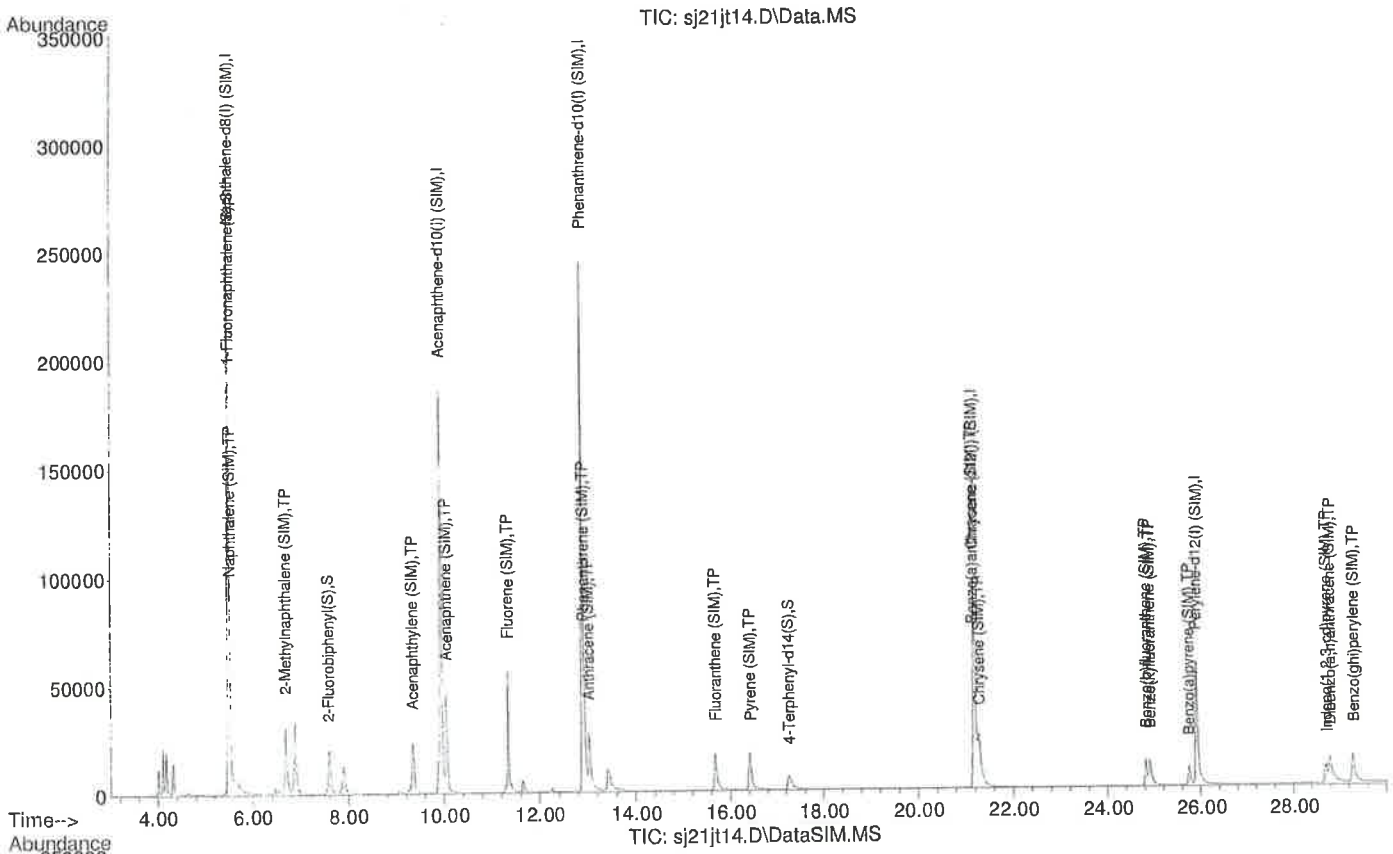
SJAIRA11.M Sun Oct 31 17:08:13 2021

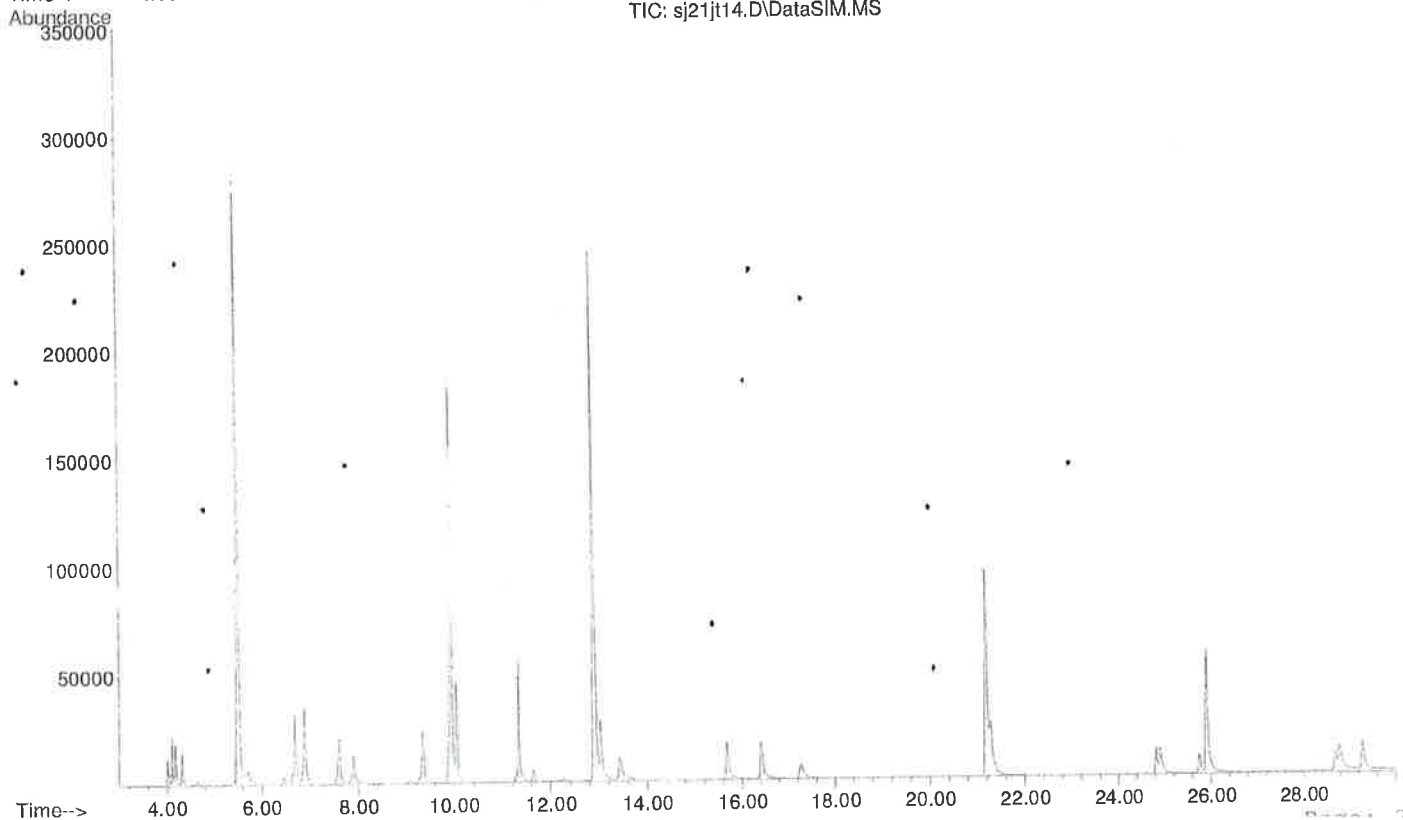
11-1-21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt14.D
Acq On : 30 Oct 2021 02:52
Operator : JO
Sample : 7 air icv
Misc : 102921
ALS Vial : 131 Sample Multiplier: 1

Quant Time: Oct 31 16:59:12 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 16:58:19 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21J29d\
Data File : sj21jt14.D
Acq On : 30 Oct 2021 02:52
Operator : YO
Sample : 4 air icv
Misc : 102921
ALS Vial : 131 Sample Multiplier: 1

Quant Time: Oct 31 16:59:12 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 16:58:19 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	516643	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	253325	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	394318	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	228826	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	184037	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	72038	31.29	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 195.56%#
6) 2-Fluorobiphenyl(S)	7.584	172	48611	34.27	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 214.19%#
16) 4-Terphenyl-d14(S)	17.255	244	28390	24.22	ug/L	0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 151.38%#
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	84870	31.22	ug/L	# 90
4) 2-Methylnaphthalene (SIM)	6.690	142	42998	29.65	ug/L	99
7) Acenaphthylene (SIM)	9.338	152	52613	28.53	ug/L	98
8) Acenaphthene (SIM)	10.049	153	48113	27.21	ug/L	90
9) Fluorene (SIM)	11.340	166	45951	29.58	ug/L	98
11) Phenanthrene (SIM)	12.928	178	59752	31.80	ug/L	# 93
12) Anthracene (SIM)	13.027	178	49143	35.28	ug/L	# 98
13) Fluoranthene (SIM)	15.680	202	47567	28.31	ug/L	98
15) Pyrene (SIM)	16.411	202	49719	26.99	ug/L	99
17) Benzo(a)anthracene (SIM)	21.164	228	29096	27.58	ug/L	99
18) Chrysene (SIM)	21.288	228	42218	33.01	ug/L	98
20) Benzo(b)fluoranthene (...	24.821	252	25169	28.76	ug/L	96
21) Benzo(k)fluoranthene (...	24.904	252	26632	24.78	ug/L	# 94
22) Benzo(a)pyrene (SIM)	25.751	252	21691	27.60	ug/L	97
23) Indeno(1,2,3-cd)pyrene...	28.708	276	17568	31.97	ug/L	# 83
24) Dibenzo(a,h)anthracene...	28.791	278	20688	26.64	ug/L	# 75
25) Benzo(ghi)perylene (SIM)	29.287	276	28298	34.40	ug/L	# 64

(#) = qualifier out of range (m) = manual integration (+) = signals summed

TO-15 INITIAL CALIBRATION CURVE

VN400B77

Starting sequence Sun Oct 31 15:10:17 2021

Instrument Name: VN
Sequence File: D:\MassHunter\GCMS\1\sequence\VN21J31A.sequence.xml
Comment:
Operator:
Data Path: D:\VN\VN_DATA\VN21J31A\

CM 11/1/21

Acquisition Method Path: D:\VN\VN_METHOD\
Acquisition Method File: VN400B72.M

Line	Type	Vials	DataFile	Sample Name
1)	Sample	1	VN21JV01	VRNS01
2)	Sample	1	VN21JV02	VRNS02
3)	Sample	1	VN21JV03	0.025 STD
4)	Sample	1	VN21JV04	0.063 STD
5)	Sample	1	VN21JV05	0.1 STD
6)	Sample	1	VN21JV06	0.25 STD
7)	Sample	1	VN21JV07	0.75 STD
8)	Sample	1	VN21JV08	1.25 STD
9)	Sample	1	VN21JV09	2.5 STD
10)	Sample	1	VN21JV10	5.0 STD
11)	Sample	1	VN21JV11	12.5 STD
12)	Sample	1	VN21JV12	25 STD
13)	Sample	1	VN21JV13	37.5 STD
14)	Sample	1	VN21JV14	50 STD
15)	Sample	1	VN21JV15	RNS
16)	Sample	1	VN21JV16	VLCS01

Sequence completed Mon Nov 01 04:29:22 2021

D:\VN\VN_DATA\VN21J31A\2021 Oct 31 1510 Quality Log.LOG
D:\VN\VN_DATA\VN21J31A\2021 Oct 31 1510 Sequence Log .LOG

DA
11-01-21

CM 11/1/21

11/1/2021 9:39:02 AM

Sequence Report

	RNS01	One	D6	100	0	200	VNCONA 19.CTD3	10/31/2021 3:33:33 PM	Completed		
	RNS02	One	D6	100	0	200	VNCONA 19.CTD3	10/31/2021 4:21:39 PM	Completed		
	0.025 STD	One	D8	100	0	40	VNCONA 19.CTD3	10/31/2021 5:08:34 PM	Completed		
	0.0625 STD	One	D8	100	0	100	VNCONA 19.CTD3	10/31/2021 5:56:05 PM	Completed		
	0.1 STD	One	D8	100	0	160	VNCONA 19.CTD3	10/31/2021 6:43:56 PM	Completed		
	0.25 STD	One	D8	100	0	400	VNCONA 19.CTD3	10/31/2021 7:34:23 PM	Completed		
	0.75 STD	One	D9	100	0	120	VNCONA 19.CTD3	10/31/2021 8:21:03 PM	Completed		
	1.25 STD	One	D9	100	0	200	VNCONA 19.CTD3	10/31/2021 9:09:22 PM	Completed		
	2.5 STD	One	D9	100	0	400	VNCONA 19.CTD3	10/31/2021 9:59:56 PM	Completed		
	5.0 STD	One	D9	100	0	800	VNCONA 19.CTD3	10/31/2021 10:55:34 PM	Completed		
	12.5 STD	One	D6	100	200	0	VNCONA 19.CTD3	10/31/2021 11:43:36 PM	Completed		
	25 STD	One	D6	100	400	0	VNCONA 19.CTD3	11/1/2021 12:33:47 AM	Completed		
	37.5 STD	One	D6	100	600	0	VNCONA 19.CTD3	11/1/2021 1:26:18 AM	Completed		
	50 STD	One	D6	100	800	0	VNCONA 19.CTD3	11/1/2021 2:20:50 AM	Completed		

DH 11-01-21

Sequence Report

11/1/2021 9:39:02 AM

	RNS01	One	D6	100	0	200	VNCONA 19.CTD3	11/1/2021 3:08:49 AM	Complete d		
	VICV01/V LCS01	One	D7	100	0	200	VNCONA 19.CTD3	11/1/2021 3:56:31 AM	Complete d		

Response Factor Report VN

CM 11/1/21

Method path : \\Vn-cs\VN_D\VN\VN_METHOD\
Method File : VN400B77.M
Title : COMPOUNDS BY TO-1S
Last Update : Mon Nov 01 10:57:19 2021
Response Via : Initial Calibration

Calibration Files
0.03=VN21JV03.D 0.06=VN21JV04.D 0.1 =VN21JV05.D 0.25=VN21JV06.D 0.75=VN21JV07.D 1.25=VN21JV08.D 2.5 =VN21JV09.D 5 =VN21JV10.D 12.5=VN21JV11.D
25 =VN21JV12.D 37.5=VN21JV13.D 50 =VN21JV14.D

		Compound	0.03	0.06	0.1	0.25	0.75	1.25	2.5	5	12.5	25	37.5	50	Avg	%RSD
1)	I	Bromochloromethane(I)	----------ISTD----------													
2)	T	Dichlorodifluo...	2.620	2.416	2.270	2.434	2.305	2.256	2.232	1.942	2.202	1.982	1.819	1.610	2.174	13.14
3)	T	Chloromethane						0.509	0.496	0.506	0.495	0.464	0.459	0.427	0.479	6.29
4)	T	Dichlorotetraf...		1.994	1.963	1.898	1.851	1.886	1.874	1.911	1.917	1.828	1.795	1.737	1.878	3.91
5)	T	Vinyl Chloride				0.712	0.661	0.654	0.645	0.670	0.657	0.632	0.627	0.600	0.651	4.80
6)	T	1,3-Butadiene		0.701	0.652	0.578	0.556	0.575	0.563	0.569	0.547	0.530	0.525	0.499	0.572	10.09
7)	T	Bromomethane					0.533	0.557	0.560	0.569	0.566	0.567	0.563	0.557	0.559	2.08
8)	T	Chloroethane						0.347	0.341	0.343	0.341	0.327	0.327	0.315	0.335	3.47
9)		Ethanol							0.199	0.214	0.207	0.191	0.196	0.185	0.199	5.47
10)	T	Acrolein				0.296	0.228	0.217	0.211	0.227	0.222	0.213	0.215	0.209	0.226	11.86
11)	T	Trichlorofluor...		2.406	1.883	1.907	1.737	1.807	1.806	1.821	1.838	1.784	1.764	1.729	1.862	10.13
12)	T	Isopropanol				1.700	1.254	1.400	1.298	1.284	1.202	1.118	1.426	1.106	1.310	13.97
13)	T	Acetone							0.514	0.514	0.485	0.465	0.470	0.450	0.483	5.49
14)	T	Acrylonitrile		0.767	0.809	0.728	0.474	0.656	0.653	0.660	0.659	0.638	0.580	0.541	0.651	14.81
15)	T	n-Pentane		1.656	1.386	1.364	1.132	1.338	1.307	1.354	1.265	1.176	1.034	0.959	1.270	15.03
16)	T	Diethyl Ether	1.027	0.918	0.873	0.862	0.523	0.771	0.749	0.754	0.723	0.683	0.635	0.601	0.760	18.78
17)	T	1,1-Dichloroet...	2.073	1.795	1.774	1.818	1.665	1.689	1.623	1.673	1.602	1.514	1.436	1.344	1.667	11.48
18)	T	t-Butanol		2.216	2.382	2.337	2.051	2.154	2.128	2.194	2.091	1.908	1.901	1.804	2.106	8.60
19)	T	Methylene Chlo...					1.135	1.085	1.036	1.030	0.978	0.893	0.841	0.803	0.975	12.17
20)	T	1,1,2-Trichlor...	2.915	2.634	2.267	2.504	2.205	2.393	2.275	2.280	2.250	2.066	1.964	1.820	2.298	12.80
21)	T	Carbon Disulfide				3.442	2.916	2.968	2.918	2.913	2.774	2.530	2.316	2.112	2.765	14.30
22)	T	trans-1,2-Dich...	2.037	1.771	1.697	1.552	1.420	1.465	1.426	1.429	1.376	1.293	1.206	1.135	1.484	16.96
23)	T	MTBE	3.649	3.163	3.273	3.194	2.988	3.051	3.025	3.033	2.969	2.771	2.629	2.518	3.022	9.89
24)	T	1,1-Dichloroet...	1.934	2.158	2.066	2.035	1.795	1.794	1.741	1.734	1.665	1.573	1.479	1.386	1.780	13.34
25)	T	Vinyl Acetate					0.228	0.228	0.218	0.218	0.219	0.206	0.200	0.194	0.214	5.86
26)	T	n-Hexane	2.096	1.977	1.885	1.852	1.614	1.689	1.580	1.561	1.457	1.263	1.181	1.087	1.603	19.86
27)	T	2-Butanone					1.923	1.947	1.922	1.912	1.828	1.565	1.498	1.409	1.751	12.66
28)	T	cis-1,2-Dichlo...		1.464	1.544	1.524	1.399	1.397	1.387	1.404	1.351	1.205	1.169	1.102	1.359	10.52
29)	T	Chloroform	3.040	2.685	2.613	2.541	2.328	2.433	2.353	2.347	2.272	2.122	2.055	1.953	2.395	12.45
30)	T	Ethyl Acetate		0.311	0.345	0.320	0.328	0.311	0.298	0.299	0.284	0.254	0.239	0.223	0.292	13.21
31)	T	Diisopropyl Ether					2.731	2.757	2.633	2.593	2.329	2.054	1.919	1.779	2.349	16.48
32)	T	Tetrahydrofuran				1.052	0.934	0.880	0.883	0.880	0.804	0.723	0.685	0.617	0.829	16.34
33)	T	ETBE	3.639	3.486	3.220	3.541	3.238	3.265	3.144	3.142	2.941	2.739	2.629	2.413	3.116	12.02
34)	T	1,2-Dichloroet...	1.677	1.896	1.852	1.699	1.623	1.577	1.555	1.554	1.476	1.372	1.332	1.226	1.570	12.74
35)	T	Methylcyclopen...	2.408	2.164	2.176	1.882	1.784	1.834	1.751	1.733	1.621	1.475	1.392	1.253	1.789	18.92
36)	I	1,4-Difluorobenzen...	----------ISTD----------													
37)	T	1,1,1-Trichlor...	0.816	0.799	0.700	0.752	0.706	0.726	0.723	0.721	0.708	0.688	0.661	0.634	0.720	7.15

DH 11-01-21

Method Path : \\Vn-cs\VN_D\VN\VN_METHOD\
Method File : VN400B77.M
Title : COMPOUNDS BY TO-15

38)	T	Cyclohexane	0.528	0.459	0.423	0.417	0.391	0.396	0.390	0.380	0.369	0.347	0.327	0.300	0.394	15.29
39)	T	Carbon Tetrach...	0.883	0.817	0.754	0.766	0.737	0.755	0.758	0.764	0.749	0.726	0.703	0.676	0.757	6.98
40)	T	Benzene	1.166	1.032	0.946	0.941	0.847	0.859	0.868	0.854	0.826	0.795	0.758	0.713	0.884	13.99
41)	T	Dibromomethane	0.409	0.423	0.393	0.378	0.360	0.371	0.379	0.378	0.396	0.394	0.393	0.386	0.388	4.35
42)	T	n-Heptane							0.402	0.387	0.366	0.342	0.318	0.286	0.350	12.48
43)	T	1,2-Dichloropr...	0.365	0.286	0.290	0.316	0.289	0.294	0.287	0.286	0.272	0.258	0.245	0.227	0.285	12.23
44)	T	Trichloroethene	0.490	0.476	0.454	0.437	0.408	0.419	0.415	0.417	0.405	0.389	0.368	0.351	0.419	9.74
45)	T	Bromodichlorom...	0.803	0.817	0.740	0.726	0.711	0.716	0.706	0.714	0.697	0.676	0.642	0.608	0.713	8.22
46)	T	1,4-Dioxane						0.211	0.208	0.207	0.198	0.189	0.184	0.173	0.196	7.25
47)	T	2,2,4-Trimethy...	1.439	1.461	1.321	1.306	1.255	1.278	1.265	1.239	1.159	1.077	1.022	0.946	1.231	12.66
48)	T	cis-1,3-Dichlo...	0.618	0.547	0.540	0.528	0.498	0.516	0.513	0.527	0.506	0.495	0.470	0.443	0.517	8.34
49)	T	4-Methyl-2-pen...	0.372	0.296	0.315	0.300	0.283	0.300	0.285	0.282	0.275	0.258	0.244	0.225	0.286	12.96
50)	T	trans-1,3-Dich...	0.534	0.478	0.455	0.485	0.476	0.475	0.495	0.507	0.498	0.488	0.465	0.445	0.483	4.93
51)	T	1,1,1,2-Tetrac...	0.221	0.253	0.242	0.256	0.256	0.263	0.261	0.265	0.259	0.248	0.235	0.221	0.248	6.23
52)	I	Chlorobenzene-d5(I)	----------ISTD----------													
53)	T	1,1,2-Trichlor...	3.484	4.062	3.955	4.224	3.947	4.129	4.154	4.169	4.292	4.206	4.115	3.971	4.059	5.22
54)	T	Toluene	1.373	1.260	1.303	1.271	1.206	1.289	1.295	1.275	1.307	1.272	1.232	1.187	1.273 E1	3.87
55)	T	2-Hexanone						6.068	6.487	6.422	6.362	6.081	5.781	5.435	6.091	6.24
56)	T	Dibromochlorom...	6.831	7.121	6.685	6.571	6.483	6.988	7.170	7.249	7.571	7.475	7.373	7.188	7.059	5.00
57)	T	Ethylene Dibro...	6.938	6.150	6.282	6.258	6.049	6.480	6.731	6.745	7.067	7.022	6.880	6.762	6.614	5.37
58)	T	Tetrachloroethene		6.000	6.056	5.906	5.621	6.143	6.382	6.372	6.649	6.611	6.567	6.457	6.251	5.28
59)	T	Chlorobenzene	5.215	4.985	4.891	4.964	4.843	4.996	5.231	5.188	5.372	5.182	5.025	4.864	5.063	3.35
60)	T	Ethylbenzene	8.751	8.755	7.928	8.328	8.147	8.517	8.692	8.664	8.858	8.488	8.160	7.785	8.423	4.17
61)	T	m&p-Xylene	3.433	3.301	3.027	3.173	3.056	3.294	3.357	3.324	3.380	3.211	3.058	2.928	3.212	5.06
62)	T	Bromoform	3.911	3.700	3.724	3.656	3.805	4.068	4.289	4.432	4.721	4.724	4.659	4.583	4.189	10.16
63)	T	Styrene	4.383	4.318	4.158	4.404	4.475	4.755	5.055	5.197	5.413	5.287	5.163	4.993	4.800	9.07
64)	T	1,1,2,2-Tetrac...	5.539	4.902	4.770	4.866	4.699	4.839	4.962	4.836	4.753	4.339	4.043	3.689	4.686	10.11
65)	T	o-Xylene	7.761	7.231	6.693	7.296	6.866	7.274	7.198	7.136	7.152	6.712	6.421	6.096	6.986	6.43
66)	S	4-Bromofluorob...	1.351	1.363	1.401	1.421	1.480	1.477	1.537	1.637	1.669	1.719	1.711	1.749	1.543	9.55
67)	T	Isopropylbenzene	1.004	0.871	0.838	0.888	0.852	0.902	0.924	0.906	0.919	0.864	0.830	0.786	0.882 E1	6.32
68)	T	n-Propylbenzene	0.991	0.958	0.961	0.947	0.953	1.023	1.046	1.033	1.048	0.978	0.927	0.870	0.978 E1	5.45
69)	T	4-Ethyltoluene	0.992	0.857	0.874	0.880	0.882	0.962	0.985	1.011	1.009	0.963	0.941	0.895	0.938 E1	6.07
70)	T	1,3,5-Trimethy...	8.919	8.130	8.371	8.503	8.352	8.853	9.100	8.810	8.854	8.373	7.951	7.583	8.483	5.29
71)	T	tert-Butylbenzene	8.178	8.372	7.927	8.250	7.863	8.342	8.484	8.211	8.089	7.337	6.861	6.397	7.859	8.34
72)	T	1,2,4-Trimethy...	9.904	8.385	7.631	8.313	8.152	8.691	8.715	8.462	8.312	7.541	7.015	6.511	8.136	10.81
73)	T	1,3-Dichlorobe...	3.412	3.109	3.064	3.195	3.387	3.653	3.924	4.128	4.481	4.458	4.360	4.257	3.786	14.39
74)	T	Benzyl Chloride	3.678	3.199	3.795	3.923	4.214	4.542	5.134	5.531	6.022	5.987	5.733	5.511	4.772	20.88
75)	T	1,4-Dichlorobe...	2.783	2.553	2.853	2.674	3.079	3.277	3.655	3.933	4.438	4.585	4.568	4.566	3.580	22.60
76)	T	sec-Butylbenzene	1.149	1.085	1.061	1.102	1.077	1.145	1.172	1.136	1.124	1.043	0.988	0.938	1.085 E1	6.40
77)	T	1,2,3-Trimethy...	8.156	7.567	6.921	7.192	7.068	7.498	7.645	7.585	7.558	7.118	6.787	6.496	7.299	6.21
78)	T	1,2-Dichlorobe...	4.491	4.177	4.454	4.358	4.306	4.757	4.952	5.058	5.427	5.405	5.334	5.217	4.828	9.56
79)	T	n-Butylbenzene	1.095	0.931	0.885	0.877	0.868	0.927	0.971	0.966	0.981	0.912	0.859	0.807	0.923 E1	8.10
80)	T	Bromobenzene	4.201	4.166	4.176	4.103	4.336	4.392	4.585	4.589	4.736	4.557	4.347	4.161	4.362	4.83
81)	T	1,2-Dibromo-3-...	1.866	1.444	1.710	1.631	1.617	1.810	1.901	1.978	2.199	2.219	2.212	2.167	1.896	13.96
82)	T	Hexachloroethane	4.039	3.756	3.622	3.734	3.696	3.998	4.037	4.008	3.987	3.708	3.462	3.236	3.773	6.74
83)	T	1,2,4-Trichlor...					2.002	2.334	2.831	3.291	3.979	4.456	4.504	4.602	3.500	29.50
84)	T	Naphthalene			0.764	0.690	0.657	0.773	0.889	0.966	1.102	1.137	1.105	1.081	0.917 E1	20.29
85)	T	1,2,3-Trichlor...						2.876	3.231	3.484	3.986	4.138	4.104	4.061	3.697	13.58

Method Path : \\Vn-cs\VN_D\VN\VN_METHOD\
Method File : VN400B77.M
Title : COMPOUNDS BY TO-15

86) T	Hexachlorobuta...	5.131	4.873	4.603	4.758	4.944	5.060	5.176	5.428	5.075	4.794	4.543	4.944	5.32
87) T	2-Methylnaphth...						2.876	3.531	4.486	5.186	5.042	5.275	4.399	22.46

(#) = Out of Range

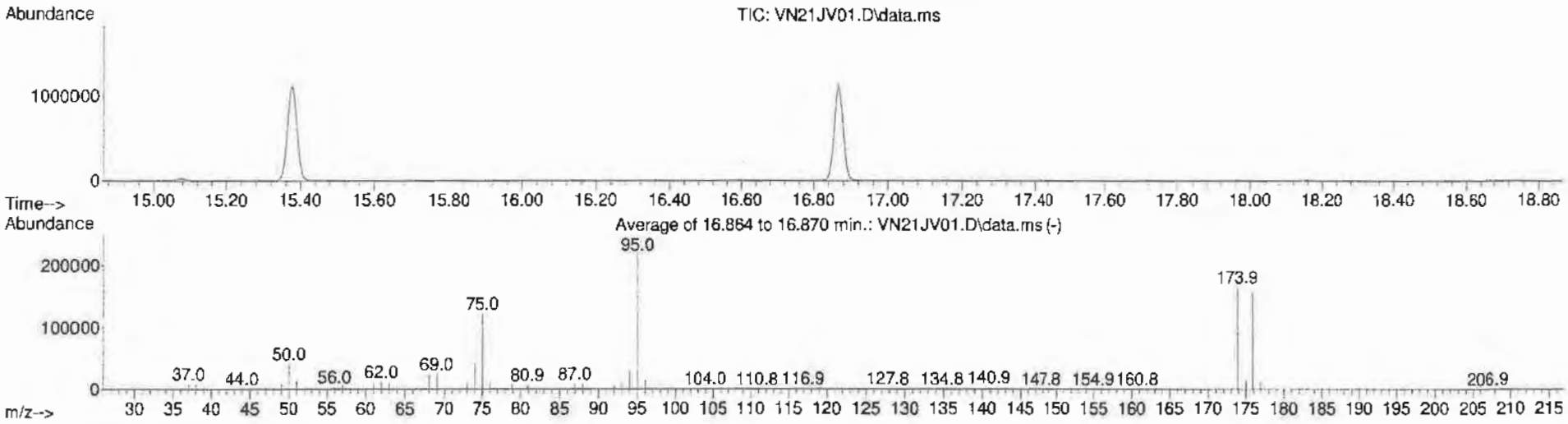
BFB

Data Path : D:\VN\VN_DATA\VN21JV31A\
Data File : VN21JV01.D
Acq On : 31 Oct 2021 03:33 pm
Operator :
Sample : VRNS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B72.M
Title : COMPOUNDS BY TO-15
Last Update : Mon Nov 01 08:48:10 2021

CM 11/1/21



AutoFind: Scans 4531, 4532, 4533; Background Corrected with Scan 4514

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.3	41139	PASS
75	95	30	66	51.5	122179	PASS
95	95	100	100	100.0	237461	PASS
96	95	5	9	6.3	14980	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	69.2	164309	PASS
175	174	4	9	8.2	13445	PASS
176	174	93	101	95.5	156885	PASS
177	176	5	9	6.8	10728	PASS

OH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21
CM 10/ 11/1/21

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TD-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.816	130	374187	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1459616	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	129815	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	176725	5.87	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 87.35%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	3946	0.03	# 92	0.03
3) Chloromethane	4.234	50	809	0.02	# 90	0.02
4) Dichlorotetrafluoroethane	4.325	85	3339	0.02	# 67	0.02
5) Vinyl Chloride	4.428	62	1356m	0.03		0.03
6) 1,3-Butadiene	4.564	54	1136	0.03	# 20	0.03
7) Bromomethane	4.820	94	810m	0.02		0.02
8) Chloroethane	4.968	64	773m	0.04		0.04
9) Ethanol	5.090	45	742m	0.05		0.05
10) Acrolein	5.326	56	549	0.03	89	0.03
11) Trichlorofluoromethane	5.698	101	2971m	0.02		0.02
12) Isopropanol	5.832	45	2980m	0.04		0.04
13) Acetone	5.565	58	2058m	0.05		0.05
14) Acrylonitrile	6.019	53	1524m	0.04		0.04
15) n-Pentane	6.076	43	2768m	0.04		0.04
16) Diethyl Ether	6.153	59	1547m	0.04		0.04
17) 1,1-Dichloroethene	6.366	61	3122m	0.04		0.04
18) t-Butanol	6.505	59	3625m	0.04		0.04
19) Methylene Chloride	6.497	49	6911m	0.12		0.12
20) 1,1,2-Trichlorotrifluo...	6.801	101	4221m	0.03		0.03
21) Carbon Disulfide	6.798	76	8003	0.05	# 83	0.05
22) trans-1,2-Dichloroethene	7.514	61	3068m	0.05		0.05
23) MTBE	7.881	73	5496m	0.04		0.04
24) 1,1-Dichloroethane	7.739	63	2800	0.03	# 78	0.03
25) Vinyl Acetate	7.912	86	513m	0.05		0.05
26) n-Hexane	8.907	57	2671m	0.03		0.03
27) 2-Butanone	8.236	43	3497m	0.03		0.03
28) cis-1,2-Dichloroethene	8.640	61	2174m	0.03		0.03
29) Chloroform	8.969	83	4578m	0.04		0.04
30) Ethyl Acetate	8.955	61	324m	0.02		0.02
31) Diisopropyl Ether	8.961	45	5864m	0.04		0.04
32) Tetrahydrofuran	9.481	42	2729m	0.05		0.05
33) ETBE	9.538	59	5269m	0.04		0.04
34) 1,2-Dichloroethane	9.751	62	2428	0.03	# 80	0.03
35) Methylcyclopentane	9.771	56	3626m	0.05		0.05
37) 1,1,1-Trichloroethane	10.038	97	4624m	0.03		0.03
38) Cyclohexane	10.814	56	2876	0.04	99	0.04
39) Carbon Tetrachloride	10.683	117	5004m	0.03		0.03
40) Benzene	10.524	78	6604m	0.04		0.04
41) Dibromomethane	11.331	174	2227m	0.02		0.02
42) n-Heptane	11.988	43	2641m	0.03		0.03
43) 1,2-Dichloropropane	11.391	63	2068m	0.03		0.03
44) Trichloroethene	11.644	95	2667	0.03	# 73	0.03
45) Bromodichloromethane	11.581	83	4376	0.03	# 69	0.03

B

OH 11/1/21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.706	88	1383m	0.04				0.04
47) 2,2,4-Trimethylpentane	11.715	57	8148	0.03	#		78	0.03
48) cis-1,3-Dichloropropene	12.545	75	3498m	0.04				0.04
49) 4-Methyl-2-pentanone	12.647	58	1783m	0.03				0.03
50) trans-1,3-Dichloropropene	13.107	75	2908	0.03	#		76	0.03
51) 1,1,1,2-Tetrachloroethane	15.401	131	1201	0.02	#		30	0.02
53) 1,1,2-Trichloroethane	13.278	97	1763m	0.02				0.02
54) Toluene	13.585	91	6681	0.03	#		82	0.03
55) 2-Hexanone	13.912	43	3086m	0.02				0.02
56) Dibromochloromethane	14.020	127	3058	0.02	#		70	0.02
57) Ethylene Dibromide	14.270	107	3511m	0.02				0.02
58) Tetrachloroethene	14.741	166	2915	0.02	#		54	0.02
59) Chlorobenzene	15.421	112	2639m	0.02				0.02
60) Ethylbenzene	15.807	91	4258	0.03	#		88	0.03
61) m&p-Xylene	15.961	106	3408m	0.05				0.05
62) Bromoform	16.020	173	1979	0.02	#		51	0.02
63) Styrene	16.327	104	2218	0.02	#		62	0.02
64) 1,1,2,2-Tetrachloroethane	16.415	83	2803	0.03	#		79	0.03
65) o-Xylene	16.430	91	3776	0.03	#		90	0.03
67) Isopropylbenzene	17.012	105	5472	0.03	#		92	0.03
68) n-Propylbenzene	17.515	91	5596	0.03	#		80	0.03
69) 4-Ethyltoluene	17.663	105	4828	0.03	#		57	0.03
70) 1,3,5-Trimethylbenzene	17.743	105	4513	0.03			90	0.03
71) tert-Butylbenzene	18.160	119	4616	0.03	#		72	0.03
72) 1,2,4-Trimethylbenzene	18.157	105	4819	0.03	#		80	0.03
73) 1,3-Dichlorobenzene	18.314	146	1992	0.02	#		73	0.02
74) Benzyl Chloride	18.288	91	2076	0.02	#		58	0.02
75) 1,4-Dichlorobenzene	18.379	146	1571m	0.02				0.02
76) sec-Butylbenzene	18.442	105	6259	0.03	#		81	0.03
77) 1,2,3-Trimethylbenzene	18.601	105	4762	0.04	#		93	0.04
78) 1,2-Dichlorobenzene	18.743	146	2185m	0.02				0.02
79) n-Butylbenzene	19.053	91	5115	0.03			9B	0.03
80) Bromobenzene	17.092	77	2126m	0.03				0.03
81) 1,2-Dibromo-3-chloropr...	19.203	157	1416m	0.03				0.03
82) Hexachloroethane	19.471	117	1965m	0.02				0.02
83) 1,2,4-Trichlorobenzene	20.636	180	1500m	0.02				0.02
84) Naphthalene	20.761	128	6915	0.03			96	0.03
85) 1,2,3-Trichlorobenzene	21.056	180	2300	0.02	#		85	0.02
86) Hexachlorobutadiene	21.173	225	2515	0.02	#		91	0.02
87) 2-Methylnaphthalene	21.997	142	2305m	0.02				0.02

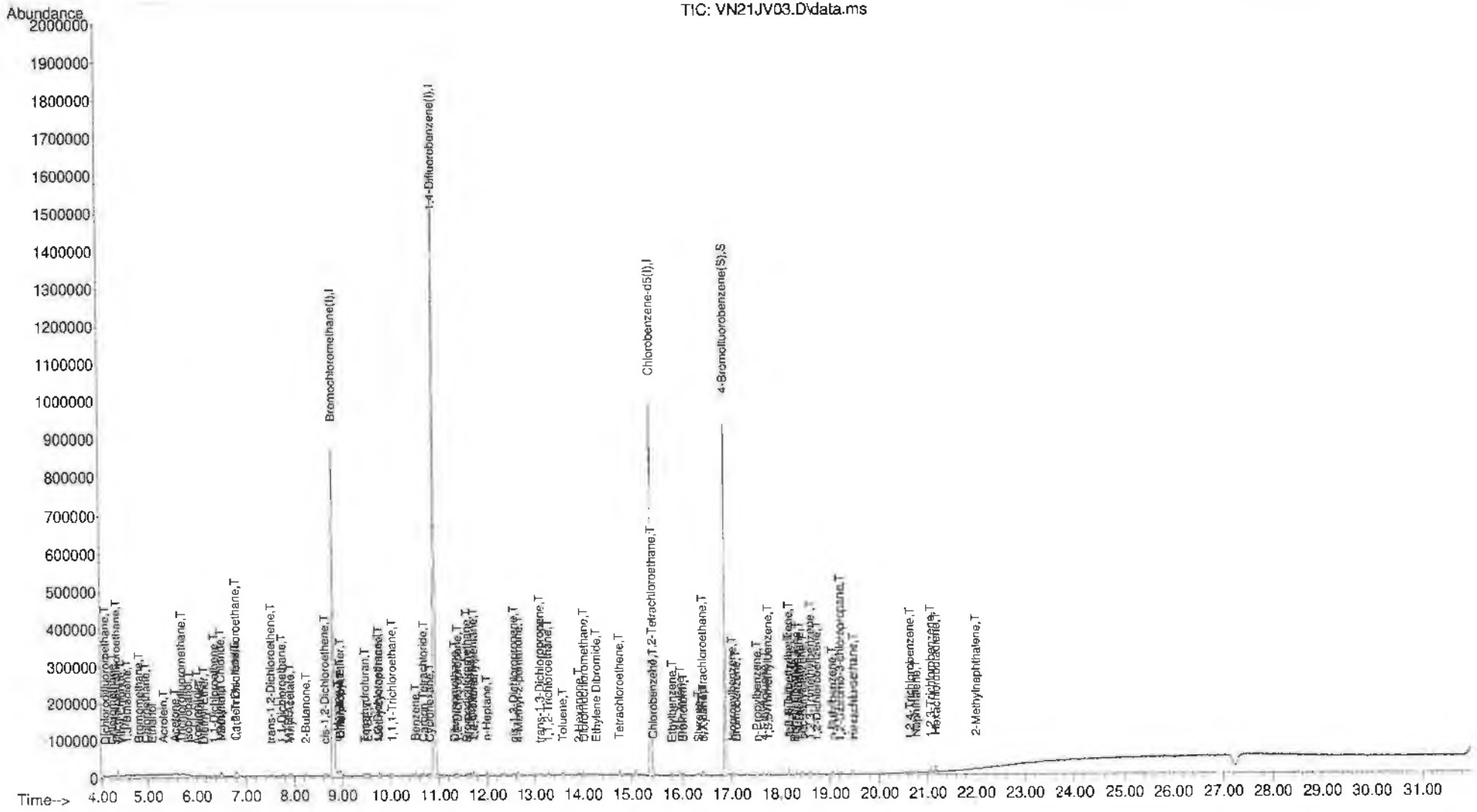
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

TIC: VN21JV03.D\data.ms



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.816	130	374187	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1459616	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	129815	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	176725	5.87	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 87.35%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	3946	0.03	# 92	0.03
3) Chloromethane	4.234	50	809	0.02	# 90	0.02
4) Dichlorotetrafluoroethane	4.325	85	3339	0.02	# 67	0.02
5) Vinyl Chloride	4.428	62	572	0.01	# 89	0.01
6) 1,3-Butadiene	4.564	54	1136	0.03	# 20	0.03
7) Bromomethane	4.800	94	357	0.01	# 58	0.01
8) Chloroethane	4.968	64	431	0.02	# 40	0.02
9) Ethanol	5.073	45	414	0.03	# 1	0.03
10) Acrolein	5.326	56	549	0.03	89	0.03
11) Trichlorofluoromethane	5.698	101	2387	0.01	# 73	0.01
12) Isopropanol	5.806	45	683	0.01	# 1	0.01
13) Acetone	5.565	58	1740	0.05	# 70	0.05
14) Acrylonitrile	6.019	53	555	0.02	# 92	0.02
15) n-Pentane	6.076	43	492	0.01	# 1	0.01
16) Diethyl Ether	6.136	59	802	0.02	# 71	0.02
17) 1,1-Dichloroethene	6.366	61	2044	0.02	# 79	0.02
18) t-Butanol	6.497	59	1158	0.01	# 1	0.01
19) Methylene Chloride	6.497	49	3786	0.07	# 95	0.07
20) 1,1,2-Trichlorotrifluo...	6.801	101	3709	0.03	# 55	0.03
21) Carbon Disulfide	6.798	76	8003	0.05	# 83	0.05
22) trans-1,2-Dichloroethene	7.514	61	1356	0.02	# 25	0.02
23) MTBE	7.881	73	3423	0.03	# 72	0.03
24) 1,1-Dichloroethane	7.739	63	2800	0.03	# 78	0.03
25) Vinyl Acetate	7.935	86	241	0.02	# 65	0.02
26) n-Hexane	8.907	57	2500	0.03	# 1	0.03
27) 2-Butanone	8.222	43	954	0.01	# 69	0.01
28) cis-1,2-Dichloroethene	8.640	61	1468	0.02	# 25	0.02
29) Chloroform	8.964	83	1153	0.01	# 62	0.01
31) Diisopropyl Ether	8.938	45	1653	0.01	# 57	0.01
32) Tetrahydrofuran	9.464	42	1578	0.03	# 49	0.03
33) ETBE	9.521	59	1377	0.01	# 35	0.01
34) 1,2-Dichloroethane	9.751	62	2428	0.03	# 80	0.03
35) Methylcyclopentane	9.771	56	1220	0.02	# 73	0.02
37) 1,1,1-Trichloroethane	10.038	97	3909	0.03	# 89	0.03
38) Cyclohexane	10.814	56	2876	0.04	99	0.04
39) Carbon Tetrachloride	10.672	117	2102	0.01	# 39	0.01
40) Benzene	10.524	78	3430	0.02	# 63	0.02
41) Dibromomethane	11.342	174	1242	0.01	88	0.01
42) n-Heptane	11.988	43	1551	0.02	# 69	0.02
43) 1,2-Dichloropropane	11.391	63	1089	0.02	# 66	0.02
44) Trichloroethene	11.644	95	2667	0.03	# 73	0.03
45) Bromodichloromethane	11.581	83	4376	0.03	# 69	0.03
46) 1,4-Dioxane	11.692	88	264	0.01	# 1	0.01

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

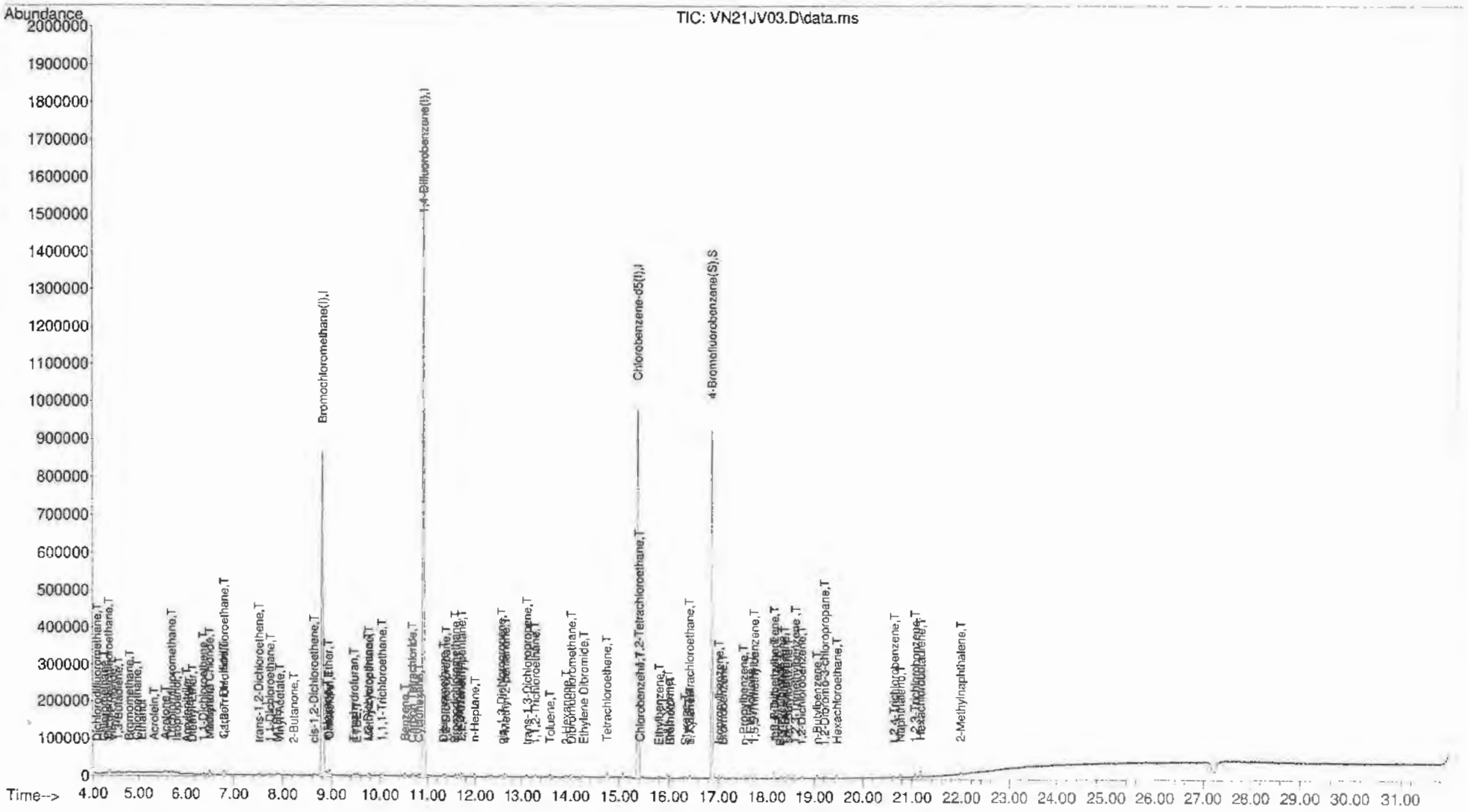
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
47) 2,2,4-Trimethylpentane	11.715	57	8148	0.03		#	78	0.03
48) cis-1,3-Dichloropropene	12.545	75	3498	0.04		#	70	0.04
49) 4-Methyl-2-pentanone	12.635	58	575	0.01		#	59	0.01
50) trans-1,3-Dichloropropene	13.107	75	2908	0.03		#	76	0.03
51) 1,1,1,2-Tetrachloroethane	15.401	131	1201	0.02		#	30	0.02
53) 1,1,2-Trichloroethane	13.278	97	1372	0.02		#	56	0.02
54) Toluene	13.585	91	6681	0.03		#	82	0.03
55) 2-Hexanone	13.912	43	2815	0.02		#	48	0.02
56) Dibromochloromethane	14.020	127	3058	0.02		#	70	0.02
57) Ethylene Dibromide	14.270	107	1892	0.01		#	10	0.01
58) Tetrachloroethene	14.741	166	2915	0.02		#	54	0.02
59) Chlorobenzene	15.421	112	2403	0.02		#	53	0.02
60) Ethylbenzene	15.807	91	4258	0.03		#	88	0.03
61) m&p-Xylene	15.983	106	1319	0.02		#	86	0.02
62) Bromoform	16.020	173	1979	0.02		#	51	0.02
63) Styrene	16.327	104	2218	0.02		#	62	0.02
64) 1,1,2,2-Tetrachloroethane	16.415	83	2803	0.03		#	79	0.03
65) o-Xylene	16.430	91	3776	0.03		#	90	0.03
67) Isopropylbenzene	17.012	105	5472	0.03		#	92	0.03
68) n-Propylbenzene	17.515	91	5596	0.03		#	80	0.03
69) 4-Ethyltoluene	17.663	105	4828	0.03		#	57	0.03
70) 1,3,5-Trimethylbenzene	17.743	105	4513	0.03			90	0.03
71) tert-Butylbenzene	18.160	119	4616	0.03		#	72	0.03
72) 1,2,4-Trimethylbenzene	18.157	105	4819	0.03		#	80	0.03
73) 1,3-Dichlorobenzene	18.314	146	1992	0.02		#	73	0.02
74) Benzyl Chloride	18.288	91	2076	0.02		#	58	0.02
75) 1,4-Dichlorobenzene	18.379	146	1142	0.01		#	80	0.01
76) sec-Butylbenzene	18.442	105	6259	0.03		#	81	0.03
77) 1,2,3-Trimethylbenzene	18.601	105	4762	0.04		#	93	0.04
78) 1,2-Dichlorobenzene	18.732	146	817	0.01		#	18	0.01
79) n-Butylbenzene	19.053	91	5115	0.03			98	0.03
80) Bromobenzene	17.092	77	1319	0.02		#	78	0.02
81) 1,2-Dibromo-3-chloropr...	19.203	157	1254	0.03		#	87	0.03
82) Hexachloroethane	19.459	117	975	0.01		#	32	0.01
83) 1,2,4-Trichlorobenzene	20.636	180	1255	0.01		#	85	0.01
84) Naphthalene	20.761	128	6915	0.03			96	0.03
85) 1,2,3-Trichlorobenzene	21.056	180	2300	0.02		#	85	0.02
86) Hexachlorobutadiene	21.173	225	2515	0.02		#	91	0.02
87) 2-Methylnaphthalene	21.980	142	726	0.01		#	1	0.01

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV03.D
Acq On : 31 Oct 2021 05:08 pm
Operator :
Sample : 0.025 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 17:40:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



QC QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	0.025 STD
Inject Time:	10/31/2021 5:08:34 PM
Sample Start:	10/31/2021 4:55:01 PM
Sample End:	10/31/2021 4:55:41 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D8
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	26.8 (25)	5.27	26.46	25.92	1.92	3.07
Calibration Std			0.00				
Sample	41.5 (40)	99 (100)	0.67	38.29	36.61	2.84	3.31
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	105.8 (100)	1.00	24.46	21.79	2.34	3.22
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.60	24.58	24.15	3.17	4.31

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	34 (30)	62 (60)				119 (120)
M2	-46 (-50)	-47 (-50)	-46 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			63 (63)		123 (123)
M3	-1			-167 (-165)	70 (80)	-64
Rot Valve Plate	91/91 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	77 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	50800 (50800)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Operator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane(I)	8.813	130	382612	6.46 ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1429676	6.70 ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	127913	6.67 ppbv	# 0.00
System Monitoring Compounds					
66) 4-Bromofluorobenzene(S)	16.867	75	175607	5.92 ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 88.10%		
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue Raw Result
2) Dichlorodifluoromethane	4.109	85	9302	0.06	# 52 0.06
3) Chloromethane	4.229	50	2648m	0.08	0.08
4) Dichlorotetrafluoroethane	4.334	85	7559m	0.05	0.05
5) Vinyl Chloride	4.433	62	2673m	0.06	0.06
6) 1,3-Butadiene	4.567	54	2285m	0.06	0.06
7) Bromomethane	4.803	94	2359m	0.05	0.05
8) Chloroethane	4.985	64	2106m	0.10	0.10
9) Ethanol	5.093	45	1701m	0.12	0.12
10) Acrolein	5.425	56	1886m	0.11	0.11
11) Trichlorofluoromethane	5.709	101	9119	0.05	# 89 0.05
12) Isopropanol	5.837	45	7258	0.08	# 94 0.08
13) Acetone	5.570	58	3436m	0.09	0.09
14) Acrylonitrile	6.022	53	3134m	0.09	0.09
15) n-Pentane	6.082	43	7161	0.10	# 56 0.10
16) Diethyl Ether	6.138	59	3534m	0.09	0.09
17) 1,1-Dichloroethene	6.383	61	6803m	0.08	0.08
18) t-Butanol	6.502	59	8530	0.08	# 76 0.08
19) Methylene Chloride	6.508	49	8550m	0.15	0.15
20) 1,1,2-Trichlorotrifluo...	6.806	101	9673m	0.07	0.07
21) Carbon Disulfide	6.809	76	14822	0.10	# 81 0.10
22) trans-1,2-Dichloroethene	7.523	61	6712m	0.10	0.10
23) MTBE	7.886	73	12178m	0.09	0.09
24) 1,1-Dichloroethane	7.733	63	8053m	0.09	0.09
25) Vinyl Acetate	7.937	86	1637m	0.15	0.15
26) n-Hexane	8.907	57	6440m	0.08	0.08
27) 2-Butanone	8.236	43	8672m	0.08	0.08
28) cis-1,2-Dichloroethene	8.648	61	5464m	0.08	0.08
29) Chloroform	8.966	83	10337m	0.08	0.08
30) Ethyl Acetate	8.969	61	1180m	0.07	0.07
31) Diisopropyl Ether	8.949	45	13013m	0.09	0.09
32) Tetrahydrofuran	9.478	42	5783m	0.11	0.11
33) ETBE	9.532	59	12801	0.09	# 49 0.09
34) 1,2-Dichloroethane	9.762	62	7076	0.09	# 81 0.09
35) Methylcyclopentane	9.776	56	8461	0.11	# 63 0.11
37) 1,1,1-Trichloroethane	10.035	97	10912m	0.08	0.08
38) Cyclohexane	10.805	56	6265	0.09	# 15 0.09
39) Carbon Tetrachloride	10.680	117	11335	0.07	93 0.07
40) Benzene	10.527	78	14091	0.08	# 86 0.08
41) Dibromomethane	11.336	174	5590	0.05	# 71 0.05
42) n-Heptane	11.987	43	5598	0.07	# 27 0.07
43) 1,2-Dichloropropane	11.396	63	3965m	0.06	0.06
44) Trichloroethene	11.646	95	6497	0.08	# 77 0.08
45) Bromodichloromethane	11.587	83	10989	0.08	# 81 0.08

MH 11-01-21

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Operator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

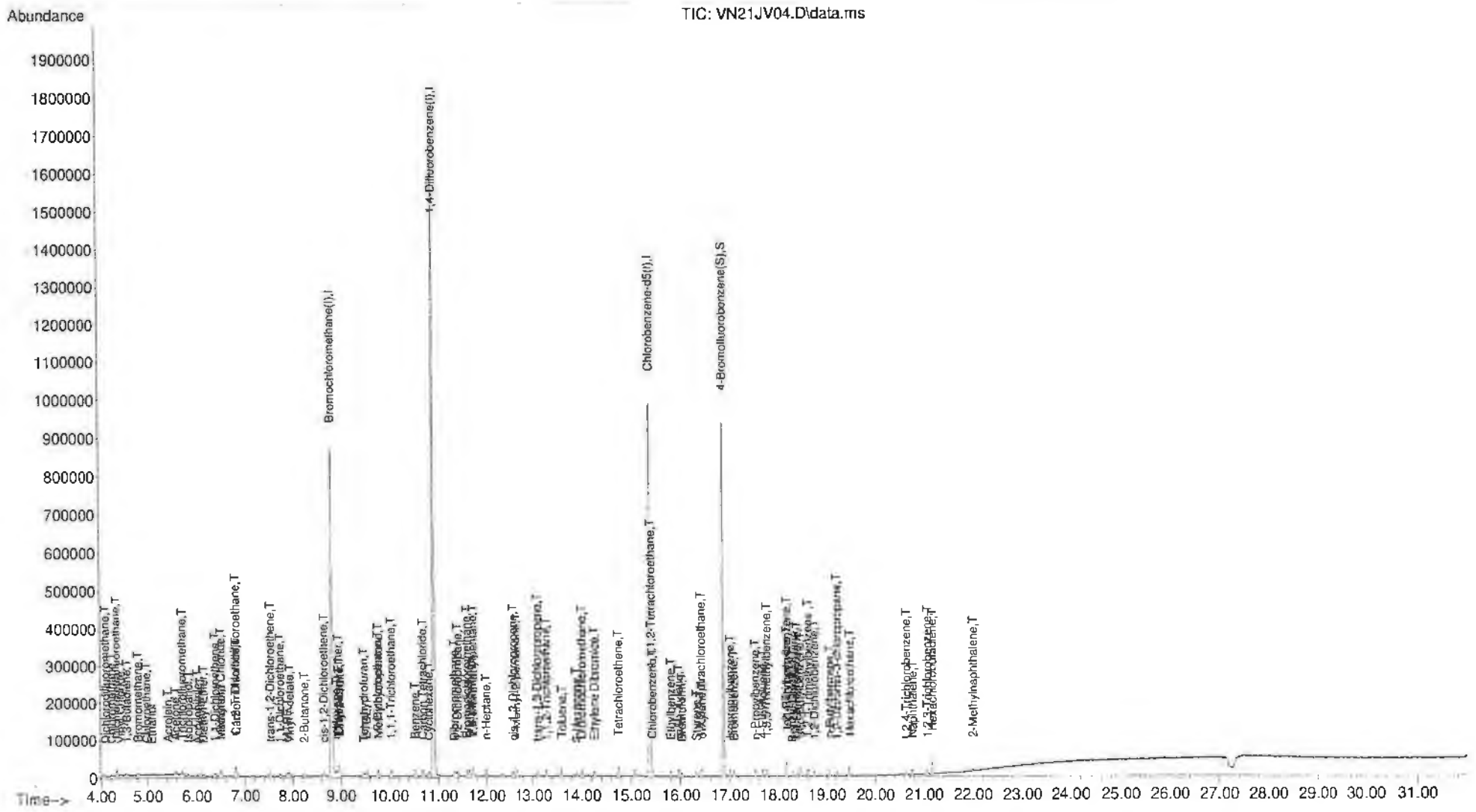
Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.714	88	3077m	0.08				0.08
47) 2,2,4-Trimethylpentane	11.714	57	20259	0.09	#		93	0.09
48) cis-1,3-Dichloropropene	12.556	75	7467	0.08	#		68	0.08
49) 4-Methyl-2-pentanone	12.635	58	3472	0.06	#		70	0.06
50) trans-1,3-Dichloropropene	13.093	75	6431	0.07	#		86	0.07
51) 1,1,1,2-Tetrachloroethane	15.401	131	3399	0.06	#		1	0.06
53) 1,1,2-Trichloroethane	13.275	97	5141	0.06	#		43	0.06
54) Toluene	13.590	91	15469	0.07	#		95	0.07
55) 2-Hexanone	13.891	43	5549	0.04	#		92	0.04
56) Dibromochloromethane	14.005	127	7921	0.05	#		59	0.05
57) Ethylene Dibromide	14.258	107	7666	0.05	#		97	0.05
58) Tetrachloroethene	14.741	166	7364	0.05	#		88	0.05
59) Chlorobenzene	15.426	112	6118	0.06	#		96	0.06
60) Ethylbenzene	15.796	91	10410	0.07	#		90	0.07
61) m&p-Xylene	15.963	106	8040m	0.13				0.13
62) Bromoform	16.023	173	4612	0.04	#		1	0.04
63) Styrene	16.321	104	5300	0.06	#		91	0.06
64) 1,1,2,2-Tetrachloroethane	16.415	83	6110	0.06	#		90	0.06
65) o-Xylene	16.429	91	8875	0.07	#		90	0.07
67) Isopropylbenzene	17.012	105	11698	0.07	#		95	0.07
68) n-Propylbenzene	17.518	91	13411	0.08			94	0.08
69) 4-Ethyltoluene	17.663	105	10189	0.06	#		54	0.06
70) 1,3,5-Trimethylbenzene	17.745	105	9978	0.07			96	0.07
71) tert-Butylbenzene	18.157	119	11399	0.08			93	0.08
72) 1,2,4-Trimethylbenzene	18.160	105	10131	0.07			91	0.07
73) 1,3-Dichlorobenzene	18.314	146	4532	0.05	#		92	0.05
74) Benzyl Chloride	18.288	91	4479	0.04	#		91	0.04
75) 1,4-Dichlorobenzene	18.379	146	3525	0.04	#		88	0.04
76) sec-Butylbenzene	18.439	105	14561	0.07	#		94	0.07
77) 1,2,3-Trimethylbenzene	18.604	105	10738	0.08			93	0.08
78) 1,2-Dichlorobenzene	18.740	146	5046	0.04	#		88	0.04
79) n-Butylbenzene	19.055	91	10714	0.06	#		88	0.06
80) Bromobenzene	17.086	77	5113	0.06	#		77	0.06
81) 1,2-Dibromo-3-chloropr...	19.206	157	2687	0.06	#		77	0.06
82) Hexachloroethane	19.468	117	4538	0.06	#		83	0.06
83) 1,2,4-Trichlorobenzene	20.636	180	2359	0.02	#		84	0.02
84) Naphthalene	20.761	128	9241	0.04	#		91	0.04
85) 1,2,3-Trichlorobenzene	21.062	180	4052	0.04	#		92	0.04
86) Hexachlorobutadiene	21.164	225	5215	0.04			93	0.04
87) 2-Methylnaphthalene	21.997	142	2861m	0.03				0.03

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Operator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Operator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	382612	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1429676	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	127913	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	175607	5.92	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 88.10%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.109	85	9302	0.06	# 52	0.06
3) Chloromethane	4.229	50	1124	0.03	# 90	0.03
4) Dichlorotetrafluoroethane	4.334	85	5285	0.03	# 84	0.03
5) Vinyl Chloride	4.433	62	1592	0.04	# 22	0.04
6) 1,3-Butadiene	4.567	54	775	0.02	# 32	0.02
7) Bromomethane	4.803	94	988	0.02	# 23	0.02
8) Chloroethane	4.959	64	333	0.02	# 40	0.02
9) Ethanol	5.067	45	297	0.02	# 29	0.02
10) Acrolein	5.397	56	441	0.03	95	0.03
11) Trichlorofluoromethane	5.709	101	9119	0.05	# 89	0.05
12) Isopropanol	5.837	45	7258	0.08	# 94	0.08
13) Acetone	5.570	58	2690	0.07	84	0.07
14) Acrylonitrile	5.996	53	1172	0.03	# 63	0.03
15) n-Pentane	6.082	43	7161	0.10	# 56	0.10
16) Diethyl Ether	6.130	59	972	0.02	# 55	0.02
17) 1,1-Dichloroethene	6.369	61	3585	0.04	# 92	0.04
18) t-Butanol	6.502	59	8530	0.08	# 76	0.08
19) Methylene Chloride	6.497	49	2465	0.04	# 48	0.04
20) 1,1,2-Trichlorotrifluo...	6.806	101	8685	0.07	92	0.07
21) Carbon Disulfide	6.809	76	14822	0.10	# 81	0.10
22) trans-1,2-Dichloroethene	7.523	61	4790	0.07	# 71	0.07
23) MTBE	7.886	73	10181	0.08	# 87	0.08
24) 1,1-Dichloroethane	7.733	63	6588	0.08	# 88	0.08
25) Vinyl Acetate	7.923	86	520	0.05	# 1	0.05
26) n-Hexane	8.907	57	6000	0.08	# 1	0.08
27) 2-Butanone	8.236	43	7823	0.07	99	0.07
28) cis-1,2-Dichloroethene	8.648	61	4860	0.08	# 86	0.08
29) Chloroform	8.952	83	3810	0.03	# 47	0.03
30) Ethyl Acetate	8.944	61	205	0.01	# 1	0.01
31) Diisopropyl Ether	8.941	45	4502	0.03	# 20	0.03
32) Tetrahydrofuran	9.469	42	3329	0.06	# 60	0.06
33) ETBE	9.532	59	12801	0.09	# 49	0.09
34) 1,2-Dichloroethane	9.762	62	7076	0.09	# 81	0.09
35) Methylcyclopentane	9.776	56	8461	0.11	# 63	0.11
37) 1,1,1-Trichloroethane	10.035	97	7285	0.05	# 39	0.05
38) Cyclohexane	10.805	56	6265	0.09	# 15	0.09
39) Carbon Tetrachloride	10.680	117	11335	0.07	93	0.07
40) Benzene	10.527	78	14091	0.08	# 86	0.08
41) Dibromomethane	11.336	174	5590	0.05	# 71	0.05
42) n-Heptane	11.987	43	5598	0.07	# 27	0.07
43) 1,2-Dichloropropane	11.396	63	2662	0.04	# 32	0.04
44) Trichloroethene	11.646	95	6497	0.08	# 77	0.08
45) Bromodichloromethane	11.587	83	10989	0.08	# 81	0.08

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Operator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

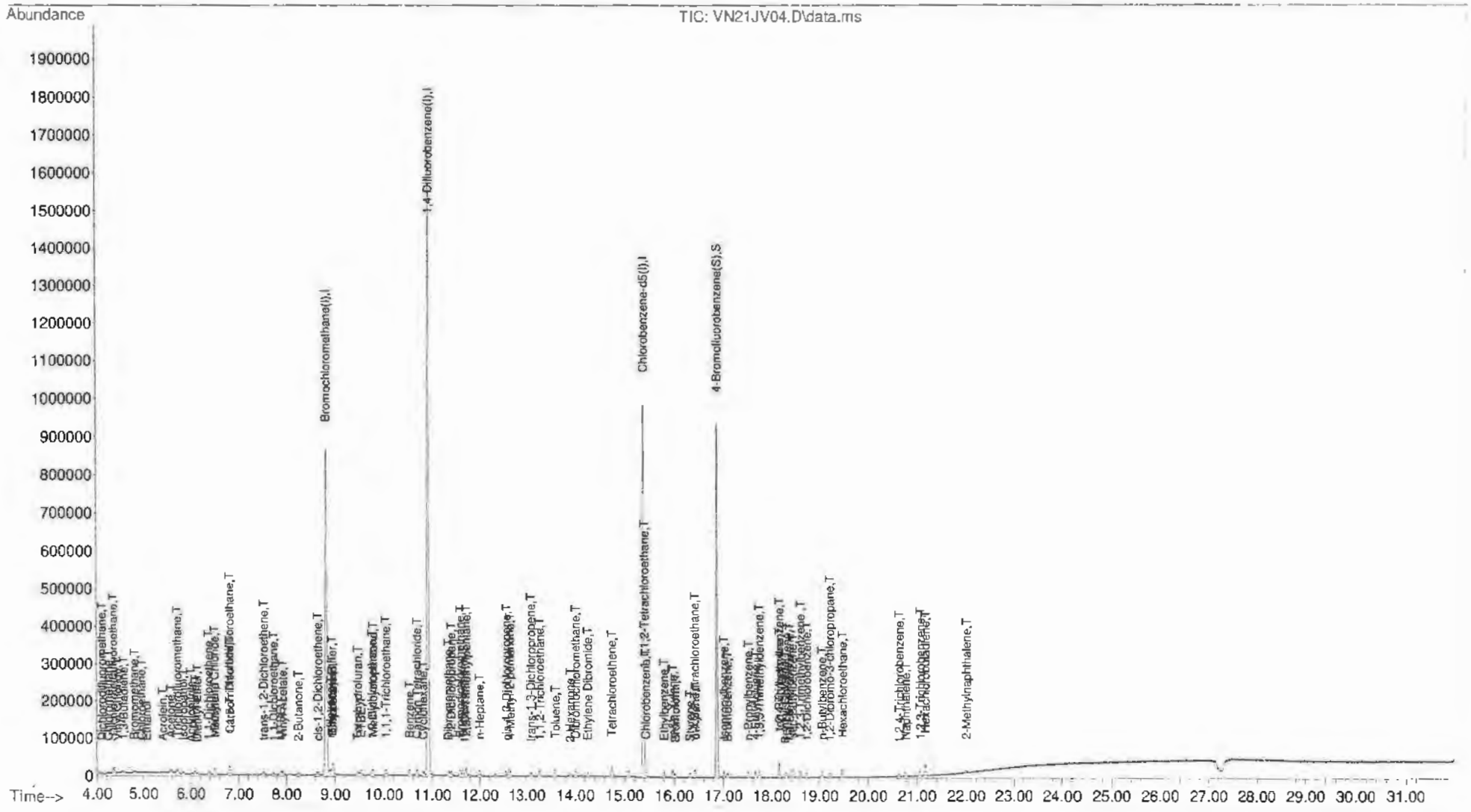
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.683	88	449	0.01	#	1	0.01
47) 2,2,4-Trimethylpentane	11.714	57	20259	0.09	#	93	0.09
48) cis-1,3-Dichloropropene	12.556	75	7467	0.08	#	68	0.08
49) 4-Methyl-2-pentanone	12.635	58	3472	0.06	#	70	0.06
50) trans-1,3-Oichloropropene	13.093	75	6431	0.07	#	86	0.07
51) 1,1,1,2-Tetrachloroethane	15.401	131	3399	0.06	#	1	0.06
53) 1,1,2-Trichloroethane	13.275	97	5141	0.06	#	43	0.06
54) Toluene	13.590	91	15469	0.07	#	95	0.07
55) 2-Hexanone	13.891	43	5549	0.04	#	92	0.04
56) Dibromochloromethane	14.005	127	7921	0.05	#	59	0.05
57) Ethylene Dibromide	14.258	107	7666	0.05	#	97	0.05
58) Tetrachloroethene	14.741	166	7364	0.05	#	88	0.05
59) Chlorobenzene	15.426	112	6118	0.06	#	96	0.06
60) Ethylbenzene	15.796	91	10410	0.07	#	90	0.07
61) m&p-Xylene	15.975	106	4343	0.07	#	1	0.07
62) Bromoform	16.023	173	4612	0.04	#	1	0.04
63) Styrene	16.321	104	5300	0.06	#	91	0.06
64) 1,1,2,2-Tetrachloroethane	16.415	83	6110	0.06	#	90	0.06
65) o-Xylene	16.429	91	8875	0.07	#	90	0.07
67) Isopropylbenzene	17.012	105	11698	0.07	#	95	0.07
68) n-Propylbenzene	17.518	91	13411	0.08		94	0.08
69) 4-Ethyltoluene	17.663	105	10189	0.06	#	54	0.06
70) 1,3,5-Trimethylbenzene	17.745	105	9978	0.07		96	0.07
71) tert-Butylbenzene	18.157	119	11399	0.08		93	0.08
72) 1,2,4-Trimethylbenzene	18.160	105	10131	0.07		91	0.07
73) 1,3-Dichlorobenzene	18.314	146	4532	0.05	#	92	0.05
74) Benzyl Chloride	18.288	91	4479	0.04	#	91	0.04
75) 1,4-Dichlorobenzene	18.379	146	3525	0.04	#	88	0.04
76) sec-Butylbenzene	18.439	105	14561	0.07	#	94	0.07
77) 1,2,3-Trimethylbenzene	18.604	105	10738	0.08		93	0.08
78) 1,2-Dichlorobenzene	18.740	146	5046	0.04	#	88	0.04
79) n-Butylbenzene	19.055	91	10714	0.06	#	88	0.06
80) Bromobenzene	17.086	77	5113	0.06	#	77	0.06
81) 1,2-Dibromo-3-chloropr...	19.206	157	2687	0.06	#	77	0.06
82) Hexachloroethane	19.468	117	4538	0.06	#	83	0.06
83) 1,2,4-Trichlorobenzene	20.636	180	2359	0.02	#	84	0.02
84) Naphthalene	20.761	128	9241	0.04	#	91	0.04
85) 1,2,3-Trichlorobenzene	21.062	180	4052	0.04	#	92	0.04
86) Hexachlorobutadiene	21.164	225	5215	0.04		93	0.04
87) 2-Methylnaphthalene	21.997	142	1565	0.01	#	46	0.01

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV04.D
Acq On : 31 Oct 2021 05:56 pm
Dperator :
Sample : 0.063 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 18:28:18 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



3 of 90 QC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	0.0625 STD
Inject Time:	10/31/2021 5:56:05 PM
Sample Start:	10/31/2021 5:41:57 PM
Sample End:	10/31/2021 5:43:15 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D8
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.28	26.27	25.71	1.92	3.07
Calibration Std			0.00				
Sample	100.9 (100)	111.6 (100)	1.28	37.95	36.06	2.84	3.99
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	101.1 (100)	1.00	24.48	21.86	2.72	3.59
M1/ M2 Transfer	100.6 (100)	20.5 (20)	5.60	24.61	24.19	3.54	4.68

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				120 (120)
M1 BulkHead	33 (30)	62 (60)				122 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	227 (230)		210 (210)
M2 Bulk Head	31 (31)			62 (62)		119 (119)
M3	-1			-180 (-165)	70 (80)	-72
Rot Valve Plate	92/90 (90)					92/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	77 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	50799 (50800)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.816	130	377022	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1463148	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	129941	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.870	75	183458m	6.09	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 90.63%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	13778	0.09	# 94	0.09
3) Chloromethane	4.240	50	3816	0.11	# 67	0.11
4) Dichlorotetrafluoroethane	4.337	85	11686	0.07	# 82	0.07
5) Vinyl Chloride	4.442	62	4929	0.11	# 90	0.11
6) 1,3-Butadiene	4.567	54	3348m	0.08		0.08
7) Bromomethane	4.803	94	3937m	0.09		0.09
8) Chloroethane	4.967	64	2850m	0.14		0.14
9) Ethanol	5.078	45	2321m	0.17		0.17
10) Acrolein	5.408	56	3551m	0.22		0.22
11) Trichlorofluoromethane	5.698	101	11208	0.06	# 36	0.06
12) Isopropanol	5.829	45	11656m	0.14		0.14
13) Acetone	5.581	58	5535m	0.14		0.14
14) Acrylonitrile	6.016	53	5196m	0.15		0.15
15) n-Pentane	6.079	43	9383	0.13	# 96	0.13
16) Diethyl Ether	6.136	59	5352	0.13	# 67	0.13
17) 1,1-Dichloroethene	6.366	61	10562	0.13	# 61	0.13
18) t-Butanol	6.505	59	14459	0.15	# 84	0.15
19) Methylene Chloride	6.485	49	11265	0.20	# 20	0.20
20) 1,1,2-Trichlorotrifluo...	6.809	101	13097m	0.10		0.10
21) Carbon Disulfide	6.809	76	22396	0.15	# 87	0.15
22) trans-1,2-Dichloroethene	7.531	61	10100	0.15	# 77	0.15
23) MTBE	7.878	73	19676	0.15	# 59	0.15
24) 1,1-Dichloroethane	7.736	63	12181m	0.14		0.14
25) Vinyl Acetate	7.935	86	2285m	0.22		0.22
26) n-Hexane	8.906	57	9681	0.12	# 1	0.12
27) 2-Butanone	8.222	43	12866	0.12	# 69	0.12
28) cis-1,2-Dichloroethene	8.639	61	9101	0.14	# 65	0.14
29) Chloroform	8.958	83	16012	0.13	97	0.13
30) Ethyl Acetate	8.963	61	2052m	0.13		0.13
31) Diisopropyl Ether	8.946	45	20638	0.15	# 72	0.15
32) Tetrahydrofuran	9.466	42	9079	0.18	# 65	0.18
33) ETBE	9.532	59	18607	0.13	# 58	0.13
34) 1,2-Dichloroethane	9.759	62	10915	0.14	# 87	0.14
35) Methylcyclopentane	9.782	56	13335	0.17	# 50	0.17
37) 1,1,1-Trichloroethane	10.029	97	15597	0.11	# 46	0.11
38) Cyclohexane	10.822	56	9428	0.13	90	0.13
39) Carbon Tetrachloride	10.686	117	17120	0.10	99	0.10
40) Benzene	10.515	78	21287	0.12	# 87	0.12
41) Dibromomethane	11.339	174	8586m	0.08		0.08
42) n-Heptane	11.987	43	9914	0.11	# 57	0.11
43) 1,2-Dichloropropane	11.382	63	6584	0.10	# 79	0.10
44) Trichloroethene	11.638	95	10122	0.12	# 71	0.12
45) Bromodichloromethane	11.584	83	16326	0.11	# 72	0.11

B

OH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

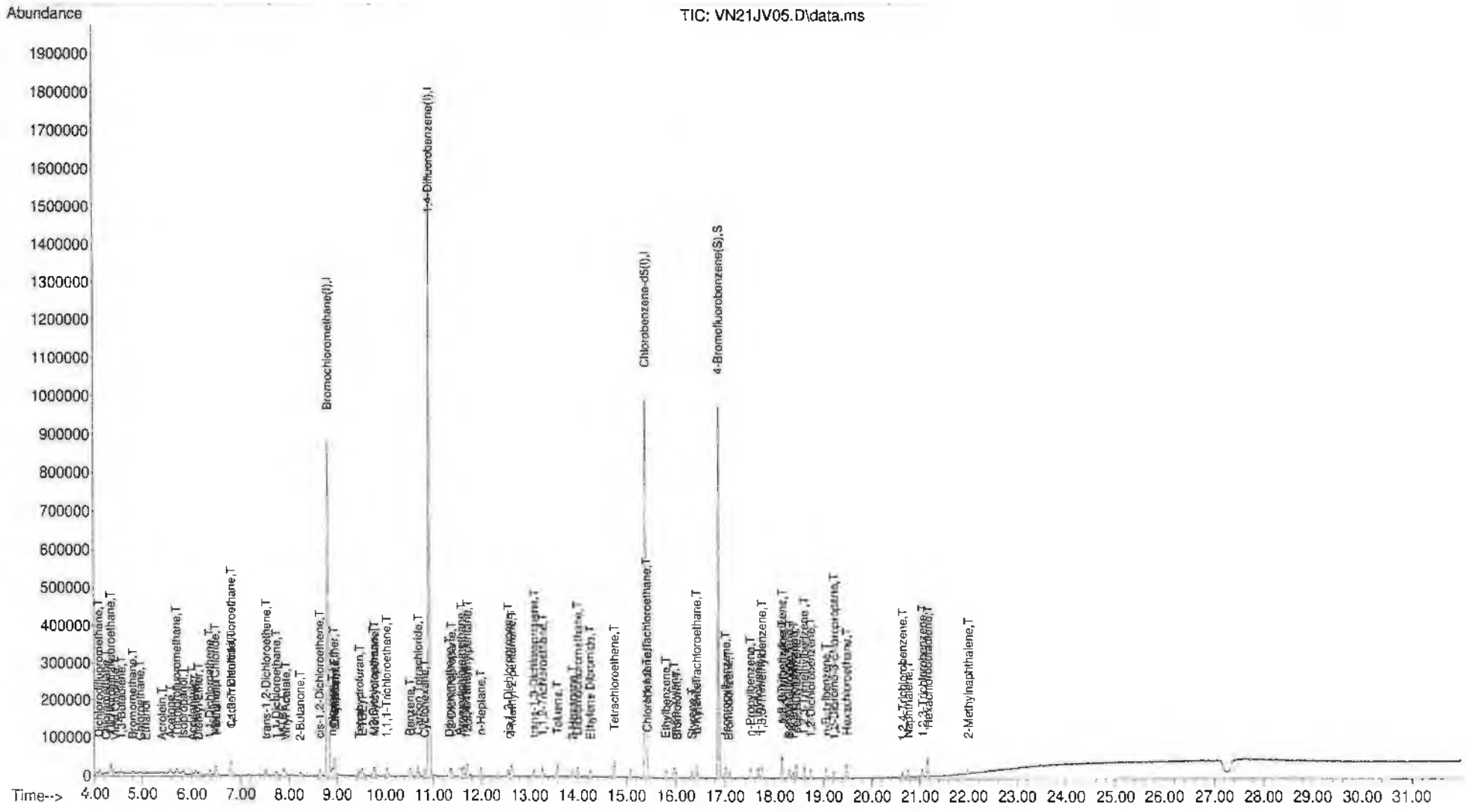
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.686	88	4591m	0.12				0.12
47) 2,2,4-Trimethylpentane	11.709	57	30005	0.13			98	0.13
48) cis-1,3-Dichloropropene	12.553	75	12145	0.12		#	83	0.12
49) 4-Methyl-2-pentanone	12.632	58	6046m	0.10				0.10
50) trans-1,3-Dichloropropene	13.101	75	10027	0.10		#	89	0.10
51) 1,1,1,2-Tetrachloroethane	15.406	131	5399	0.09		#	23	0.09
53) 1,1,2-Trichloroethane	13.283	97	8168	0.10			98	0.10
54) Toluene	13.582	91	25900	0.11			98	0.11
55) 2-Hexanone	13.897	43	10967	0.08		#	98	0.08
56) Dibromochloromethane	14.005	127	12112	0.07			96	0.07
57) Ethylene Dibromide	14.255	107	12728	0.09		#	97	0.09
58) Tetrachloroethene	14.744	166	12033	0.08		#	84	0.08
59) Chlorobenzene	15.418	112	9815	0.09			92	0.09
60) Ethylbenzene	15.796	91	15445	0.11		#	95	0.11
61) m&p-Xylene	15.975	106	11971	0.19		#	86	0.19
62) Bromoform	16.023	173	7546	0.07		#	49	0.07
63) Styrene	16.324	104	8263	0.09		#	93	0.09
64) 1,1,2,2-Tetrachloroethane	16.415	83	9572	0.09			99	0.09
65) o-Xylene	16.426	91	13300	0.11		#	97	0.11
67) Isopropylbenzene	17.015	105	18288	0.11		#	97	0.11
68) n-Propylbenzene	17.515	91	21909	0.12			94	0.12
69) 4-Ethyltoluene	17.663	105	16864	0.10		#	91	0.10
70) 1,3,5-Trimethylbenzene	17.739	105	16798	0.11			92	0.11
71) tert-Butylbenzene	18.157	119	17605	0.12			95	0.12
72) 1,2,4-Trimethylbenzene	18.154	105	14867	0.10		#	92	0.10
73) 1,3-Dichlorobenzene	18.308	146	7223	0.07		#	88	0.07
74) Benzyl Chloride	18.297	91	8650	0.08		#	90	0.08
75) 1,4-Dichlorobenzene	18.385	146	6392	0.06		#	87	0.06
76) sec-Butylbenzene	18.441	105	23150	0.12		#	96	0.12
77) 1,2,3-Trimethylbenzene	18.598	105	15910	0.12		#	94	0.12
78) 1,2-Dichlorobenzene	18.740	146	8763	0.07		#	87	0.07
79) n-Butylbenzene	19.052	91	16558	0.10			97	0.10
80) Bromobenzene	17.077	77	8379	0.10		#	72	0.10
81) 1,2-Dibromo-3-chloropr...	19.209	157	5164	0.11		#	79	0.11
82) Hexachloroethane	19.470	117	7127	0.09		#	84	0.09
83) 1,2,4-Trichlorobenzene	20.638	180	3878	0.04		#	93	0.04
84) Naphthalene	20.758	128	15042	0.07		#	79	0.07
85) 1,2,3-Trichlorobenzene	21.056	180	6523	0.07		#	84	0.07
86) Hexachlorobutadiene	21.175	225	8069	0.06			94	0.06
87) 2-Methylnaphthalene	21.994	142	4625	0.04		#	92	0.04

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



VN400B72.M Mon Nov 01 10:10:57 2021

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.816	130	377022	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1463148	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	129941	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.938	75	241	0.01	ppbv	0.07
Spiked Amount 6.720	Range 80 - 120		Recovery = 0.15%#			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	13778	0.09	# 94	0.09
3) Chloromethane	4.240	50	3816	0.11	# 67	0.11
4) Dichlorotetrafluoroethane	4.337	85	11686	0.07	# 82	0.07
5) Vinyl Chloride	4.442	62	4929	0.11	# 90	0.11
6) 1,3-Butadiene	4.567	54	1927	0.05	# 12	0.05
7) Bromomethane	4.803	94	2578	0.06	# 76	0.06
8) Chloroethane	4.967	64	1465	0.07	# 72	0.07
9) Ethanol	5.095	45	1363	0.10	# 65	0.10
10) Acrolein	5.397	56	559	0.03	99	0.03
11) Trichlorofluoromethane	5.698	101	11208	0.06	# 36	0.06
12) Isopropanol	5.786	45	338	0.00	# 1	0.00
13) Acetone	5.570	58	3108	0.08	# 54	0.08
14) Acrylonitrile	6.005	53	2552	0.07	# 15	0.07
15) n-Pentane	6.079	43	9383	0.13	# 96	0.13
16) Diethyl Ether	6.136	59	5352	0.13	# 67	0.13
17) 1,1-Dichloroethene	6.366	61	10562	0.13	# 61	0.13
18) t-Butanol	6.505	59	14459	0.15	# 84	0.15
19) Methylene Chloride	6.485	49	11265	0.20	# 20	0.20
20) 1,1,2-Trichlorotrifluo...	6.809	101	12195	0.10	# 71	0.10
21) Carbon Disulfide	6.809	76	22396	0.15	# 87	0.15
22) trans-1,2-Dichloroethene	7.531	61	10100	0.15	# 77	0.15
23) MTBE	7.878	73	19676	0.15	# 59	0.15
24) 1,1-Dichloroethane	7.736	63	9008	0.11	# 52	0.11
25) Vinyl Acetate	7.935	86	1206	0.12	# 44	0.12
26) n-Hexane	8.906	57	9681	0.12	# 1	0.12
27) 2-Butanone	8.222	43	12866	0.12	# 69	0.12
28) cis-1,2-Dichloroethene	8.639	61	9101	0.14	# 65	0.14
29) Chloroform	8.958	83	16012	0.13	97	0.13
30) Ethyl Acetate	8.943	61	701	0.04	# 1	0.04
31) Diisopropyl Ether	8.946	45	20638	0.15	# 72	0.15
32) Tetrahydrofuran	9.466	42	9079	0.18	# 65	0.18
33) ETBE	9.532	59	18607	0.13	# 58	0.13
34) 1,2-Dichloroethane	9.759	62	10915	0.14	# 87	0.14
35) Methylcyclopentane	9.782	56	13335	0.17	# 50	0.17
37) 1,1,1-Trichloroethane	10.029	97	15597	0.11	# 46	0.11
38) Cyclohexane	10.822	56	9428	0.13	90	0.13
39) Carbon Tetrachloride	10.686	117	17120	0.10	99	0.10
40) Benzene	10.515	78	21287	0.12	# 87	0.12
41) Dibromomethane	11.339	174	7315	0.07	93	0.07
42) n-Heptane	11.987	43	9914	0.11	# 57	0.11
43) 1,2-Dichloropropane	11.382	63	6584	0.10	# 79	0.10
44) Trichloroethene	11.638	95	10122	0.12	# 71	0.12
45) Bromodichloromethane	11.584	83	16326	0.11	# 72	0.11

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

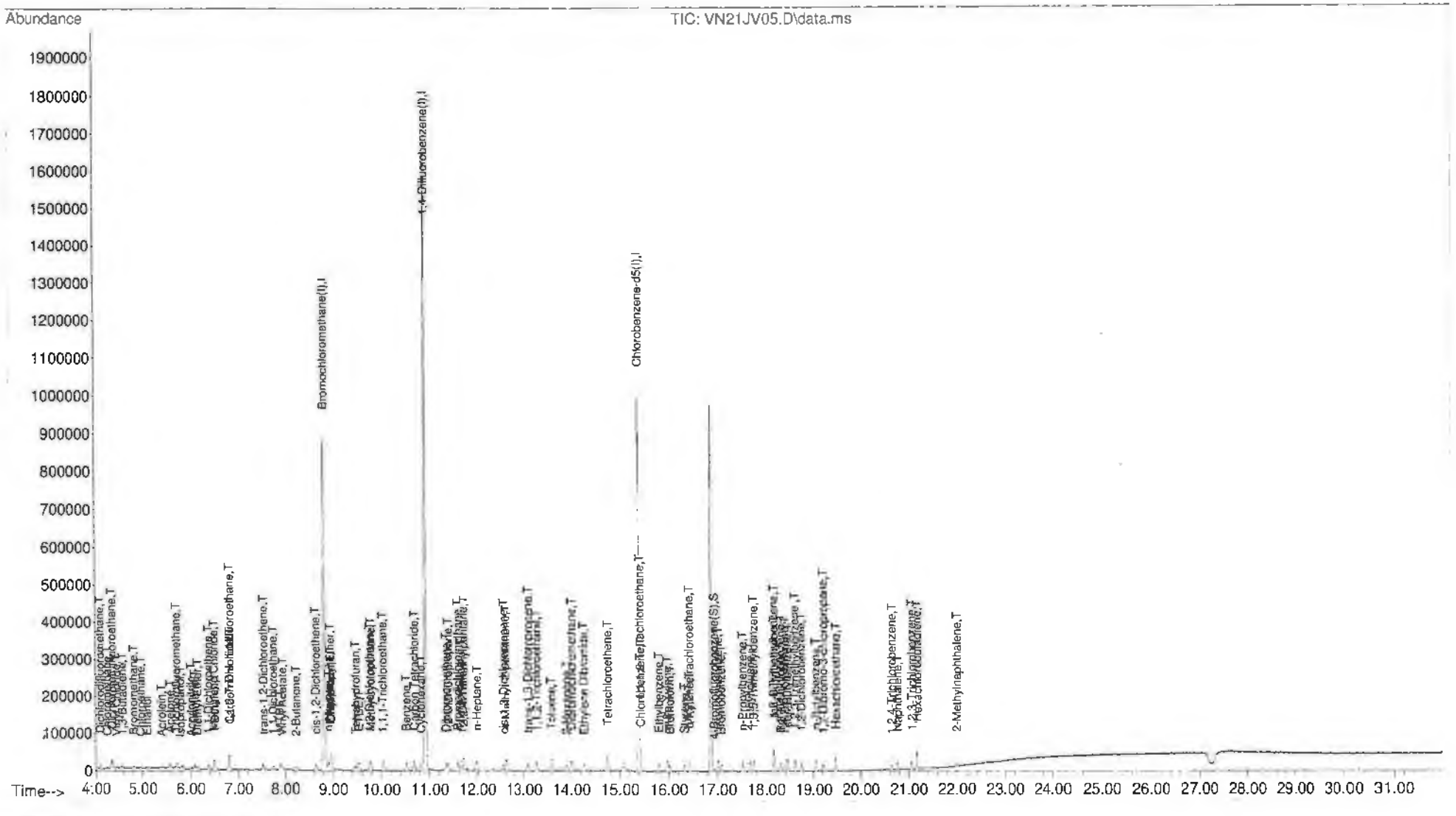
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.686	88	1511	0.04		#	33	0.04
47) 2,2,4-Trimethylpentane	11.709	57	30005	0.13			98	0.13
48) cis-1,3-Dichloropropene	12.553	75	12145	0.12		#	83	0.12
49) 4-Methyl-2-pentanone	12.604	58	270	0.00		#	1	0.00
50) trans-1,3-Dichloropropene	13.101	75	10027	0.10		#	89	0.10
51) 1,1,1,2-Tetrachloroethane	15.406	131	5399	0.09		#	23	0.09
53) 1,1,2-Trichloroethane	13.283	97	8168	0.10			98	0.10
54) Toluene	13.582	91	25900	0.11			98	0.11
55) 2-Hexanone	13.897	43	10967	0.08		#	98	0.08
56) Oibromochloromethane	14.005	127	12112	0.07			96	0.07
57) Ethylene Dibromide	14.255	107	12728	0.09		#	97	0.09
58) Tetrachloroethene	14.744	166	12033	0.08		#	84	0.08
59) Chlorobenzene	15.418	112	9815	0.09			92	0.09
60) Ethylbenzene	15.796	91	15445	0.11		#	95	0.11
61) m&p-Xylene	15.975	106	11971	0.19		#	86	0.19
62) Bromoform	16.023	173	7546	0.07		#	49	0.07
63) Styrene	16.324	104	8263	0.09		#	93	0.09
64) 1,1,2,2-Tetrachloroethane	16.415	83	9572	0.09			99	0.09
65) o-Xylene	16.426	91	13300	0.11		#	97	0.11
67) Isopropylbenzene	17.015	105	18288	0.11		#	97	0.11
68) n-Propylbenzene	17.515	91	21909	0.12			94	0.12
69) 4-Ethyltoluene	17.663	105	16864	0.10		#	91	0.10
70) 1,3,5-Trimethylbenzene	17.739	105	16798	0.11			92	0.11
71) tert-Butylbenzene	18.157	119	17605	0.12			95	0.12
72) 1,2,4-Trimethylbenzene	18.154	105	14867	0.10		#	92	0.10
73) 1,3-Dichlorobenzene	18.308	146	7223	0.07		#	88	0.07
74) Benzyl Chloride	18.297	91	8650	0.08		#	90	0.08
75) 1,4-Dichlorobenzene	18.385	146	6392	0.06		#	87	0.06
76) sec-Butylbenzene	18.441	105	23150	0.12		#	96	0.12
77) 1,2,3-Trimethylbenzene	18.598	105	15910	0.12		#	94	0.12
78) 1,2-Dichlorobenzene	18.740	146	8763	0.07		#	87	0.07
79) n-Butylbenzene	19.052	91	16558	0.10			97	0.10
80) Bromobenzene	17.077	77	8379	0.10		#	72	0.10
81) 1,2-Dibromo-3-chloropr...	19.209	157	5164	0.11		#	79	0.11
82) Hexachloroethane	19.470	117	7127	0.09		#	84	0.09
83) 1,2,4-Trichlorobenzene	20.638	180	3878	0.04		#	93	0.04
84) Naphthalene	20.758	128	15042	0.07		#	79	0.07
85) 1,2,3-Trichiorobenzene	21.056	180	6523	0.07		#	84	0.07
86) Hexachlorobutadiene	21.175	225	8069	0.06			94	0.06
87) 2-Methylnaphthalene	21.994	142	4625	0.04		#	92	0.04

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV05.D
Acq On : 31 Oct 2021 06:43 pm
Operator :
Sample : 0.1 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 19:16:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	0.1 STD
Inject Time:	10/31/2021 6:43:56 PM
Sample Start:	10/31/2021 6:29:31 PM
Sample End:	10/31/2021 6:31:27 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D8
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	24.8 (25)	5.30	26.07	25.48	1.95	3.09
Calibration Std			0.00				
Sample	161 (160)	101.1 (100)	1.92	37.46	35.52	2.82	4.65
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	107.9 (100)	0.98	24.51	21.94	3.1	3.97
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.58	24.63	24.23	3.9	5.04

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-47 (-50)	-46 (-50)	-47 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		120 (120)
M3	-2			-175 (-165)	70 (80)	-64
Rot Valve Plate	91/92 (90)					91/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	88 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	91 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	50800 (50800)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21031A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	379745	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1459773	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	129522	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	185412	6.17	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 91.82%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	37201	0.25	95	0.25
3) Chloromethane	4.229	50	7964m	0.24		0.24
4) Dichlorotetrafluoroethane	4.328	85	28447	0.18	# 86	0.18
5) Vinyl Chloride	4.436	62	10464	0.24	# 76	0.24
6) 1,3-Butadiene	4.555	54	7515	0.19	# 17	0.19
7) Bromomethane	4.797	94	9387	0.21	# 83	0.21
8) Chloroethane	4.973	64	5924m	0.29		0.29
9) Ethanol	5.084	45	4895m	0.36		0.36
10) Acrolein	5.402	56	5043m	0.30		0.30
11) Trichlorofluoromethane	5.712	101	28475	0.15	# 92	0.15
12) Isopropanol	5.823	45	25683	0.30	# 61	0.30
13) Acetone	5.561	58	13382	0.35	# 55	0.35
14) Acrylonitrile	6.008	53	11762	0.33	# 99	0.33
15) n-Pentane	6.073	43	23258m	0.31		0.31
16) Diethyl Ether	6.133	59	13219	0.33	# 59	0.33
17) 1,1-Dichloroethene	6.377	61	27362	0.32	92	0.32
18) t-Butanol	6.488	59	35576	0.36	# 99	0.36
19) Methylene Chloride	6.491	49	24188	0.42	# 80	0.42
20) 1,1,2-Trichlorotrifluo...	6.803	101	36363	0.28	# 85	0.28
21) Carbon Disulfide	6.806	76	50382	0.33	98	0.33
22) trans-1,2-Dichloroethene	7.514	61	23354	0.34	# 87	0.34
23) MTBE	7.869	73	48447	0.37	# 83	0.37
24) 1,1-Dichloroethane	7.736	63	30270	0.35	# 94	0.35
25) Vinyl Acetate	7.912	86	5402m	0.51		0.51
26) n-Hexane	8.904	57	24062	0.30	# 1	0.30
27) 2-Butanone	8.216	43	31731	0.29	93	0.29
28) cis-1,2-Dichloroethene	8.639	61	22670	0.35	90	0.35
29) Chloroform	8.958	83	39141	0.32	99	0.32
30) Ethyl Acetate	8.952	61	4781m	0.29		0.29
31) Diisopropyl Ether	8.941	45	50171	0.35	91	0.35
32) Tetrahydrofuran	9.458	42	20726	0.40	91	0.40
33) ETBE	9.515	59	51411	0.37	96	0.37
34) 1,2-Dichloroethane	9.756	62	25167	0.33	# 88	0.33
35) Methylcyclopentane	9.782	56	29102	0.37	# 46	0.37
37) 1,1,1-Trichloroethane	10.032	97	41925	0.28	97	0.28
38) Cyclohexane	10.816	56	23193	0.33	# 88	0.33
39) Carbon Tetrachloride	10.680	117	43409	0.27	# 93	0.27
40) Benzene	10.521	78	52710	0.31	97	0.31
41) Dibromomethane	11.345	174	20512	0.18	98	0.18
42) n-Heptane	11.987	43	22312	0.26	95	0.26
43) 1,2-Dichloropropane	11.390	63	17895	0.29	# 94	0.29
44) Trichloroethene	11.640	95	24295	0.28	86	0.28
45) Bromodichloromethane	11.584	83	39878	0.28	# 95	0.28

OH 11-01-21

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

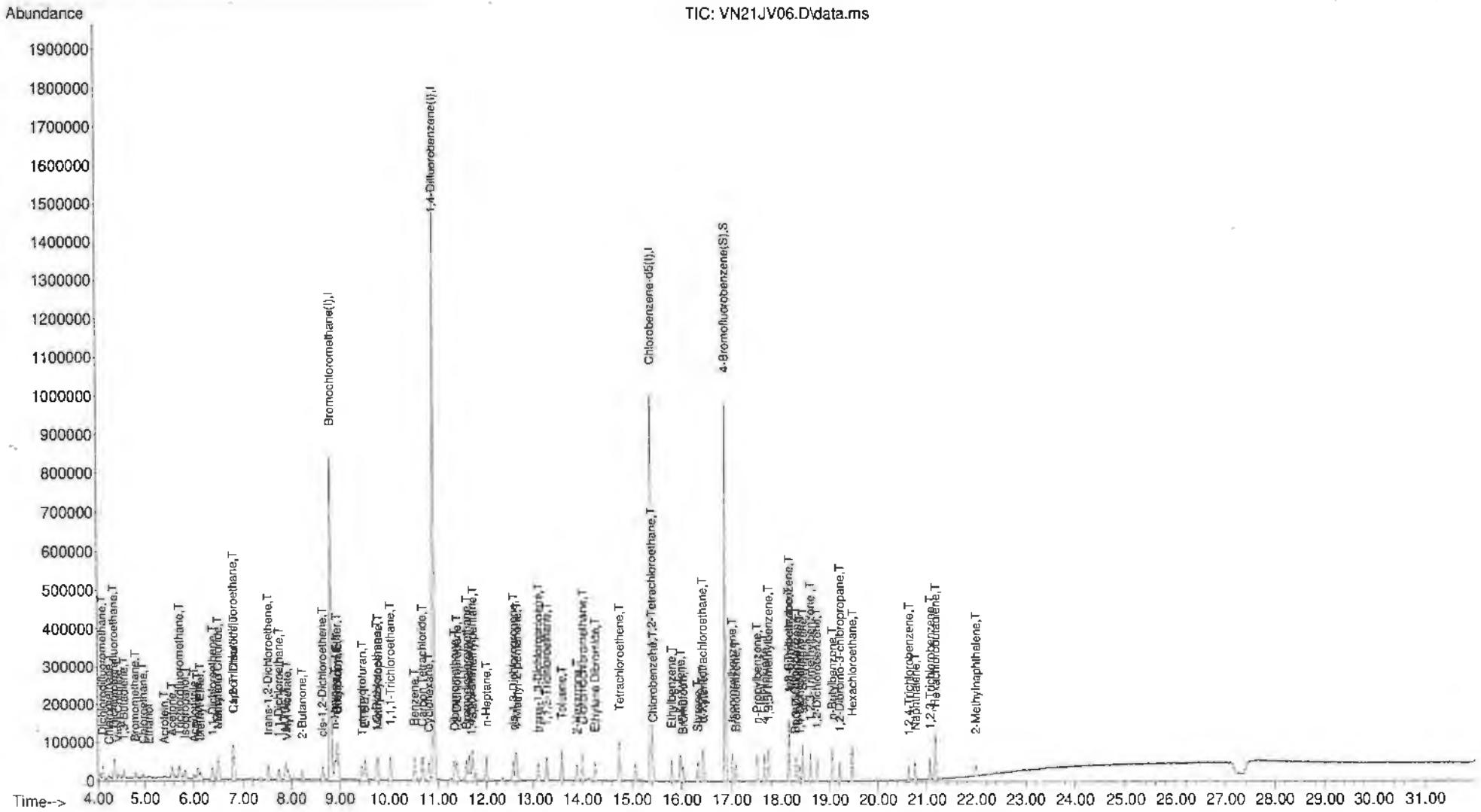
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.686	88	12044m	0.31				0.31
47) 2,2,4-Trimethylpentane	11.709	57	74275	0.32			96	0.32
48) cis-1,3-Dichloropropene	12.550	75	29587	0.30			94	0.30
49) 4-Methyl-2-pentanone	12.635	58	14367	0.24		#	1	0.24
50) trans-1,3-Dichloropropene	13.104	75	26518	0.27			96	0.27
51) 1,1,1,2-Tetrachloroethane	15.400	131	14154	0.23		#	1	0.23
53) 1,1,2-Trichloroethane	13.280	97	21652	0.26			94	0.26
54) Toluene	13.584	91	62696	0.27			97	0.27
55) 2-Hexanone	13.889	43	26507	0.18		#	91	0.18
56) Dibromochloromethane	14.008	127	29604	0.18			99	0.18
57) Ethylene Dibromide	14.264	107	31719	0.22		#	97	0.22
58) Tetrachloroethene	14.750	166	29247	0.19		#	90	0.19
59) Chlorobenzene	15.420	112	24774	0.22		#	90	0.22
60) Ethylbenzene	15.798	91	40430	0.28		#	94	0.28
61) m&p-Xylene	15.977	106	31241	0.50		#	90	0.50
62) Bromoform	16.023	173	18457	0.17		#	42	0.17
63) Styrene	16.318	104	21892	0.24		#	92	0.24
64) 1,1,2,2-Tetrachloroethane	16.412	83	24379	0.24			98	0.24
65) o-Xylene	16.429	91	36126	0.30			92	0.30
67) Isopropylbenzene	17.012	105	48273	0.29			96	0.29
68) n-Propylbenzene	17.518	91	53853	0.30			96	0.30
69) 4-Ethyltoluene	17.663	105	42397	0.25		#	93	0.25
70) 1,3,5-Trimethylbenzene	17.742	105	42268	0.28			95	0.28
71) tert-Butylbenzene	18.160	119	45657	0.30			94	0.30
72) 1,2,4-Trimethylbenzene	18.157	105	40358	0.27			93	0.27
73) 1,3-Dichlorobenzene	18.308	146	18798	0.19		#	87	0.19
74) Benzyl Chloride	18.291	91	22320	0.20		#	65	0.20
75) 1,4-Dichlorobenzene	18.382	146	14957	0.15		#	92	0.15
76) sec-Butylbenzene	18.441	105	59923	0.30		#	96	0.30
77) 1,2,3-Trimethylbenzene	18.601	105	41198	0.32		#	93	0.32
78) 1,2-Dichlorobenzene	18.737	146	21411	0.18		#	92	0.18
79) n-Butylbenzene	19.055	91	41031	0.24			97	0.24
80) Bromobenzene	17.086	77	20556	0.25		#	75	0.25
81) 1,2-Dibromo-3-chloropr...	19.209	157	12289	0.26		#	83	0.26
82) Hexachloroethane	19.467	117	18270	0.22		#	86	0.22
83) 1,2,4-Trichlorobenzene	20.635	180	9391	0.09		#	97	0.09
84) Naphthalene	20.763	128	33913	0.16		#	97	0.16
85) 1,2,3-Trichlorobenzene	21.062	180	14132	0.15		#	95	0.15
86) Hexachlorobutadiene	21.173	225	19039	0.14			97	0.14
87) 2-Methylnaphthalene	21.988	142	12609	0.11			93	0.11

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	379745	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1459773	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	129522	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	185412	6.17	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 91.82%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	37201	0.25	95	0.25
3) Chloromethane	4.237	50	4906	0.15	# 78	0.15
4) Dichlorotetrafluoroethane	4.328	85	28447	0.18	# 86	0.18
5) Vinyl Chloride	4.436	62	10464	0.24	# 76	0.24
6) 1,3-Butadiene	4.555	54	7515	0.19	# 17	0.19
7) Bromomethane	4.797	94	9387	0.21	# 83	0.21
8) Chloroethane	4.973	64	1777	0.09	# 57	0.09
9) Ethanol	5.084	45	4307	0.31	# 87	0.31
10) Acrolein	5.365	56	406	0.02	97	0.02
11) Trichlorofluoromethane	5.712	101	28475	0.15	# 92	0.15
12) Isopropanol	5.823	45	25683	0.30	# 61	0.30
13) Acetone	5.561	58	13382	0.35	# 55	0.35
14) Acrylonitrile	6.008	53	11762	0.33	# 99	0.33
15) n-Pentane	6.073	43	26507	0.35	# 95	0.35
16) Diethyl Ether	6.133	59	13219	0.33	# 59	0.33
17) 1,1-Dichloroethene	6.377	61	27362	0.32	92	0.32
18) t-Butanol	6.488	59	35576	0.36	# 99	0.36
19) Methylene Chloride	6.491	49	24188	0.42	# 80	0.42
20) 1,1,2-Trichlorotrifluo...	6.803	101	36363	0.28	# 85	0.28
21) Carbon Disulfide	6.806	76	50382	0.33	98	0.33
22) trans-1,2-Dichloroethene	7.514	61	23354	0.34	# 87	0.34
23) MTBE	7.869	73	48447	0.37	# 83	0.37
24) 1,1-Dichloroethane	7.736	63	30270	0.35	# 94	0.35
25) Vinyl Acetate	7.929	86	2133	0.20	# 1	0.20
26) n-Hexane	8.904	57	24062	0.30	# 1	0.30
27) 2-Butanone	8.216	43	31731	0.29	93	0.29
28) cis-1,2-Dichloroethene	8.639	61	22670	0.35	90	0.35
29) Chloroform	8.958	83	39141	0.32	99	0.32
30) Ethyl Acetate	8.943	61	2671	0.16	# 1	0.16
31) Diisopropyl Ether	8.941	45	50171	0.35	91	0.35
32) Tetrahydrofuran	9.458	42	20726	0.40	91	0.40
33) ETBE	9.515	59	51411	0.37	96	0.37
34) 1,2-Dichloroethane	9.756	62	25167	0.33	# 88	0.33
35) Methylcyclopentane	9.782	56	29102	0.37	# 46	0.37
37) 1,1,1-Trichloroethane	10.032	97	41925	0.28	97	0.28
38) Cyclohexane	10.816	56	23193	0.33	# 88	0.33
39) Carbon Tetrachloride	10.680	117	43409	0.27	# 93	0.27
40) Benzene	10.521	78	52710	0.31	97	0.31
41) Dibromomethane	11.345	174	20512	0.18	98	0.18
42) n-Heptane	11.987	43	22312	0.26	95	0.26
43) 1,2-Dichloropropane	11.390	63	17895	0.29	# 94	0.29
44) Trichloroethene	11.640	95	24295	0.28	86	0.28
45) Bromodichloromethane	11.584	83	39878	0.28	# 95	0.28

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

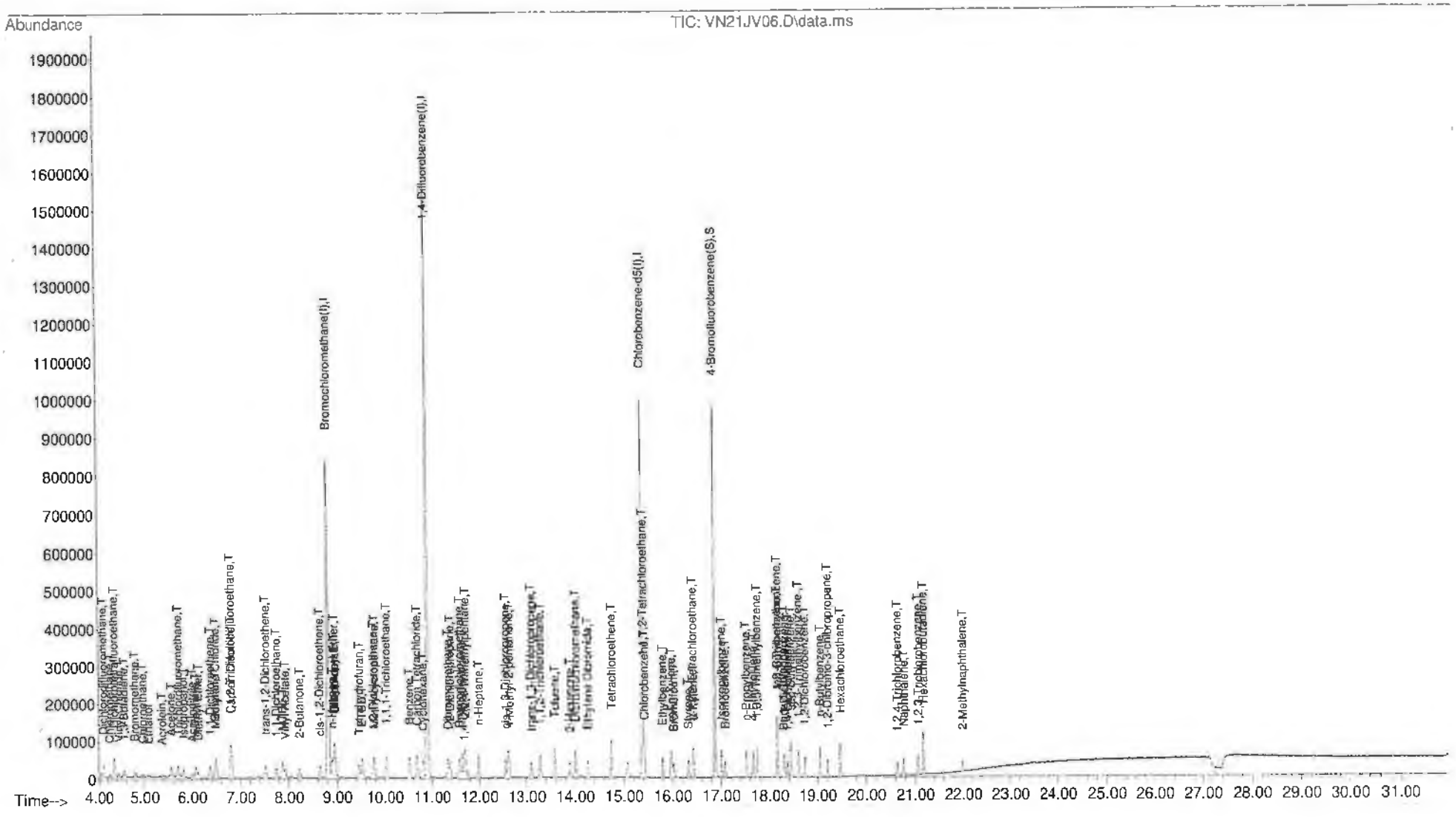
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.675	88	2607	0.07	#	33	0.07	
47) 2,2,4-Trimethylpentane	11.709	57	74275	0.32		96	0.32	
48) cis-1,3-Dichloropropene	12.550	75	29587	0.30		94	0.30	
49) 4-Methyl-2-pentanone	12.635	58	14367	0.24	#	1	0.24	
50) trans-1,3-Dichloropropene	13.104	75	26518	0.27		96	0.27	
51) 1,1,1,2-Tetrachloroethane	15.400	131	14154	0.23	#	1	0.23	
53) 1,1,2-Trichloroethane	13.280	97	21652	0.26		94	0.26	
54) Toluene	13.584	91	62696	0.27		97	0.27	
55) 2-Hexanone	13.889	43	26507	0.18	#	91	0.18	
56) Dibromochloromethane	14.008	127	29604	0.18		99	0.18	
57) Ethylene Dibromide	14.264	107	31719	0.22	#	97	0.22	
58) Tetrachloroethene	14.750	166	29247	0.19	#	90	0.19	
59) Chlorobenzene	15.420	112	24774	0.22	#	90	0.22	
60) Ethylbenzene	15.798	91	40430	0.28	#	94	0.28	
61) m&p-Xylene	15.977	106	31241	0.50	#	90	0.50	
62) Bromoform	16.023	173	18457	0.17	#	42	0.17	
63) Styrene	16.318	104	21892	0.24	#	92	0.24	
64) 1,1,2,2-Tetrachloroethane	16.412	83	24379	0.24		98	0.24	
65) o-Xylene	16.429	91	36126	0.30		92	0.30	
67) Isopropylbenzene	17.012	105	48273	0.29		96	0.29	
68) n-Propylbenzene	17.518	91	53853	0.30		96	0.30	
69) 4-Ethyltoluene	17.663	105	42397	0.25	#	93	0.25	
70) 1,3,5-Trimethylbenzene	17.742	105	42268	0.28		95	0.28	
71) tert-Butylbenzene	18.160	119	45657	0.30		94	0.30	
72) 1,2,4-Trimethylbenzene	18.157	105	40358	0.27		93	0.27	
73) 1,3-Dichlorobenzene	18.308	146	18798	0.19	#	87	0.19	
74) Benzyl Chloride	18.291	91	22320	0.20	#	65	0.20	
75) 1,4-Dichlorobenzene	18.382	146	14957	0.15	#	92	0.15	
76) sec-Butylbenzene	18.441	105	59923	0.30	#	96	0.30	
77) 1,2,3-Trimethylbenzene	18.601	105	41198	0.32	#	93	0.32	
78) 1,2-Dichlorobenzene	18.737	146	21411	0.18	#	92	0.18	
79) n-Butylbenzene	19.055	91	41031	0.24		97	0.24	
80) Bromobenzene	17.086	77	20556	0.25	#	75	0.25	
81) 1,2-Dibromo-3-chloropr...	19.209	157	12289	0.26	#	83	0.26	
82) Hexachloroethane	19.467	117	18270	0.22	#	86	0.22	
83) 1,2,4-Trichlorobenzene	20.635	180	9391	0.09	#	97	0.09	
84) Naphthalene	20.763	128	33913	0.16	#	97	0.16	
85) 1,2,3-Trichlorobenzene	21.062	180	14132	0.15	#	95	0.15	
86) Hexachlorobutadiene	21.173	225	19039	0.14		97	0.14	
87) 2-Methylnaphthalene	21.988	142	12609	0.11		93	0.11	

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV06.D
Acq On : 31 Oct 2021 07:34 pm
Operator :
Sample : 0.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:06:38 2021
Quant Method : D:\VN\VN_METHOD\VN400872.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	0.25 STD
Inject Time:	10/31/2021 7:34:23 PM
Sample Start:	10/31/2021 7:17:20 PM
Sample End:	10/31/2021 7:21:57 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D8
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	24.8 (25)	5.27	25.9	25.38	1.94	3.08
Calibration Std			0.00				
Sample	401.4 (400)	93.2 (100)	4.60	36.94	34.34	1.93	6.51
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	94.8 (100)	1.00	24.57	21.96	4.23	5.1
M1/ M2 Transfer	100.6 (100)	22.6 (20)	5.60	24.68	24.23	5.01	6.16

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				123 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-47 (-50)	-48 (-50)	-46 (-50)	227 (230)		208 (210)
M2 Bulk Head	32 (32)			61 (61)		120 (120)
M3	3			-176 (-165)	71 (80)	-66
Rot Valve Plate	91/90 (90)					92/90 (90)
GC Xfer Line					99 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	84 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	50799 (50800)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	392316	6.46	ppbv	#-0.01
36) 1,4-Difluorobenzene(I)	10.907	114	1463131	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	128778	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	192019	6.43	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.68%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	109164	0.70	97	0.70
3) Chloromethane	4.234	50	24203	0.69	97	0.69
4) Dichlorotetrafluoroethane	4.322	85	85861	0.53	# 83	0.53
5) Vinyl Chloride	4.433	62	30164	0.66	# 94	0.66
6) 1,3-Butadiene	4.561	54	22377	0.54	95	0.54
7) Bromomethane	4.797	94	25615	0.56	# 92	0.56
8) Chloroethane	4.959	64	17374	0.81	# 66	0.81
9) Ethanol	5.076	45	10137m	0.71		0.71
10) Acrolein	5.402	56	12022m	0.70		0.70
11) Trichlorofluoromethane	5.701	101	80501	0.42	# 98	0.42
12) Isopropanol	5.800	45	58809	0.66	# 89	0.66
13) Acetone	5.545	58	15755	0.40	82	0.40
14) Acrylonitrile	6.002	53	23755	0.65	# 98	0.65
15) n-Pentane	6.073	43	59832	0.77	# 99	0.77
16) Diethyl Ether	6.119	59	24920	0.60	91	0.60
17) 1,1-Dichloroethene	6.363	61	77543	0.89	# 88	0.89
18) t-Butanol	6.463	59	96899	0.94	# 99	0.94
19) Methylene Chloride	6.485	49	52105	0.88	96	0.88
20) 1,1,2-Trichlorotrifluo...	6.798	101	99091	0.74	# 87	0.74
21) Carbon Disulfide	6.795	76	132288	0.84	96	0.84
22) trans-1,2-Dichloroethene	7.511	61	66136	0.93	90	0.93
23) MTBE	7.861	73	140430	1.03	97	1.03
24) 1,1-Dichloroethane	7.730	63	82861	0.93	98	0.93
25) Vinyl Acetate	7.929	86	12969	1.19	72	1.19
26) n-Hexane	8.892	57	64886	0.79	81	0.79
27) 2-Butanone	8.205	43	73468	0.65	# 94	0.65
28) cis-1,2-Dichloroethene	8.642	61	64391	0.97	88	0.97
29) Chloroform	8.961	83	110964	0.87	# 97	0.87
30) Ethyl Acetate	8.941	61	15199	0.90	71	0.90
31) Diisopropyl Ether	8.927	45	141823	0.97	95	0.97
32) Tetrahydrofuran	9.435	42	57311m	1.08		1.08
33) ETBE	9.506	59	145495	1.01	96	1.01
34) 1,2-Dichloroethane	9.754	62	74422	0.94	# 76	0.94
35) Methylcyclopentane	9.771	56	85356	1.04	93	1.04
37) 1,1,1-Trichloroethane	10.032	97	118203	0.80	98	0.80
38) Cyclohexane	10.817	56	65283	0.91	96	0.91
39) Carbon Tetrachloride	10.674	117	125309	0.77	99	0.77
40) Benzene	10.515	78	142854	0.84	98	0.84
41) Dibromomethane	11.342	174	58675	0.53	99	0.53
42) n-Heptane	11.987	43	64338	0.74	95	0.74
43) 1,2-Dichloropropane	11.382	63	49299	0.78	95	0.78
44) Trichloroethene	11.638	95	68050	0.79	87	0.79
45) Bromodichloromethane	11.578	83	117220	0.82	# 98	0.82

DH 11-2-21

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
AL5 Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

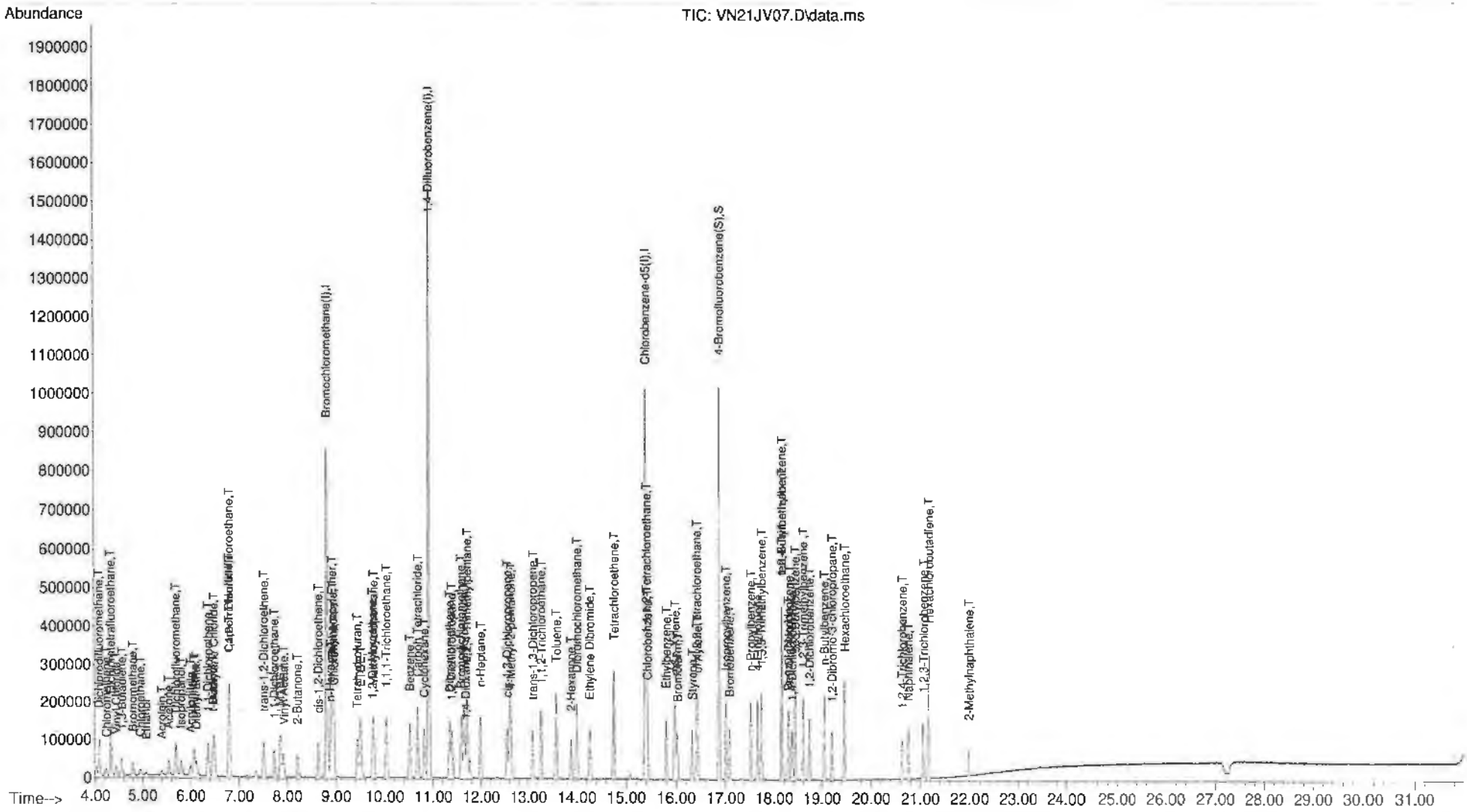
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.678	88	33332	0.85		#	1	0.85
47) 2,2,4-Trimethylpentane	11.706	57	214238	0.92			95	0.92
48) cis-1,3-Dichloropropene	12.547	75	83891	0.85			97	0.85
49) 4-Methyl-2-pentanone	12.627	58	40913	0.69			86	0.69
50) trans-1,3-Dichloropropene	13.101	75	78320	0.81			97	0.81
51) 1,1,1,2-Tetrachloroethane	15.404	131	42549	0.69		#	1	0.69
53) 1,1,2-Trichloroethane	13.281	97	60435	0.73			96	0.73
54) Toluene	13.585	91	177679	0.78			99	0.78
55) 2-Hexanone	13.880	43	68003	0.47		#	33	0.47
56) Dibromochloromethane	14.005	127	87117	0.54			99	0.54
57) Ethylene Dibromide	14.258	107	91330	0.64		#	98	0.64
58) Tetrachloroethene	14.750	166	83025	0.54		#	89	0.54
59) Chlorobenzene	15.421	112	71991	0.65		#	92	0.65
60) Ethylbenzene	15.799	91	117819	0.81			94	0.81
61) m&p-Xylene	15.978	106	89684	1.44			86	1.44
62) Bromoform	16.023	173	57228	0.52		#	48	0.52
63) Styrene	16.324	104	66361	0.74			94	0.74
64) 1,1,2,2-Tetrachloroethane	16.415	83	70306	0.70			98	0.70
65) o-Xylene	16.429	91	101277	0.83			94	0.83
67) Isopropylbenzene	17.012	105	138126	0.84			96	0.84
68) n-Propylbenzene	17.515	91	161629	0.92			96	0.92
69) 4-Ethyltoluene	17.660	105	126595	0.74		#	94	0.74
70) 1,3,5-Trimethylbenzene	17.743	105	123996	0.83			94	0.83
71) tert-Butylbenzene	18.157	119	129797	0.87		#	93	0.87
72) 1,2,4-Trimethylbenzene	18.157	105	118203	0.80			95	0.80
73) 1,3-Dichlorobenzene	18.311	146	59382	0.59		#	91	0.59
74) Benzyl Chloride	18.294	91	71428	0.64			94	0.64
75) 1,4-Dichlorobenzene	18.376	146	51307	0.53			95	0.53
76) sec-Butylbenzene	18.439	105	174633	0.88			95	0.88
77) 1,2,3-Trimethylbenzene	18.604	105	120769	0.95		#	93	0.95
78) 1,2-Dichlorobenzene	18.740	146	63099	0.53		#	91	0.53
79) n-Butylbenzene	19.053	91	120958	0.71			96	0.71
80) Bromobenzene	17.086	77	64709	0.78		#	73	0.78
81) 1,2-Dibromo-3-chloropr...	19.209	157	36224	0.78		#	86	0.78
82) Hexachloroethane	19.465	117	53876	0.65		#	86	0.65
83) 1,2,4-Trichlorobenzene	20.636	180	29331	0.30			95	0.30
84) Naphthalene	20.758	128	96302	0.45		#	97	0.45
85) 1,2,3-Trichlorobenzene	21.059	180	40849	0.43		#	95	0.43
86) Hexachlorobutadiene	21.173	225	58612	0.43			98	0.43
87) 2-Methylnaphthalene	21.988	142	27378	0.24		#	94	0.24

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	392316	6.46	ppbv	#-0.01
36) 1,4-Difluorobenzene(I)	10.907	114	1463131	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.381	54	128778	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	192019	6.43	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.68%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	109164	0.70	97	0.70
3) Chloromethane	4.234	50	24203	0.69	97	0.69
4) Dichlorotetrafluoroethane	4.322	85	85861	0.53	# 83	0.53
5) Vinyl Chloride	4.433	62	30164	0.66	# 94	0.66
6) 1,3-Butadiene	4.561	54	22377	0.54	95	0.54
7) Bromomethane	4.797	94	25615	0.56	# 92	0.56
8) Chloroethane	4.959	64	17374	0.81	# 66	0.81
9) Ethanol	5.076	45	5390	0.38	# 79	0.38
10) Acrolein	5.402	56	11237	0.66	# 81	0.66
11) Trichlorofluoromethane	5.701	101	80501	0.42	# 98	0.42
12) Isopropanol	5.800	45	58809	0.66	# 89	0.66
13) Acetone	5.545	58	15755	0.40	82	0.40
14) Acrylonitrile	6.002	53	23755	0.65	# 98	0.65
15) n-Pentane	6.073	43	59832	0.77	# 99	0.77
16) Diethyl Ether	6.119	59	24920	0.60	91	0.60
17) 1,1-Dichloroethene	6.363	61	77543	0.89	# 88	0.89
18) t-Butanol	6.463	59	96899	0.94	# 99	0.94
19) Methylene Chloride	6.485	49	52105	0.88	96	0.88
20) 1,1,2-Trichlorotrifluo...	6.798	101	99091	0.74	# 87	0.74
21) Carbon Disulfide	6.795	76	132288	0.84	96	0.84
22) trans-1,2-Dichloroethene	7.511	61	66136	0.93	90	0.93
23) MTBE	7.861	73	140430	1.03	97	1.03
24) 1,1-Dichloroethane	7.730	63	82861	0.93	98	0.93
25) Vinyl Acetate	7.929	86	12969	1.19	72	1.19
26) n-Hexane	8.892	57	64886	0.79	81	0.79
27) 2-Butanone	8.205	43	73468	0.65	# 94	0.65
28) cis-1,2-Dichloroethene	8.642	61	64391	0.97	88	0.97
29) Chloroform	8.961	83	110964	0.87	# 97	0.87
30) Ethyl Acetate	8.941	61	15199	0.90	71	0.90
31) Diisopropyl Ether	8.927	45	141823	0.97	95	0.97
32) Tetrahydrofuran	9.435	42	58221	1.09	# 95	1.09
33) ETBE	9.506	59	145495	1.01	96	1.01
34) 1,2-Dichloroethane	9.754	62	74422	0.94	# 76	0.94
35) Methylcyclopentane	9.771	56	85356	1.04	93	1.04
37) 1,1,1-Trichloroethane	10.032	97	118203	0.80	98	0.80
38) Cyclohexane	10.817	56	65283	0.91	96	0.91
39) Carbon Tetrachloride	10.674	117	125309	0.77	99	0.77
40) Benzene	10.515	78	142854	0.84	98	0.84
41) Dibromomethane	11.342	174	58675	0.53	99	0.53
42) n-Heptane	11.987	43	64338	0.74	95	0.74
43) 1,2-Dichloropropane	11.382	63	49299	0.78	95	0.78
44) Trichloroethene	11.638	95	68050	0.79	87	0.79
45) Bromodichloromethane	11.578	83	117220	0.82	# 98	0.82

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

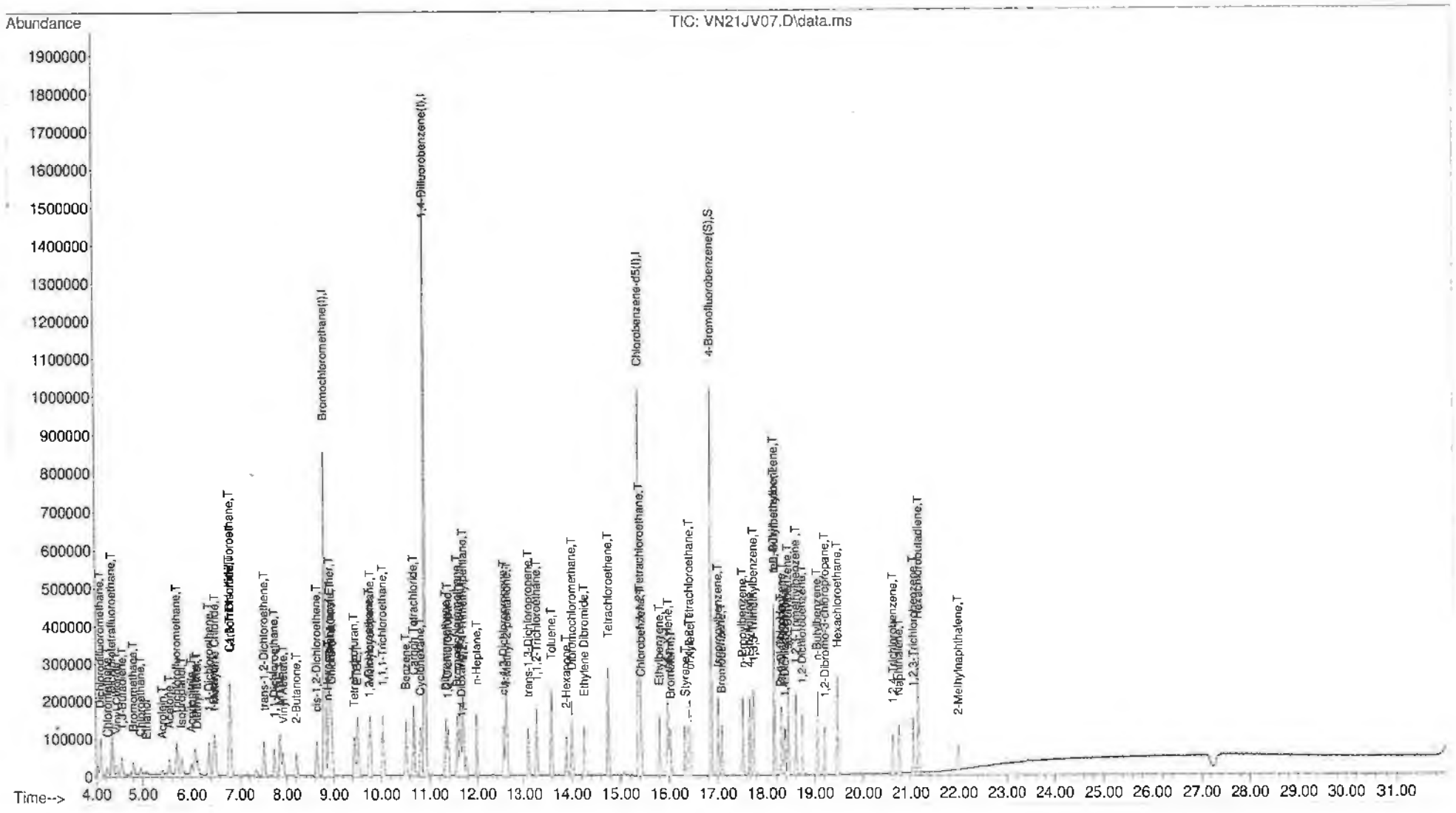
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.678	88	33332	0.85	#	1	0.85
47) 2,2,4-Trimethylpentane	11.706	57	214238	0.92		95	0.92
48) cis-1,3-Dichloropropene	12.547	75	83891	0.85		97	0.85
49) 4-Methyl-2-pentanone	12.627	58	40913	0.69		86	0.69
50) trans-1,3-Dichloropropene	13.101	75	78320	0.81		97	0.81
51) 1,1,1,2-Tetrachloroethane	15.404	131	42549	0.69	#	1	0.69
53) 1,1,2-Trichloroethane	13.281	97	60435	0.73		96	0.73
54) Toluene	13.585	91	177679	0.78		99	0.78
55) 2-Hexanone	13.880	43	68003	0.47	#	33	0.47
56) Dibromochloromethane	14.005	127	87117	0.54		99	0.54
57) Ethylene Dibromide	14.258	107	91330	0.64	#	98	0.64
58) Tetrachloroethene	14.750	166	83025	0.54	#	89	0.54
59) Chlorobenzene	15.421	112	71991	0.65	#	92	0.65
60) Ethylbenzene	15.799	91	117819	0.81		94	0.81
61) m&p-Xylene	15.978	106	89684	1.44		86	1.44
62) Bromoform	16.023	173	57228	0.52	#	48	0.52
63) Styrene	16.324	104	66361	0.74		94	0.74
64) 1,1,2,2-Tetrachloroethane	16.415	83	70306	0.70		98	0.70
65) o-Xylene	16.429	91	101277	0.83		94	0.83
67) Isopropylbenzene	17.012	105	138126	0.84		96	0.84
68) n-Propylbenzene	17.515	91	161629	0.92		96	0.92
69) 4-Ethyltoluene	17.660	105	126595	0.74	#	94	0.74
70) 1,3,5-Trimethylbenzene	17.743	105	123996	0.83		94	0.83
71) tert-Butylbenzene	18.157	119	129797	0.87	#	93	0.87
72) 1,2,4-Trimethylbenzene	18.157	105	118203	0.80		95	0.80
73) 1,3-Dichlorobenzene	18.311	146	59382	0.59	#	91	0.59
74) Benzyl Chloride	18.294	91	71428	0.64		94	0.64
75) 1,4-Dichlorobenzene	18.376	146	51307	0.53		95	0.53
76) sec-Butylbenzene	18.439	105	174633	0.88		95	0.88
77) 1,2,3-Trimethylbenzene	18.604	105	120769	0.95	#	93	0.95
78) 1,2-Dichlorobenzene	18.740	146	63099	0.53	#	91	0.53
79) n-Butylbenzene	19.053	91	120958	0.71		96	0.71
80) Bromobenzene	17.086	77	64709	0.78	#	73	0.78
81) 1,2-Dibromo-3-chloropr...	19.209	157	36224	0.78	#	86	0.78
82) Hexachloroethane	19.465	117	53876	0.65	#	86	0.65
83) 1,2,4-Trichlorobenzene	20.636	180	29331	0.30		95	0.30
84) Naphthalene	20.758	128	96302	0.45	#	97	0.45
85) 1,2,3-Trichlorobenzene	21.059	180	40849	0.43	#	95	0.43
86) Hexachlorobutadiene	21.173	225	58612	0.43		98	0.43
87) 2-Methylnaphthalene	21.988	142	27378	0.24	#	94	0.24

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV07.D
Acq On : 31 Oct 2021 08:21 pm
Operator :
Sample : 0.75 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 20:53:16 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	0.75 STD
Inject Time:	10/31/2021 8:21:03 PM
Sample Start:	10/31/2021 8:07:47 PM
Sample End:	10/31/2021 8:09:20 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D9
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	22.6 (25)	5.28	25.72	25.17	1.93	3.08
Calibration Std			0.00				
Sample	120.8 (120)	106.4 (100)	1.53	26.73	24.15	2.82	4.19
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	101.1 (100)	0.98	24.51	22	2.81	3.68
M1/ M2 Transfer	100.6 (100)	21.1 (20)	5.62	24.67	24.28	3.63	4.78

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				120 (120)
M1 BulkHead	33 (30)	61 (60)				120 (120)
M2	-47 (-50)	-46 (-50)	-47 (-50)	227 (230)		210 (210)
M2 Bulk Head	32 (32)			62 (62)		119 (119)
M3	-1			-168 (-165)	72 (80)	-57
Rot Valve Plate	91/90 (90)					92/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	83 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	53999 (54000)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV08.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.819	130	392363	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1465327	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	124587	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.870	75	185418	6.42	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.54%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
2) Dichlorodifluoromethane	4.098	85	178110	1.14	99		1.14
3) Chloromethane	4.243	50	40173	1.15	96		1.15
4) Dichlorotetrafluoroethane	4.337	85	145443	0.89	# 85		0.89
5) Vinyl Chloride	4.439	62	49646	1.09	# 97		1.09
6) 1,3-Butadiene	4.561	54	38762	0.94	93		0.94
7) Bromomethane	4.803	94	44673	0.97	# 95		0.97
8) Chloroethane	4.971	64	28058	1.31	94		1.31
9) Ethanol	5.081	45	17523	1.23	# 92		1.23
10) Acrolein	5.408	56	19152	1.12	99		1.12
11) Trichlorofluoromethane	5.709	101	139359	0.72	97		0.72
12) Isopropanol	5.806	45	109714	1.24	# 93		1.24
13) Acetone	5.550	58	24520	0.62	# 92		0.62
14) Acrylonitrile	6.005	53	55002	1.51	# 95		1.51
15) n-Pentane	6.087	43	117857	1.53	# 99		1.53
16) Diethyl Ether	6.124	59	61374	1.48	95		1.48
17) 1,1-Dichloroethene	6.375	61	131333	1.51	90		1.51
18) t-Butanol	6.465	59	170101	1.64	# 97		1.64
19) Methylene Chloride	6.491	49	83061	1.40	98		1.40
20) 1,1,2-Trichlorotrifluo...	6.809	101	178758	1.34	# 86		1.34
21) Carbon Disulfide	6.809	76	225318	1.43	98		1.43
22) trans-1,2-Dichloroethene	7.514	61	113869	1.61	90		1.61
23) MTBE	7.855	73	239049	1.75	97		1.75
24) 1,1-Dichloroethane	7.739	63	138358	1.56	99		1.56
25) Vinyl Acetate	7.932	86	21572	1.98	73		1.98
26) n-Hexane	8.901	57	112830	1.38	77		1.38
27) 2-Butanone	8.205	43	124144	1.09	97		1.09
28) cis-1,2-Dichloroethene	8.645	61	106929	1.61	92		1.61
29) Chloroform	8.964	83	193569	1.53	97		1.53
30) Ethyl Acetate	8.929	61	23955	1.41	84		1.41
31) Diisopropyl Ether	8.927	45	239497	1.63	94		1.63
32) Tetrahydrofuran	9.441	42	89840m CE	1.69			1.69
33) ETBE	9.504	59	243891	1.69	97		1.69
34) 1,2-Dichloroethane	9.757	62	120659	1.52	# 95		1.52
35) Methylcyclopentane	9.776	56	145961	1.78	92		1.78
37) 1,1,1-Trichloroethane	10.035	97	203128	1.37	99		1.37
38) Cyclohexane	10.819	56	110014	1.54	96		1.54
39) Carbon Tetrachloride	10.686	117	214567	1.31	99		1.31
40) Benzene	10.521	78	242484	1.42	99		1.42
41) Dibromomethane	11.345	174	100533	0.90	99		0.90
42) n-Heptane	11.990	43	104192	1.20	92		1.20
43) 1,2-Dichloropropane	11.394	63	83618	1.33	96		1.33
44) Trichloroethene	11.641	95	116301	1.36	86		1.36
45) Bromodichloromethane	11.587	83	197299	1.37	98		1.37

DLH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV08.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

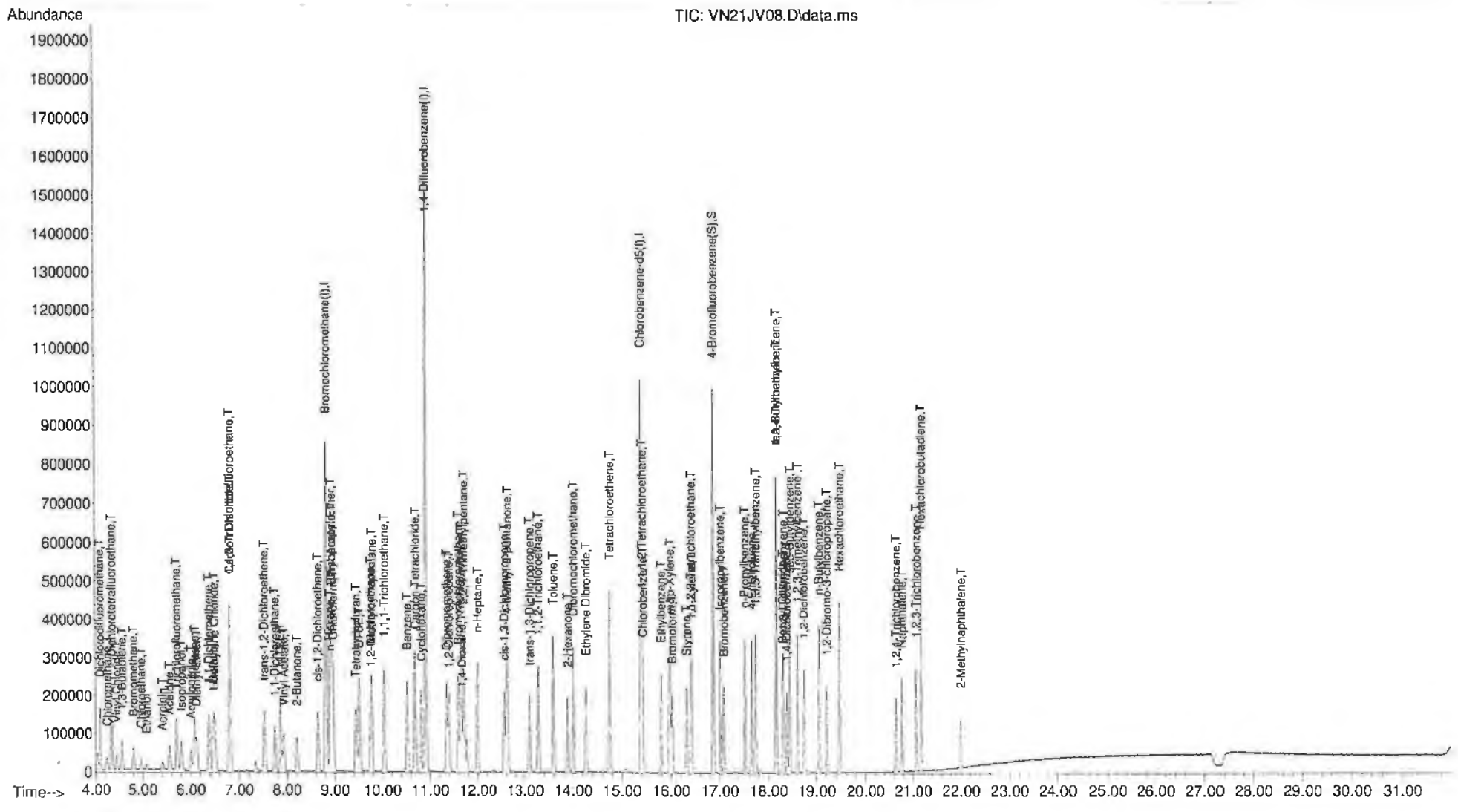
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.666	88	59911	1.53		#	70	1.53
47) 2,2,4-Trimethylpentane	11.706	57	363395	1.55		#	93	1.55
48) cis-1,3-Dichloropropene	12.550	75	145619	1.48			96	1.48
49) 4-Methyl-2-pentanone	12.618	58	72059	1.22			80	1.22
50) trans-1,3-Dichloropropene	13.104	75	130966	1.35			97	1.35
51) 1,1,1,2-Tetrachloroethane	15.406	131	73005	1.18		#	1	1.18
53) 1,1,2-Trichloroethane	13.278	97	101802	1.27			98	1.27
54) Toluene	13.582	91	305719	1.39			98	1.39
55) 2-Hexanone	13.886	43	117873	0.84		#	83	0.84
56) Dibromochloromethane	14.005	127	151411	0.97			98	0.97
57) Ethylene Dibromide	14.261	107	157355	1.14		#	97	1.14
58) Tetrachloroethene	14.747	166	146872	0.99			90	0.99
59) Chlorobenzene	15.424	112	119445	1.12		#	91	1.12
60) Ethylbenzene	15.799	91	198855	1.42			96	1.42
61) m&p-Xylene	15.981	106	156281	2.60			87	2.60
62) Bromoform	16.026	173	98788	0.93		#	47	0.93
63) Styrene	16.322	104	113696	1.32			94	1.32
64) 1,1,2,2-Tetrachloroethane	16.413	83	116594	1.20			99	1.20
65) o-Xylene	16.430	91	172559	1.47			94	1.47
67) Isopropylbenzene	17.012	105	235843	1.49			97	1.49
68) n-Propylbenzene	17.518	91	278885	1.64			96	1.64
69) 4-Ethyltoluene	17.663	105	222771	1.35		#	94	1.35
70) 1,3,5-Trimethylbenzene	17.740	105	211671	1.46			94	1.46
71) tert-Butylbenzene	18.158	119	222824	1.55		#	93	1.55
72) 1,2,4-Trimethylbenzene	18.158	105	202911	1.41			94	1.41
73) 1,3-Dichlorobenzene	18.308	146	103022	1.06		#	93	1.06
74) Benzyl Chloride	18.294	91	123856	1.16			94	1.16
75) 1,4-Dichlorobenzene	18.379	146	88144	0.93			96	0.93
76) sec-Butylbenzene	18.442	105	299417	1.56			96	1.56
77) 1,2,3-Trimethylbenzene	18.601	105	207265	1.68		#	94	1.68
78) 1,2-Dichlorobenzene	18.740	146	112840	0.97		#	92	0.97
79) n-Butylbenzene	19.053	91	207802	1.25			96	1.25
80) Bromobenzene	17.086	77	105827	1.32		#	75	1.32
81) 1,2-Dibromo-3-chloropr...	19.206	157	65577	1.47		#	88	1.47
82) Hexachloroethane	19.465	117	94093	1.18		#	86	1.18
83) 1,2,4-Trichlorobenzene	20.636	180	55364	0.58			97	0.58
84) Naphthalene	20.764	128	183351	0.88			99	0.88
85) 1,2,3-Trichlorobenzene	21.059	180	77898	0.85		#	95	0.85
86) Hexachlorobutadiene	21.167	225	97885	0.74			96	0.74
87) 2-Methylnaphthalene	21.994	142	56988	0.52			95	0.52

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV0B.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV08.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Qev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.819	130	392363	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1465327	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	124587	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.870	75	185418	6.42	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.54%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.098	85	178110	1.14	99	1.14
3) Chloromethane	4.243	50	40173	1.15	96	1.15
4) Dichlorotetrafluoroethane	4.337	85	145443	0.89	# 85	0.89
5) Vinyl Chloride	4.439	62	49646	1.09	# 97	1.09
6) 1,3-Butadiene	4.561	54	38762	0.94	93	0.94
7) Bromomethane	4.803	94	44673	0.97	# 95	0.97
8) Chloroethane	4.971	64	28058	1.31	94	1.31
9) Ethanol	5.081	45	17523	1.23	# 92	1.23
10) Acrolein	5.408	56	19152	1.12	99	1.12
11) Trichlorofluoromethane	5.709	101	139359	0.72	97	0.72
12) Isopropanol	5.806	45	109714	1.24	# 93	1.24
13) Acetone	5.550	58	24520	0.62	# 92	0.62
14) Acrylonitrile	6.005	53	55002	1.51	# 95	1.51
15) n-Pentane	6.087	43	117857	1.53	# 99	1.53
16) Diethyl Ether	6.124	59	61374	1.48	95	1.48
17) 1,1-Dichloroethene	6.375	61	131333	1.51	90	1.51
18) t-Butanol	6.465	59	170101	1.64	# 97	1.64
19) Methylene Chloride	6.491	49	83061	1.40	98	1.40
20) 1,1,2-Trichlorotrifluo...	6.809	101	17875B	1.34	# 86	1.34
21) Carbon Disulfide	6.809	76	225318	1.43	98	1.43
22) trans-1,2-Dichloroethene	7.514	61	113869	1.61	90	1.61
23) MTBE	7.855	73	239049	1.75	97	1.75
24) 1,1-Dichloroethane	7.739	63	138358	1.56	99	1.56
25) Vinyl Acetate	7.932	86	21572	1.98	73	1.98
26) n-Hexane	8.901	57	112830	1.38	77	1.38
27) 2-Butanone	8.205	43	124144	1.09	97	1.09
28) cis-1,2-Dichloroethene	8.645	61	106929	1.61	92	1.61
29) Chloroform	8.964	83	193569	1.53	97	1.53
30) Ethyl Acetate	8.929	61	23955	1.41	84	1.41
31) Diisopropyl Ether	8.927	45	239497	1.63	94	1.63
32) Tetrahydrofuran	9.441	42	91949	1.73	# 92	1.73
33) ETBE	9.504	59	243891	1.69	97	1.69
34) 1,2-Dichloroethane	9.757	62	120659	1.52	# 95	1.52
35) Methylcyclopentane	9.776	56	145961	1.78	92	1.78
37) 1,1,1-Trichloroethane	10.035	97	203128	1.37	99	1.37
38) Cyclohexane	10.819	56	110014	1.54	96	1.54
39) Carbon Tetrachloride	10.686	117	214567	1.31	99	1.31
40) Benzene	10.521	78	242484	1.42	99	1.42
41) Dibromomethane	11.345	174	100533	0.90	99	0.90
42) n-Heptane	11.990	43	104192	1.20	92	1.20
43) 1,2-Dichloropropane	11.394	63	83618	1.33	96	1.33
44) Trichloroethene	11.641	95	116301	1.36	86	1.36
45) Bromodichloromethane	11.587	83	197299	1.37	98	1.37

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV08.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400872.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

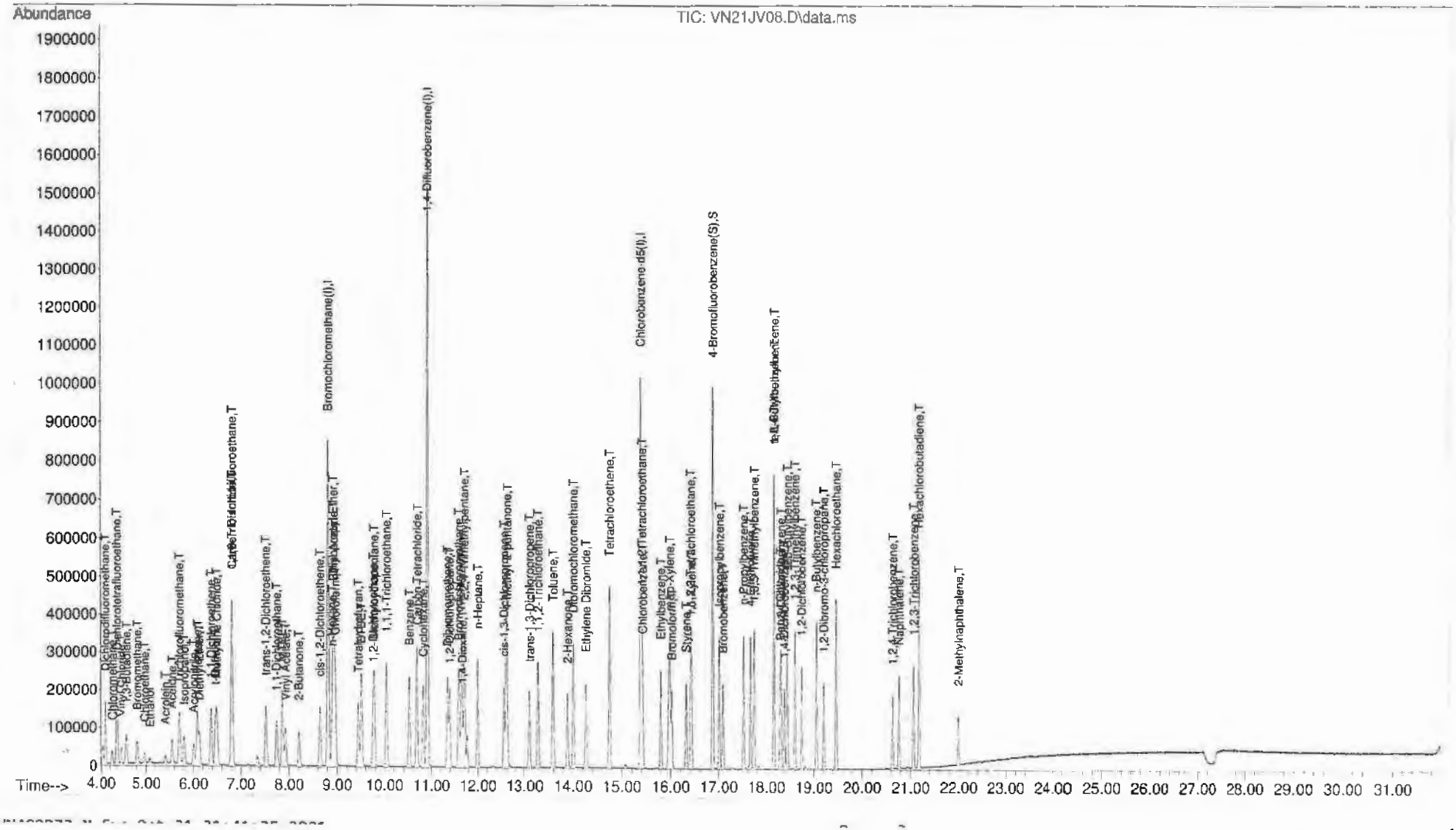
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.666	88	59911	1.53		# 70	1.53
47) 2,2,4-Trimethylpentane	11.706	57	363395	1.55		# 93	1.55
48) cis-1,3-Dichloropropene	12.550	75	145619	1.48		96	1.48
49) 4-Methyl-2-pentanone	12.618	58	72059	1.22		80	1.22
50) trans-1,3-Oichloropropene	13.104	75	130966	1.35		97	1.35
51) 1,1,1,2-Tetrachloroethane	15.406	131	73005	1.18		# 1	1.18
53) 1,1,2-Trichloroethane	13.278	97	101802	1.27		98	1.27
54) Toluene	13.582	91	305719	1.39		98	1.39
55) 2-Hexanone	13.886	43	117873	0.84		# 83	0.84
56) Dibromochloromethane	14.005	127	151411	0.97		98	0.97
57) Ethylene Dibromide	14.261	107	157355	1.14		# 97	1.14
58) Tetrachloroethene	14.747	166	146872	0.99		90	0.99
59) Chlorobenzene	15.424	112	119445	1.12		# 91	1.12
60) Ethylbenzene	15.799	91	198855	1.42		96	1.42
61) m&p-Xylene	15.981	106	156281	2.60		87	2.60
62) Bromoform	16.026	173	98788	0.93		# 47	0.93
63) Styrene	16.322	104	113696	1.32		94	1.32
64) 1,1,2,2-Tetrachloroethane	16.413	83	116594	1.20		99	1.20
65) o-Xylene	16.430	91	172559	1.47		94	1.47
67) Isopropylbenzene	17.012	105	235843	1.49		97	1.49
68) n-Propylbenzene	17.518	91	278885	1.64		96	1.64
69) 4-Ethyltoluene	17.663	105	222771	1.35		# 94	1.35
70) 1,3,5-Trimethylbenzene	17.740	105	211671	1.46		94	1.46
71) tert-Butylbenzene	18.158	119	222824	1.55		# 93	1.55
72) 1,2,4-Trimethylbenzene	18.158	105	202911	1.41		94	1.41
73) 1,3-Dichlorobenzene	18.308	146	103022	1.06		# 93	1.06
74) Benzyl Chloride	18.294	91	123856	1.16		94	1.16
75) 1,4-Dichlorobenzene	18.379	146	88144	0.93		96	0.93
76) sec-Butylbenzene	18.442	105	299417	1.56		96	1.56
77) 1,2,3-Trimethylbenzene	18.601	105	207265	1.68		# 94	1.68
78) 1,2-Dichlorobenzene	18.740	146	112840	0.97		# 92	0.97
79) n-Butylbenzene	19.053	91	207802	1.25		96	1.25
80) Bromobenzene	17.086	77	105827	1.32		# 75	1.32
81) 1,2-Dibromo-3-chloropr...	19.206	157	65577	1.47		# 88	1.47
82) Hexachloroethane	19.465	117	94093	1.18		# 86	1.18
83) 1,2,4-Trichlorobenzene	20.636	180	55364	0.58		97	0.58
84) Naphthalene	20.764	128	183351	0.88		99	0.88
85) 1,2,3-Trichlorobenzene	21.059	180	77898	0.85		# 95	0.85
86) Hexachlorobutadiene	21.167	225	97885	0.74		96	0.74
87) 2-Methylnaphthalene	21.994	142	56988	0.52		95	0.52

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV08.D
Acq On : 31 Oct 2021 09:09 pm
Operator :
Sample : 1.25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 21:41:34 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	1.25 STD
Inject Time:	10/31/2021 9:09:22 PM
Sample Start:	10/31/2021 8:54:29 PM
Sample End:	10/31/2021 8:56:52 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D9
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	26.8 (25)	5.30	25.54	24.96	1.95	3.09
Calibration Std			0.00				
Sample	201.5 (200)	102.7 (100)	2.37	26.36	23.4	2.87	5.16
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	101.1 (100)	1.00	24.51	21.92	3.41	4.28
M1/ M2 Transfer	100.3 (100)	20.5 (20)	5.58	24.67	24.21	4.2	5.35

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				120 (120)
M2	-46 (-50)	-47 (-50)	-48 (-50)	228 (230)		209 (210)
M2 Bulk Head	31 (31)			62 (62)		120 (120)
M3	4			-178 (-165)	70 (80)	-67
Rot Valve Plate	91/91 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	91 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	86 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	53999 (54000)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	398614	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1471156	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	123230	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	190873	6.68	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 99.40%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	358125	2.27		100	2.27
3) Chloromethane	4.234	50	79504	2.25		98	2.25
4) Dichlorotetrafluoroethane	4.325	85	294856	1.78	#	85	1.78
5) Vinyl Chloride	4.433	62	99478	2.14		99	2.14
6) 1,3-Butadiene	4.553	54	76737	1.83		92	1.83
7) Bromomethane	4.803	94	91177	1.95	#	95	1.95
8) Chloroethane	4.965	64	55731	2.56		95	2.56
9) Ethanol	5.076	45	32121	2.22		100	2.22
10) Acrolein	5.405	56	37758	2.17		95	2.17
11) Trichlorofluoromethane	5.707	101	283035	1.45	#	98	1.45
12) Isopropanol	5.789	45	205894	2.29		97	2.29
13) Acetone	5.550	58	51104	1.26		89	1.26
14) Acrylonitrile	5.997	53	110787	3.00	#	99	3.00
15) n-Pentane	6.082	43	233920	2.98	#	100	2.98
16) Diethyl Ether	6.119	59	120639	2.86		94	2.86
17) 1,1-Dichloroethene	6.369	61	256438	2.89		92	2.89
18) t-Butanol	6.443	59	340139	3.23	#	95	3.23
19) Methylene Chloride	6.497	49	161106	2.67		98	2.67
20) 1,1,2-Trichlorotrifluo...	6.801	101	346727	2.56	#	87	2.56
21) Carbon Disulfide	6.806	76	448357	2.81		95	2.81
22) trans-1,2-Dichloroethene	7.508	61	225324	3.13		90	3.13
23) MTBE	7.849	73	481523	3.48		97	3.48
24) 1,1-Dichloroethane	7.733	63	271727	3.01		100	3.01
25) Vinyl Acetate	7.921	86	42105	3.81		76	3.81
26) n-Hexane	8.901	57	215491	2.59		79	2.59
27) 2-Butanone	8.199	43	249018	2.15		96	2.15
28) cis-1,2-Dichloroethene	8.642	61	216582	3.21		92	3.21
29) Chloroform	8.961	83	380401	2.95		98	2.95
30) Ethyl Acetate	8.932	61	46651	2.71		82	2.71
31) Diisopropyl Ether	8.918	45	462967	3.11		93	3.11
32) Tetrahydrofuran	9.427	42	182473m CE	3.37			3.37
33) ETBE	9.501	59	479216	3.26		97	3.26
34) 1,2-Dichloroethane	9.751	62	241811	3.00	#	95	3.00
35) Methylcyclopentane	9.776	56	284136	3.41		91	3.41
37) 1,1,1-Trichloroethane	10.035	97	406515	2.73		98	2.73
38) Cyclohexane	10.817	56	218255	3.04		99	3.04
39) Carbon Tetrachloride	10.680	117	432926	2.63		98	2.63
40) Benzene	10.521	78	489562	2.85		99	2.85
41) Dibromomethane	11.339	174	207424	1.86		98	1.86
42) n-Heptane	11.990	43	203958	2.35	#	90	2.35
43) 1,2-Dichloropropane	11.388	63	163700	2.59		96	2.59
44) Trichloroethene	11.641	95	232198	2.70		87	2.70
45) Bromodichloromethane	11.581	83	390576	2.71		98	2.71

11/01/21

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

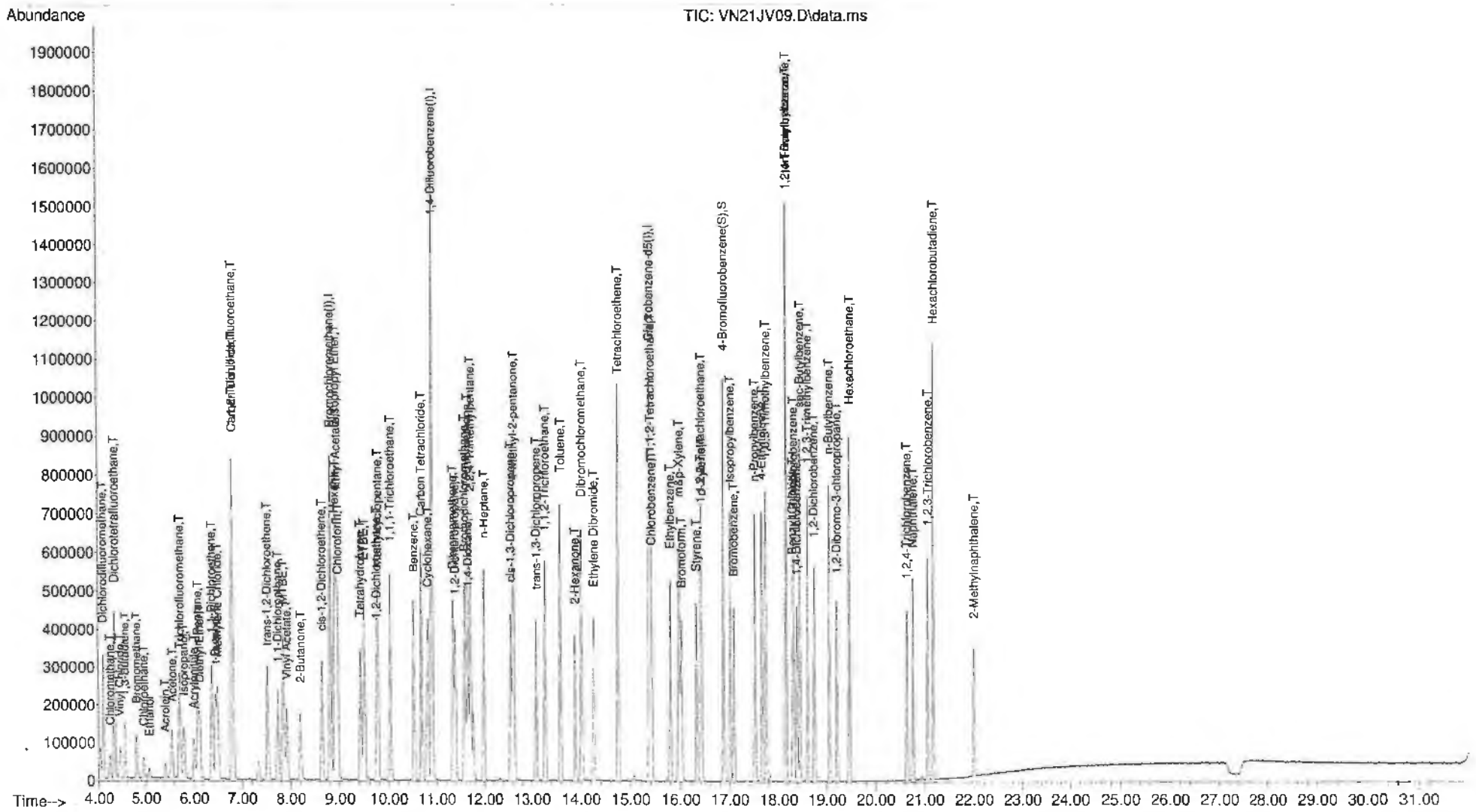
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.658	88	118392	3.02	#		71	3.02
47) 2,2,4-Trimethylpentane	11.709	57	725053	3.08	#		92	3.08
48) cis-1,3-Dichloropropene	12.550	75	289277	2.93			97	2.93
49) 4-Methyl-2-pentanone	12.613	58	137841	2.32			80	2.32
50) trans-1,3-Dichloropropene	13.102	75	272571	2.80			97	2.80
51) 1,1,1,2-Tetrachloroethane	15.401	131	145461	2.35	#		1	2.35
53) 1,1,2-Trichloroethane	13.278	97	202623	2.55			97	2.55
54) Toluene	13.588	91	607900	2.80			100	2.80
55) 2-Hexanone	13.880	43	248101	1.80	#		86	1.80
56) Dibromochloromethane	14.005	127	307320	1.98			99	1.98
57) Ethylene Dibromide	14.258	107	324587	2.39	#		98	2.39
58) Tetrachloroethene	14.744	166	300667	2.05			91	2.05
59) Chlorobenzene	15.423	112	248358	2.36			93	2.36
60) Ethylbenzene	15.799	91	401463	2.90			95	2.90
61) m&p-Xylene	15.978	106	314407	5.29			89	5.29
62) Bromoform	16.026	173	206043	1.97	#		55	1.97
63) Styrene	16.322	104	239099	2.81			94	2.81
64) 1,1,2,2-Tetrachloroethane	16.412	83	236504	2.46			99	2.46
65) o-Xylene	16.430	91	339132	2.92			96	2.92
67) Isopropylbenzene	17.012	105	478229	3.06			97	3.06
68) n-Propylbenzene	17.515	91	565987	3.36			96	3.36
69) 4-Ethyltoluene	17.663	105	451375	2.77	#		94	2.77
70) 1,3,5-Trimethylbenzene	17.743	105	430408	3.00			94	3.00
71) tert-Butylbenzene	18.157	119	446708	3.14	#		93	3.14
72) 1,2,4-Trimethylbenzene	18.160	105	402524	2.84			94	2.84
73) 1,3-Dichlorobenzene	18.311	146	219667	2.28	#		93	2.28
74) Benzyl Chloride	18.291	91	277939	2.62			95	2.62
75) 1,4-Dichlorobenzene	18.382	146	194486	2.08	#		94	2.08
76) sec-Butylbenzene	18.442	105	606118	3.19			97	3.19
77) 1,2,3-Trimethylbenzene	18.601	105	416691	3.42	#		94	3.42
78) 1,2-Dichlorobenzene	18.737	146	231460	2.02	#		93	2.02
79) n-Butylbenzene	19.053	91	432223	2.64			97	2.64
80) Bromobenzene	17.086	77	218573	2.75	#		76	2.75
81) 1,2-Dibromo-3-chloropr...	19.206	157	136269	3.08	#		86	3.08
82) Hexachloroethane	19.468	117	187945	2.38			89	2.38
83) 1,2,4-Trichlorobenzene	20.636	180	132342	1.40			96	1.40
84) Naphthalene	20.764	128	415438	2.02			98	2.02
85) 1,2,3-Trichlorobenzene	21.059	180	173120	1.91			96	1.91
86) Hexachlorobutadiene	21.173	225	199135	1.52			97	1.52
87) 2-Methylnaphthalene	21.991	142	155660	1.44			95	1.44

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-1S
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNOS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	398614	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1471156	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	123230	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	190873	6.68	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 99.40%			

Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	358125	2.27		100	2.27
3) Chloromethane	4.234	50	79504	2.25		98	2.25
4) Dichlorotetrafluoroethane	4.325	85	294856	1.78	#	85	1.78
5) Vinyl Chloride	4.433	62	99478	2.14		99	2.14
6) 1,3-Butadiene	4.553	54	76737	1.83		92	1.83
7) Bromomethane	4.803	94	91177	1.95	#	95	1.95
8) Chloroethane	4.965	64	55731	2.56		95	2.56
9) Ethanol	5.076	45	32121	2.22		100	2.22
10) Acrolein	5.405	56	37758	2.17		95	2.17
11) Trichlorofluoromethane	5.707	101	283035	1.45	#	98	1.45
12) Isopropanol	5.789	45	205894	2.29		97	2.29
13) Acetone	5.550	58	51104	1.26		89	1.26
14) Acrylonitrile	5.997	53	110787	3.00	#	99	3.00
15) n-Pentane	6.082	43	233920	2.98	#	100	2.98
16) Diethyl Ether	6.119	59	120639	2.86		94	2.86
17) 1,1-Dichloroethene	6.369	61	256438	2.89		92	2.89
18) t-Butanol	6.443	59	340139	3.23	#	95	3.23
19) Methylene Chloride	6.497	49	161106	2.67		98	2.67
20) 1,1,2-Trichlorotrifluo...	6.801	101	346727	2.56	#	87	2.56
21) Carbon Disulfide	6.806	76	448357	2.81		95	2.81
22) trans-1,2-Dichloroethene	7.508	61	225324	3.13		90	3.13
23) MTBE	7.849	73	481523	3.48		97	3.48
24) 1,1-Dichloroethane	7.733	63	271727	3.01		100	3.01
25) Vinyl Acetate	7.921	86	42105	3.81		76	3.81
26) n-Hexane	8.901	57	215491	2.59		79	2.59
27) 2-Butanone	8.199	43	249018	2.15		96	2.15
28) cis-1,2-Dichloroethene	8.642	61	216582	3.21		92	3.21
29) Chloroform	8.961	83	380401	2.95		98	2.95
30) Ethyl Acetate	8.932	61	46651	2.71		82	2.71
31) Diisopropyl Ether	8.918	45	462967	3.11		93	3.11
32) Tetrahydrofuran	9.427	42	184794	3.41	#	91	3.41
33) ETBE	9.501	59	479216	3.26		97	3.26
34) 1,2-Dichloroethane	9.751	62	241811	3.00	#	95	3.00
35) Methylcyclopentane	9.776	56	284136	3.41		91	3.41
37) 1,1,1-Trichloroethane	10.035	97	406515	2.73		98	2.73
38) Cyclohexane	10.817	56	218255	3.04		99	3.04
39) Carbon Tetrachloride	10.680	117	432926	2.63		98	2.63
40) Benzene	10.521	78	489562	2.85		99	2.85
41) Dibromomethane	11.339	174	207424	1.86		98	1.86
42) n-Heptane	11.990	43	203958	2.35	#	90	2.35
43) 1,2-Dichloropropane	11.388	63	163700	2.59		96	2.59
44) Trichloroethene	11.641	95	232198	2.70		87	2.70
45) Bromodichloromethane	11.581	83	390576	2.71		98	2.71

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

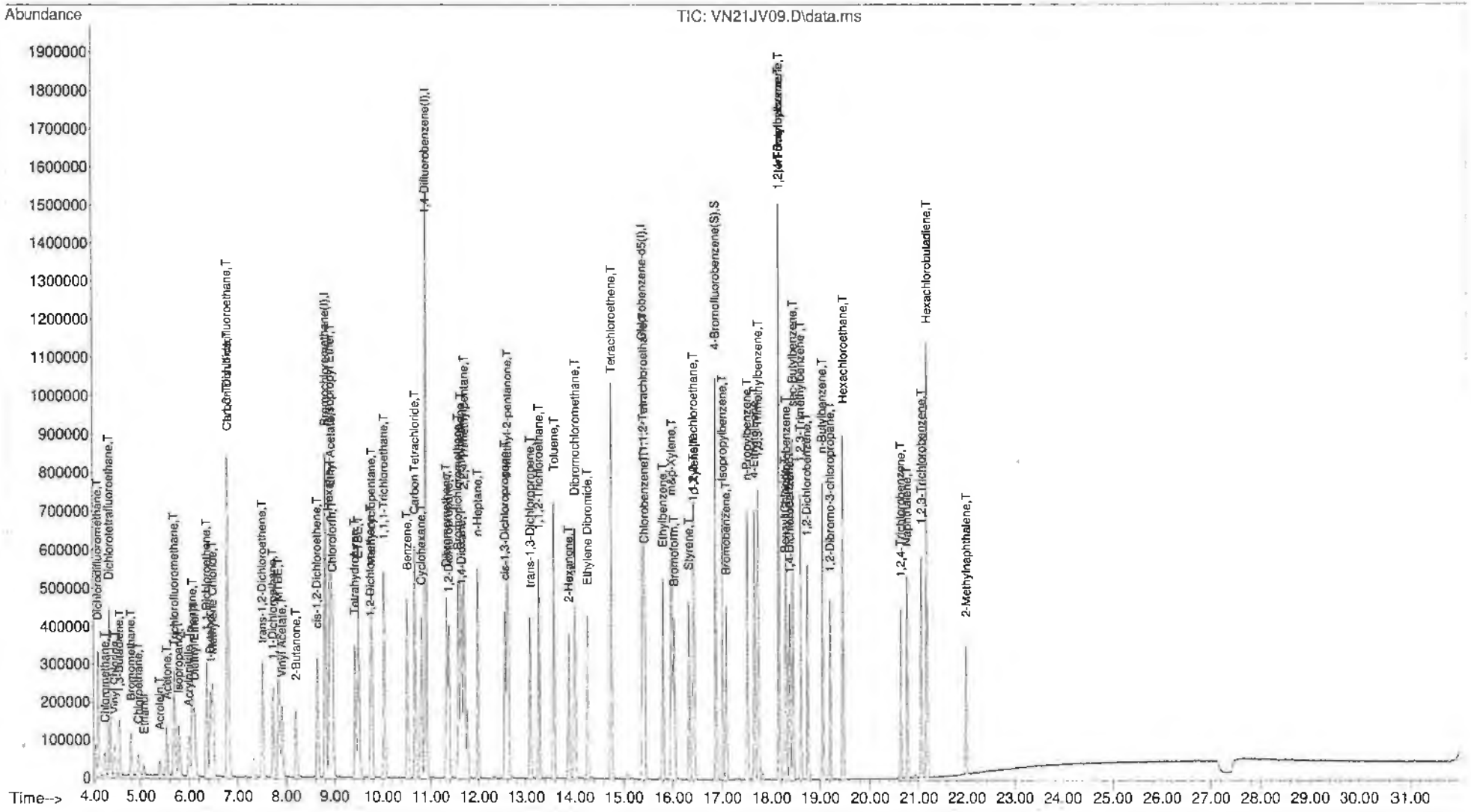
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.658	88	118392	3.02	#	71	3.02
47) 2,2,4-Trimethylpentane	11.709	57	725053	3.08	#	92	3.08
48) cis-1,3-Dichloropropene	12.550	75	289277	2.93		97	2.93
49) 4-Methyl-2-pentanone	12.613	58	137841	2.32		80	2.32
50) trans-1,3-Dichloropropene	13.102	75	272571	2.80		97	2.80
51) 1,1,1,2-Tetrachloroethane	15.401	131	145461	2.35	#	1	2.35
53) 1,1,2-Trichloroethane	13.278	97	202623	2.55		97	2.55
54) Toluene	13.588	91	607900	2.80		100	2.80
55) 2-Hexanone	13.880	43	248101	1.80	#	86	1.80
56) Dibromochloromethane	14.005	127	307320	1.98		99	1.98
57) Ethylene Dibromide	14.258	107	324587	2.39	#	98	2.39
58) Tetrachloroethene	14.744	166	300667	2.05		91	2.05
59) Chlorobenzene	15.423	112	248358	2.36		93	2.36
60) Ethylbenzene	15.799	91	401463	2.90		95	2.90
61) m&p-Xylene	15.978	106	314407	5.29		89	5.29
62) Bromoform	16.026	173	206043	1.97	#	55	1.97
63) Styrene	16.322	104	239099	2.81		94	2.81
64) 1,1,2,2-Tetrachloroethane	16.412	83	236504	2.46		99	2.46
65) o-Xylene	16.430	91	339132	2.92		96	2.92
67) Isopropylbenzene	17.012	105	478229	3.06		97	3.06
68) n-Propylbenzene	17.515	91	565987	3.36		96	3.36
69) 4-Ethyltoluene	17.663	105	451375	2.77	#	94	2.77
70) 1,3,5-Trimethylbenzene	17.743	105	430408	3.00		94	3.00
71) tert-Butylbenzene	18.157	119	446708	3.14	#	93	3.14
72) 1,2,4-Trimethylbenzene	18.160	105	402524	2.84		94	2.84
73) 1,3-Dichlorobenzene	18.311	146	219667	2.28	#	93	2.28
74) Benzyl Chloride	18.291	91	277939	2.62		95	2.62
75) 1,4-Dichlorobenzene	18.382	146	194486	2.08	#	94	2.08
76) sec-Butylbenzene	18.442	105	606118	3.19		97	3.19
77) 1,2,3-Trimethylbenzene	18.601	105	416691	3.42	#	94	3.42
78) 1,2-Dichlorobenzene	18.737	146	231460	2.02	#	93	2.02
79) n-Butylbenzene	19.053	91	432223	2.64		97	2.64
80) Bromobenzene	17.086	77	218573	2.75	#	76	2.75
81) 1,2-Dibromo-3-chloropr...	19.206	157	136269	3.08	#	86	3.08
82) Hexachloroethane	19.468	117	187945	2.38		89	2.38
83) 1,2,4-Trichlorobenzene	20.636	180	132342	1.40		96	1.40
84) Naphthalene	20.764	128	415438	2.02		98	2.02
85) 1,2,3-Trichlorobenzene	21.059	180	173120	1.91		96	1.91
86) Hexachlorobutadiene	21.173	225	199135	1.52		97	1.52
87) 2-Methylnaphthalene	21.991	142	155660	1.44		95	1.44

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV09.D
Acq On : 31 Oct 2021 09:59 pm
Operator :
Sample : 2.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 22:32:09 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	2.5 STD
Inject Time:	10/31/2021 9:59:56 PM
Sample Start:	10/31/2021 9:42:47 PM
Sample End:	10/31/2021 9:47:28 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D9
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.30	25.38	24.8	1.93	3.08
Calibration Std			0.00				
Sample	400.7 (400)	103.7 (100)	4.68	25.76	22.22	1.93	6.5
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	100.6 (100)	1.00	24.49	21.86	4.23	5.11
M1/ M2 Transfer	100.6 (100)	20.5 (20)	5.60	24.62	24.23	5.12	6.27

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				119 (120)
M2	-46 (-50)	-46 (-50)	-46 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		120 (120)
M3	2			-176 (-165)	70 (80)	-65
Rot Valve Plate	91/90 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	77 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	53999 (54000)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS 8Y TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	401563	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1486986	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.375	54	126151	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.870	75	208062	7.11	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 105.80%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	627821	3.94		100	3.94
3) Chloromethane	4.234	50	163597	4.59		99	4.59
4) Dichlorotetrafluoroethane	4.328	85	604534	3.61	#	85	3.61
5) Vinyl Chloride	4.431	62	208512	4.45		99	4.45
6) 1,3-Butadiene	4.556	54	156217	3.71		91	3.71
7) Bromomethane	4.803	94	186800	3.96	#	95	3.96
8) Chloroethane	4.959	64	113193	5.16		94	5.16
9) Ethanol	5.076	45	69714	4.78		98	4.78
10) Acrolein	5.400	56	81690	4.67		96	4.67
11) Trichlorofluoromethane	5.701	101	576035	2.92		98	2.92
12) Isopropanol	5.783	45	410947	4.54		96	4.54
13) Acetone	5.545	58	102854	2.52		88	2.52
14) Acrylonitrile	5.994	53	225708	6.06	#	96	6.06
15) n-Pentane	6.076	43	488300	6.18	#	98	6.18
16) Diethyl Ether	6.116	59	245116	5.77		93	5.77
17) 1,1-Dichloroethene	6.369	61	531369	5.95		91	5.95
18) t-Butanol	6.440	59	707730	6.68	#	96	6.68
19) Methylene Chloride	6.494	49	322610	5.31		99	5.31
20) 1,1,2-Trichlorotrifluo...	6.798	101	700232	5.12		88	5.12
21) Carbon Disulfide	6.804	76	901713	5.60	#	95	5.60
22) trans-1,2-Dichloroethene	7.508	61	454660	6.28		90	6.28
23) MTBE	7.841	73	972747	6.97		97	6.97
24) 1,1-Dichloroethane	7.733	63	546355	6.01		99	6.01
25) Vinyl Acetate	7.926	86	84758	7.62		77	7.62
26) n-Hexane	8.898	57	427825	5.11		78	5.11
27) 2-Butanone	8.191	43	499194	4.28		95	4.28
28) cis-1,2-Dichloroethene	8.642	61	440674	6.48		92	6.48
29) Chloroform	8.961	83	764635	5.89		98	5.89
30) Ethyl Acetate	8.929	61	94757	5.47		78	5.47
31) Diisopropyl Ether	8.918	45	918584	6.12		93	6.12
32) Tetrahydrofuran	9.421	42	366463	6.72	#	92	6.72
33) ETBE	9.501	59	962803	6.50		97	6.50
34) 1,2-Dichloroethane	9.751	62	485855	5.98	#	94	5.98
35) Methylcyclopentane	9.771	56	566675	6.75		90	6.75
37) 1,1,1-Trichloroethane	10.035	97	817724	5.43		99	5.43
38) Cyclohexane	10.817	56	428826	5.90		98	5.90
39) Carbon Tetrachloride	10.680	117	882288	5.30		99	5.30
40) Benzene	10.518	78	975835	5.63		98	5.63
41) Dibromomethane	11.339	174	418303	3.70		99	3.70
42) n-Heptane	11.987	43	397273	4.52	#	90	4.52
43) 1,2-Dichloropropane	11.388	63	329771	5.16		96	5.16
44) Trichloroethene	11.641	95	471199	5.41		88	5.41
45) Bromodichloromethane	11.584	83	798507	5.48		97	5.48

0.17 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

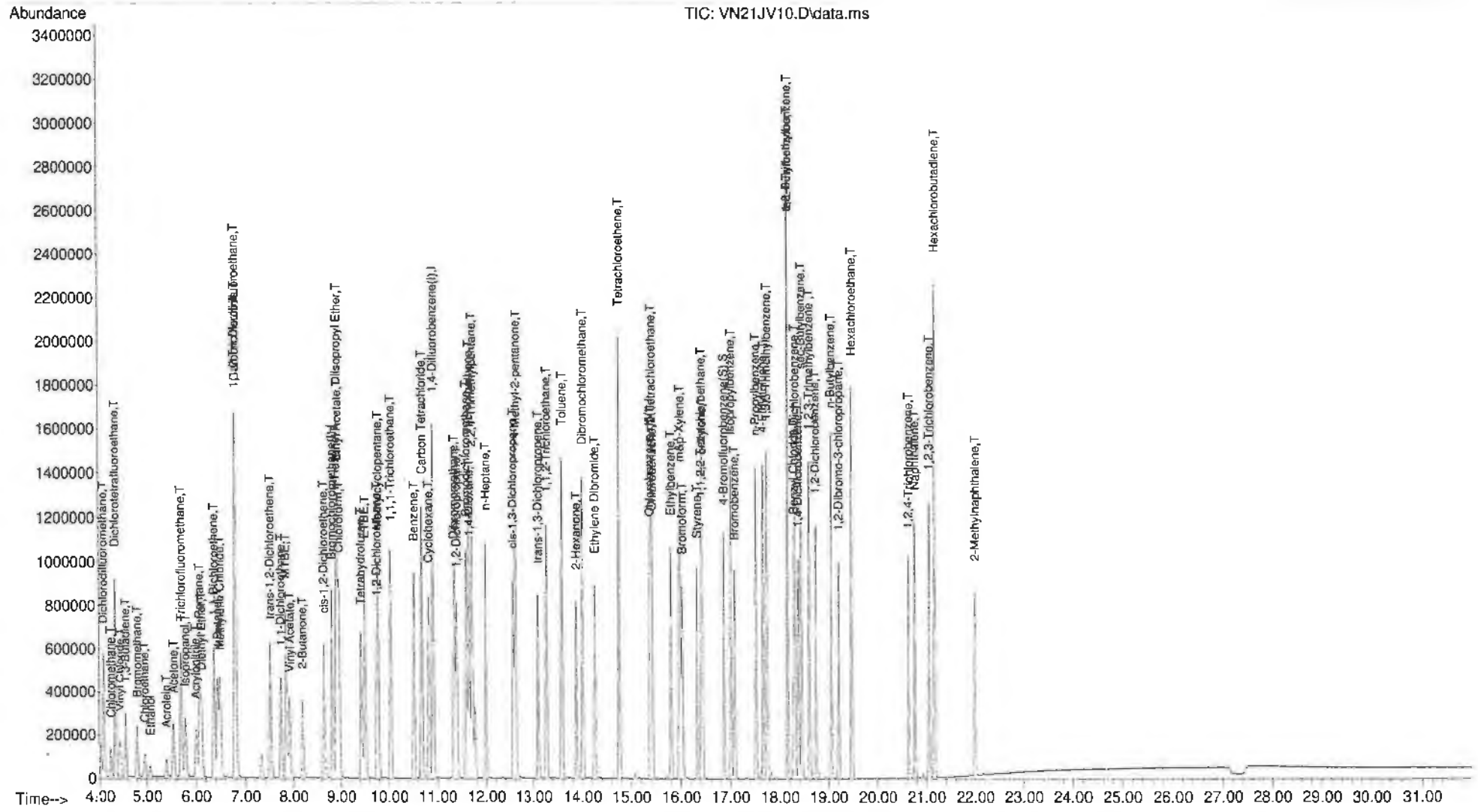
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.655	88	238741	6.02		#	71	6.02
47) 2,2,4-Trimethylpentane	11.706	57	1434884	6.04		#	91	6.04
48) cis-1,3-Dichloropropene	12.547	75	600917	6.02			96	6.02
49) 4-Methyl-2-pentanone	12.610	58	276070	4.59			79	4.59
50) trans-1,3-Dichloropropene	13.102	75	565850	5.75			96	5.75
51) 1,1,1,2-Tetrachloroethane	15.401	131	298931	4.77		#	47	4.77
53) 1,1,2-Trichloroethane	13.278	97	417113	5.13			98	5.13
54) Toluene	13.585	91	1227555	5.53			99	5.53
55) 2-Hexanone	13.877	43	502824	3.56		#	85	3.56
56) Dibromochloromethane	14.005	127	636165	4.01			99	4.01
57) Ethylene Dibromide	14.258	107	664643	4.77		#	99	4.77
58) Tetrachloroethene	14.747	166	614659	4.10			92	4.10
59) Chlorobenzene	15.423	112	503371	4.67			94	4.67
60) Ethylbenzene	15.799	91	819343	5.78			96	5.78
61) m&p-Xylene	15.978	106	635050	10.44			88	10.44
62) Bromoform	16.026	173	435059	4.06		#	61	4.06
63) Styrene	16.324	104	503254	5.77			96	5.77
64) 1,1,2,2-Tetrachloroethane	16.410	83	472899	4.81			99	4.81
65) o-Xylene	16.430	91	688288	5.79			96	5.79
67) Isopropylbenzene	17.009	105	959056	5.99			97	5.99
68) n-Propylbenzene	17.515	91	1143319	6.64			96	6.64
69) 4-Ethyltoluene	17.663	105	946259	5.67		#	95	5.67
70) 1,3,5-Trimethylbenzene	17.743	105	854823	5.82			95	5.82
71) tert-Butylbenzene	18.157	119	885239	6.07		#	94	6.07
72) 1,2,4-Trimethylbenzene	18.160	105	801799	5.52			95	5.52
73) 1,3-Dichlorobenzene	18.308	146	472322	4.79		#	94	4.79
74) Benzyl Chloride	18.291	91	611959	5.64			96	5.64
75) 1,4-Dichlorobenzene	18.379	146	427742	4.47		#	95	4.47
76) sec-Butylbenzene	18.439	105	1202931	6.19			96	6.19
77) 1,2,3-Trimethylbenzene	18.604	105	846368	6.78		#	94	6.78
78) 1,2-Dichlorobenzene	18.737	146	484101	4.12		#	93	4.12
79) n-Butylbenzene	19.053	91	881009	5.25			97	5.25
80) Bromobenzene	17.086	77	446971	5.49		#	77	5.49
81) 1,2-Dibromo-3-chloropr...	19.209	157	289876	6.40		#	89	6.40
82) Hexachloroethane	19.465	117	382043	4.73			89	4.73
83) 1,2,4-Trichlorobenzene	20.633	180	314931	3.25			97	3.25
84) Naphthalene	20.761	128	924734	4.40			98	4.40
85) 1,2,3-Trichlorobenzene	21.056	180	382184	4.13			96	4.13
86) Hexachlorobutadiene	21.170	225	416019	3.10			98	3.10
87) 2-Methylnaphthalene	21.991	142	390650	3.54			95	3.54

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	401563	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1486986	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.375	54	126151	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.870	75	20B062	7.11	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 105.80%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	627821	3.94		100	3.94
3) Chloromethane	4.234	50	163597	4.59		99	4.59
4) Dichlorotetrafluoroethane	4.328	85	604534	3.61	#	85	3.61
5) Vinyl Chloride	4.431	62	208512	4.45		99	4.45
6) 1,3-Butadiene	4.556	54	156217	3.71		91	3.71
7) Bromomethane	4.803	94	186800	3.96	#	95	3.96
8) Chloroethane	4.959	64	113193	5.16		94	5.16
9) Ethanol	5.076	45	69714	4.78		9B	4.78
10) Acrolein	5.400	56	81690	4.67		96	4.67
11) Trichlorofluoromethane	5.701	101	576035	2.92		98	2.92
12) Isopropanol	5.783	45	410947	4.54		96	4.54
13) Acetone	5.545	58	102854	2.52		88	2.52
14) Acrylonitrile	5.994	53	225708	6.06	#	96	6.06
15) n-Pentane	6.076	43	488300	6.18	#	98	6.18
16) Diethyl Ether	6.116	59	245116	5.77		93	5.77
17) 1,1-Dichloroethene	6.369	61	531369	5.95		91	5.95
18) t-Butanol	6.440	59	707730	6.68	#	96	6.68
19) Methylene Chloride	6.494	49	322610	5.31		99	5.31
20) 1,1,2-Trichlorotrifluo...	6.798	101	700232	5.12		88	5.12
21) Carbon Disulfide	6.804	76	901713	5.60	#	95	5.60
22) trans-1,2-Dichloroethene	7.508	61	454660	6.28		90	6.28
23) MTBE	7.841	73	972747	6.97		97	6.97
24) 1,1-Dichloroethane	7.733	63	546355	6.01		99	6.01
25) Vinyl Acetate	7.926	86	84758	7.62		77	7.62
26) n-Hexane	8.898	57	427825	5.11		78	5.11
27) 2-Butanone	8.191	43	499194	4.28		95	4.28
28) cis-1,2-Dichloroethene	8.642	61	440674	6.48		92	6.48
29) Chloroform	8.961	83	764635	5.89		98	5.89
30) Ethyl Acetate	8.929	61	94757	5.47		78	5.47
31) Diisopropyl Ether	8.918	45	918584	6.12		93	6.12
32) Tetrahydrofuran	9.421	42	366463	6.72	#	92	6.72
33) ETBE	9.501	59	962803	6.50		97	6.50
34) 1,2-Dichloroethane	9.751	62	485855	5.98	#	94	5.98
35) Methylcyclopentane	9.771	56	566675	6.75		90	6.75
37) 1,1,1-Trichloroethane	10.035	97	817724	5.43		99	5.43
38) Cyclohexane	10.817	56	428826	5.90		98	5.90
39) Carbon Tetrachloride	10.680	117	882288	5.30		99	5.30
40) Benzene	10.518	78	975835	5.63		98	5.63
41) Dibromomethane	11.339	174	418303	3.70		99	3.70
42) n-Heptane	11.987	43	397273	4.52	#	90	4.52
43) 1,2-Dichloropropane	11.388	63	329771	5.16		96	5.16
44) Trichloroethene	11.641	95	471199	5.41		88	5.41
45) Bromodichloromethane	11.584	83	798507	5.48		97	5.48

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

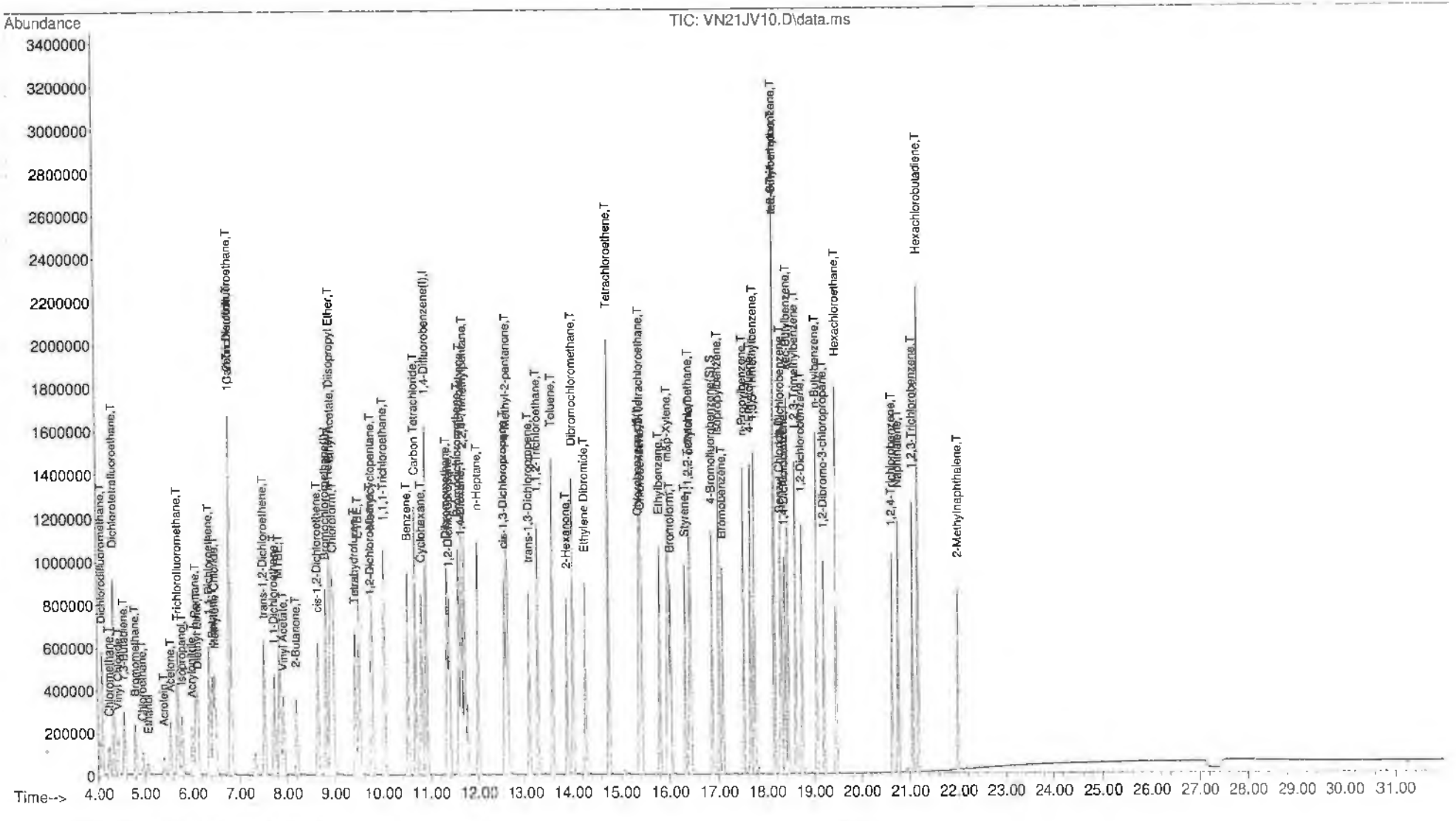
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.655	88	238741	6.02		# 71	6.02
47) 2,2,4-Trimethylpentane	11.706	57	1434884	6.04		# 91	6.04
48) cis-1,3-Dichloropropene	12.547	75	600917	6.02		96	6.02
49) 4-Methyl-2-pentanone	12.610	58	276070	4.59		79	4.59
50) trans-1,3-Dichloropropene	13.102	75	565850	5.75		96	5.75
51) 1,1,1,2-Tetrachloroethane	15.401	131	298931	4.77		# 47	4.77
53) 1,1,2-Trichloroethane	13.278	97	417113	5.13		98	5.13
54) Toluene	13.585	91	1227555	5.53		99	5.53
55) 2-Hexanone	13.877	43	502824	3.56		# 85	3.56
56) Dibromochloromethane	14.005	127	636165	4.01		99	4.01
57) Ethylene Dibromide	14.258	107	664643	4.77		# 99	4.77
58) Tetrachloroethene	14.747	166	614659	4.10		92	4.10
59) Chlorobenzene	15.423	112	503371	4.67		94	4.67
60) Ethylbenzene	15.799	91	819343	5.78		96	5.78
61) m&p-Xylene	15.978	106	635050	10.44		88	10.44
62) Bromoform	16.026	173	435059	4.06		# 61	4.06
63) Styrene	16.324	104	503254	5.77		96	5.77
64) 1,1,2,2-Tetrachloroethane	16.410	83	472899	4.81		99	4.81
65) o-Xylene	16.430	91	688288	5.79		96	5.79
67) Isopropylbenzene	17.009	105	959056	5.99		97	5.99
68) n-Propylbenzene	17.515	91	1143319	6.64		96	6.64
69) 4-Ethyltoluene	17.663	105	946259	5.67		# 95	5.67
70) 1,3,5-Trimethylbenzene	17.743	105	854823	5.82		95	5.82
71) tert-Butylbenzene	18.157	119	885239	6.07		# 94	6.07
72) 1,2,4-Trimethylbenzene	18.160	105	801799	5.52		95	5.52
73) 1,3-Dichlorobenzene	18.308	146	472322	4.79		# 94	4.79
74) Benzyl Chloride	18.291	91	611959	5.64		96	5.64
75) 1,4-Dichlorobenzene	18.379	146	427742	4.47		# 95	4.47
76) sec-Butylbenzene	18.439	105	1202931	6.19		96	6.19
77) 1,2,3-Trimethylbenzene	18.604	105	846368	6.78		# 94	6.78
78) 1,2-Dichlorobenzene	18.737	146	484101	4.12		# 93	4.12
79) n-Butylbenzene	19.053	91	881009	5.25		97	5.25
80) Bromobenzene	17.086	77	446971	5.49		# 77	5.49
81) 1,2-Dibromo-3-chloropr...	19.209	157	289876	6.40		# 89	6.40
82) Hexachloroethane	19.465	117	382043	4.73		89	4.73
83) 1,2,4-Trichlorobenzene	20.633	180	314931	3.25		97	3.25
84) Naphthalene	20.761	128	924734	4.40		98	4.40
85) 1,2,3-Trichlorobenzene	21.056	180	382184	4.13		96	4.13
86) Hexachlorobutadiene	21.170	225	416019	3.10		98	3.10
87) 2-Methylnaphthalene	21.991	142	390650	3.54		95	3.54

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 B.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV10.D
Acq On : 31 Oct 2021 10:55 pm
Operator :
Sample : 5.0 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 23:27:48 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	5.0 STD
Inject Time:	10/31/2021 10:55:34 PM
Sample Start:	10/31/2021 10:33:20 PM
Sample End:	10/31/2021 10:43:02 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D9
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.30	25.2	24.61	1.95	3.09
Calibration Std			0.00				
Sample	801.2 (800)	100.6 (100)	9.68	23.45	19.91	1.92	5.33
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	99 (100)	1.02	24.57	21.95	3.48	4.35
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.63	24.71	24.34	4.27	5.41

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-1 (0)				121 (120)
M1 BulkHead	32 (30)	62 (60)				119 (120)
M2	-46 (-50)	-47 (-50)	-47 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		122 (122)
M3	8			-164 (-165)	71 (80)	-48
Rot Valve Plate	91/91 (90)					92/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	77 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	53999 (54000)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	399083	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.905	114	1452092	6.70	ppbv	#-0.01
52) Chlorobenzene-d5(I)	15.375	54	119602	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	201102	7.25	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 107.89%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	1768144	11.17	100	11.17
3) Chloromethane	4.237	50	397243	11.21	98	11.21
4) Dichlorotetrafluoroethane	4.325	85	1504238	9.05	# 85	9.05
5) Vinyl Chloride	4.430	62	507496	10.91	100	10.91
6) 1,3-Butadiene	4.558	54	375386	8.96	91	8.96
7) Bromomethane	4.803	94	461629	9.85	# 94	9.85
8) Chloroethane	4.962	64	280255	12.85	# 92	12.85
9) Ethanol	5.067	45	167740	11.58	98	11.58
10) Acrolein	5.400	56	199182	11.46	97	11.46
11) Trichlorofluoromethane	5.701	101	1441777	7.36	98	7.36
12) Isopropanol	5.780	45	958020	10.64	98	10.64
13) Acetone	5.539	58	239646	5.92	89	5.92
14) Acrylonitrile	5.996	53	561953	15.18	# 98	15.18
15) n-Pentane	6.076	43	1133425	14.43	# 99	14.43
16) Diethyl Ether	6.110	59	585051	13.85	96	13.85
17) 1,1-Dichloroethene	6.369	61	1267120	14.28	93	14.28
18) t-Butanol	6.431	59	1679624	15.95	# 94	15.95
19) Methylene Chloride	6.494	49	761640	12.61	97	12.61
20) 1,1,2-Trichlorotrifluo...	6.798	101	1709461	12.59	89	12.59
21) Carbon Disulfide	6.806	76	2141846	13.39	# 95	13.39
22) trans-1,2-Dichloroethene	7.514	61	1087854	15.12	93	15.12
23) MTBE	7.838	73	2366129	17.07	97	17.07
24) 1,1-Dichloroethane	7.733	63	1306511	14.47	100	14.47
25) Vinyl Acetate	7.920	86	210905	19.07	# 68	19.07
26) n-Hexane	8.895	57	990429	11.90	76	11.90
27) 2-Butanone	8.182	43	1185645	10.24	93	10.24
28) cis-1,2-Dichloroethene	8.640	61	105129B	15.56	93	15.56
29) Chloroform	8.961	83	1838722	14.25	97	14.25
30) Ethyl Acetate	8.924	61	222765	12.93	68	12.93
31) Diisopropyl Ether	8.915	45	2057918	13.79	# 93	13.79
32) Tetrahydrofuran	9.413	42	834335	15.39	# 90	15.39
33) ETBE	9.495	59	2234773	15.19	98	15.19
34) 1,2-Dichloroethane	9.751	62	1149038	14.23	# 94	14.23
35) Methylcyclopentane	9.776	56	1312031	15.72	89	15.72
37) 1,1,1-Trichloroethane	10.029	97	1964836	13.35	99	13.35
38) Cyclohexane	10.811	56	1015482	14.31	96	14.31
39) Carbon Tetrachloride	10.674	117	2110050	12.99	99	12.99
40) Benzene	10.515	78	2309814	13.64	98	13.64
41) Dibromomethane	11.339	174	1065554	9.66	99	9.66
42) n-Heptane	11.982	43	919552	10.71	# 88	10.71
43) 1,2-Dichloropropane	11.385	63	766183	12.27	95	12.27
44) Trichloroethene	11.641	95	1115940	13.13	90	13.13
45) Bromodichloromethane	11.584	83	1902003	13.36	97	13.36

DH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

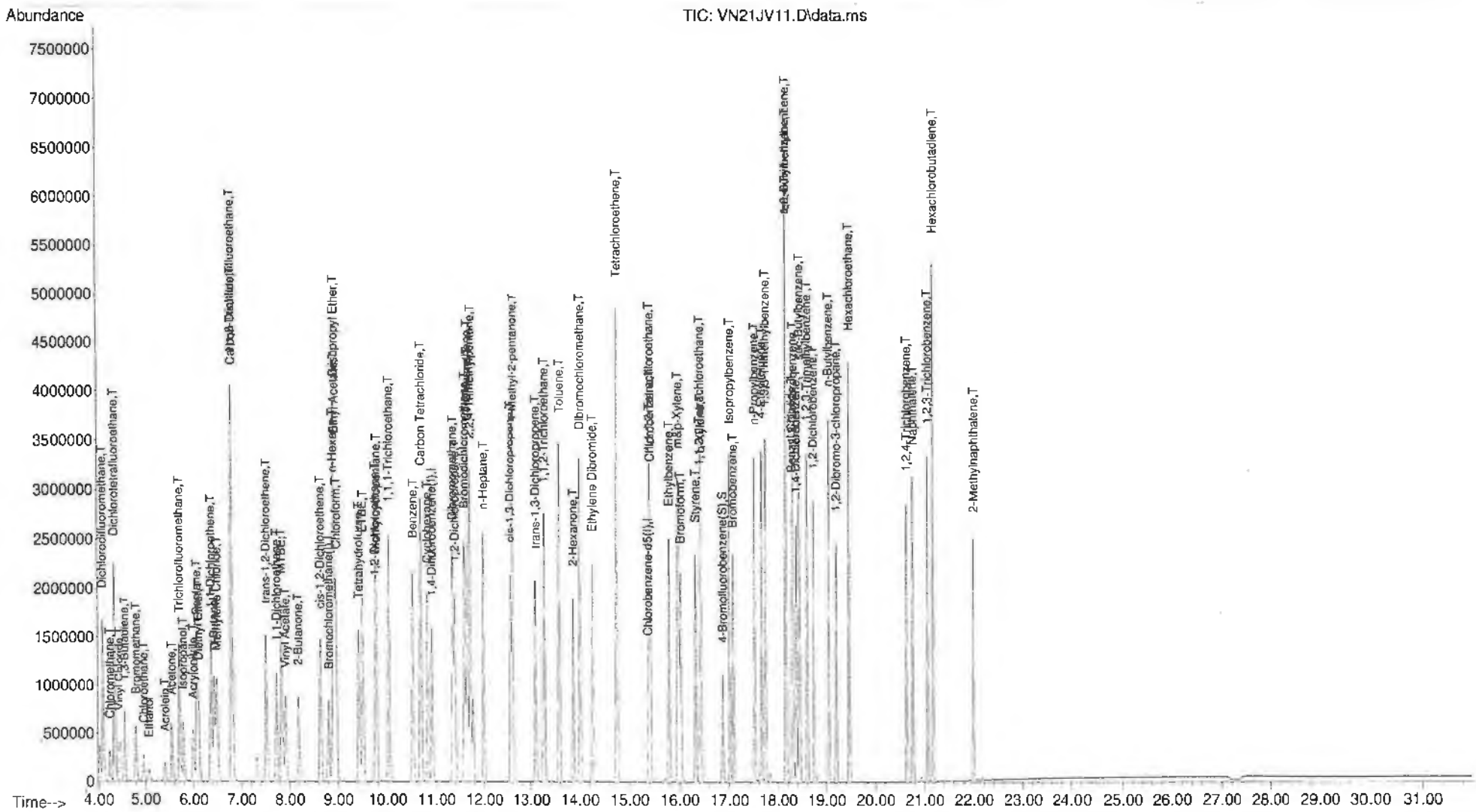
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.644	88	558377	14.42			97	14.42
47) 2,2,4-Trimethylpentane	11.706	57	3264538	14.07		#	94	14.07
48) cis-1,3-Dichloropropene	12.547	75	1414716	14.51			97	14.51
49) 4-Methyl-2-pentanone	12.607	58	655405	11.16			78	11.16
50) trans-1,3-Dichloropropene	13.099	75	1358640	14.14			97	14.14
51) 1,1,1,2-Tetrachloroethane	15.401	131	712059	11.64			99	11.64
53) 1,1,2-Trichloroethane	13.275	97	1015893	13.17			98	13.17
54) Toluene	13.582	91	2976771	14.13			99	14.13
55) 2-Hexanone	13.872	43	1186496	8.86		#	85	8.86
56) Dibromochloromethane	14.005	127	1574894	10.48			99	10.48
57) Ethylene Dibromide	14.258	107	1647281	12.48		#	99	12.48
58) Tetrachloroethene	14.744	166	1526013	10.73			94	10.73
59) Chlorobenzene	15.418	112	1233022	12.08			94	12.08
60) Ethylbenzene	15.799	91	1985415	14.77			97	14.77
61) m&p-Xylene	15.972	106	1539404	26.70			90	26.70
62) Bromoform	16.026	173	1100456	10.84		#	1	10.84
63) Styrene	16.319	104	1242445	15.02			95	15.02
64) 1,1,2,2-Tetrachloroethane	16.410	83	1099513	11.80			99	11.80
65) o-Xylene	16.429	91	1628B19	14.46			96	14.46
67) Isopropylbenzene	17.006	105	2305829	15.1B			97	15.18
68) n-Propylbenzene	17.515	91	2742624	16.80			97	16.80
69) 4-Ethyltoluene	17.660	105	2243490	14.17		#	96	14.17
70) 1,3,5-Trimethylbenzene	17.740	105	2032182	14.58			96	14.58
71) tert-8utylbenzene	18.157	119	2074247	15.00		#	95	15.00
72) 1,2,4-Trimethylbenzene	18.157	105	1863166	13.52			97	13.52
73) 1,3-Dichlorobenzene	18.311	146	1213347	12.99			95	12.99
74) Benzyl Chloride	18.291	91	1576592	15.33			96	15.33
75) 1,4-Dichlorobenzene	18.379	146	1145851	12.63			96	12.63
76) sec-Butylbenzene	18.439	105	2822019	15.31			97	15.31
77) 1,2,3-Trimethylbenzene	18.601	105	2005751	16.95		#	94	16.95
78) 1,2-Dichlorobenzene	18.737	146	1235827	11.10		#	95	11.10
79) n-Butylbenzene	19.053	91	2110793	13.27			97	13.27
80) Bromobenzene	17.080	77	1095492	14.18		#	81	14.18
81) 1,2-Dibromo-3-chloropr...	19.206	157	764993	17.82			92	17.82
82) Hexachloroethane	19.465	117	900767	11.76			92	11.76
83) 1,2,4-Trichlorobenzene	20.633	180	906233	9.88			98	9.88
84) Naphthalene	20.761	128	2509225	12.59			98	12.59
85) 1,2,3-Trichlorobenzene	21.056	180	1036250	11.81			97	11.81
86) Hexachlorobutadiene	21.167	225	1031690	8.11			98	8.11
87) 2-Methylnaphthalene	21.991	142	1174309	11.22			96	11.22

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	399083	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.905	114	1452092	6.70	ppbv	#-0.01
52) Chlorobenzene-d5(I)	15.375	54	119602	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	201102	7.25	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 107.89%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	1768144	11.17	100	11.17
3) Chloromethane	4.237	50	397243	11.21	98	11.21
4) Dichlorotetrafluoroethane	4.325	85	1504238	9.05 #	85	9.05
5) Vinyl Chloride	4.430	62	507496	10.91	100	10.91
6) 1,3-Butadiene	4.558	54	375386	8.96	91	8.96
7) Bromomethane	4.803	94	461629	9.85 #	94	9.85
8) Chloroethane	4.962	64	280255	12.85 #	92	12.85
9) Ethanol	5.067	45	167740	11.58	98	11.58
10) Acrolein	5.400	56	199182	11.46	97	11.46
11) Trichlorofluoromethane	5.701	101	1441777	7.36	98	7.36
12) Isopropanol	5.780	45	958020	10.64	98	10.64
13) Acetone	5.539	58	239646	5.92	89	5.92
14) Acrylonitrile	5.996	53	561953	15.18 #	98	15.18
15) n-Pentane	6.076	43	1133425	14.43 #	99	14.43
16) Diethyl Ether	6.110	59	585051	13.85	96	13.85
17) 1,1-Dichloroethene	6.369	61	1267120	14.28	93	14.28
18) t-Butanol	6.431	59	1679624	15.95 #	94	15.95
19) Methylene Chloride	6.494	49	761640	12.61	97	12.61
20) 1,1,2-Trichlorotrifluo...	6.798	101	1709461	12.59	89	12.59
21) Carbon Disulfide	6.806	76	2141846	13.39 #	95	13.39
22) trans-1,2-Dichloroethene	7.514	61	1087854	15.12	93	15.12
23) MTBE	7.838	73	2366129	17.07	97	17.07
24) 1,1-Dichloroethane	7.733	63	1306511	14.47	100	14.47
25) Vinyl Acetate	7.920	86	210905	19.07 #	68	19.07
26) n-Hexane	8.895	57	990429	11.90	76	11.90
27) 2-Butanone	8.182	43	1185645	10.24	93	10.24
28) cis-1,2-Dichloroethene	8.640	61	1051298	15.56	93	15.56
29) Chloroform	8.961	83	1838722	14.25	97	14.25
30) Ethyl Acetate	8.924	61	222765	12.93	68	12.93
31) Diisopropyl Ether	8.915	45	2057918	13.79 #	93	13.79
32) Tetrahydrofuran	9.413	42	834335	15.39 #	90	15.39
33) ETBE	9.495	59	2234773	15.19	98	15.19
34) 1,2-Dichloroethane	9.751	62	1149038	14.23 #	94	14.23
35) Methylcyclopentane	9.776	56	1312031	15.72	89	15.72
37) 1,1,1-Trichloroethane	10.029	97	1964836	13.35	99	13.35
38) Cyclohexane	10.811	56	1015482	14.31	96	14.31
39) Carbon Tetrachloride	10.674	117	2110050	12.99	99	12.99
40) Benzene	10.515	78	2309814	13.64	98	13.64
41) Dibromomethane	11.339	174	1065554	9.66	99	9.66
42) n-Heptane	11.982	43	919552	10.71 #	88	10.71
43) 1,2-Dichloropropane	11.385	63	766183	12.27	95	12.27
44) Trichloroethene	11.641	95	1115940	13.13	90	13.13
45) Bromodichloromethane	11.584	83	1902003	13.36	97	13.36

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

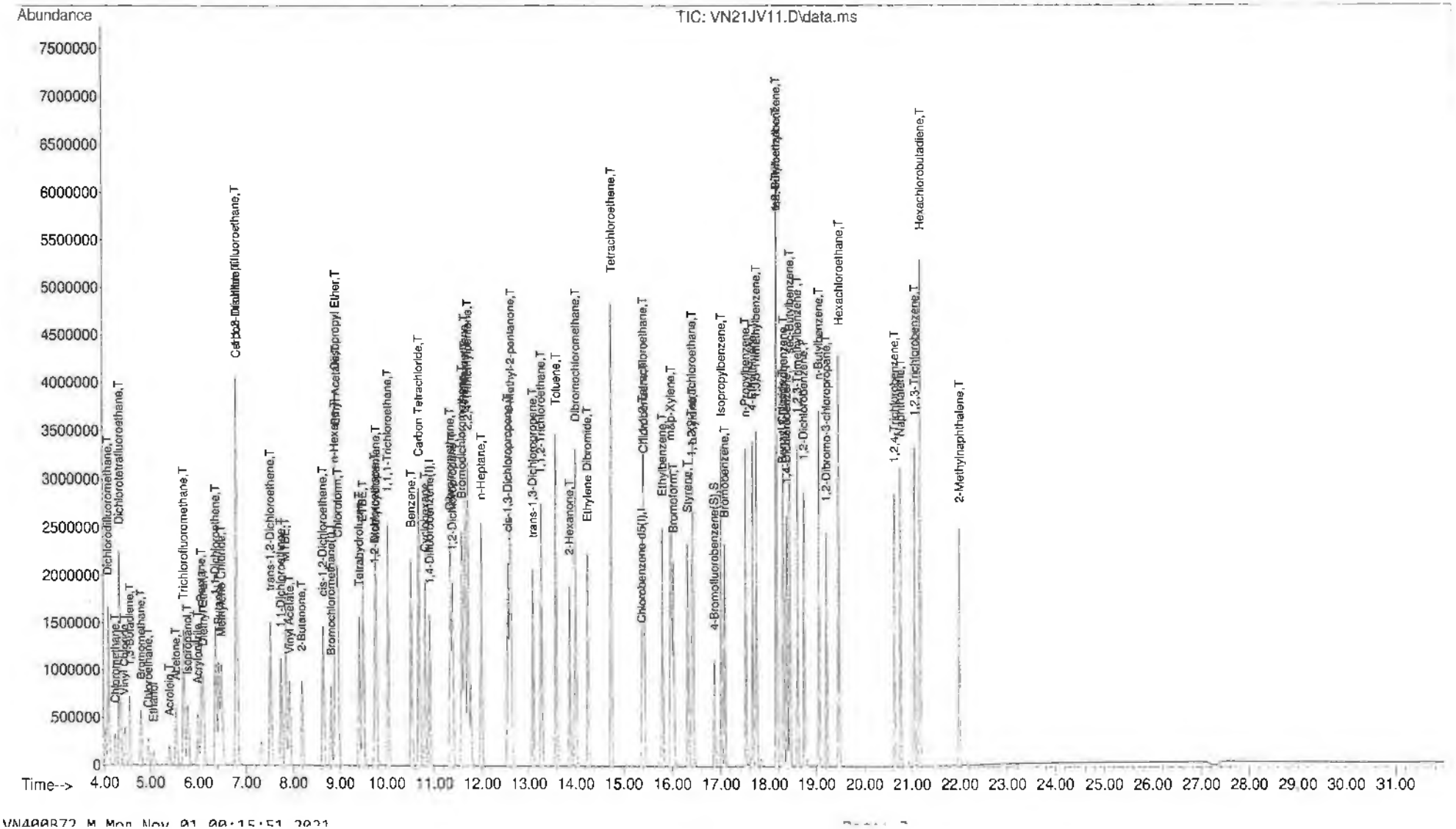
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.644	88	558377	14.42			97	14.42
47) 2,2,4-Trimethylpentane	11.706	57	3264538	14.07		#	94	14.07
48) cis-1,3-Dichloropropene	12.547	75	1414716	14.51			97	14.51
49) 4-Methyl-2-pentanone	12.607	58	655405	11.16			78	11.16
50) trans-1,3-Dichloropropene	13.099	75	1358640	14.14			97	14.14
51) 1,1,1,2-Tetrachloroethane	15.401	131	712059	11.64			99	11.64
53) 1,1,2-Trichloroethane	13.275	97	1015893	13.17			98	13.17
54) Toluene	13.582	91	2976771	14.13			99	14.13
55) 2-Hexanone	13.872	43	1186496	8.86		#	85	8.86
56) Dibromochloromethane	14.005	127	1574894	10.48			99	10.48
57) Ethylene Dibromide	14.258	107	1647281	12.48		#	99	12.48
58) Tetrachloroethene	14.744	166	1526013	10.73			94	10.73
59) Chlorobenzene	15.418	112	1233022	12.08			94	12.08
60) Ethylbenzene	15.799	91	1985415	14.77			97	14.77
61) m&p-Xylene	15.972	106	1539404	26.70			90	26.70
62) Bromoform	16.026	173	1100456	10.84		#	1	10.84
63) Styrene	16.319	104	1242445	15.02			95	15.02
64) 1,1,2,2-Tetrachloroethane	16.410	83	1099513	11.80			99	11.80
65) o-Xylene	16.429	91	1628819	14.46			96	14.46
67) Isopropylbenzene	17.006	105	2305829	15.18			97	15.18
68) n-Propylbenzene	17.515	91	2742624	16.80			97	16.80
69) 4-Ethyltoluene	17.660	105	2243490	14.17		#	96	14.17
70) 1,3,5-Trimethylbenzene	17.740	105	2032182	14.58			96	14.58
71) tert-Butylbenzene	18.157	119	2074247	15.00		#	95	15.00
72) 1,2,4-Trimethylbenzene	18.157	105	1863166	13.52			97	13.52
73) 1,3-Dichlorobenzene	18.311	146	1213347	12.99			95	12.99
74) Benzyl Chloride	18.291	91	1576592	15.33			96	15.33
75) 1,4-Dichlorobenzene	18.379	146	1145851	12.63			96	12.63
76) sec-Butylbenzene	18.439	105	2822019	15.31			97	15.31
77) 1,2,3-Trimethylbenzene	18.601	105	2005751	16.95		#	94	16.95
78) 1,2-Dichlorobenzene	18.737	146	1235827	11.10		#	95	11.10
79) n-Butylbenzene	19.053	91	2110793	13.27			97	13.27
80) Bromobenzene	17.080	77	1095492	14.18		#	81	14.18
81) 1,2-Dibromo-3-chloropr...	19.206	157	764993	17.82			92	17.82
82) Hexachloroethane	19.465	117	900767	11.76			92	11.76
83) 1,2,4-Trichlorobenzene	20.633	180	906233	9.88			98	9.88
84) Naphthalene	20.761	128	2509225	12.59			98	12.59
85) 1,2,3-Trichlorobenzene	21.056	180	1036250	11.81			97	11.81
86) Hexachlorobutadiene	21.167	225	1031690	8.11			98	8.11
87) 2-Methylnaphthalene	21.991	142	1174309	11.22			96	11.22

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV11.D
Acq On : 31 Oct 2021 11:43 pm
Operator :
Sample : 12.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 00:15:50 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



B b o QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	12.5 STD
Inject Time:	10/31/2021 11:43:36 PM
Sample Start:	
Sample End:	

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.9 (100)	26.8 (25)	5.33	25.02	24.44	1.95	3.1
Calibration Std	200.8 (200)	97.4 (100)	2.42	21.84	19.16	2.87	5.16
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	101.1 (100)	0.97	24.79	22.6	3.43	4.3
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.62	24.79	24.32	4.31	5.45

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-48 (-50)	-46 (-50)	-47 (-50)	227 (230)		210 (210)
M2 Bulk Head	32 (32)			61 (61)		121 (121)
M3	5			-174 (-165)	71 (80)	-63
Rot Valve Plate	91/90 (90)					91/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	61 (60)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

Encoder	Position (steps)
X:	
Y:	

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	413593	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.910	114	1458095	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.375	54	118458	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	205210	7.47	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 111.16%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	3298608	20.12	100	20.12
3) Chloromethane	4.234	50	772072	21.02	98	21.02
4) Dichlorotetrafluoroethane	4.328	85	2984679	17.32	# 88	17.32
5) Vinyl Chloride	4.430	62	1011503	20.97	99	20.97
6) 1,3-Butadiene	4.558	54	750258	17.28	90	17.28
7) Bromomethane	4.800	94	958998	19.74	# 93	19.74
8) Chloroethane	4.959	64	555265	24.57	# 93	24.57
9) Ethanol	5.064	45	320421	21.35	98	21.35
10) Acrolein	5.397	56	395249	21.94	98	21.94
11) Trichlorofluoromethane	5.701	101	2900350	14.29	98	14.29
12) Isopropanol	5.777	45	1839089	19.72	98	19.72
13) Acetone	5.527	58	479491	11.42	86	11.42
14) Acrylonitrile	5.996	53	1123738m	29.30		29.30
15) n-Pentane	6.073	43	2182815	26.82	# 100	26.82
16) Diethyl Ether	6.107	59	1140523	26.06	96	26.06
17) 1,1-Dichloroethene	6.366	61	2481565	26.98	94	26.98
18) t-Butanol	6.431	59	3164265	29.00	# 94	29.00
19) Methylene Chloride	6.488	49	1440863	23.02	96	23.02
20) 1,1,2-Trichlorotrifluo...	6.801	101	3266443	23.21	90	23.21
21) Carbon Disulfide	6.803	76	4033865	24.34	# 95	24.34
22) trans-1,2-Dichloroethene	7.514	61	2119507	28.42	94	28.42
23) MTBE	7.832	73	4577612	31.87	97	31.87
24) 1,1-Dichloroethane	7.733	63	2547857	27.23	100	27.23
25) Vinyl Acetate	7.918	86	413597	36.08	# 60	36.08
26) n-Hexane	8.895	57	1787614	20.73	78	20.73
27) 2-Butanone	8.182	43	2104500	17.54	# 90	17.54
28) cis-1,2-Dichloroethene	8.639	61	1952541	27.89	96	27.89
29) Chloroform	8.963	83	3559508	26.62	98	26.62
30) Ethyl Acetate	8.924	61	412582	23.12	# 65	23.12
31) Diisopropyl Ether	8.915	45	3748201	24.24	# 93	24.24
32) Tetrahydrofuran	9.410	42	1551344	27.61	# 89	27.61
33) ETBE	9.495	59	4331747	28.41	98	28.41
34) 1,2-Dichloroethane	9.748	62	2213103	26.45	# 94	26.45
35) Methylcyclopentane	9.776	56	2483237	28.71	90	28.71
37) 1,1,1-Trichloroethane	10.032	97	3833225	25.94	99	25.94
38) Cyclohexane	10.814	56	1925379	27.01	94	27.01
39) Carbon Tetrachloride	10.677	117	4108807	25.19	99	25.19
40) Benzene	10.518	78	4447233	26.15	98	26.15
41) Dibromomethane	11.342	174	2136531	19.28	100	19.28
42) n-Heptane	11.990	43	1720332	19.96	# 87	19.96
43) 1,2-Dichloropropane	11.388	63	1461897	23.32	# 94	23.32
44) Trichloroethene	11.638	95	2156897	25.27	91	25.27
45) Bromodichloromethane	11.584	83	3708950	25.95	98	25.95

DH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

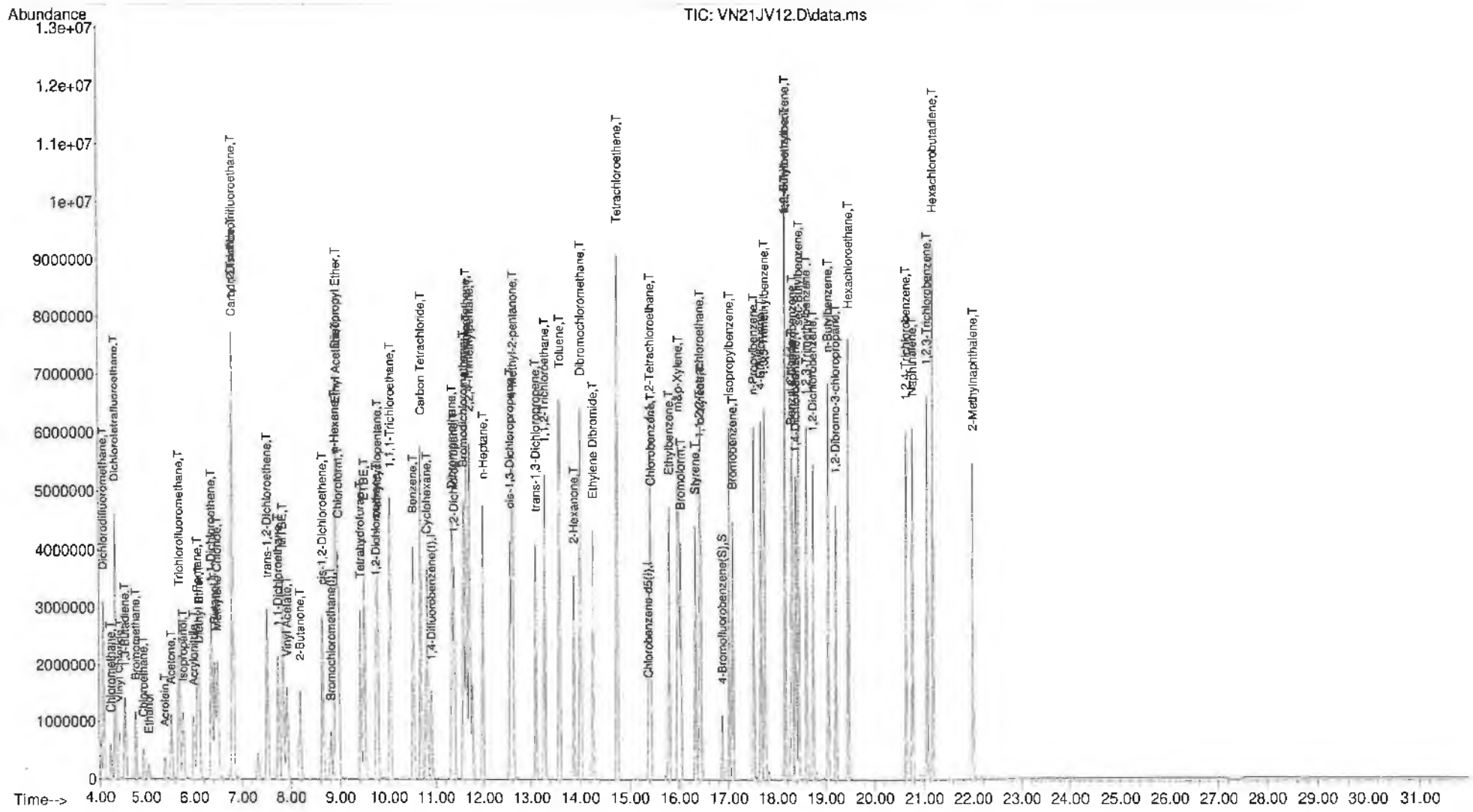
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.646	88	1066195	27.43			96	27.43
47) 2,2,4-Trimethylpentane	11.709	57	6117187m	B 26.26				26.26
48) cis-1,3-Dichloropropene	12.550	75	2766672	28.25			98	28.25
49) 4-Methyl-2-pentanone	12.610	58	1233689	20.91			78	20.91
50) trans-1,3-Dichloropropene	13.099	75	2665669	27.63			97	27.63
51) 1,1,1,2-Tetrachloroethane	15.403	131	1369446	22.30		#	82	22.30
53) 1,1,2-Trichloroethane	13.280	97	1972004	25.81			98	25.81
54) Toluene	13.584	91	5736429	27.50			100	27.50
55) 2-Hexanone	13.877	43	2235482	16.85		#	83	16.85
56) Dibromochloromethane	14.005	127	3080031	20.69			100	20.69
57) Ethylene Dibromide	14.264	107	3254758	24.89		#	98	24.89
58) Tetrachloroethene	14.747	166	2993770	21.24			94	21.24
59) Chlorobenzene	15.426	112	2365420	23.39			95	23.39
60) Ethylbenzene	15.798	91	3768671	28.31			97	28.31
61) m&p-Xylene	15.977	106	2891641	50.64			91	50.64
62) Bromoform	16.029	173	2181474	21.69		#	1	21.69
63) Styrene	16.321	104	2403661	29.34			96	29.34
64) 1,1,2,2-Tetrachloroethane	16.412	83	1988277	21.55			99	21.55
65) o-Xylene	16.432	91	3039728	27.24			96	27.24
67) Isopropylbenzene	17.012	105	4298427	28.57			98	28.57
68) n-Propylbenzene	17.515	91	5089639	31.48			98	31.48
69) 4-Ethyltoluene	17.663	105	4243071	27.06		#	96	27.06
70) 1,3,5-Trimethylbenzene	17.742	105	3806812	27.58			96	27.58
71) tert-Butylbenzene	18.160	119	3713629	27.12		#	95	27.12
72) 1,2,4-Trimethylbenzene	18.163	105	3348290	24.54			97	24.54
73) 1,3-Dichlorobenzene	18.314	146	2398817	25.92			96	25.92
74) Benzyl Chloride	18.294	91	3115632	30.58			98	30.58
75) 1,4-Dichlorobenzene	18.385	146	2345277	26.10			96	26.10
76) sec-Butylbenzene	18.441	105	5185043	28.40			98	28.40
77) 1,2,3-Trimethylbenzene	18.603	105	3729315	31.82		#	96	31.82
78) 1,2-Dichlorobenzene	18.740	146	2428448	22.03			95	22.03
79) n-Butylbenzene	19.055	91	3903304	24.77			98	24.77
80) Bromobenzene	17.083	77	2088172	27.30			84	27.30
81) 1,2-Dibromo-3-chloropr...	19.209	157	1528850	35.95			95	35.95
82) Hexachloroethane	19.467	117	1659426	21.87			95	21.87
83) 1,2,4-Trichlorobenzene	20.636	180	2002076	22.03			98	22.03
84) Naphthalene	20.763	128	5110534	25.90			98	25.90
85) 1,2,3-Trichlorobenzene	21.056	180	2131207	24.52			98	24.52
86) Hexachlorobutadiene	21.170	225	1919772	15.24			99	15.24
87) 2-Methylnaphthalene	21.991	142	2698558	26.04			97	26.04

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane(I)	8.810	130	413593	6.46 ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.910	114	1458095	6.70 ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.375	54	118458	6.67 ppbv	# 0.00
System Monitoring Compounds					
66) 4-Bromofluorobenzene(S)	16.867	75	205210	7.47 ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 111.16%		
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	3298608	20.12	100	20.12
3) Chloromethane	4.234	50	772072	21.02	98	21.02
4) Dichlorotetrafluoroethane	4.328	85	2984679	17.32 #	88	17.32
5) Vinyl Chloride	4.430	62	1011503	20.97	99	20.97
6) 1,3-Butadiene	4.558	54	750258	17.28	90	17.28
7) Bromomethane	4.800	94	958998	19.74 #	93	19.74
8) Chloroethane	4.959	64	555265	24.57 #	93	24.57
9) Ethanol	5.064	45	320421	21.35	98	21.35
10) Acrolein	5.397	56	395249	21.94	98	21.94
11) Trichlorofluoromethane	5.701	101	2900350	14.29	98	14.29
12) Isopropanol	5.777	45	1839089	19.72	98	19.72
13) Acetone	5.527	58	479491	11.42	86	11.42
14) Acrylonitrile	5.996	53	1178728	30.73 #	99	30.73
15) n-Pentane	6.073	43	2182815	26.82 #	100	26.82
16) Diethyl Ether	6.107	59	1140523	26.06	96	26.06
17) 1,1-Dichloroethene	6.366	61	2481565	26.98	94	26.98
18) t-Butanol	6.431	59	3164265	29.00 #	94	29.00
19) Methylene Chloride	6.488	49	1440863	23.02	96	23.02
20) 1,1,2-Trichlorotrifluo...	6.801	101	3266443	23.21	90	23.21
21) Carbon Disulfide	6.803	76	4033865	24.34 #	95	24.34
22) trans-1,2-Dichloroethene	7.514	61	2119507	28.42	94	28.42
23) MTBE	7.832	73	4577612	31.87	97	31.87
24) 1,1-Dichloroethane	7.733	63	2547857	27.23	100	27.23
25) Vinyl Acetate	7.918	86	413597	36.08 #	60	36.08
26) n-Hexane	8.895	57	1787614	20.73	78	20.73
27) 2-Butanone	8.182	43	2104500	17.54 #	90	17.54
28) cis-1,2-Dichloroethene	8.639	61	1952541	27.89	96	27.89
29) Chloroform	8.963	83	3559508	26.62	98	26.62
30) Ethyl Acetate	8.924	61	412582	23.12 #	65	23.12
31) Diisopropyl Ether	8.915	45	3748201	24.24 #	93	24.24
32) Tetrahydrofuran	9.410	42	1551344	27.61 #	89	27.61
33) ETBE	9.495	59	4331747	28.41	98	28.41
34) 1,2-Dichloroethane	9.748	62	2213103	26.45 #	94	26.45
35) Methylcyclopentane	9.776	56	2483237	28.71	90	28.71
37) 1,1,1-Trichloroethane	10.032	97	3833225	25.94	99	25.94
38) Cyclohexane	10.814	56	1925379	27.01	94	27.01
39) Carbon Tetrachloride	10.677	117	4108807	25.19	99	25.19
40) Benzene	10.518	78	4447233	26.15	98	26.15
41) Dibromomethane	11.342	174	2136531	19.28	100	19.28
42) n-Heptane	11.990	43	1720332	19.96 #	87	19.96
43) 1,2-Dichloropropane	11.388	63	1461897	23.32 #	94	23.32
44) Trichloroethene	11.638	95	2156897	25.27	91	25.27
45) Bromodichloromethane	11.584	83	3708950	25.95	98	25.95

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

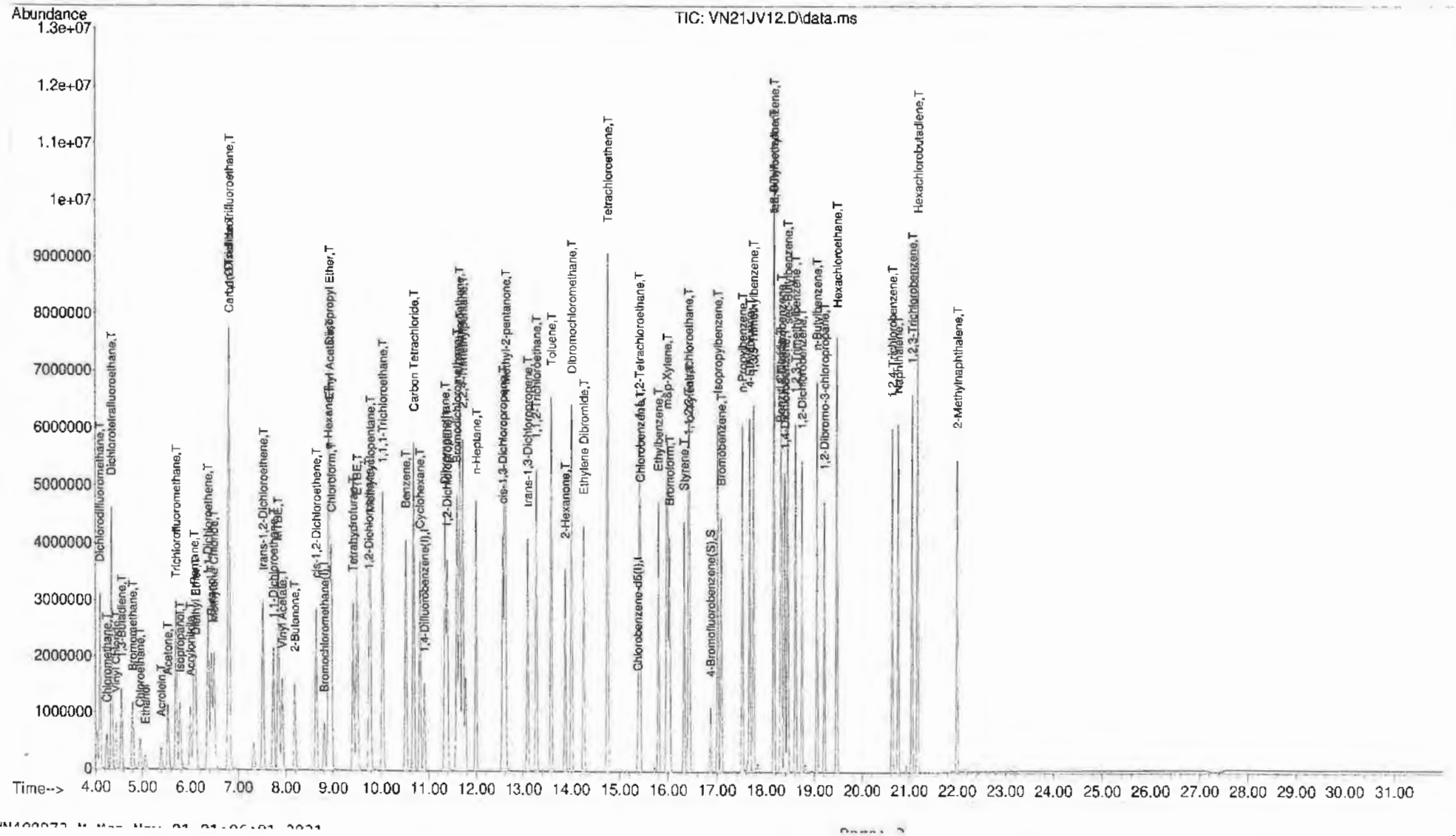
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.646	88	1066195	27.43			96	27.43
47) 2,2,4-Trimethylpentane	11.709	57	6183666	26.54		#	94	26.54
48) cis-1,3-Dichloropropene	12.550	75	2766672	28.25			98	28.25
49) 4-Methyl-2-pentanone	12.610	58	1233689	20.91			78	20.91
50) trans-1,3-Dichloropropene	13.099	75	2665669	27.63			97	27.63
51) 1,1,1,2-Tetrachloroethane	15.403	131	1369446	22.30		#	82	22.30
53) 1,1,2-Trichloroethane	13.280	97	1972004	25.81			98	25.81
54) Toluene	13.584	91	5736429	27.50			100	27.50
55) 2-Hexanone	13.877	43	2235482	16.85		#	83	16.85
56) Dibromochloromethane	14.005	127	3080031	20.69			100	20.69
57) Ethylene Dibromide	14.264	107	3254758	24.89		#	98	24.89
58) Tetrachloroethene	14.747	166	2993770	21.24			94	21.24
59) Chlorobenzene	15.426	112	2365420	23.39			95	23.39
60) Ethylbenzene	15.798	91	3768671	28.31			97	28.31
61) m&p-Xylene	15.977	106	2891641	50.64			91	50.64
62) Bromoform	16.029	173	2181474	21.69		#	1	21.69
63) Styrene	16.321	104	2403661	29.34			96	29.34
64) 1,1,2,2-Tetrachloroethane	16.412	83	1988277	21.55			99	21.55
65) o-Xylene	16.432	91	3039728	27.24			96	27.24
67) Isopropylbenzene	17.012	105	4298427	28.57			98	28.57
68) n-Propylbenzene	17.515	91	5089639	31.48			98	31.48
69) 4-Ethyltoluene	17.663	105	4243071	27.06		#	96	27.06
70) 1,3,5-Trimethylbenzene	17.742	105	3806812	27.58			96	27.58
71) tert-Butylbenzene	18.160	119	3713629	27.12		#	95	27.12
72) 1,2,4-Trimethylbenzene	18.163	105	3348290	24.54			97	24.54
73) 1,3-Dichlorobenzene	18.314	146	2398817	25.92			96	25.92
74) Benzyl Chloride	18.294	91	3115632	30.58			98	30.58
75) 1,4-Dichlorobenzene	18.385	146	2345277	26.10			96	26.10
76) sec-Butylbenzene	18.441	105	5185043	28.40			98	28.40
77) 1,2,3-Trimethylbenzene	18.603	105	3729315	31.82		#	96	31.82
78) 1,2-Dichlorobenzene	18.740	146	2428448	22.03			95	22.03
79) n-Butylbenzene	19.055	91	3903304	24.77			98	24.77
80) Bromobenzene	17.083	77	2088172	27.30			84	27.30
81) 1,2-Dibromo-3-chloropr...	19.209	157	1528850	35.95			95	35.95
82) Hexachloroethane	19.467	117	1659426	21.87			95	21.87
83) 1,2,4-Trichlorobenzene	20.636	180	2002076	22.03			98	22.03
84) Naphthalene	20.763	128	5110534	25.90			98	25.90
85) 1,2,3-Trichlorobenzene	21.056	180	2131207	24.52			98	24.52
86) Hexachlorobutadiene	21.170	225	1919772	15.24			99	15.24
87) 2-Methylnaphthalene	21.991	142	2698558	26.04			97	26.04

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV12.D
Acq On : 01 Nov 2021 12:33 am
Operator :
Sample : 25 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:06:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	25 STD
Inject Time:	11/1/2021 12:33:47 AM
Sample Start:	
Sample End:	

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.9 (100)	29 (25)	5.30	24.87	24.29	1.95	3.1
Calibration Std	400.7 (400)	93.2 (100)	4.72	21.63	18.63	1.94	6.51
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	101.1 (100)	0.97	24.8	22.53	4.25	5.11
M1/ M2 Transfer	100.6 (100)	20.5 (20)	5.62	24.8	24.28	5.12	6.27

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	61 (60)				122 (120)
M2	-46 (-50)	-46 (-50)	-46 (-50)	227 (230)		210 (210)
M2 Bulk Head	32 (32)			61 (61)		119 (119)
M3	3			-174 (-165)	71 (80)	-62
Rot Valve Plate	91/90 (90)					92/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

Encoder	Position (steps)
X:	
Y:	

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	418416	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1473714	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	117013	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	201658	7.43	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 110.57%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
2) Dichlorodifluoromethane	4.092	85	4594319	27.69	100		27.69
3) Chloromethane	4.234	50	1159622	31.21	98		31.21
4) Dichlorotetrafluoroethane	4.328	85	4441516	25.48	89		25.48
5) Vinyl Chloride	4.436	62	1524102	31.24	100		31.24
6) 1,3-Butadiene	4.556	54	1129062	25.70	89		25.70
7) Bromomethane	4.800	94	1444403	29.38	93	#	29.38
8) Chloroethane	4.959	64	843944	36.92	92	#	36.92
9) Ethanol	5.070	45	496498	32.70	97		32.70
10) Acrolein	5.397	56	607082	33.31	98		33.31
11) Trichlorofluoromethane	5.701	101	4352359	21.20	99		21.20
12) Isopropanol	5.786	45	3565881	37.79	99		37.79
13) Acetone	5.530	58	733223	17.26	81		17.26
14) Acrylonitrile	5.999	53	1551570	39.98	97	#	39.98
15) n-Pentane	6.079	43	2914385	35.39	100	#	35.39
16) Diethyl Ether	6.113	59	1613343	36.43	95		36.43
17) 1,1-Dichloroethene	6.369	61	3563202	38.30	96		38.30
18) t-Butanol	6.437	59	4788991	43.39	93	#	43.39
19) Methylene Chloride	6.488	49	2059545	32.52	92		32.52
20) 1,1,2-Trichlorotrifluo...	6.801	101	4706851	33.06	92		33.06
21) Carbon Disulfide	6.804	76	5609945	33.46	95	#	33.46
22) trans-1,2-Dichloroethene	7.511	61	2999005	39.75	97		39.75
23) MTBE	7.835	73	6589380	45.34	96		45.34
24) 1,1-Dichloroethane	7.736	63	3640413	38.46	100		38.46
25) Vinyl Acetate	7.920	86	608019	52.43	54	#	52.43
26) n-Hexane	8.898	57	2531114	29.01	81		29.01
27) 2-Butanone	8.185	43	3056960	25.18	90	#	25.18
28) cis-1,2-Dichloroethene	8.639	61	2869883	40.52	96		40.52
29) Chloroform	8.966	83	5232151	38.67	98		38.67
30) Ethyl Acetate	8.927	61	588844	32.61	64	#	32.61
31) Diisopropyl Ether	8.915	45	5320068	34.00	95	#	34.00
32) Tetrahydrofuran	9.412	42	2231747	39.26	88	#	39.26
33) ETBE	9.495	59	6300864	40.85	98		40.85
34) 1,2-Dichloroethane	9.754	62	3252512	38.42	93	#	38.42
35) Methylcyclopentane	9.776	56	3551514	40.58	90		40.58
37) 1,1,1-Trichloroethane	10.029	97	5567174	37.28	99		37.28
38) Cyclohexane	10.814	56	2750157	38.18	92		38.18
39) Carbon Tetrachloride	10.677	117	6029737	36.58	100		36.58
40) Benzene	10.521	78	6434420	37.43	98		37.43
41) Dibromomethane	11.345	174	3223975	28.79	99		28.79
42) n-Heptane	11.990	43	2426049	27.85	85	#	27.85
43) 1,2-Dichloropropane	11.391	63	2099879	33.14	94	#	33.14
44) Trichloroethene	11.638	95	3094000	35.86	92		35.86
45) Bromodichloromethane	11.584	83	5340607	36.97	98		36.97

DH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

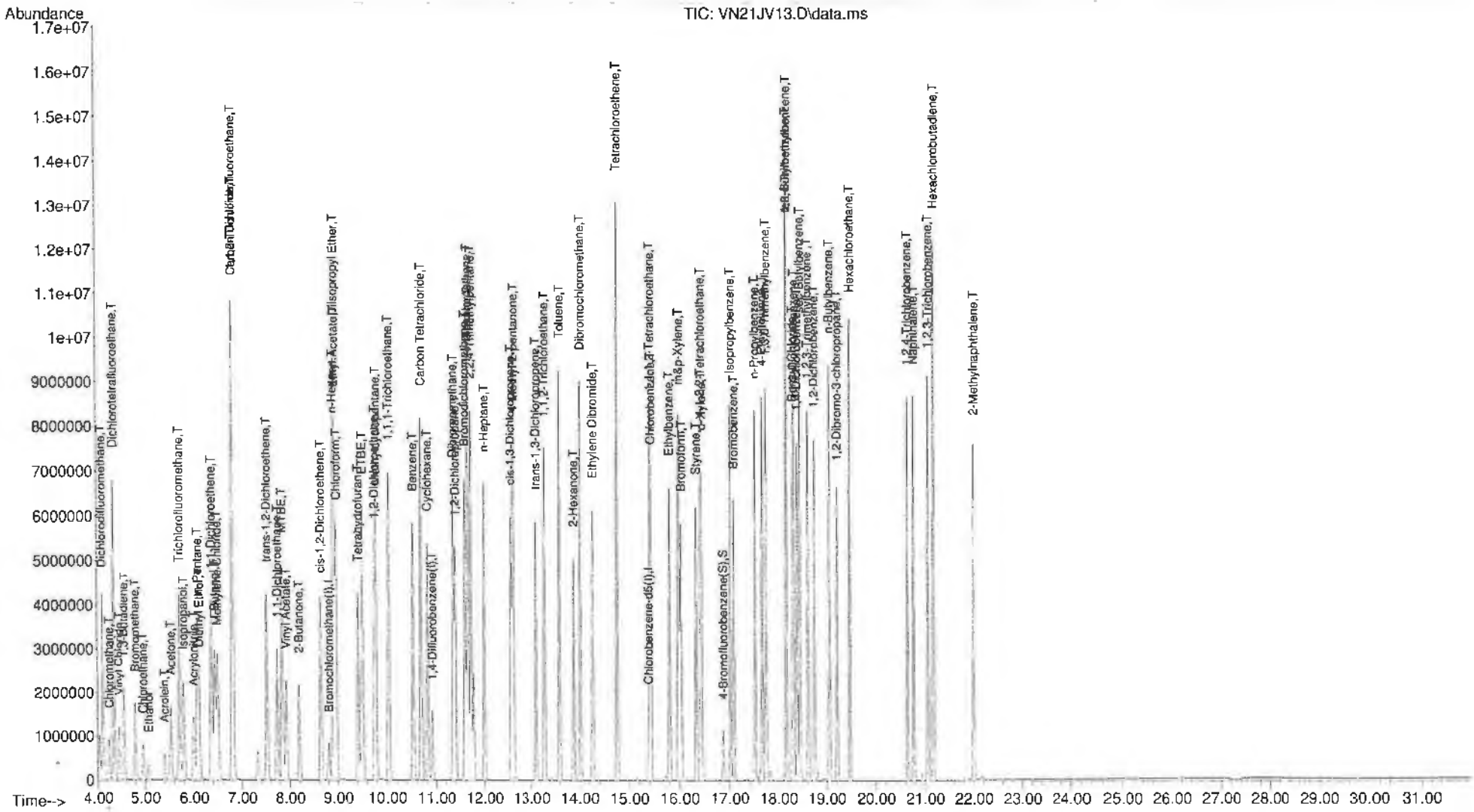
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.649	88	1578490	40.17		95	40.17	
47) 2,2,4-Trimethylpentane	11.709	57	8793600m	37.34			37.34	CE
48) cis-1,3-Dichloropropene	12.550	75	3992357	40.33		98	40.33	
49) 4-Methyl-2-pentanone	12.615	58	1768220	29.66		77	29.66	
50) trans-1,3-Dichloropropene	13.101	75	3855659	39.54		97	39.54	
51) 1,1,1,2-Tetrachloroethane	15.406	131	1968323	31.71	#	75	31.71	
53) 1,1,2-Trichloroethane	13.280	97	2859044	37.88		98	37.88	
54) Toluene	13.587	91	8232608	39.96		100	39.96	
55) 2-Hexanone	13.877	43	3154305	24.06	#	83	24.06	
56) Dibromochloromethane	14.008	127	4501308	30.61		99	30.61	
57) Ethylene Dibromide	14.264	107	4719593	36.54	#	98	36.54	
58) Tetrachloroethene	14.747	166	4412414	31.70		95	31.70	
59) Chlorobenzene	15.426	112	3393755	33.98		96	33.98	
60) Ethylbenzene	15.801	91	5368382	40.83		97	40.83	
61) m&p-Xylene	15.983	106	4081902	72.37		92	72.37	
62) Bromoform	16.032	173	3179549	32.00		81	32.00	
63) Styrene	16.324	104	3477854	42.97		96	42.97	
64) 1,1,2,2-Tetrachloroethane	16.415	83	2744579	30.11		98	30.11	
65) o-Xylene	16.438	91	4303186	39.03		97	39.03	
67) Isopropylbenzene	17.012	105	6119054	41.18		98	41.18	
68) n-Propylbenzene	17.518	91	7139697	44.70		99	44.70	
69) 4-Ethyltoluene	17.666	105	6126879	39.56	#	96	39.56	
70) 1,3,5-Trimethylbenzene	17.745	105	5356493	39.29		97	39.29	
71) tert-Butylbenzene	18.163	119	5151693	38.09	#	96	38.09	
72) 1,2,4-Trimethylbenzene	18.166	105	4615153	34.24		97	34.24	
73) 1,3-Dichlorobenzene	18.319	146	3472325	37.99		97	37.99	
74) Benzyl Chloride	18.297	91	4415036	43.87		98	43.87	
75) 1,4-Dichlorobenzene	18.385	146	3453589	38.90		97	38.90	
76) sec-Butylbenzene	18.444	105	7278437	40.37		98	40.37	
77) 1,2,3-Trimethylbenzene	18.606	105	5274230	45.55	#	96	45.55	
78) 1,2-Dichlorobenzene	18.746	146	3556000	32.65		96	32.65	
79) n-Butylbenzene	19.058	91	5441323	34.96		98	34.96	
80) Bromobenzene	17.089	77	2943680	38.95		87	38.95	
81) 1,2-Dibromo-3-chloropr...	19.215	157	2254391	53.67		97	53.67	
82) Hexachloroethane	19.470	117	2295433	30.62		97	30.62	
83) 1,2,4-Trichlorobenzene	20.638	180	3002485	33.45		98	33.45	
84) Naphthalene	20.766	128	7367943	37.80		98	37.80	
85) 1,2,3-Trichlorobenzene	21.062	180	3132070	36.48		98	36.48	
86) Hexachlorobutadiene	21.173	225	2682672	21.55		99	21.55	
87) 2-Methylnaphthalene	21.994	142	3882931	37.93		97	37.93	

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	418416	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1473714	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	117013	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	201658	7.43	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 110.57%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	4594319	27.69		100	27.69
3) Chloromethane	4.234	50	1159622	31.21		98	31.21
4) Dichlorotetrafluoroethane	4.328	85	4441516	25.48		89	25.48
5) Vinyl Chloride	4.436	62	1524102	31.24		100	31.24
6) 1,3-Butadiene	4.556	54	1129062	25.70		89	25.70
7) Bromomethane	4.800	94	1444403	29.38	#	93	29.38
8) Chloroethane	4.959	64	843944	36.92	#	92	36.92
9) Ethanol	5.070	45	496498	32.70		97	32.70
10) Acrolein	5.397	56	607082	33.31		98	33.31
11) Trichlorofluoromethane	5.701	101	4352359	21.20		99	21.20
12) Isopropanol	5.786	45	3565881	37.79		99	37.79
13) Acetone	5.530	58	733223	17.26		81	17.26
14) Acrylonitrile	5.999	53	1551570	39.98	#	97	39.98
15) n-Pentane	6.079	43	2914385	35.39	#	100	35.39
16) Diethyl Ether	6.113	59	1613343	36.43		95	36.43
17) 1,1-Dichloroethene	6.369	61	3563202	38.30		96	38.30
18) t-Butanol	6.437	59	4788991	43.39	#	93	43.39
19) Methylene Chloride	6.488	49	2059545	32.52		92	32.52
20) 1,1,2-Trichlorotrifluo...	6.801	101	4706851	33.06		92	33.06
21) Carbon Disulfide	6.804	76	560994S	33.46	#	95	33.46
22) trans-1,2-Dichloroethene	7.511	61	2999005	39.75		97	39.75
23) MTBE	7.835	73	6589380	45.34		96	45.34
24) 1,1-Dichloroethane	7.736	63	3640413	38.46		100	38.46
25) Vinyl Acetate	7.920	86	608019	52.43	#	54	52.43
26) n-Hexane	8.898	57	2531114	29.01		81	29.01
27) 2-Butanone	8.185	43	3056960	25.18	#	90	25.18
28) cis-1,2-Dichloroethene	8.639	61	2869883	40.52		96	40.52
29) Chloroform	8.966	83	5232151	38.67		98	38.67
30) Ethyl Acetate	8.927	61	588844	32.61	#	64	32.61
31) Diisopropyl Ether	8.915	45	5320068	34.00	#	95	34.00
32) Tetrahydrofuran	9.412	42	2231747	39.26	#	88	39.26
33) ETBE	9.495	59	6300864	40.85		98	40.85
34) 1,2-Dichloroethane	9.754	62	3252512	38.42	#	93	38.42
35) Methylcyclopentane	9.776	56	3551514	40.58		90	40.58
37) 1,1,1-Trichloroethane	10.029	97	5567174	37.28		99	37.28
38) Cyclohexane	10.814	56	2750157	38.18		92	38.18
39) Carbon Tetrachloride	10.677	117	6029737	36.58		100	36.58
40) Benzene	10.521	78	6434420	37.43		98	37.43
41) Dibromomethane	11.345	174	3223975	28.79		99	28.79
42) n-Heptane	11.990	43	2426049	27.85	#	85	27.85
43) 1,2-Dichloropropane	11.391	63	2099879	33.14	#	94	33.14
44) Trichloroethene	11.638	95	3094000	35.86		92	35.86
45) Bromodichloromethane	11.584	83	5340607	36.97		98	36.97

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

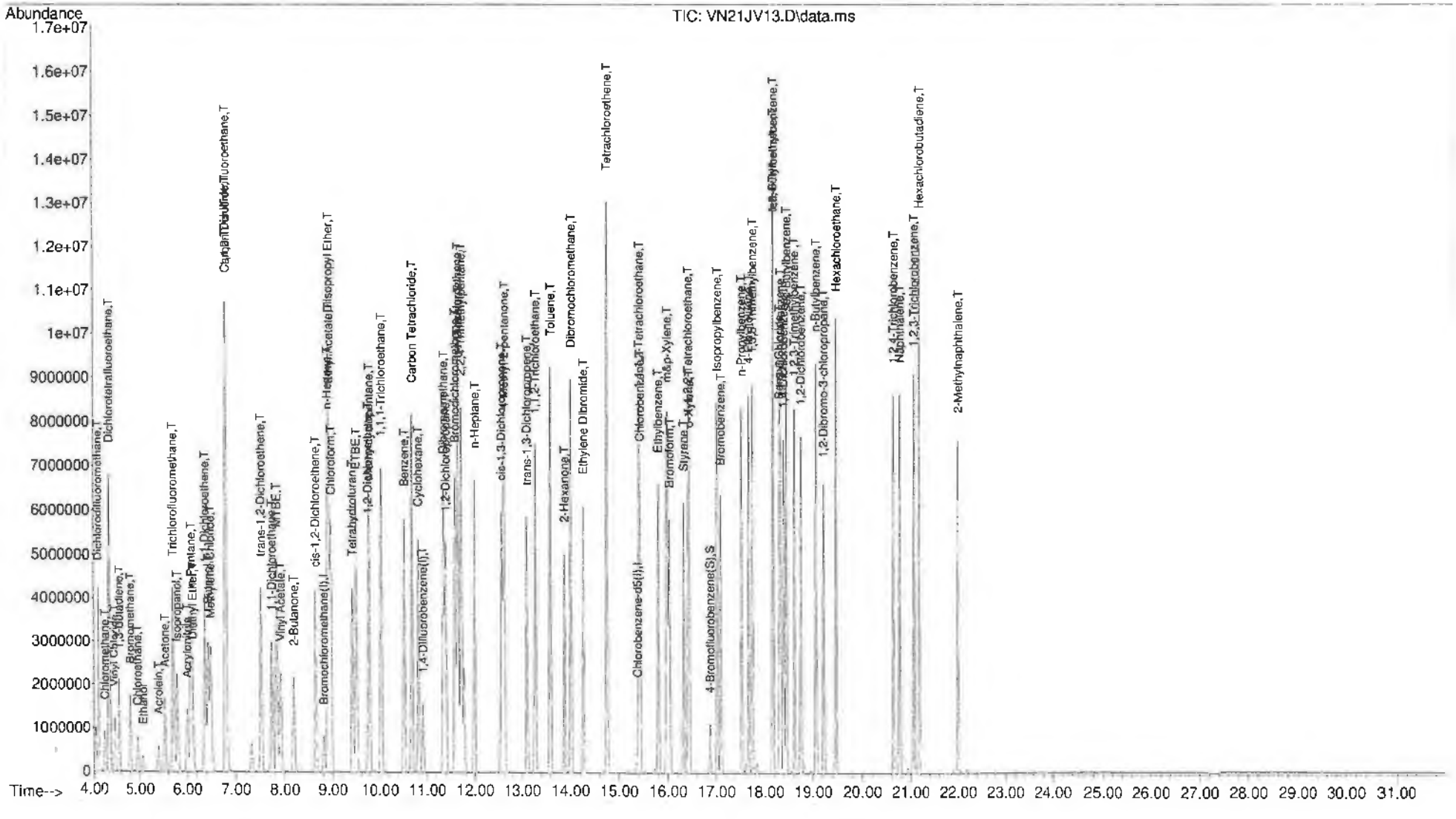
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
46) 1,4-Dioxane	11.649	88	1578490	40.17		95	40.17
47) 2,2,4-Trimethylpentane	11.709	57	8889487	37.75	#	94	37.75
48) cis-1,3-Dichloropropene	12.550	75	3992357	40.33		98	40.33
49) 4-Methyl-2-pentanone	12.615	58	1768220	29.66		77	29.66
50) trans-1,3-Dichloropropene	13.101	75	3855659	39.54		97	39.54
51) 1,1,1,2-Tetrachloroethane	15.406	131	1968323	31.71	#	75	31.71
53) 1,1,2-Trichloroethane	13.280	97	2859044	37.88		98	37.88
54) Toluene	13.587	91	8232608	39.96		100	39.96
55) 2-Hexanone	13.877	43	3154305	24.06	#	83	24.06
56) Dibromochloromethane	14.008	127	4501308	30.61		99	30.61
57) Ethylene Dibromide	14.264	107	4719593	36.54	#	98	36.54
58) Tetrachloroethene	14.747	166	4412414	31.70		95	31.70
59) Chlorobenzene	15.426	112	3393755	33.98		96	33.98
60) Ethylbenzene	15.801	91	5368382	40.83		97	40.83
61) m&p-Xylene	15.983	106	4081902	72.37		92	72.37
62) Bromoform	16.032	173	3179549	32.00		81	32.00
63) Styrene	16.324	104	3477854	42.97		96	42.97
64) 1,1,2,2-Tetrachloroethane	16.415	83	2744579	30.11		98	30.11
65) o-Xylene	16.438	91	4303186	39.03		97	39.03
67) Isopropylbenzene	17.012	105	6119054	41.18		98	41.18
68) n-Propylbenzene	17.518	91	7139697	44.70		99	44.70
69) 4-Ethyltoluene	17.666	105	6126879	39.56	#	96	39.56
70) 1,3,5-Trimethylbenzene	17.745	105	5356493	39.29		97	39.29
71) tert-Butylbenzene	18.163	119	5151693	38.09	#	96	38.09
72) 1,2,4-Trimethylbenzene	18.166	105	4615153	34.24		97	34.24
73) 1,3-Dichlorobenzene	18.319	146	3472325	37.99		97	37.99
74) Benzyl Chloride	18.297	91	4415036	43.87		98	43.87
75) 1,4-Dichlorobenzene	18.385	146	3453589	38.90		97	38.90
76) sec-Butylbenzene	18.444	105	7278437	40.37		98	40.37
77) 1,2,3-Trimethylbenzene	18.606	105	5274230	45.55	#	96	45.55
78) 1,2-Dichlorobenzene	18.746	146	3556000	32.65		96	32.65
79) n-Butylbenzene	19.058	91	5441323	34.96		98	34.96
80) Bromobenzene	17.089	77	2943680	38.95		87	38.95
81) 1,2-Dibromo-3-chloropr...	19.215	157	2254391	53.67		97	53.67
82) Hexachloroethane	19.470	117	2295433	30.62		97	30.62
83) 1,2,4-Trichlorobenzene	20.638	180	3002485	33.45		98	33.45
84) Naphthalene	20.766	128	7367943	37.80		98	37.80
85) 1,2,3-Trichlorobenzene	21.062	180	3132070	36.48		98	36.48
86) Hexachlorobutadiene	21.173	225	2682672	21.55		99	21.55
87) 2-Methylnaphthalene	21.994	142	3882931	37.93		97	37.93

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV13.D
Acq On : 01 Nov 2021 01:26 am
Operator :
Sample : 37.5 5TD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 01:58:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



VN400B72.M Mon Nov 01 01:58:33 2021

Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq	Version:	3.3.0.41	Instrument SN:	
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3	System Id:	1	Inlet (1-4):	1
Sample Name:	37.5 STD	C.O.E:	False	Auto Sampler:	7650
Inject Time:	11/1/2021 1:26:18 AM			AS Position:	D6
Sample Start:				Focus Duration	3
Sample End:				Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.30	24.71	24.12	1.94	3.08
Calibration Std	600.6 (600)	96.9 (100)	6.80	21.19	17.92	1.94	8.79
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	96.9 (100)	0.98	24.78	22.6	5.55	6.42
M1/ M2 Transfer	100.6 (100)	22.6 (20)	5.65	24.79	24.3	6.42	7.57

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				122 (120)
M1 BulkHead	33 (30)	62 (60)				122 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	228 (230)		209 (210)
M2 Bulk Head	31 (31)			62 (62)		119 (119)
M3	7			-178 (-165)	71 (80)	-70
Rot Valve Plate	91/90 (90)					91/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

Encoder	Position (steps)
X:	
Y:	

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 11/1/21

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.815	130	430886	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.913	114	1491601	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	115438	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.870	75	203417	7.60	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 113.10%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	5585609	32.70		100	32.70
3) Chloromethane	4.234	50	1481461	38.71		98	38.71
4) Dichlorotetrafluoroethane	4.331	85	5895599	32.85		91	32.85
5) Vinyl Chloride	4.436	62	2004135	39.89		99	39.89
6) 1,3-Butadiene	4.561	54	1472304	32.55		89	32.55
7) Bromomethane	4.802	94	1962168	38.76	#	93	38.76
8) Chloroethane	4.959	64	1115163	47.37	#	91	47.37
9) Ethanol	5.072	45	643736	41.17		96	41.17
10) Acrolein	5.399	56	807415	43.02		97	43.02
11) Trichlorofluoromethane	5.700	101	5870691	27.77		99	27.77
12) Isopropanol	5.789	45	3798403	39.08		98	39.08
13) Acetone	5.533	58	966980	22.11		81	22.11
14) Acrylonitrile	5.999	53	1984885m	49.67			49.67
15) n-Pentane	6.078	43	3711142	43.76	#	99	43.76
16) Diethyl Ether	6.110	59	2096069	45.97		95	45.97
17) 1,1-Dichloroethene	6.366	61	4579561	47.80		97	47.80
18) t-Butanol	6.439	59	6245309	54.94	#	93	54.94
19) Methylene Chloride	6.491	49	2700220	41.40		92	41.40
20) 1,1,2-Trichlorotrifluo...	6.803	101	5997936	40.90		93	40.90
21) Carbon Disulfide	6.803	76	7016997	40.64	#	95	40.64
22) trans-1,2-Dichloroethene	7.514	61	3876185	49.88		97	49.88
23) MTBE	7.835	73	8667339	57.92		96	57.92
24) 1,1-Dichloroethane	7.733	63	4686172	48.07		100	48.07
25) Vinyl Acetate	7.920	86	806706	67.55	#	51	67.55
26) n-Hexane	8.898	57	3196738	35.58		83	35.58
27) 2-Butanone	8.187	43	3948305	31.58	#	88	31.58
28) cis-1,2-Dichloroethene	8.645	61	3712521	50.90		98	50.90
29) Chloroform	8.972	83	6827274	49.00		98	49.00
30) Ethyl Acetate	8.932	61	755874	40.65	#	62	40.65
31) Diisopropyl Ether	8.918	45	6763768	41.98	#	95	41.98
32) Tetrahydrofuran	9.415	42	2756945	47.10	#	86	47.10
33) ETBE	9.500	59	7934036	49.95		96	49.95
34) 1,2-Dichloroethane	9.756	62	4113230	47.18	#	93	47.18
35) Methylcyclopentane	9.779	56	4397374	48.80		89	48.80
37) 1,1,1-Trichloroethane	10.035	97	7217478	47.75		99	47.75
38) Cyclohexane	10.816	56	3401506	46.65		89	46.65
39) Carbon Tetrachloride	10.680	117	7825249	46.90		100	46.90
40) Benzene	10.518	78	8170380	46.96		98	46.96
41) Dibromomethane	11.345	174	4274229	37.70		100	37.70
42) n-Heptane	11.993	43	2941774	33.37	#	82	33.37
43) 1,2-Dichloropropane	11.393	63	2632278	41.05	#	93	41.05
44) Trichloroethene	11.640	95	3972535	45.49		93	45.49
45) Bromodichloromethane	11.586	83	6818740	46.63		98	46.63

CE

DH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

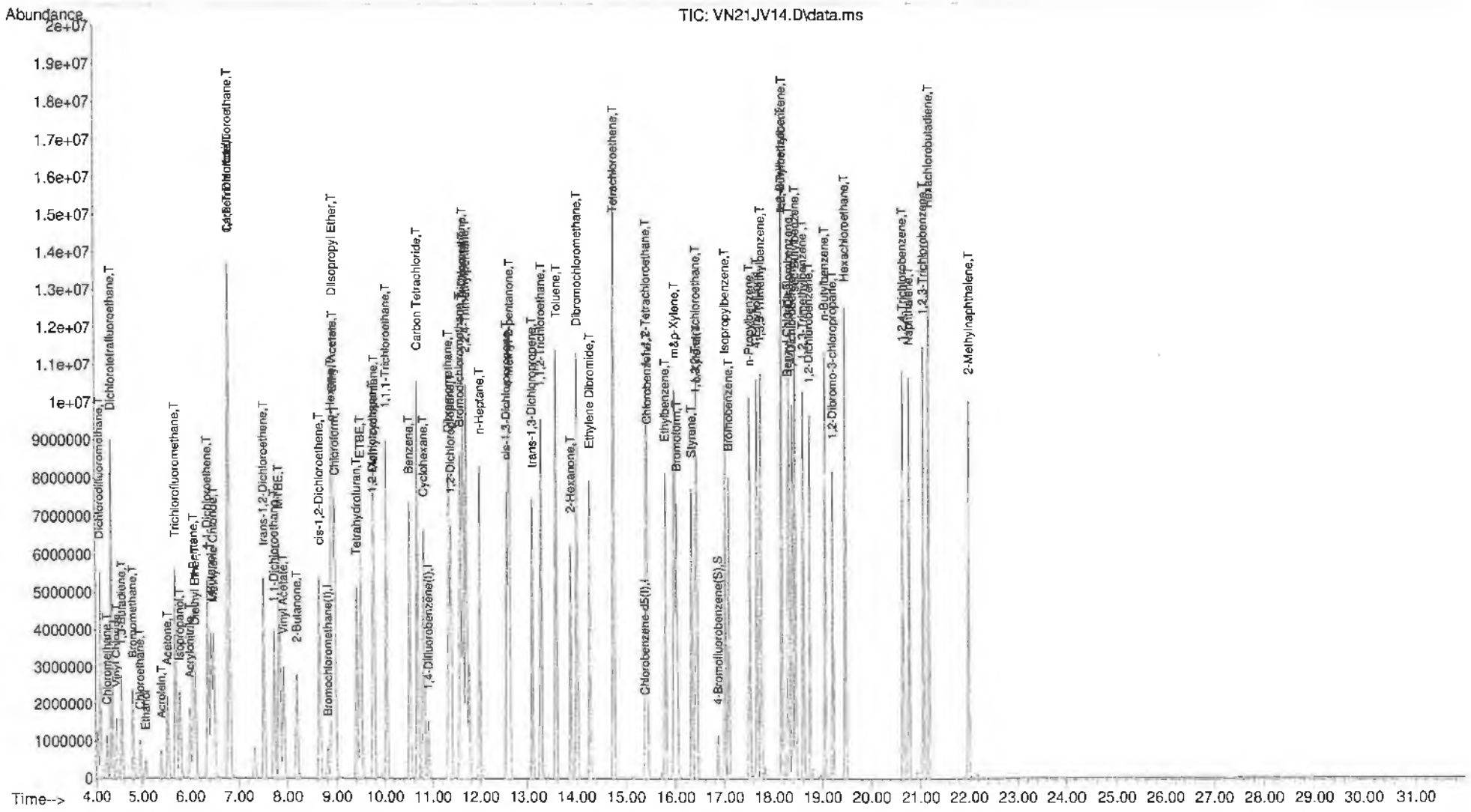
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.649	88	1998063	50.24		95	50.24
47) 2,2,4-Trimethylpentane	11.711	57	10996098m	46.14			46.14
48) cis-1,3-Dichloropropene	12.553	75	5066147	50.57		98	50.57
49) 4-Methyl-2-pentanone	12.618	58	2210572	36.63	#	77	36.63
50) trans-1,3-Dichloropropene	13.104	75	4982201	50.49		97	50.49
51) 1,1,1,2-Tetrachloroethane	15.409	131	2498688	39.77	#	72	39.77
53) 1,1,2-Trichloroethane	13.283	97	3636020	48.83		98	48.83
54) Toluene	13.590	91	10454070	51.43		99	51.43
55) 2-Hexanone	13.880	43	3894162	30.11	#	82	30.11
56) Dibromochloromethane	14.011	127	5772340	39.79		99	39.79
57) Ethylene Dibromide	14.266	107	6096961	47.85	#	99	47.85
58) Tetrachloroethene	14.749	166	5699267	41.50		96	41.50
59) Chlorobenzene	15.429	112	4318936	43.83		97	43.83
60) Ethylbenzene	15.804	91	6736823	51.94		98	51.94
61) m&p-Xylene	15.989	106	5117732	91.98		92	91.98
62) Bromoform	16.034	173	4117032	42.01		85	42.01
63) Styrene	16.327	104	4424608	55.41		96	55.41
64) 1,1,2,2-Tetrachloroethane	16.418	83	3300539	36.70		97	36.70
65) o-Xylene	16.438	91	5380854	49.48		97	49.48
67) Isopropylbenzene	17.015	105	7617859	51.96		98	51.96
68) n-Propylbenzene	17.520	91	8806562	55.89		99	55.89
69) 4-Ethyltoluene	17.665	105	7664160	50.16	#	97	50.16
70) 1,3,5-Trimethylbenzene	17.745	105	6732531	50.06		97	50.06
71) tert-Butylbenzene	18.166	119	6310518	47.29	#	96	47.29
72) 1,2,4-Trimethylbenzene	18.171	105	5645840	42.46		97	42.46
73) 1,3-Dichlorobenzene	18.319	146	4457459	49.43		96	49.43
74) Benzyl Chloride	18.299	91	5579727	56.20		98	56.20
75) 1,4-Dichlorobenzene	18.387	146	4544031	51.88		97	51.88
76) sec-Butylbenzene	18.447	105	9090440	51.10		99	51.10
77) 1,2,3-Trimethylbenzene	18.609	105	6633036	58.07	#	96	58.07
78) 1,2-Dichlorobenzene	18.745	146	4568385	42.52		97	42.52
79) n-Butylbenzene	19.061	91	6728453	43.82		98	43.82
80) Bromobenzene	17.091	77	3709110	49.75		90	49.75
81) 1,2-Dibromo-3-chloropr...	19.217	157	2906066	70.13		97	70.13
82) Hexachloroethane	19.467	117	2822390	38.17		98	38.17
83) 1,2,4-Trichlorobenzene	20.641	180	4029810	45.50		97	45.50
84) Naphthalene	20.769	128	9468256	49.24		98	49.24
85) 1,2,3-Trichlorobenzene	21.062	180	4076260	48.12		98	48.12
86) Hexachlorobutadiene	21.175	225	3341683	27.21		100	27.21
87) 2-Methylnaphthalene	21.997	142	5340721	52.88		97	52.88

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.815	130	430886	6.46	ppbv		0.00
36) 1,4-Oifluorobenzene(I)	10.913	114	1491601	6.70	ppbv	#	0.00
52) Chlorobenzene-d5(I)	15.378	54	115438	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(5)	16.870	75	203417	7.60	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 113.10%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.095	85	5585609	32.70		100	32.70
3) Chloromethane	4.234	50	1481461	38.71		98	38.71
4) Dichlorotetrafluoroethane	4.331	85	5895599	32.85		91	32.85
5) Vinyl Chloride	4.436	62	2004135	39.89		99	39.89
6) 1,3-Butadiene	4.561	54	1472304	32.55		89	32.55
7) Bromomethane	4.802	94	1962168	38.76	#	93	38.76
8) Chloroethane	4.959	64	1115163	47.37	#	91	47.37
9) Ethanol	5.072	45	643736	41.17		96	41.17
10) Acrolein	5.399	56	807415	43.02		97	43.02
11) Trichlorofluoromethane	5.700	101	5870691	27.77		99	27.77
12) Isopropanol	5.789	45	3798403	39.08		98	39.08
13) Acetone	5.533	58	966980	22.11		81	22.11
14) Acrylonitrile	5.999	53	2084222	52.16	#	97	52.16
15) n-Pentane	6.078	43	3711142	43.76	#	99	43.76
16) Diethyl Ether	6.110	59	2096069	45.97		95	45.97
17) 1,1-Dichloroethene	6.366	61	4579561	47.80		97	47.80
18) t-Butanol	6.439	59	6245309	54.94	#	93	54.94
19) Methylene Chloride	6.491	49	2700220	41.40		92	41.40
20) 1,1,2-Trichlorotrifluo...	6.803	101	5997936	40.90		93	40.90
21) Carbon Disulfide	6.803	76	7016997	40.64	#	95	40.64
22) trans-1,2-Dichloroethene	7.514	61	3876185	49.88		97	49.88
23) MTBE	7.835	73	8667339	57.92		96	57.92
24) 1,1-Dichloroethane	7.733	63	4686172	48.07		100	48.07
25) Vinyl Acetate	7.920	86	806706	67.55	#	51	67.55
26) n-Hexane	8.898	57	3196738	35.58		83	35.58
27) 2-Butanone	8.187	43	3948305	31.58	#	88	31.58
28) cis-1,2-Dichloroethene	8.645	61	3712521	50.90		98	50.90
29) Chloroform	8.972	83	6827274	49.00		98	49.00
30) Ethyl Acetate	8.932	61	755874	40.65	#	62	40.65
31) Diisopropyl Ether	8.918	45	6763768	41.98	#	95	41.98
32) Tetrahydrofuran	9.415	42	2756945	47.10	#	86	47.10
33) ETBE	9.500	59	7934036	49.95		96	49.95
34) 1,2-Dichloroethane	9.756	62	4113230	47.18	#	93	47.18
35) Methylcyclopentane	9.779	56	4397374	48.80		89	48.80
37) 1,1,1-Trichloroethane	10.035	97	7217478	47.75		99	47.75
38) Cyclohexane	10.816	56	3401506	46.65		89	46.65
39) Carbon Tetrachloride	10.680	117	7825249	46.90		100	46.90
40) Benzene	10.518	78	8170380	46.96		98	46.96
41) Dibromomethane	11.345	174	4274229	37.70		100	37.70
42) n-Heptane	11.993	43	2941774	33.37	#	82	33.37
43) 1,2-Dichloropropane	11.393	63	2632278	41.05	#	93	41.05
44) Trichloroethene	11.640	95	3972535	45.49		93	45.49
45) Bromodichloromethane	11.586	83	6818740	46.63		98	46.63

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS 0Y TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration

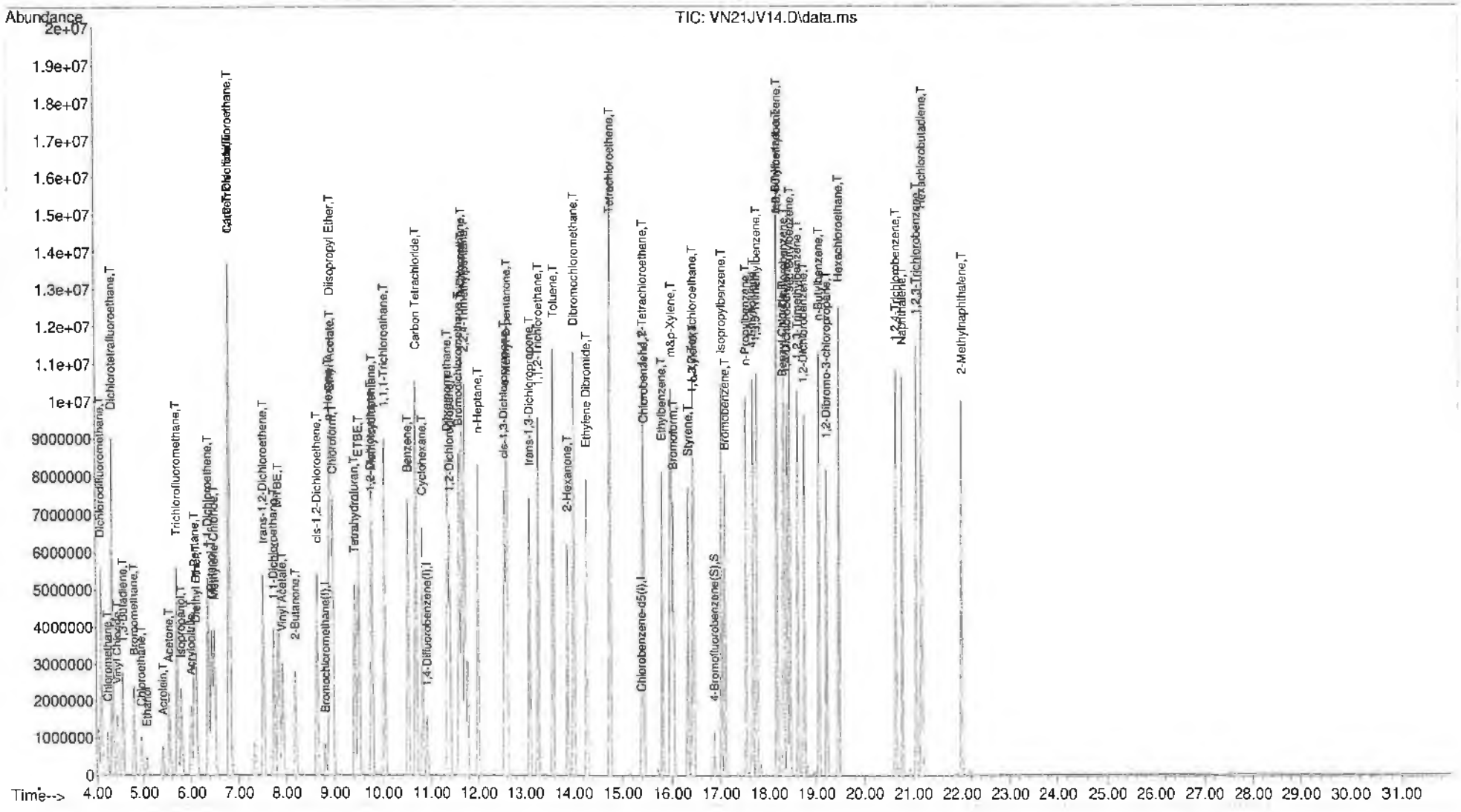
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
46) 1,4-Dioxane	11.649	88	1998063	50.24		95	50.24
47) 2,2,4-Trimethylpentane	11.711	57	11114096	46.63	#	94	46.63
48) cis-1,3-Dichloropropene	12.553	75	5066147	50.57		98	50.57
49) 4-Methyl-2-pentanone	12.618	58	2210572	36.63	#	77	36.63
50) trans-1,3-Dichloropropene	13.104	75	4982201	50.49		97	50.49
51) 1,1,1,2-Tetrachloroethane	15.409	131	2498688	39.77	#	72	39.77
53) 1,1,2-Trichloroethane	13.283	97	3636020	48.83		98	48.83
54) Toluene	13.590	91	10454070	51.43		99	51.43
55) 2-Hexanone	13.880	43	3894162	30.11	#	82	30.11
56) Dibromochloromethane	14.011	127	5772340	39.79		99	39.79
57) Ethylene Dibromide	14.266	107	6096961	47.85	#	99	47.85
58) Tetrachloroethene	14.749	166	5699267	41.50		96	41.50
59) Chlorobenzene	15.429	112	4318936	43.83		97	43.83
60) Ethylbenzene	15.804	91	6736823	51.94		98	51.94
61) m&p-Xylene	15.989	106	5117732	91.98		92	91.98
62) Bromoform	16.034	173	4117032	42.01		85	42.01
63) Styrene	16.327	104	4424608	55.41		96	55.41
64) 1,1,2,2-Tetrachloroethane	16.418	83	3300539	36.70		97	36.70
65) o-Xylene	16.438	91	5380854	49.48		97	49.48
67) Isopropylbenzene	17.015	105	7617859	51.96		98	51.96
68) n-Propylbenzene	17.520	91	8806562	55.89		99	55.89
69) 4-Ethyltoluene	17.665	105	7664160	50.16	#	97	50.16
70) 1,3,5-Trimethylbenzene	17.745	105	6732531	50.06		97	50.06
71) tert-Butylbenzene	18.166	119	6310518	47.29	#	96	47.29
72) 1,2,4-Trimethylbenzene	18.171	105	5645840	42.46		97	42.46
73) 1,3-Dichlorobenzene	18.319	146	4457459	49.43		96	49.43
74) Benzyl Chloride	18.299	91	5579727	56.20		98	56.20
75) 1,4-Dichlorobenzene	18.387	146	4544031	51.88		97	51.88
76) sec-Butylbenzene	18.447	105	9090440	51.10		99	51.10
77) 1,2,3-Trimethylbenzene	18.609	105	6633036	58.07	#	96	58.07
78) 1,2-Dichlorobenzene	18.745	146	4568385	42.52		97	42.52
79) n-Butylbenzene	19.061	91	6728453	43.82		98	43.82
80) Bromobenzene	17.091	77	3709110	49.75		90	49.75
81) 1,2-Dibromo-3-chloropr...	19.217	157	2906066	70.13		97	70.13
82) Hexachloroethane	19.467	117	2822390	38.17		98	38.17
83) 1,2,4-Trichlorobenzene	20.641	180	4029810	45.50		97	45.50
84) Naphthalene	20.769	128	9468256	49.24		98	49.24
85) 1,2,3-Trichlorobenzene	21.062	180	4076260	48.12		98	48.12
86) Hexachlorobutadiene	21.175	225	3341683	27.21		100	27.21
87) 2-Methylnaphthalene	21.997	142	5340721	52.88		97	52.88

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV14.D
Acq On : 01 Nov 2021 02:20 am
Operator :
Sample : 50 STD
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 02:53:03 2021
Quant Method : D:\VN\VN_METHOD\VN400B72.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Wed Oct 27 13:49:51 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	50 STD
Inject Time:	11/1/2021 2:20:50 AM
Sample Start:	
Sample End:	

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	26.8 (25)	5.28	24.51	23.91	1.94	3.08
Calibration Std	800.8 (800)	97.4 (100)	8.90	20.52	16.89	1.95	11.07
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	95.3 (100)	1.00	24.8	22.58	6.95	7.83
M1/ M2 Transfer	100.3 (100)	20.5 (20)	5.63	24.8	24.37	7.84	8.98

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				120 (120)
M1 BulkHead	32 (30)	61 (60)				119 (120)
M2	-47 (-50)	-47 (-50)	-46 (-50)	227 (230)		210 (210)
M2 Bulk Head	31 (31)			62 (62)		120 (120)
M3	5			-178 (-165)	71 (80)	-69
Rot Valve Plate	91/90 (90)					92/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	92 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

Encoder	Position (steps)
X:	
Y:	

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

VICV01

CM 11/1/21

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.815	130	406723	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1463831	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.378	54	104251	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	184440	7.65	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 113.84%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	1611207	11.77		99	11.77
3) Chloromethane	4.237	50	355697	11.79		97	11.79
4) Dichlorotetrafluoroethane	4.328	85	1559947	13.20		91	13.20
5) Vinyl Chloride	4.436	62	497805	12.15		99	12.15
6) 1,3-Butadiene	4.561	54	357410	9.92		88	9.92
7) Bromomethane	4.803	94	505237	14.35	#	93	14.35
8) Chloroethane	4.962	64	276922	13.15	#	91	13.15
9) Ethanol	5.070	45	133607	10.69		98	10.69
10) Acrolein	5.399	56	194478	13.64		98	13.64
11) Trichlorofluoromethane	5.706	101	1581975	13.50		99	13.50
12) Isopropanol	5.786	45	890648	10.80		98	10.80
13) Acetone	5.539	58	235027	7.73	#	76	7.73
14) Acrylonitrile	5.999	53	446441	10.89	#	97	10.89
15) n-Pentane	6.079	43	857751	10.72	#	99	10.72
16) Diethyl Ether	6.118	59	533892	11.16		92	11.16
17) 1,1-Dichloroethene	6.368	61	1103953	10.52		100	10.52
18) t-Butanol	6.437	59	1408153	10.62	#	92	10.62
19) Methylene Chloride	6.494	49	610950	9.95	#	86	9.95
20) 1,1,2-Trichlorotrifluo...	6.806	101	1637977	11.32		94	11.32
21) Carbon Disulfide	6.806	76	1893709	10.88	#	94	10.88
22) trans-1,2-Dichloroethene	7.517	61	933134	9.99		100	9.99
23) MTBE	7.841	73	2105931	11.07	#	94	11.07
24) 1,1-Dichloroethane	7.736	63	1113385	9.93		99	9.93
25) Vinyl Acetate	7.920	86	190627	14.16	#	41	14.16
26) n-Hexane	8.901	57	824206	8.16	#	70	8.16
27) 2-Butanone	8.187	43	874640	7.94	#	84	7.94
28) cis-1,2-Dichloroethene	8.645	61	888888	10.39		99	10.39
29) Chloroform	8.966	83	1719907	11.40	#	97	11.40
30) Ethyl Acetate	8.932	61	180105	9.80	#	60	9.80
31) Diisopropyl Ether	8.921	45	1598433	10.81	#	91	10.81
32) Tetrahydrofuran	9.418	42	625218	11.98	#	83	11.98
33) ETBE	9.495	59	1905854	9.71		94	9.71
34) 1,2-Dichloroethane	9.756	62	1020609	10.33	#	93	10.33
35) Methylcyclopentane	9.779	56	1050749	9.33	#	86	9.33
37) 1,1,1-Trichloroethane	10.038	97	1869030	11.89		98	11.89
38) Cyclohexane	10.816	56	817988	9.50		86	9.50
39) Carbon Tetrachloride	10.683	117	2084573	12.60		99	12.60
40) Benzene	10.521	78	2042392	10.58		97	10.58
41) Dibromomethane	11.342	174	1127237	13.28		100	13.28
42) n-Heptane	11.987	43	701064	9.16	#	79	9.16
43) 1,2-Dichloropropane	11.387	63	643210	10.34	#	93	10.34
44) Trichloroethene	11.643	95	1058949	11.57		93	11.57
45) Bromodichloromethane	11.586	83	1755658	11.27	#	98	11.27

OH 11-01-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration

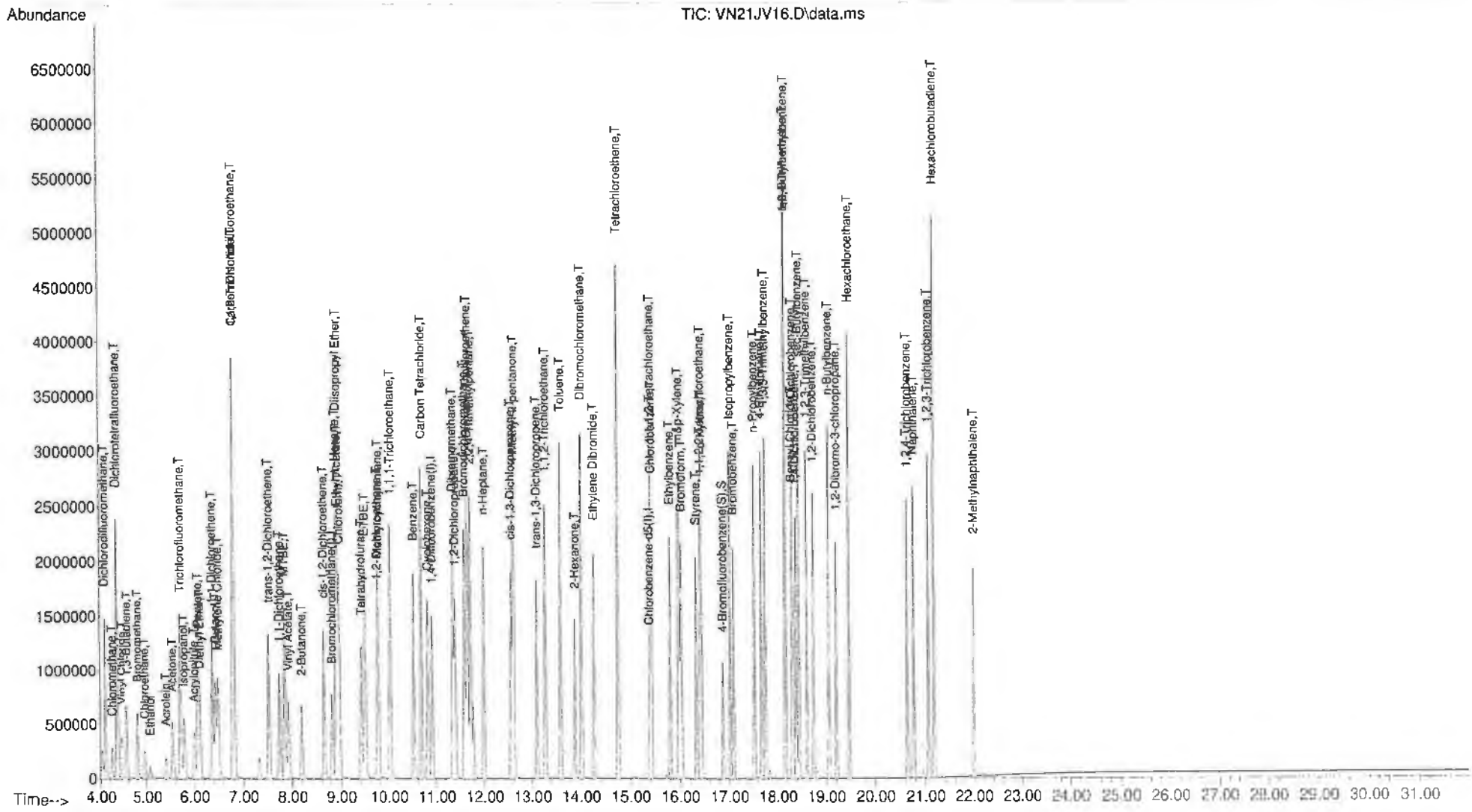
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.652	88	514095	12.01		#	90	12.01
47) 2,2,4-Trimethylpentane	11.709	57	2654607	9.87		#	93	9.87
48) cis-1,3-Dichloropropene	12.550	75	1270995	11.26			98	11.26
49) 4-Methyl-2-pentanone	12.612	58	532014	8.51		#	72	8.51
50) trans-1,3-Dichloropropene	13.101	75	1196870	11.33		#	97	11.33
51) 1,1,1,2-Tetrachloroethane	15.403	131	695530	12.83			99	12.83
53) 1,1,2-Trichloroethane	13.280	97	931196	14.68			97	14.68
54) Toluene	13.584	91	2740313	13.78			99	13.78
55) 2-Hexanone	13.880	43	875445	9.20		#	77	9.20
56) Dibromochloromethane	14.008	127	1536747	13.93			99	13.93
57) Ethylene Dibromide	14.264	107	1532261	14.82		#	98	14.82
58) Tetrachloroethene	14.750	166	1563339	16.00			96	16.00
59) Chlorobenzene	15.423	112	1151541	14.55			96	14.55
60) Ethylbenzene	15.798	91	1771787	13.46			98	13.46
61) m&p-Xylene	15.972	106	1401658	27.92			92	27.92
62) Bromoform	16.029	173	1115332	17.03			84	17.03
63) Styrene	16.324	104	1116739	14.88			97	14.88
64) 1,1,2,2-Tetrachloroethane	16.412	83	930936	12.71			99	12.71
65) o-Xylene	16.432	91	1467284	13.44			97	13.44
67) Isopropylbenzene	17.012	105	2094335	15.19			98	15.19
68) n-Propylbenzene	17.518	91	2392393	15.65			99	15.65
69) 4-Ethyltoluene	17.666	105	2022642	13.80		#	97	13.80
70) 1,3,5-Trimethylbenzene	17.742	105	1855358	13.99			96	13.99
71) tert-Butylbenzene	18.160	119	1897697	15.45		#	96	15.45
72) 1,2,4-Trimethylbenzene	18.163	105	1677291	13.19			97	13.19
73) 1,3-Dichlorobenzene	18.311	146	1151100	19.45			97	19.45
74) Benzyl Chloride	18.294	91	1347975	18.07			99	18.07
75) 1,4-Dichlorobenzene	18.382	146	1077179	19.25			97	19.25
76) sec-Butylbenzene	18.441	105	2528643	14.91			99	14.91
77) 1,2,3-Trimethylbenzene	18.603	105	1817363	15.93		#	96	15.93
78) 1,2-Dichlorobenzene	18.740	146	1163758	15.42			97	15.42
79) n-Butylbenzene	19.058	91	1817559	12.60			98	12.60
80) Bromobenzene	17.086	77	925063	13.57			90	13.57
81) 1,2-Dibromo-3-chloropr...	19.212	157	731447	24.68			99	24.68
82) Hexachloroethane	19.467	117	822821	13.95			98	13.95
83) 1,2,4-Trichlorobenzene	20.635	180	860032	15.72			98	15.72
84) Naphthalene	20.763	128	2219365	15.49			98	15.49
85) 1,2,3-Trichlorobenzene	21.059	180	978442	16.93			98	16.93
86) Hexachlorobutadiene	21.173	225	1050978	13.60			99	13.60
87) 2-Methylnaphthalene	21.991	142	944393	13.74			97	13.74

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : O:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_D\VN\VN_METHOO\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.815	130	406723	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1463831	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.378	54	104251	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	184440	7.65	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 113.84%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	1611207	11.77		99	11.77
3) Chloromethane	4.237	50	355697	11.79		97	11.79
4) Dichlorotetrafluoroethane	4.328	85	1559947	13.20		91	13.20
5) Vinyl Chloride	4.436	62	497805	12.15		99	12.15
6) 1,3-Butadiene	4.561	54	357410	9.92		88	9.92
7) Bromomethane	4.803	94	505237	14.35	#	93	14.35
8) Chloroethane	4.962	64	276922	13.15	#	91	13.15
9) Ethanol	5.070	45	133607	10.69		98	10.69
10) Acrolein	5.399	56	194478	13.64		98	13.64
11) Trichlorofluoromethane	5.706	101	1581975	13.50		99	13.50
12) Isopropanol	5.786	45	890648	10.80		98	10.80
13) Acetone	5.539	58	235027	7.73	#	76	7.73
14) Acrylonitrile	5.999	53	446441	10.89	#	97	10.89
15) n-Pentane	6.079	43	857751	10.72	#	99	10.72
16) Diethyl Ether	6.118	59	533892	11.16		92	11.16
17) 1,1-Dichloroethene	6.368	61	1103953	10.52		100	10.52
18) t-Butanol	6.437	59	1408153	10.62	#	92	10.62
19) Methylene Chloride	6.494	49	610950	9.95	#	86	9.95
20) 1,1,2-Trichlorotrifluo...	6.806	101	1637977	11.32		94	11.32
21) Carbon Disulfide	6.806	76	1893709	10.88	#	94	10.88
22) trans-1,2-Dichloroethene	7.517	61	933134	9.99		100	9.99
23) MTBE	7.841	73	2105931	11.07	#	94	11.07
24) 1,1-Dichloroethane	7.736	63	1113385	9.93		99	9.93
25) Vinyl Acetate	7.920	86	190627	14.16	#	41	14.16
26) n-Hexane	8.901	57	824206	8.16	#	70	8.16
27) 2-Butanone	8.187	43	874640	7.94	#	84	7.94
28) cis-1,2-Dichloroethene	8.645	61	888888	10.39		99	10.39
29) Chloroform	8.966	83	1719907	11.40	#	97	11.40
30) Ethyl Acetate	8.932	61	180105	9.80	#	60	9.80
31) Diisopropyl Ether	8.921	45	1598433	10.81	#	91	10.81
32) Tetrahydrofuran	9.418	42	625218	11.98	#	83	11.98
33) ETBE	9.495	59	1905854	9.71		94	9.71
34) 1,2-Dichloroethane	9.756	62	1020609	10.33	#	93	10.33
35) Methylcyclopentane	9.779	56	1050749	9.33	#	86	9.33
37) 1,1,1-Trichloroethane	10.038	97	1869030	11.89		98	11.89
38) Cyclohexane	10.816	56	81798B	9.50		86	9.50
39) Carbon Tetrachloride	10.6B3	117	2084573	12.60		99	12.60
40) Benzene	10.521	78	2042392	10.58		97	10.58
41) Dibromomethane	11.342	174	1127237	13.28		100	13.28
42) n-Heptane	11.987	43	701064	9.16	#	79	9.16
43) 1,2-Dichloropropane	11.387	63	643210	10.34	#	93	10.34
44) Trichloroethene	11.643	95	1058949	11.57		93	11.57
45) Bromodichloromethane	11.586	83	1755658	11.27	#	98	11.27

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration

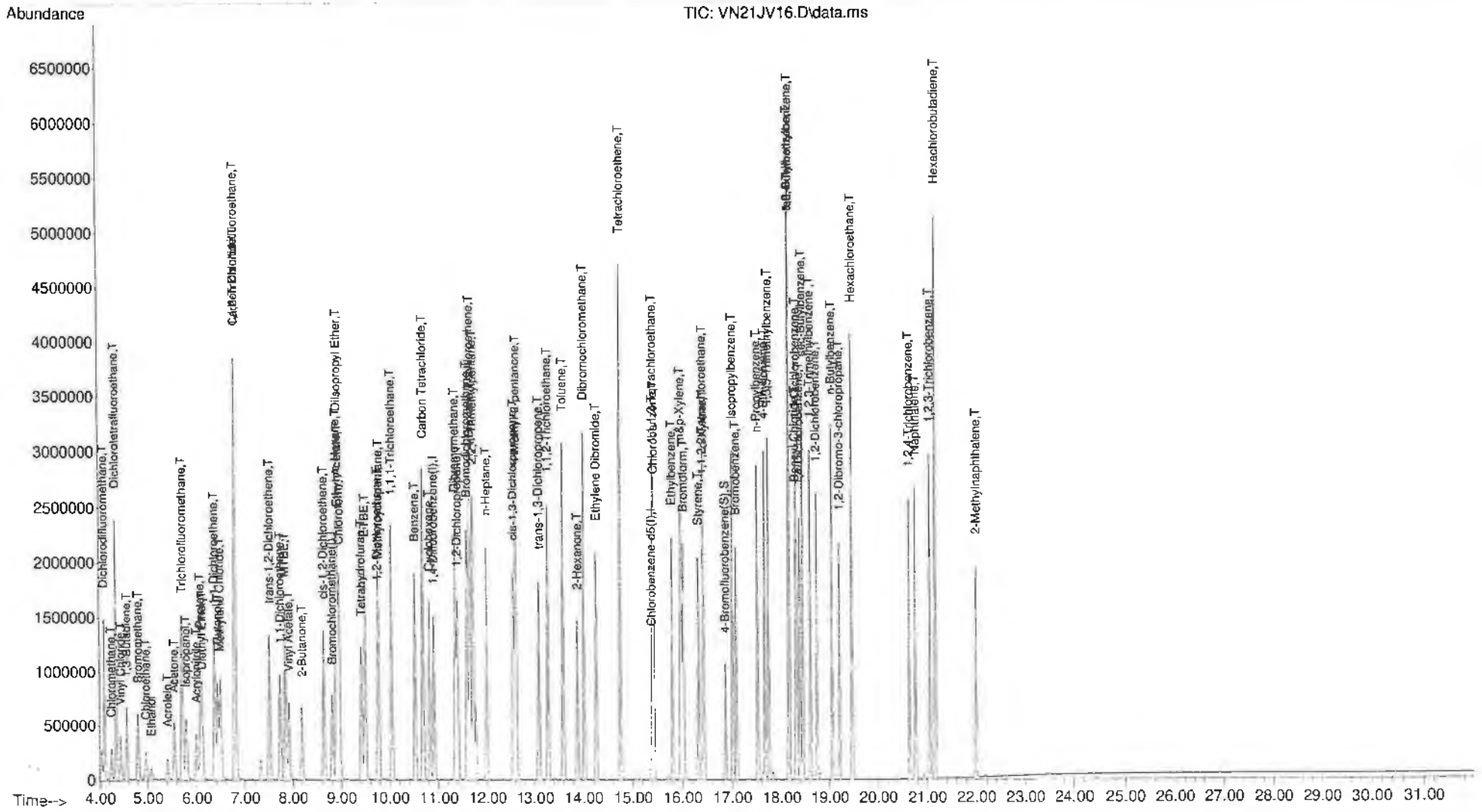
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.652	88	514095	12.01		# 90	12.01
47) 2,2,4-Trimethylpentane	11.709	57	2654607	9.87		# 93	9.87
48) cis-1,3-Dichloropropene	12.550	75	1270995	11.26		98	11.26
49) 4-Methyl-2-pentanone	12.612	58	532014	8.51		# 72	8.51
50) trans-1,3-Dichloropropene	13.101	75	1196870	11.33		# 97	11.33
51) 1,1,1,2-Tetrachloroethane	15.403	131	695530	12.83		99	12.83
53) 1,1,2-Trichloroethane	13.280	97	931196	14.68		97	14.68
54) Toluene	13.584	91	2740313	13.78		99	13.78
55) 2-Hexanone	13.880	43	875445	9.20		# 77	9.20
56) Dibromochloromethane	14.008	127	1536747	13.93		99	13.93
57) Ethylene Dibromide	14.264	107	1532261	14.82		# 98	14.82
58) Tetrachloroethene	14.750	166	1563339	16.00		96	16.00
59) Chlorobenzene	15.423	112	1151541	14.55		96	14.55
60) Ethylbenzene	15.798	91	1771787	13.46		98	13.46
61) m&p-Xylene	15.972	106	1401658	27.92		92	27.92
62) Bromoform	16.029	173	1115332	17.03		84	17.03
63) Styrene	16.324	104	1116739	14.88		97	14.88
64) 1,1,2,2-Tetrachloroethane	16.412	83	930936	12.71		99	12.71
65) o-Xylene	16.432	91	1467284	13.44		97	13.44
67) Isopropylbenzene	17.012	105	2094335	15.19		98	15.19
68) n-Propylbenzene	17.518	91	2392393	15.65		99	15.65
69) 4-Ethyltoluene	17.666	105	2022642	13.80		# 97	13.80
70) 1,3,5-Trimethylbenzene	17.742	105	1855358	13.99		96	13.99
71) tert-Butylbenzene	18.160	119	1897697	15.45		# 96	15.45
72) 1,2,4-Trimethylbenzene	18.163	105	1677291	13.19		97	13.19
73) 1,3-Dichlorobenzene	18.311	146	1151100	19.45		97	19.45
74) Benzyl Chloride	18.294	91	1347975	18.07		99	18.07
75) 1,4-Dichlorobenzene	18.382	146	1077179	19.25		97	19.25
76) sec-Butylbenzene	18.441	105	2528643	14.91		99	14.91
77) 1,2,3-Trimethylbenzene	18.603	105	1817363	15.93		# 96	15.93
78) 1,2-Dichlorobenzene	18.740	146	1163758	15.42		97	15.42
79) n-Butylbenzene	19.058	91	1817559	12.60		98	12.60
80) Bromobenzene	17.086	77	925063	13.57		90	13.57
81) 1,2-Dibromo-3-chloropr...	19.212	157	731447	24.68		99	24.68
82) Hexachloroethane	19.467	117	822821	13.95		98	13.95
83) 1,2,4-Trichlorobenzene	20.635	180	860032	15.72		98	15.72
84) Naphthalene	20.763	128	2219365	15.49		98	15.49
85) 1,2,3-Trichlorobenzene	21.059	180	978442	16.93		98	16.93
86) Hexachlorobutadiene	21.173	225	1050978	13.60		99	13.60
87) 2-Methylnaphthalene	21.991	142	944393	13.74		97	13.74

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21J31A\
Data File : VN21JV16.D
Acq On : 01 Nov 2021 03:56 am
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 10:55:51 2021
Quant Method : \\Vn-cs\VN_O\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:55:48 2021
Response via : Initial Calibration



Sequence:	C:\SmartLabs\Data\7200\Sequences\CAL_CURVE_211021.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VICV01/VLCS01
Inject Time:	11/1/2021 3:56:31 AM
Sample Start:	11/1/2021 3:42:13 AM
Sample End:	11/1/2021 3:44:34 AM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D7
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	21.1 (25)	5.30	24.19	23.61	1.93	3.07
Calibration Std			0.00				
Sample	200.5 (200)	99 (100)	2.33	34.64	32.37	2.85	5.13
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	103.7 (100)	0.98	24.57	21.91	3.3	4.18
M1/ M2 Transfer	100.3 (100)	26.8 (20)	5.58	24.71	24.19	4.11	5.25

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				120 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		119 (119)
M3	0			-178 (-165)	71 (80)	-68
Rot Valve Plate	91/92 (90)					92/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	83 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	47600 (47600)

SECTION #4: RAW DATA, by batch

PAH AIR SAMPLE RAW DATA

SJ21K11A

TUNE	A05022-008.01	A05022-010.02
SIM01	A05022-009.01	A05022-011.02
PS21K11C.MB-PNA	A05022-010.01	A05022-012.02
PS21K11C.LCS-PNA	A05022-011.01	
PS21K11C.LCD-PNA	A05022-012.01	
A05022-013.01	A05022-007.02	
A05022-014.01	A05022-008.02	
A05022-007.01	A05022-009.02	

TO-15 SAMPLE RAW DATA WITH DETAILED SUMMARY REPORT

VN2109A

TUNE	VBLK01	A05022-003.02
VCCV01	A05022-001.01	A05022-004.01
VLCS01	A05022-002.01	A05022-005.01
VLCD01	A05022-003.01	A05022-006.01

VN21K10B

TUNE	VBLK01
VCCV01	A05022-004.02
VLCS01	A05022-005.02
VLCD01	

PAH AIR SAMPLE RAW DATA

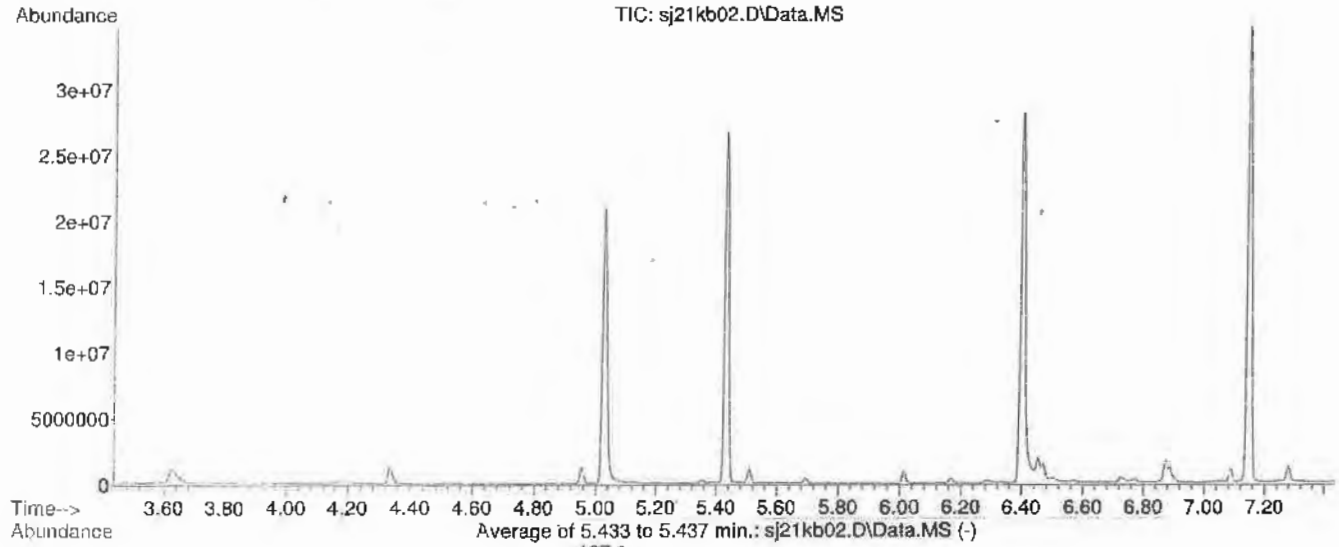
Vial List---C:\SJ\SJ SEQUENCES\SJ21k11a.sld

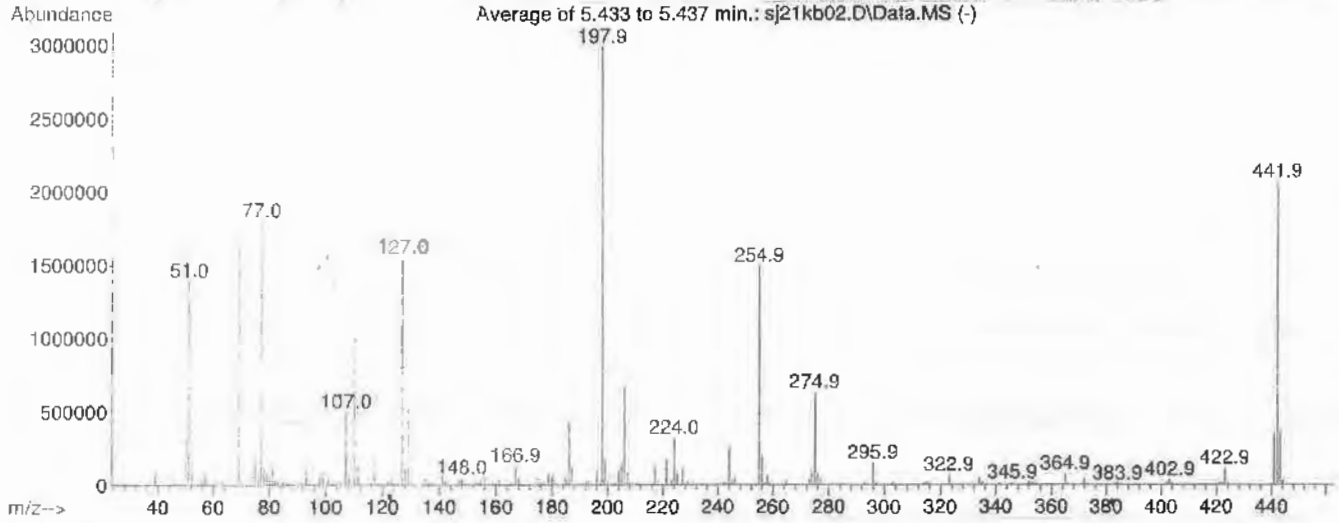
Position	Sample Type	Level	Sample ID	Sample Name
111	Unknown		1	bake
1	Unknown		2	tune01
2	Unknown		3	sim01
120	Unknown		4	ps21k11c.mb*-pna
121	Unknown		5	ps21k11c.lcs-pna
122	Unknown		6	ps21k11c.lcd-pna
123	Unknown		7	A05022-013.01
124	Unknown		8	A05022-014.01
125	Unknown		9	A05022-007.01
126	Unknown		10	A05022-008.01
127	Unknown		11	A05022-009.01
128	Unknown		12	A05022-010.01
129	Unknown		13	A05022-011.01
130	Unknown		14	A05022-012.01
131	Unknown		15	A05022-007.02
132	Unknown		16	A05022-008.02
133	Unknown		17	A05022-009.02
134	Unknown		18	A05022-010.02
135	Unknown		19	A05022-011.02
136	Unknown		20	A05022-012.02
112	Unknown		22	bake

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb02.D
Acq On : 11 Nov 21 15:38
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\SJ\SJ METHODS\SJDFTA01.M
Title :
Last Update : Wed Dec 08 09:58:23 2021





AutoFind: Scans 1177, 1178, 1179; Background Corrected with Scan 1163

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.5	1390216	PASS
68	69	0.00	2	1.1	18909	PASS
69	198	0.00	100	56.0	1674495	PASS
70	69	0.00	2	0.4	5975	PASS
127	198	40	60	51.9	1550035	PASS
197	198	0.00	1	0.3	7878	PASS
198	198	100	100	100.0	2988511	PASS
199	198	5	9	6.2	184661	PASS
275	198	10	30	21.1	631637	PASS
365	198	1	100	2.4	72331	PASS
441	443	0.01	100	95.2	351699	PASS
442	198	40	100	69.1	2065579	PASS
443	442	17	23	17.9	369301	PASS

12.9.21

12/10/21

QUALITY CONTROL SUMMARY REPORT
SEMIVOLATILE DDT BREAKDOWN EVALUATION

Instrument : SJ

Sequence : SJ21K11A

Data File : sj21kb02.D

Acq On : 11/11/2021 15:38

Sample : tune01

Response via : Initial Calibration

DataAcq Method : SJDFTA01.M

Target Compounds	R.T.	QIon	Response	#
1) 4,4'-DDE	6.57	246	11058	
2) 4,4'-DDD	6.87	235	207970	
3) 4,4'-DDT	7.15	235	5304629	

Evaluation

4,4'-DDE + 4,4'-DDD	219028
4,4'-DDE + 4,4'-DDD + 4,4'-DDT	5523657
((4,4'-DDE + 4,4'-DDD)/(4,4'-DDE + 4,4'-DDD + 4,4'-DDT)) x 100%	4 %

11.16.21

11.17.21

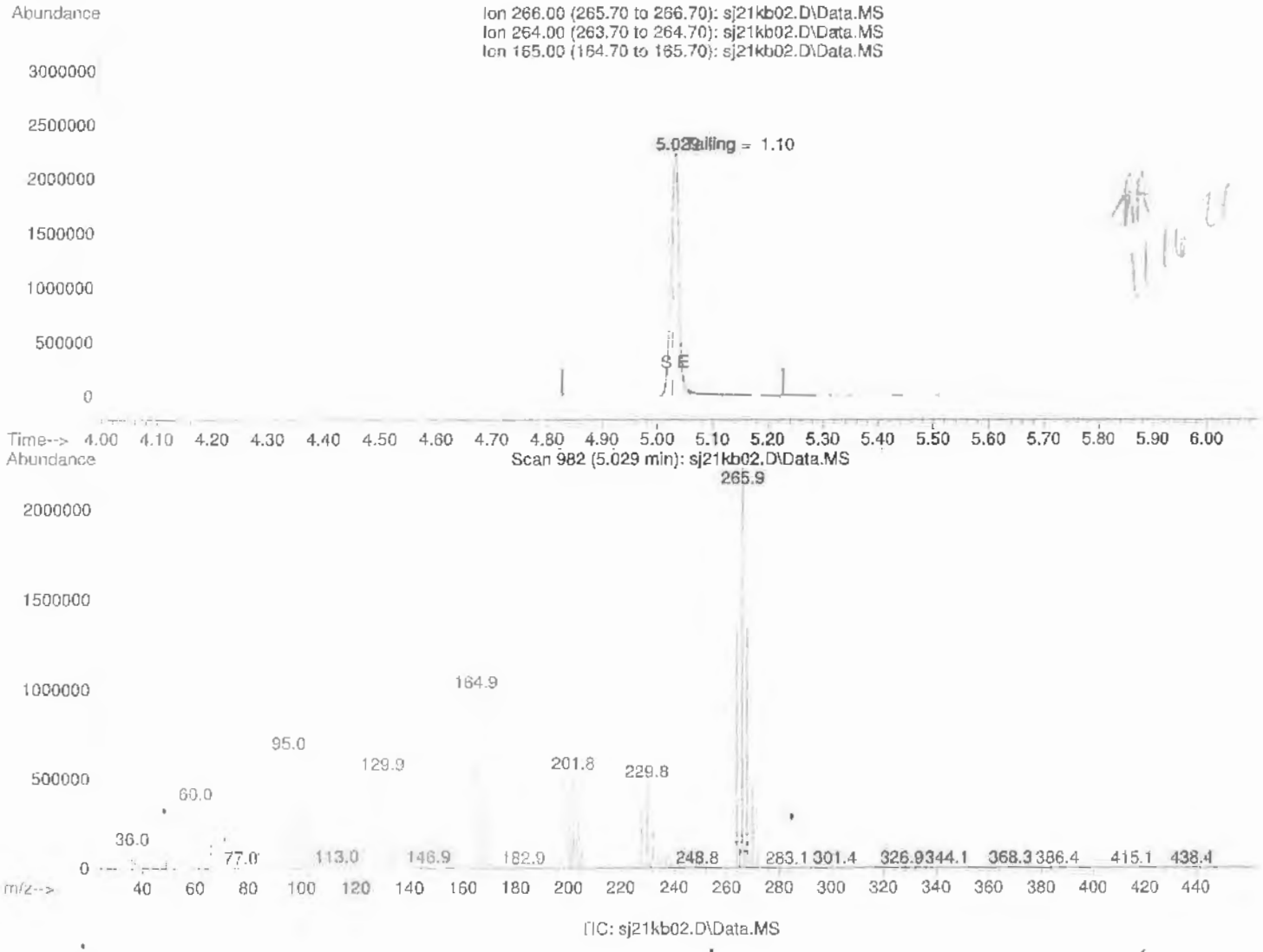
% BREAKDOWN UPPER LIMIT = The sum of the instrument responses for 4,4'-DDE + 4,4'-DDD must be less than or equal to 20% of the sum of the reponses of 4,4'-DDE, 4,4'-DDD and 4,4'-DDT.

Column used to flag values outside QC limits with an asterisk

Quantitation Report (Qedit)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb02.D
Acq On : 11 Nov 21 15:38
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 16 14:39:23 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Tue Nov 02 07:43:48 2021
Response via : Initial Calibration



TIC: sj21kb02.D\Data.MS

(1) Pentachlorophenol

5.029min (+ 0.002) 506.86 mg/L

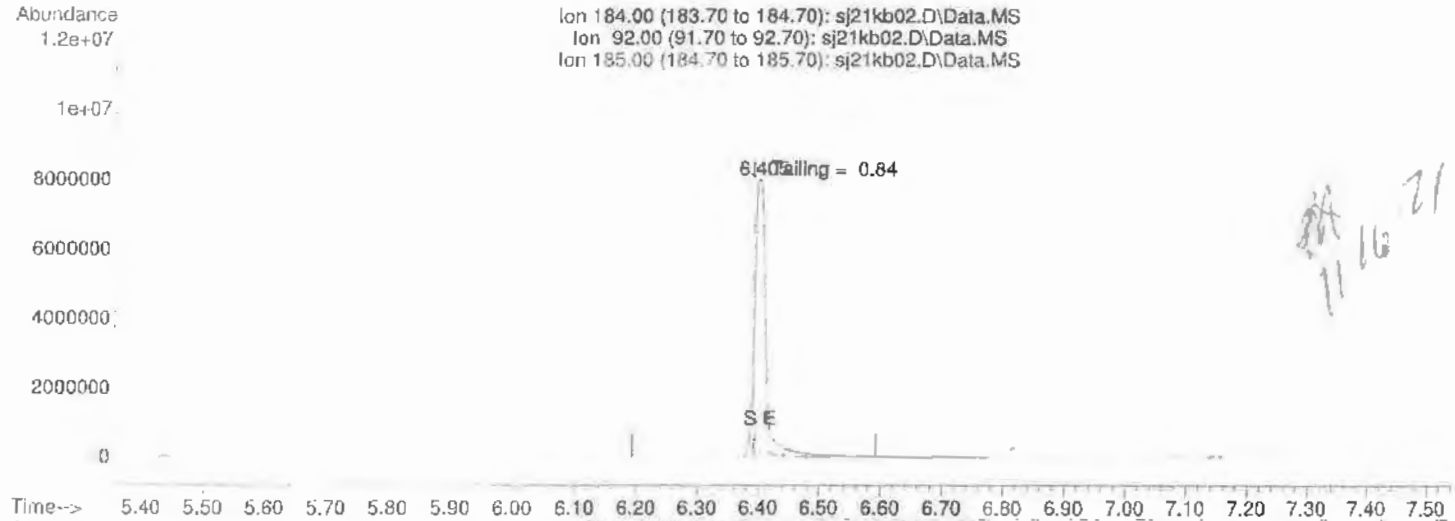
response 2260193

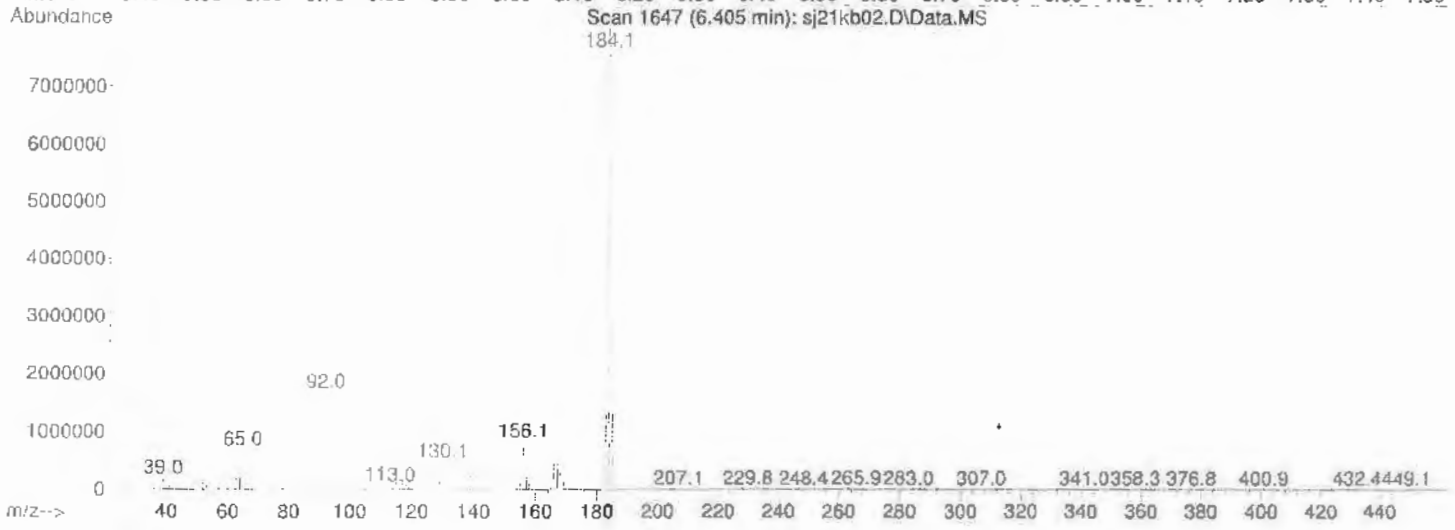
Ion	Exp%	Act%
266.00	100.00	100.00
264.00	63.40	61.16
165.00	51.60	47.69
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb02.D
Acq On : 11 Nov 21 15:38
Operator :
Sample : tunc01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 16 14:39:23 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Tue Nov 02 07:43:48 2021
Response via : Initial Calibration





TIC: sj21kb02.D\Data.MS

(3) Benzidine

6.405min (+ 0.011) 485.83 mg/L

response 10128570

Ion	Exp%	Act%
184.00	100.00	100.00
92.00	15.10	17.64
185.00	13.90	13.53
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb02.D
Acq On : 11 Nov 21 15:38
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 16 14:39:23 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Tue Nov 02 07:43:48 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qion	Response	Conc	Units		Dev(Min)
Target Compounds (Multiplier applied to Results = YES)							Qvalue
1) Pentachlorophenol	5.029	266	2260193	506.86	mg/L		96 OR
2) DFTPP	5.435	198	2845690	648.51	ppb		92 OR
3) Benzidine	6.405	184	10128570	485.83	mg/L		96 OR
4) 4,4'-DDE	6.568	246	11058	93.17	mg/L	#	1
5) 4,4'-DDD	6.874	235	207970	723.73	mg/L	#	1 OR
6) 4,4'-DDT	7.149	235	5304629	530.27	mg/L		96 OR

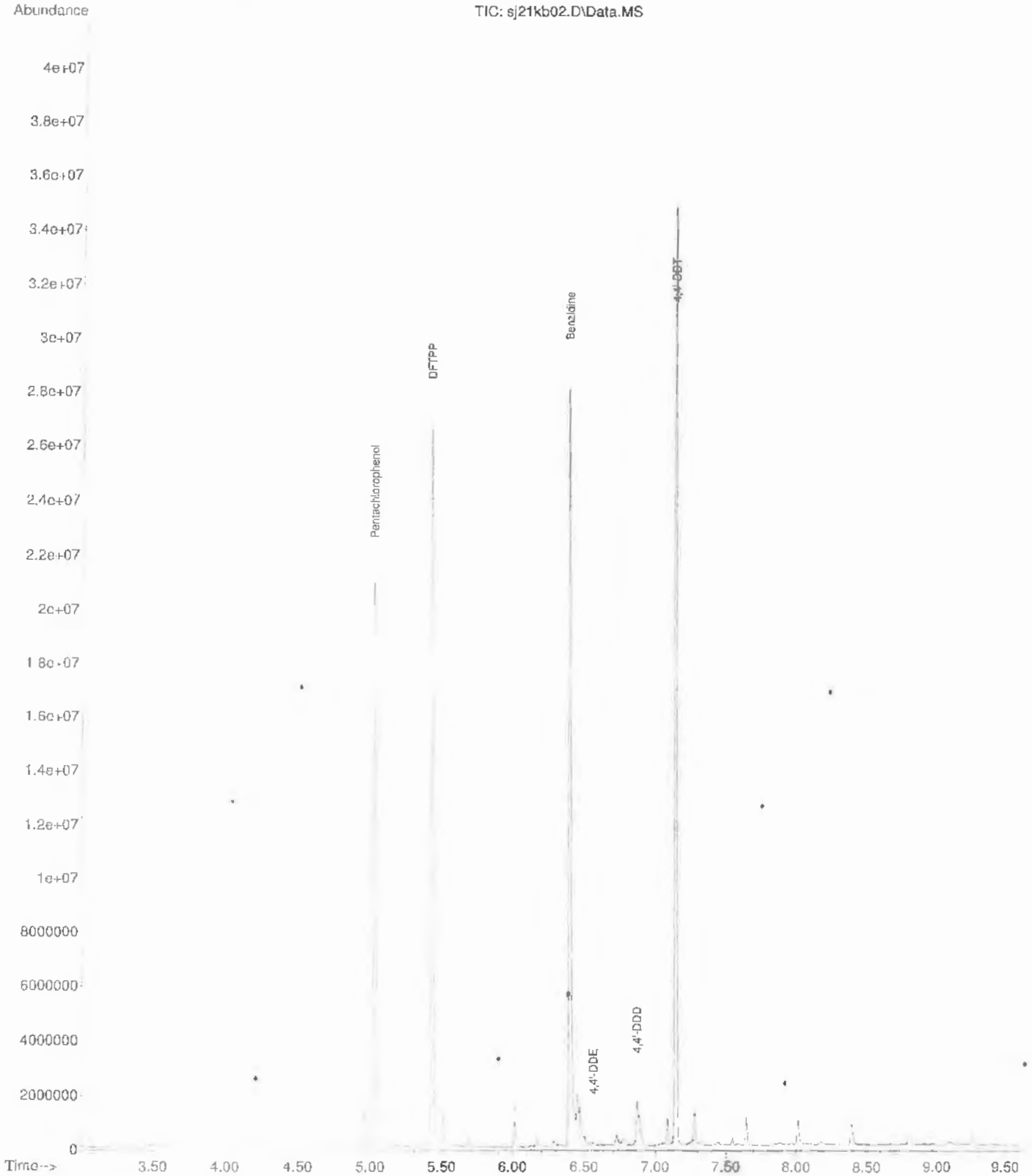
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11.17.21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb02.D
Acq On : 11 Nov 21 15:38
Operator :
Sample : tune01
Misc : 47748
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 16 14:39:23 2021
Quant Method : C:\SJ\SJ METHODS\SJDFTA01.M
Quant Title :
QLast Update : Tue Nov 02 07:43:48 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb03.D
Acq On : 11 Nov 21 16:02
Operator :
Sample : sim01
Misc : 10 air 102921
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 12 17:03:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

BH 11.12.21

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	620261	200.00 ug/L	0.00
5) Acenaphthene d10(I) (SIM)	9.933	164	307418	200.00 ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	532802	200.00 ug/L	0.00
14) Chrysene d12(I) (SIM)	21.164	240	322111	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.917	264	284700	200.00 ug/L	0.00
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.515	146	25589	9.26 ug/L	0.00
Spiked Amount 16.000	Range 70 - 130			Recovery =	57.88%#
6) 2-Fluorobiphenyl(S)	7.584	172	18765	10.90 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	68.13%#
16) 4-Terphenyl-d14(S)	17.218	244	18066	10.95 ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	68.44%#
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	37075	11.20 ug/L #	93
4) 2-Methylnaphthalene (SIM)	6.673	142	17328	9.95 ug/L	91
7) Acenaphthylene (SIM)	9.338	152	23059	10.30 ug/L	98
8) Acenaphthene (SIM)	10.049	153	17645	8.53 ug/L	94
9) Fluorene (SIM)	11.340	166	18173	9.64 ug/L	99
11) Phenanthrene (SIM)	12.945	178	26909m	10.36 ug/L	
12) Anthracene (SIM)	13.028	178	19499m	10.29 ug/L	
13) Fluoranthene (SIM)	15.667	202	22884	10.08 ug/L	100
15) Pyrene (SIM)	16.399	202	22975	8.86 ug/L	97
17) Benzo(a)anthracene (SIM)	21.152	228	16667	11.10 ug/L	99
18) Chrysene (SIM)	21.276	228	17784m	9.08 ug/L	
20) Benzo(b)fluoranthene (...	24.821	252	13580	10.03 ug/L #	84
21) Benzo(k)fluoranthene (...	24.904	252	14864m	8.94 ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	12978	10.68 ug/L #	83
23) Indeno(1,2,3-cd)pyrene...	28.687	276	8160	9.60 ug/L . #	89
24) Dibenzo(a,h)anthracene...	28.770	278	9848	8.20 ug/L #	74
25) Benzo(ghi)perylene (SIM)	29.287	276	10533	8.28 ug/L #	53

(#) = qualifier out of range (m) = manual integration (+) = signals summed

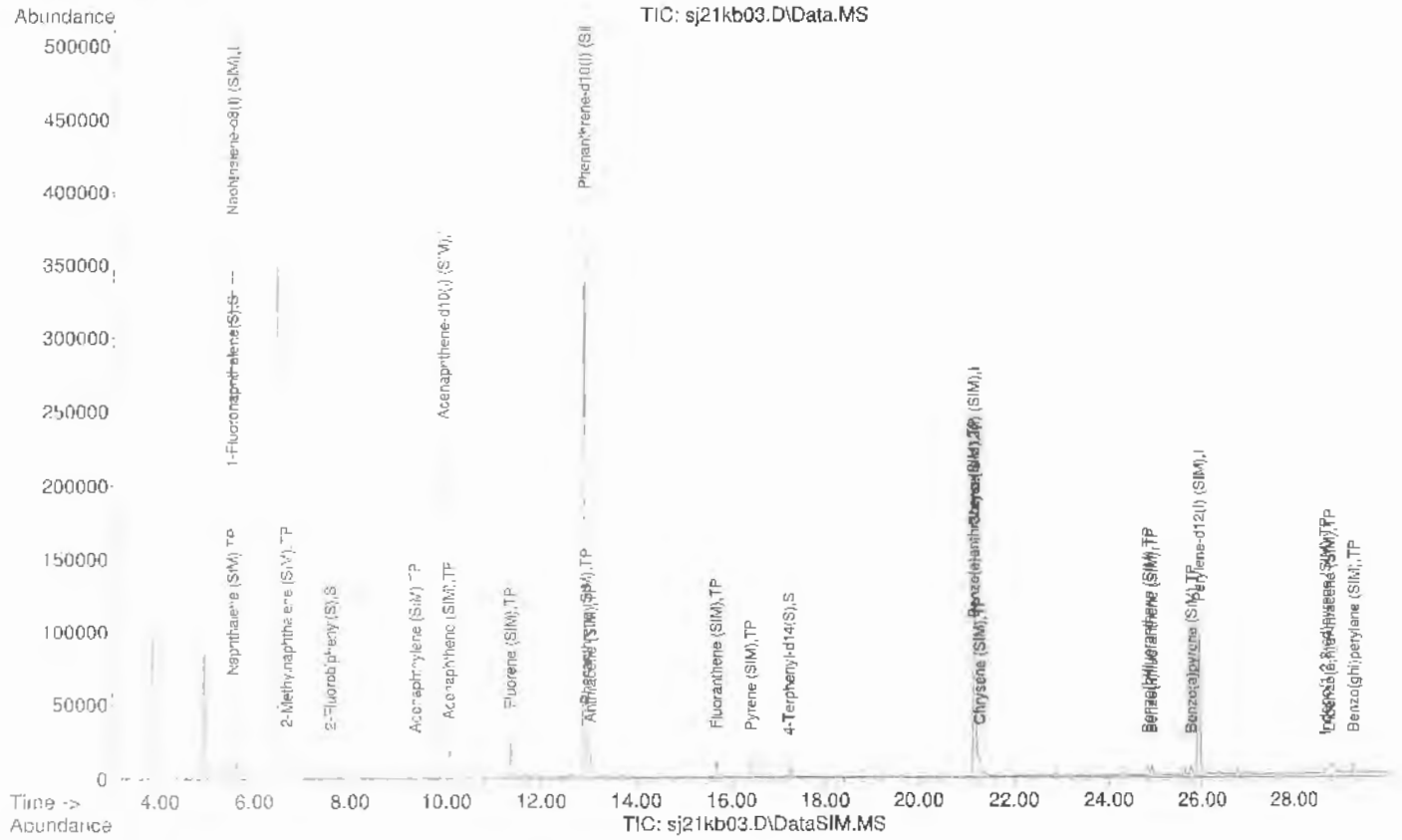
TT 11.17.21

SJAIRA11.M Fri Nov 12 17:03:31 2021

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb03.D
Acq On : 11 Nov 21 16:02
Operator :
Sample : sim01
Misc : 10 air 102921
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 12 17:02:49 2021
Quant Method : C:\SJ\SJ METHODS\SJATRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb03.D
Acq On : 11 Nov 21 16:02
Operator :
Sample : sim01
Misc : 10 air 102921
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 12 17:02:49 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qion	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	620261	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	307418	200.00 ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	532802	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	322111	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.917	264	284700	200.00 ug/L	0.00
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.515	146	25589	9.26 ug/L	0.00
Spiked Amount 16.000	Range 70 - 130			Recovery =	57.88%#
6) 2-Fluorobiphenyl(S)	7.584	172	18765	10.90 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	68.13%#
16) 4-Terphenyl-d14(S)	17.218	244	18066	10.95 ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	68.44%#

Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	37078	11.20 ug/L #	93
4) 2-Methylnaphthalene (SIM)	6.673	142	17328	9.95 ug/L	91
7) Acenaphthylene (SIM)	9.338	152	23059	10.30 ug/L	98
8) Acenaphthene (SIM)	10.049	153	17645	8.53 ug/L	94
9) Fluorene (SIM)	11.340	166	18173	9.64 ug/L	99
11) Phenanthrene (SIM)	12.945	178	25400	9.75 ug/L #	96
12) Anthracene (SIM)	13.028	178	17066	8.99 ug/L #	99
13) Fluoranthene (SIM)	15.667	202	22884	10.08 ug/L	100
15) Pyrene (SIM)	16.399	202	22975	8.86 ug/L	97
17) Benzo(a)anthracene (SIM)	21.152	228	16667	11.10 ug/L	99
18) Chrysene (SIM)	21.276	228	16294	8.23 ug/L	99
20) Benzo(b)fluoranthene (...	24.821	252	13580	10.03 ug/L #	84
21) Benzo(k)fluoranthene (...	24.904	252	12767	7.68 ug/L #	80
22) Benzo(a)pyrene (SIM)	25.751	252	12978	10.68 ug/L #	83
23) Indeno(1,2,3-cd)pyrene...	28.687	276	8160	9.60 ug/L #	89
24) Dibenzo(a,h)anthracene...	28.770	278	9848	8.20 ug/L #	74
25) Benzo(ghi)perylene (SIM)	29.287	276	10533	8.28 ug/L #	53

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Evaluate Continuing Calibration Report

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb03.D
Acq On : 11 Nov 21 16:02
Operator :
Sample : sim01
Misc : 10 air 102921
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 12 17:03:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

BWT 11-12-21

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8(I) (SIM)	1.000	1.000	0.0	112	0.00
2	S	1-Fluoronaphthalene(S)	0.891	0.825	7.4	103	0.00
3	TP	Naphthalene (SIM)	1.254	1.195	4.7	132	0.00
4	TP	2-Methylnaphthalene (SIM)	0.561	0.559	0.4	125	-0.02
5	I	Acenaphthene-d10(I) (SIM)	1.000	1.000	0.0	109	0.00
6	S	2-Fluorobiphenyl(S)	1.120	1.221	-9.0	121	-0.02
7	TP	Acenaphthylene (SIM)	1.456	1.500	-3.0	130	0.00
8	TP	Acenaphthene (SIM)	1.345	1.148	14.6	108	0.00
9	TP	Fluorene (SIM)	1.226	1.182	3.6	129	-0.02
10	I	Phenanthrene-d10(I) (SIM)	1.000	1.000	0.0	113	0.00
11	TP	Phenanthrene (SIM)	1.216	1.010	16.9	127	0.00
12	TP	Anthracene (SIM)	0.762	0.732	3.9	131	-0.02
13	TP	Fluoranthene (SIM)	0.852	0.859	-0.8	135	-0.01
14	I	Chrysene-d12(I) (SIM)	1.000	1.000	0.0	125	-0.01
15	TP	Pyrene (SIM)	1.610	1.427	11.4	133	-0.01
16	S	4-Terphenyl d14(S)	1.025	1.122	-9.5	140	-0.03
17	TP	Benzo(a)anthracene (SIM)	1.306	1.035	20.8#	169	-0.01
18	TP	Chrysene (SIM)	1.490	1.104	25.9#	108	-0.01
19	I	Perylene-d12(I) (SIM)	1.000	1.000	0.0	139	0.00
20	TP	Benzo(b)fluoranthene (SIM)	0.951	0.954	-0.3	161	0.00
21	TP	Benzo(k)fluoranthene (SIM)	1.168	1.044	10.6	149	0.00
22	TP	Benzo(a)pyrene (SIM)	0.854	0.912	-6.8	189	0.00
23	TP	Indeno(1,2,3-cd)pyrene (SIM	0.597	0.573	4.0	174	-0.02
24	TP	Dibenzo(a,h)anthracene (SIM	0.844	0.692	18.0	137	-0.02
25	TP	Benzo(ghi)perylene (SIM)	0.894	0.740	17.2	131	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

TT 11-17-21

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb04.D
Acq On : 11 Nov 21 17:03
Operator :
Sample : ps21k11c.mb* pna
Misc : k11c air
ALS Vial : 120 Sample Multiplier: 1

Quant Time: Nov 15 11:35:39 2021
Quant Method : C:\SJ\SJ METHODS\SJA1RA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	486726	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.950	164	242920	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	415780	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.177	240	248506	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	225182	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	30265	13.96	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 87.25%
6) 2-Fluorobiphenyl(S)	7.584	172	22417	16.48	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 103.00%
16) 4-Terphenyl-d14(S)	17.230	244	23268	18.28	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 114.25%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	2915	0.89	ug/L	# 57
4) 2-Methylnaphthalene (SIM)	6.607	142	25	0.02	ug/L	96
7) Acenaphthylene (SIM)	9.371	152	320	0.18	ug/L	# 51
8) Acenaphthene (SIM)	10.049	153	68	0.04	ug/L	# 53
9) Fluorene (SIM)	11.324	166	264	0.18	ug/L	# 91
11) Phenanthrene (SIM)	12.928	178	3120	1.23	ug/L	# 86
12) Anthracene (SIM)	13.028	178	191	0.03	ug/L	# 1
13) Fluoranthene (SIM)	15.655	202	2179	1.23	ug/L	# 84
15) Pyrene (SIM)	16.387	202	1934	0.97	ug/L	# 93
17) Benzo(a)anthracene (SIM)	21.177	228	1076m	0.38	ug/L	
18) Chrysene (SIM)	21.276	228	696	Below	Cal	91
20) Benzo(b)fluoranthene (...	24.842	252	254	0.24	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	146	0.11	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.751	252	98	0.10	ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.729	276	159	0.24	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.811	278	151	0.16	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.308	276	118	0.12	ug/L	# 1

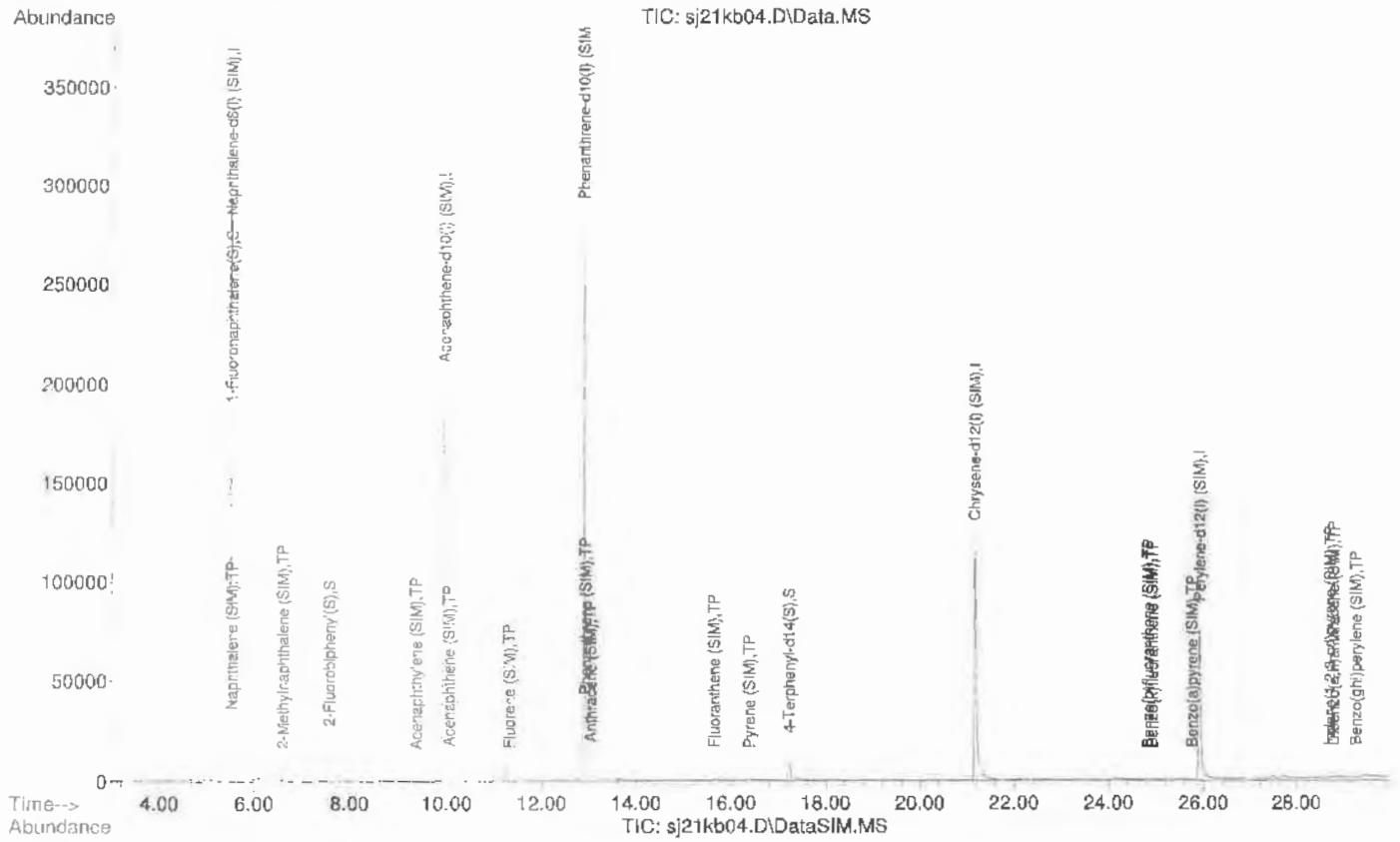
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SJA1RA11.M Mon Nov 15 12:36:47 2021

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb04.D
Acq On : 11 Nov 21 17:03
Operator :
Sample : ps21k11c.mb*-pna
Misc : k11c air
ALS Vial : 120 Sample Multiplier: 1

Quant Time: Nov 12 17:03:45 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb04.D
Acq On : 11 Nov 21 17:03
Operator :
Sample : ps21k11c,mb*-pna
Misc : k11c air
ALS Vial : 120 Sample Multiplier: 1

Quant Time: Nov 12 17:03:45 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

BAT 11.12.21

Internal Standards	R.T.	Qion	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	486726	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.950	164	242920	200.00	ug/L	0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	415780	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.177	240	248506	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	225182	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.515	146	30265	13.96	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130			Recovery	=	87.25%
6) 2-Fluorobiphenyl(S)	7.584	172	22417	16.48	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery	=	103.00%
16) 4-Terphenyl-d14(S)	17.230	244	23268	18.28	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery	=	114.25%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	2915	0.89	ug/L	# 57
4) 2-Methylnaphthalene (SIM)	6.607	142	25	0.02	ug/L	96
7) Acenaphthylene (SIM)	9.371	152	320	0.18	ug/L	# 51
8) Acenaphthene (SIM)	10.049	153	68	0.04	ug/L	# 53
9) Fluorene (SIM)	11.324	166	264	0.18	ug/L	# 91
11) Phenanthrene (SIM)	12.928	178	3120	1.23	ug/L	# 86
12) Anthracene (SIM)	13.028	178	191	0.03	ug/L	# 1
13) Fluoranthene (SIM)	15.655	202	2179	1.23	ug/L	# 84
15) Pyrene (SIM)	16.387	202	1934	0.97	ug/L	# 93
17) Benzo(a)anthracene (SIM)	21.276	228	330	Below	Cal	94
18) Chrysene (SIM)	21.276	228	696	Below	Cal	91
20) Benzo(b)fluoranthene (...	24.842	252	254	0.24	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	146	0.11	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.751	252	98	0.10	ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.729	276	159	0.24	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.811	278	151	0.16	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.308	276	118	0.12	ug/L	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb05.D
Acq On : 11 Nov 21 17:40
Operator :
Sample : ps21k11c.lcs-pna
Misc : k11c air
ALS Vial : 121 Sample Multiplier: 1

Quant Time: Nov 15 11:36:27 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	539815	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	257610	200.00 ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	436163	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	261594	200.00 ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	230685	200.00 ug/L	0.00
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.499	146	29570	12.29 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	76.81%
6) 2-Fluorobiphenyl(S)	7.584	172	21066	14.60 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	91.25%
16) 4-Terphenyl-d14(S)	17.230	244	18372	13.71 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	85.69%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	12441	4.16 ug/L #	96
4) 2-Methylnaphthalene (SIM)	6.673	142	5228	3.45 ug/L	94
7) Acenaphthylene (SIM)	9.321	152	6858	3.66 ug/L	97
8) Acenaphthene (SIM)	10.049	153	5501	3.17 ug/L	97
9) Fluorene (SIM)	11.340	166	5209	3.30 ug/L	98
11) Phenanthrene (SIM)	12.928	178	7772	3.42 ug/L #	88
12) Anthracene (SIM)	13.027	178	4765	3.00 ug/L #	96
13) Fluoranthene (SIM)	15.679	202	6935	3.73 ug/L	97
15) Pyrene (SIM)	16.411	202	6951	3.30 ug/L	97
17) Benzo(a)anthracene (SIM)	21.164	228	4912	3.65 ug/L	96
18) Chrysene (SIM)	21.276	228	6519m	3.48 ug/L	
20) Benzo(b)fluoranthene (...	24.821	252	3428	3.12 ug/L #	85
21) Benzo(k)fluoranthene (...	24.904	252	4603m	3.42 ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	3225	3.27 ug/L #	77
23) Indeno(1,2,3-cd)pyrene...	28.708	276	2342m	3.40 ug/L	
24) Dibenzo(a,h)anthracene...	28.791	278	2920m	3.00 ug/L	
25) Benzo(ghi)perylene (SIM)	29.287	276	3266	3.17 ug/L #	68

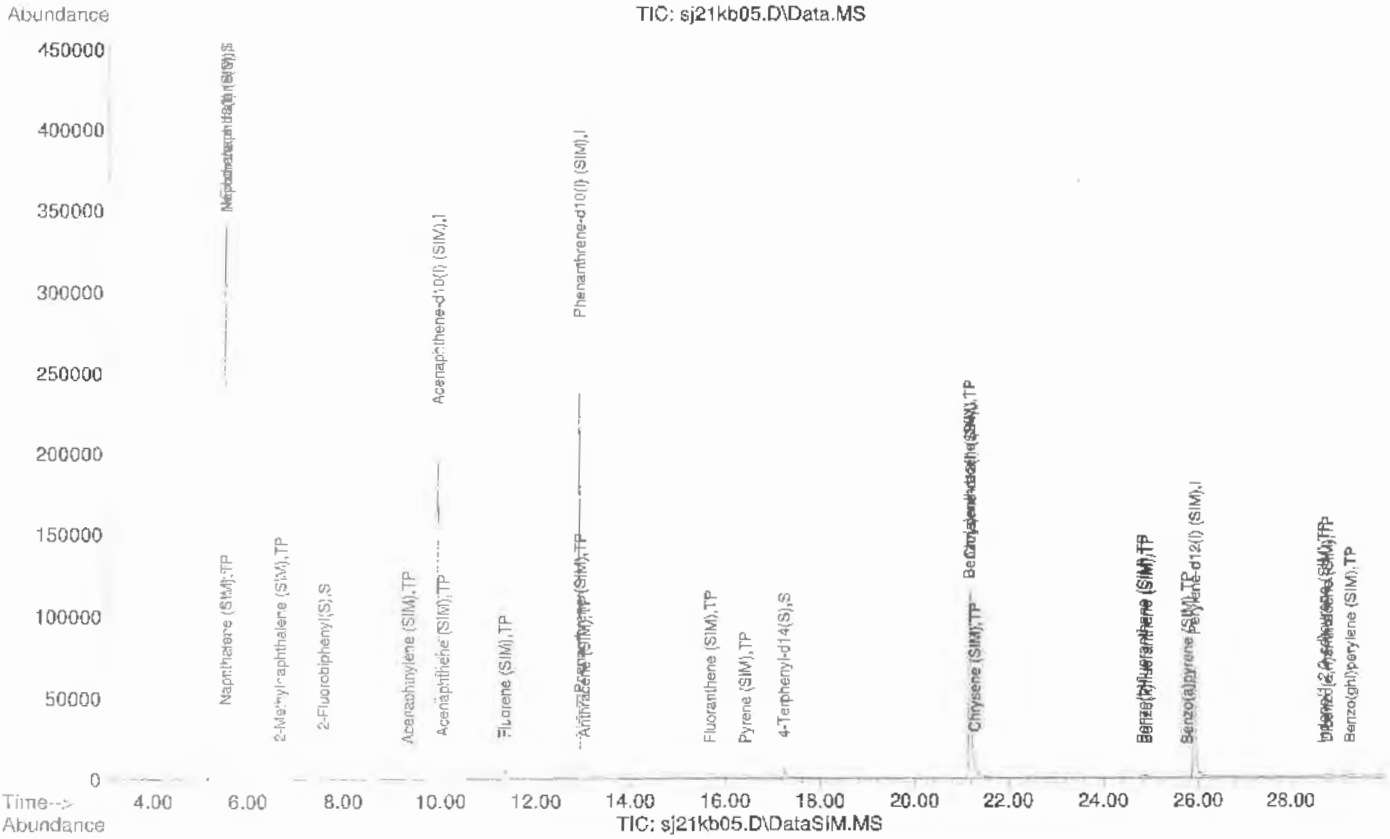
(#) = qualifier out of range (m) = manual integration (+) = signals summed

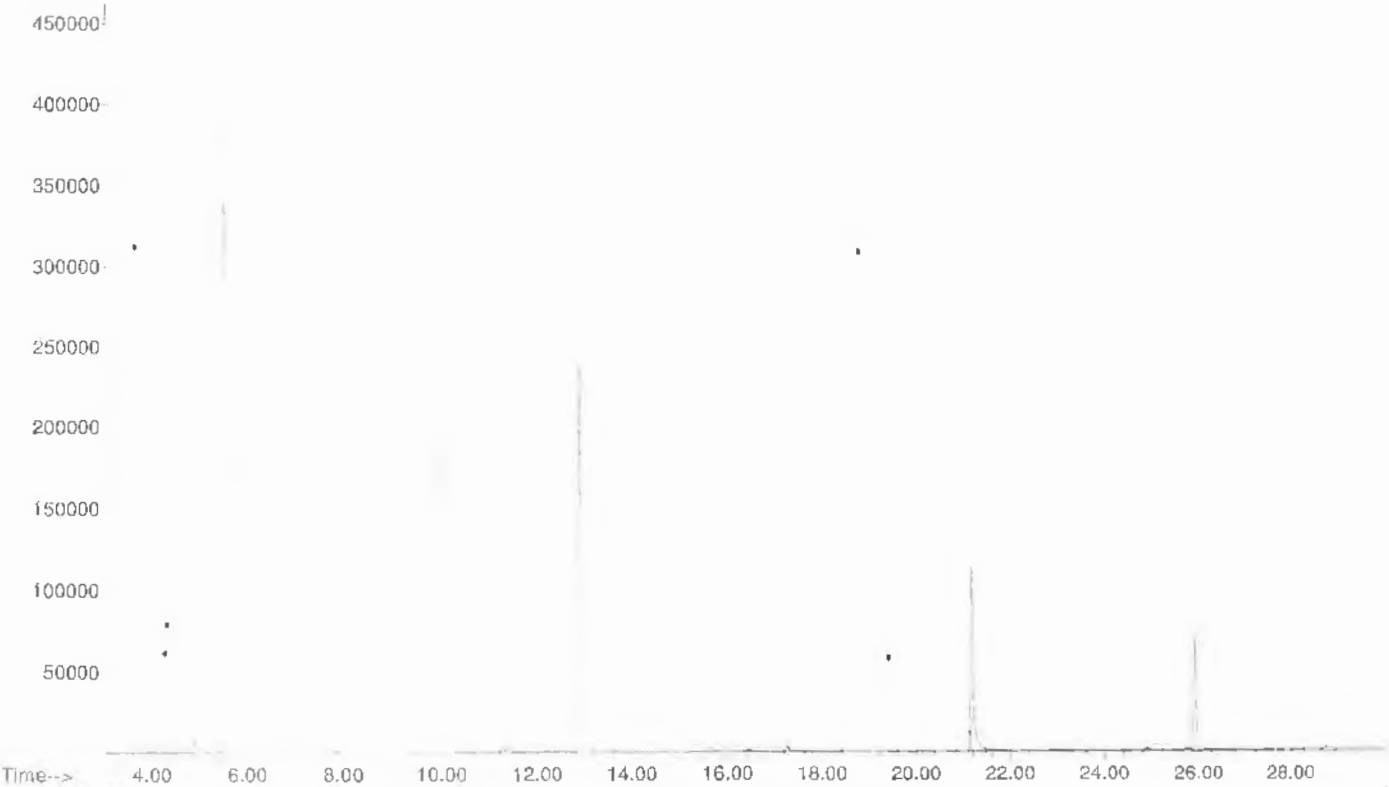
SJAIRA11.M Mon Nov 15 11:36:33 2021

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb05.D
Acq On : 11 Nov 21 17:40
Operator :
Sample : ps21k11c,lcs-pna
Misc : k11c air
ALS Vial : 121 Sample Multiplier: 1

Quant Time: Nov 12 17:04:35 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb05.D
Acq On : 11 Nov 21 17:40
Operator :
Sample : ps21k11c.lcs-pna
Misc : k11c air
ALS Vial : 121 Sample Multiplier: 1

Quant Time: Nov 12 17:04:35 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	539815	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	257610	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	436163	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.176	240	261594	200.00	ug/L	0.00
19) Perylene-d12(I) (SIM)	25.917	264	230685	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.499	146	29570	12.29	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	76.81%
6) 2-Fluorobiphenyl(S)	7.584	172	21066	14.60	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	91.25%
16) 4-Terphenyl-d14(S)	17.230	244	18372	13.71	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery =	85.69%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	12441	4.16	ug/L #	96
4) 2-Methylnaphthalene (SIM)	6.673	142	5228	3.45	ug/L	94
7) Acenaphthylene (SIM)	9.321	152	6858	3.66	ug/L	97
8) Acenaphthene (SIM)	10.049	153	5501	3.17	ug/L	97
9) Fluorene (SIM)	11.340	166	5209	3.30	ug/L	98
11) Phenanthrene (SIM)	12.928	178	7772	3.42	ug/L #	88
12) Anthracene (SIM)	13.027	178	4765	3.00	ug/L #	96
13) Fluoranthene (SIM)	15.679	202	6935	3.73	ug/L	97
15) Pyrene (SIM)	16.411	202	6951	3.30	ug/L	97
17) Benzo(a)anthracene (SIM)	21.164	228	4912	3.65	ug/L	96
18) Chrysene (SIM)	21.276	228	5415	2.70	ug/L	100
20) Benzo(b)fluoranthene (...	24.821	252	3428	3.12	ug/L #	85
21) Benzo(k)fluoranthene (...	24.904	252	3395	2.52	ug/L #	82
22) Benzo(a)pyrene (SIM)	25.751	252	3225	3.27	ug/L #	77
23) Indeno(1,2,3-cd)pyrene...	28.708	276	3180	4.62	ug/L #	77
24) Dibenzo(a,h)anthracene...	28.791	278	2691	2.76	ug/L #	62
25) Benzo(ghi)perylene (SIM)	29.287	276	3266	3.17	ug/L #	68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb06.D
Acq On : 11 Nov 21 18:17
Operator :
Sample : ps21k11c.lcd-pna
Misc : k11c air
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Nov 15 11:37:40 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qlon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	531458	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	273433	200.00 ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	446943	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	271288	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.917	264	235384	200.00 ug/L	0.00
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.515	146	30100	12.71 ug/L	0.00
Spiked Amount 16.000	Range 70 - 130			Recovery =	79.44%
6) 2-Fluorobiphenyl(S)	7.584	172	21548	14.07 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	87.94%
16) 4-Terphenyl-d14(S)	17.230	244	18406	13.24 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	82.75%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	11953	4.06 ug/L #	96
4) 2-Methylnaphthalene (SIM)	6.690	142	5406	3.62 ug/L	100
7) Acenaphthylene (SIM)	9.321	152	6885	3.46 ug/L #	96
8) Acenaphthene (SIM)	10.049	153	5451	2.96 ug/L	97
9) Fluorene (SIM)	11.340	166	5270	3.14 ug/L	94
11) Phenanthrene (SIM)	12.928	178	8252m	3.55 ug/L	
12) Anthracene (SIM)	13.027	178	5517m	3.40 ug/L	
13) Fluoranthene (SIM)	15.680	202	6554	3.44 ug/L	99
15) Pyrene (SIM)	16.411	202	6615	3.03 ug/L	96
17) Benzo(a)anthracene (SIM)	21.164	228	4866	3.46 ug/L	93
18) Chrysene (SIM)	21.276	228	6204m	3.11 ug/L	
20) Benzo(b)fluoranthene (...	24.821	252	3384	3.02 ug/L #	89
21) Benzo(k)fluoranthene (...	24.904	252	4515m	3.28 ug/L	
22) Benzo(a)pyrene (SIM)	25.751	252	2980	2.96 ug/L #	80
23) Indeno(1,2,3 cd)pyrene...	28.708	276	2076m	2.95 ug/L	
24) Dibenzo(a,h)anthracene...	28.791	278	2806m	2.83 ug/L	
25) Benzo(ghi)perylene (SIM)	29.287	276	3188	3.03 ug/L #	67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

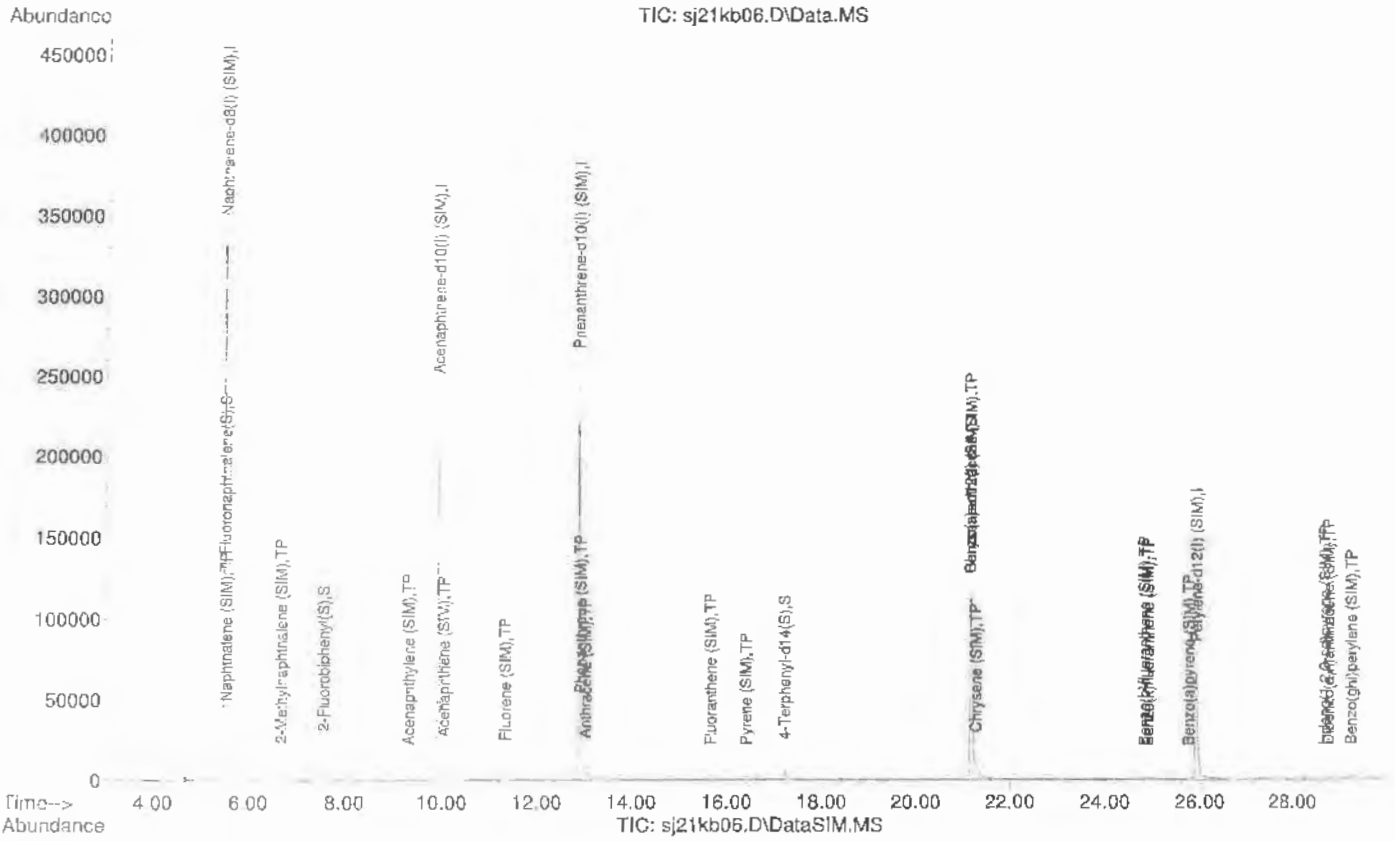
SJAIRA11.M Mon Nov 15 11:37:48 2021

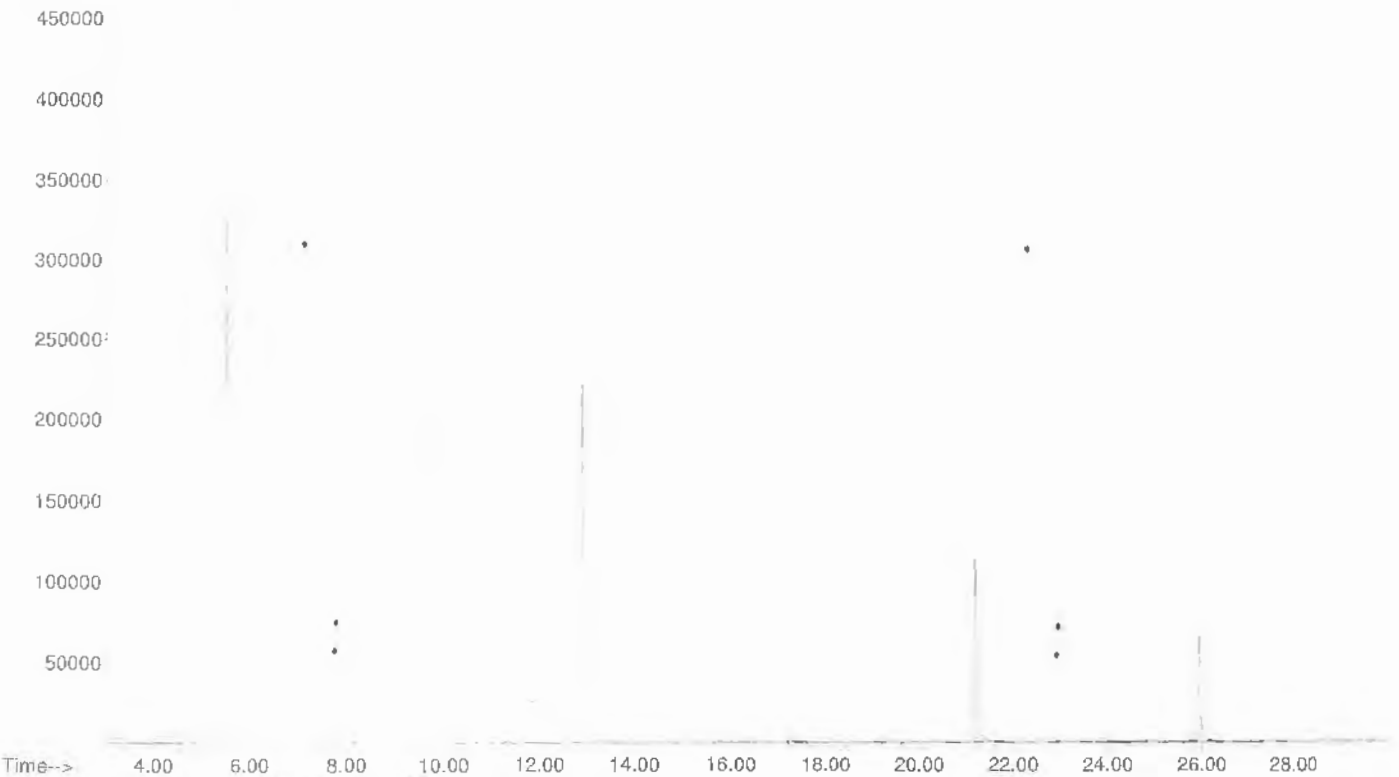
11.17.21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb06.D
Acq On : 11 Nov 21 18:17
Operator :
Sample : ps21k11c,tcd-pna
Misc : k11c air
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Nov 12 17:04:51 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb06.D
Acq On : 11 Nov 21 18:17
Operator :
Sample : ps21k11c.icd-pna
Misc : k11c air
ALS Vial : 122 Sample Multiplier: 1

Quant Time: Nov 12 17:04:51 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
Quant Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	531458	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	273433	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	446943	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	271288	200.00	ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.917	264	235384	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1 Fluoronaphthalene(S)	5.515	146	30100	12.71	ug/L	0.00
Spiked Amount 16.000	Range 70 - 130				Recovery	= 79.44%
6) 2-Fluorobiphenyl(S)	7.584	172	21548	14.07	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 87.94%
16) 4 Terphenyl-d14(S)	17.230	244	18406	13.24	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 82.75%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	11953	4.06	ug/L	# 96
4) 2-Methylnaphthalene (SIM)	6.690	142	5406	3.62	ug/L	100
7) Acenaphthylene (SIM)	9.321	152	6885	3.46	ug/L	# 96
8) Acenaphthene (SIM)	10.049	153	5451	2.96	ug/L	97
9) Fluorene (SIM)	11.340	166	5270	3.14	ug/L	94
11) Phenanthrene (SIM)	12.928	178	7375	3.14	ug/L	# 90
12) Anthracene (SIM)	13.027	178	4723	2.90	ug/L	# 98
13) Fluoranthene (SIM)	15.680	202	6554	3.44	ug/L	99
15) Pyrene (SIM)	16.411	202	6615	3.03	ug/L	96
17) Benzo(a)anthracene (SIM)	21.164	228	4866	3.46	ug/L	93
18) Chrysene (SIM)	21.276	228	5366	2.53	ug/L	97
20) Benzo(b)fluoranthene (...	24.821	252	3384	3.02	ug/L	# 89
21) Benzo(k)fluoranthene (...	24.904	252	3158	2.30	ug/L	# 81
22) Benzo(a)pyrene (SIM)	25.751	252	2980	2.96	ug/L	# 80
23) Indeno(1,2,3-cd)pyrene...	28.708	276	2907	4.14	ug/L	# 82
24) Dibenzo(a,h)anthracene...	28.791	278	2408	2.42	ug/L	# 66
25) Benzo(ghi)perylene (SIM)	29.287	276	3188	3.03	ug/L	# 67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21K11a\
Data File : sj21kb07.D
Acq On : 11 Nov 21 18:54
Operator :
Sample : A05022 013.01
Misc : k11c air
ALS Vial : 123 Sample Multiplier: 1

Quant Time: Nov 12 17:04:57 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	515858	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	251386	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.879	188	409411	200.00	ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	240238	200.00	ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.917	264	206450	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.499	146	29296	12.75	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	79.69%
6) 2-Fluorobiphenyl(S)	7.584	172	19311	13.72	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	85.75%
16) 4-Terphenyl d14(S)	17.218	244	16128	13.10	ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130				Recovery =	81.88%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	1492	0.30	ug/L	# 52
4) 2-Methylnaphthalene (SIM)	6.673	142	108	0.07	ug/L	84
7) Acenaphthylene (SIM)	9.304	152	27	0.01	ug/L	# 1
8) Acenaphthene (SIM)	10.049	153	40	0.02	ug/L	# 60
9) Fluorene (SIM)	11.340	166	85	0.06	ug/L	# 59
11) Phenanthrene (SIM)	12.928	178	930	0.12	ug/L	# 64
12) Anthracene (SIM)	13.027	178	56	Below	Cal	# 1
13) Fluoranthene (SIM)	15.692	202	359	0.21	ug/L	# 67
15) Pyrene (SIM)	16.436	202	302	0.16	ug/L	# 78
17) Benzo(a)anthracene (SIM)	21.176	228	779	0.13	ug/L	# 66
18) Chrysene (SIM)	21.263	228	259	Below	Cal	# 87
20) Benzo(b)fluoranthene (...	24.821	252	84	0.09	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.904	252	56	0.05	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.793	252	57	0.06	ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.770	276	41	0.07	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.832	278	36	0.04	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.328	276	65	0.07	ug/L	# 1

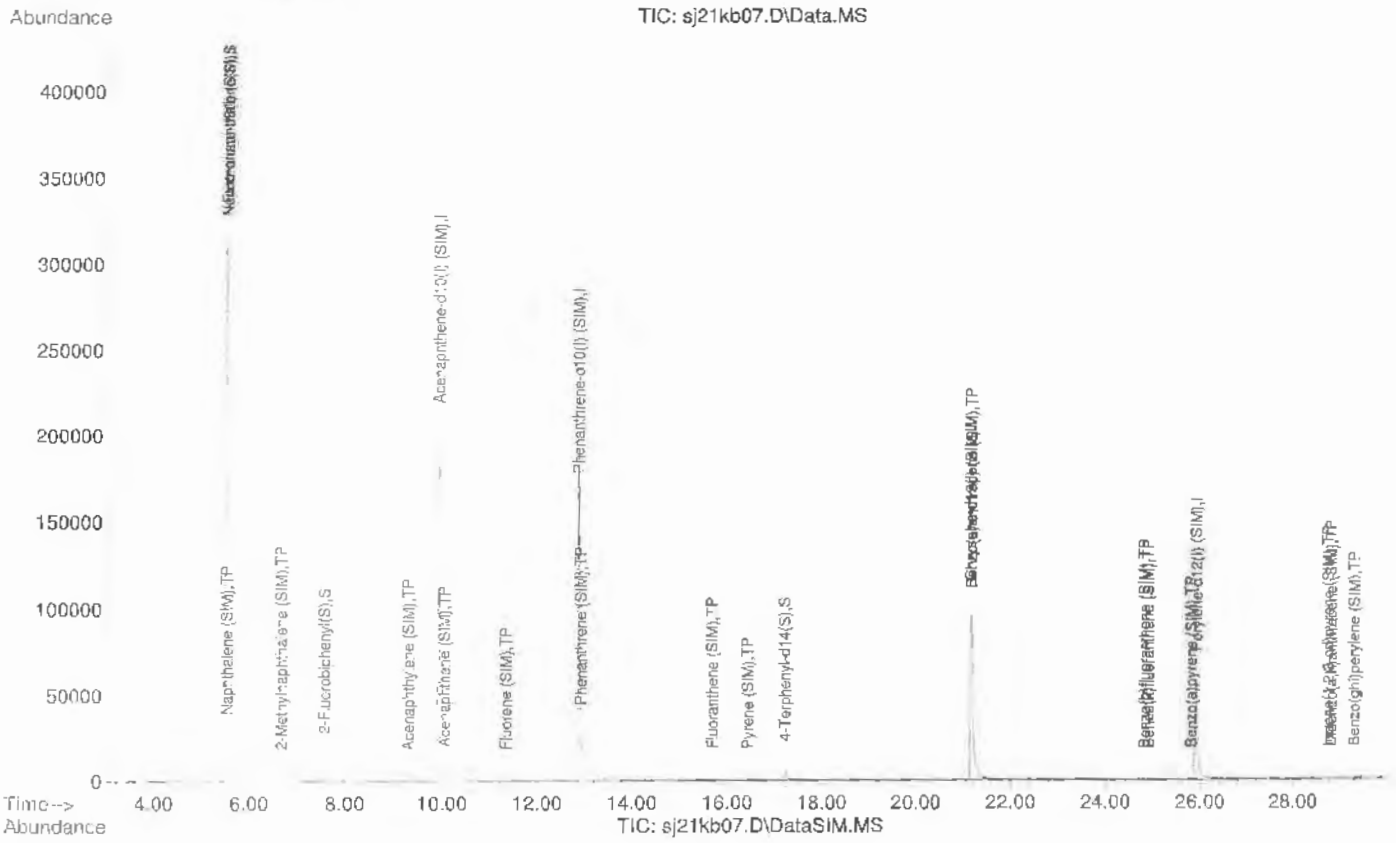
(#) = qualifier out of range (m) = manual integration (+) = signals summed

TT 11.17.21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb07.D
Acq On : 11 Nov 21 18:54
Operator :
Sample : A05022-013.01
Misc : k11c air
ALS Vial : 123 Sample Multiplier: 1

Quant Time: Nov 12 17:04:57 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb08.D
Acq On : 11 Nov 21 19:30
Operator :
Sample : A05022-014.01
Misc : k11c air
ALS Vial : 124 Sample Multiplier: 1

Quant Time: Nov 12 17:05:04 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.498	136	508742	200.00	ug/L	0.00
5) Acenaphthene d10(I) (SIM)	9.933	164	249700	200.00	ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	408027	200.00	ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	241876	200.00	ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.916	264	200868	200.00	ug/L	0.00
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.498	146	28600	12.62	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 78.88%
6) 2-Fluorobiphenyl(S)	7.584	172	18786	13.44	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 84.00%
16) 4-Terphenyl-d14(S)	17.230	244	16107	13.00	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 81.25%
Target Compounds (Multiplier applied to Results - NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	1612	0.35	ug/L	# 53
4) 2-Methylnaphthalene (SIM)	6.689	142	172	0.12	ug/L	84
7) Acenaphthylene (SIM)	9.304	152	77	0.04	ug/L	# 1
8) Acenaphthene (SIM)	10.049	153	174	0.10	ug/L	# 66
9) Fluorene (SIM)	11.357	166	162	0.11	ug/L	# 46
11) Phenanthrene (SIM)	12.928	178	974	0.14	ug/L	# 54
12) Anthracene (SIM)	13.027	178	100	Below	Cal	# 1
13) Fluoranthene (SIM)	15.704	202	429	0.25	ug/L	# 69
15) Pyrene (SIM)	16.436	202	316	0.16	ug/L	# 77
17) Benzo(a)anthracene (SIM)	21.176	228	791	0.14	ug/L	# 66
18) Chrysene (SIM)	21.263	228	303	Below	Cal	# 87
20) Benzo(b)fluoranthene (...	24.841	252	84	0.09	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	62	0.05	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.772	252	57	0.07	ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.625	276	7	0.01	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.832	278	15	0.02	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.307	276	88	0.10	ug/L	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

11.16.21

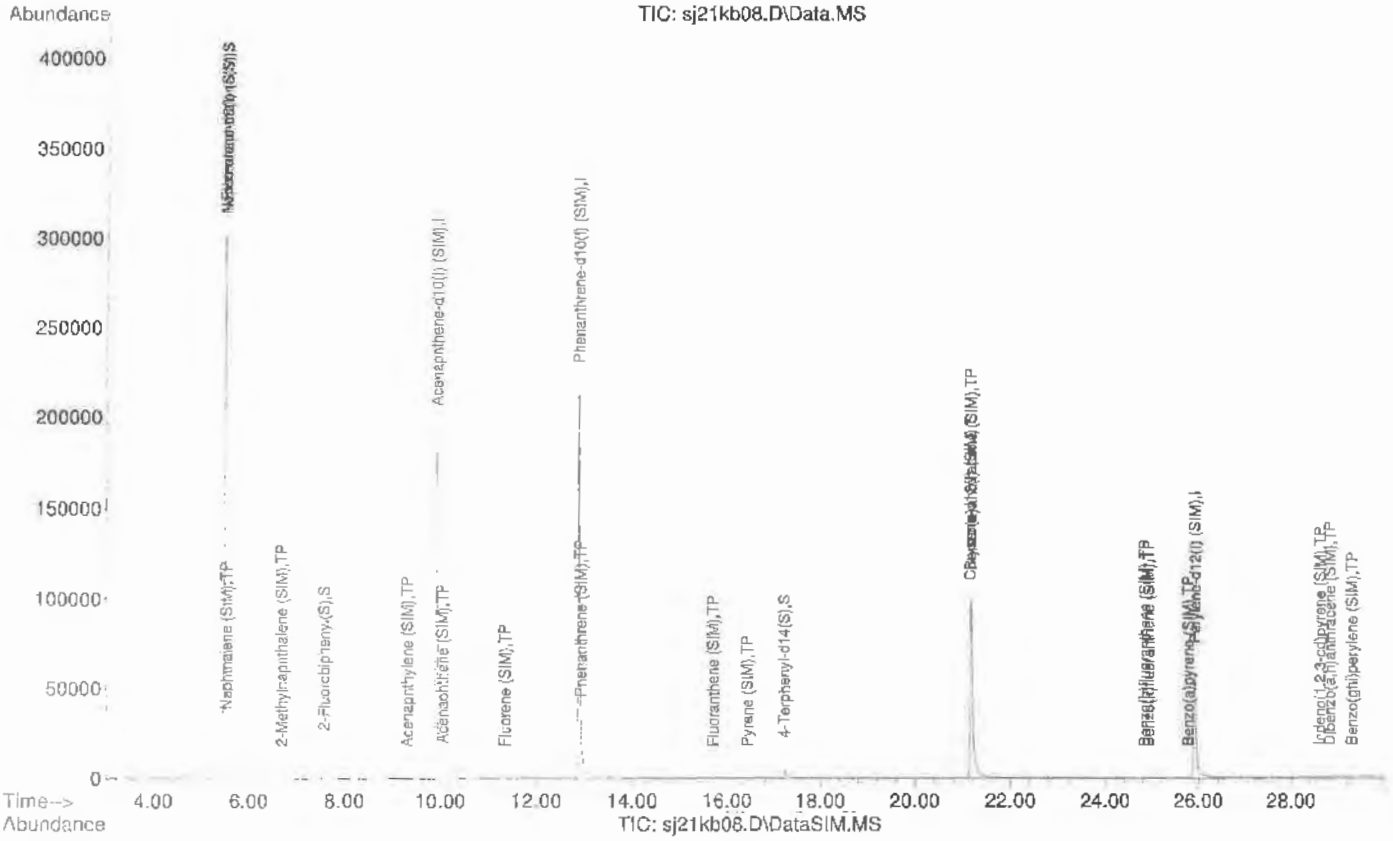
not spiked

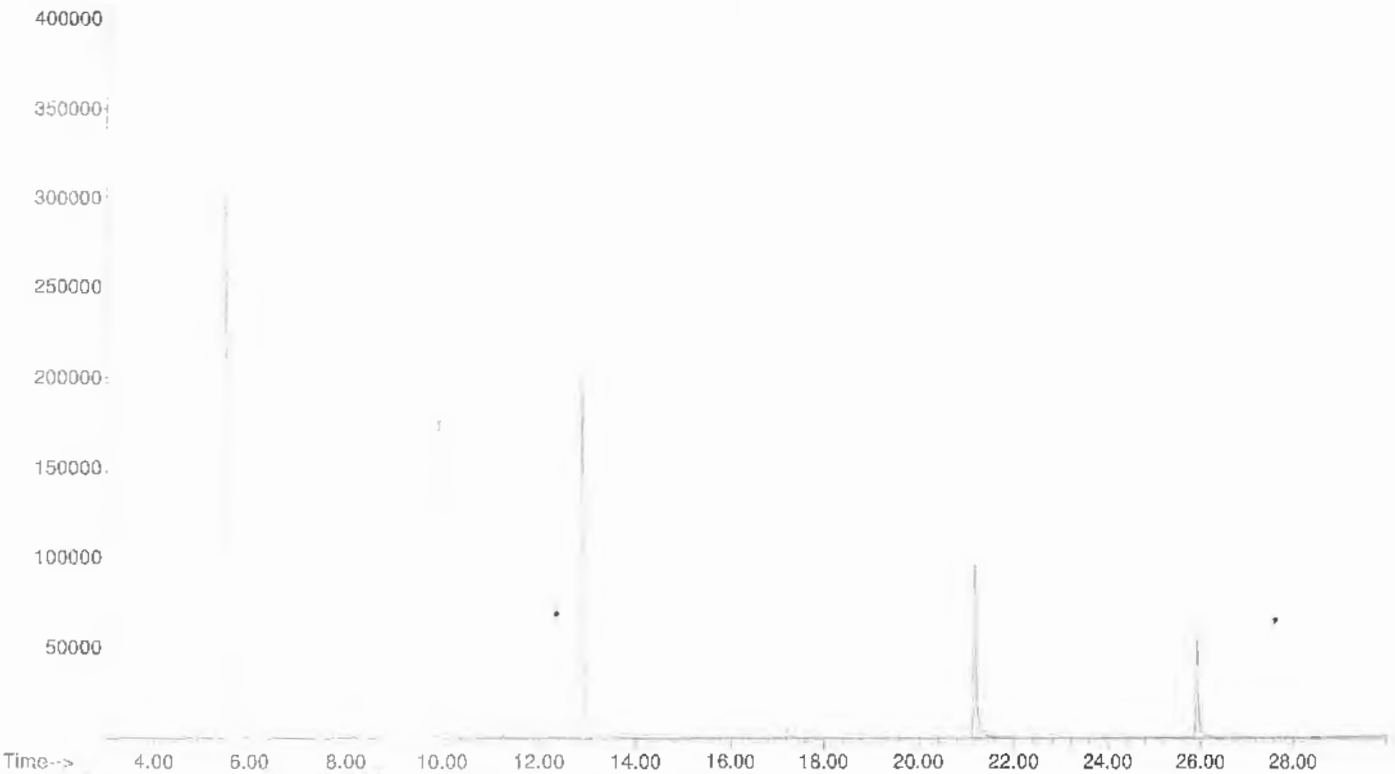
11.17.21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb08.D
Acq On : 11 Nov 21 19:30
Operator :
Sample : A05022-014.01
Misc : k11c air
ALS Vial : 124 Sample Multiplier: 1

Quant Time: Nov 12 17:05:04 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb09.D
Acq On : 11 Nov 21 20:07
Operator :
Sample : A05022 007.01
Misc : k11c air
ALS Vial : 125 Sample Multiplier: 1

Quant Time: Nov 16 14:31:53 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

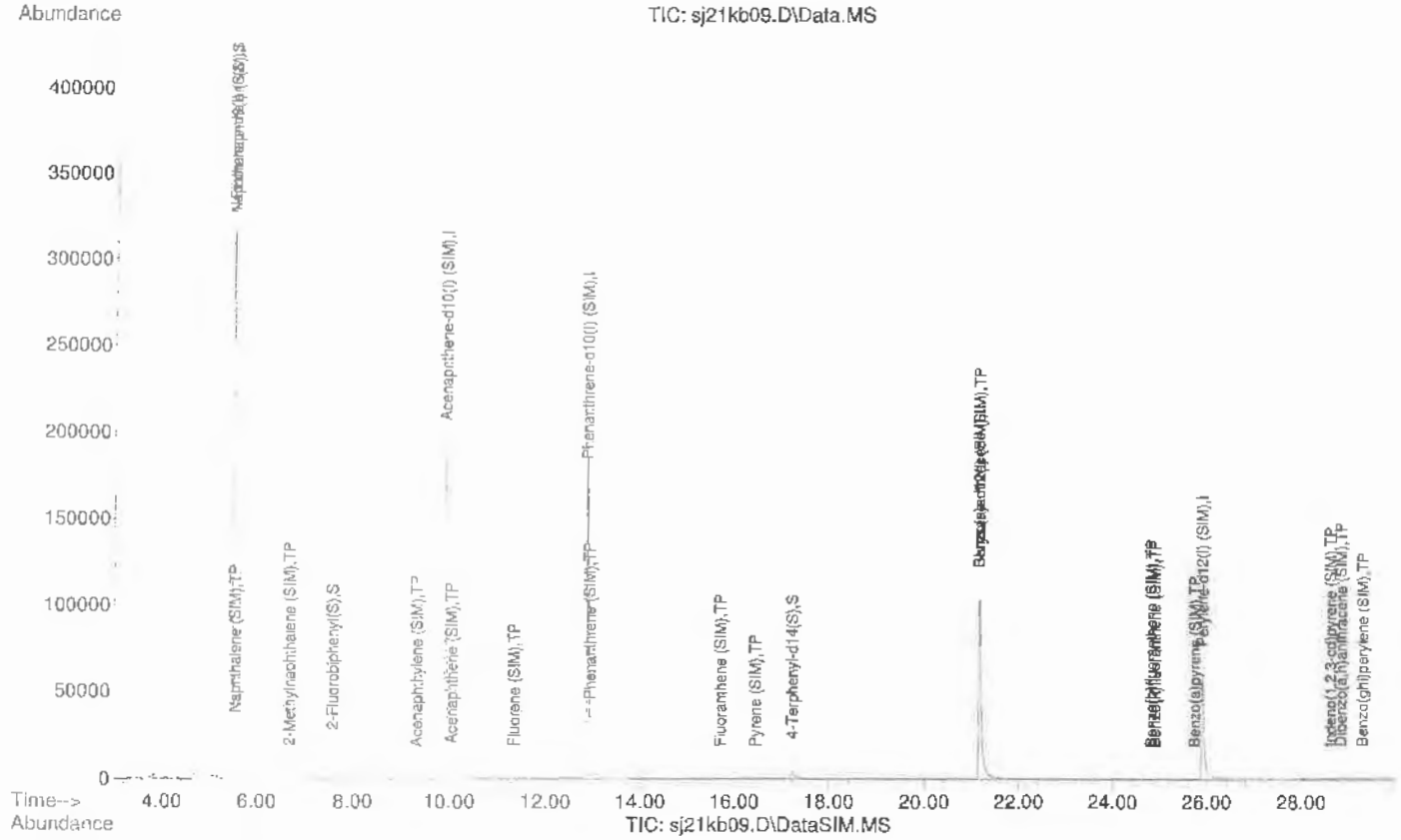
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	518093	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	254464	200.00 ug/L	0.00
10) Phenanthrene d10(I) (SIM)	12.878	188	420898	200.00 ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	245811	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	205017	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.499	146	28414	12.31 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	76.94%
6) 2-Fluorobiphenyl(S)	7.584	172	20092	14.10 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	88.13%
16) 4-Terphenyl d14(S)	17.230	244	16377	13.00 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.25%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	1549	0.32 ug/L	# 28
4) 2-Methylnaphthalene (SIM)	6.673	142	123	0.08 ug/L	# 77
7) Acenaphthylene (SIM)	9.321	152	38	0.02 ug/L	# 1
8) Acenaphthene (SIM)	10.049	153	28	0.02 ug/L	# 56
9) Fluorene (SIM)	11.340	166	68	0.04 ug/L	# 67
11) Phenanthrene (SIM)	12.928	178	909	0.09 ug/L	# 49
12) Anthracene (SIM)	13.027	178	78	Below Cal	# 1
13) Fluoranthene (SIM)	15.704	202	352	0.20 ug/L	# 64
15) Pyrene (SIM)	16.448	202	316	0.16 ug/L	# 82
17) Benzo(a)anthracene (SIM)	21.164	228	781	0.12 ug/L	# 67
18) Chrysene (SIM)	21.263	228	330	Below Cal	# 94
20) Benzo(b)fluoranthene (...	24.821	252	138	0.14 ug/L	# 1
21) Benzo(k)fluoranthene (...	24.903	252	97	0.08 ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.730	252	24	0.03 ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.625	276	5	0.01 ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.852	278	61	0.07 ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.328	276	83	0.09 ug/L	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb09.D
Acq On : 11 Nov 21 20:07
Operator :
Sample : A05022-007.01
Misc : k11c air
ALS Vial : 125 Sample Multiplier: 1

Quant Time: Nov 16 14:31:53 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb10.D
Acq On : 11 Nov 21 20:44
Operator :
Sample : A05022 008.01
Misc : k11c air
ALS Vial : 126 Sample Multiplier: 1

Quant Time: Nov 16 14:31:59 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

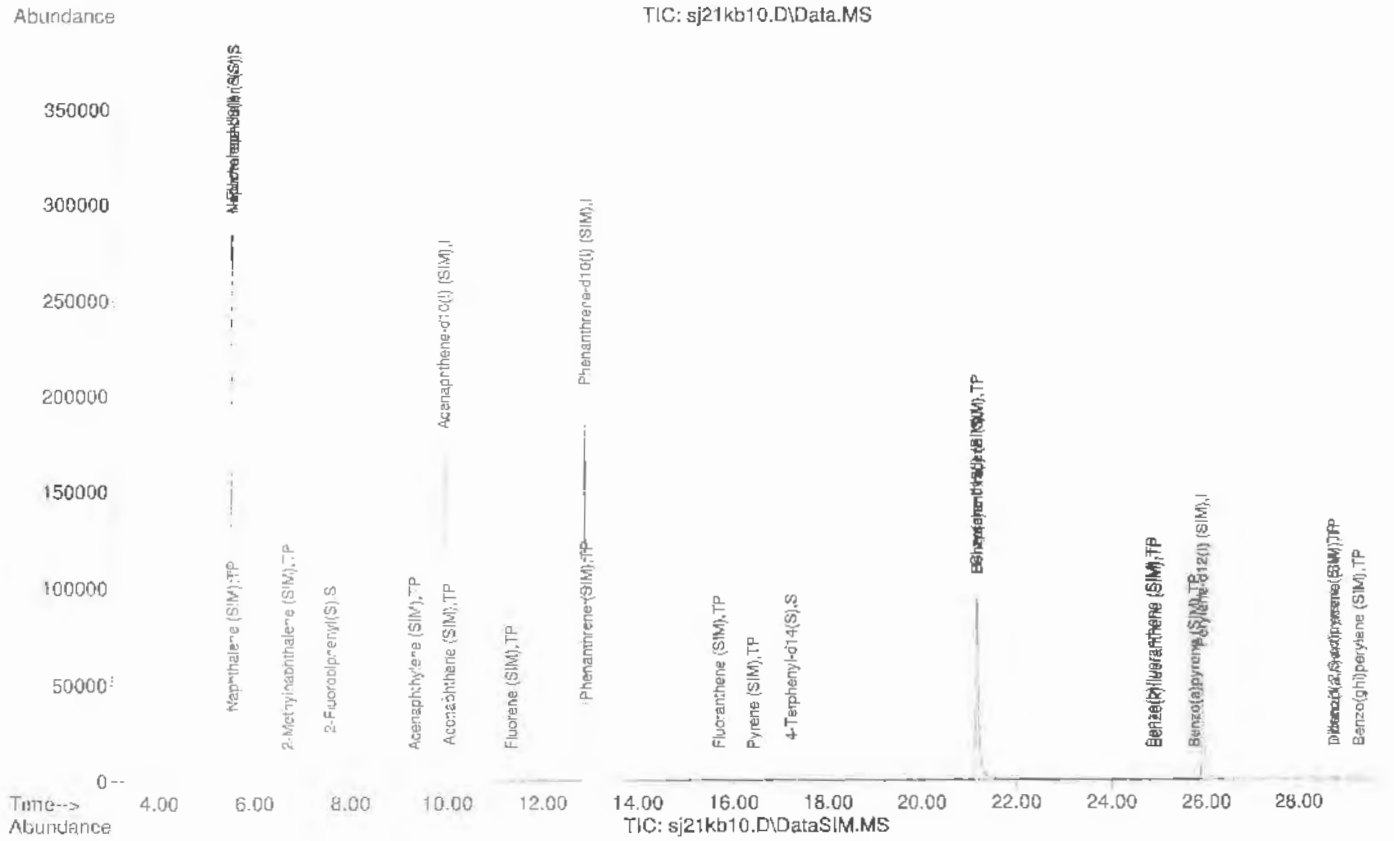
Internal Standards	R.T.	Qlon	Response	Conc Units	Dev(Min)
1) Naphthalene d8(I) (SIM)	5.499	136	488169	200.00 ug/L	0.00
5) Acenaphthene d10(I) (SIM)	9.916	164	243772	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	389664	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	231344	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	190510	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1 Fluoronaphthalene(S)	5.499	146	29116	13.39 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	83.69%
6) 2 Fluorobiphenyl(S)	7.584	172	19026	13.94 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	87.13%
16) 4-Terphenyl-d14(S)	17.218	244	15401	12.99 ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.19%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	1437	0.31 ug/L #	54
4) 2-Methylnaphthalene (SIM)	6.689	142	87	0.06 ug/L	85
7) Acenaphthylene (SIM)	9.321	152	17	0.01 ug/L #	1
8) Acenaphthene (SIM)	10.032	153	31	0.02 ug/L #	50
9) Fluorene (SIM)	11.340	166	75	0.05 ug/L #	63
11) Phenanthrene (SIM)	12.928	178	877	0.11 ug/L #	70
12) Anthracene (SIM)	13.027	178	53	Below Cal #	1
13) Fluoranthene (SIM)	15.704	202	391	0.24 ug/L #	72
15) Pyrene (SIM)	16.424	202	234	0.13 ug/L #	81
17) Benzo(a)anthracene (SIM)	21.176	228	755	0.14 ug/L #	65
18) Chrysene (SIM)	21.276	228	223	Below Cal #	88
20) Benzo(b)fluoranthene (...	24.841	252	128	0.14 ug/L #	1
21) Benzo(k)fluoranthene (...	24.924	252	58	0.05 ug/L #	1
22) Benzo(a)pyrene (SIM)	25.731	252	24	0.03 ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.749	276	65	0.11 ug/L #	1
24) Dibenzo(a,h)anthracene...	28.770	278	5	0.01 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.307	276	66	0.08 ug/L #	1

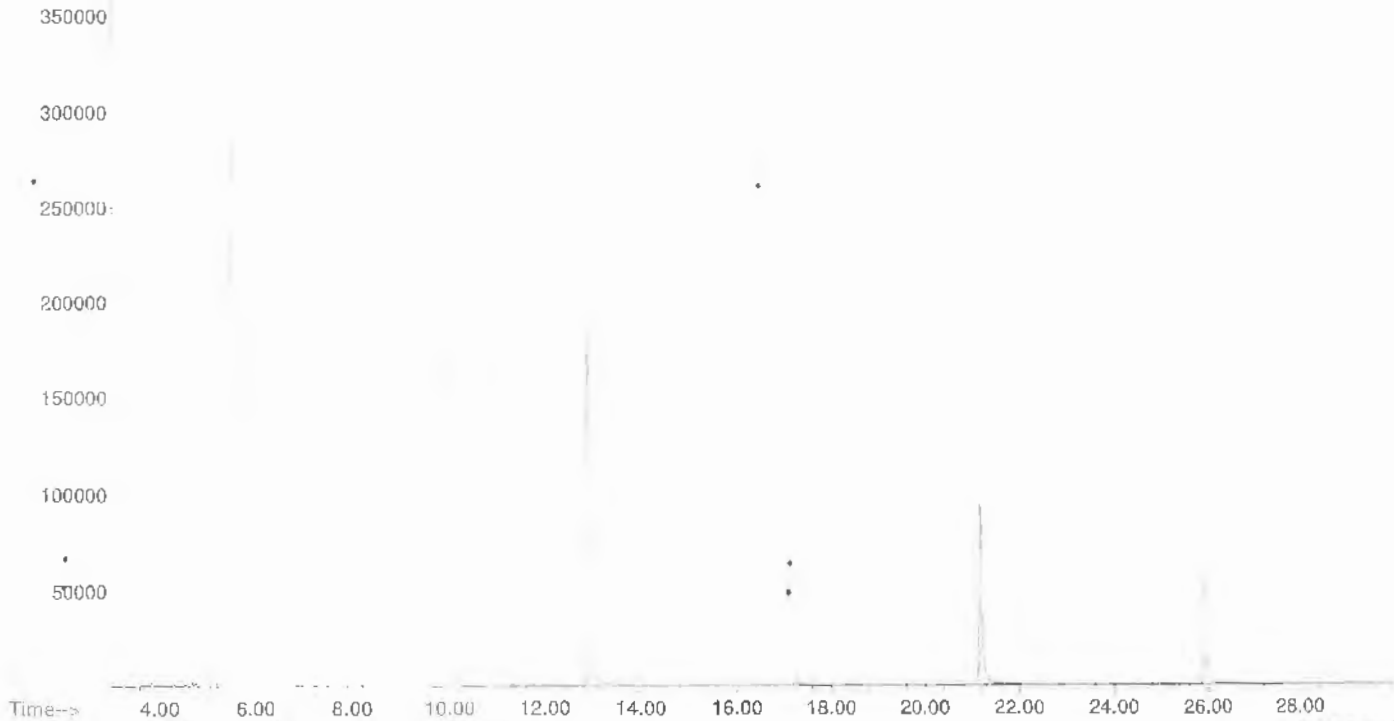
(#) qualifier out of range (m) = manual integration (+) = signals summed

QuanLitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb10.D
Acq On : 11 Nov 21 20:14
Operator :
Sample : A05022-008.01
Misc : k11c air
ALS Vial : 126 Sample Multiplier: 1

Quant Time: Nov 16 14:31:59 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb11.D
Acq On : 11 Nov 21 21:21
Operator :
Sample : A05022-009.01
Misc : k11c air
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Nov 16 14:32:06 2021
Quant Method : C:\SJ\SJ METHODS\SJATRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

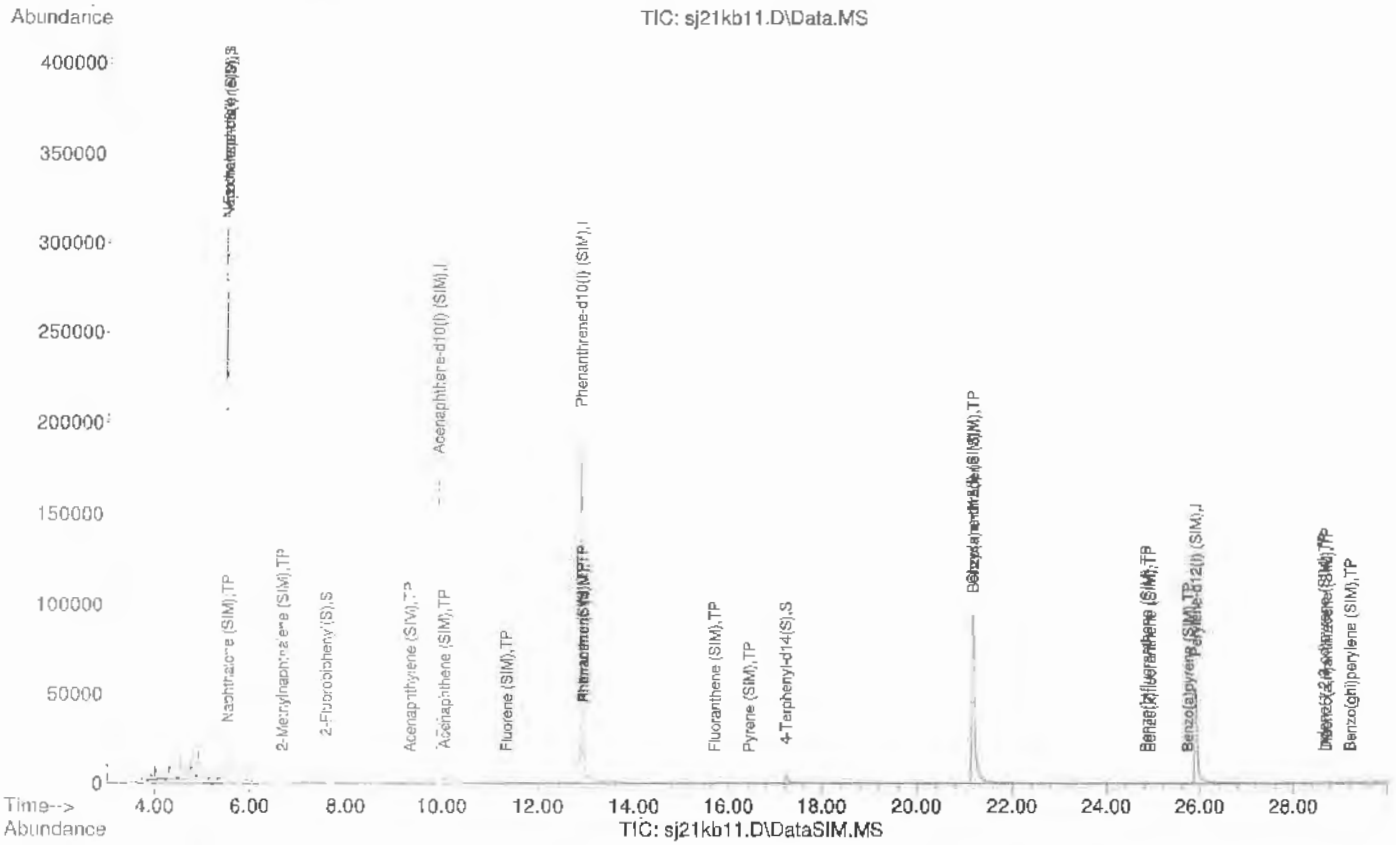
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene d8(I) (SIM)	5.498	136	495641	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	243626	200.00 ug/L	-0.02
10) Phenanthrene d10(I) (SIM)	12.895	188	395886	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	235336	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	191351	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.498	146	27151	12.29 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	76.81%
6) 2-Fluorobiphenyl(S)	7.584	172	17831	13.07 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.69%
16) 4-Terphenyl-d14(S)	17.230	244	14806	12.28 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	76.75%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.531	128	1480	0.32 ug/L	# 1
4) 2-Methylnaphthalene (SIM)	6.673	142	109	0.08 ug/L	# 73
7) Acenaphthylene (SIM)	9.337	152	25	0.01 ug/L	# 1
8) Acenaphthene (SIM)	10.048	153	49	0.03 ug/L	# 51
9) Fluorene (SIM)	11.340	166	71	0.05 ug/L	# 60
11) Phenanthrene (SIM)	12.928	178	935	0.14 ug/L	# 53
12) Anthracene (SIM)	12.928	178	816	0.48 ug/L	# 59
13) Fluoranthene (SIM)	15.704	202	356	0.21 ug/L	# 74
15) Pyrene (SIM)	16.436	202	201	0.11 ug/L	# 77
17) Benzo(a)anthracene (SIM)	21.176	228	708	0.08 ug/L	# 69
18) Chrysene (SIM)	21.263	228	207	Below Cal	# 86
20) Benzo(b)fluoranthene (...	24.841	252	140	0.15 ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	93	0.08 ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.730	252	17	0.02 ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.645	276	7	0.01 ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.708	278	11	0.01 ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.224	276	2	0.00 ug/L	# 1

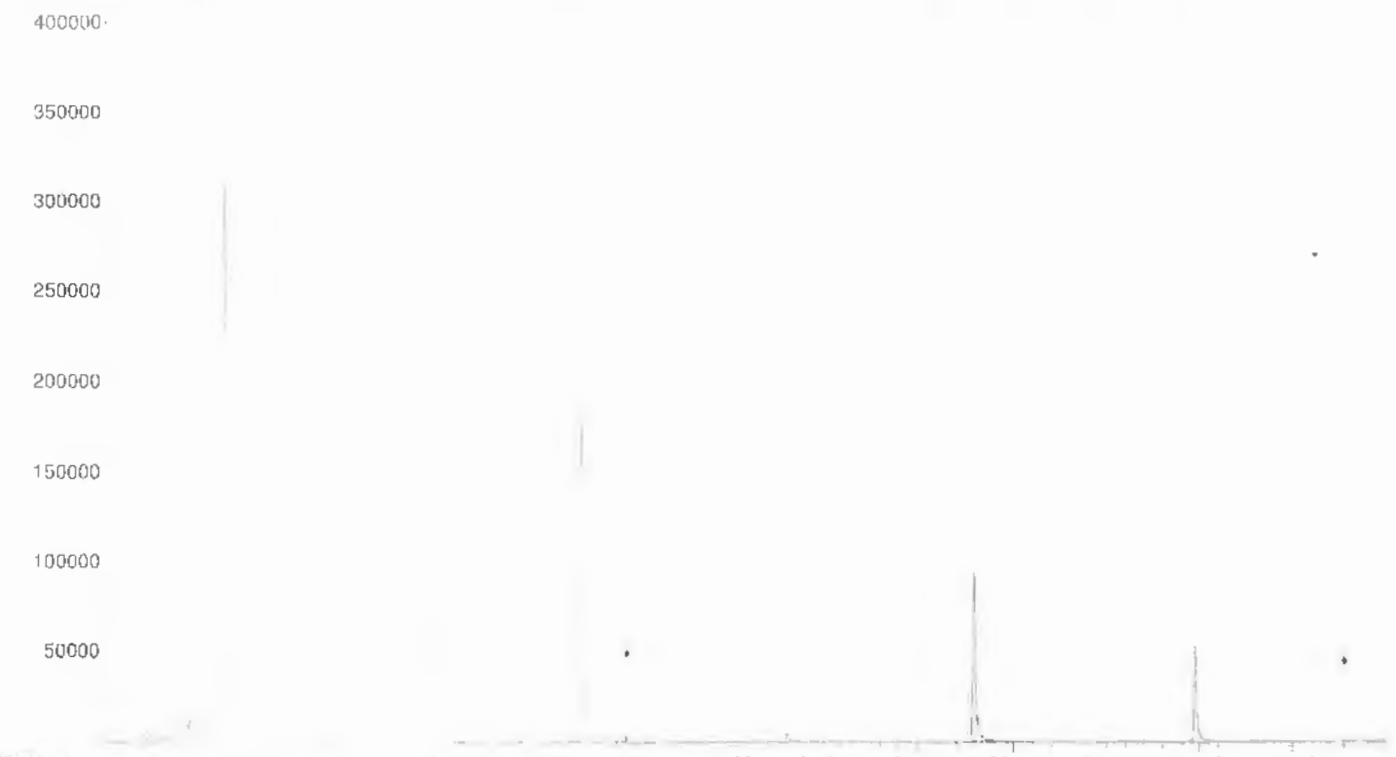
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb11.D
Acq On : 11 Nov 21 21:21
Operator :
Sample : A05022 009.01
Misc : k11c air
ALS Vial : 127 Sample Multiplier: 1

Quant Time: Nov 16 14:32:06 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb12.D
Acq On : 11 Nov 21 21:57
Operator :
Sample : A05022 010.01
Misc : k11c air
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Nov 16 14:32:13 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	509124	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	254489	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.895	188	397168	200.00 ug/L	0.00
14) Chrysene-d12(I) (STM)	21.164	240	238846	200.00 ug/L	-0.01
19) Perylene-d12(I) (STM)	25.896	264	198032	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.499	146	27707	12.21 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	76.31%
6) 2-Fluorobiphenyl(S)	7.584	172	18544	13.01 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.31%
16) 4 Terphenyl-d14(S)	17.230	244	15159	12.39 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	77.44%

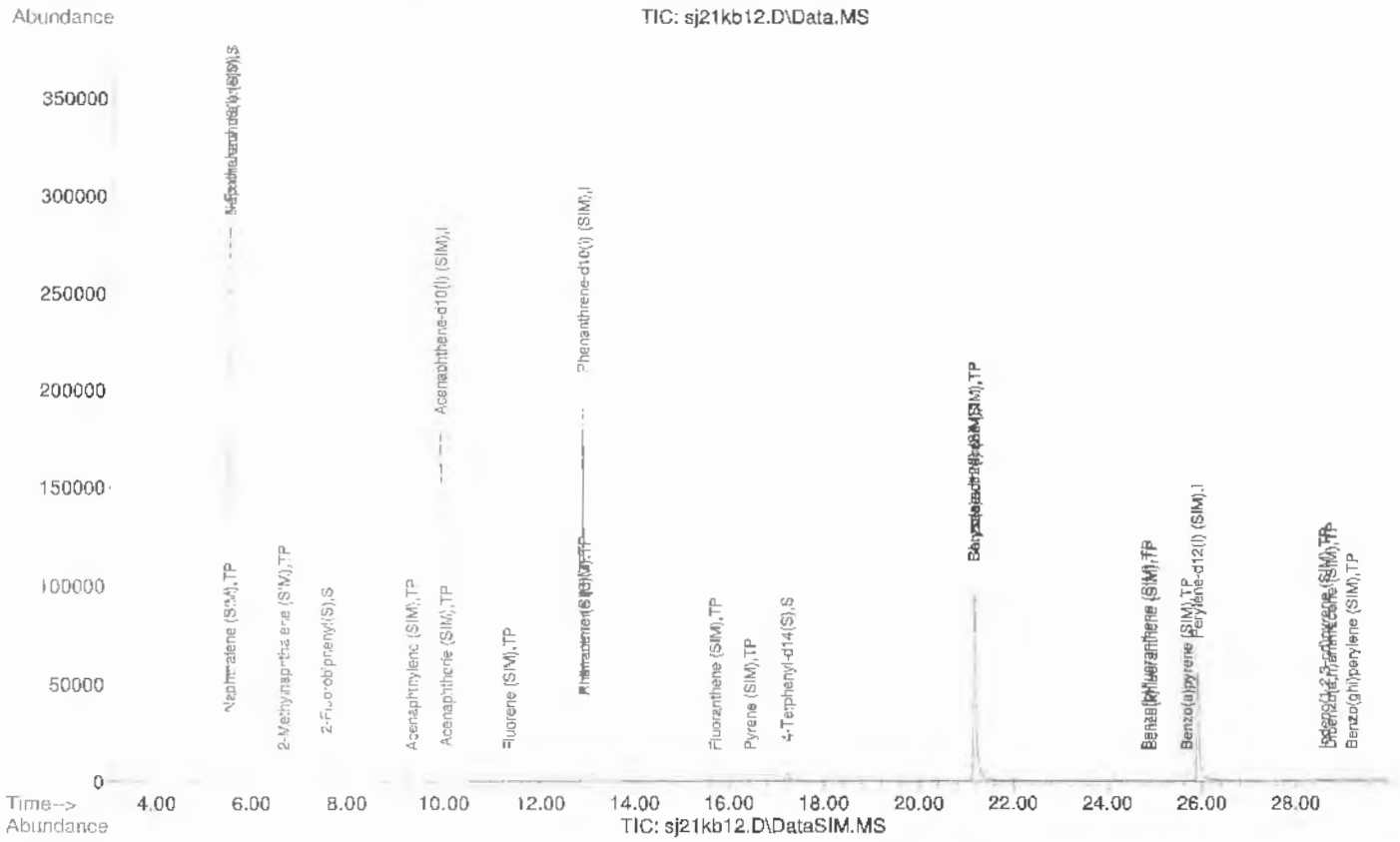
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	1291	0.23 ug/L #	52
4) 2-Methylnaphthalene (SIM)	6.673	142	67	0.05 ug/L	96
7) Acenaphthylene (SIM)	9.337	152	21	0.01 ug/L #	1
8) Acenaphthene (SIM)	10.049	153	17	0.01 ug/L #	50
9) Fluorene (SIM)	11.357	166	48	0.03 ug/L #	53
11) Phenanthrene (SIM)	12.928	178	842	0.08 ug/L #	51
12) Anthracene (SIM)	12.928	178	698	0.40 ug/L #	57
13) Fluoranthene (SIM)	15.717	202	255	0.15 ug/L #	67
15) Pyrene (SIM)	16.449	202	196	0.10 ug/L #	77
17) Benzo(a)anthracene (SIM)	21.164	228	730	0.09 ug/L #	65
18) Chrysene (SIM)	21.251	228	313	Below Cal #	84
20) Benzo(b)fluoranthene (...	24.842	252	86	0.09 ug/L #	1
21) Benzo(k)fluoranthene (...	24.924	252	68	0.06 ug/L #	1
22) Benzo(a)pyrene (SIM)	25.669	252	11	0.01 ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.625	276	2	0.00 ug/L #	1
24) Dibenzo(a,h)anthracene...	28.770	278	9	0.01 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.225	276	4	0.00 ug/L #	1

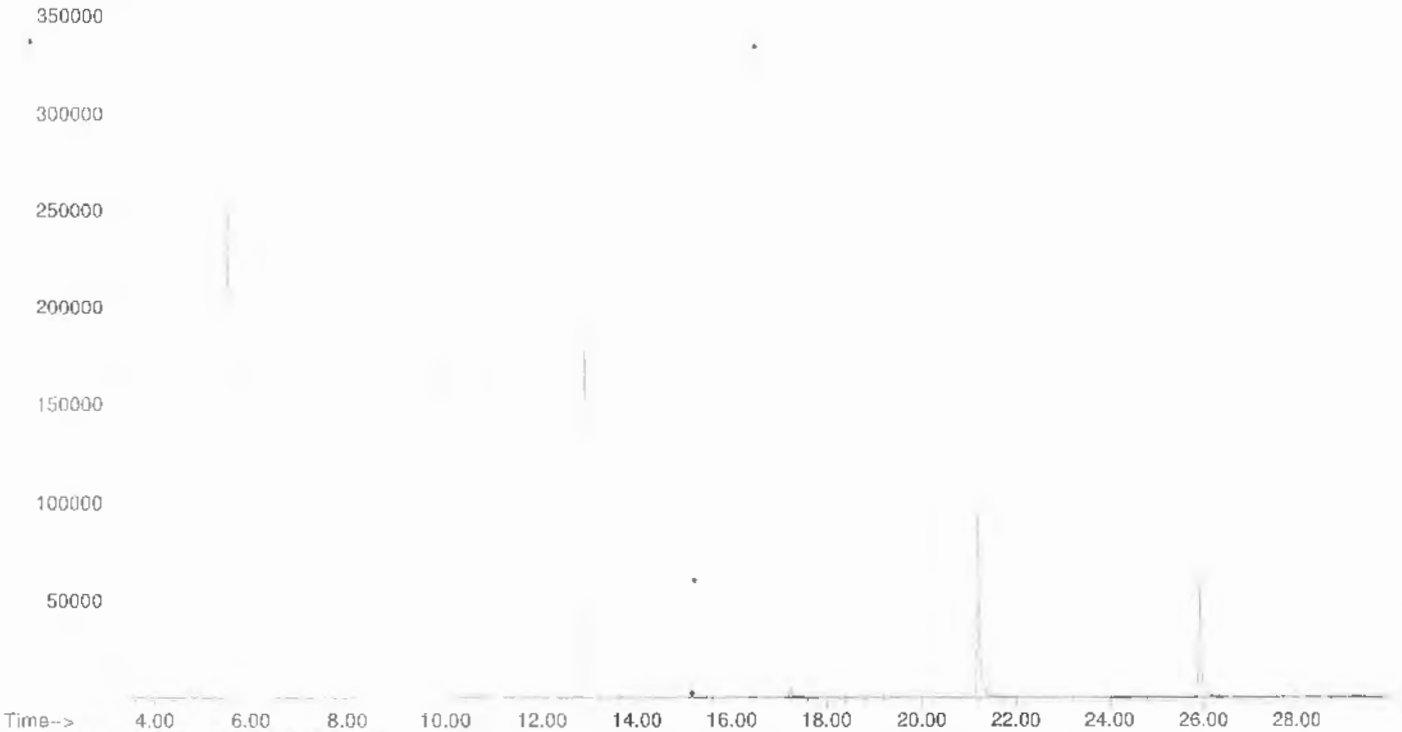
(0) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb12.D
Acq On : 11 Nov 21 21:57
Operator :
Sample : A05022-010.01
Misc : k11c air
ALS Vial : 128 Sample Multiplier: 1

Quant Time: Nov 16 14:32:13 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb13.D
Acq On : 11 Nov 21 22:34
Operator :
Sample : A05022-011.01
Misc : k11c air
ALS Vial : 129 Sample Multiplier: 1

Quant Time: Nov 16 14:32:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

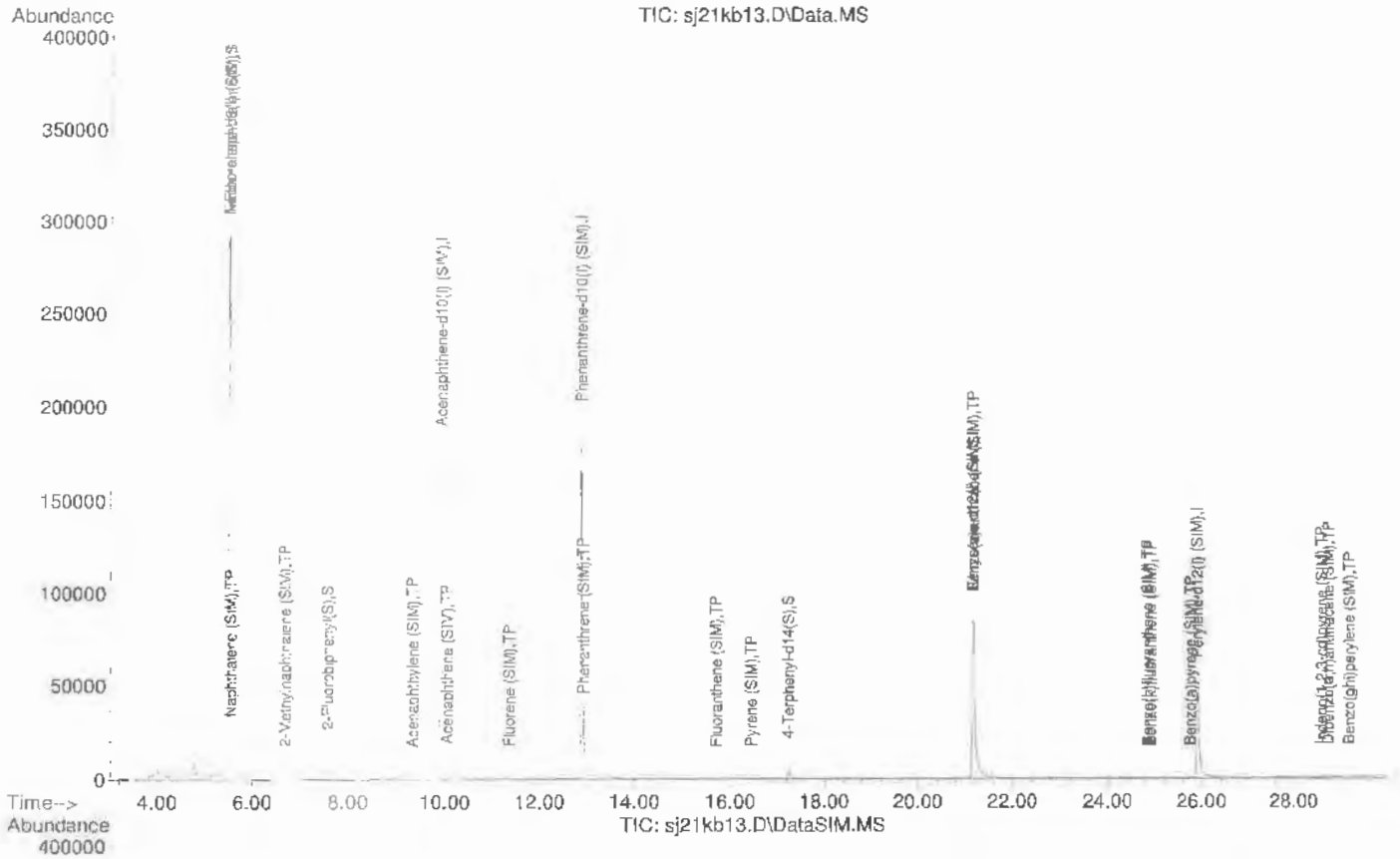
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	462838	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.933	164	233320	200.00 ug/L	0.00
10) Phenanthrene-d10(I) (SIM)	12.895	188	371955	200.00 ug/L	0.00
14) Chrysene-d12(I) (SIM)	21.164	240	218982	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	176043	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1 Fluoronaphthalene(S)	5.499	146	27850	13.50 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	84.38%
6) 2-Fluorobiphenyl(S)	7.584	172	18787	14.38 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	89.88%
16) 4-Terphenyl-d14(S)	17.230	244	15177	13.53 ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130			Recovery =	84.56%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	1353	0.31 ug/L	# 14
4) 2-Methylnaphthalene (SIM)	6.690	142	85	0.07 ug/L	# 73
7) Acenaphthylene (SIM)	9.321	152	33	0.02 ug/L	# 1
8) Acenaphthene (SIM)	10.049	153	18	0.01 ug/L	# 44
9) Fluorene (SIM)	11.357	166	67	0.05 ug/L	# 55
11) Phenanthrene (SIM)	12.928	178	825	0.10 ug/L	# 42
12) Anthracene (SIM)	13.028	178	36	Below Cal	# 1
13) Fluoranthene (SIM)	15.704	202	325	0.21 ug/L	# 87
15) Pyrene (SIM)	16.436	202	226	0.13 ug/L	# 83
17) Benzo(a)anthracene (SIM)	21.177	228	694	0.12 ug/L	# 72
18) Chrysene (SIM)	21.276	228	289	Below Cal	# 89
20) Benzo(b)fluoranthene (...	24.842	252	117	0.14 ug/L	# 1
21) Benzo(k)fluoranthene (...	24.904	252	83	0.08 ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.751	252	33	0.04 ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.605	276	5	0.01 ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.749	278	4	0.01 ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.204	276	2	0.00 ug/L	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb13.D
Acq On : 11 Nov 21 22:34
Operator :
Sample : A05022-011.01
Misc : k11c air
ALS Vial : 129 Sample Multiplier: 1

Quant Time: Nov 16 14:32:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb14.D
Acq On : 11 Nov 21 23:11
Operator :
Sample : A05022 012.01
Misc : k11c air
ALS Vial : 130 Sample Multiplier: 1

Quant Time: Nov 16 14:32:28 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qlon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.498	136	507582	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	255772	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.878	188	409152	200.00 ug/L	-0.02
14) Chrysene d12(I) (SIM)	21.164	240	238930	200.00 ug/L	-0.01
19) Perylene d12(I) (SIM)	25.896	264	199470	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1 Fluoronaphthalene(S)	5.498	146	26312	11.63 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	72.69%
6) 2 Fluorobiphenyl(S)	7.584	172	18574	12.97 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.06%
18) o-Terphenyl-d14(S)	17.217	244	15222	12.44 ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	77.75%
Target Compounds (Multiplier applied to Results - NO)					Qvalue
3) Naphthalene (SIM)	5.531	128	1346	0.25 ug/L #	28
4) 2-Methylnaphthalene (SIM)	6.689	142	105	0.07 ug/L	87
7) Acenaphthylene (SIM)	9.304	152	32	0.02 ug/L #	1
8) Acenaphthene (SIM)	10.048	153	36	0.02 ug/L #	51
9) Fluorene (SIM)	11.340	166	59	0.04 ug/L #	60
11) Phenanthrene (SIM)	12.928	178	796	0.05 ug/L #	57
12) Anthracene (SIM)	13.027	178	60	Below Cal #	1
13) Fluoranthene (SIM)	15.716	202	214	0.12 ug/L #	76
15) Pyrene (SIM)	16.436	202	190	0.10 ug/L #	81
17) Benzo(a)anthracene (SIM)	21.164	228	758	0.12 ug/L #	69
18) Chrysene (SIM)	21.263	228	261	Below Cal #	87
20) Benzo(b)fluoranthene (...	24.820	252	68	0.07 ug/L #	1
21) Benzo(k)fluoranthene (...	24.924	252	60	0.05 ug/L #	1
22) Benzo(a)pyrene (SIM)	25.751	252	16	0.02 ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.645	276	2	0.00 ug/L #	1
24) Dibenzo(a,h)anthracene...	28.832	278	22	0.03 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.328	276	60	0.07 ug/L #	1

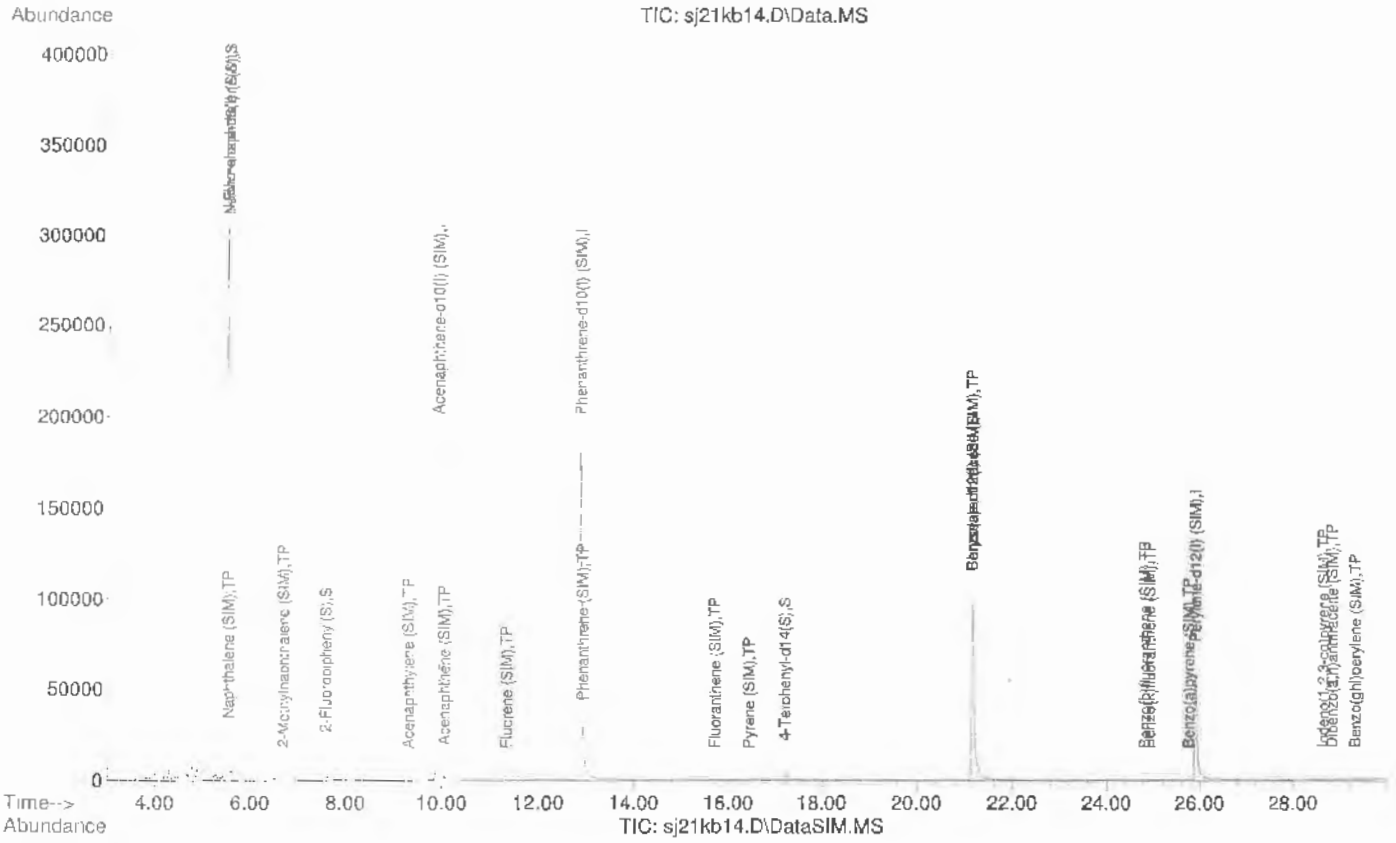
(#) = qualifier out of range (m) = manual integration (+) = signals summed

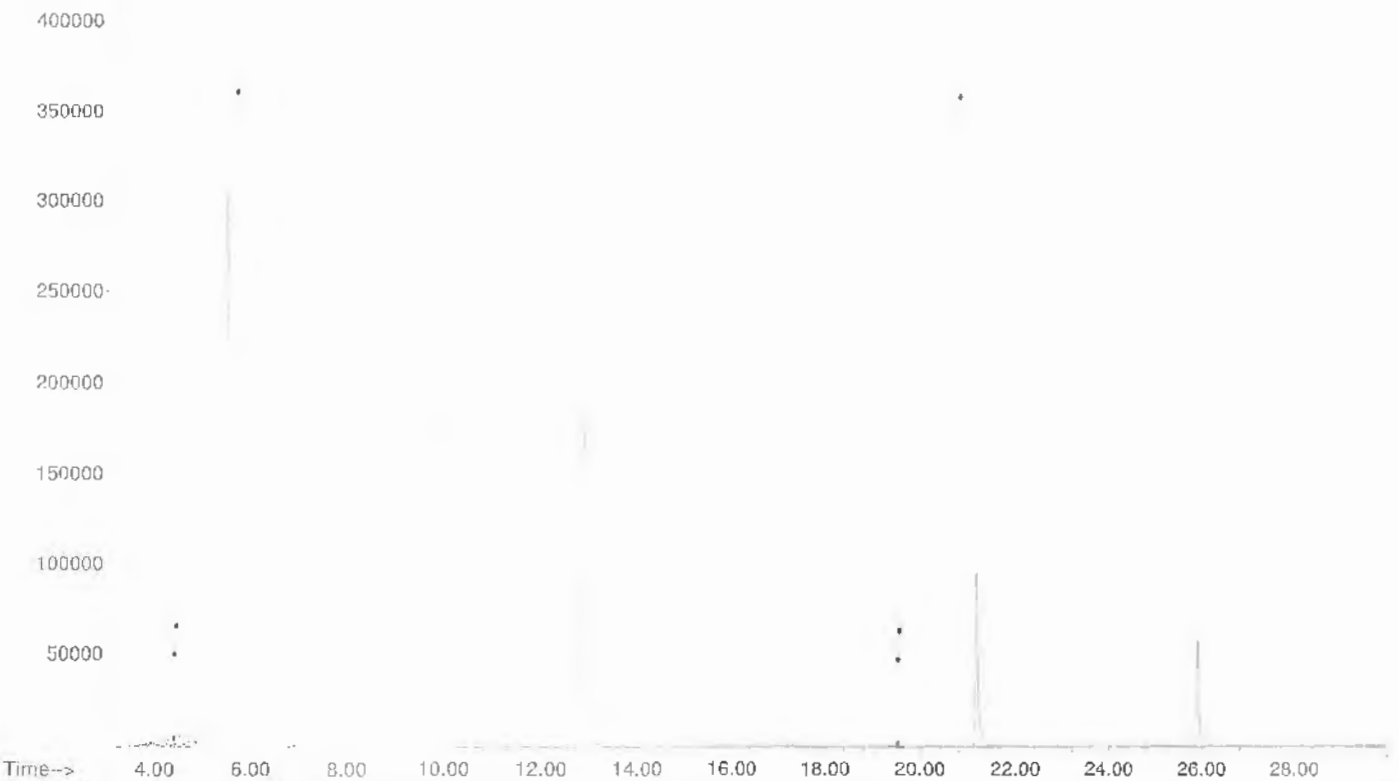
11/17/21

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb14.D
Acq On : 11 Nov 21 23:11
Operator :
Sample : A05022-012.01
Misc : k11c air
ALS Vial : 130 Sample Multiplier: 1

Quant Time: Nov 16 14:32:28 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb15.D
Acq On : 11 Nov 21 23:47
Operator :
Sample : A05022-007.02
Misc : k11c air rear
ALS Vial : 131 Sample Multiplier: 1

Quant Time: Nov 16 14:32:36 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

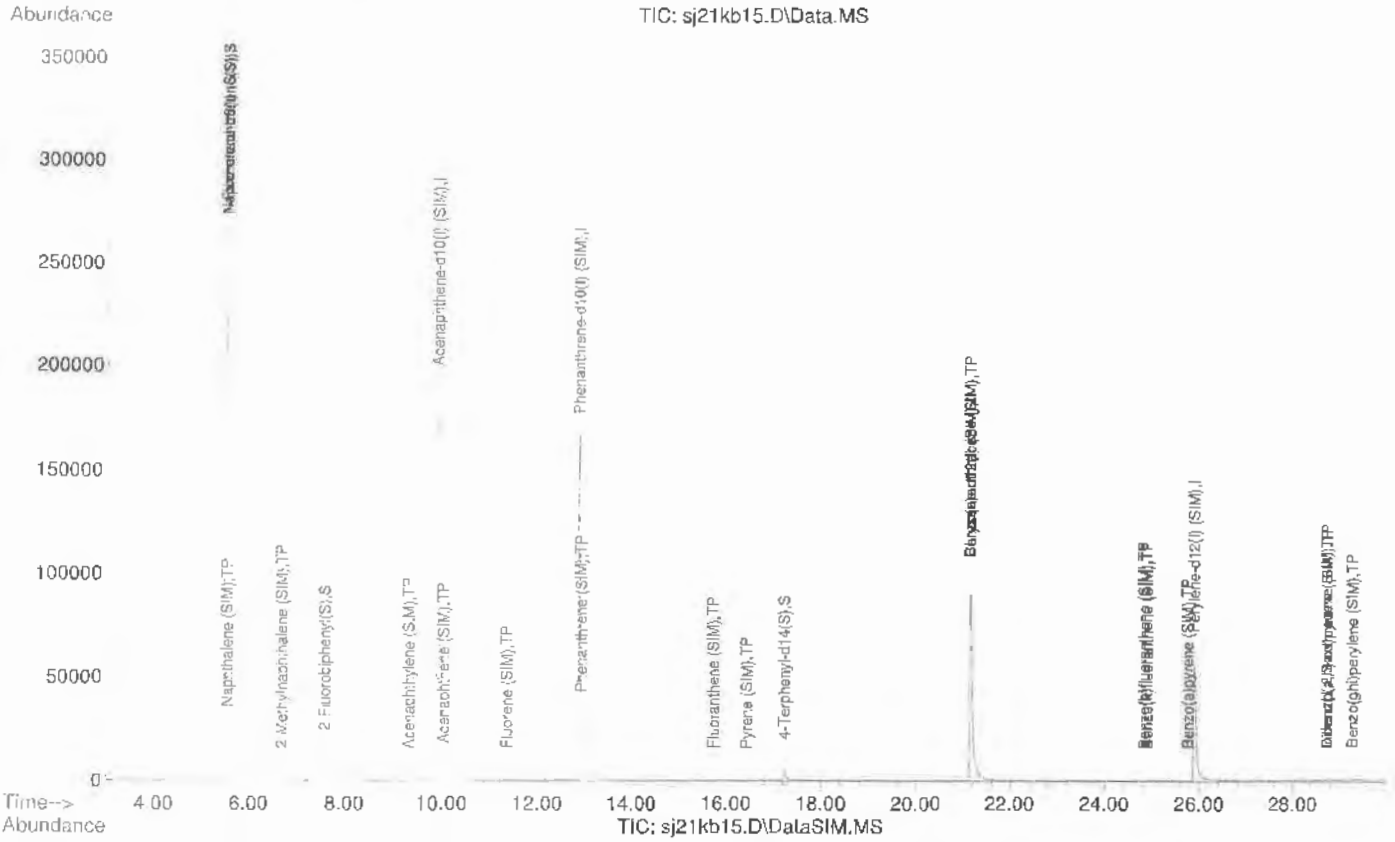
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene d8(I) (SIM)	5.499	136	509206	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	247966	200.00	ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.879	188	391029	200.00	ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	226420	200.00	ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	190555	200.00	ug/L	-0.02
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.499	146	29997	13.22	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	82.63%
6) 2-Fluorobiphenyl(S)	7.584	172	19034	13.71	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery =	85.69%
16) 4 Terphenyl d14(S)	17.230	244	15814	13.63	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery =	85.19%
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	934	0.10	ug/L	# 25
4) 2-Methylnaphthalene (SIM)	6.690	142	72	0.05	ug/L	# 78
7) Acenaphthylene (SIM)	9.321	152	33	0.02	ug/L	# 4
8) Acenaphthene (SIM)	10.032	153	33	0.02	ug/L	# 70
9) Fluorene (SIM)	11.357	166	95	0.06	ug/L	# 37
11) Phenanthrene (SIM)	12.928	178	731	0.03	ug/L	# 55
12) Anthracene (SIM)	13.011	178	95	Below	Cal	# 1
13) Fluoranthene (SIM)	15.729	202	319	0.19	ug/L	# 75
15) Pyrene (SIM)	16.436	202	270	0.15	ug/L	# 90
17) Benzo(a)anthracene (SIM)	21.164	228	1098	0.50	ug/L	# 75
18) Chrysene (SIM)	21.263	228	764	Below	Cal	# 94
20) Benzo(b)fluoranthene (...	24.842	252	241	0.27	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.904	252	541	0.49	ug/L	# 30
22) Benzo(a)pyrene (SIM)	25.751	252	213	0.26	ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.749	276	201	0.35	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.749	278	7	0.01	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.307	276	687	0.81	ug/L	# 31

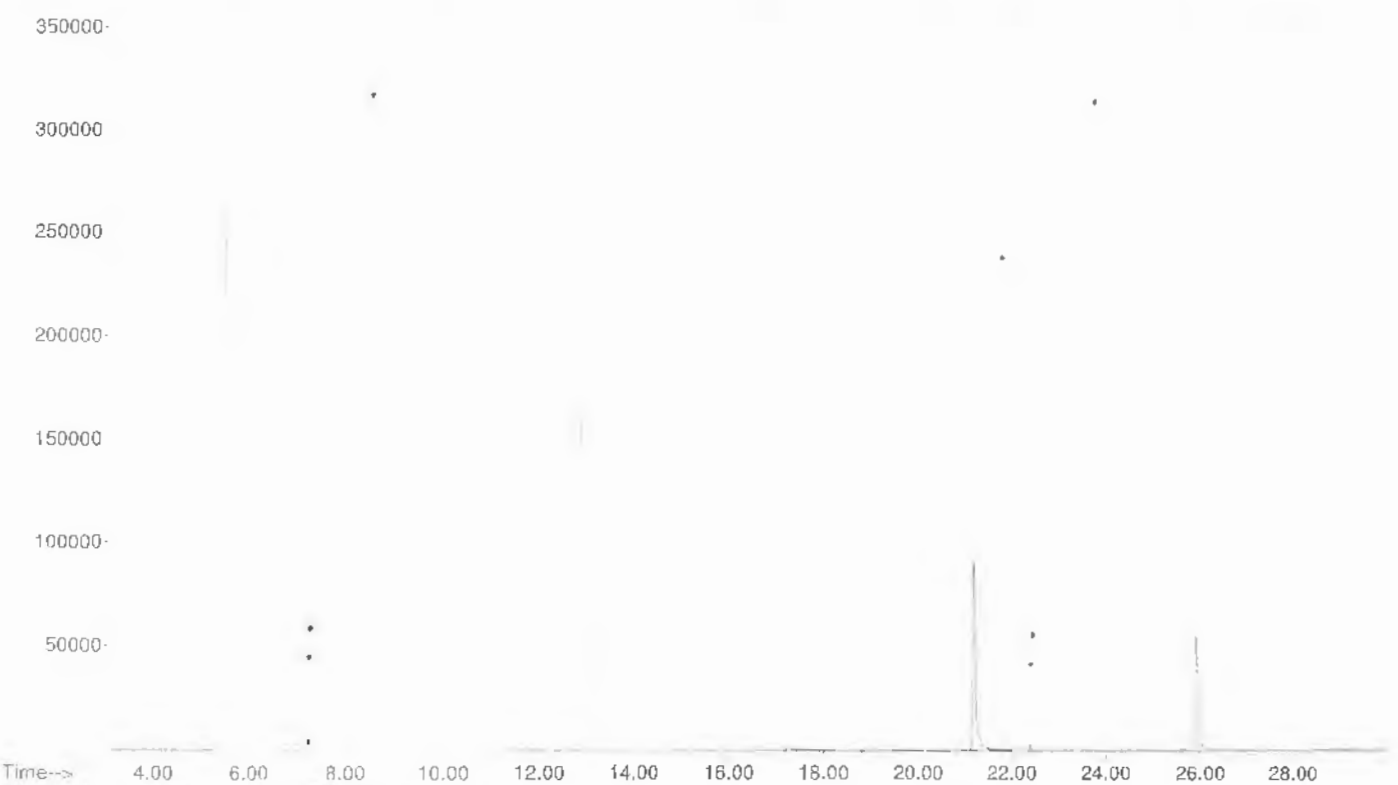
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb15.D
Acq On : 11 Nov 21 23:47
Operator :
Sample : A05022-007.02
Misc : k11c air rear
ALS Vial : 131 Sample Multiplier: 1

Quant Time: Nov 16 14:32:36 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb16.D
Acq On : 12 Nov 2021 00:25
Operator :
Sample : A05022 008.02
Misc : k11c air rear
ALS Vial : 132 Sample Multiplier: 1

Quant Time: Nov 16 14:32:43 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

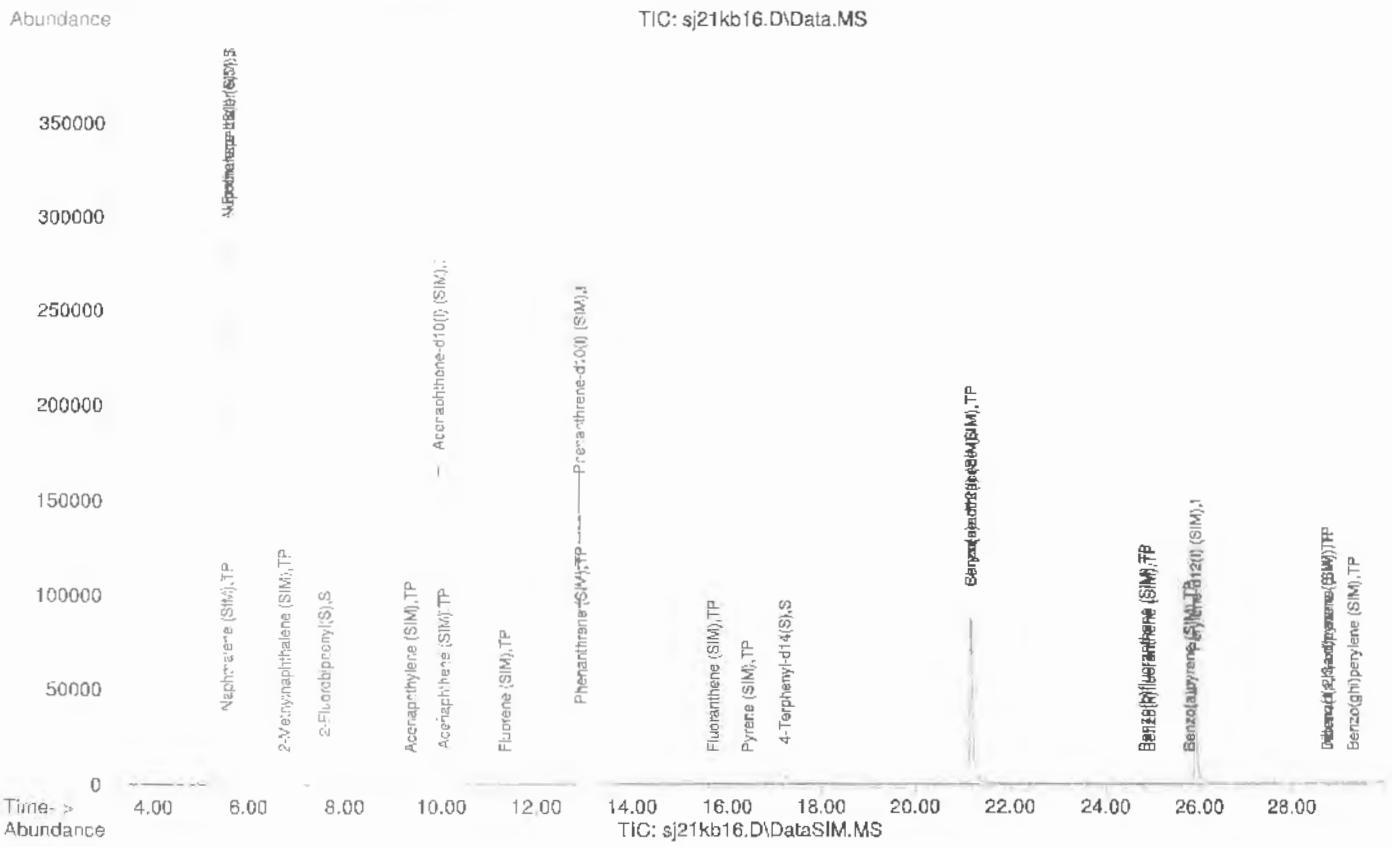
Internal Standards	R.T.	Qion	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.498	136	489677	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	239081	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.878	188	376455	200.00 ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	215488	200.00 ug/L	-0.01
19) Perylene d12(I) (SIM)	25.896	264	178202	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.498	146	28438	13.03 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	81.44%
6) 2-Fluorobiphenyl(S)	7.584	172	18217	13.61 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	85.06%
16) 4-Terphenyl d14(S)	17.217	244	15082	13.66 ug/L	0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	85.38%
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.531	128	768	0.05 ug/L #	20
4) 2-Methylnaphthalene (SIM)	6.739	142	9	0.01 ug/L	84
7) Acenaphthylene (SIM)	9.337	152	12	0.01 ug/L #	1
8) Acenaphthene (SIM)	10.048	153	32	0.02 ug/L #	50
9) Fluorene (SIM)	11.340	166	84	0.06 ug/L #	66
11) Phenanthrene (SIM)	12.928	178	833	0.10 ug/L #	59
12) Anthracene (SIM)	13.027	178	55	Below Cal #	1
13) Fluoranthene (SIM)	15.704	202	358	0.22 ug/L #	86
15) Pyrene (SIM)	16.436	202	267	0.15 ug/L #	89
17) Benzo(a)anthracene (SIM)	21.164	228	721	0.16 ug/L #	67
18) Chrysene (SIM)	21.263	228	333	Below Cal #	91
20) Benzo(b)fluoranthene (...	24.821	252	83	0.10 ug/L #	1
21) Benzo(k)fluoranthene (...	24.924	252	76	0.07 ug/L #	1
22) Benzo(a)pyrene (SIM)	25.772	252	42	0.06 ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.770	276	35	0.07 ug/L #	1
24) Dibenzo(a,h)anthracene...	28.770	278	4	0.01 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.328	276	65	0.08 ug/L #	1

(#) qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb16.D
Acq On : 12 Nov 2021 00:25
Operator :
Sample : A05022-008.02
Misc : k11c air rear
ALS Vial : 132 Sample Multiplier: 1

Quant Time: Nov 16 14:32:43 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21<11a\
Data File : sj21kb17.D
Acq On : 12 Nov 2021 03:09
Operator :
Sample : A05022 009.02
Misc : k11c air rear
ALS Vial : 133 Sample Multiplier: 1

Quant Time: Nov 16 14:32:53 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	493886	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	239723	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.879	188	384742	200.00 ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	217475	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	179888	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1 Fluoronaphthalene(S)	5.499	146	27907	12.68 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	79.25%
6) 2 Fluorobiphenyl(S)	7.584	172	18453	13.75 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	85.94%
16) 4-Terphenyl-d14(S)	17.218	244	14832	13.31 ug/L	0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	83.19%

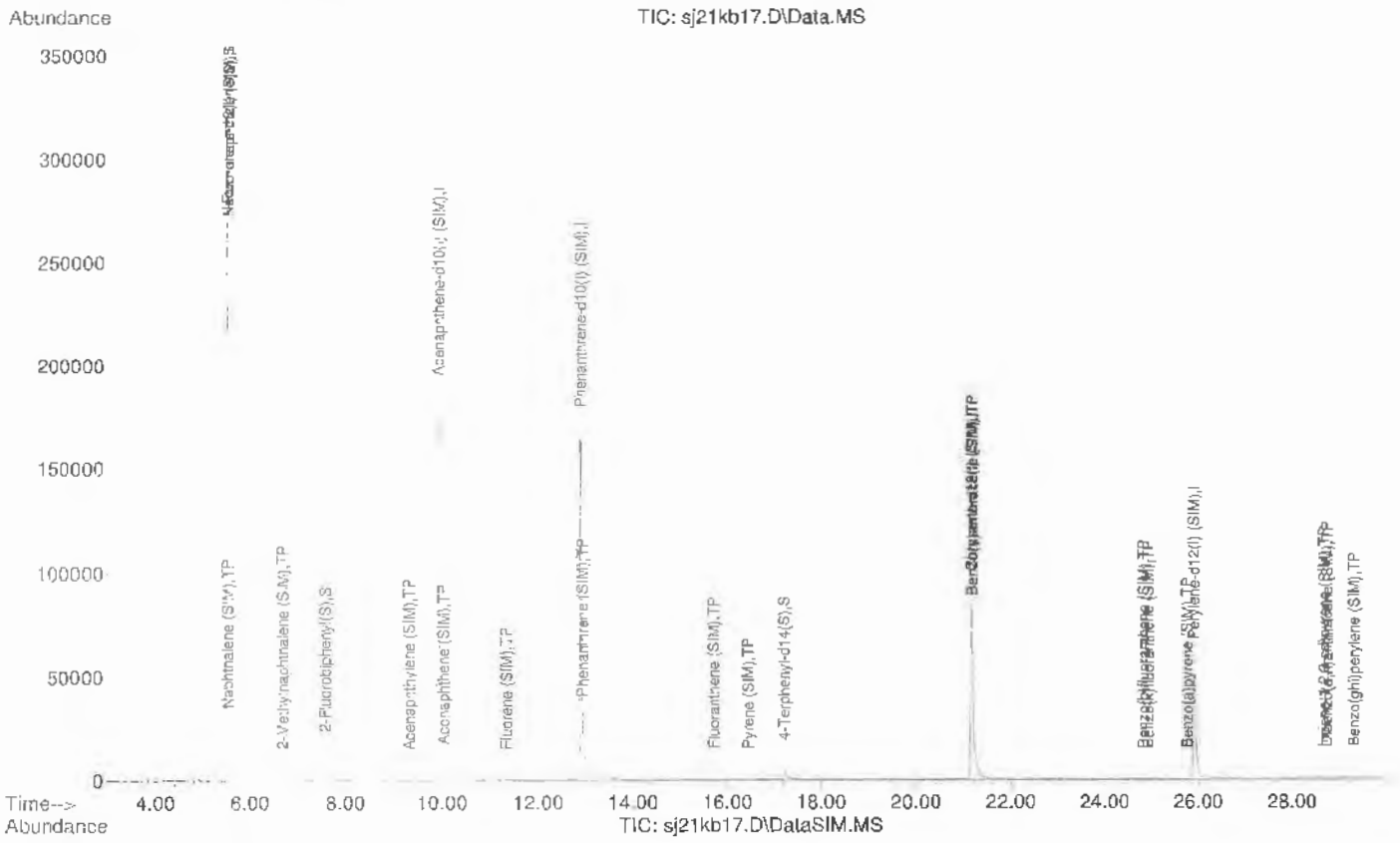
Target Compounds (Multiplier applied to Results = NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	756	0.04 ug/L #	22
4) 2-Methylnaphthalene (SIM)	6.690	142	49	0.04 ug/L #	69
7) Acenaphthylene (SIM)	9.321	152	15	0.01 ug/L #	1
8) Acenaphthene (SIM)	10.032	153	23	0.01 ug/L #	58
9) Fluorene (SIM)	11.340	166	36	0.02 ug/L #	31
11) Phenanthrene (SIM)	12.928	178	754	0.05 ug/L #	58
12) Anthracene (SIM)	13.027	178	92	Below Cal #	1
13) Fluoranthene (SIM)	15.717	202	299	0.18 ug/L #	80
15) Pyrene (SIM)	16.449	202	199	0.11 ug/L #	87
17) Benzo(a)anthracene (SIM)	21.176	228	668	0.09 ug/L #	67
18) Chrysene (SIM)	21.263	228	308	Below Cal #	89
20) Benzo(b)fluoranthene (...	24.821	252	129	0.15 ug/L #	1
21) Benzo(k)fluoranthene (...	24.924	252	72	0.07 ug/L #	1
22) Benzo(a)pyrene (SIM)	25.751	252	27	0.04 ug/L #	1
23) Indeno(1,2,3-cd)pyrene...	28.687	276	2	0.00 ug/L #	1
24) Dibenzo(a,h)anthracene...	28.749	278	1	0.00 ug/L #	1
25) Benzo(ghi)perylene (SIM)	29.328	276	84	0.10 ug/L #	1

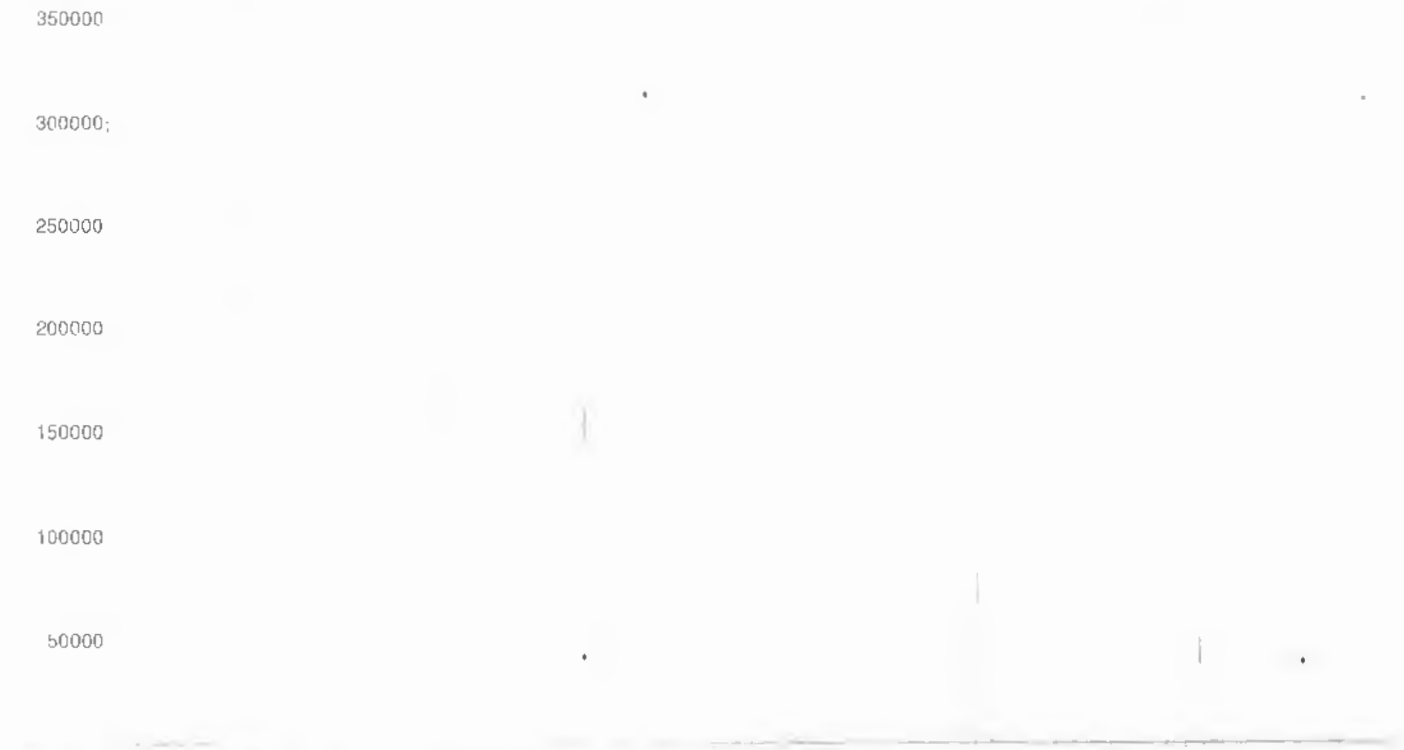
(R) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb17.D
Acq On : 12 Nov 2021 01:02
Operator :
Sample : A05022-009.02
Misc : k11c air rear
ALS Vial : 133 Sample Multiplier: 1

Quant Time: Nov 16 14:32:53 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21k0i8.D
Acq On : 12 Nov 2021 01:38
Operator :
Sample : A05022-01C.02
Misc : 8270 air rear
ALS Vial : 134 Sample Multiplier: 1

Quant Time: Nov 16 14:33:02 2021
Quant Method : C:\SJ\SJ METHODS\SJAIPA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qion	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	510855	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	244246	200.00	ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.879	188	392219	200.00	ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.161	240	222845	200.00	ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	182163	200.00	ug/L	-0.02
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.499	146	29171	12.82	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 80.13%
6) 2-Fluorobiphenyl(S)	7.584	172	18041	13.19	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 82.44%
16) 4 Terphenyl d14(S)	17.230	244	14530	12.73	ug/L	-0.01
Spiked Amount 16.000	Range 70 - 130				Recovery	= 79.56%

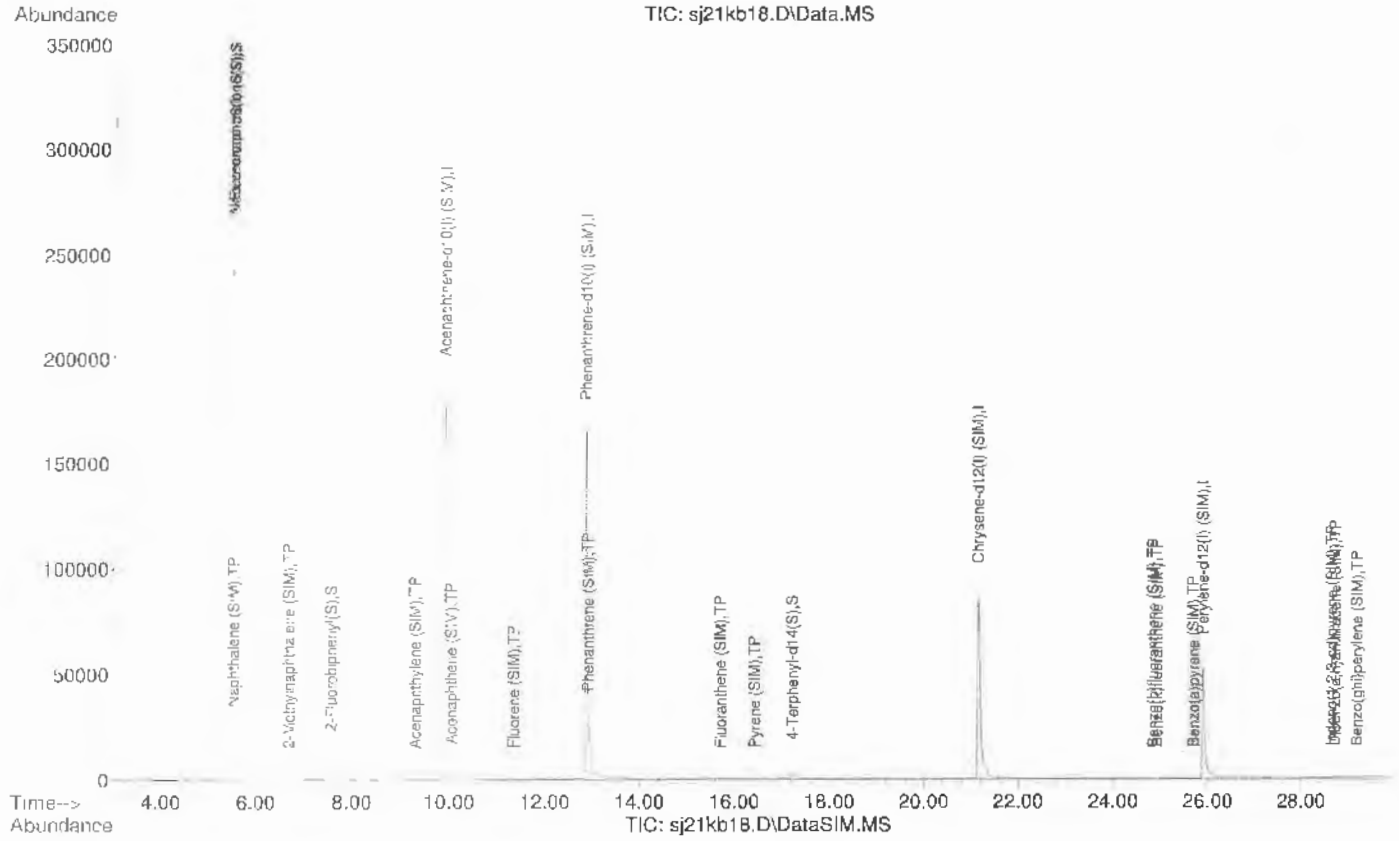
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	757	0.03	ug/L	# 23
4) 2 Methylnaphthalene (SIM)	6.690	142	37	0.03	ug/L	# 59
7) Acenaphthylene (SIM)	9.304	152	35	0.02	ug/L	# 8
8) Acenaphthene (SIM)	10.049	153	27	0.02	ug/L	# 66
9) Fluorene (SIM)	11.357	166	49	0.03	ug/L	# 39
11) Phenanthrene (SIM)	12.928	178	804	0.07	ug/L	# 56
12) Anthracene (SIM)	13.077	178	23	Below	Cal	# 1
13) Fluoranthene (SIM)	15.717	202	264	0.16	ug/L	# 92
15) Pyrene (SIM)	16.436	202	182	0.10	ug/L	# 71
17) Benzo(a)anthracene (SIM)	21.263	228	132	Below	Cal	93
18) Chrysene (SIM)	21.263	228	312	Below	Cal	# 90
20) Benzo(b)fluoranthene (...	24.842	252	67	0.08	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	56	0.05	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.689	252	11	0.01	ug/L	# 1
23) Indeno(1,2,3 cd)pyrene...	28.667	276	6	0.01	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.749	278	1	0.00	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.225	276	4	0.00	ug/L	# 1

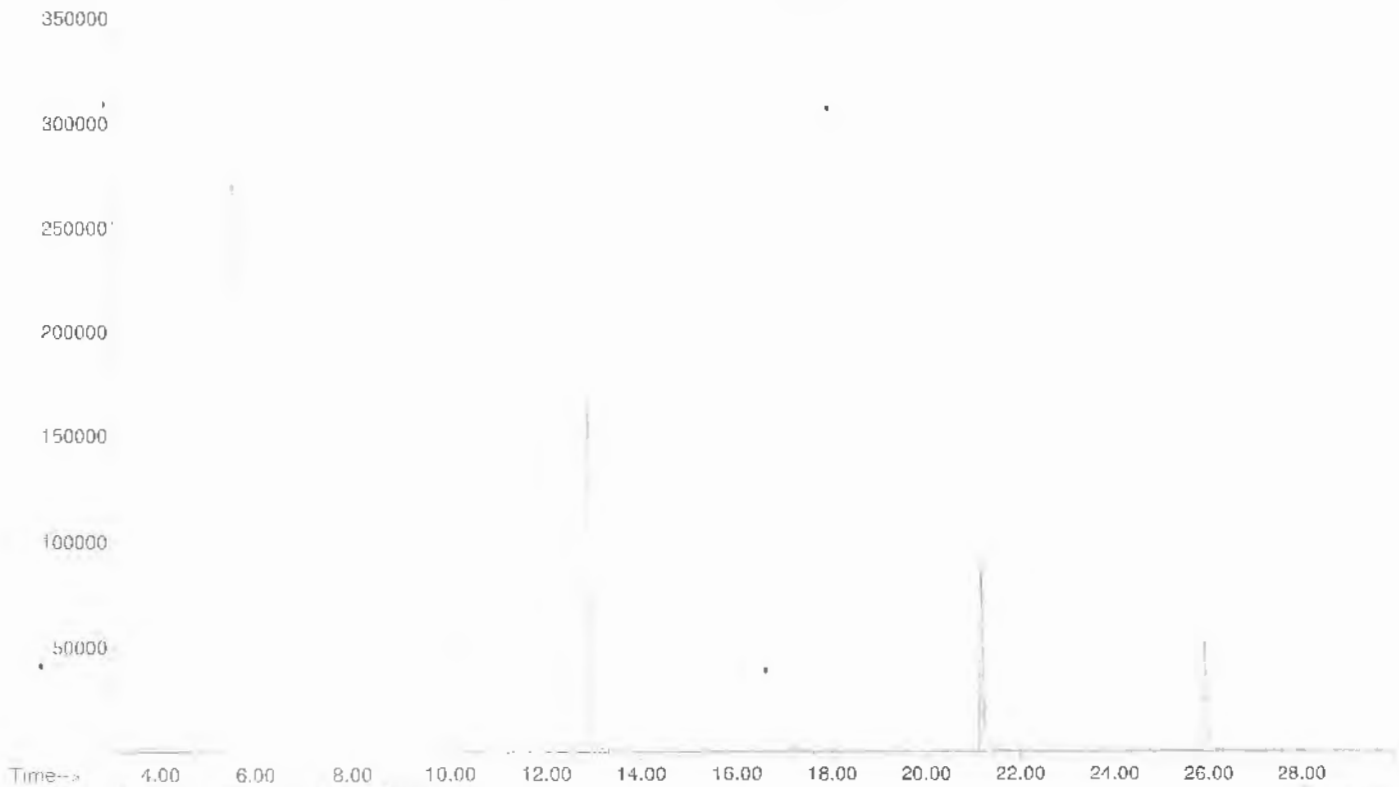
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb18.D
Acq On : 12 Nov 2021 01:38
Operator :
Sample : A05022-010.02
Misc : k11c air rear
ALS Vial : 134 Sample Multiplier: 1

Quant Time: Nov 16 14:33:02 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb19.D
Acq On : 12 Nov 2021 02:15
Operator :
Sample : A05022-011.02
Misc : k11c air rear
ALS Vial : 135 Sample Multiplier: 1

Quant Time: Nov 16 14:33:09 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:07 2021
Response via : Initial Calibration

Internal Standards	R.T.	Qion	Response	Conc	Units	Dev(Min)
1) Naphthalene d8(I) (SIM)	5.499	136	500991	200.00	ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	239366	200.00	ug/L	-0.02
10) Phenanthrene d10(I) (SIM)	12.878	188	385333	200.00	ug/L	-0.02
14) Chrysene d12(I) (SIM)	21.164	240	215192	200.00	ug/L	-0.01
19) Perylene d12(I) (SIM)	25.896	264	176052	200.00	ug/L	-0.02
System Monitoring Compounds						
2) 1-Fluoronaphthalene(S)	5.499	146	28784	12.89	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 80.56%
6) 2-Fluorobiphenyl(S)	7.584	172	18439	13.76	ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130				Recovery	= 86.00%
16) 4-Terphenyl d14(S)	17.218	244	14690	13.32	ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130				Recovery	= 83.25%

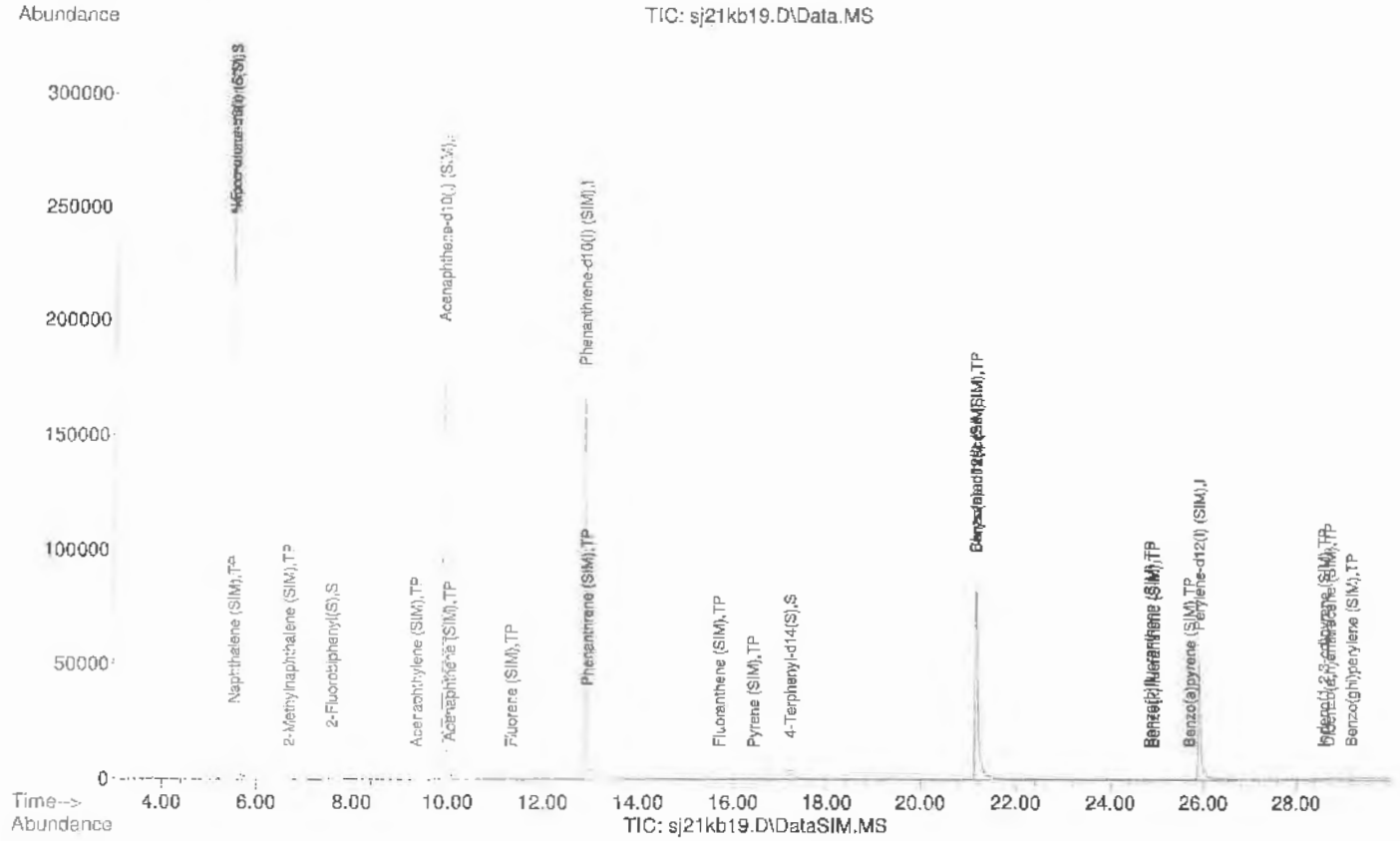
Target Compounds (Multiplier applied to Results = NO)						Qvalue
3) Naphthalene (SIM)	5.532	128	776	0.04	ug/L	# 22
4) 2-Methylnaphthalene (SIM)	6.689	142	71	0.05	ug/L	# 57
7) Acenaphthylene (SIM)	9.337	152	40	0.02	ug/L	# 24
8) Acenaphthene (SIM)	10.032	153	19	0.01	ug/L	# 58
9) Fluorene (SIM)	11.340	166	58	0.04	ug/L	# 48
11) Phenanthrene (SIM)	12.928	178	794	0.07	ug/L	# 61
12) Anthracene (SIM)	13.027	178	60	Below	Cal	# 1
13) Fluoranthene (SIM)	15.704	202	278	0.17	ug/L	# 78
15) Pyrene (SIM)	16.436	202	215	0.12	ug/L	# 74
17) Benzo(a)anthracene (SIM)	21.164	228	646	0.08	ug/L	# 64
18) Chrysene (SIM)	21.263	228	253	Below	Cal	# 92
20) Benzo(b)fluoranthene (...	24.841	252	91	0.11	ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	71	0.07	ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.689	252	14	0.02	ug/L	# 1
23) Indeno(1,2,3 cd)pyrene...	28.604	276	2	0.00	ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.728	278	1	0.00	ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.204	276	4	0.01	ug/L	# 1

(M) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb19.D
Acq On : 12 Nov 2021 02:15
Operator :
Sample : A05022-011.02
Misc : k11c air rear
ALS Vial : 135 Sample Multiplier: 1

Quant Time: Nov 16 14:33:09 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb20.D
Acq On : 12 Nov 2021 02:51
Operator :
Sample : A05022-012.02
Misc : k11c air rear
ALS Vial : 136 Sample Multiplier: 1

Quant Time: Nov 16 14:33:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration

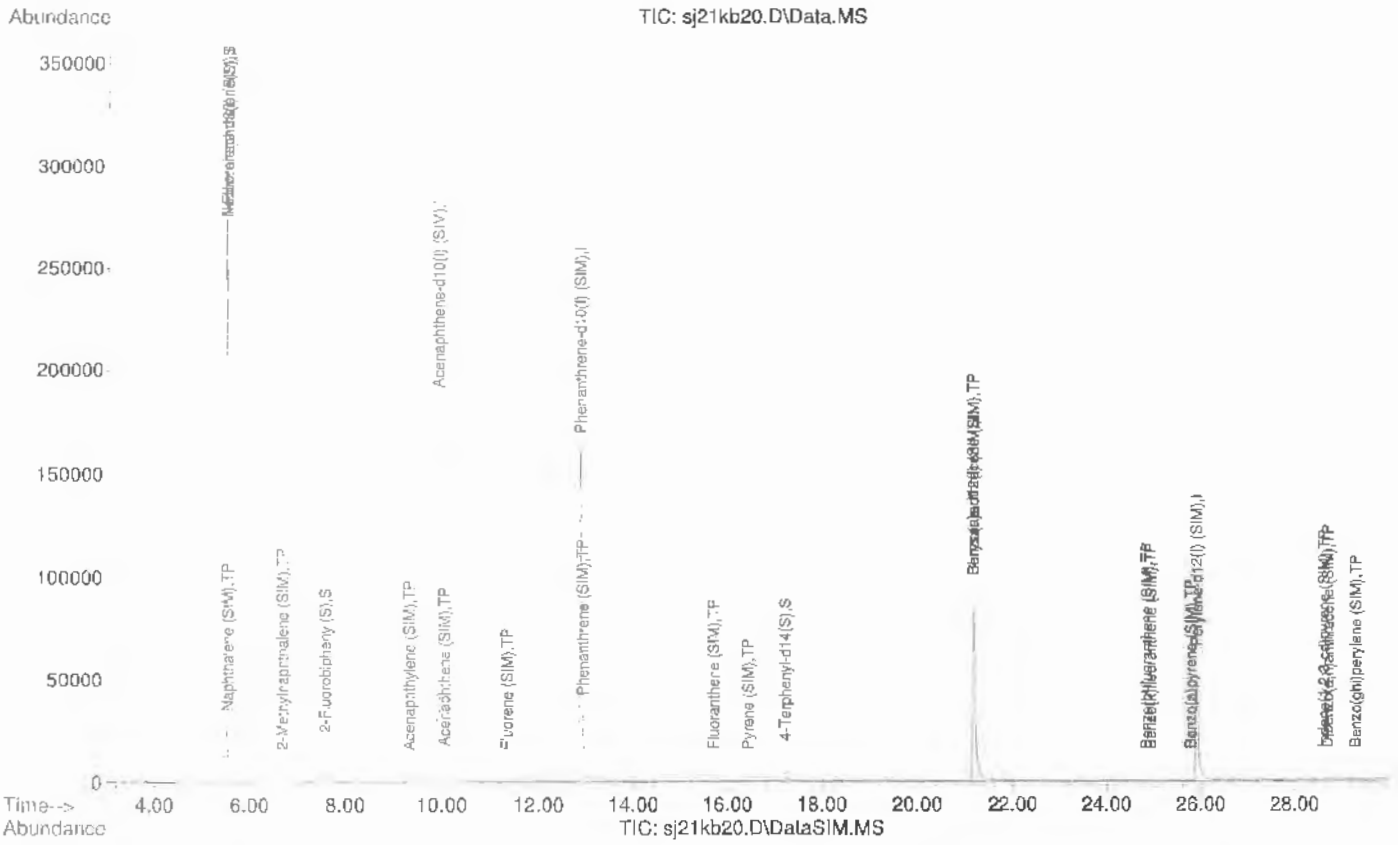
Internal Standards	R.T.	Qlon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8(I) (SIM)	5.499	136	496770	200.00 ug/L	0.00
5) Acenaphthene-d10(I) (SIM)	9.916	164	238092	200.00 ug/L	-0.02
10) Phenanthrene-d10(I) (SIM)	12.879	188	376559	200.00 ug/L	-0.02
14) Chrysene-d12(I) (SIM)	21.164	240	215805	200.00 ug/L	-0.01
19) Perylene-d12(I) (SIM)	25.896	264	175793	200.00 ug/L	-0.02
System Monitoring Compounds					
2) 1-Fluoronaphthalene(S)	5.499	146	29295	13.23 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	82.69%
6) 2-Fluorobiphenyl(S)	7.584	172	19015	14.26 ug/L	-0.02
Spiked Amount 16.000	Range 70 - 130			Recovery =	89.13%
16) 4-Terphenyl-d14(S)	17.218	244	14807	13.39 ug/L	-0.03
Spiked Amount 16.000	Range 70 - 130			Recovery =	83.69%
Target Compounds (Multiplier applied to Results - NO)					Qvalue
3) Naphthalene (SIM)	5.532	128	912	0.10 ug/L	# 25
4) 2-Methylnaphthalene (SIM)	6.690	142	81	0.06 ug/L	88
7) Acenaphthylene (SIM)	9.321	152	30	0.02 ug/L	# 1
8) Acenaphthene (SIM)	10.049	153	35	0.02 ug/L	# 58
9) Fluorene (SIM)	11.340	166	61	0.04 ug/L	# 32
11) Phenanthrene (SIM)	12.928	178	729	0.04 ug/L	# 44
12) Anthracene (SIM)	13.028	178	49	Below Cal	# 1
13) Fluoranthene (SIM)	16.704	202	218	0.14 ug/L	# 85
15) Pyrene (SIM)	16.436	202	175	0.10 ug/L	# 82
17) Benzo(a)anthracene (SIM)	21.164	228	709	0.14 ug/L	# 67
18) Chrysene (SIM)	21.263	228	247	Below Cal	# 90
20) Benzo(b)fluoranthene (...	24.842	252	65	0.08 ug/L	# 1
21) Benzo(k)fluoranthene (...	24.924	252	46	0.04 ug/L	# 1
22) Benzo(a)pyrene (SIM)	25.772	252	29	0.04 ug/L	# 1
23) Indeno(1,2,3-cd)pyrene...	28.625	276	2	0.00 ug/L	# 1
24) Dibenzo(a,h)anthracene...	28.708	278	10	0.01 ug/L	# 1
25) Benzo(ghi)perylene (SIM)	29.308	276	41	0.05 ug/L	# 1

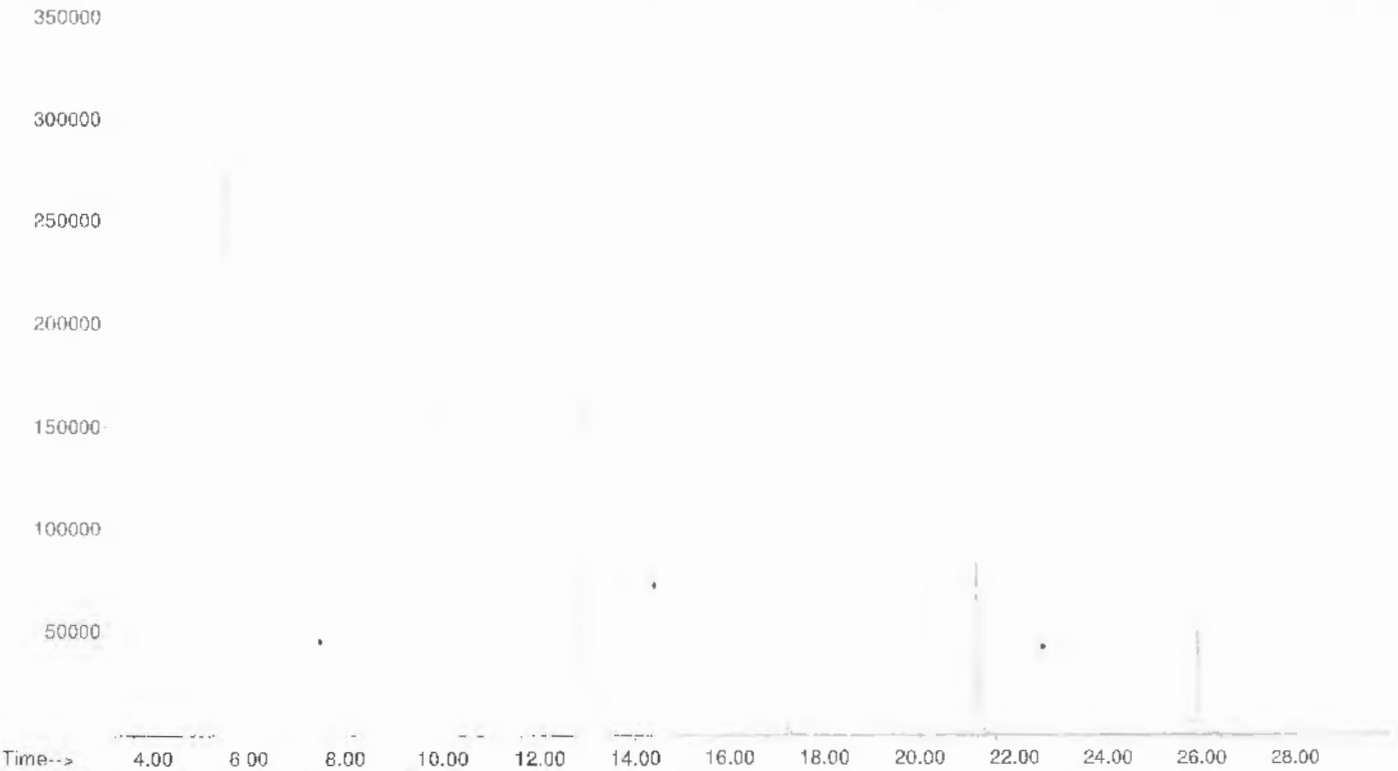
(#) = qualifier out of range (m) = manual integration (I) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\SJ\SJ DATA\SJ21k11a\
Data File : sj21kb20.D
Acq On : 12 Nov 2021 02:51
Operator :
Sample : A05022-012.02
Misc : k11c air rear
ALS Vial : 136 Sample Multiplier: 1

Quant Time: Nov 16 14:33:20 2021
Quant Method : C:\SJ\SJ METHODS\SJAIRA11.M
Quant Title : 8270 COMPOUNDS BY 8270
QLast Update : Sun Oct 31 17:07:02 2021
Response via : Initial Calibration





TO-15 SAMPLE RAW DATA WITH DETAILED SUMMARY REPORT

Starting sequence Tue Nov 09 11:24:33 2021

Instrument Name: VN
Sequence File: D:\MassHunter\GCMS\1\sequence\VN21K09A.sequence.xml
Comment:
Operator:
Data Path: D:\VN\VN_DATA\VN21K09A\

km 11/10/21

Line	Type	Vials	DataFile	Sample Name
Acquisition Method Path: D:\VN\VN_METHOD\				
Acquisition Method File: VN400B77.M				
1)	Sample	1	VN21K901	VCCV01
2)	Sample	1	VN21K902	VLCS01
3)	Sample	1	VN21K903	VLCD01
4)	Sample	1	VN21K904	RNS
5)	Sample	1	VN21K905	VBLK01
6)	Sample	1	VN21K906	A05022-001.01
7)	Sample	1	VN21K907	A05022-002.01
8)	Sample	1	VN21K908	A05022-003.01
9)	Sample	1	VN21K909	A05022-003.02
10)	Sample	1	VN21K910	A05022-004.01
11)	Sample	1	VN21K911	A05022-005.01
12)	Sample	1	VN21K912	A05022-006.01
13)	Sample	1	VN21K913	A05023-001.02
14)	Sample	1	VN21K914	A05030-001.02
15)	Sample	1	VN21K915	A05030-002.02
16)	Sample	1	VN21K916	A05030-003.02
17)	Sample	1	VN21K917	A05031-001.02
18)	Sample	1	VN21K918	A05031-002.02
19)	Sample	1	VN21K919	A05031-003.02
20)	Sample	1	VN21K920	A05036-~~002.01~~
21)	Sample	1	VN21K921	A05036-002.01
22)	Sample	1	VN21K922	A05036-003.01
23)	Sample	1	VN21K923	A05076-001.01
24)	Sample	1	VN21K924	A05020-001.01

-001.01 km 11/10/21

Sequence completed Wed Nov 10 06:28:20 2021

D:\VN\VN_DATA\VN21K09A\2021 Nov 09 1124 Quality Log.LOG
D:\VN\VN_DATA\VN21K09A\2021 Nov 09 1124 Sequence Log .LOG

11-10-21

KM 11/10/21

Sequence Report

11/11/2021 8:28:10 AM

	VCCV01	One	D6	100	200	0	VNCONA 19.CTD3	11/10/2021 1:22:33 PM	Completed		
	VLCS01	One	D7	100	0	200	VNCONA 19.CTD3	11/10/2021 2:10:10 PM	Completed		
	VLCD01	One	D7	100	0	200	VNCONA 19.CTD3	11/10/2021 2:57:24 PM	Completed		
	VRNS01	One	D6	100	0	200	VNCONA 19.CTD3	11/10/2021 3:45:13 PM	Completed		
	VBLK01	One	D6	100	0	400	VNCONA 19.CTD3	11/10/2021 4:35:18 PM	Completed		
	A05022-004.02	One	A1	100	0	100	VNCONA 19.CTD3	11/10/2021 5:22:30 PM	Completed		
	A05022-005.02	One	A2	100	0	100	VNCONA 19.CTD3	11/10/2021 6:09:36 PM	Completed		
	bv 2795	One	A3	100	0	400	VNCONA 19.CTD3	11/10/2021 6:59:26 PM	Completed		
	bv 2795 dup	One	A3	100	0	400	VNCONA 19.CTD3	11/10/2021 7:50:22 PM	Completed		
	bv 3628	One	A4	100	0	400	VNCONA 19.CTD3	11/10/2021 8:41:09 PM	Completed		
	bvfc 3072	One	A5	100	0	400	VNCONA 19.CTD3	11/10/2021 9:32:19 PM	Completed		
	A04889-002.02	One	A6	100	0	100	VNCONA 19.CTD3	11/10/2021 10:20:40 PM	Completed		
	A04889-004.02	One	A7	100	0	100	VNCONA 19.CTD3	11/10/2021 11:08:33 PM	Completed		

DH 11-12-21

Sequence Report

11/11/2021 8:28:10 AM

	A04889-005.02	One	A8	100	0	100	VNCONA19.CTD3	11/10/2021 11:56:19 PM	Completed		
	A04889-011.02	One	A9	100	0	100	VNCONA19.CTD3	11/11/2021 12:43:31 AM	Completed		
	A04993-002.03	One	A10	100	0	100	VNCONA19.CTD3	11/11/2021 1:31:18 AM	Completed		
	A04993-004.03	One	B1	100	0	80	VNCONA19.CTD3	11/11/2021 2:18:44 AM	Completed		
	bvfc 2792	One	B2	100	0	400	VNCONA19.CTD3	11/11/2021 3:09:29 AM	Completed		
	bvfc 21399	One	B3	100	0	400	VNCONA19.CTD3	11/11/2021 4:00:16 AM	Completed		
	A05102-001.01	One	B4	100	0	100	VNCONA19.CTD3	11/11/2021 4:47:29 AM	Completed		
	A05102-002.01	One	B5	100	0	100	VNCONA19.CTD3	11/11/2021 5:35:24 AM	Completed		
	A05102-003.01	One	B6	100	0	100	VNCONA19.CTD3	11/11/2021 6:23:26 AM	Completed		
	A05102-004.01	One	B7	100	0	100	VNCONA19.CTD3	11/11/2021 7:11:42 AM	Completed		
	A05102-005.01	One	B8	100	0	100	VNCONA19.CTD3	11/11/2021 8:00:56 AM	Completed		

EM 11/10/21

Sequence Report

11/10/2021 8:12:29 AM

	VCCV01	One	D6	100	200	0	VNCONA 19.CTD3	11/9/2021 11:47:48 AM	Completed		
	VLCS01	One	D7	100	0	200	VNCONA 19.CTD3	11/9/2021 12:35:49 PM	Completed		
	VLCD01	One	D7	100	0	200	VNCONA 19.CTD3	11/9/2021 1:23:47 PM	Completed		
	VRNS01	One	D6	100	0	200	VNCONA 19.CTD3	11/9/2021 2:11:15 PM	Completed		
	VBLK01	One	D6	100	0	400	VNCONA 19.CTD3	11/9/2021 3:01:46 PM	Completed		
	a05022-001.01	One	A1	100	0	100	VNCONA 19.CTD3	11/9/2021 3:49:09 PM	Completed		
	A05022-002.01	One	A2	100	0	100	VNCONA 19.CTD3	11/9/2021 4:36:13 PM	Completed		
	A05022-003.01	One	A3	100	0	100	VNCONA 19.CTD3	11/9/2021 5:23:11 PM	Completed		
	A05022-003.02	One	A3	100	0	100	VNCONA 19.CTD3	11/9/2021 6:10:06 PM	Completed		
	A05022-004.01	One	A4	100	0	100	VNCONA 19.CTD3	11/9/2021 6:57:18 PM	Completed		
	A05022-005.01	One	A5	100	0	100	VNCONA 19.CTD3	11/9/2021 7:44:34 PM	Completed		
	A05022-006.01	One	A6	100	0	100	VNCONA 19.CTD3	11/9/2021 8:31:34 PM	Completed		
	A05023-001.02	One	A7	100	0	100	VNCONA 19.CTD3	11/9/2021 9:18:15 PM	Completed		
	A05030-001.02	One	A8	100	0	100	VNCONA 19.CTD3	11/9/2021 10:05:42 PM	Completed		
	A05030-002.02	One	A9	100	0	100	VNCONA 19.CTD3	11/9/2021 10:53:00 PM	Completed		
	A05030-003.02	One	A10	100	0	100	VNCONA 19.CTD3	11/9/2021 11:40:02 PM	Completed		

11-10-21

Sequence Report

11/10/2021 8:12:29 AM

	A05031-001.02	One	B1	100	0	100	VNCONA19.CTD3	11/10/2021 12:26:54 AM	Completed		
	A05031-002.02	One	B2	100	0	100	VNCONA19.CTD3	11/10/2021 1:13:37 AM	Completed		
	A05031-003.02	One	B3	100	0	100	VNCONA19.CTD3	11/10/2021 2:00:05 AM	Completed		
	A05036-001.01	One	B4	100	0	100	VNCONA19.CTD3	11/10/2021 2:47:17 AM	Completed		
	A05036-002.01	One	B5	100	0	100	VNCONA19.CTD3	11/10/2021 3:34:15 AM	Completed		
	A05036-003.01	One	B6	100	0	100	VNCONA19.CTD3	11/10/2021 4:21:28 AM	Completed		
	A05076-001.01	One	B7	100	0	100	VNCONA19.CTD3	11/10/2021 5:08:24 AM	Completed		
	A05020-001.01	One	B8	100	0	100	VNCONA19.CTD3	11/10/2021 5:55:33 AM	Completed		

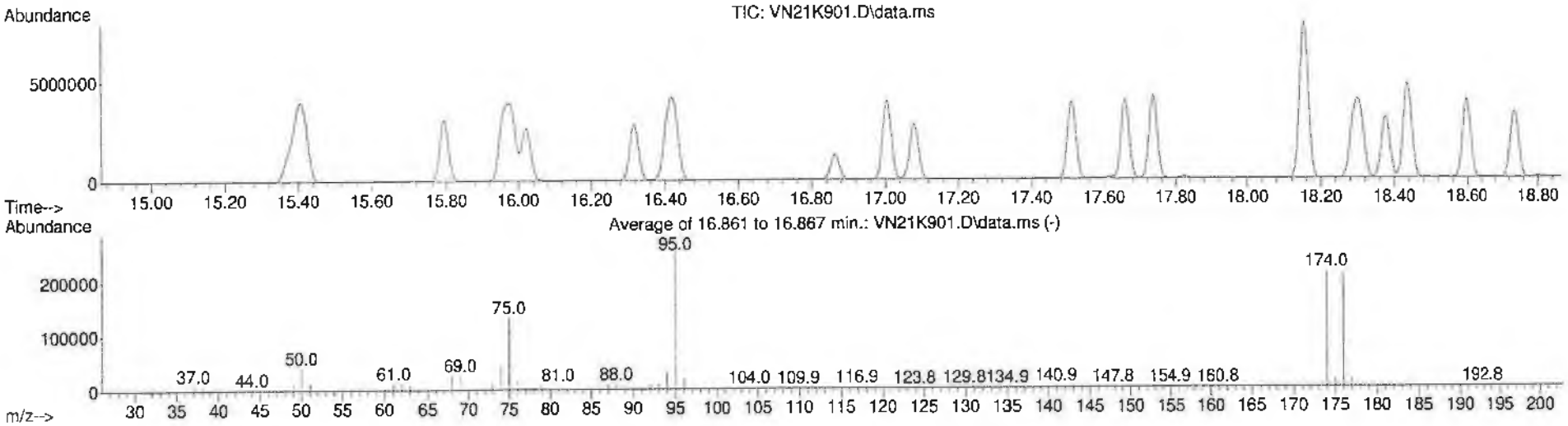
8FB

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

KM 11/9/21

Integration File: rteint.p

Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Title : COMPOUNDS BY TO-15
Last Update : Mon Nov 01 10:57:19 2021



AutoFind: Scans 4530, 4531, 4532; Background Corrected with Scan 4512

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.7	40229	PASS
75	95	30	66	48.6	132640	PASS
95	95	100	100	100.0	273173	PASS
96	95	5	9	6.7	18197	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	78.2	213568	PASS
175	174	4	9	7.2	15434	PASS
176	174	93	101	97.7	208576	PASS
177	176	5	9	6.6	13675	PASS

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

EM 11/10/21

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.804	130	482272	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.899	114	1754527	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.372	54	141479	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.861	75	229129	7.00	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 104.17%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.084	85	2178899	13.43		100	13.43
3) Chloromethane	4.228	50	395379	11.05		99	11.05
4) Dichlorotetrafluoroethane	4.322	85	1818773	12.98		92	12.98
5) Vinyl Chloride	4.427	62	548731	11.29		99	11.29
6) 1,3-Butadiene	4.550	54	398591	9.33		96	9.33
7) Bromomethane	4.797	94	577797	13.84		99	13.84
8) Chloroethane	4.956	64	306570	12.28		99	12.28
9) Ethanol	5.061	45	158449	10.69		97	10.69
10) Acrolein	5.388	56	209718	12.41		99	12.41
11) Trichlorofluoromethane	5.689	101	2110577	15.18		99	15.18
12) Isopropanol	5.777	45	949597	9.71		98	9.71
13) Acetone	5.533	58	257630	7.14		90	7.14
14) Acrylonitrile	5.993	53	660712	13.59	#	97	13.59
15) n-Pentane	6.067	43	1351165	14.25	#	98	14.25
16) Diethyl Ether	6.104	59	712574	12.56		99	12.56
17) 1,1-Dichloroethene	6.360	61	1582675	12.72		99	12.72
18) t-Butanol	6.425	59	2064178	13.13	#	100	13.13
19) Methylene Chloride	6.479	49	921112	12.65		98	12.65
20) 1,1,2-Trichlorotrifluo...	6.789	101	2137515	12.46		97	12.46
21) Carbon Disulfide	6.798	76	2633752	12.76		99	12.76
22) trans-1,2-Dichloroethene	7.502	61	1373498	12.40		100	12.40
23) MTBE	7.832	73	2955762	13.10		98	13.10
24) 1,1-Dichloroethane	7.724	63	1640823	12.35		99	12.35
25) Vinyl Acetate	7.912	86	259286	16.24		97	16.24
26) n-Hexane	8.889	57	1348008	11.26		93	11.26
27) 2-Butanone	8.179	43	1451509	11.11		99	11.11
28) cis-1,2-Dichloroethene	8.636	61	1305271	12.87		99	12.87
29) Chloroform	8.952	83	2325960	13.01		99	13.01
30) Ethyl Acetate	8.918	61	272931	12.52		90	12.52
31) Diisopropyl Ether	8.909	45	2649073	15.10		99	15.10
32) Tetrahydrofuran	9.409	42	1109527	17.93		96	17.93
33) ETBE	9.489	59	2877289	12.37		99	12.37
34) 1,2-Dichloroethane	9.742	62	1432263	12.22		100	12.22
35) Methylcyclopentane	9.765	56	1742503	13.04		99	13.04
37) 1,1,1-Trichloroethane	10.023	97	2458515	13.05		99	13.05
38) Cyclohexane	10.808	56	1307982	12.68		97	12.68
39) Carbon Tetrachloride	10.671	117	2656546	13.39		100	13.39
40) Benzene	10.509	78	2870622	12.40		99	12.40
41) Dibromomethane	11.336	174	1320198	12.98		99	12.98
42) n-Heptane	11.979	43	1260213	13.74		93	13.74
43) 1,2-Dichloropropane	11.382	63	969492	13.01		99	13.01
44) Trichloroethene	11.629	95	1402180	12.78		99	12.78
45) Bromodichloromethane	11.575	83	2361679	12.65		99	12.65

11-10-21

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

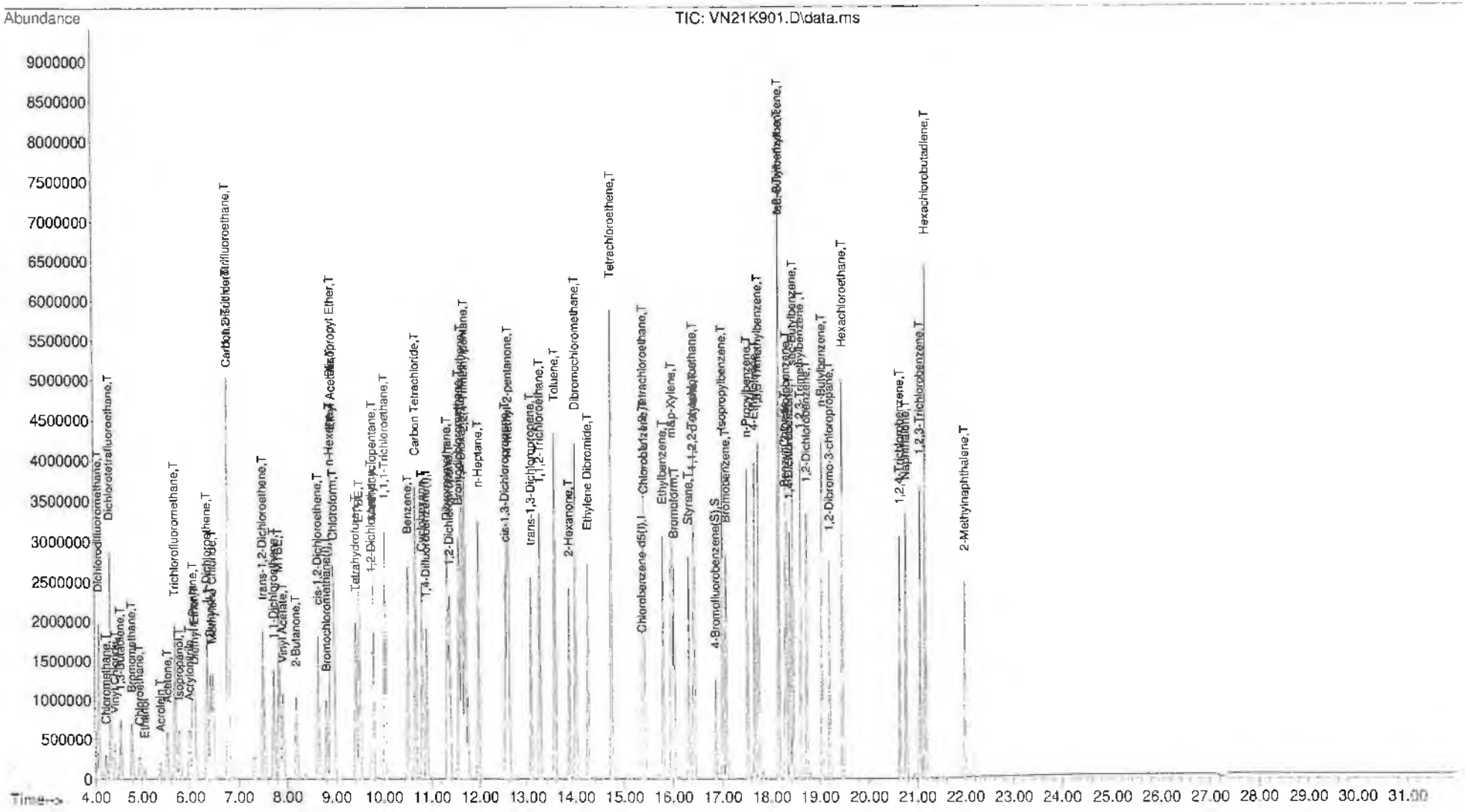
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.643	88	695604	13.56		#	71	13.56
47) 2,2,4-Trimethylpentane	11.697	57	4309156	13.37			98	13.37
48) cis-1,3-Dichloropropene	12.541	75	1773359	13.11			99	13.11
49) 4-Methyl-2-pentanone	12.607	58	843570	11.26			99	11.26
50) trans-1,3-Dichloropropene	13.093	75	1690955	13.36			99	13.36
51) 1,1,1,2-Tetrachloroethane	15.398	131	878211	13.51			97	13.51
53) 1,1,2-Trichloroethane	13.275	97	1240151	14.40			99	14.40
54) Toluene	13.579	91	3687828	13.66			99	13.66
55) 2-Hexanone	13.871	43	1557394	12.05			98	12.05
56) Dibromochloromethane	13.999	127	1980752	13.23			100	13.23
57) Ethylene Dibromide	14.255	107	2008956	14.32			100	14.32
58) Tetrachloroethene	14.741	166	1893194	14.28			99	14.28
59) Chlorobenzene	15.417	112	1488520	13.86			99	13.86
60) Ethylbenzene	15.793	91	2405071	13.46			99	13.46
61) m&p-Xylene	15.977	106	1865900	27.39			98	27.39
62) Bromoform	16.023	173	1370687	15.42		#	100	15.42
63) Styrene	16.316	104	1481689	14.55			99	14.55
64) 1,1,2,2-Tetrachloroethane	16.407	83	1316712	13.25			100	13.25
65) o-Xylene	16.424	91	2003976	13.52			98	13.52
67) Isopropylbenzene	17.003	105	2752806	14.71			100	14.71
68) n-Propylbenzene	17.509	91	3237884	15.61			100	15.61
69) 4-Ethyltoluene	17.660	105	2741465	13.78			98	13.78
70) 1,3,5-Trimethylbenzene	17.737	105	2465569	13.70			99	13.70
71) tert-Butylbenzene	18.154	119	2479498	14.87			98	14.87
72) 1,2,4-Trimethylbenzene	18.154	105	2260748	13.10			99	13.10
73) 1,3-Dichlorobenzene	18.308	146	1447313	18.02			100	18.02
74) Benzyl Chloride	18.288	91	1830935	18.09			100	18.09
75) 1,4-Dichlorobenzene	18.376	146	1364922	17.97			99	17.97
76) sec-Butylbenzene	18.436	105	3349857	14.56			100	14.56
77) 1,2,3-Trimethylbenzene	18.598	105	2401533	15.51			99	15.51
78) 1,2-Dichlorobenzene	18.737	146	1453488	14.19			100	14.19
79) n-Butylbenzene	19.052	91	2436886	12.44			99	12.44
80) Bromobenzene	17.080	77	1315755	14.22			99	14.22
81) 1,2-Dibromo-3-chloropr...	19.206	157	875697	21.77			98	21.77
82) Hexachloroethane	19.462	117	1048667	13.10			97	13.10
83) 1,2,4-Trichlorobenzene	20.633	180	1000907	13.48			100	13.48
84) Naphthalene	20.758	128	2683074	13.80			99	13.80
85) 1,2,3-Trichlorobenzene	21.053	180	1165818	14.87			99	14.87
86) Hexachlorobutadiene	21.167	225	1279985	12.21			100	12.21
87) 2-Methylnaphthalene	21.985	142	1197357	12.83			98	12.83

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOD\VN400877.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.804	130	482272	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.899	114	1754527	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.372	54	141479	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.861	75	229129	7.00	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 104.17%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.084	85	2178899	13.43		100	13.43
3) Chloromethane	4.228	50	395379	11.05		99	11.05
4) Dichlorotetrafluoroethane	4.322	85	1818773	12.98		92	12.98
5) Vinyl Chloride	4.427	62	548731	11.29		99	11.29
6) 1,3-Butadiene	4.550	54	398591	9.33		96	9.33
7) Bromomethane	4.797	94	577797	13.84		99	13.84
8) Chloroethane	4.956	64	306570	12.28		99	12.28
9) Ethanol	5.061	45	158449	10.69		97	10.69
10) Acrolein	5.388	56	209718	12.41		99	12.41
11) Trichlorofluoromethane	5.689	101	2110577	15.18		99	15.18
12) Isopropanol	5.777	45	949597	9.71		98	9.71
13) Acetone	5.533	58	257630	7.14		90	7.14
14) Acrylonitrile	5.993	53	660712	13.59	#	97	13.59
15) n-Pentane	6.067	43	1351165	14.25	#	98	14.25
16) Diethyl Ether	6.104	59	712574	12.56		99	12.56
17) 1,1-Dichloroethene	6.360	61	1582675	12.72		99	12.72
18) t-Butanol	6.425	59	2064178	13.13	#	100	13.13
19) Methylene Chloride	6.479	49	921112	12.65		98	12.65
20) 1,1,2-Trichlorotrifluo...	6.789	101	2137515	12.46		97	12.46
21) Carbon Disulfide	6.798	76	2633752	12.76		99	12.76
22) trans-1,2-Dichloroethene	7.502	61	1373498	12.40		100	12.40
23) MTBE	7.832	73	2955762	13.10		98	13.10
24) 1,1-Dichloroethane	7.724	63	1640823	12.35		99	12.35
25) Vinyl Acetate	7.912	86	259286	16.24		97	16.24
26) n-Hexane	8.889	57	1348008	11.26		93	11.26
27) 2-Butanone	8.179	43	1451509	11.11		99	11.11
28) cis-1,2-Dichloroethene	8.636	61	1305271	12.87		99	12.87
29) Chloroform	8.952	83	2325960	13.01		99	13.01
30) Ethyl Acetate	8.918	61	272931	12.52		90	12.52
31) Diisopropyl Ether	8.909	45	2649073	15.10		99	15.10
32) Tetrahydrofuran	9.409	42	1109527	17.93		96	17.93
33) ETBE	9.489	59	2877289	12.37		99	12.37
34) 1,2-Dichloroethane	9.742	62	1432263	12.22		100	12.22
35) Methylcyclopentane	9.765	56	1742503	13.04		99	13.04
37) 1,1,1-Trichloroethane	10.023	97	2458515	13.05		99	13.05
38) Cyclohexane	10.808	56	1307982	12.68		97	12.68
39) Carbon Tetrachloride	10.671	117	2656546	13.39		100	13.39
40) Benzene	10.509	78	2870622	12.40		99	12.40
41) Dibromomethane	11.336	174	1320198	12.98		99	12.98
42) n-Heptane	11.979	43	1260213	13.74		93	13.74
43) 1,2-Dichloropropane	11.382	63	969492	13.01		99	13.01
44) Trichloroethene	11.629	95	1402180	12.78		99	12.78
45) Bromodichloromethane	11.575	83	2361679	12.65		99	12.65

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOO\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

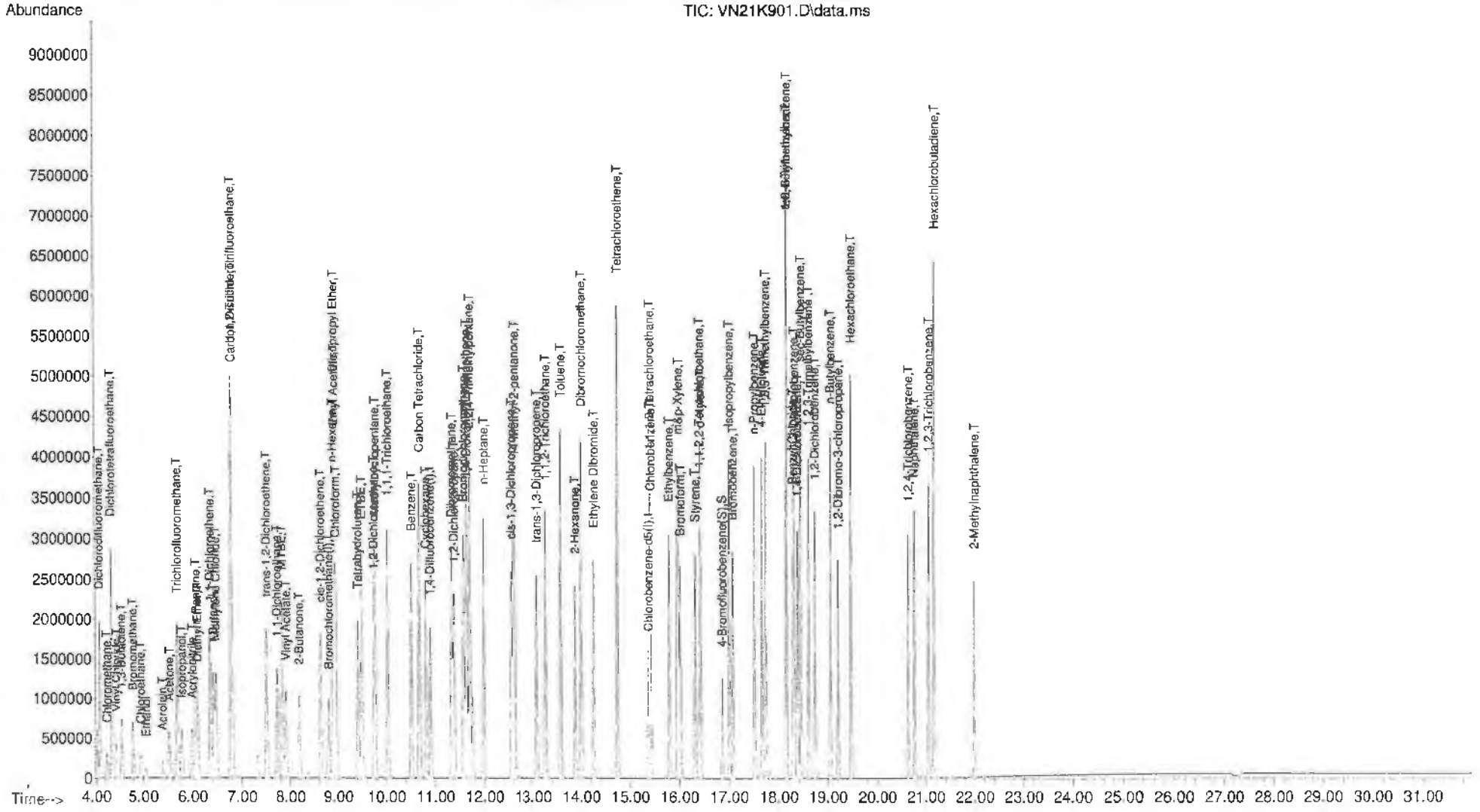
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.643	88	695604	13.56		#	71	13.56
47) 2,2,4-Trimethylpentane	11.697	57	4309156	13.37			98	13.37
48) cis-1,3-Dichloropropene	12.541	75	1773359	13.11			99	13.11
49) 4-Methyl-2-pentanone	12.607	58	843570	11.26			99	11.26
50) trans-1,3-Dichloropropene	13.093	75	1690955	13.36			99	13.36
51) 1,1,1,2-Tetrachloroethane	15.398	131	878211	13.51			97	13.51
53) 1,1,2-Trichloroethane	13.275	97	1240151	14.40			99	14.40
54) Toluene	13.579	91	3687828	13.66			99	13.66
55) 2-Hexanone	13.871	43	1557394	12.05			98	12.05
56) Dibromochloromethane	13.999	127	1980752	13.23			100	13.23
57) Ethylene Dibromide	14.255	107	2008956	14.32			100	14.32
58) Tetrachloroethene	14.741	166	1893194	14.28			99	14.28
59) Chlorobenzene	15.417	112	1488520	13.86			99	13.86
60) Ethylbenzene	15.793	91	2405071	13.46			99	13.46
61) m&p-Xylene	15.977	106	1865900	27.39			98	27.39
62) Bromoform	16.023	173	1370687	15.42		#	100	15.42
63) Styrene	16.316	104	1481689	14.55			99	14.55
64) 1,1,2,2-Tetrachloroethane	16.407	83	1316712	13.25			100	13.25
65) o-Xylene	16.424	91	2003976	13.52			98	13.52
67) Isopropylbenzene	17.003	105	2752806	14.71			100	14.71
68) n-Propylbenzene	17.509	91	3237884	15.61			100	15.61
69) 4-Ethyltoluene	17.660	105	2741465	13.78			98	13.78
70) 1,3,5-Trimethylbenzene	17.737	105	2465569	13.70			99	13.70
71) tert-Butylbenzene	18.154	119	2479498	14.87			98	14.87
72) 1,2,4-Trimethylbenzene	18.154	105	2260748	13.10			99	13.10
73) 1,3-Dichlorobenzene	18.308	146	1447313	18.02			100	18.02
74) Benzyl Chloride	18.288	91	1830935	18.09			100	18.09
75) 1,4-Dichlorobenzene	18.376	146	1364922	17.97			99	17.97
76) sec-Butylbenzene	18.436	105	3349857	14.56			100	14.56
77) 1,2,3-Trimethylbenzene	18.598	105	2401533	15.51			99	15.51
78) 1,2-Dichlorobenzene	18.737	146	1453488	14.19			100	14.19
79) n-Butylbenzene	19.052	91	2436886	12.44			99	12.44
80) Bromobenzene	17.080	77	1315755	14.22			99	14.22
81) 1,2-Dibromo-3-chloropr...	19.206	157	875697	21.77			98	21.77
82) Hexachloroethane	19.462	117	1048667	13.10			97	13.10
83) 1,2,4-Trichlorobenzene	20.633	180	1000907	13.48			100	13.48
84) Naphthalene	20.758	128	2683074	13.80			99	13.80
85) 1,2,3-Trichlorobenzene	21.053	180	1165818	14.87			99	14.87
86) Hexachlorobutadiene	21.167	225	1279985	12.21			100	12.21
87) 2-Methylnaphthalene	21.985	142	1197357	12.83			98	12.83

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K901.D
Acq On : 09 Nov 2021 11:47 am
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 12:20:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VCCV01
Inject Time:	11/9/2021 11:47:48 AM
Sample Start:	
Sample End:	

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	22.6 (25)	5.30	23.3	22.61	1.94	3.09
Calibration Std	201.5 (200)	97.4 (100)	2.33	37.65	36.02	2.86	5.16
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	91.1 (100)	0.95	24.71	22.46	3.39	4.26
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.58	24.72	24.34	4.28	5.42

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				123 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-47 (-50)	-47 (-50)	-46 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			61 (61)		122 (122)
M3	36			-173 (-165)	72 (80)	-59
Rot Valve Plate	91/90 (90)					91/92 (90)
GC Xfer Line					100 (100)	
4 Sample Line	63 (60)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

Encoder	Position (steps)
X:	
Y:	

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

KM 11/10/21

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.807	130	466925	6.46	ppbv		0.00
36) 1,4-Oifluorobenzene(I)	10.908	114	1677644	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	128657	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	212968	7.16	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 106.55%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
2) Dichlorodifluoromethane	4.087	85	1921634	12.23	99		12.23
3) Chloromethane	4.232	50	349120	10.08	99		10.08
4) Dichlorotetrafluoroethane	4.320	85	1668165	12.29	90		12.29
5) Vinyl Chloride	4.428	62	484674	10.30	98		10.30
6) 1,3-Butadiene	4.553	54	348135	8.42	97		8.42
7) Bromomethane	4.797	94	534948	13.24	99		13.24
8) Chloroethane	4.956	64	277278	11.47	99		11.47
9) Ethanol	5.064	45	133954	9.33	100		9.33
10) Acrolein	5.397	56	189000	11.55	98		11.55
11) Trichlorofluoromethane	5.695	101	1987394	14.77	98		14.77
12) Isopropanol	5.786	45	872391	9.21	99		9.21
13) Acetone	5.536	58	243665	6.98	87		6.98
14) Acrylonitrile	5.994	53	378903	8.05	# 100		8.05
15) n-Pentane	6.070	43	888295	9.67	# 100		9.67
16) Diethyl Ether	6.110	59	597533	10.88	99		10.88
17) 1,1-Dichloroethene	6.363	61	1307148	10.85	96		10.85
18) t-Butanol	6.437	59	1713893	11.26	# 99		11.26
19) Methylene Chloride	6.482	49	748608	10.62	93		10.62
20) 1,1,2-Trichlorotrifluo...	6.795	101	1967639	11.85	96		11.85
21) Carbon Disulfide	6.795	76	2352289	11.77	98		11.77
22) trans-1,2-Dichloroethene	7.508	61	1219311	11.37	97		11.37
23) MTBE	7.838	73	2694058	12.33	98		12.33
24) 1,1-Dichloroethane	7.727	63	1453646	11.30	99		11.30
25) Vinyl Acetate	7.912	86	235834	15.26	94		15.26
26) n-Hexane	8.893	57	1127952	9.73	97		9.73
27) 2-Butanone	8.188	43	1273132	10.06	98		10.06
28) cis-1,2-Dichloroethene	8.640	61	1161022	11.82	98		11.82
29) Chloroform	8.961	83	2157609	12.46	98		12.46
30) Ethyl Acetate	8.924	61	251533	11.92	99		11.92
31) Diisopropyl Ether	8.915	45	2328768	13.71	99		13.71
32) Tetrahydrofuran	9.415	42	973919	16.26	98		16.26
33) ETBE	9.495	59	2671252	11.86	100		11.86
34) 1,2-Dichloroethane	9.751	62	1305087	11.50	99		11.50
35) Methylcyclopentane	9.771	56	1530128	11.83	99		11.83
37) 1,1,1-Trichloroethane	10.026	97	2298156	12.76	99		12.76
38) Cyclohexane	10.811	56	1173218	11.89	99		11.89
39) Carbon Tetrachloride	10.674	117	2500471	13.18	100		13.18
40) Benzene	10.515	78	2639127	11.93	99		11.93
41) Dibromomethane	11.339	174	1274373	13.10	99		13.10
42) n-Heptane	11.985	43	1123490	12.81	95		12.81
43) 1,2-Dichloropropane	11.382	63	876670	12.30	99		12.30
44) Trichloroethene	11.638	95	1317708	12.56	99		12.56
45) Bromodichloromethane	11.584	83	2201228	12.33	99		12.33

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

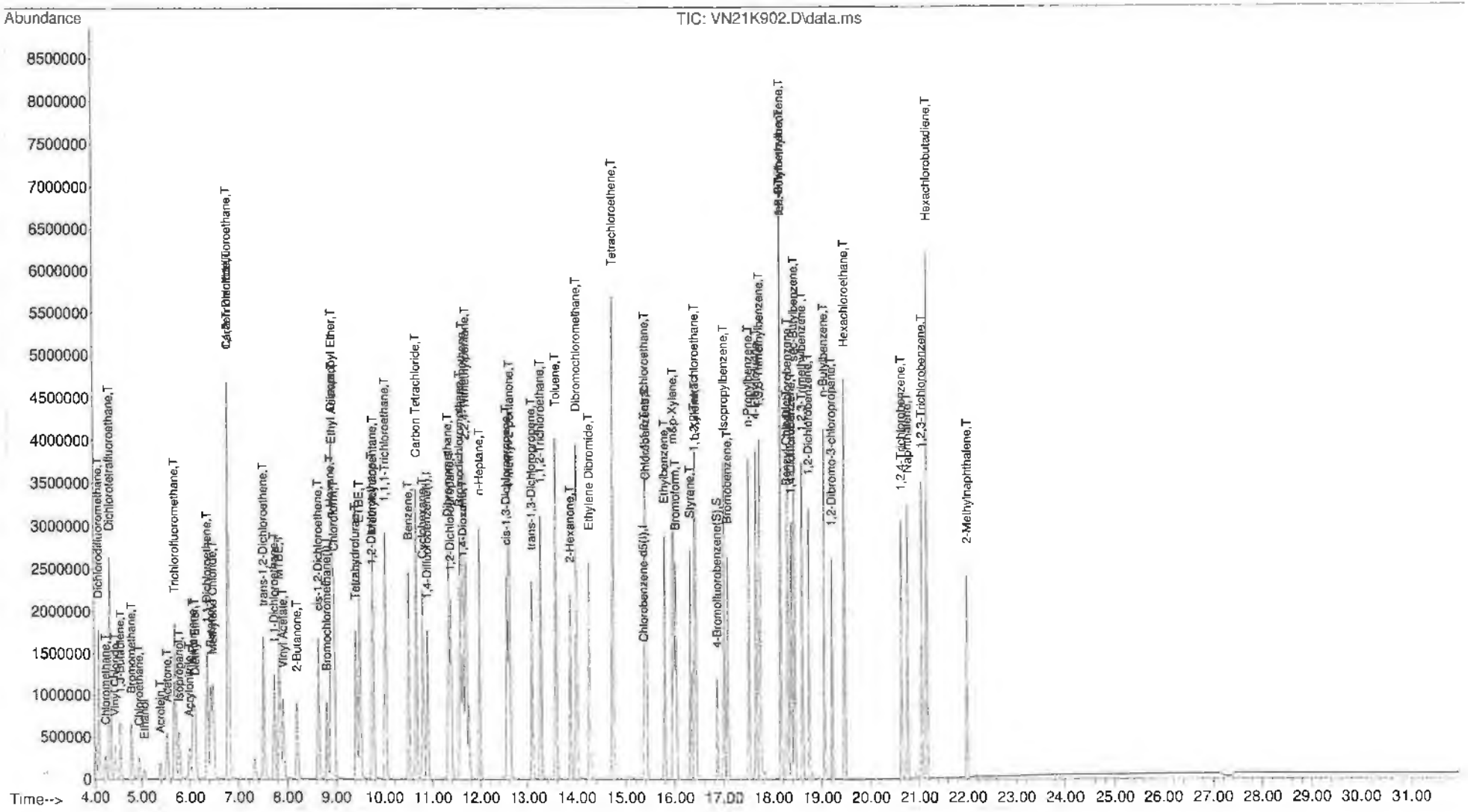
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.655	88	639021	13.03		#	73	13.03
47) 2,2,4-Trimethylpentane	11.703	57	3892633	12.63			98	12.63
48) cis-1,3-Dichloropropene	12.544	75	1654145	12.79			100	12.79
49) 4-Methyl-2-pentanone	12.616	58	775568	10.82			98	10.82
50) trans-1,3-Dichloropropene	13.099	75	1578167	13.04			99	13.04
51) 1,1,1,2-Tetrachloroethane	15.401	131	829291	13.34			97	13.34
53) 1,1,2-Trichloroethane	13.278	97	1161216	14.83			100	14.83
54) Toluene	13.585	91	3473430	14.15			100	14.15
55) 2-Hexanone	13.875	43	1413208	12.03		#	99	12.03
56) Dibromochloromethane	14.005	127	1874211	13.76			100	13.76
57) Ethylene Dibromide	14.261	107	1917741	15.03			100	15.03
58) Tetrachloroethene	14.747	166	1825287	15.14			99	15.14
59) Chlorobenzene	15.421	112	1413964	14.48			99	14.48
60) Ethylbenzene	15.799	91	2276438	14.01			100	14.01
61) m&p-Xylene	15.975	106	1774524	28.64			98	28.64
62) Bromoform	16.023	173	1326286	16.41		#	100	16.41
63) Styrene	16.322	104	1420761	15.34			100	15.34
64) 1,1,2,2-Tetrachloroethane	16.412	83	1242150	13.74			100	13.74
65) o-Xylene	16.430	91	1895476	14.07			99	14.07
67) Isopropylbenzene	17.009	105	2622753	15.42			100	15.42
68) n-Propylbenzene	17.515	91	3080807	16.33			99	16.33
69) 4-Ethyltoluene	17.663	105	2620049	14.49			99	14.49
70) 1,3,5-Trimethylbenzene	17.740	105	2360139	14.42			99	14.42
71) tert-Butylbenzene	18.157	119	2389726	15.76			99	15.76
72) 1,2,4-Trimethylbenzene	18.160	105	2151626	13.71			99	13.71
73) 1,3-Dichlorobenzene	18.311	146	1417211	19.41			100	19.41
74) Benzyl Chloride	18.291	91	1778501	19.32			100	19.32
75) 1,4-Dichlorobenzene	18.382	146	1334227	19.32			99	19.32
76) sec-Butylbenzene	18.439	105	3194401	15.27			100	15.27
77) 1,2,3-Trimethylbenzene	18.604	105	2287102	16.24			100	16.24
78) 1,2-Dichlorobenzene	18.740	146	140B608	15.13			99	15.13
79) n-Butylbenzene	19.056	91	2337301	13.12			99	13.12
80) Bromobenzene	17.083	77	1248745	14.84			98	14.84
81) 1,2-Dibromo-3-chloropr...	19.206	157	856424	23.42			97	23.42
82) Hexachloroethane	19.465	117	990663	13.61			97	13.61
83) 1,2,4-Trichlorobenzene	20.636	180	998301	14.79			99	14.79
84) Naphthalene	20.761	128	2633772	14.90			99	14.90
85) 1,2,3-Trichlorobenzene	21.056	180	1146393	16.08			99	16.08
86) Hexachlorobutadiene	21.170	225	1224551	12.84			99	12.84
87) 2-Methylnaphthalene	21.991	142	1153644	13.60			99	13.60

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.807	130	466925	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1677644	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	128657	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	212968	7.16	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 106.55%				
Target Compounds (Multiplier applied to Results = ND)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.087	85	1921634	12.23		99	12.23
3) Chloromethane	4.232	50	349120	10.08		99	10.08
4) Dichlorotetrafluoroethane	4.320	85	1668165	12.29		90	12.29
5) Vinyl Chloride	4.428	62	484674	10.30		98	10.30
6) 1,3-Butadiene	4.553	54	348135	8.42		97	8.42
7) Bromomethane	4.797	94	534948	13.24		99	13.24
8) Chloroethane	4.956	64	277278	11.47		99	11.47
9) Ethanol	5.064	45	133954	9.33		100	9.33
10) Acrolein	5.397	56	189000	11.55		98	11.55
11) Trichlorofluoromethane	5.695	101	1987394	14.77		98	14.77
12) Isopropanol	5.786	45	872391	9.21		99	9.21
13) Acetone	5.536	58	243665	6.98		87	6.98
14) Acrylonitrile	5.994	53	378903	8.05	#	100	8.05
15) n-Pentane	6.070	43	888295	9.67	#	100	9.67
16) Diethyl Ether	6.110	59	597533	10.88		99	10.88
17) 1,1-Dichloroethene	6.363	61	1307148	10.85		96	10.85
18) t-Butanol	6.437	59	1713893	11.26	#	99	11.26
19) Methylene Chloride	6.482	49	748608	10.62		93	10.62
20) 1,1,2-Trichlorotrifluo...	6.795	101	1967639	11.85		96	11.85
21) Carbon Disulfide	6.795	76	2352289	11.77		98	11.77
22) trans-1,2-Dichloroethene	7.508	61	1219311	11.37		97	11.37
23) MTBE	7.838	73	2694058	12.33		98	12.33
24) 1,1-Dichloroethane	7.727	63	1453646	11.30		99	11.30
25) Vinyl Acetate	7.912	86	235834	15.26		94	15.26
26) n-Hexane	8.893	57	1127952	9.73		97	9.73
27) 2-Butanone	8.188	43	1273132	10.06		98	10.06
28) cis-1,2-Dichloroethene	8.640	61	1161022	11.82		98	11.82
29) Chloroform	8.961	83	2157609	12.46		98	12.46
30) Ethyl Acetate	8.924	61	251533	11.92		99	11.92
31) Diisopropyl Ether	8.915	45	2328768	13.71		99	13.71
32) Tetrahydrofuran	9.415	42	973919	16.26		98	16.26
33) ETBE	9.495	59	2671252	11.86		100	11.86
34) 1,2-Dichloroethane	9.751	62	1305087	11.50		99	11.50
35) Methylcyclopentane	9.771	56	1530128	11.83		99	11.83
37) 1,1,1-Trichloroethane	10.026	97	2298156	12.76		99	12.76
38) Cyclohexane	10.811	56	1173218	11.89		99	11.89
39) Carbon Tetrachloride	10.674	117	2500471	13.18		100	13.18
40) Benzene	10.515	78	2639127	11.93		99	11.93
41) Dibromomethane	11.339	174	1274373	13.10		99	13.10
42) n-Heptane	11.985	43	1123490	12.81		95	12.81
43) 1,2-Dichloropropane	11.382	63	876670	12.30		99	12.30
44) Trichloroethene	11.638	95	1317708	12.56		99	12.56
45) Bromodichloromethane	11.584	83	2201228	12.33		99	12.33

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLC501
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

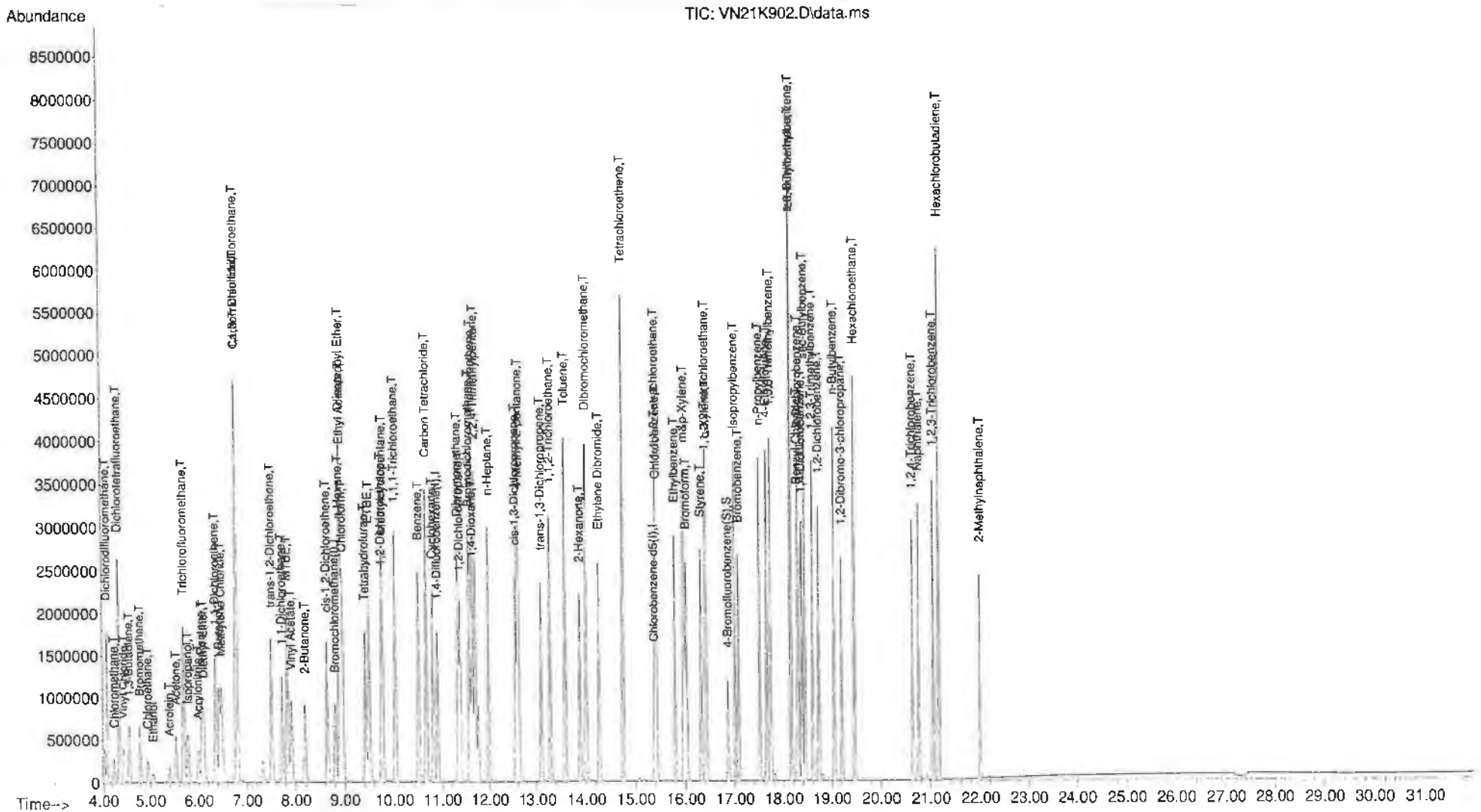
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.655	88	639021	13.03		#	73	13.03
47) 2,2,4-Trimethylpentane	11.703	57	3892633	12.63			98	12.63
48) cis-1,3-Dichloropropene	12.544	75	1654145	12.79			100	12.79
49) 4-Methyl-2-pentanone	12.616	58	775568	10.82			98	10.82
50) trans-1,3-Dichloropropene	13.099	75	1578167	13.04			99	13.04
51) 1,1,1,2-Tetrachloroethane	15.401	131	829291	13.34			97	13.34
53) 1,1,2-Trichloroethane	13.278	97	1161216	14.83			100	14.83
54) Toluene	13.585	91	3473430	14.15			100	14.15
55) 2-Hexanone	13.875	43	1413208	12.03		#	99	12.03
56) Dibromochloromethane	14.005	127	1874211	13.76			100	13.76
57) Ethylene Dibromide	14.261	107	1917741	15.03			100	15.03
58) Tetrachloroethene	14.747	166	18252B7	15.14			99	15.14
S9) Chlorobenzene	15.421	112	1413964	14.48			99	14.48
60) Ethylbenzene	15.799	91	2276438	14.01			100	14.01
61) m&p-Xylene	15.975	106	1774524	28.64			98	28.64
62) Bromoform	16.023	173	1326286	16.41		#	100	16.41
63) Styrene	16.322	104	1420761	15.34			100	15.34
64) 1,1,2,2-Tetrachloroethane	16.412	83	1242150	13.74			100	13.74
65) o-Xylene	16.430	91	1895476	14.07			99	14.07
67) Isopropylbenzene	17.009	105	2622753	15.42			100	15.42
68) n-Propylbenzene	17.515	91	3080807	16.33			99	16.33
69) 4-Ethyltoluene	17.663	105	2620049	14.49			99	14.49
70) 1,3,5-Trimethylbenzene	17.740	105	2360139	14.42			99	14.42
71) tert-Butylbenzene	18.157	119	2389726	15.76			99	15.76
72) 1,2,4-Trimethylbenzene	18.160	105	2151626	13.71			99	13.71
73) 1,3-Dichlorobenzene	18.311	146	1417211	19.41			100	19.41
74) Benzyl Chloride	18.291	91	1778501	19.32			100	19.32
75) 1,4-Dichlorobenzene	18.382	146	1334227	19.32			99	19.32
76) sec-Butylbenzene	18.439	105	3194401	15.27			100	15.27
77) 1,2,3-Trimethylbenzene	18.604	105	2287102	16.24			100	16.24
78) 1,2-Dichlorobenzene	18.740	146	1408608	15.13			99	15.13
79) n-Butylbenzene	19.056	91	2337301	13.12			99	13.12
80) Bromobenzene	17.083	77	1248745	14.84			98	14.84
81) 1,2-Dibromo-3-chloropr...	19.206	157	856424	23.42			97	23.42
82) Hexachloroethane	19.465	117	990663	13.61			97	13.61
83) 1,2,4-Trichlorobenzene	20.636	180	998301	14.79			99	14.79
84) Naphthalene	20.761	128	2633772	14.90			99	14.90
85) 1,2,3-Trichlorobenzene	21.056	180	1146393	16.08			99	16.08
86) Hexachlorobutadiene	21.170	225	1224551	12.84			99	12.84
87) 2-Methylnaphthalene	21.991	142	1153644	13.60			99	13.60

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K902.D
Acq On : 09 Nov 2021 12:35 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:08:02 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VLCS01
Inject Time:	11/9/2021 12:35:49 PM
Sample Start:	11/9/2021 12:21:12 PM
Sample End:	11/9/2021 12:23:43 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D7
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	24.8 (25)	5.28	23	22.35	1.95	3.09
Calibration Std			0.00				
Sample	201.2 (200)	100.6 (100)	2.50	17.66	13.23	2.86	5.16
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	93.2 (100)	1.00	24.73	22.11	3.41	4.27
M1/ M2 Transfer	100.6 (100)	22.6 (20)	5.58	24.84	24.34	4.29	5.43

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	62 (60)				119 (120)
M2	-47 (-50)	-47 (-50)	-47 (-50)	227 (230)		210 (210)
M2 Bulk Head	32 (32)			62 (62)		120 (120)
M3	3			-168 (-165)	72 (80)	-57
Rot Valve Plate	91/91 (90)					92/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	92 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	91 (80)
Sample:		Oven:	9 (0)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	47600 (47600)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

EM 11/10/21

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	466923	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1658635	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.378	54	123266	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	209243	7.34	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 109.23%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	1944240	12.37	99	12.37
3) Chloromethane	4.232	50	352790	10.18	100	10.18
4) Dichlorotetrafluoroethane	4.325	85	1679044	12.37 #	90	12.37
5) Vinyl Chloride	4.436	62	495699	10.54	99	10.54
6) 1,3-Butadiene	4.556	54	358697	8.67	96	8.67
7) Bromomethane	4.800	94	539906	13.36	100	13.36
8) Chloroethane	4.962	64	279180	11.55	99	11.55
9) Ethanol	5.070	45	131000	9.13	97	9.13
10) Acrolein	5.397	56	186596	11.40	100	11.40
11) Trichlorofluoromethane	5.698	101	1991544	14.80	98	14.80
12) Isopropanol	5.786	45	870773	9.20	99	9.20
13) Acetone	5.536	58	243757	6.98	87	6.98
14) Acrylonitrile	5.997	53	553975	11.77 #	96	11.77
15) n-Pentane	6.073	43	1056298	11.50 #	98	11.50
16) Diethyl Ether	6.116	59	639248	11.64	96	11.64
17) 1,1-Dichloroethene	6.369	61	1304538	10.83	96	10.83
18) t-Butanol	6.440	59	1743097	11.45 #	98	11.45
19) Methylene Chloride	6.494	49	745456	10.58	93	10.58
20) 1,1,2-Trichlorotrifluo...	6.798	101	1905771	11.48	95	11.48
21) Carbon Disulfide	6.804	76	2260315	11.31	98	11.31
22) trans-1,2-Dichloroethene	7.511	61	1202950	11.22	98	11.22
23) MTBE	7.841	73	2636938	12.07	97	12.07
24) 1,1-Dichloroethane	7.733	63	1417520	11.02	100	11.02
25) Vinyl Acetate	7.921	86	238345	15.42	86	15.42
26) n-Hexane	8.898	57	1099263	9.48	96	9.48
27) 2-Butanone	8.191	43	1215758	9.61	97	9.61
28) cis-1,2-Dichloroethene	8.637	61	1131537	11.52	98	11.52
29) Chloroform	8.958	83	2120428	12.25	98	12.25
30) Ethyl Acetate	8.932	61	243715	11.55	99	11.55
31) Diisopropyl Ether	8.918	45	2247314	13.23	98	13.23
32) Tetrahydrofuran	9.418	42	951622	15.89	97	15.89
33) ETBE	9.498	59	2621566	11.64	99	11.64
34) 1,2-Dichloroethane	9.751	62	1278447	11.27	99	11.27
35) Methylcyclopentane	9.774	56	1490266	11.52	99	11.52
37) 1,1,1-Trichloroethane	10.029	97	2264168	12.71	98	12.71
38) Cyclohexane	10.811	56	1154953	11.84	99	11.84
39) Carbon Tetrachloride	10.675	117	2475935	13.20	100	13.20
40) Benzene	10.518	78	2586388	11.82	99	11.82
41) Dibromomethane	11.340	174	1277092	13.28	99	13.28
42) n-Heptane	11.988	43	1092689	12.60	95	12.60
43) 1,2-Dichloropropane	11.385	63	837225	11.88	98	11.88
44) Trichloroethene	11.635	95	1288484	12.42	98	12.42
45) Bromodichloromethane	11.581	83	2155062	12.21	99	12.21

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

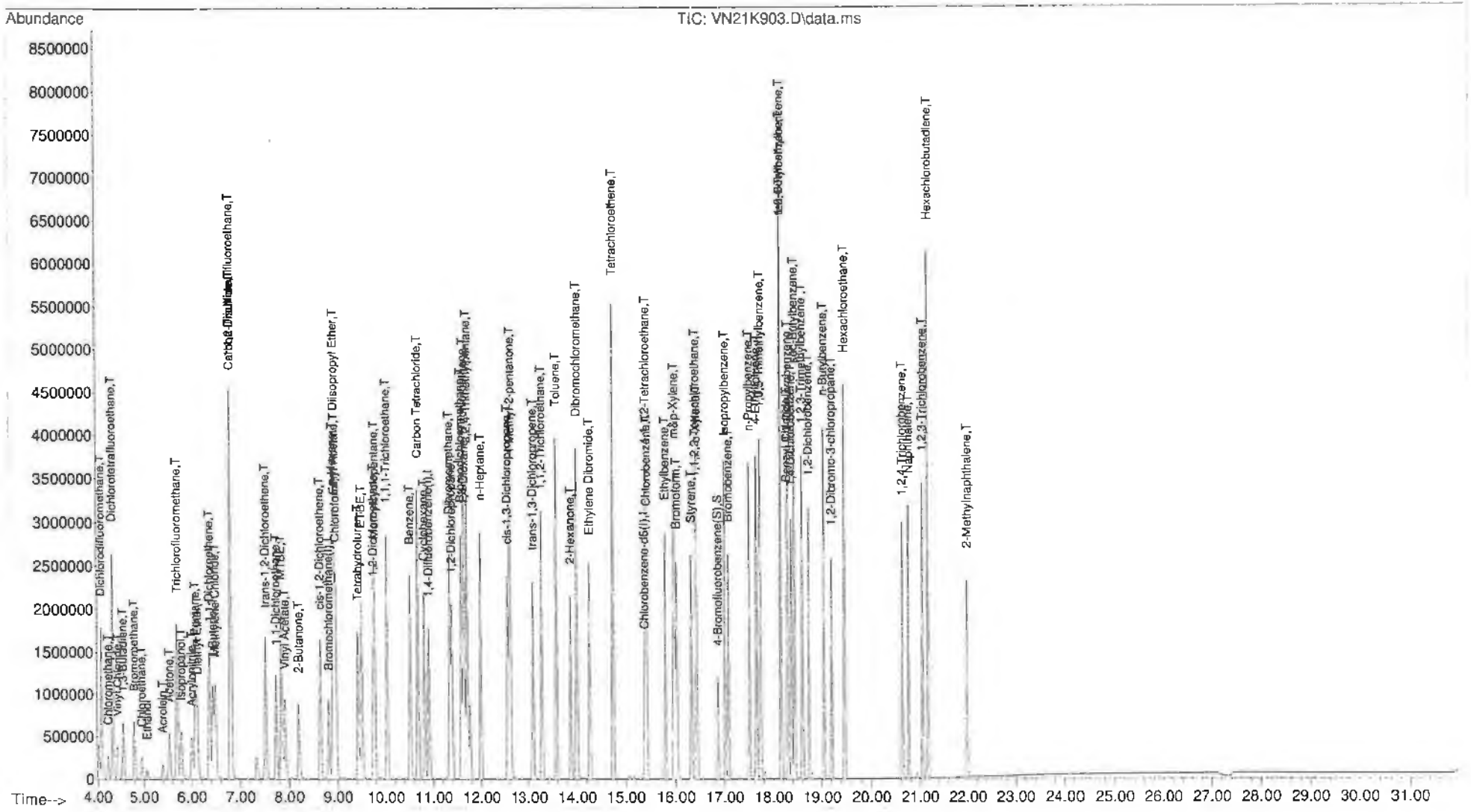
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.652	88	637761	13.15		#	79	13.15
47) 2,2,4-Trimethylpentane	11.706	57	3704246	12.16			99	12.16
48) cis-1,3-Dichloropropene	12.547	75	1612311	12.61			100	12.61
49) 4-Methyl-2-pentanone	12.613	58	759259	10.72			98	10.72
50) trans-1,3-Dichloropropene	13.102	75	1544581	12.91			99	12.91
51) 1,1,1,2-Tetrachloroethane	15.404	131	825689	13.44			96	13.44
53) 1,1,2-Trichloroethane	13.281	97	1140797	15.21			100	15.21
54) Toluene	13.582	91	3402991	14.47			100	14.47
55) 2-Hexanone	13.877	43	1357036	12.06		#	99	12.06
56) Dibromochloromethane	14.005	127	1866236	14.31			99	14.31
57) Ethylene Dibromide	14.258	107	1898065	15.53			100	15.53
58) Tetrachloroethene	14.744	166	1795870	15.55			99	15.55
59) Chlorobenzene	15.424	112	1393713	14.90			99	14.90
60) Ethylbenzene	15.799	91	2237418	14.37			100	14.37
61) m&p-Xylene	15.983	106	1751361	29.51			99	29.51
62) Bromoform	16.026	173	1315699	16.99		#	100	16.99
63) Styrene	16.322	104	1393089	15.70			100	15.70
64) 1,1,2,2-Tetrachloroethane	16.410	83	1215621	14.04			99	14.04
65) o-Xylene	16.430	91	1852933	14.35			100	14.35
67) Isopropylbenzene	17.012	105	2585655	15.86			100	15.86
68) n-Propylbenzene	17.515	91	3025494	16.74			99	16.74
69) 4-Ethyltoluene	17.663	105	2578569	14.88			98	14.88
70) 1,3,5-Trimethylbenzene	17.740	105	2334782	14.89			99	14.89
71) tert-Butylbenzene	18.158	119	2357231	16.23			99	16.23
72) 1,2,4-Trimethylbenzene	18.160	105	2127987	14.15			99	14.15
73) 1,3-Dichlorobenzene	18.311	146	1396935	19.97			100	19.97
74) Benzyl Chloride	18.291	91	1733333	19.65			99	19.65
75) 1,4-Dichlorobenzene	18.379	146	1316007	19.89			99	19.89
76) sec-Butylbenzene	18.439	105	3145765	15.69			100	15.69
77) 1,2,3-Trimethylbenzene	18.601	105	2262464	16.77			99	16.77
78) 1,2-Dichlorobenzene	18.740	146	1400887	15.70			99	15.70
79) n-Butylbenzene	19.053	91	2285568	13.40			99	13.40
80) Bromobenzene	17.083	77	1226539	15.21			97	15.21
81) 1,2-Dibromo-3-chloropr...	19.209	157	846356	24.15			97	24.15
82) Hexachloroethane	19.465	117	973927	13.97			96	13.97
83) 1,2,4-Trichlorobenzene	20.636	180	985469	15.24			99	15.24
84) Naphthalene	20.761	128	2594528	15.32			99	15.32
85) 1,2,3-Trichlorobenzene	21.056	180	1124566	16.46			100	16.46
86) Hexachlorobutadiene	21.170	225	1232113	13.49			99	13.49
87) 2-Methylnaphthalene	21.989	142	1127099	13.86			99	13.86

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	466923	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1658635	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.378	54	123266	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	209243	7.34	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 109.23%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	1944240	12.37		99	12.37
3) Chloromethane	4.232	50	352790	10.18		100	10.18
4) Dichlorotetrafluoroethane	4.325	85	1679044	12.37	#	90	12.37
5) Vinyl Chloride	4.436	62	495699	10.54		99	10.54
6) 1,3-Butadiene	4.556	54	358697	8.67		96	8.67
7) Bromomethane	4.800	94	539906	13.36		100	13.36
8) Chloroethane	4.962	64	279180	11.55		99	11.55
9) Ethanol	5.070	45	131000	9.13		97	9.13
10) Acrolein	5.397	56	186596	11.40		100	11.40
11) Trichlorofluoromethane	5.698	101	1991544	14.80		98	14.80
12) Isopropanol	5.786	45	870773	9.20		99	9.20
13) Acetone	5.536	58	243757	6.98		87	6.98
14) Acrylonitrile	5.997	53	553975	11.77	#	96	11.77
15) n-Pentane	6.073	43	1056298	11.50	#	98	11.50
16) Diethyl Ether	6.116	59	639248	11.64		96	11.64
17) 1,1-Dichloroethene	6.369	61	1304538	10.83		96	10.83
18) t-Butanol	6.440	59	1743097	11.45	#	98	11.45
19) Methylene Chloride	6.494	49	745456	10.58		93	10.58
20) 1,1,2-Trichlorotrifluo...	6.798	101	1905771	11.48		95	11.48
21) Carbon Disulfide	6.804	76	2260315	11.31		98	11.31
22) trans-1,2-Dichloroethene	7.511	61	1202950	11.22		98	11.22
23) MTBE	7.841	73	2636938	12.07		97	12.07
24) 1,1-Dichloroethane	7.733	63	1417520	11.02		100	11.02
25) Vinyl Acetate	7.921	86	238345	15.42		86	15.42
26) n-Hexane	8.898	57	1099263	9.48		96	9.48
27) 2-Butanone	8.191	43	1215758	9.61		97	9.61
28) cis-1,2-Dichloroethene	8.637	61	1131537	11.52		98	11.52
29) Chloroform	8.958	83	2120428	12.25		98	12.25
30) Ethyl Acetate	8.932	61	243715	11.55		99	11.55
31) Diisopropyl Ether	8.918	45	2247314	13.23		98	13.23
32) Tetrahydrofuran	9.418	42	951622	15.89		97	15.89
33) ETBE	9.498	59	2621566	11.64		99	11.64
34) 1,2-Dichloroethane	9.751	62	1278447	11.27		99	11.27
35) Methylcyclopentane	9.774	56	1490266	11.52		99	11.52
37) 1,1,1-Trichloroethane	10.029	97	2264168	12.71		98	12.71
38) Cyclohexane	10.811	56	1154953	11.84		99	11.84
39) Carbon Tetrachloride	10.675	117	2475935	13.20		100	13.20
40) Benzene	10.518	78	2586388	11.82		99	11.82
41) Dibromomethane	11.340	174	1277092	13.28		99	13.28
42) n-Heptane	11.988	43	1092689	12.60		95	12.60
43) 1,2-Dichloropropane	11.385	63	837225	11.88		98	11.88
44) Trichloroethene	11.635	95	1288484	12.42		98	12.42
45) Bromodichloromethane	11.581	83	2155062	12.21		99	12.21

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

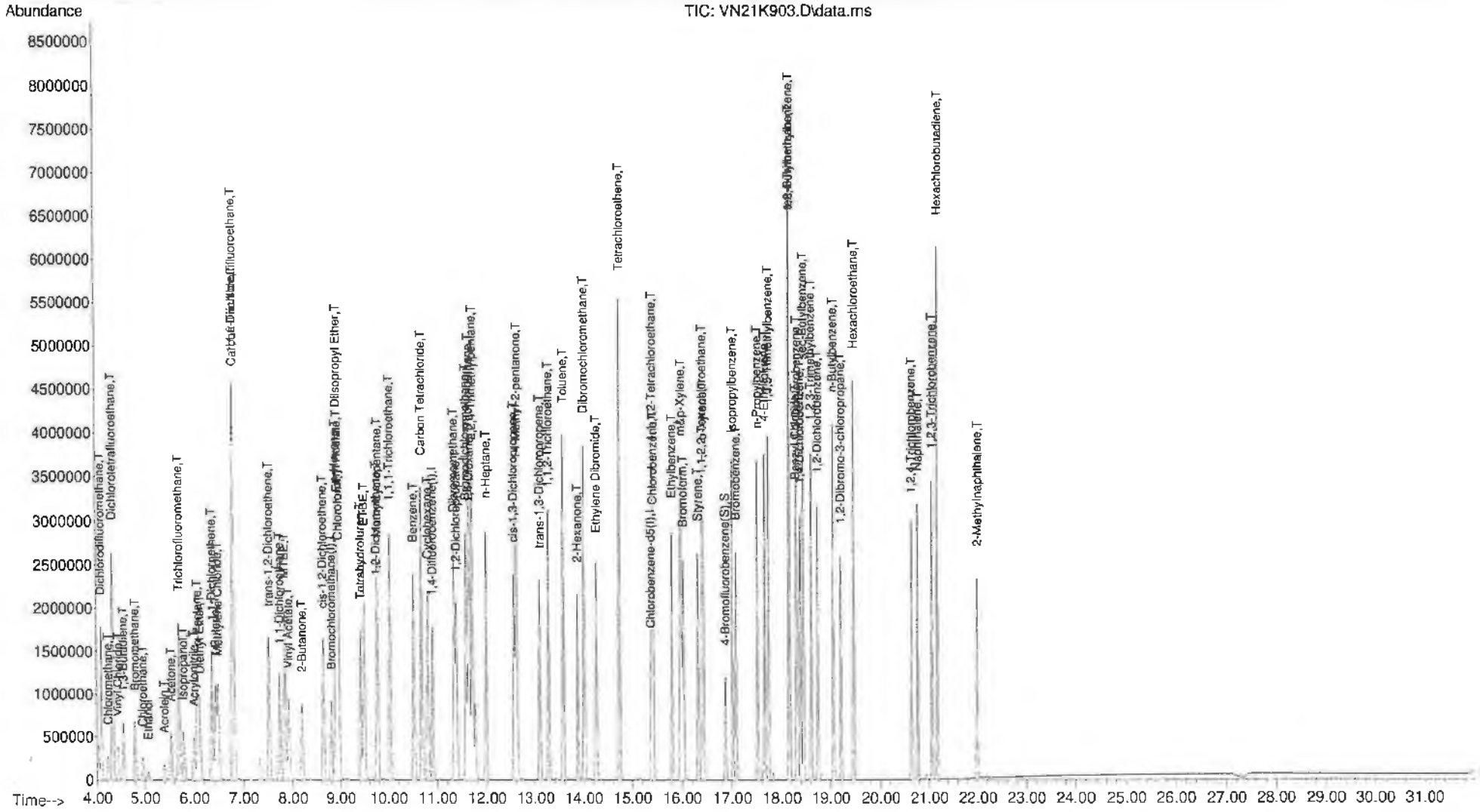
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.652	88	637761	13.15		#	79	13.15
47) 2,2,4-Trimethylpentane	11.706	57	3704246	12.16			99	12.16
48) cis-1,3-Dichloropropene	12.547	75	1612311	12.61			100	12.61
49) 4-Methyl-2-pentanone	12.613	58	759259	10.72			98	10.72
50) trans-1,3-Dichloropropene	13.102	75	1544581	12.91			99	12.91
51) 1,1,1,2-Tetrachloroethane	15.404	131	825689	13.44			96	13.44
53) 1,1,2-Trichloroethane	13.281	97	1140797	15.21			100	15.21
54) Toluene	13.582	91	3402991	14.47			100	14.47
55) 2-Hexanone	13.877	43	1357036	12.06		#	99	12.06
56) Dibromochloromethane	14.005	127	1866236	14.31			99	14.31
57) Ethylene Dibromide	14.258	107	1898065	15.53			100	15.53
58) Tetrachloroethene	14.744	166	1795870	15.55			99	15.55
59) Chlorobenzene	15.424	112	1393713	14.90			99	14.90
60) Ethylbenzene	15.799	91	2237418	14.37			100	14.37
61) m&p-Xylene	15.983	106	1751361	29.51			99	29.51
62) Bromoform	16.026	173	1315699	16.99		#	100	16.99
63) Styrene	16.322	104	1393089	15.70			100	15.70
64) 1,1,2,2-Tetrachloroethane	16.410	83	1215621	14.04			99	14.04
65) o-Xylene	16.430	91	1852933	14.35			100	14.35
67) Isopropylbenzene	17.012	105	2585655	15.86			100	15.86
68) n-Propylbenzene	17.515	91	3025494	16.74			99	16.74
69) 4-Ethyltoluene	17.663	105	2578569	14.88			98	14.88
70) 1,3,5-Trimethylbenzene	17.740	105	2334782	14.89			99	14.89
71) tert-Butylbenzene	18.158	119	2357231	16.23			99	16.23
72) 1,2,4-Trimethylbenzene	18.160	105	2127987	14.15			99	14.15
73) 1,3-Dichlorobenzene	18.311	146	1396935	19.97			100	19.97
74) Benzyl Chloride	18.291	91	1733333	19.65			99	19.65
75) 1,4-Dichlorobenzene	18.379	146	1316007	19.89			99	19.89
76) sec-Butylbenzene	18.439	105	3145765	15.69			100	15.69
77) 1,2,3-Trimethylbenzene	18.601	105	2262464	16.77			99	16.77
78) 1,2-Dichlorobenzene	18.740	146	1400887	15.70			99	15.70
79) n-Butylbenzene	19.053	91	2285568	13.40			99	13.40
80) Bromobenzene	17.083	77	1226539	15.21			97	15.21
81) 1,2-Dibromo-3-chloropr...	19.209	157	846356	24.15			97	24.15
82) Hexachloroethane	19.465	117	973927	13.97			96	13.97
83) 1,2,4-Trichlorobenzene	20.636	180	985469	15.24			99	15.24
84) Naphthalene	20.761	128	2594528	15.32			99	15.32
85) 1,2,3-Trichlorobenzene	21.056	180	1124566	16.46			100	16.46
86) Hexachlorobutadiene	21.170	225	1232113	13.49			99	13.49
87) 2-Methylnaphthalene	21.989	142	1127099	13.86			99	13.86

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K903.D
Acq On : 09 Nov 2021 01:23 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 13:56:01 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VLCD01
Inject Time:	11/9/2021 1:23:47 PM
Sample Start:	11/9/2021 1:09:15 PM
Sample End:	11/9/2021 1:11:48 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D7
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.32	22.84	22.19	1.95	3.09
Calibration Std			0.00				
Sample	200.8 (200)	93.2 (100)	2.53	17.13	12.51	2.87	5.16
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	91.1 (100)	1.00	24.69	22.03	3.35	4.22
M1/ M2 Transfer	100.6 (100)	24.8 (20)	5.60	24.82	24.28	4.15	5.3

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-46 (-50)	-47 (-50)	-49 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			61 (61)		120 (120)
M3	4			-176 (-165)	71 (80)	-64
Rot Valve Plate	91/92 (90)					91/90 (90)
GC Xfer Line					99 (100)	
4 Sample Line	92 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	91 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	47600 (47600)

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K904.D
Acq On : 09 Nov 2021 02:11 pm
Operator :
Sample : RNS
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 14:43:29 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

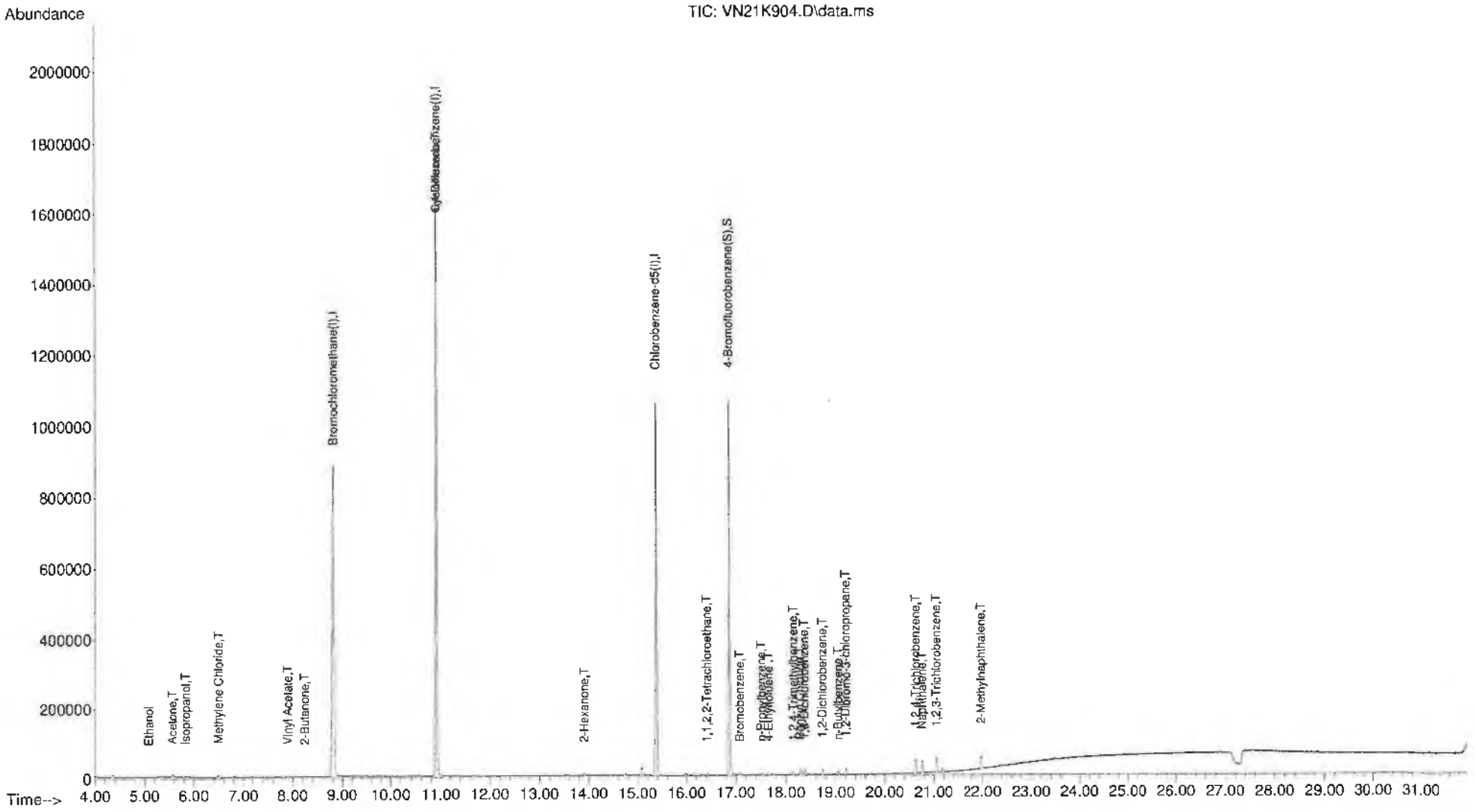
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.813	130	450216	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1639640	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	126359	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	194371	6.65	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 98.96%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
9) Ethanol	5.084	45	300	0.02	#	1	0.02
12) Isopropanol	5.829	45	2625	0.03	#	86	0.03
13) Acetone	5.562	58	4061	0.12	#	27	0.12
19) Methylene Chloride	6.494	49	4373	0.06	#	30	0.06
25) Vinyl Acetate	7.898	86	629	0.04	#	1	0.04
27) 2-Butanone	8.242	43	2651	0.02	#	61	0.02
38) Cyclohexane	10.902	56	30016	0.31	#	1	0.31
55) 2-Hexanone	13.903	43	3394	0.03	#	62	0.03
64) 1,1,2,2-Tetrachloroethane	16.410	83	1917	0.02	#	80	0.02
68) n-Propylbenzene	17.509	91	4680	0.03	#	76	0.03
69) 4-Ethyltoluene	17.657	105	4241	0.02	#	95	0.02
72) 1,2,4-Trimethylbenzene	18.157	105	3452	0.02	#	53	0.02
73) 1,3-Dichlorobenzene	18.373	146	5698	0.08		93	0.08
74) Benzyl Chloride	18.282	91	9128	0.10		98	0.10
75) 1,4-Dichlorobenzene	18.373	146	5698	0.08		91	0.08
78) 1,2-Dichlorobenzene	18.734	146	6583	0.07		97	0.07
79) n-Butylbenzene	19.053	91	5415	0.03	#	94	0.03
80) Bromobenzene	17.080	77	2727	0.03	#	92	0.03
81) 1,2-Dibromo-3-chloropr...	19.206	157	5814	0.16		95	0.16
83) 1,2,4-Trichlorobenzene	20.633	180	12581	0.19		99	0.19
84) Naphthalene	20.758	128	28640	0.16		98	0.16
85) 1,2,3-Trichlorobenzene	21.053	180	12484	0.18		98	0.18
87) 2-Methylnaphthalene	21.988	142	18158	0.22		95	0.22

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K904.D
Acq On : 09 Nov 2021 02:11 pm
Operator :
Sample : RNS
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 14:43:29 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K905.D
Acq On : 09 Nov 2021 03:01 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 15:34:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

KM 11/10/21

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.807	130	477097	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1692283	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	134133	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	197490	6.36	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 94.64%			

Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
12) Isopropanol	5.829	45	3277m	0.03			0.03
13) Acetone	5.565	58	7610	0.21	#	40	0.21
19) Methylene Chloride	6.494	49	5163	0.07	#	47	0.07
21) Carbon Disulfide	6.815	76	9324m	0.05			0.05
27) 2-Butanone	8.239	43	3868	0.03	#	80	0.03
61) m&p-Xylene	15.983	106	1400m	0.02			0.02
73) 1,3-Dichlorobenzene	18.314	146	1606m	0.02			0.02
74) Benzyl Chloride	18.291	91	2245	0.02	#	83	0.02
75) 1,4-Dichlorobenzene	18.379	146	1607	0.02		97	0.02
78) 1,2-Dichlorobenzene	18.732	146	2138	0.02	#	84	0.02
81) 1,2-Dibromo-3-chloropr...	19.212	157	2099	0.06	#	83	0.06
83) 1,2,4-Trichlorobenzene	20.630	180	3952	0.06	#	91	0.06
84) Naphthalene	20.764	128	12066	0.07	#	94	0.07
85) 1,2,3-Trichlorobenzene	21.054	180	5281	0.07		96	0.07
87) 2-Methylnaphthalene	21.991	142	6831	0.08		96	0.08

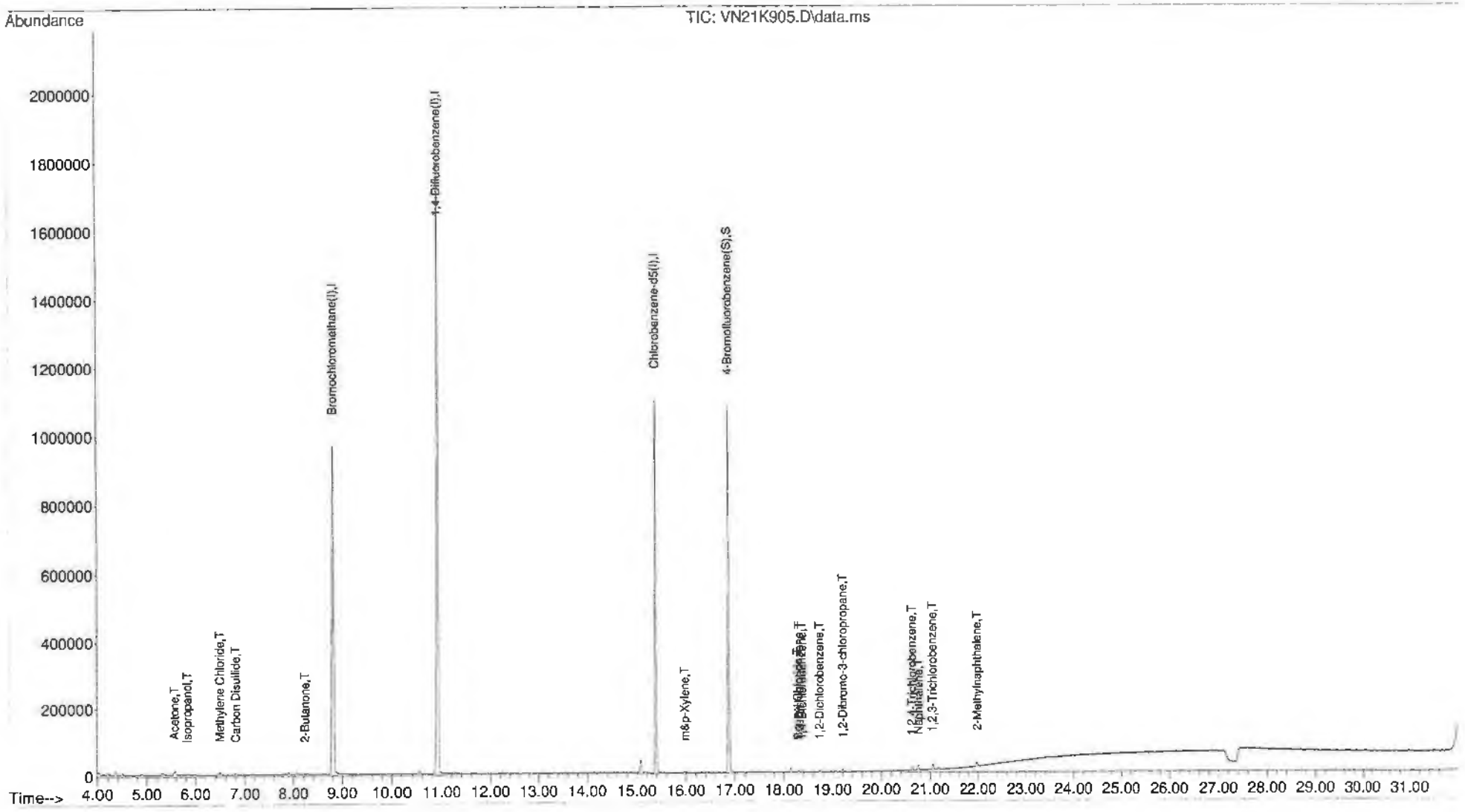
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K905.D
Acq On : 09 Nov 2021 03:01 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 15:34:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K905.D
Acq On : 09 Nov 2021 03:01 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 15:34:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

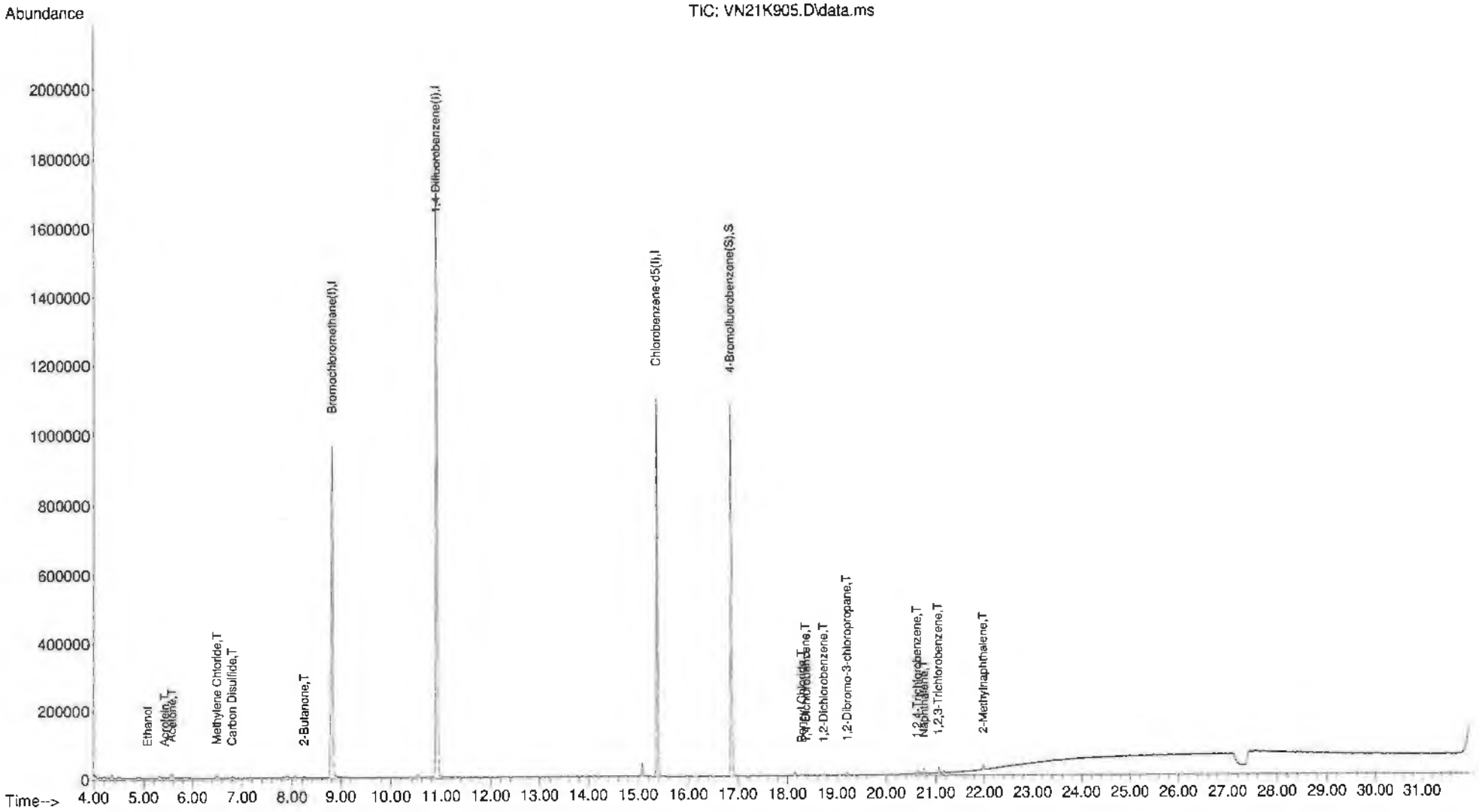
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.807	130	477097	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1692283	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	134133	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	197490	6.36	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 94.64%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
9) Ethanol	5.079	45	415	0.03	# 1	0.03
10) Acrolein	5.417	56	442	0.03	# 12	0.03
13) Acetone	5.565	58	7610	0.21	# 40	0.21
19) Methylene Chloride	6.494	49	5163	0.07	# 47	0.07
21) Carbon Disulfide	6.798	76	4625	0.02	98	0.02
27) 2-Butanone	8.239	43	3868	0.03	# 80	0.03
74) Benzyl Chloride	18.291	91	2245	0.02	# 83	0.02
75) 1,4-Dichlorobenzene	18.379	146	1607	0.02	97	0.02
78) 1,2-Dichlorobenzene	18.732	146	2138	0.02	# 84	0.02
81) 1,2-Dibromo-3-chloropr...	19.212	157	2099	0.06	# 83	0.06
83) 1,2,4-Trichlorobenzene	20.630	180	3952	0.06	# 91	0.06
84) Naphthalene	20.764	128	12066	0.07	# 94	0.07
85) 1,2,3-Trichlorobenzene	21.054	180	5281	0.07	96	0.07
87) 2-Methylnaphthalene	21.991	142	6831	0.08	96	0.08

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K905.D
Acq On : 09 Nov 2021 03:01 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 09 15:34:00 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VBLK01
Inject Time:	11/9/2021 3:01:46 PM
Sample Start:	11/9/2021 2:44:40 PM
Sample End:	11/9/2021 2:49:18 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.28	22.52	21.85	1.92	3.07
Calibration Std			0.00				
Sample	400.8 (400)	96.9 (100)	4.63	32.87	29.9	1.93	6.5
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	99 (100)	1.00	24.67	21.95	4.09	4.97
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.62	24.78	24.4	4.87	6.02

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	61 (60)				119 (120)
M2	-47 (-50)	-47 (-50)	-49 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		119 (119)
M3	5			-175 (-165)	71 (80)	-64
Rot Valve Plate	91/92 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	93 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	88 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	44400 (44400)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K906.D
Acq On : 09 Nov 2021 03:49 pm
Operator :
Sample : A05022-001.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

KM 11/10/21

Quant Time: Nov 09 16:21:22 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	461687	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1650171	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.378	54	132524	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(5)	16.867	75	195763	6.39	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.09%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	20768	0.13		98	0.13
9) Ethanol	5.079	45	43978	3.10		95	3.10
10) Acrolein	5.400	56	748m	0.05			0.05
11) Trichlorofluoromethane	5.695	101	8525	0.06	#	35	0.06
12) Isopropanol	5.812	45	24194	0.26		94	0.26
13) Acetone	5.550	58	20619	0.60	#	1	0.60
15) n-Pentane	6.079	43	4151	0.05	#	63	0.05
18) t-Butanol	6.477	59	15053	0.10	#	87	0.10
19) Methylene Chloride	6.500	49	8439	0.12	#	89	0.12
20) 1,1,2-Trichlorotrifluo...	6.804	101	3459m	0.02			0.02
21) Carbon Disulfide	6.801	76	11815	0.06	#	82	0.06
26) n-Hexane	8.898	57	11597m	0.10			0.10
27) 2-Butanone	8.225	43	11763	0.09	#	71	0.09
29) Chloroform	8.955	83	7291	0.04	#	93	0.04
35) Methylcyclopentane	9.774	56	5364	0.04	#	72	0.04
38) Cyclohexane	10.817	56	2214m	0.02			0.02
40) Benzene	10.518	78	6121m	0.03			0.03
42) n-Heptane	11.990	43	2159m	0.03			0.03
49) 4-Methyl-2-pentanone	12.627	58	3209	0.05	#	72	0.05
54) Toluene	13.585	91	16618	0.07		99	0.07
58) Tetrachloroethene	14.744	166	28422	0.23		97	0.23
60) Ethylbenzene	15.799	91	4113	0.02	#	78	0.02
61) m&p-Xylene	15.966	106	7238	0.11	#	90	0.11
65) o-Xylene	16.424	91	6214	0.04	#	91	0.04
68) n-Propylbenzene	17.512	91	6998	0.04	#	80	0.04
70) 1,3,5-Trimethylbenzene	17.740	105	7204	0.04		91	0.04
84) Naphthalene	20.761	128	11021	0.06	#	92	0.06
87) 2-Methylnaphthalene	21.991	142	5376	0.06		93	0.06

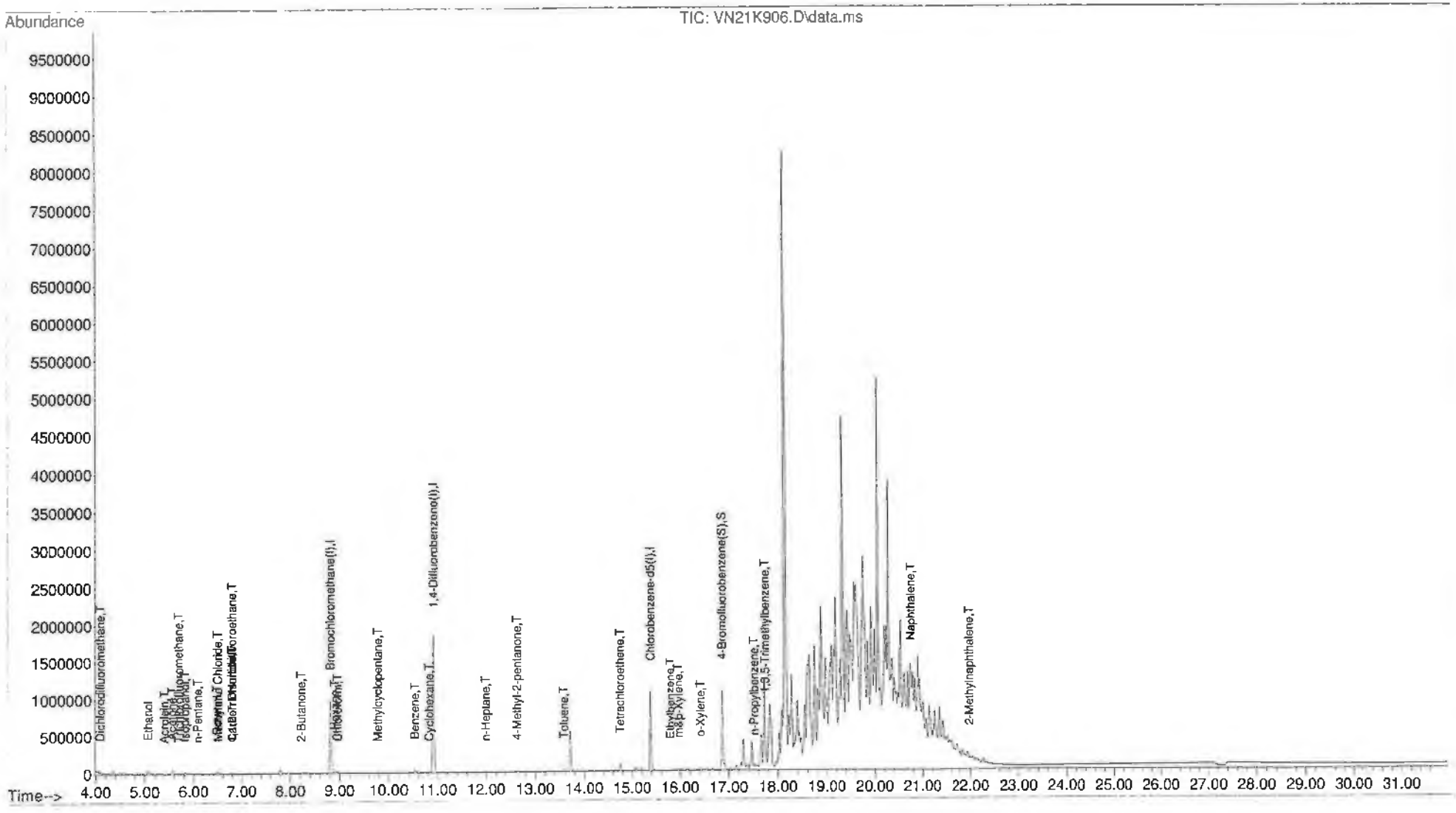
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K906.D
Acq On : 09 Nov 2021 03:49 pm
Operator :
Sample : A05022-001.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 16:21:22 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K906.D
Acq On : 09 Nov 2021 03:49 pm
Operator :
Sample : A05022-001.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 16:21:22 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

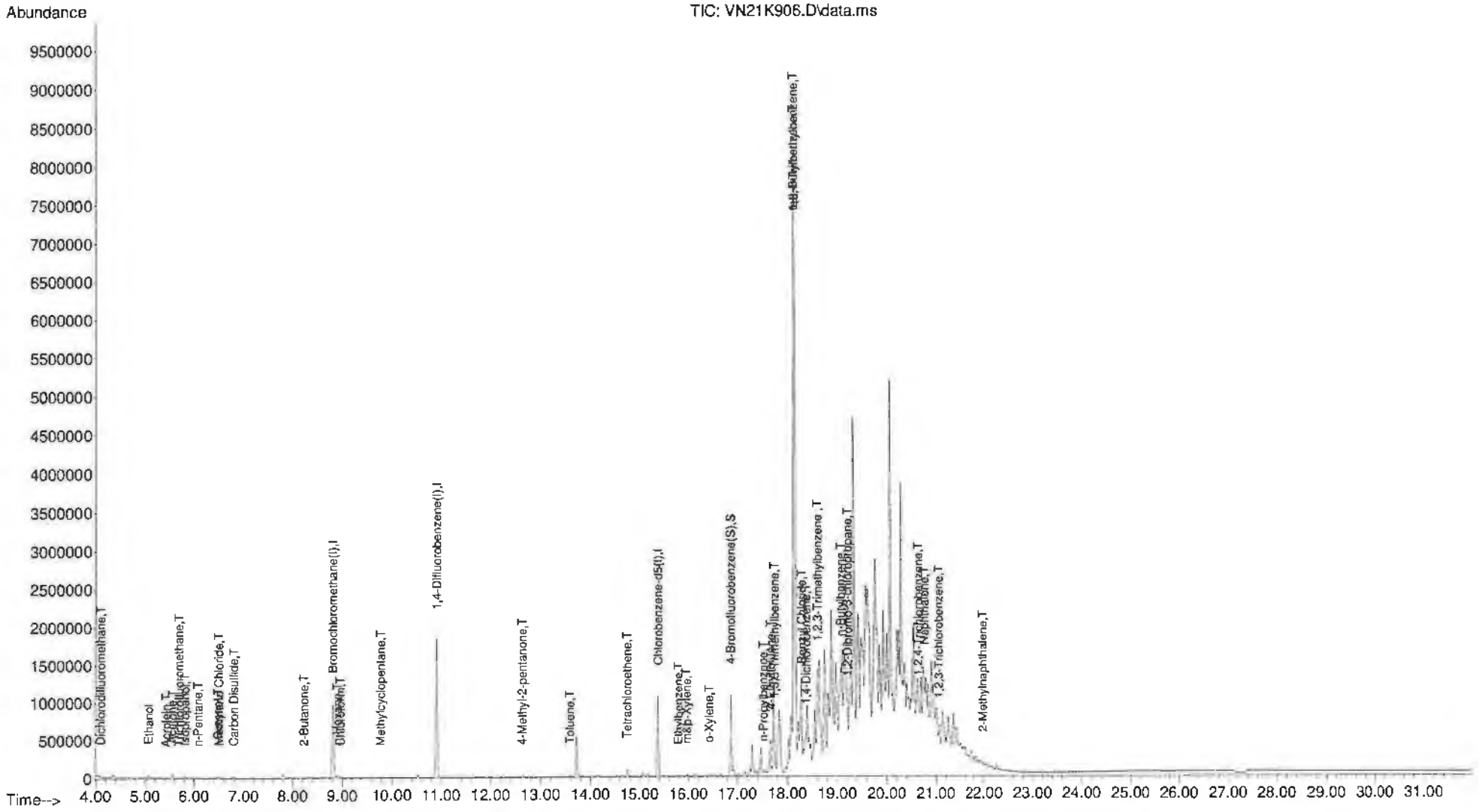
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	461687	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.910	114	1650171	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.378	54	132524	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	195763	6.39	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.09%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	20768	0.13		98	0.13
9) Ethanol	5.079	45	43978	3.10		95	3.10
10) Acrolein	5.422	56	396	0.02		89	0.02
11) Trichlorofluoromethane	5.695	101	8525	0.06	#	35	0.06
12) Isopropanol	5.812	45	24194	0.26		94	0.26
13) Acetone	5.550	58	20619	0.60	#	1	0.60
15) n-Pentane	6.079	43	4151	0.05	#	63	0.05
18) t-Butanol	6.477	59	15053	0.10	#	87	0.10
19) Methylene Chloride	6.500	49	8439	0.12	#	89	0.12
21) Carbon Disulfide	6.801	76	11815	0.06	#	82	0.06
26) n-Hexane	8.898	57	8471	0.07	#	21	0.07
27) 2-Butanone	8.225	43	11763	0.09	#	71	0.09
29) Chloroform	8.955	83	7291	0.04	#	93	0.04
35) Methylcyclopentane	9.774	56	5364	0.04	#	72	0.04
49) 4-Methyl-2-pentanone	12.627	58	3209	0.05	#	72	0.05
54) Toluene	13.585	91	16618	0.07		99	0.07
58) Tetrachloroethene	14.744	166	28422	0.23		97	0.23
60) Ethylbenzene	15.799	91	4113	0.02	#	78	0.02
61) m&p-Xylene	15.966	106	7238	0.11	#	90	0.11
65) o-Xylene	16.424	91	6214	0.04	#	91	0.04
68) n-Propylbenzene	17.512	91	6998	0.04	#	80	0.04
69) 4-Ethyltoluene	17.663	105	6233	0.03	#	1	0.03
70) 1,3,5-Trimethylbenzene	17.740	105	7204	0.04		91	0.04
71) tert-Butylbenzene	18.149	119	240171	1.54	#	20	1.54
72) 1,2,4-Trimethylbenzene	18.152	105	73156	0.45	#	58	0.45
74) Benzyl Chloride	18.285	91	4001	0.04	#	1	0.04
75) 1,4-Dichlorobenzene	18.373	146	1504	0.02	#	1	0.02
77) 1,2,3-Trimethylbenzene	18.601	105	7489	0.05	#	1	0.05
79) n-Butylbenzene	19.070	91	24276	0.13	#	31	0.13
81) 1,2-Dibromo-3-chloropr...	19.206	157	1602	0.04	#	1	0.04
83) 1,2,4-Trichlorobenzene	20.636	180	3259	0.05	#	94	0.05
84) Naphthalene	20.761	128	11021	0.06	#	92	0.06
85) 1,2,3-Trichlorobenzene	21.056	180	3286	0.04	#	83	0.04
87) 2-Methylnaphthalene	21.991	142	5376	0.06		93	0.06

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K906.D
Acq On : 09 Nov 2021 03:49 pm
Operator :
Sample : A05022-001.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 16:21:22 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	a05022-001.01
Inject Time:	11/9/2021 3:49:09 PM
Sample Start:	11/9/2021 3:35:07 PM
Sample End:	11/9/2021 3:36:47 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A1
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.9 (100)	29 (25)	5.32	22.39	21.72	1.95	3.1
Calibration Std			0.00				
Sample	100.6 (100)	84.8 (100)	1.65	14.07	7.37	2.87	4.02
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	99 (100)	1.00	24.72	22.03	2.76	3.63
M1/ M2 Transfer	100.6 (100)	19 (20)	5.60	24.84	24.41	3.58	4.72

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				120 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		119 (119)
M3	0			-172 (-165)	71 (80)	-62
Rot Valve Plate	91/90 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	89 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	14992 (14992)
Y:	1525 (1524)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K907.D
Acq On : 09 Nov 2021 04:36 pm
Operator :
Sample : A05022-002.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:08:27 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

JCM 11/10/21

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.807	130	383947	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1402370	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.372	54	101150	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	164701	7.04	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 104.76%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.087	85	16682	0.13	97	0.13
9) Ethanol	5.079	45	43038	3.65	93	3.65
10) Acrolein	5.397	56	317	0.02 #	14	0.02
11) Trichlorofluoromethane	5.704	101	7495m b	0.07		0.07
12) Isopropanol	5.817	45	13505	0.17 #	60	0.17
13) Acetone	5.547	58	15223	0.53 #	82	0.53
15) n-Pentane	6.073	43	2868m b	0.04		0.04
19) Methylene Chloride	6.488	49	3927	0.07 #	73	0.07
21) Carbon Disulfide	6.806	76	17435	0.11 #	75	0.11
26) n-Hexane	8.892	57	11691	0.12 #	5	0.12
27) 2-Butanone	8.219	43	5706	0.05 #	92	0.05
29) Chloroform	8.955	83	26519	0.19 #	86	0.19
35) Methylcyclopentane	9.771	56	6428	0.06 #	78	0.06
40) Benzene	10.507	78	4248	0.02 #	63	0.02
49) 4-Methyl-2-pentanone	12.630	58	2779m b	0.05		0.05
54) Toluene	13.588	91	17053	0.09	99	0.09
58) Tetrachloroethene	14.744	166	33778	0.36	97	0.36
61) m&p-Xylene	15.966	106	3636	0.07 #	83	0.07
65) o-Xylene	16.424	91	3664	0.03	94	0.03
68) n-Propylbenzene	17.515	91	3872	0.03 #	87	0.03
69) 4-Ethyltoluene	17.660	105	4234	0.03 #	92	0.03
70) 1,3,5-Trimethylbenzene	17.737	105	6068	0.05 #	39	0.05
77) 1,2,3-Trimethylbenzene	18.598	105	5400	0.05 #	1	0.05
83) 1,2,4-Trichlorobenzene	20.636	180	1979m	0.04		0.04
84) Naphthalene	20.758	128	7656	0.06 #	93	0.06
85) 1,2,3-Trichlorobenzene	21.053	180	3248	0.06 #	77	0.06
86) Hexachlorobutadiene	21.167	225	1680	0.02	90	0.02
87) 2-Methylnaphthalene	21.988	142	4006	0.06 #	91	0.06

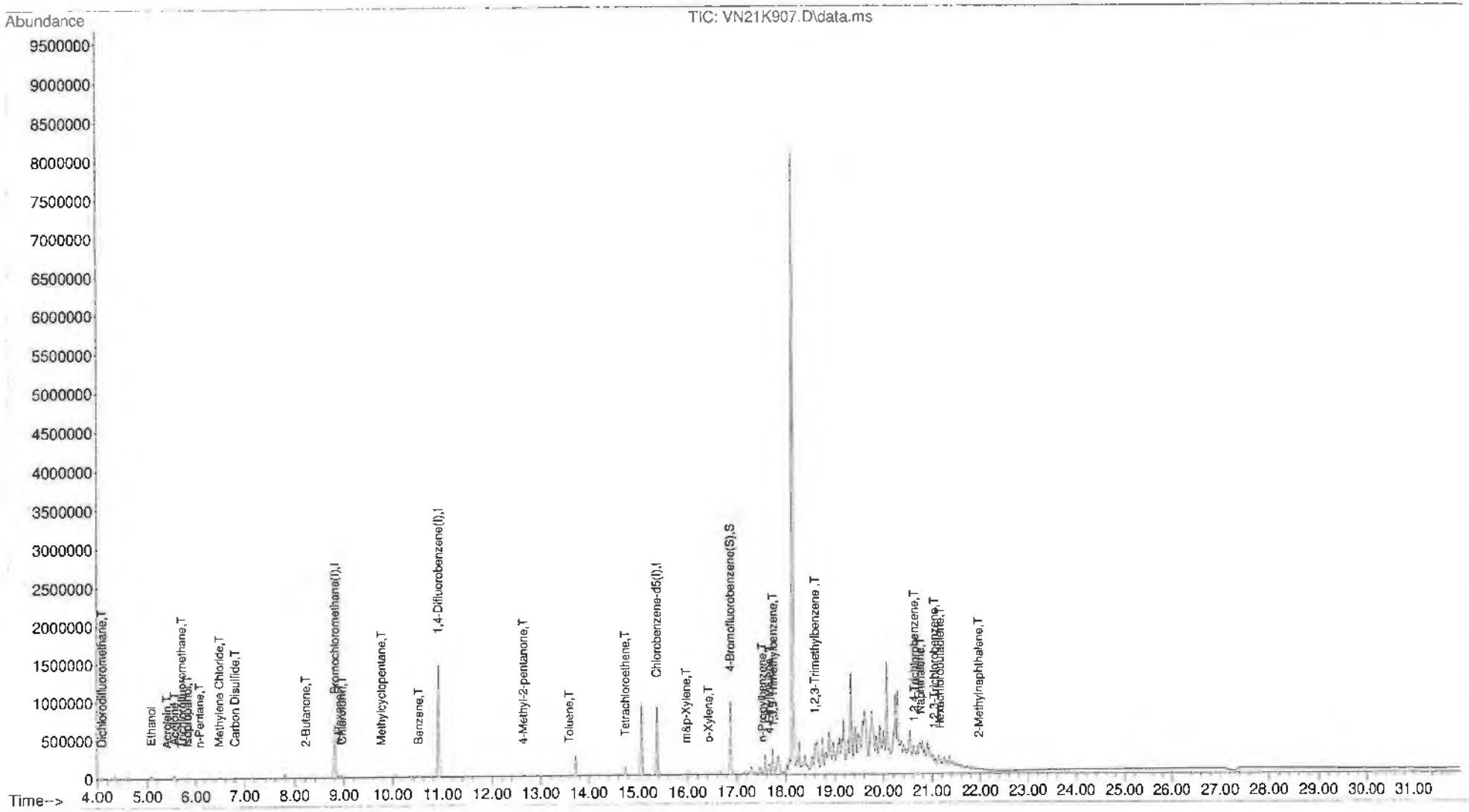
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K907.D
Acq On : 09 Nov 2021 04:36 pm
Operator :
Sample : A05022-002.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:08:27 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K907.D
Acq On : 09 Nov 2021 04:36 pm
Operator :
Sample : A05022-002.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:08:27 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

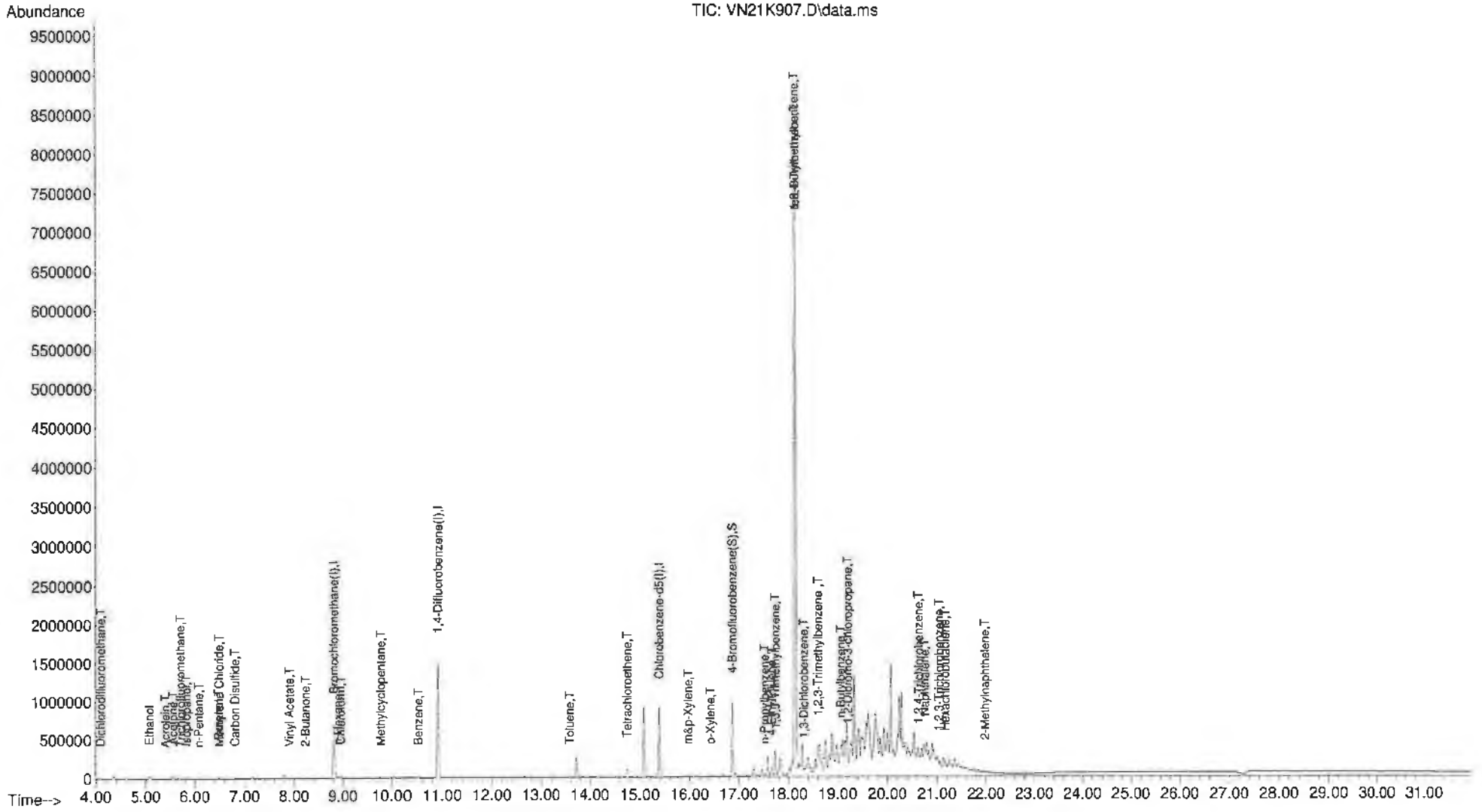
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.807	130	383947	6.46	ppbv	#	0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1402370	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.372	54	101150	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.864	75	164701	7.04	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 104.76%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
2) Dichlorodifluoromethane	4.087	85	16682	0.13		97	0.13
9) Ethanol	5.079	45	43038	3.65		93	3.65
10) Acrolein	5.397	56	317	0.02	#	14	0.02
11) Trichlorofluoromethane	5.704	101	4406	0.04	#	37	0.04
12) Isopropanol	5.817	45	13505	0.17	#	60	0.17
13) Acetone	5.547	58	15223	0.53	#	82	0.53
15) n-Pentane	6.073	43	1777	0.02	#	90	0.02
18) t-Butanol	6.480	59	8786	0.07	#	89	0.07
19) Methylene Chloride	6.488	49	3927	0.07	#	73	0.07
21) Carbon Disulfide	6.806	76	17435	0.11	#	75	0.11
25) Vinyl Acetate	7.898	86	327	0.03	#	1	0.03
26) n-Hexane	8.892	57	11691	0.12	#	5	0.12
27) 2-Butanone	8.219	43	5706	0.05	#	92	0.05
29) Chloroform	8.955	83	26519	0.19	#	86	0.19
35) Methylcyclopentane	9.771	56	6428	0.06	#	78	0.06
40) Benzene	10.507	78	4248	0.02	#	63	0.02
54) Toluene	13.588	91	17053	0.09		99	0.09
58) Tetrachloroethene	14.744	166	33778	0.36		97	0.36
61) m&p-Xylene	15.966	106	3636	0.07	#	83	0.07
65) o-Xylene	16.424	91	3664	0.03		94	0.03
68) n-Propylbenzene	17.515	91	3872	0.03	#	87	0.03
69) 4-Ethyltoluene	17.660	105	4234	0.03	#	92	0.03
70) 1,3,5-Trimethylbenzene	17.737	105	6068	0.05	#	39	0.05
71) tert-Butylbenzene	18.155	119	269450	2.26	#	31	2.26
72) 1,2,4-Trimethylbenzene	18.155	105	79671	0.65	#	54	0.65
73) 1,3-Dichlorobenzene	18.311	146	1198	0.02	#	64	0.02
77) 1,2,3-Trimethylbenzene	18.598	105	5400	0.05	#	1	0.05
79) n-Butylbenzene	19.058	91	5429	0.04	#	80	0.04
81) 1,2-Dibromo-3-chloropr...	19.203	157	1087	0.04	#	1	0.04
83) 1,2,4-Trichlorobenzene	20.636	180	2167	0.04	#	76	0.04
84) Naphthalene	20.758	128	7656	0.06	#	93	0.06
85) 1,2,3-Trichlorobenzene	21.053	180	3248	0.06	#	77	0.06
86) Hexachlorobutadiene	21.167	225	1680	0.02		90	0.02
87) 2-Methylnaphthalene	21.988	142	4006	0.06	#	91	0.06

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K907.D
Acq On : 09 Nov 2021 04:36 pm
Operator :
Sample : A05022-002.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:08:27 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-002.01
Inject Time:	11/9/2021 4:36:13 PM
Sample Start:	11/9/2021 4:22:28 PM
Sample End:	11/9/2021 4:24:06 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A2
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	24.8 (25)	5.30	22.22	21.55	1.95	3.09
Calibration Std			0.00				
Sample	101.6 (100)	91.1 (100)	1.63	14.39	7.76	2.86	4.02
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	96.4 (100)	1.00	24.71	22.03	2.75	3.62
M1/ M2 Transfer	100.6 (100)	22.6 (20)	5.60	24.82	24.38	3.57	4.71

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-1 (0)				122 (120)
M1 BulkHead	32 (30)	61 (60)				122 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	228 (230)		209 (210)
M2 Bulk Head	33 (33)			62 (62)		120 (120)
M3	0			-169 (-165)	72 (80)	-59
Rot Valve Plate	92/90 (90)					92/90 (90)
GC Xfer Line					100 (100)	
4 Sample Line	91 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	81 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	14993 (14992)
Y:	18204 (18204)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K908.D
Acq On : 09 Nov 2021 05:23 pm
Operator :
Sample : A05022-003.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:55:25 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

EM 11/10/21

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.807	130	385616m VP	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1393147	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	99926	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(5)	16.864	75	165978	7.18	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 106.85%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	17737	0.14		97	0.14
9) Ethanol	5.081	45	27523	2.32		98	2.32
11) Trichlorofluoromethane	5.698	101	7867	0.07	#	92	0.07
12) Isopropanol	5.820	45	15634	0.20	#	98	0.20
13) Acetone	5.553	58	12965	0.45	#	87	0.45
15) n-Pentane	6.079	43	6799	0.09	#	95	0.09
18) t-Butanol	6.480	59	32673	0.26	#	87	0.26
19) Methylene Chloride	6.482	49	4541m b	0.08			0.08
21) Carbon Disulfide	6.798	76	48835	0.30		96	0.30
26) n-Hexane	8.898	57	14570	0.15	#	3	0.15
27) 2-Butanone	8.236	43	4305m b	0.04			0.04
29) Chloroform	8.961	83	18578	0.13	#	73	0.13
35) Methylcyclopentane	9.768	56	8419	0.08	#	73	0.08
40) Benzene	10.524	78	5376m b	0.03			0.03
42) n-Heptane	11.979	43	6185	0.08	#	95	0.08
49) 4-Methyl-2-pentanone	12.627	58	2340m b	0.04			0.04
54) Toluene	13.585	91	38053	0.20		99	0.20
58) Tetrachloroethene	14.747	166	31673	0.34		98	0.34
60) Ethylbenzene	15.799	91	4048	0.03	#	93	0.03
61) m&p-Xylene	15.966	106	6594	0.14	#	1	0.14
64) 1,1,2,2-Tetrachloroethane	16.421	83	2617	0.04	#	59	0.04
65) o-Xylene	16.429	91	6684	0.06	#	89	0.06
67) Isopropylbenzene	17.009	105	3141	0.02	#	81	0.02
68) n-Propylbenzene	17.515	91	9788	0.07	#	90	0.07
70) 1,3,5-Trimethylbenzene	17.734	105	10493	0.08	#	87	0.08
87) 2-Methylnaphthalene	21.991	142	3557	0.05	#	75	0.05

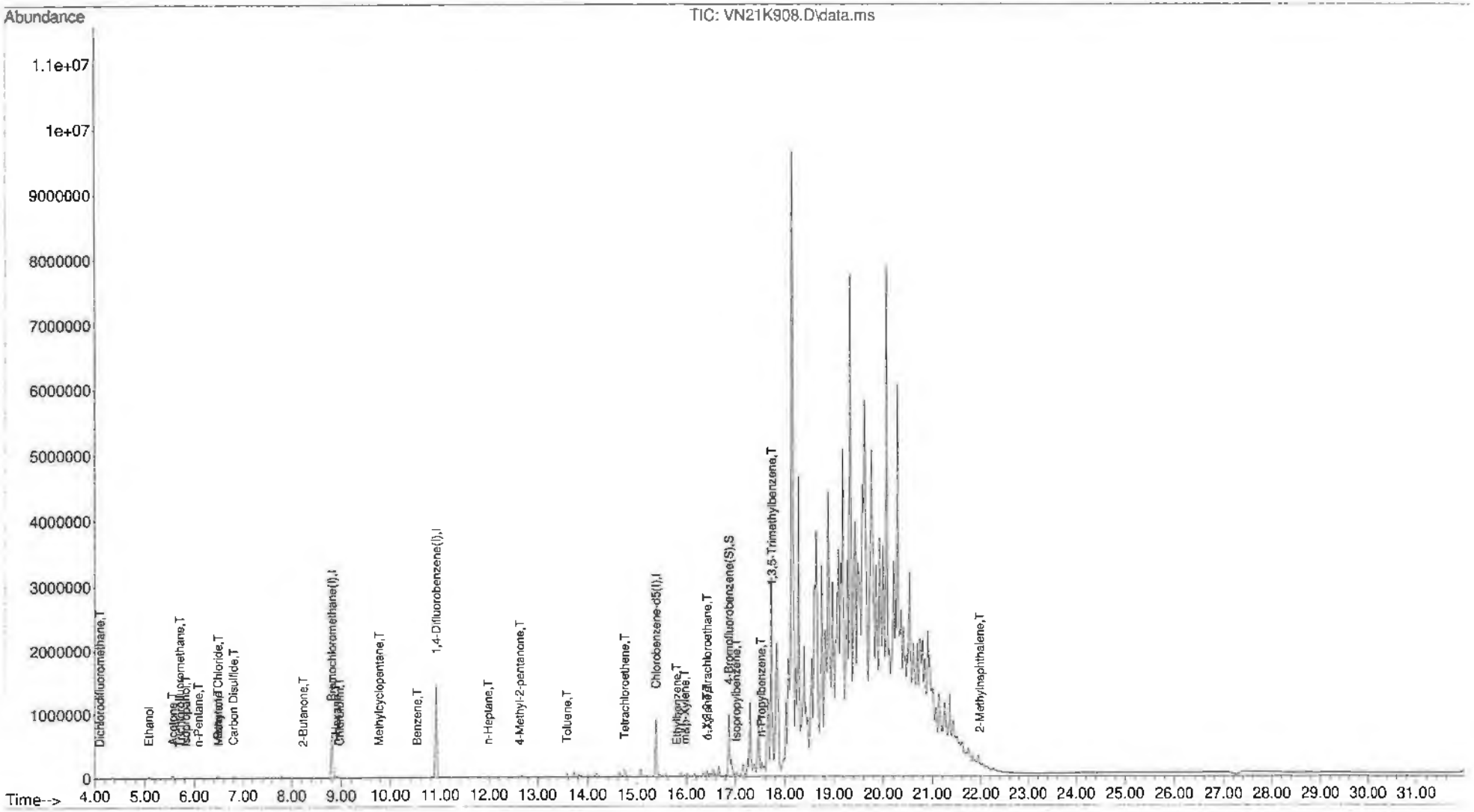
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K908.D
Acq On : 09 Nov 2021 05:23 pm
Operator :
Sample : A05022-003.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:55:25 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K908.D
Acq On : 09 Nov 2021 05:23 pm
Operator :
Sample : A05022-003.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:55:25 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.898	130	1202	6.46	ppbv		0.09
36) 1,4-Difluorobenzene(I)	10.905	114	1393147	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	99926	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.864	75	165978	7.18	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 106.85%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	17737	43.85		97	43.85
3) Chloromethane	4.243	50	236	2.65	#	48	2.65
4) Dichlorotetrafluoroethane	4.325	85	868	2.48		93	2.48
9) Ethanol	5.081	45	27523	744.87		98	744.87 OR
10) Acrolein	5.425	56	207	4.91	#	14	4.91
11) Trichlorofluoromethane	5.698	101	7867	22.71	#	92	22.71
12) Isopropanol	5.820	45	15634	64.15	#	98	64.15
13) Acetone	5.553	58	12965	144.25	#	87	144.25
14) Acrylonitrile	6.013	53	200	1.65	#	7	1.65
15) n-Pentane	6.079	43	6799	28.76	#	95	28.76
18) t-Butanol	6.480	59	32673	83.38	#	87	83.38
19) Methylene Chloride	6.499	49	1688	9.30	#	68	9.30
20) 1,1,2-Trichlorotrifluo...	6.818	101	656	1.53	#	14	1.53
21) Carbon Disulfide	6.798	76	48835	94.91		96	94.91
23) MTBE	7.875	73	217	0.39	#	1	0.39
25) Vinyl Acetate	7.926	86	203	5.10	#	38	5.10
26) n-Hexane	8.898	57	14570	48.83	#	3	48.83
27) 2-Butanone	8.236	43	3194	9.81	#	77	9.81
29) Chloroform	8.961	83	18578	41.68	#	73	41.68
32) Tetrahydrofuran	9.461	42	769	4.99	#	60	4.99
33) ETBE	9.529	59	340	0.59	#	36	0.59
35) Methylcyclopentane	9.768	56	8419	25.29	#	73	25.29
42) n-Heptane	11.979	43	6185	0.08	#	95	0.08
54) Toluene	13.585	91	38053	0.20		99	0.20
58) Tetrachloroethene	14.747	166	31673	0.34		98	0.34
60) Ethylbenzene	15.799	91	4048	0.03	#	93	0.03
61) m&p-Xylene	15.966	106	6594	0.14	#	1	0.14
64) 1,1,2,2-Tetrachloroethane	16.421	83	2617	0.04	#	59	0.04
65) o-Xylene	16.429	91	6684	0.06	#	89	0.06
67) Isopropylbenzene	17.009	105	3141	0.02	#	81	0.02
68) n-Propylbenzene	17.515	91	9788	0.07	#	90	0.07
69) 4-Ethyltoluene	17.669	105	7790	0.06	#	1	0.06
70) 1,3,5-Trimethylbenzene	17.734	105	10493	0.08	#	87	0.08
71) tert-Butylbenzene	18.140	119	239969	2.04	#	31	2.04
72) 1,2,4-Trimethylbenzene	18.152	105	74513	0.61	#	56	0.61
74) Benzyl Chloride	18.285	91	4751	0.07	#	1	0.07
77) 1,2,3-Trimethylbenzene	18.604	105	7276	0.07	#	1	0.07
79) n-Butylbenzene	19.070	91	39283	0.28	#	47	0.28
81) 1,2-Dibromo-3-chloropr...	19.203	157	1021	0.04	#	56	0.04
83) 1,2,4-Trichlorobenzene	20.624	180	1461	0.03	#	1	0.03
84) Naphthalene	20.764	128	6238	0.05	#	51	0.05
85) 1,2,3-Trichlorobenzene	21.048	180	2920	0.05	#	41	0.05
87) 2-Methylnaphthalene	21.991	142	3557	0.05	#	75	0.05

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K908.D
Acq On : 09 Nov 2021 05:23 pm
Operator :
Sample : A05022-003.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:55:25 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

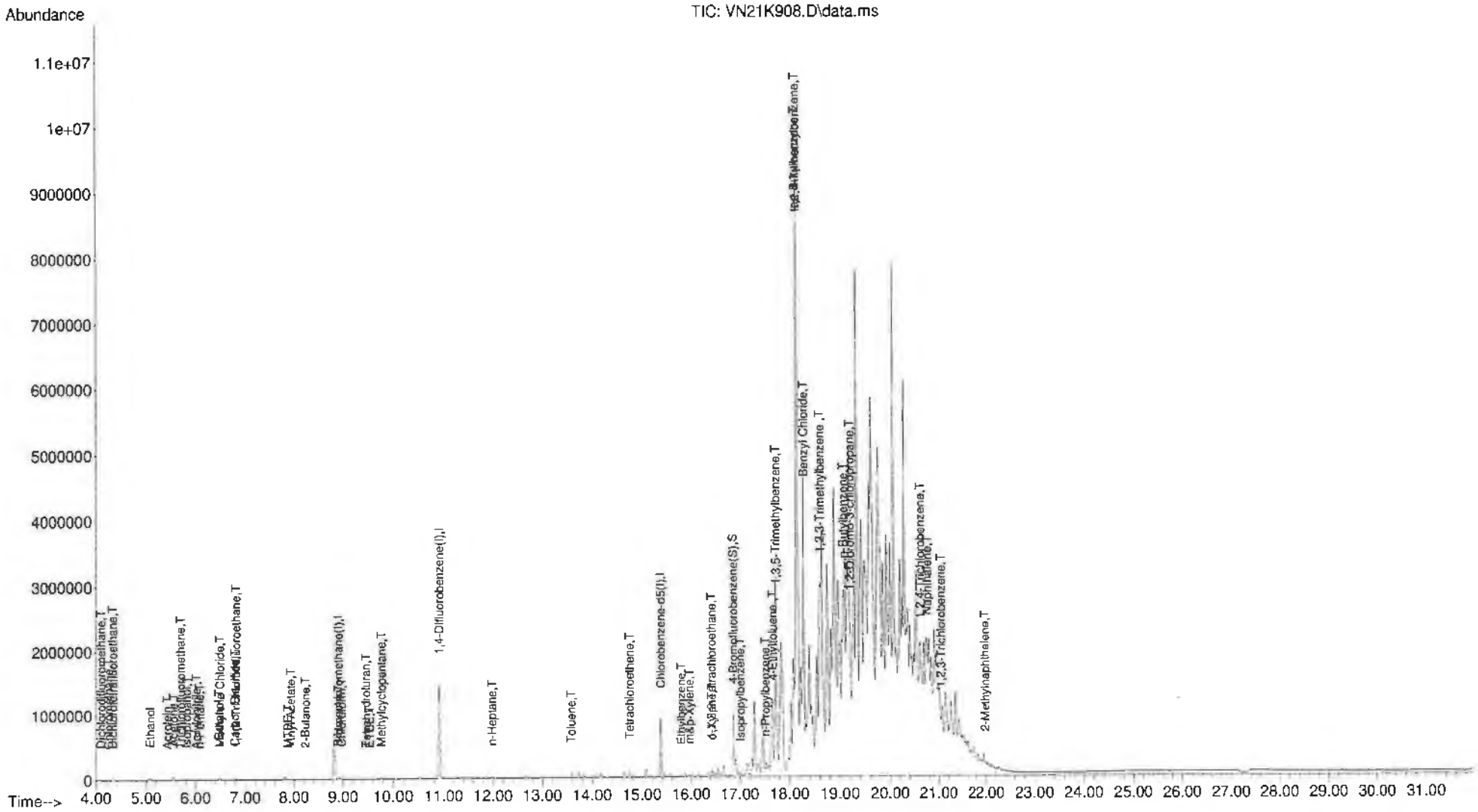
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K908.D
Acq On : 09 Nov 2021 05:23 pm
Operator :
Sample : A05022-003.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 17:55:25 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-003.01
Inject Time:	11/9/2021 5:23:11 PM
Sample Start:	11/9/2021 5:09:35 PM
Sample End:	11/9/2021 5:11:13 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A3
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	29 (25)	5.32	22.06	21.41	1.93	3.08
Calibration Std			0.00				
Sample	100.9 (100)	91.1 (100)	1.63	14.39	7.81	2.85	4
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	102.2 (100)	1.00	24.68	22.02	2.7	3.57
M1/ M2 Transfer	100.6 (100)	18.4 (20)	5.63	24.8	24.34	3.52	4.66

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-47 (-50)	-47 (-50)	-49 (-50)	226 (230)		209 (210)
M2 Bulk Head	33 (33)			61 (61)		123 (123)
M3	2			-176 (-165)	72 (80)	-61
Rot Valve Plate	91/91 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	89 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	79 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	31672 (31672)
Y:	1526 (1524)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K909.D
Acq On : 09 Nov 2021 06:10 pm
Operator :
Sample : A05022-003.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

KM 11/10/21

Quant Time: Nov 09 18:42:20 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	337399	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1198689	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.375	54	81040	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	141402	7.54	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 112.20%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.087	85	17967	0.16	# 98	0.16
9) Ethanol	5.090	45	24823	2.39	99	2.39
10) Acrolein	5.405	56	244	0.02	88	0.02
11) Trichlorofluoromethane	5.698	101	8441	0.09	# 57	0.09
12) Isopropanol	5.815	45	13583	0.20	# 82	0.20
13) Acetone	5.553	58	12409	0.49	# 86	0.49
15) n-Pentane	6.065	43	5642m B	0.09		0.09
18) t-Butanol	6.474	59	28662	0.26	# 92	0.26
19) Methylene Chloride	6.491	49	4914	0.10	# 83	0.10
20) 1,1,2-Trichlorotrifluo...	6.795	101	2416m B	0.02		0.02
21) Carbon Disulfide	6.798	76	40889	0.28	# 96	0.28
26) n-Hexane	8.895	57	11053	0.13	# 5	0.13
27) 2-Butanone	8.236	43	3337m B	0.04		0.04
29) Chloroform	8.961	83	15737	0.13	# 93	0.13
35) Methylcyclopentane	9.771	56	7027	0.08	# 79	0.08
40) Benzene	10.515	78	4857	0.03	# 80	0.03
42) n-Heptane	11.988	43	4945	0.08	# 92	0.08
49) 4-Methyl-2-pentanone	12.636	58	2046	0.04	# 72	0.04
54) Toluene	13.585	91	33075	0.21	98	0.21
58) Tetrachloroethene	14.744	166	29334	0.39	93	0.39
60) Ethylbenzene	15.796	91	3950	0.04	# 90	0.04
61) m&p-Xylene	15.958	106	5271m B	0.14		0.14
64) 1,1,2,2-Tetrachloroethane	16.418	B3	2641	0.05	# 58	0.05
65) o-Xylene	16.424	91	5836	0.07	# 92	0.07
67) Isopropylbenzene	16.998	105	2904	0.03	# 67	0.03
68) n-Propylbenzene	17.512	91	8895	0.07	# 94	0.07
70) 1,3,5-Trimethylbenzene	17.740	105	9552	0.09	92	0.09
86) Hexachlorobutadiene	21.167	225	1527	0.03	89	0.03
87) 2-Methylnaphthalene	21.986	142	3254	0.06	97	0.06

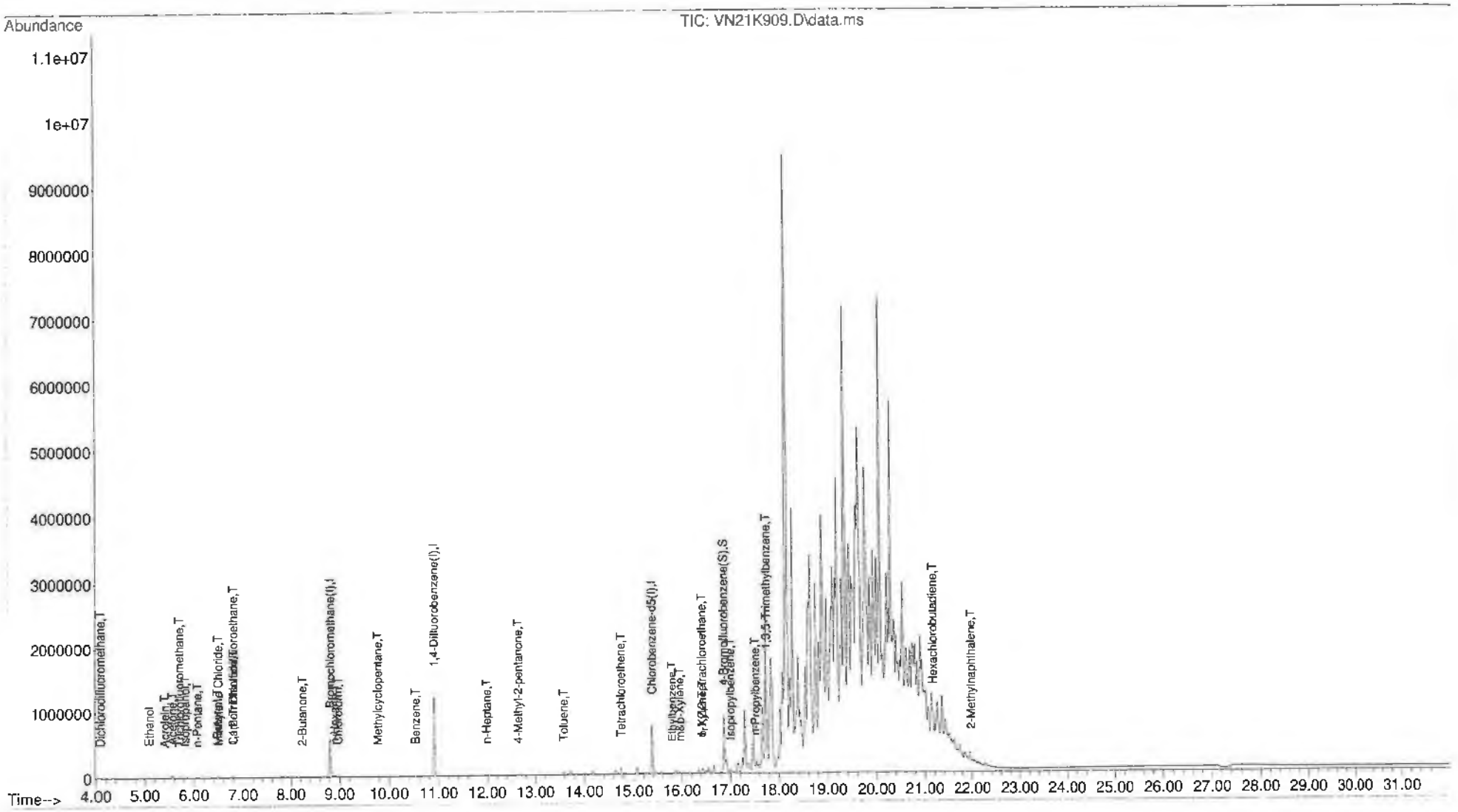
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K909.D
Acq On : 09 Nov 2021 06:10 pm
Operator :
Sample : A05022-003.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 18:42:20 2021
Quant Method : D:\VN\VN_METHOD\VN400877.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K909.D
Acq On : 09 Nov 2021 06:10 pm
Operator :
Sample : A05022-003.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 18:42:20 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	337399	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1198689	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.375	54	81040	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	141402	7.54	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 112.20%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.087	85	17967	0.16	# 98	0.16
9) Ethanol	5.090	45	24823	2.39	99	2.39
10) Acrolein	5.405	56	244	0.02	88	0.02
11) Trichlorofluoromethane	5.698	101	8441	0.09	# 57	0.09
12) Isopropanol	5.815	45	13583	0.20	# 82	0.20
13) Acetone	5.553	58	12409	0.49	# 86	0.49
15) n-Pentane	6.076	43	3195	0.05	# 82	0.05
18) t-Butanol	6.474	59	28662	0.26	# 92	0.26
19) Methylene Chloride	6.491	49	4914	0.10	# 83	0.10
21) Carbon Disulfide	6.798	76	40889	0.28	# 96	0.28
26) n-Hexane	8.895	57	11053	0.13	# 5	0.13
29) Chloroform	8.961	83	15737	0.13	# 93	0.13
35) Methylcyclopentane	9.771	56	7027	0.08	# 79	0.08
40) Benzene	10.515	78	4857	0.03	# 80	0.03
42) n-Heptane	11.988	43	4945	0.08	# 92	0.08
49) 4-Methyl-2-pentanone	12.636	58	2046	0.04	# 72	0.04
54) Toluene	13.585	91	33075	0.21	98	0.21
58) Tetrachloroethene	14.744	166	29334	0.39	93	0.39
59) Chlorobenzene	15.406	112	1499	0.02	# 66	0.02
60) Ethylbenzene	15.796	91	3950	0.04	# 90	0.04
61) m&p-Xylene	15.969	106	2692	0.07	# 1	0.07
64) 1,1,2,2-Tetrachloroethane	16.418	83	2641	0.05	# 58	0.05
65) o-Xylene	16.424	91	5836	0.07	# 92	0.07
67) Isopropylbenzene	16.998	105	2904	0.03	# 67	0.03
68) n-Propylbenzene	17.512	91	8895	0.07	# 94	0.07
69) 4-Ethyltoluene	17.663	105	7036	0.06	# 1	0.06
70) 1,3,5-Trimethylbenzene	17.740	105	9552	0.09	92	0.09
71) tert-Butylbenzene	18.143	119	236644	2.48	# 26	2.48
72) 1,2,4-Trimethylbenzene	18.152	105	73084	0.74	# 58	0.74
73) 1,3-Dichlorobenzene	18.305	146	1045	0.02	# 75	0.02
74) Benzyl Chloride	18.277	91	4348	0.07	# 1	0.07
76) sec-Butylbenzene	18.442	105	4241	0.03	# 1	0.03
77) 1,2,3-Trimethylbenzene	18.604	105	8399	0.09	# 1	0.09
79) n-Butylbenzene	19.073	91	34877	0.31	# 42	0.31
81) 1,2-Dibromo-3-chloropr...	19.212	157	799	0.03	# 25	0.03
83) 1,2,4-Trichlorobenzene	20.639	180	5943	0.14	# 51	0.14
84) Naphthalene	20.761	128	5733	0.05	# 90	0.05
85) 1,2,3-Trichlorobenzene	21.062	180	4555	0.10	# 58	0.10
86) Hexachlorobutadiene	21.167	225	1527	0.03	89	0.03
87) 2-Methylnaphthalene	21.986	142	3254	0.06	97	0.06

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K909.D
Acq On : 09 Nov 2021 06:10 pm
Operator :
Sample : A05022-003.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 18:42:20 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

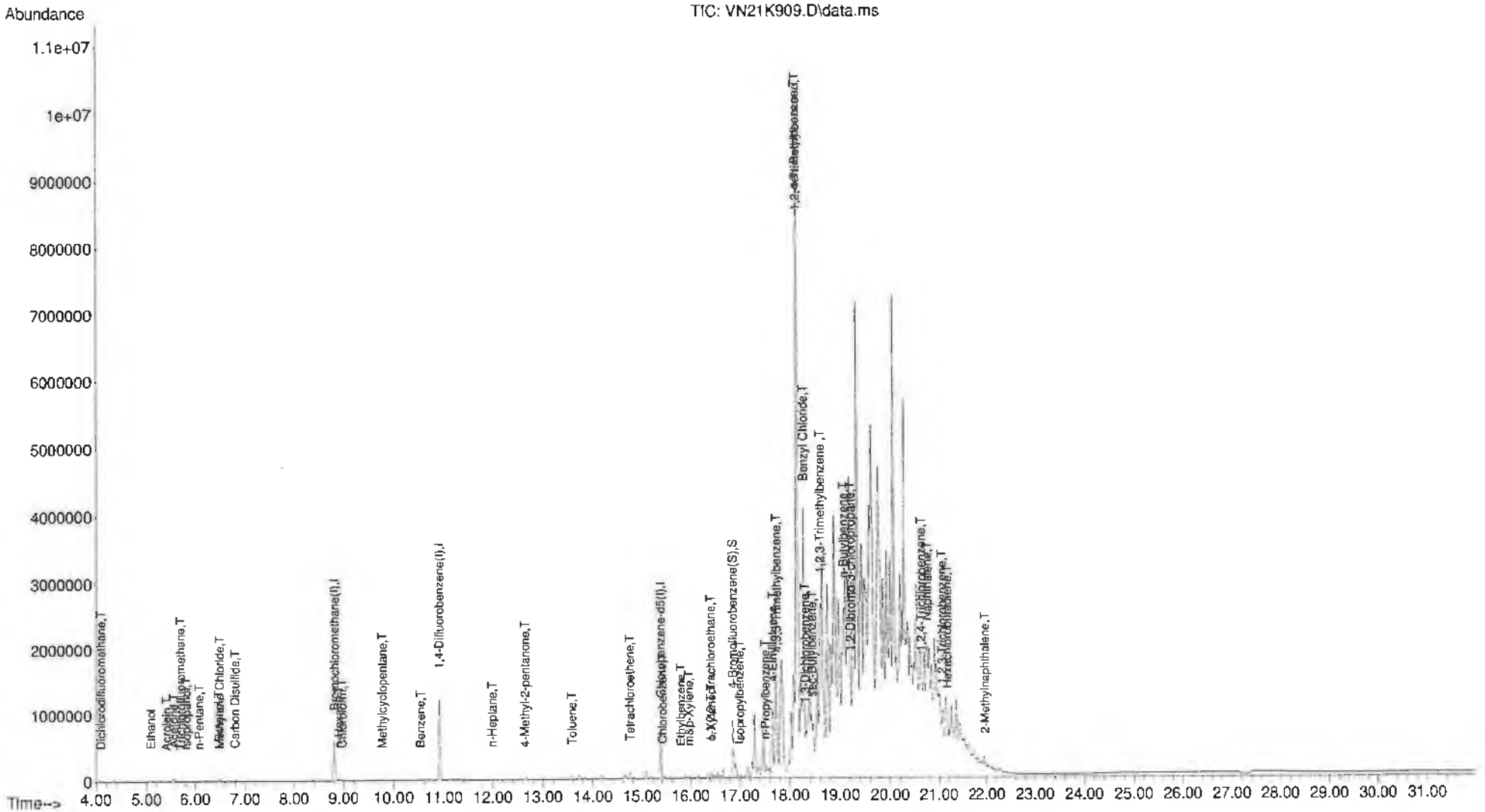
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K909.D
Acq On : 09 Nov 2021 06:10 pm
Operator :
Sample : A05022-003.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 18:42:20 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-003.02
Inject Time:	11/9/2021 6:10:06 PM
Sample Start:	11/9/2021 5:56:33 PM
Sample End:	11/9/2021 5:58:19 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A3
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	22.6 (25)	5.30	21.91	21.23	1.92	3.06
Calibration Std			0.00				
Sample	100.9 (100)	78.4 (100)	1.77	12.9	6.01	2.84	3.99
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	102.2 (100)	1.00	24.69	22	2.69	3.57
M1/ M2 Transfer	100.3 (100)	16.8 (20)	5.60	24.8	24.4	3.51	4.65

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-46 (-50)	-46 (-50)	-49 (-50)	227 (230)		210 (210)
M2 Bulk Head	31 (31)			61 (61)		119 (119)
M3	2			-174 (-165)	72 (80)	-60
Rot Valve Plate	91/91 (90)					92/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	89 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	82 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	31672 (31672)
Y:	1526 (1524)

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K910.D
Acq On : 09 Nov 2021 06:57 pm
Operator :
Sample : A05022-004.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 19:29:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.807	130	338356	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1197171	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.378	54	77469	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	136835	7.64	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 113.69%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.087	85	17008	0.15	97	0.15
9) Ethanol	5.078	45	41674	4.01	97	4.01
10) Acrolein	5.564	56	8294	0.70	# 27	0.70
11) Trichlorofluoromethane	5.698	101	15345	0.16	# 55	0.16
12) Isopropanol	5.820	45	9947	0.14	98	0.14
13) Acetone	5.556	58	26160	1.03	# 71	1.03
15) n-Pentane	6.076	43	17611	0.26	# 91	0.26
18) t-Butanol	6.477	59	20253	0.18	# 95	0.18
19) Methylene Chloride	6.485	49	3617	0.07	# 85	0.07
21) Carbon Disulfide	6.801	76	54649	0.38	# 89	0.38
25) Vinyl Acetate	7.926	86	296	0.03	# 1	0.03
26) n-Hexane	8.892	57	13216	0.16	# 4	0.16
27) 2-Butanone	8.233	43	7714	0.08	# 84	0.08
35) Methylcyclopentane	9.779	56	12022	0.13	93	0.13
38) Cyclohexane	10.814	56	6361	0.09	# 65	0.09
40) Benzene	10.518	78	13874	0.09	# 91	0.09
42) n-Heptane	11.982	43	7406	0.12	# 87	0.12
47) 2,2,4-Trimethylpentane	11.703	57	11781	0.05	# 66	0.05
54) Toluene	13.585	91	71315	0.48	100	0.48
55) 2-Hexanone	13.860	43	1747	0.02	# 26	0.02
58) Tetrachloroethene	14.747	166	54208	0.75	97	0.75
60) Ethylbenzene	15.798	91	15408	0.16	96	0.16
61) m&p-Xylene	15.966	106	18485	0.50	89	0.50
64) 1,1,2,2-Tetrachloroethane	16.424	83	1917	0.04	# 51	0.04
65) o-Xylene	16.429	91	21862	0.27	# 97	0.27
67) Isopropylbenzene	17.012	105	4964	0.05	# 91	0.05
68) n-Propylbenzene	17.515	91	14279	0.13	97	0.13
69) 4-Ethyltoluene	17.666	105	12939	0.12	# 1	0.12
70) 1,3,5-Trimethylbenzene	17.742	105	14199	0.14	95	0.14
71) tert-Butylbenzene	18.152	119	7775	0.09	# 1	0.09
72) 1,2,4-Trimethylbenzene	18.160	105	32873	0.35	# 55	0.35
74) Benzyl Chloride	18.288	91	4285	0.08	# 1	0.08
76) sec-Butylbenzene	18.442	105	4392	0.03	# 73	0.03
77) 1,2,3-Trimethylbenzene	18.598	105	12998	0.15	# 1	0.15
79) n-Butylbenzene	19.072	91	34915	0.33	# 11	0.33
81) 1,2-Dibromo-3-chloropr...	19.183	157	527	0.02	# 1	0.02
83) 1,2,4-Trichlorobenzene	20.644	180	2234	0.05	# 67	0.05
84) Naphthalene	20.758	128	5119	0.05	# 77	0.05
85) 1,2,3-Trichlorobenzene	21.053	180	2710	0.06	# 77	0.06
86) Hexachlorobutadiene	21.170	225	1805	0.03	# 61	0.03
87) 2-Methylnaphthalene	21.991	142	2873	0.06	# 95	0.06

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K910.D
Acq On : 09 Nov 2021 06:57 pm
Operator :
Sample : A05022-004.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 19:29:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

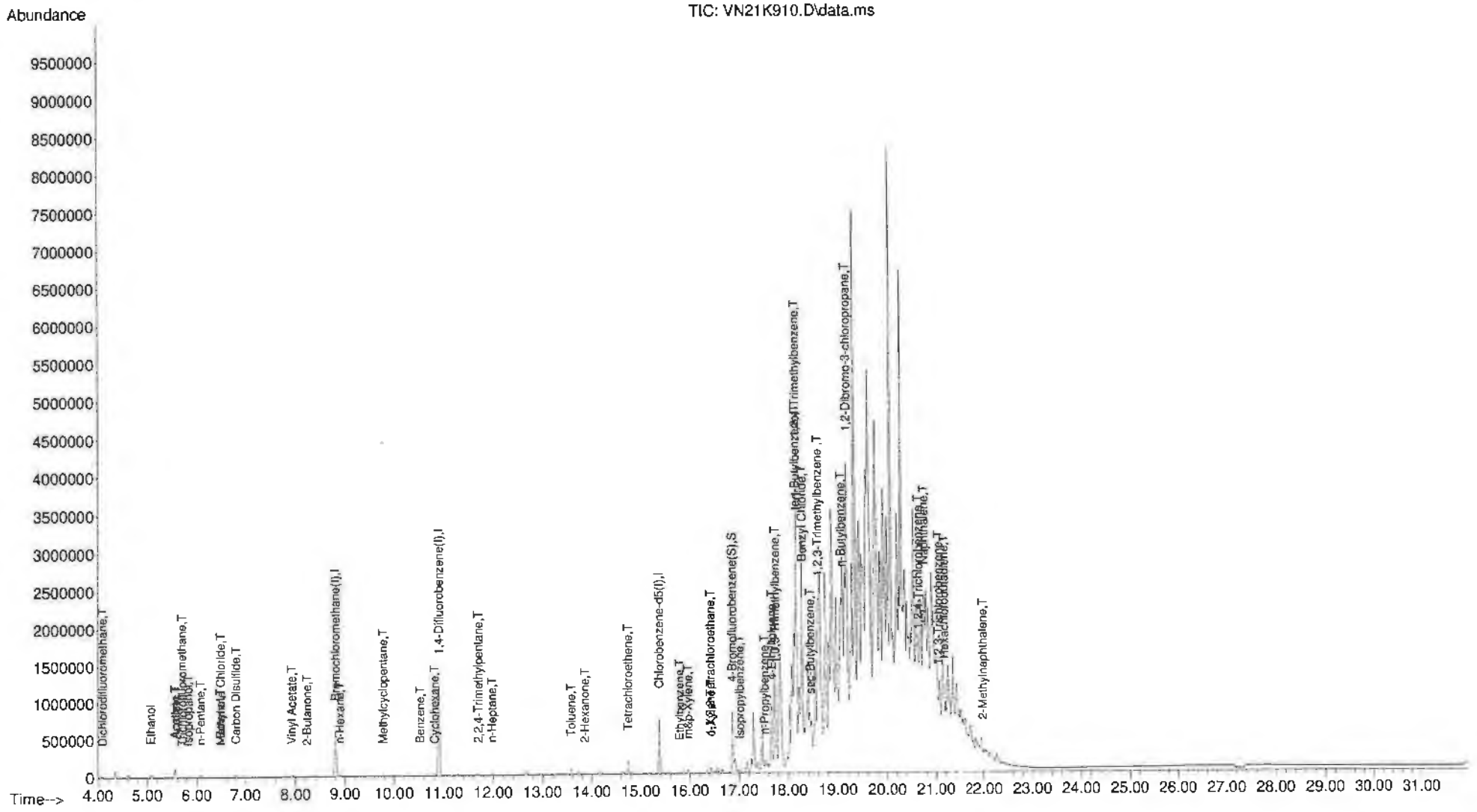
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K910.D
Acq On : 09 Nov 2021 06:57 pm
Operator :
Sample : A05022-004.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 19:29:32 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K911.D
Acq On : 09 Nov 2021 07:44 pm
Operator :
Sample : A05022-005.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 20:16:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

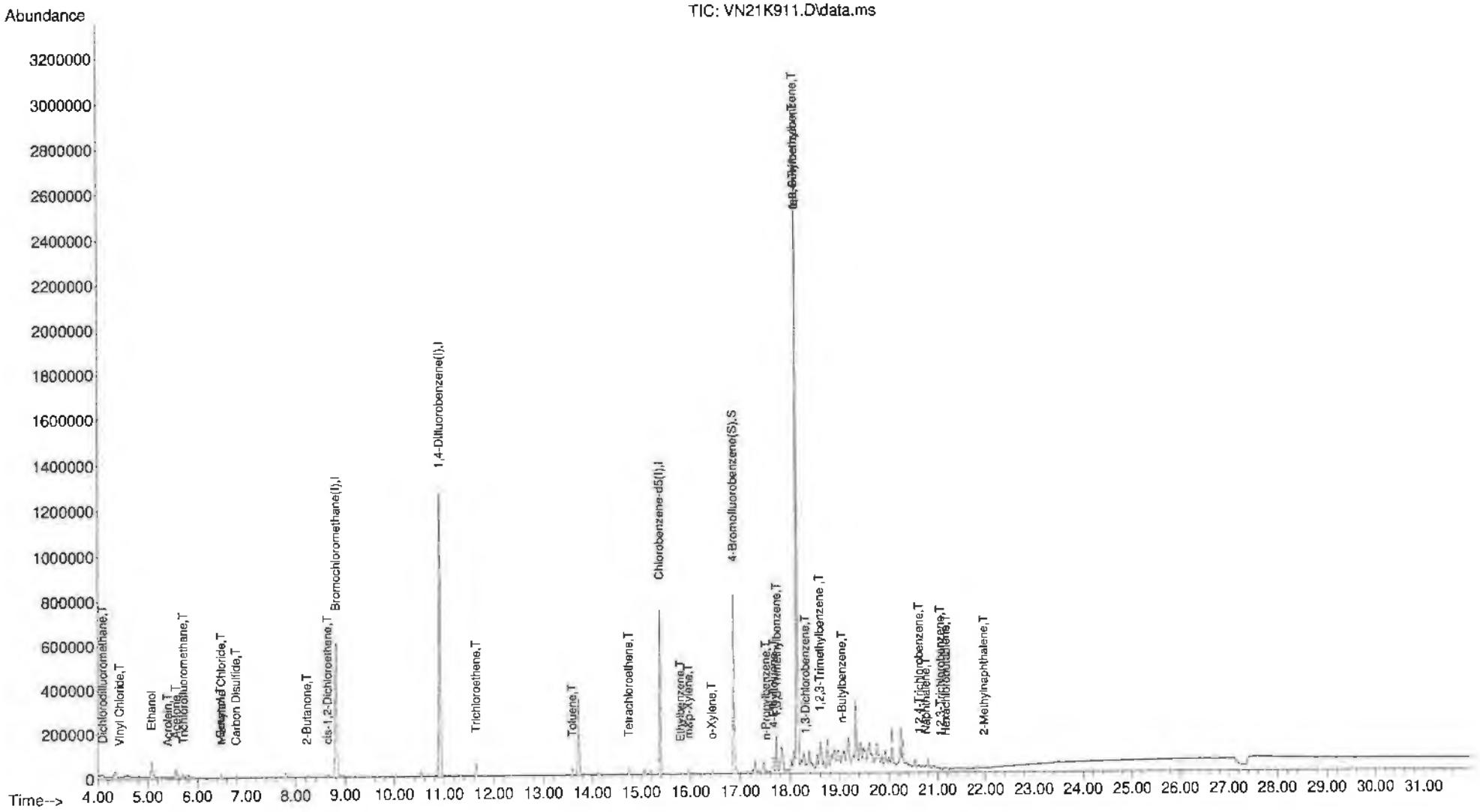
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	345256	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1229871	6.70	ppbv	# 0.00
52) Chlorobenzene-d5(I)	15.375	54	80253	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	133666	7.20	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 107.14%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	17621	0.15	# 94	0.15
5) Vinyl Chloride	4.431	62	2056	0.06	# 71	0.06
9) Ethanol	5.076	45	97238	9.16	99	9.16
10) Acrolein	5.394	56	279	0.02	# 76	0.02
11) Trichlorofluoromethane	5.707	101	10927	0.11	# 69	0.11
13) Acetone	5.556	58	15428	0.60	74	0.60
18) t-Butanol	6.474	59	6593	0.06	# 96	0.06
19) Methylene Chloride	6.491	49	4727	0.09	# 70	0.09
21) Carbon Disulfide	6.795	76	3892	0.03	# 84	0.03
27) 2-Butanone	8.222	43	6747	0.07	# 91	0.07
28) cis-1,2-Dichloroethene	8.637	61	4378	0.06	# 22	0.06
44) Trichloroethene	11.641	95	19800	0.26	91	0.26
54) Toluene	13.585	91	22962	0.15	95	0.15
58) Tetrachloroethene	14.747	166	9063	0.12	94	0.12
60) Ethylbenzene	15.796	91	5182	0.05	# 90	0.05
61) m&p-Xylene	15.963	106	9012	0.23	83	0.23
65) o-Xylene	16.427	91	6658	0.08	# 95	0.08
68) n-Propylbenzene	17.512	91	2418	0.02	# 77	0.02
69) 4-Ethyltoluene	17.666	105	2740	0.02	# 47	0.02
70) 1,3,5-Trimethylbenzene	17.737	105	2400	0.02	94	0.02
71) tert-Butylbenzene	18.138	119	67033	0.71	# 24	0.71
72) 1,2,4-Trimethylbenzene	18.140	105	21929	0.22	# 62	0.22
73) 1,3-Dichlorobenzene	18.308	146	924	0.02	# 1	0.02
77) 1,2,3-Trimethylbenzene	18.601	105	2332	0.03	# 1	0.03
79) n-Butylbenzene	19.053	91	3073	0.03	# 64	0.03
83) 1,2,4-Trichlorobenzene	20.627	180	869	0.02	# 65	0.02
84) Naphthalene	20.764	128	3069	0.03	# 82	0.03
85) 1,2,3-Trichlorobenzene	21.059	180	1359	0.03	# 86	0.03
86) Hexachlorobutadiene	21.173	225	1593	0.03	# 84	0.03
87) 2-Methylnaphthalene	21.988	142	1385	0.03	# 83	0.03

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K911.D
Acq On : 09 Nov 2021 07:44 pm
Operator :
Sample : A05022-005.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 20:16:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



QC QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-004.01
Inject Time:	11/9/2021 6:57:18 PM
Sample Start:	11/9/2021 6:43:28 PM
Sample End:	11/9/2021 6:45:12 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A4
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	26.8 (25)	5.33	21.79	21.11	1.93	3.08
Calibration Std			0.00				
Sample	101.6 (100)	82.7 (100)	1.72	13.31	6.46	2.85	4.01
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	97.4 (100)	1.00	24.72	22.03	2.74	3.6
M1/ M2 Transfer	100.3 (100)	20.5 (20)	5.58	24.83	24.37	3.48	4.63

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-48 (-50)	-47 (-50)	-49 (-50)	227 (230)		209 (210)
M2 Bulk Head	33 (33)			62 (62)		119 (119)
M3	2			-177 (-165)	71 (80)	-64
Rot Valve Plate	91/91 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	88 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	86 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	31672 (31672)
Y:	18204 (18204)

Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-005.01
Inject Time:	11/9/2021 7:44:34 PM
Sample Start:	11/9/2021 7:30:39 PM
Sample End:	11/9/2021 7:32:29 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A5
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.9 (100)	29 (25)	5.32	21.66	20.98	1.95	3.1
Calibration Std			0.00				
Sample	101.2 (100)	74.8 (100)	1.82	12.49	5.58	2.87	4.02
Calc Sample Vol							
Sweep/Prg Flush	76.5 (75)	93.2 (100)	1.00	24.67	22.02	2.74	3.61
M1/ M2 Transfer	100.3 (100)	20.5 (20)	5.63	24.79	24.34	3.56	4.71

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	61 (60)				120 (120)
M2	-47 (-50)	-47 (-50)	-47 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		123 (123)
M3	0			-170 (-165)	71 (80)	-61
Rot Valve Plate	91/92 (90)					92/92 (90)
GC Xfer Line					100 (100)	
4 Sample Line	88 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	91 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	48352 (48352)
Y:	1526 (1524)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K912.D
Acq On : 09 Nov 2021 08:31 pm
Operator :
Sample : A05022-006.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

KM 11/10/21

Quant Time: Nov 09 21:03:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	389529	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1385902	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	95446	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(5)	16.864	75	156523	7.09	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 105.51%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	17637	0.13	99	0.13
5) Vinyl Chloride	4.425	62	1039	0.03	# 86	0.03
9) Ethanol	5.084	45	32484m	2.71		2.71
11) Trichlorofluoromethane	5.695	101	7706	0.07	# 89	0.07
12) Isopropanol	5.826	45	9460m	0.12		0.12
13) Acetone	5.562	58	10666m	0.37		0.37
18) t-Butanol	6.480	59	4024	0.03	# 76	0.03
19) Methylene Chloride	6.502	49	3598m	0.06		0.06
21) Carbon Disulfide	6.798	76	6059m	0.04		0.04
26) n-Hexane	8.901	57	6489	0.07	# 1	0.07
27) 2-Butanone	8.222	43	7347	0.07	# 89	0.07
28) cis-1,2-Dichloroethene	8.645	61	3088m	0.04		0.04
29) Chloroform	8.964	83	6112	0.04	# 94	0.04
35) Methylcyclopentane	9.771	56	3351	0.03	# 43	0.03
38) Cyclohexane	10.814	56	2091m	0.03		0.03
40) Benzene	10.510	78	4708m	0.03		0.03
49) 4-Methyl-2-pentanone	12.644	58	1559	0.03	# 58	0.03
54) Toluene	13.582	91	10701	0.06	94	0.06
58) Tetrachloroethene	14.747	166	13634	0.15	94	0.15
60) Ethylbenzene	15.796	91	3065m	0.03		0.03
61) m&p-Xylene	15.964	106	5146	0.11	91	0.11
65) o-Xylene	16.430	91	4667	0.05	# 95	0.05
68) n-Propylbenzene	17.510	91	6598	0.05	93	0.05
70) 1,3,5-Trimethylbenzene	17.734	105	6799	0.06	# 39	0.06
84) Naphthalene	20.758	128	4806	0.04	# 95	0.04
86) Hexachlorobutadiene	21.173	225	1483	0.02	# 76	0.02
87) 2-Methylnaphthalene	21.986	142	1978m	0.03		0.03

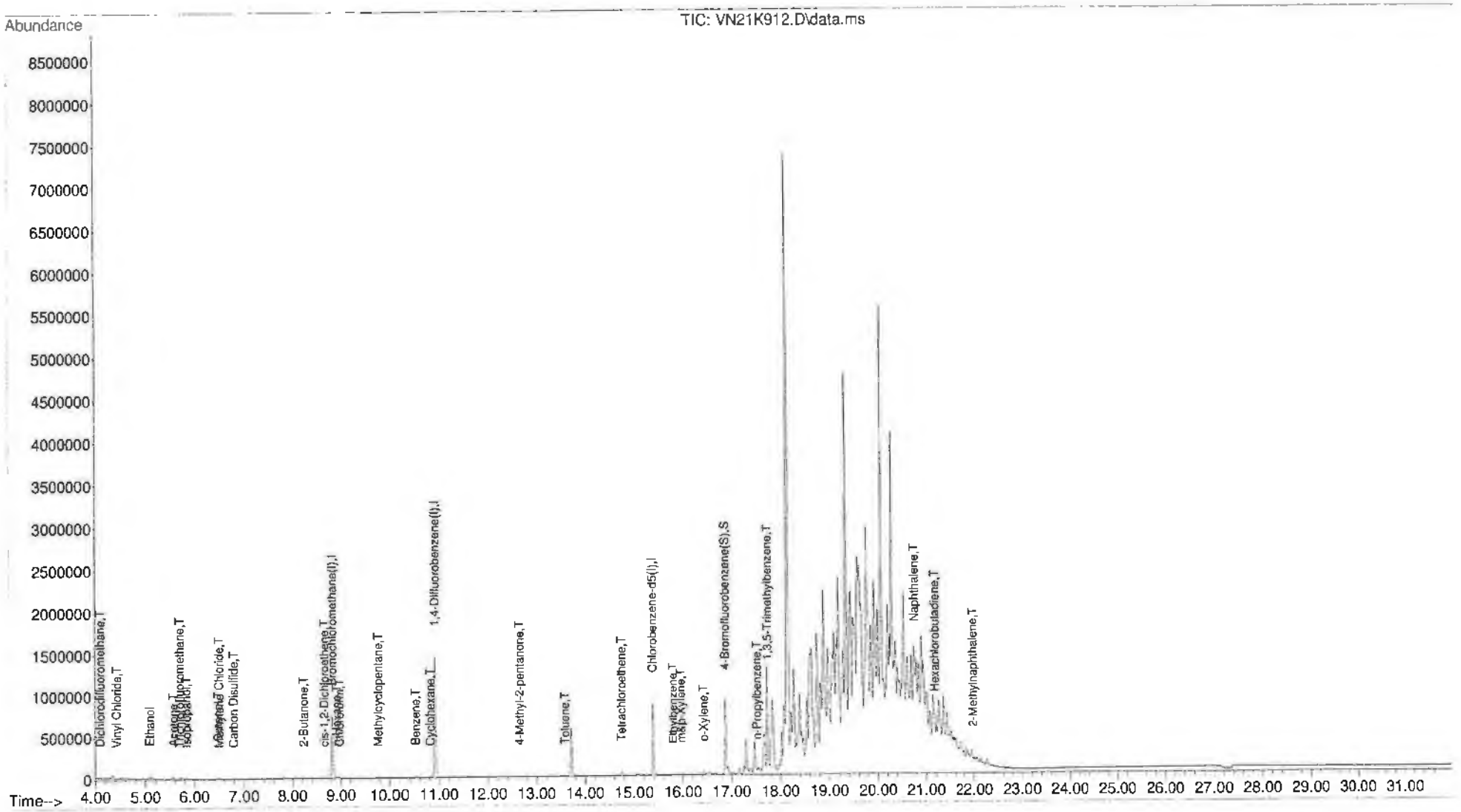
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

11-10-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K912.D
Acq On : 09 Nov 2021 08:31 pm
Operator :
Sample : A05022-006.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 21:03:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K912.D
Acq On : 09 Nov 2021 08:31 pm
Operator :
Sample : A05022-006.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 21:03:47 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

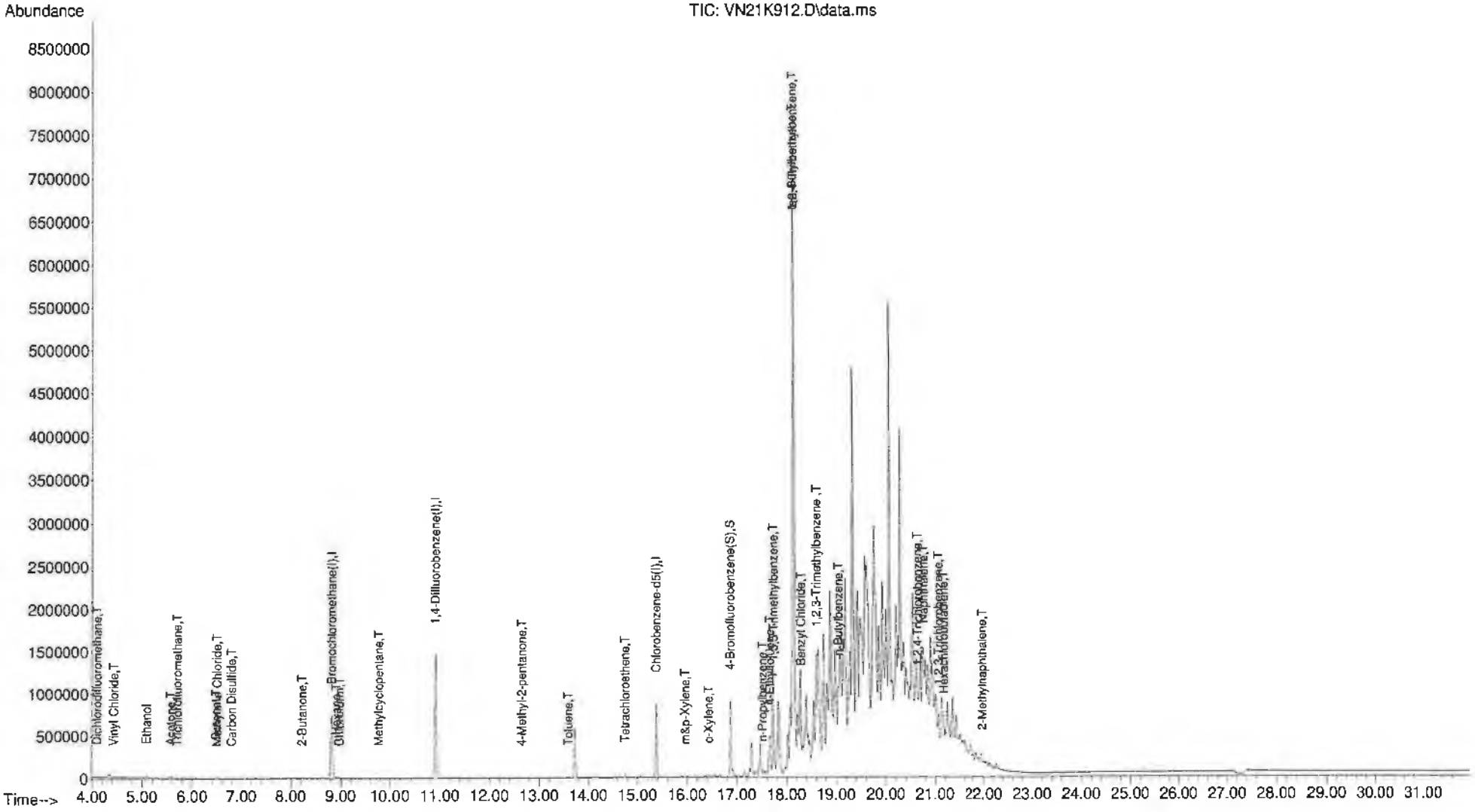
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.813	130	389529	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.908	114	1385902	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	95446	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	156523	7.09	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 105.51%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	17637	0.13	99	0.13
5) Vinyl Chloride	4.425	62	1039	0.03	# 86	0.03
9) Ethanol	5.084	45	31910	2.66	97	2.66
11) Trichlorofluoromethane	5.695	101	7706	0.07	# 89	0.07
13) Acetone	5.556	58	3354	0.12	# 1	0.12
18) t-Butanol	6.480	59	4024	0.03	# 76	0.03
19) Methylene Chloride	6.502	49	3321	0.06	# 36	0.06
21) Carbon Disulfide	6.798	76	4954	0.03	# 40	0.03
26) n-Hexane	8.901	57	6489	0.07	# 1	0.07
27) 2-Butanone	8.222	43	7347	0.07	# 89	0.07
29) Chloroform	8.964	83	6112	0.04	# 94	0.04
35) Methylcyclopentane	9.771	56	3351	0.03	# 43	0.03
49) 4-Methyl-2-pentanone	12.644	58	1559	0.03	# 58	0.03
54) Toluene	13.582	91	10701	0.06	94	0.06
58) Tetrachloroethene	14.747	166	13634	0.15	94	0.15
61) m&p-Xylene	15.964	106	5146	0.11	91	0.11
65) o-Xylene	16.430	91	4667	0.05	# 95	0.05
68) n-Propylbenzene	17.510	91	6598	0.05	93	0.05
69) 4-Ethyltoluene	17.663	105	5959	0.04	# 1	0.04
70) 1,3,5-Trimethylbenzene	17.734	105	6799	0.06	# 39	0.06
71) tert-Butylbenzene	18.143	119	188483	1.68	# 18	1.68
72) 1,2,4-Trimethylbenzene	18.152	105	60045	0.52	# 56	0.52
74) Benzyl Chloride	18.288	91	4420	0.06	# 1	0.06
77) 1,2,3-Trimethylbenzene	18.601	105	7382	0.07	# 1	0.07
79) n-Butylbenzene	19.041	91	4398	0.03	# 25	0.03
83) 1,2,4-Trichlorobenzene	20.639	180	2089	0.04	# 60	0.04
84) Naphthalene	20.758	128	4806	0.04	# 95	0.04
85) 1,2,3-Trichlorobenzene	21.065	180	2303	0.04	# 60	0.04
86) Hexachlorobutadiene	21.173	225	1483	0.02	# 76	0.02
87) 2-Methylnaphthalene	21.986	142	1305	0.02	# 40	0.02

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K09A\
Data File : VN21K912.D
Acq On : 09 Nov 2021 08:31 pm
Operator :
Sample : A05022-006.01
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 09 21:03:47 2021
Quant Method : D:\VN\VN_METHDD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-006.01
Inject Time:	11/9/2021 8:31:34 PM
Sample Start:	11/9/2021 8:17:57 PM
Sample End:	11/9/2021 8:19:39 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	24.8 (25)	5.32	21.52	20.83	1.95	3.09
Calibration Std			0.00				
Sample	100.9 (100)	80.6 (100)	1.68	13.71	6.98	2.86	4.01
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	97.4 (100)	1.00	24.71	21.94	2.74	3.6
M1/ M2 Transfer	100.3 (100)	22.6 (20)	5.62	24.83	24.3	3.55	4.69

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-47 (-50)	-46 (-50)	-48 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			62 (62)		122 (122)
M3	1			-176 (-165)	71 (80)	-66
Rot Valve Plate	92/92 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	79 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	48352 (48352)
Y:	18204 (18204)

Starting sequence Wed Nov 10 12:58:49 2021

Instrument Name: VN
Sequence File: D:\MassHunter\GCMS\1\sequence\VN21K10B.sequence.xml
Comment:
Operator:
Data Path: D:\VN\VN_DATA\VN21K10B\

Line	Type	Vials	DataFile	Sample Name
Acquisition Method Path: D:\VN\VN_METHOD\				
Acquisition Method File: VN400B77.M				
1)	Sample	1	VN21KA01	VCCV01
2)	Sample	1	VN21KA02	VLCS01
3)	Sample	1	VN21KA03	VLCD01
4)	Sample	1	VN21KA04	RNS
5)	Sample	1	VN21KA05	VBLK01
6)	Sample	1	VN21KA06	A05022-004.02
7)	Sample	1	VN21KA07	A05022-005.02
8)	Sample	1	VN21KA08	bv 2795
9)	Sample	1	VN21KA09	bv 2795
10)	Sample	1	VN21KA10	bv 3628
11)	Sample	1	VN21KA11	bvfc 3072
12)	Sample	1	VN21KA12	A04889-002.02
13)	Sample	1	VN21KA13	A04889-004.02
14)	Sample	1	VN21KA14	A04889-005.02
15)	Sample	1	VN21KA15	A04889-011.02
16)	Sample	1	VN21KA16	A04993-002.03
17)	Sample	1	VN21KA17	A04993-004.03
18)	Sample	1	VN21KA18	bvfc 2792
19)	Sample	1	VN21KA19	bvfc 21399
20)	Sample	1	VN21KA20	A05102-001.01
21)	Sample	1	VN21KA21	A05102-002.01
22)	Sample	1	VN21KA22	A05102-003.01
23)	Sample	1	VN21KA23	A05102-004.01
24)	Sample	1	VN21KA24	A05102-005.01

Sequence completed Thu Nov 11 08:33:45 2021

D:\VN\VN_DATA\VN21K10B\2021 Nov 10 1258 Quality Log.LOG
D:\VN\VN_DATA\VN21K10B\2021 Nov 10 1258 Sequence Log .LOG

DH 11-11-21

KM 11/10/21

Sequence Report

11/11/2021 8:28:10 AM

	Name	Tube	Pos.	Inj. Vol.	Run Vol.	Sample	Method	Date	Status	Error	Comment
	VCCV01	One	D6	100	200	0	VNCONA 19.CTD3	11/10/2021 1:22:33 PM	Completed		
	VLCS01	One	D7	100	0	200	VNCONA 19.CTD3	11/10/2021 2:10:10 PM	Completed		
	VLCD01	One	D7	100	0	200	VNCONA 19.CTD3	11/10/2021 2:57:24 PM	Completed		
	VRNS01	One	D6	100	0	200	VNCONA 19.CTD3	11/10/2021 3:45:13 PM	Completed		
	VBLK01	One	D6	100	0	400	VNCONA 19.CTD3	11/10/2021 4:35:18 PM	Completed		
	A05022-004.02	One	A1	100	0	100	VNCONA 19.CTD3	11/10/2021 5:22:30 PM	Completed		
	A05022-005.02	One	A2	100	0	100	VNCONA 19.CTD3	11/10/2021 6:09:36 PM	Completed		
	bv 2795	One	A3	100	0	400	VNCONA 19.CTD3	11/10/2021 6:59:26 PM	Completed		
	bv 2795 dup	One	A3	100	0	400	VNCONA 19.CTD3	11/10/2021 7:50:22 PM	Completed		
	bv 3628	One	A4	100	0	400	VNCONA 19.CTD3	11/10/2021 8:41:09 PM	Completed		
	bvfc 3072	One	A5	100	0	400	VNCONA 19.CTD3	11/10/2021 9:32:19 PM	Completed		
	A04889-002.02	One	A6	100	0	100	VNCONA 19.CTD3	11/10/2021 10:20:40 PM	Completed		
	A04889-004.02	One	A7	100	0	100	VNCONA 19.CTD3	11/10/2021 11:08:33 PM	Completed		

DH 11-11-21

Sequence Report

11/11/2021 8:28:10 AM

	A04889-005.02	One	A8	100	0	100	VNCONA19.CTD3	11/10/2021 11:56:19 PM	Completed		
	A04889-011.02	One	A9	100	0	100	VNCONA19.CTD3	11/11/2021 12:43:31 AM	Completed		
	A04993-002.03	One	A10	100	0	100	VNCONA19.CTD3	11/11/2021 1:31:18 AM	Completed		
	A04993-004.03	One	B1	100	0	80	VNCONA19.CTD3	11/11/2021 2:18:44 AM	Completed		
	bvfc 2792	One	B2	100	0	400	VNCONA19.CTD3	11/11/2021 3:09:29 AM	Completed		
	bvfc 21399	One	B3	100	0	400	VNCONA19.CTD3	11/11/2021 4:00:16 AM	Completed		
	A05102-001.01	One	B4	100	0	100	VNCONA19.CTD3	11/11/2021 4:47:29 AM	Completed		
	A05102-002.01	One	B5	100	0	100	VNCONA19.CTD3	11/11/2021 5:35:24 AM	Completed		
	A05102-003.01	One	B6	100	0	100	VNCONA19.CTD3	11/11/2021 6:23:26 AM	Completed		
	A05102-004.01	One	B7	100	0	100	VNCONA19.CTD3	11/11/2021 7:11:42 AM	Completed		
	A05102-005.01	One	B8	100	0	100	VNCONA19.CTD3	11/11/2021 8:00:56 AM	Completed		

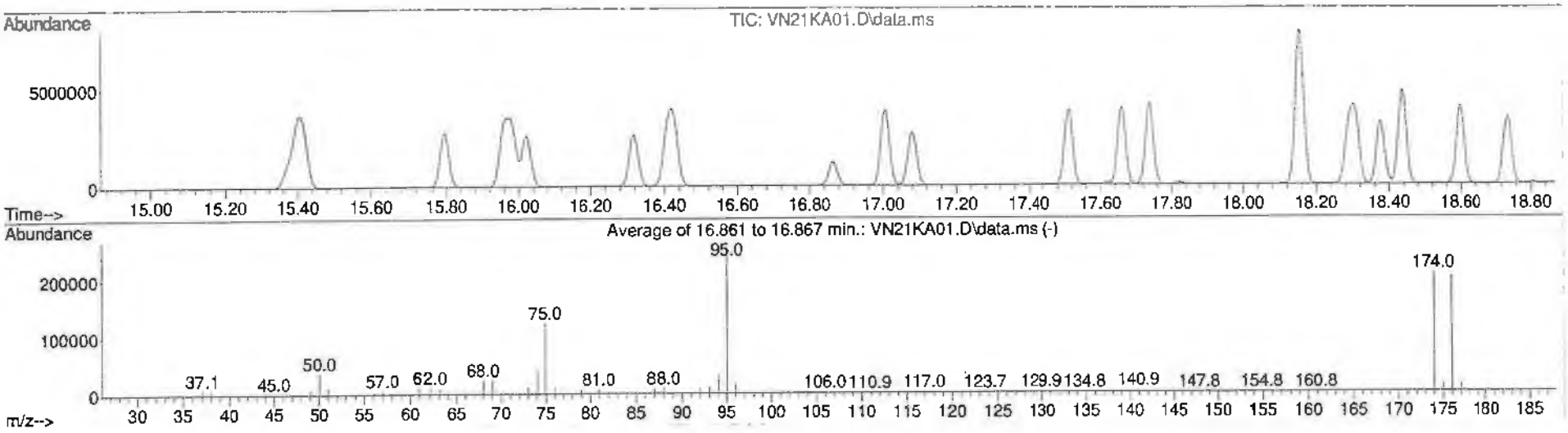
BFB

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

EM 11/11/21

Integration File: rteint.p

Method : \\Vn-cs\VN_D\VN\VN_METHOD\VN400B77.M
Title : COMPOUNDS BY TO-15
Last Update : Mon Nov 01 10:57:19 2021



AutoFind: Scans 4530, 4531, 4532; Background Corrected with Scan 4514

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.7	37344	PASS
75	95	30	66	48.5	123623	PASS
95	95	100	100	100.0	254848	PASS
96	95	5	9	6.3	15997	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	81.2	207040	PASS
175	174	4	9	6.8	14148	PASS
176	174	93	101	97.4	201621	PASS
177	176	5	9	6.4	12941	PASS

DA 11/11/21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

VM 11/11/21

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.804	130	429373	6.46 ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1554439	6.70 ppbv		0.00
52) Chlorobenzene-d5(I)	15.369	54	122092	6.67 ppbv		0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	213747	7.57 ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 112.65%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2078134	14.38	100	14.38
3) Chloromethane	4.229	50	374361	11.75	99	11.75
4) Dichlorotetrafluoroethane	4.322	85	1708652	13.69	93	13.69
5) Vinyl Chloride	4.430	62	510506	11.80	99	11.80
6) 1,3-Butadiene	4.553	54	365417	9.61	98	9.61
7) Bromomethane	4.797	94	532207	14.32	99	14.32
8) Chloroethane	4.956	64	281140	12.64	99	12.64
9) Ethanol	5.064	45	146306	11.08	97	11.08
10) Acrolein	5.394	56	189863	12.62	99	12.62
11) Trichlorofluoromethane	5.695	101	1975567	15.96	98	15.96
12) Isopropanol	5.780	45	880676	10.12	100	10.12
13) Acetone	5.536	58	231349	7.21	94	7.21
14) Acrylonitrile	5.991	53	459827	10.62	# 97	10.62
15) n-Pentane	6.073	43	965581	11.44	# 99	11.44
16) Diethyl Ether	6.104	59	541477	10.72	95	10.72
17) 1,1-Dichloroethene	6.363	61	1207904	10.90	94	10.90
18) t-Butanol	6.434	59	1593867	11.39	# 98	11.39
19) Methylene Chloride	6.485	49	677732	10.46	90	10.46
20) 1,1,2-Trichlorotrifluo...	6.795	101	1803850	11.81	93	11.81
21) Carbon Disulfide	6.795	76	2096156	11.40	98	11.40
22) trans-1,2-Dichloroethene	7.508	61	1052190	10.67	95	10.67
23) MTBE	7.841	73	2385775	11.88	96	11.88
24) 1,1-Dichloroethane	7.724	63	1259341	10.64	100	10.64
25) Vinyl Acetate	7.918	86	213457	15.02	77	15.02
26) n-Hexane	8.890	57	1039132	9.75	89	9.75
27) 2-Butanone	8.185	43	1037232	8.91	95	8.91
28) cis-1,2-Dichloroethene	8.637	61	1012235	11.21	95	11.21
29) Chloroform	8.955	83	1965738	12.35	97	12.35
30) Ethyl Acetate	8.924	61	218034	11.24	96	11.24
31) Diisopropyl Ether	8.912	45	1983604	12.70	98	12.70
32) Tetrahydrofuran	9.415	42	833893	15.14	98	15.14
33) ETBE	9.492	59	2360759	11.40	98	11.40
34) 1,2-Dichloroethane	9.745	62	1191523	11.42	99	11.42
35) Methylcyclopentane	9.765	56	1397616	11.75	98	11.75
37) 1,1,1-Trichloroethane	10.021	97	2177137	13.04	98	13.04
38) Cyclohexane	10.808	56	1056383	11.56	98	11.56
39) Carbon Tetrachloride	10.671	117	2411594	13.72	99	13.72
40) Benzene	10.512	78	2400486	11.71	98	11.71
41) Dibromomethane	11.337	174	1270236	14.10	98	14.10
42) n-Heptane	11.979	43	992806	12.22	97	12.22
43) 1,2-Dichloropropane	11.382	63	797215	12.07	99	12.07
44) Trichloroethene	11.632	95	1231615	12.67	97	12.67
45) Bromodichloromethane	11.578	83	2064453	12.48	98	12.48

04 11-11-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

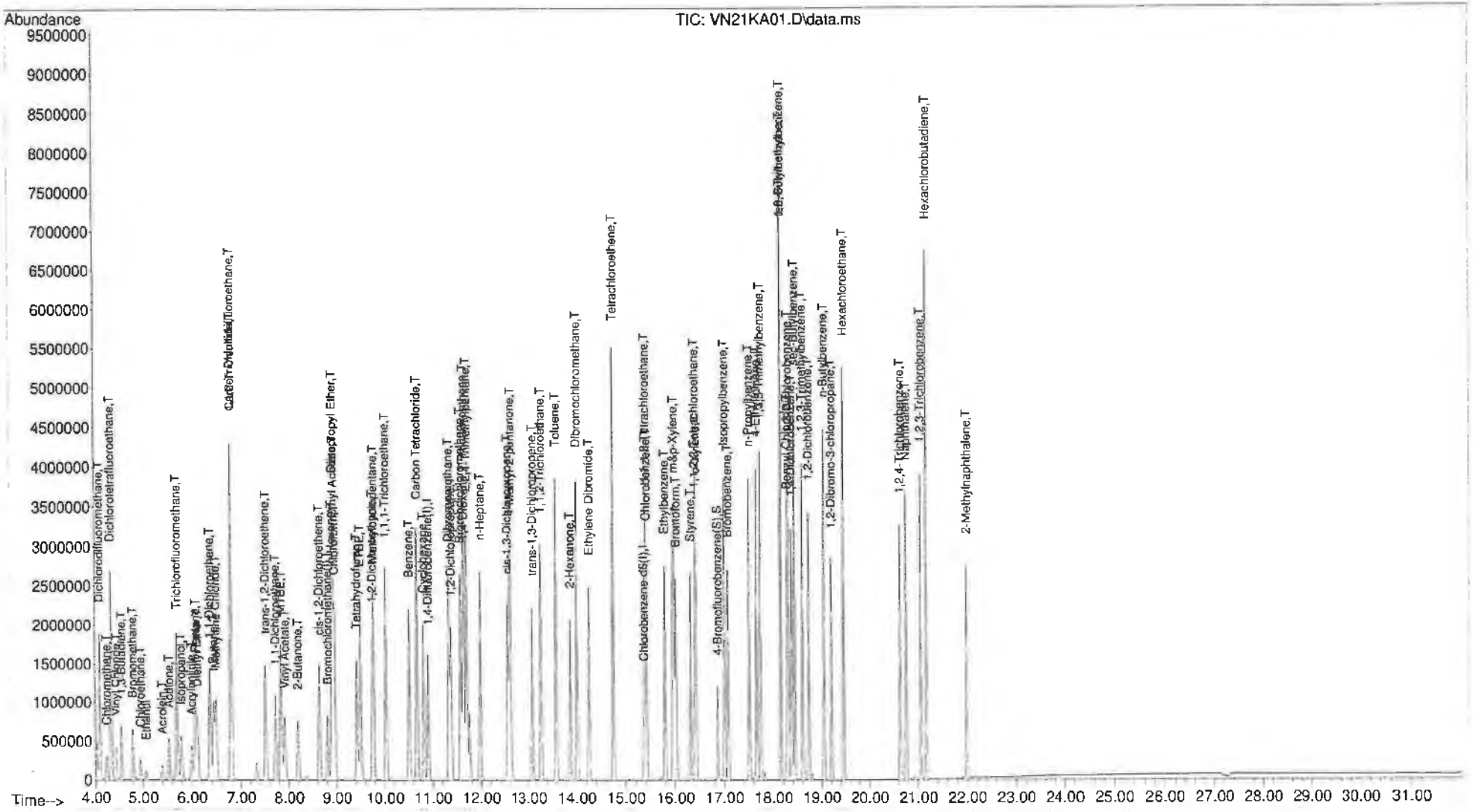
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.646	88	603650	13.29		#	74	13.29
47) 2,2,4-Trimethylpentane	11.700	57	3495850	12.24			98	12.24
48) cis-1,3-Dichloropropene	12.542	75	1543400	12.88			99	12.88
49) 4-Methyl-2-pentanone	12.610	58	704444	10.61			96	10.61
50) trans-1,3-Dichloropropene	13.096	75	1494305	13.33			99	13.33
51) 1,1,1,2-Tetrachloroethane	15.398	131	821797	14.27			96	14.27
53) 1,1,2-Trichloroethane	13.272	97	1112529	14.97			99	14.97
54) Toluene	13.579	91	3315894	14.24			100	14.24
55) 2-Hexanone	13.872	43	1283240	11.51		#	98	11.51
56) Dibromochloromethane	13.999	127	1856134	14.37			99	14.37
57) Ethylene Dibromide	14.255	107	1857449	15.34			100	15.34
58) Tetrachloroethene	14.744	166	1802130	15.75			99	15.75
59) Chlorobenzene	15.418	112	1370110	14.78			98	14.78
60) Ethylbenzene	15.793	91	2182580	14.16			100	14.16
61) m&p-Xylene	15.975	106	1737118	29.55			98	29.55
62) Bromoform	16.023	173	1335279	17.41		#	100	17.41
63) Styrene	16.319	104	1411151	16.06			100	16.06
64) 1,1,2,2-Tetrachloroethane	16.407	83	1247819	14.55			100	14.55
65) o-Xylene	16.427	91	1908424	14.92			99	14.92
67) Isopropylbenzene	17.006	105	2683628	16.62			100	16.62
68) n-Propylbenzene	17.512	91	3204415	17.90			100	17.90
69) 4-Ethyltoluene	17.660	105	2700045	15.73			98	15.73
70) 1,3,5-Trimethylbenzene	17.737	105	2451641	15.79			98	15.79
71) tert-Butylbenzene	18.155	119	2504193	17.41			98	17.41
72) 1,2,4-Trimethylbenzene	18.155	105	2271616	15.25			99	15.25
73) 1,3-Dichlorobenzene	18.305	146	1449413	20.92			99	20.92
74) Benzyl Chloride	18.288	91	1880488	21.53			100	21.53
75) 1,4-Dichlorobenzene	18.376	146	1380217	21.06			100	21.06
76) sec-Butylbenzene	18.436	105	3395189	17.10			100	17.10
77) 1,2,3-Trimethylbenzene	18.598	105	2444088	18.29			100	18.29
78) 1,2-Dichlorobenzene	18.737	146	1472397	16.66			100	16.66
79) n-Butylbenzene	19.053	91	2563808	15.17			100	15.17
80) Bromobenzene	17.080	77	1280380	16.03			98	16.03
81) 1,2-Dibromo-3-chloropr...	19.206	157	901888	25.99			99	25.99
82) Hexachloroethane	19.462	117	1108685	16.05			100	16.05
83) 1,2,4-Trichlorobenzene	20.633	180	1040003	16.23			100	16.23
84) Naphthalene	20.758	128	2881153	17.17			99	17.17
85) 1,2,3-Trichlorobenzene	21.053	180	1210999	17.89			99	17.89
86) Hexachlorobutadiene	21.167	225	1289453	14.25			99	14.25
87) 2-Methylnaphthalene	21.986	142	1270896	15.78			99	15.78

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.804	130	429373	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1554439	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.369	54	122092	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.864	75	213747	7.57	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 112.65%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2078134	14.38		100	14.38
3) Chloromethane	4.229	50	374361	11.75		99	11.75
4) Dichlorotetrafluoroethane	4.322	85	1708652	13.69		93	13.69
5) Vinyl Chloride	4.430	62	510506	11.80		99	11.80
6) 1,3-Butadiene	4.553	54	365417	9.61		98	9.61
7) Bromomethane	4.797	94	532207	14.32		99	14.32
8) Chloroethane	4.956	64	281140	12.64		99	12.64
9) Ethanol	5.064	45	146306	11.08		97	11.08
10) Acrolein	5.394	56	189863	12.62		99	12.62
11) Trichlorofluoromethane	5.695	101	1975567	15.96		98	15.96
12) Isopropanol	5.780	45	880676	10.12		100	10.12
13) Acetone	5.536	58	231349	7.21		94	7.21
14) Acrylonitrile	5.991	53	459827	10.62	#	97	10.62
15) n-Pentane	6.073	43	965581	11.44	#	99	11.44
16) Diethyl Ether	6.104	59	541477	10.72		95	10.72
17) 1,1-Dichloroethene	6.363	61	1207904	10.90		94	10.90
18) t-Butanol	6.434	59	1593867	11.39	#	98	11.39
19) Methylene Chloride	6.485	49	677732	10.46		90	10.46
20) 1,1,2-Trichlorotrifluo...	6.795	101	1803850	11.81		93	11.81
21) Carbon Disulfide	6.795	76	2096156	11.40		98	11.40
22) trans-1,2-Dichloroethene	7.508	61	1052190	10.67		95	10.67
23) MTBE	7.841	73	2385775	11.88		96	11.88
24) 1,1-Dichloroethane	7.724	63	1259341	10.64		100	10.64
25) Vinyl Acetate	7.918	86	213457	15.02		77	15.02
26) n-Hexane	8.890	57	1039132	9.75		89	9.75
27) 2-Butanone	8.185	43	1037232	8.91		95	8.91
28) cis-1,2-Dichloroethene	8.637	61	1012235	11.21		95	11.21
29) Chloroform	8.955	83	1965738	12.35		97	12.35
30) Ethyl Acetate	8.924	61	218034	11.24		96	11.24
31) Diisopropyl Ether	8.912	45	1983604	12.70		98	12.70
32) Tetrahydrofuran	9.415	42	833893	15.14		98	15.14
33) ETBE	9.492	59	2360759	11.40		98	11.40
34) 1,2-Dichloroethane	9.745	62	1191523	11.42		99	11.42
35) Methylcyclopentane	9.765	56	1397616	11.75		98	11.75
37) 1,1,1-Trichloroethane	10.021	97	2177137	13.04		98	13.04
38) Cyclohexane	10.808	56	1056383	11.56		98	11.56
39) Carbon Tetrachloride	10.671	117	2411594	13.72		99	13.72
40) Benzene	10.512	78	2400486	11.71		98	11.71
41) Dibromomethane	11.337	174	1270236	14.10		98	14.10
42) n-Heptane	11.979	43	992806	12.22		97	12.22
43) 1,2-Dichloropropane	11.382	63	797215	12.07		99	12.07
44) Trichloroethene	11.632	95	1231615	12.67		97	12.67
45) Bromodichloromethane	11.578	83	2064453	12.48		98	12.48

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

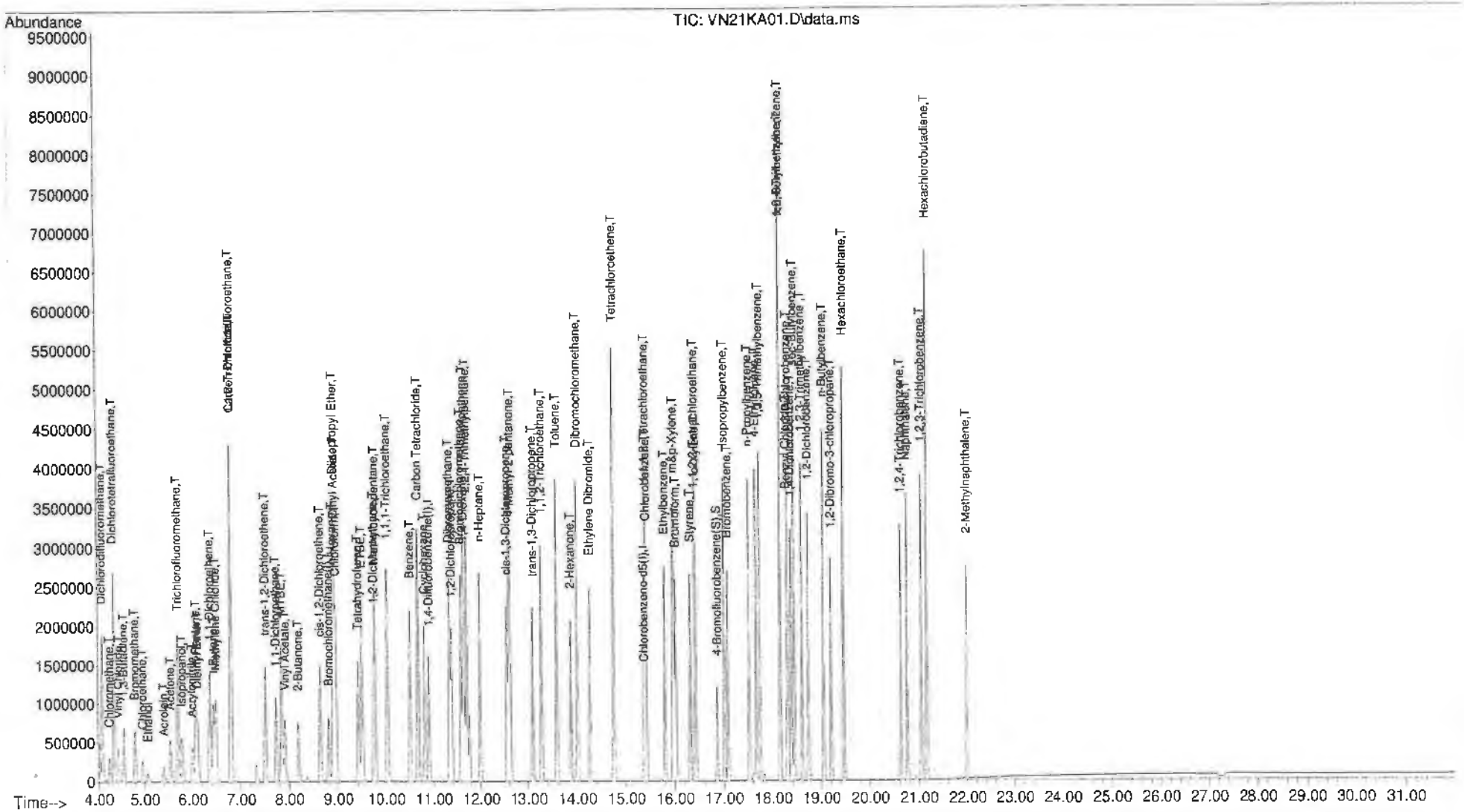
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.646	88	603650	13.29		#	74	13.29
47) 2,2,4-Trimethylpentane	11.700	57	3495850	12.24			98	12.24
48) cis-1,3-Dichloropropene	12.542	75	1543400	12.88			99	12.88
49) 4-Methyl-2-pentanone	12.610	58	704444	10.61			96	10.61
50) trans-1,3-Dichloropropene	13.096	75	1494305	13.33			99	13.33
51) 1,1,1,2-Tetrachloroethane	15.398	131	821797	14.27			96	14.27
53) 1,1,2-Trichloroethane	13.272	97	1112529	14.97			99	14.97
54) Toluene	13.579	91	3315894	14.24			100	14.24
55) 2-Hexanone	13.872	43	1283240	11.51		#	98	11.51
56) Dibromochloromethane	13.999	127	1856134	14.37			99	14.37
57) Ethylene Dibromide	14.255	107	1857449	15.34			100	15.34
58) Tetrachloroethene	14.744	166	1802130	15.75			99	15.75
59) Chlorobenzene	15.418	112	1370110	14.78			98	14.78
60) Ethylbenzene	15.793	91	2182580	14.16			100	14.16
61) m&p-Xylene	15.975	106	1737118	29.55			98	29.55
62) Bromoform	16.023	173	1335279	17.41		#	100	17.41
63) Styrene	16.319	104	1411151	16.06			100	16.06
64) 1,1,2,2-Tetrachloroethane	16.407	83	1247819	14.55			100	14.55
65) o-Xylene	16.427	91	1908424	14.92			99	14.92
67) Isopropylbenzene	17.006	105	2683628	16.62			100	16.62
68) n-Propylbenzene	17.512	91	3204415	17.90			100	17.90
69) 4-Ethyltoluene	17.660	105	2700045	15.73			98	15.73
70) 1,3,5-Trimethylbenzene	17.737	105	2451641	15.79			98	15.79
71) tert-Butylbenzene	18.155	119	2504193	17.41			98	17.41
72) 1,2,4-Trimethylbenzene	18.155	105	2271616	15.25			99	15.25
73) 1,3-Dichlorobenzene	18.305	146	1449413	20.92			99	20.92
74) Benzyl Chloride	18.288	91	1880488	21.53			100	21.53
75) 1,4-Dichlorobenzene	18.376	146	1380217	21.06			100	21.06
76) sec-Butylbenzene	18.436	105	3395189	17.10			100	17.10
77) 1,2,3-Trimethylbenzene	18.598	105	2444088	18.29			100	18.29
78) 1,2-Dichlorobenzene	18.737	146	1472397	16.66			100	16.66
79) n-Butylbenzene	19.053	91	2563808	15.17			100	15.17
80) Bromobenzene	17.080	77	1280380	16.03			98	16.03
81) 1,2-Dibromo-3-chloropr...	19.206	157	901888	25.99			99	25.99
82) Hexachloroethane	19.462	117	1108685	16.05			100	16.05
83) 1,2,4-Trichlorobenzene	20.633	180	1040003	16.23			100	16.23
84) Naphthalene	20.758	128	2881153	17.17			99	17.17
85) 1,2,3-Trichlorobenzene	21.053	180	1210999	17.89			99	17.89
86) Hexachlorobutadiene	21.167	225	1289453	14.25			99	14.25
87) 2-Methylnaphthalene	21.986	142	1270896	15.78			99	15.78

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA01.D
Acq On : 10 Nov 2021 01:22 pm
Operator :
Sample : VCCV01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 13:54:46 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq	Version:	3.3.0.41	Instrument SN:	
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3	System Id:	1	Inlet (1-4):	1
Sample Name:	VCCV01	C.O.E:	False	Auto Sampler:	7650
Inject Time:	11/10/2021 1:22:33 PM			AS Position:	D6
Sample Start:				Focus Duration	3
Sample End:				Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	26.8 (25)	5.35	21.74	21.04	1.96	3.1
Calibration Std	201.2 (200)	95.3 (100)	2.33	36.77	35.07	2.87	5.16
Sample			0.00				
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	93.2 (100)	0.97	24.87	22.63	3.37	4.24
M1/ M2 Transfer	100 (100)	21.1 (20)	5.63	24.87	24.46	4.17	5.31

7200 Trap & Inlet Temperatures

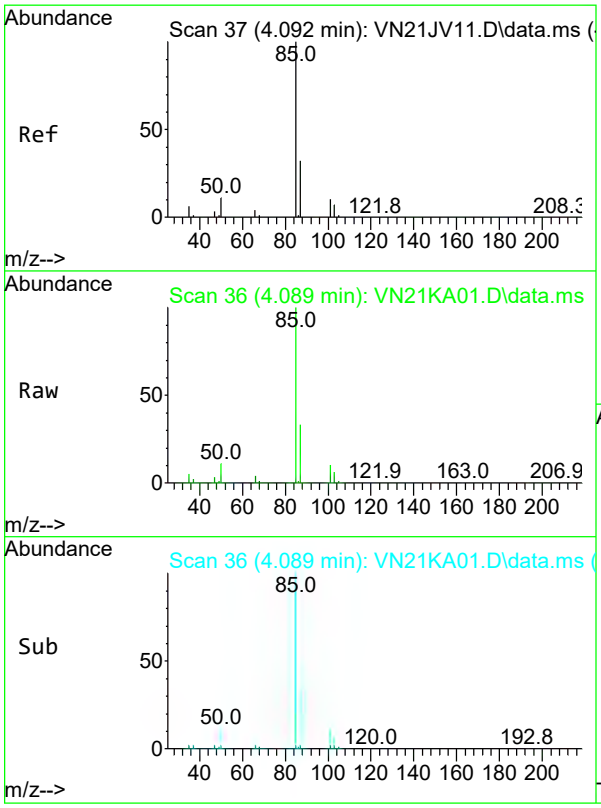
	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				119 (120)
M2	-47 (-50)	-47 (-50)	-47 (-50)	228 (230)		209 (210)
M2 Bulk Head	32 (32)			63 (63)		119 (119)
M3	35			-174 (-165)	72 (80)	-61
Rot Valve Plate	92/90 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	63 (60)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	
Transfer Line:		Transfer Line:	
Sample:		Oven:	

7650 Autosampler

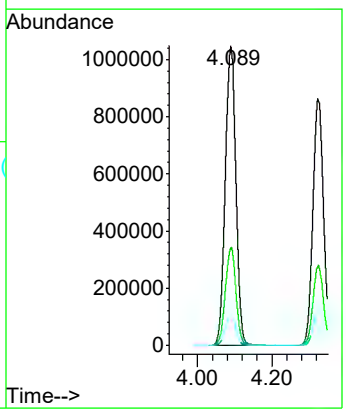
Encoder	Position (steps)
X:	
Y:	

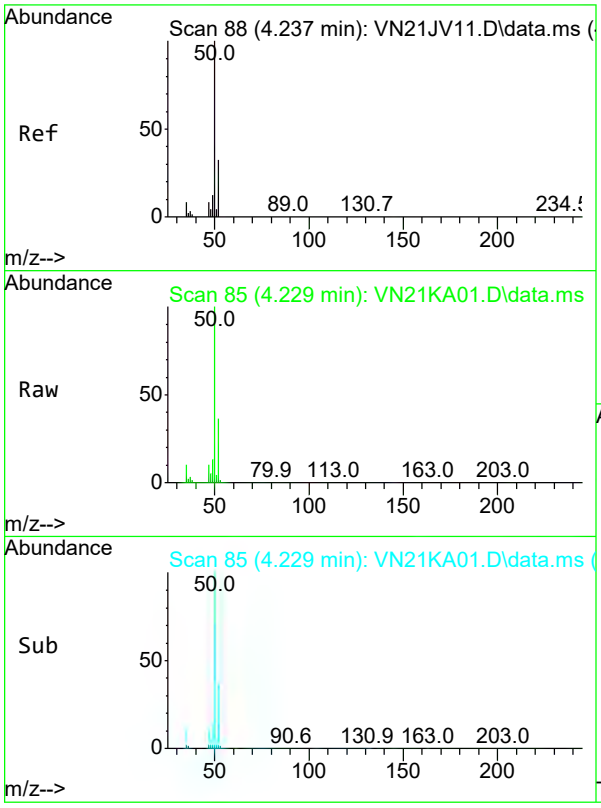


#2
Dichlorodifluoromethane
Concen: 14.38 ppbv
RT: 4.089 min Scan# 36
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 85 Resp: 2078134

Ion	Ratio	Lower	Upper
85	100		
87	32.5	26.0	39.0
101	9.9	7.6	11.4

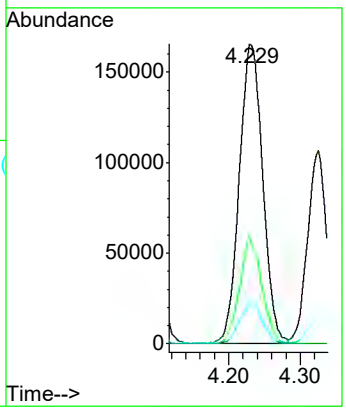


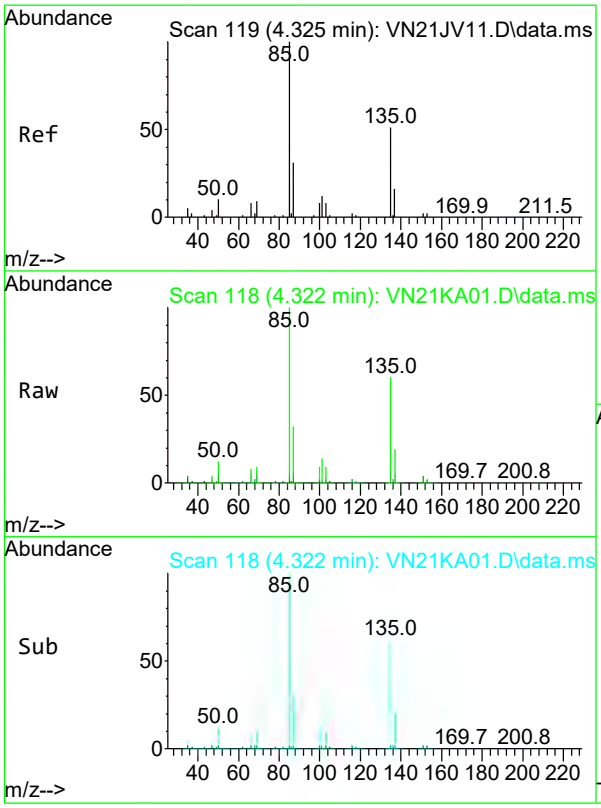


#3
Chloromethane
Concen: 11.75 ppbv
RT: 4.229 min Scan# 85
Delta R.T. -0.009 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 50 Resp: 374361

Ion	Ratio	Lower	Upper
50	100		
52	33.4	27.0	40.4
49	12.8	9.5	14.3

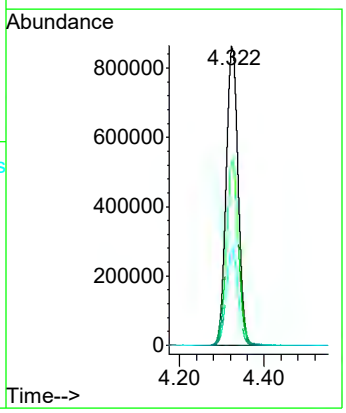


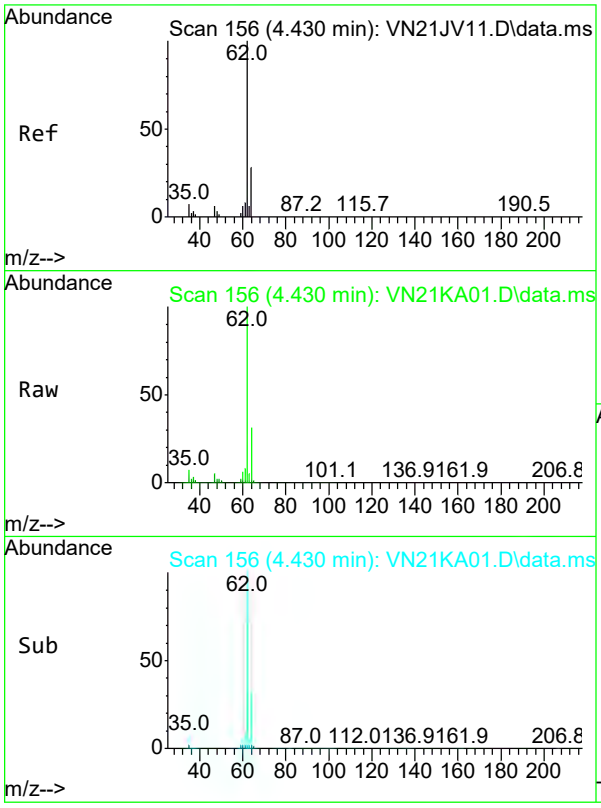


#4
Dichlorotetrafluoroethane
Concen: 13.69 ppbv
RT: 4.322 min Scan# 118
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 85 Resp: 1708652

Ion	Ratio	Lower	Upper
85	100		
135	61.2	42.2	63.4
87	32.2	25.6	38.4

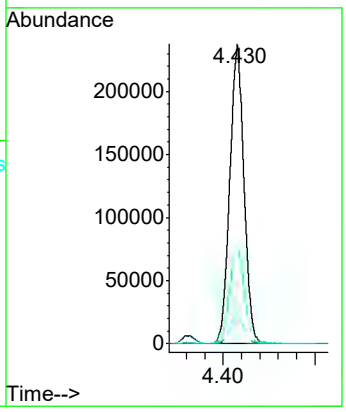


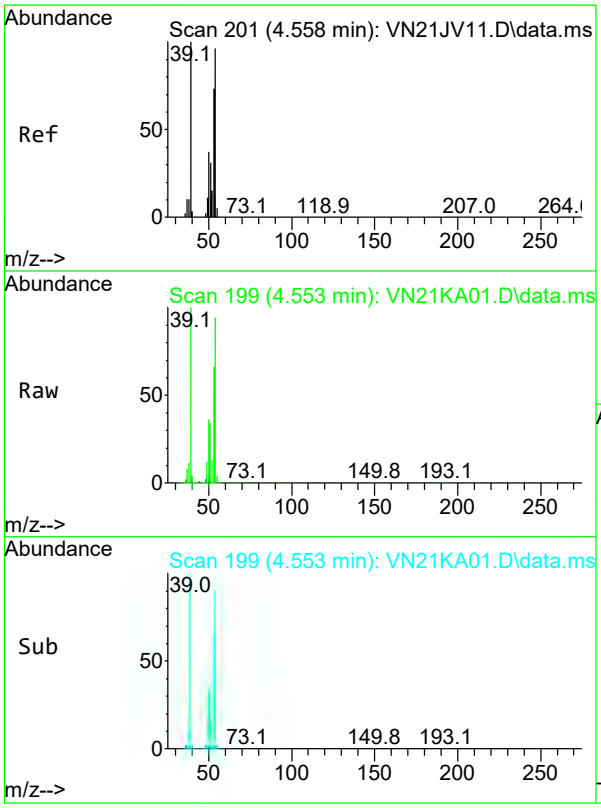


#5
Vinyl Chloride
Concen: 11.80 ppbv
RT: 4.430 min Scan# 156
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 62 Resp: 510506

Ion	Ratio	Lower	Upper
62	100		
64	32.3	25.4	38.2
61	9.1	7.4	11.0

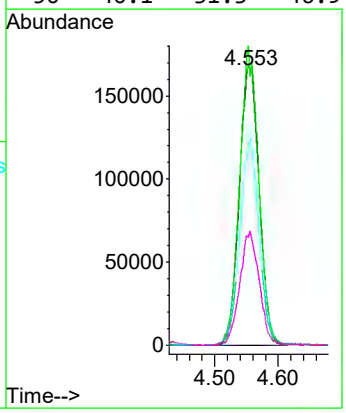


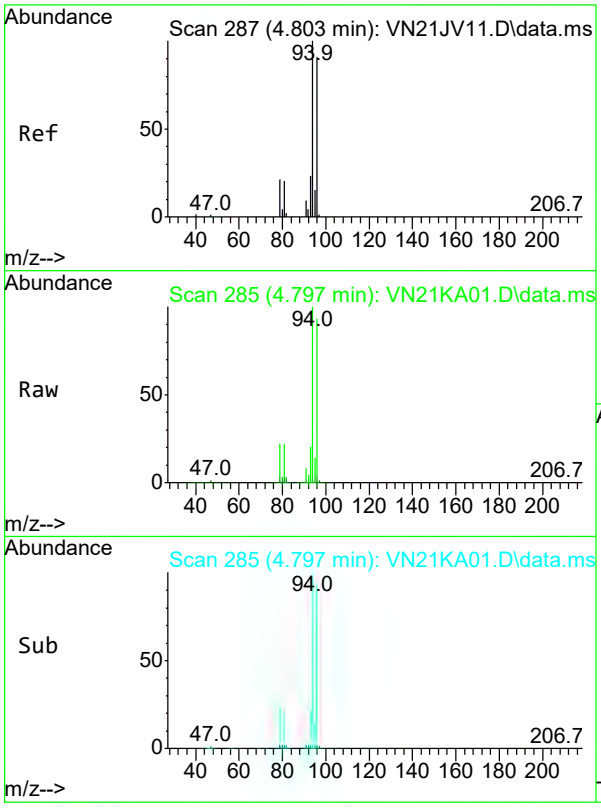


#6
1,3-Butadiene
Concen: 9.61 ppbv
RT: 4.553 min Scan# 199
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 54 Resp: 365417

Ion	Ratio	Lower	Upper
54	100		
39	104.0	85.7	128.5
53	71.2	57.5	86.3
50	40.1	31.3	46.9

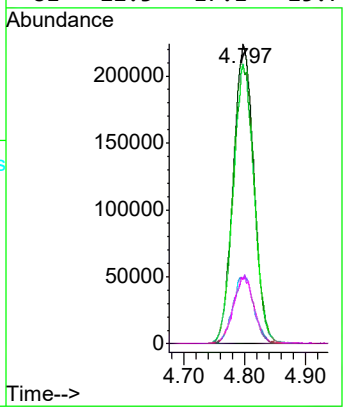


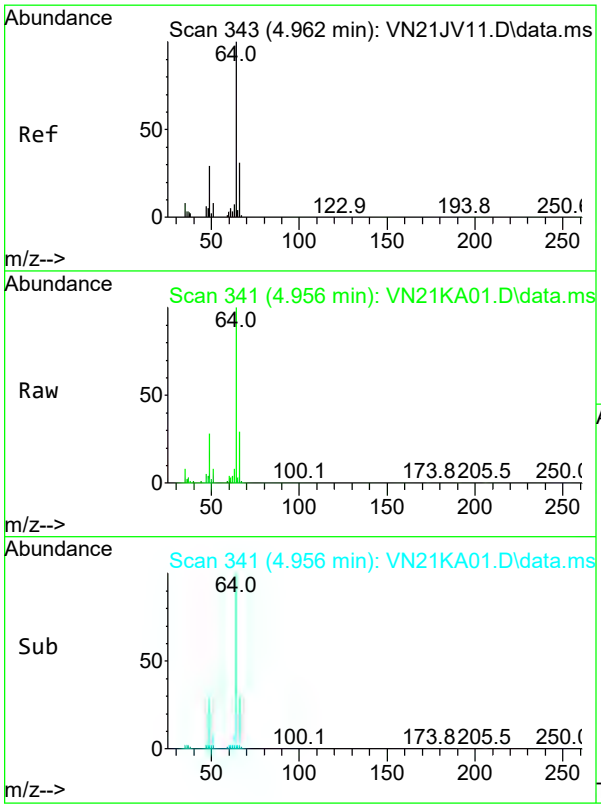


#7
Bromomethane
Concen: 14.32 ppbv
RT: 4.797 min Scan# 285
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 94 Resp: 532207

Ion	Ratio	Lower	Upper
94	100		
96	93.6	75.7	113.5
79	23.0	17.2	25.8
81	22.3	17.1	25.7

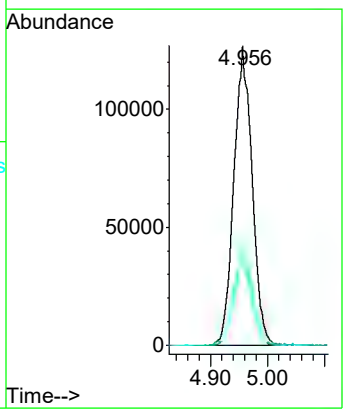


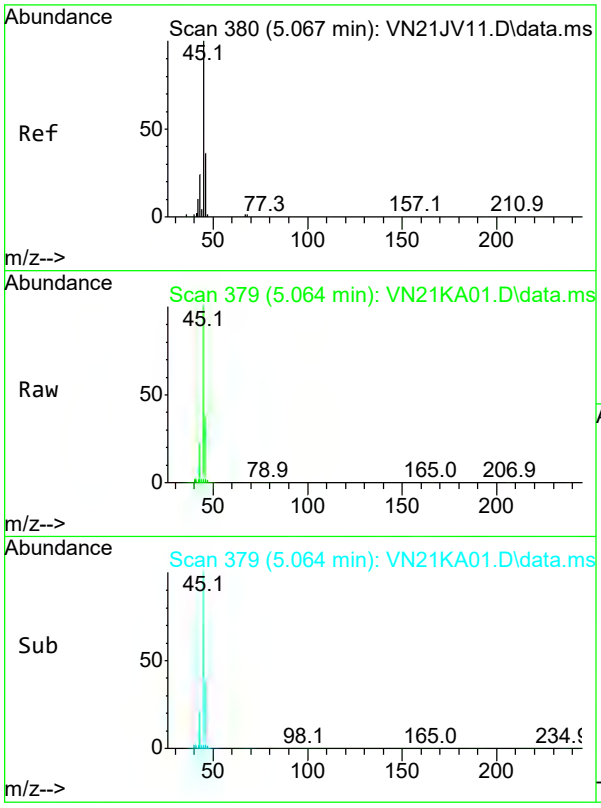


#8
Chloroethane
Concen: 12.64 ppbv
RT: 4.956 min Scan# 341
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 64 Resp: 281140

Ion	Ratio	Lower	Upper
64	100		
66	32.1	25.3	37.9
49	28.2	22.6	34.0

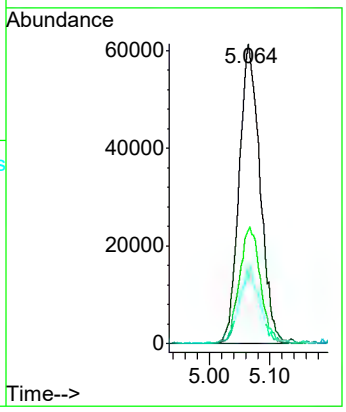


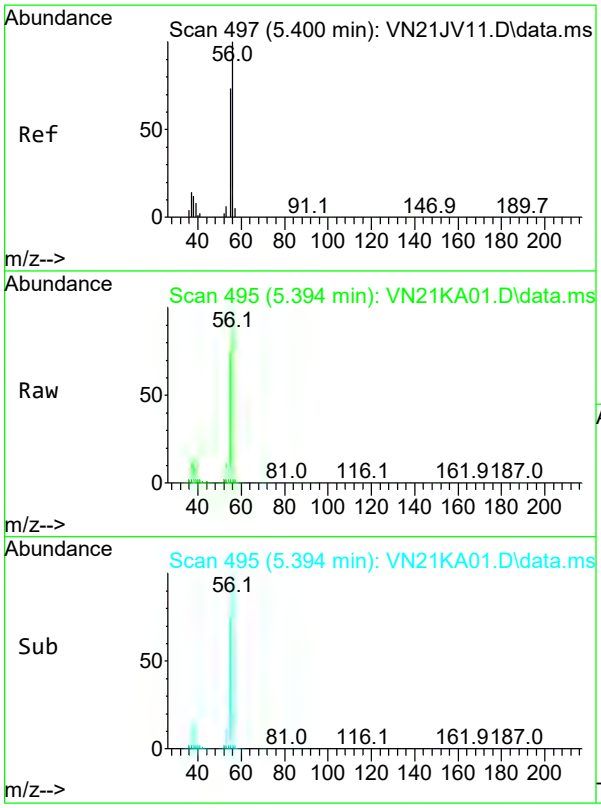


#9
Ethanol
Concen: 11.08 ppbv
RT: 5.064 min Scan# 379
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 45 Resp: 146306

Ion	Ratio	Lower	Upper
45	100		
46	39.5	29.8	44.8
43	24.8	19.0	28.4

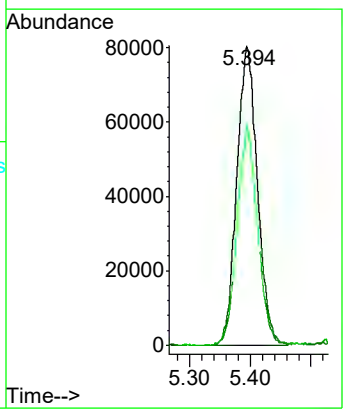


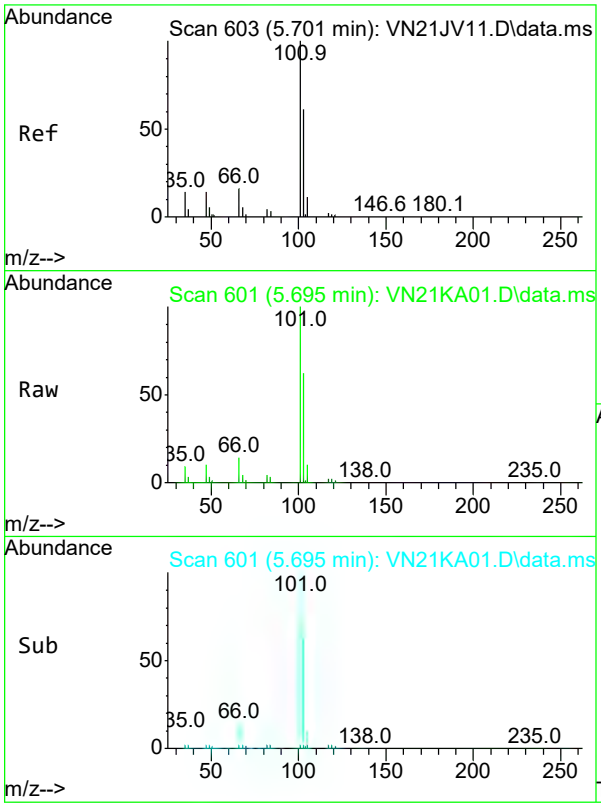


#10
Acrolein
Concen: 12.62 ppbv
RT: 5.394 min Scan# 495
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 56 Resp: 189863

Ion	Ratio	Lower	Upper
56	100		
55	72.7	57.3	85.9

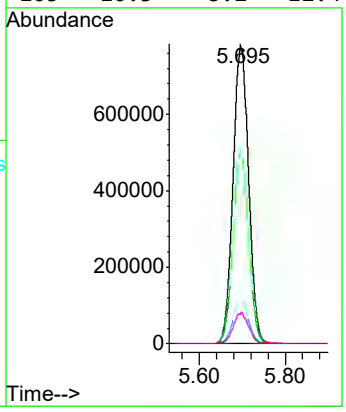


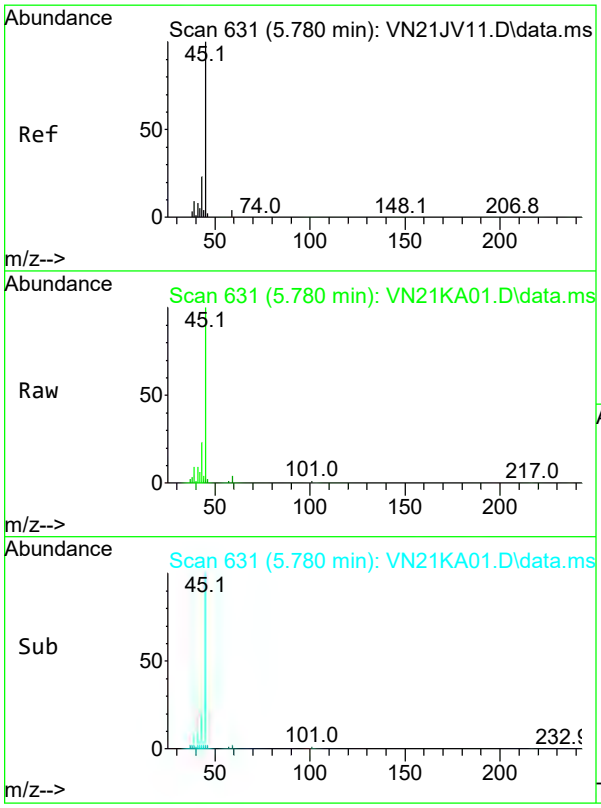


#11
Trichlorofluoromethane
Concen: 15.96 ppbv
RT: 5.695 min Scan# 601
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:101 Resp: 1975567

Ion	Ratio	Lower	Upper
101	100		
103	64.4	51.0	76.6
66	14.1	13.3	19.9
105	10.3	8.2	12.4

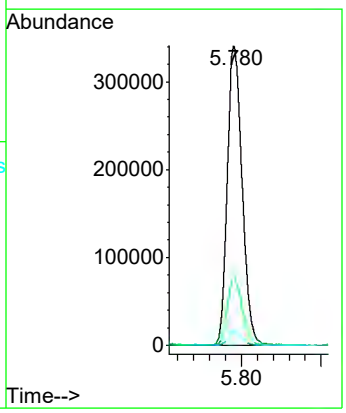


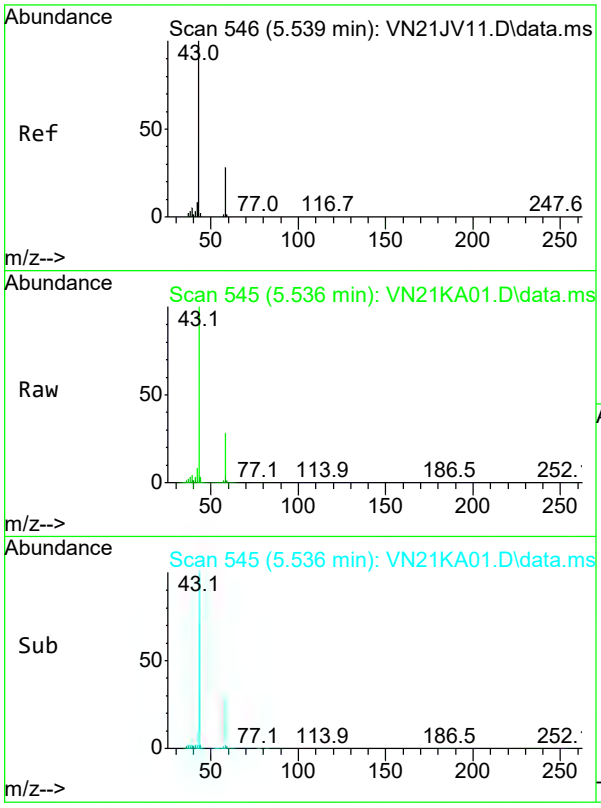


#12
Isopropanol
Concen: 10.12 ppbv
RT: 5.780 min Scan# 631
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 45 Resp: 880676

Ion	Ratio	Lower	Upper
45	100		
43	22.5	17.9	26.9
59	4.2	3.1	4.7

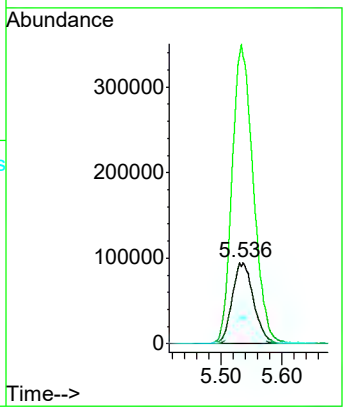


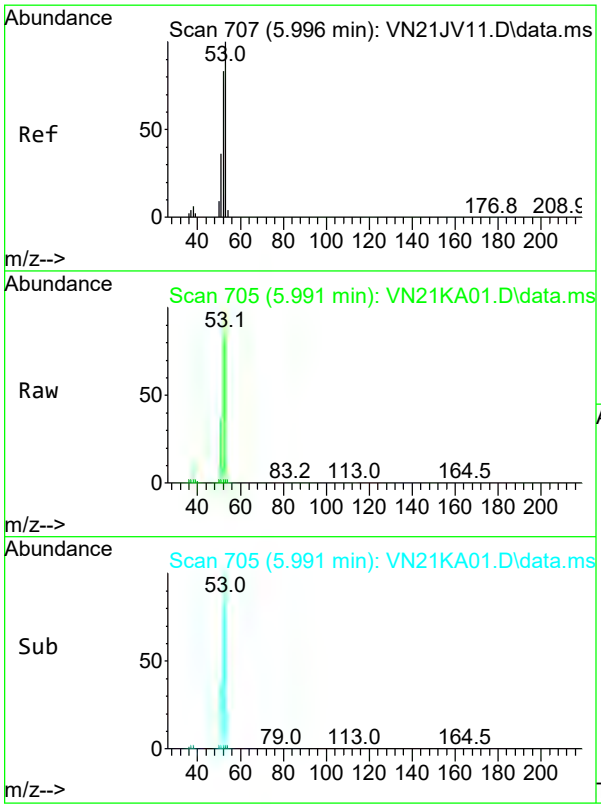


#13
Acetone
Concen: 7.21 ppbv
RT: 5.536 min Scan# 545
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 58 Resp: 231349

Ion	Ratio	Lower	Upper
58	100		
43	365.7	304.6	456.8
42	31.8	26.4	39.6

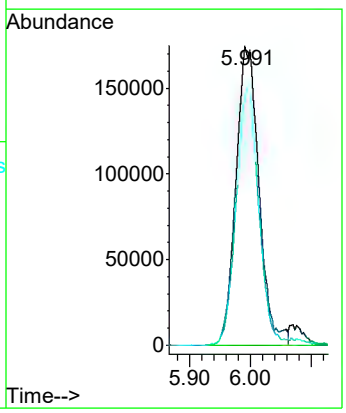


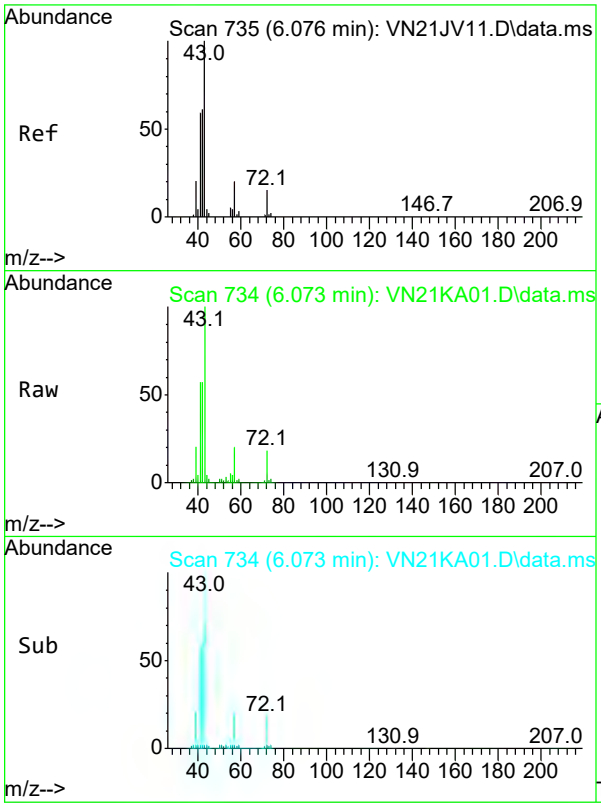


#14
Acrylonitrile
Concen: 10.62 ppbv
RT: 5.991 min Scan# 705
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 53 Resp: 459827

Ion	Ratio	Lower	Upper
53	100		
26	0.0	0.0	0.0
52	86.1	67.0	100.4

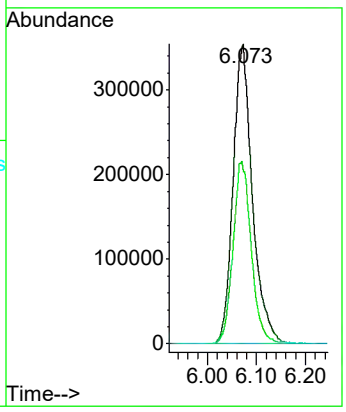


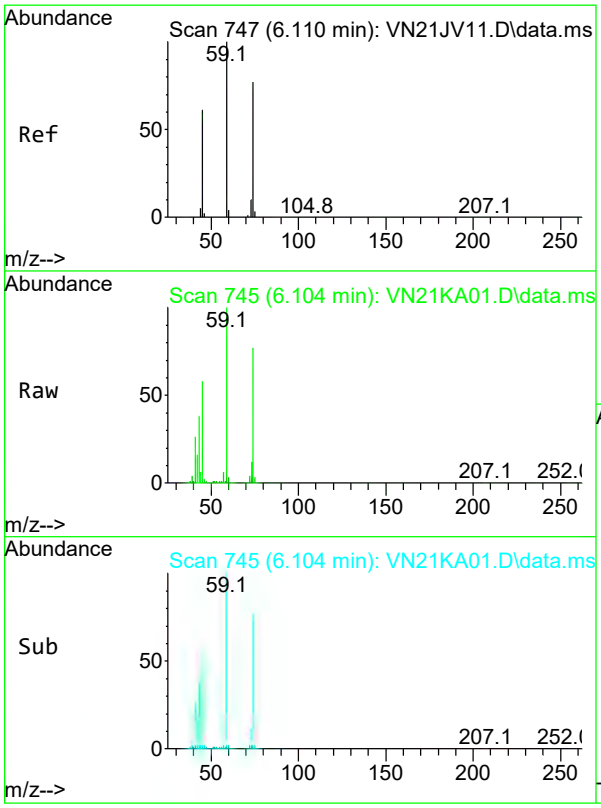


#15
n-Pentane
Concen: 11.44 ppbv
RT: 6.073 min Scan# 734
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 43 Resp: 965581

Ion	Ratio	Lower	Upper
43	100		
42	57.7	45.4	68.2
27	0.0	0.0	0.0

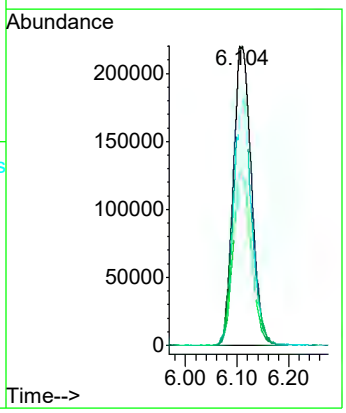


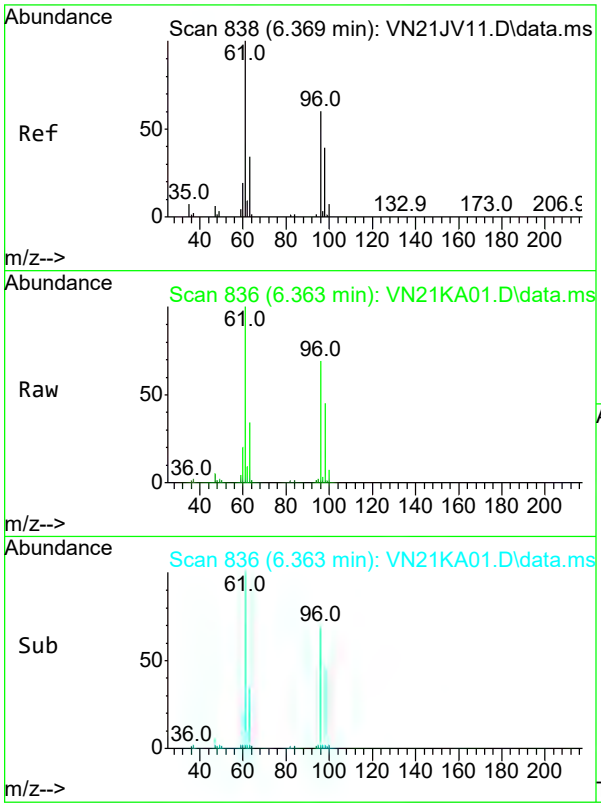


#16
Diethyl Ether
Concen: 10.72 ppbv
RT: 6.104 min Scan# 745
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 59 Resp: 541477

Ion	Ratio	Lower	Upper
59	100		
45	57.8	49.5	74.3
74	80.9	61.4	92.0

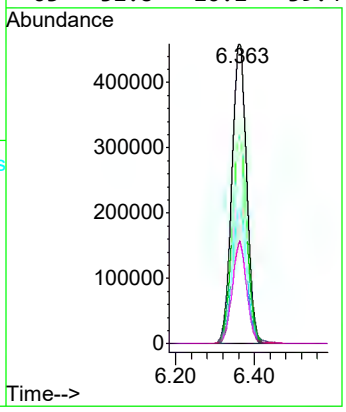


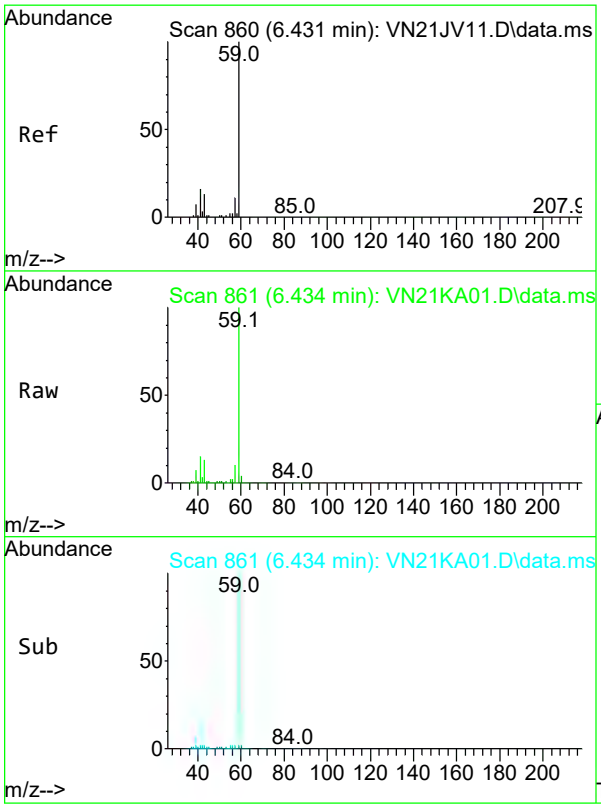


#17
1,1-Dichloroethene
Concen: 10.90 ppbv
RT: 6.363 min Scan# 836
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 61 Resp: 1207904

Ion	Ratio	Lower	Upper
61	100		
96	67.8	49.2	73.8
98	44.1	32.0	48.0
63	32.8	26.2	39.4

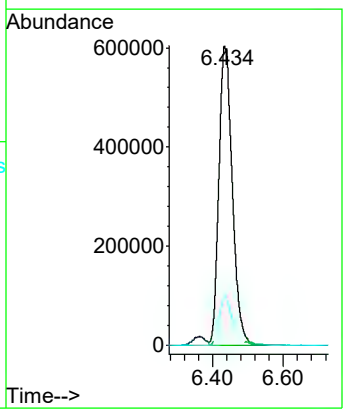


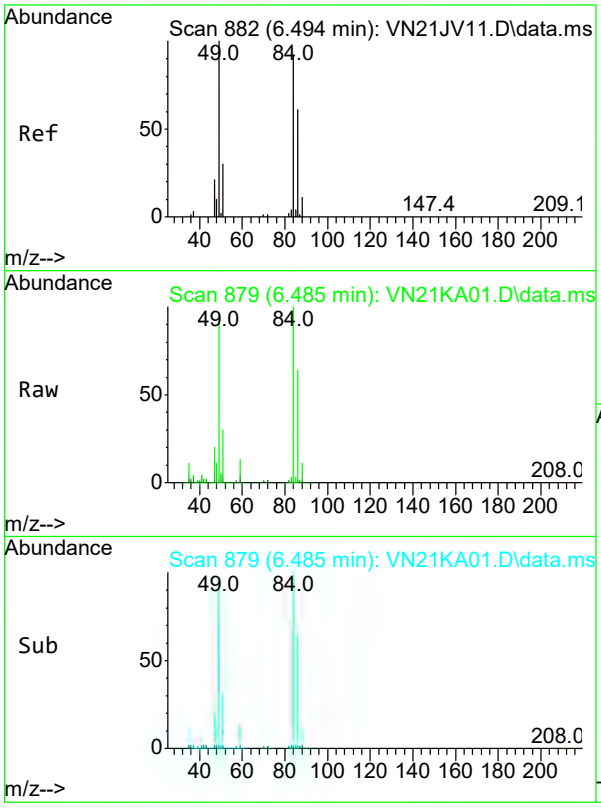


#18
t-Butanol
Concen: 11.39 ppbv
RT: 6.434 min Scan# 861
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 59 Resp: 1593867

Ion	Ratio	Lower	Upper
59	100		
31	0.0	0.0	0.0
41	16.3	13.8	20.6

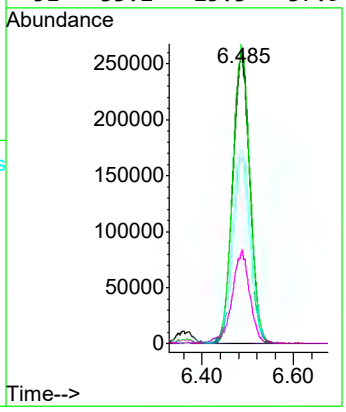


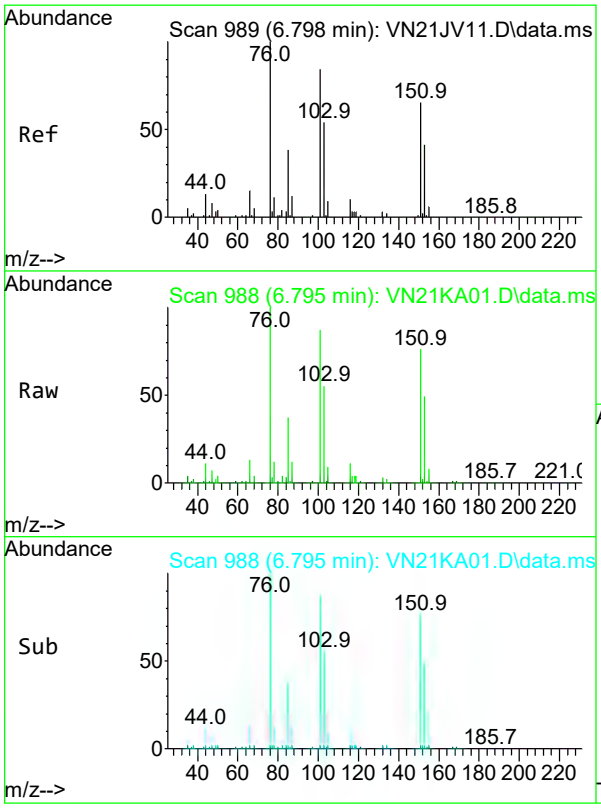


#19
Methylene Chloride
Concen: 10.46 ppbv
RT: 6.485 min Scan# 879
Delta R.T. -0.009 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 49 Resp: 677732

Ion	Ratio	Lower	Upper
49	100		
84	103.9	74.0	111.0
86	66.9	47.6	71.4
51	33.2	25.3	37.9

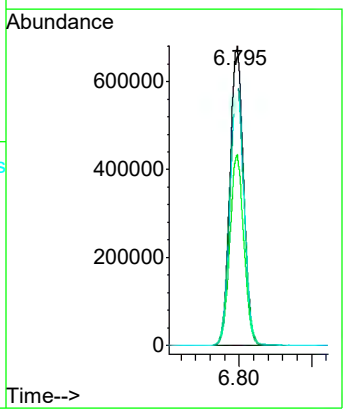


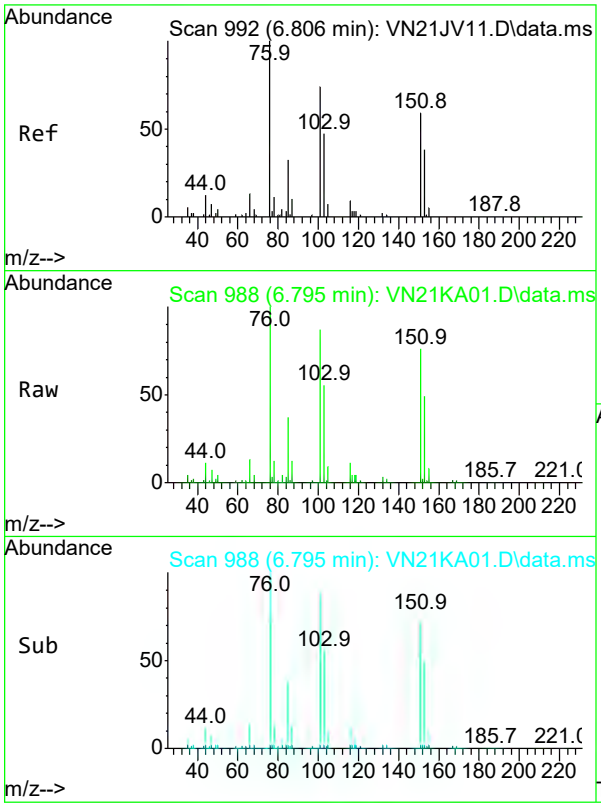


#20
1,1,2-Trichlorotrifluoroethane
Concen: 11.81 ppbv
RT: 6.795 min Scan# 988
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:101 Resp: 1803850

Ion	Ratio	Lower	Upper
101	100		
103	64.2	51.3	76.9
151	87.7	61.9	92.9

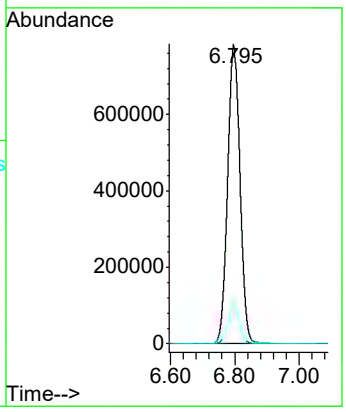


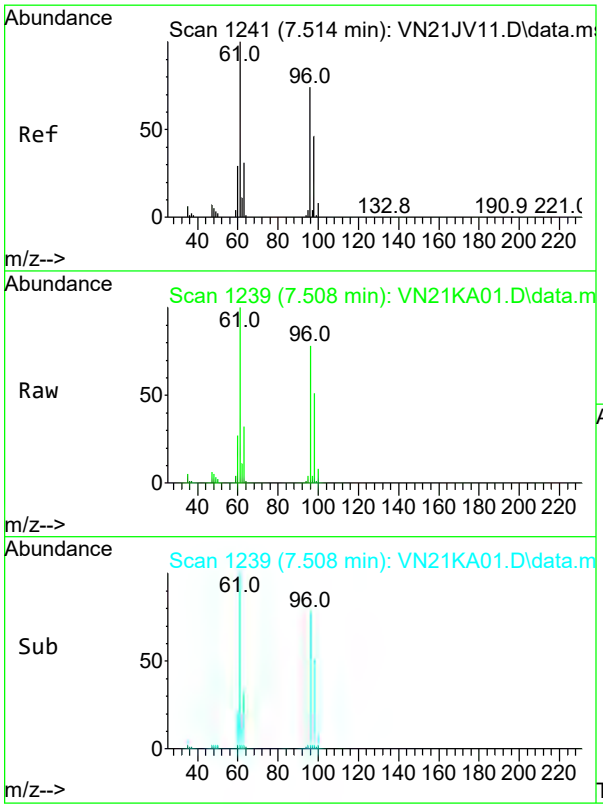


#21
Carbon Disulfide
Concen: 11.40 ppbv
RT: 6.795 min Scan# 988
Delta R.T. -0.011 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 76 Resp: 2096156

Ion	Ratio	Lower	Upper
76	100		
44	11.3	10.3	15.5
78	11.6	9.4	14.0

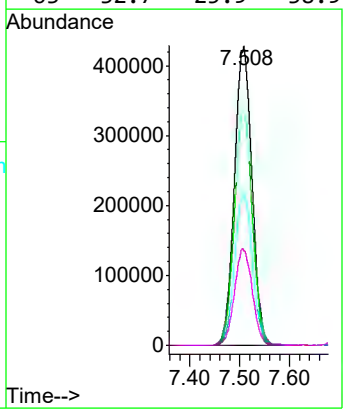


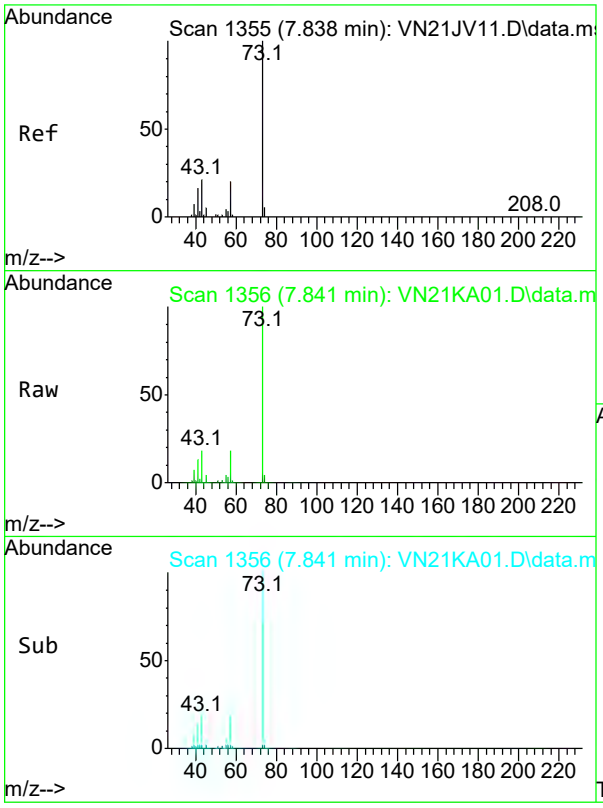


#22
trans-1,2-Dichloroethene
Concen: 10.67 ppbv
RT: 7.508 min Scan# 1239
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 61 Resp: 1052190

Ion	Ratio	Lower	Upper
61	100		
96	79.5	59.2	88.8
98	51.3	37.4	56.2
63	32.7	25.9	38.9

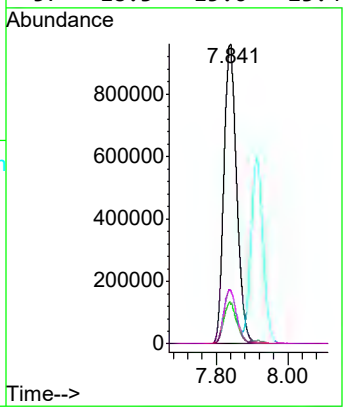


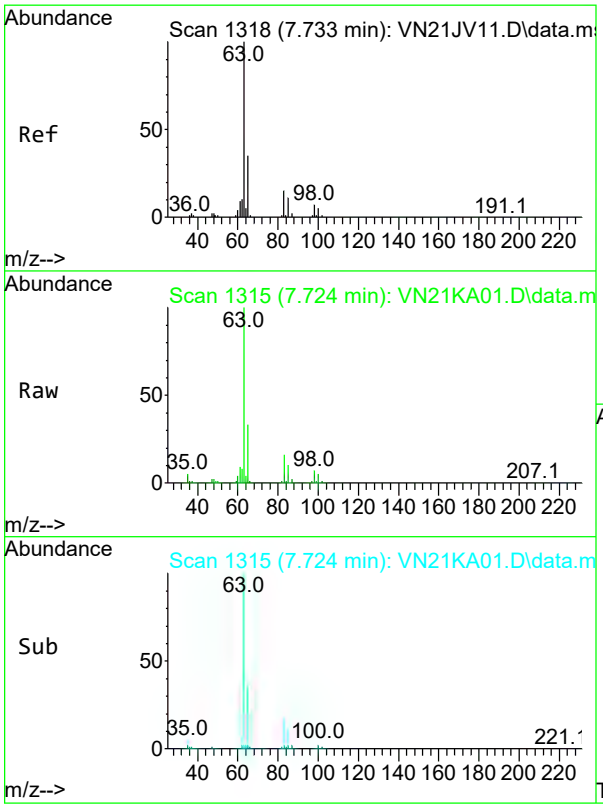


#23
MTBE
Concen: 11.88 ppbv
RT: 7.841 min Scan# 1356
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 73 Resp: 2385775

Ion	Ratio	Lower	Upper
73	100		
41	14.0	12.7	19.1
43	18.0	16.5	24.7
57	18.3	15.6	23.4

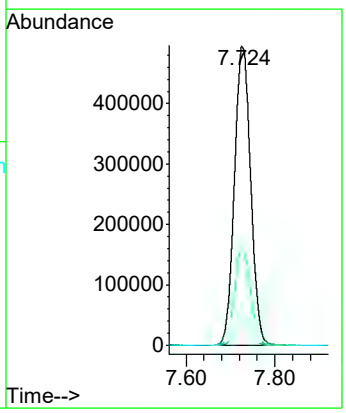


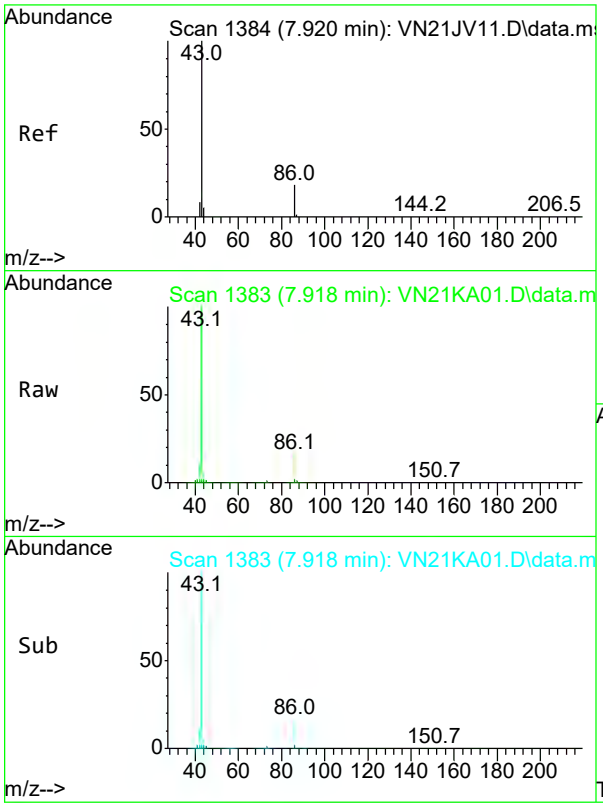


#24
1,1-Dichloroethane
Concen: 10.64 ppbv
RT: 7.724 min Scan# 1315
Delta R.T. -0.009 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 63 Resp: 1259341

Ion	Ratio	Lower	Upper
63	100		
65	32.3	25.8	38.8
62	8.8	7.3	10.9

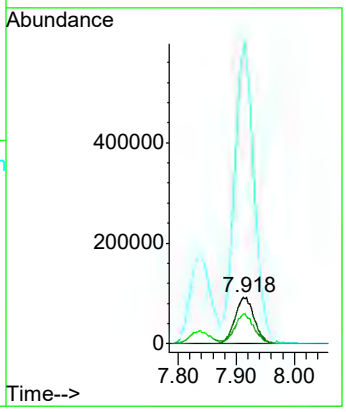


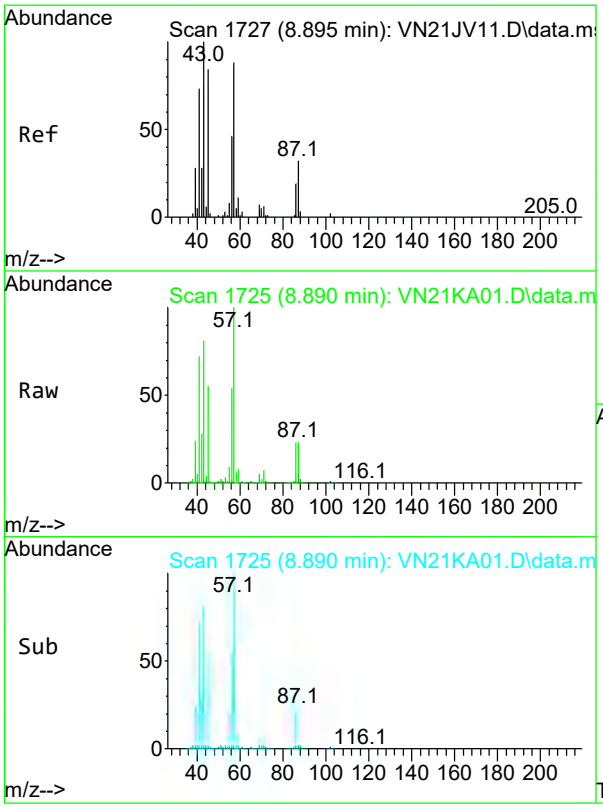


#25
Vinyl Acetate
Concen: 15.02 ppbv
RT: 7.918 min Scan# 1383
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 86 Resp: 213457

Ion	Ratio	Lower	Upper
86	100		
42	63.7	61.0	91.4
43	648.1	588.5	882.7

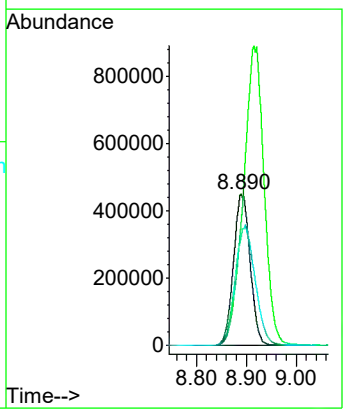


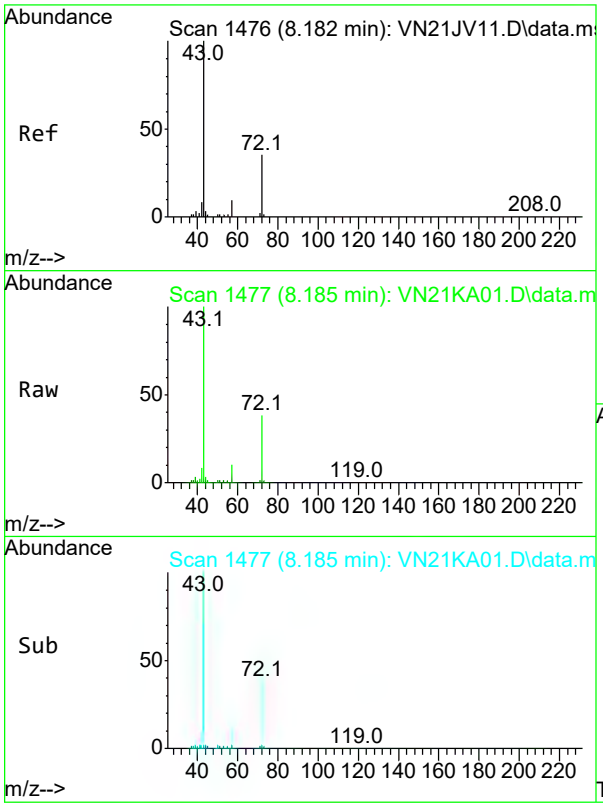


#26
n-Hexane
Concen: 9.75 ppbv
RT: 8.890 min Scan# 1725
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 57 Resp: 1039132

Ion	Ratio	Lower	Upper
57	100		
43	245.9	214.3	321.5
41	94.9	81.2	121.8

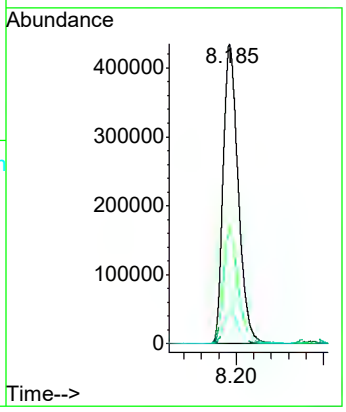


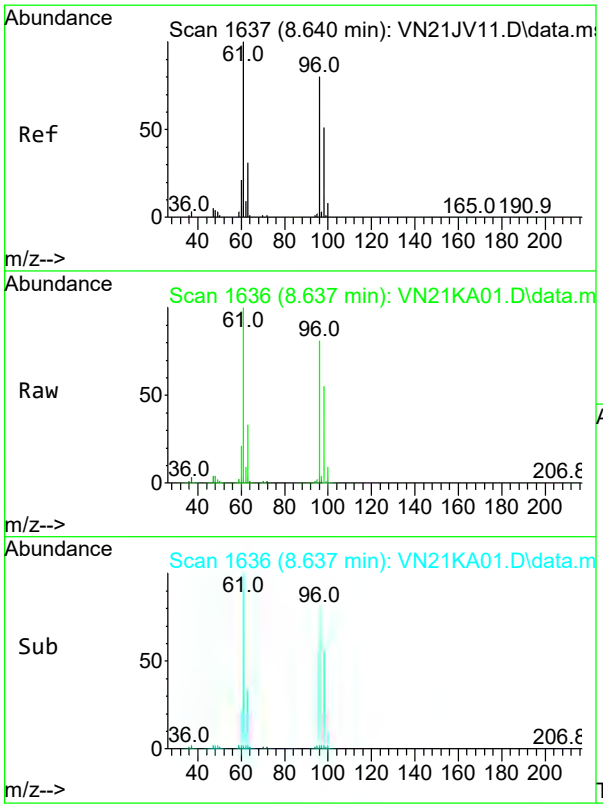


#27
2-Butanone
Concen: 8.91 ppbv
RT: 8.185 min Scan# 1477
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 43 Resp: 1037232

Ion	Ratio	Lower	Upper
43	100		
72	36.7	26.7	40.1
57	10.3	7.6	11.4

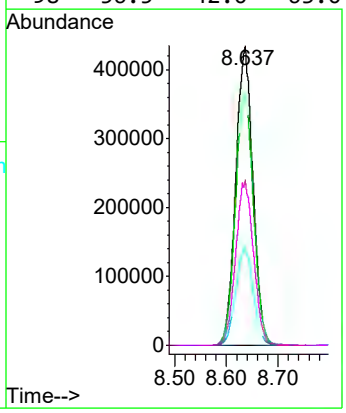


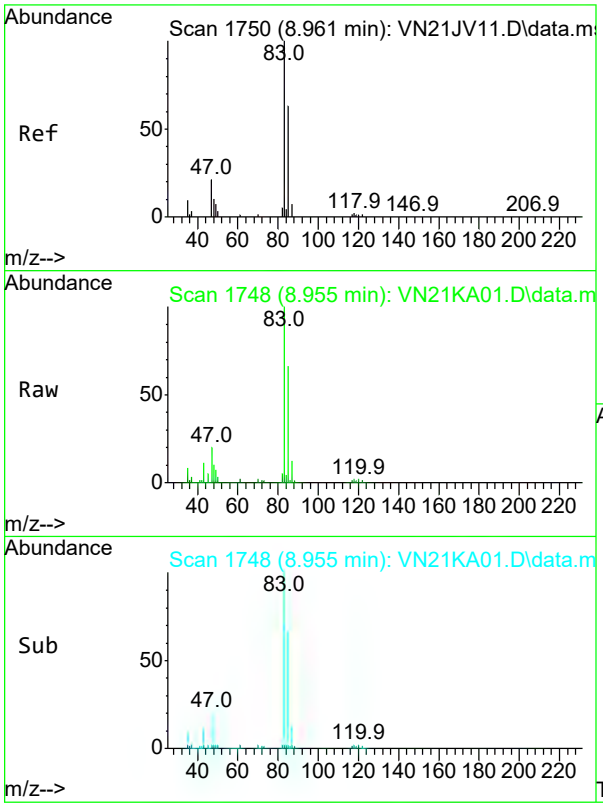


#28
cis-1,2-Dichloroethene
Concen: 11.21 ppbv
RT: 8.637 min Scan# 1636
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 61 Resp: 1012235

Ion	Ratio	Lower	Upper
61	100		
96	87.0	65.3	97.9
63	33.0	26.2	39.2
98	56.5	42.0	63.0

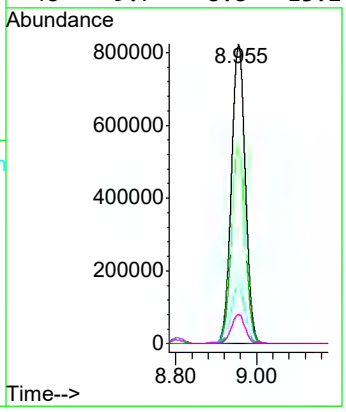


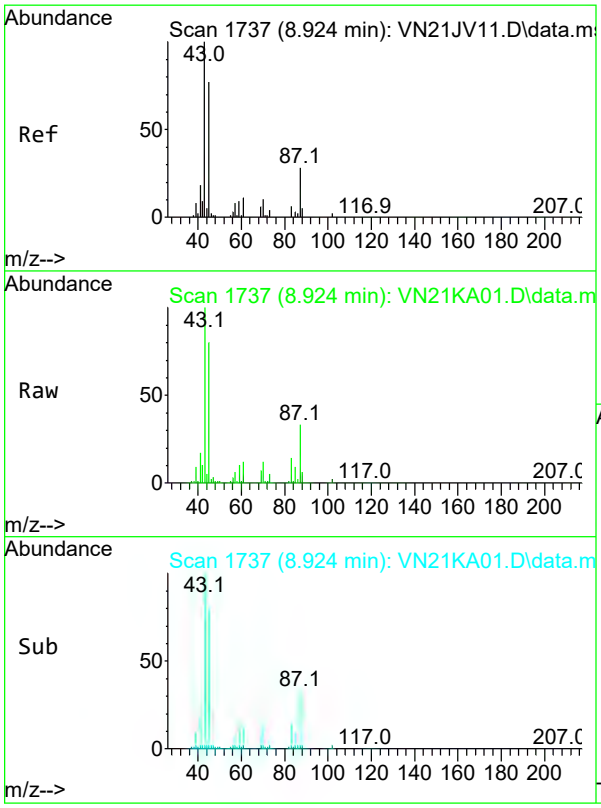


#29
Chloroform
Concen: 12.35 ppbv
RT: 8.955 min Scan# 1748
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 83 Resp: 1965738

Ion	Ratio	Lower	Upper
83	100		
85	65.8	51.5	77.3
47	19.3	17.4	26.0
48	9.7	8.8	13.2

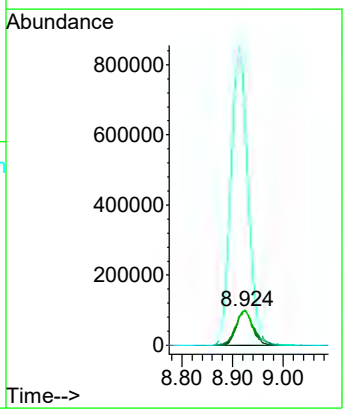


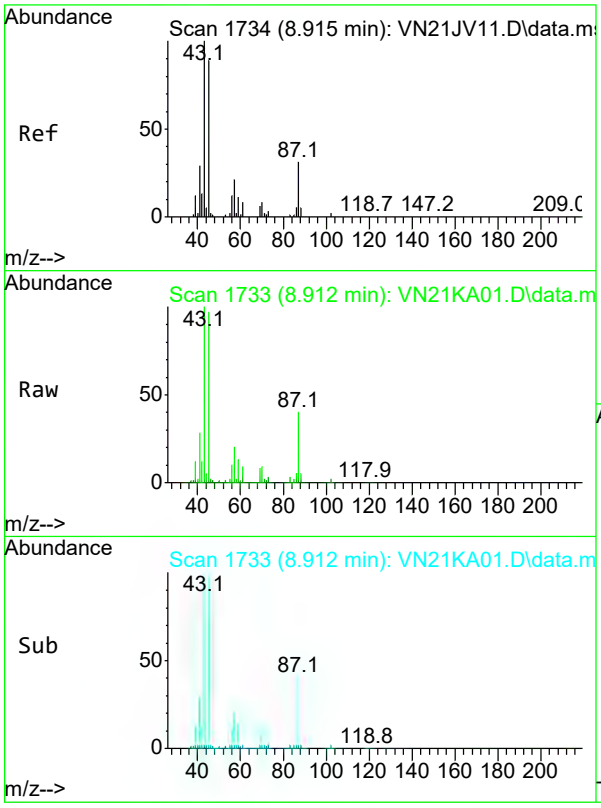


#30
Ethyl Acetate
Concen: 11.24 ppbv
RT: 8.924 min Scan# 1737
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 61 Resp: 218034

Ion	Ratio	Lower	Upper
61	100		
70	116.2	87.4	131.2
45	909.8	739.0	1108.6

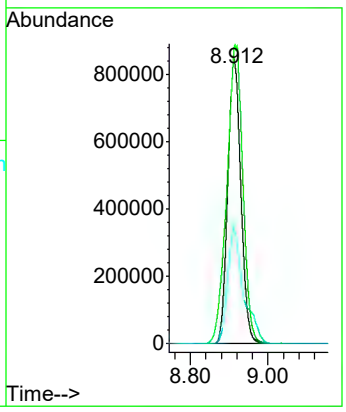


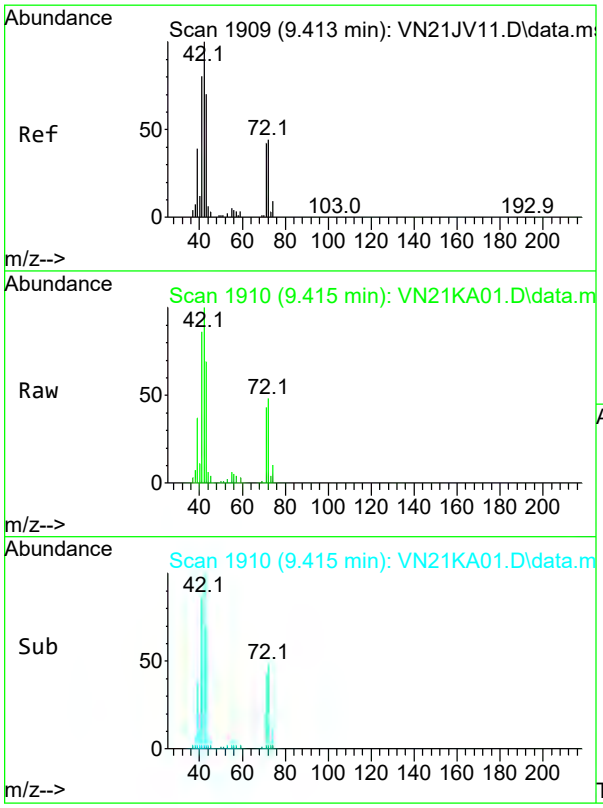


#31
Diisopropyl Ether
Concen: 12.70 ppbv
RT: 8.912 min Scan# 1733
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 45 Resp: 1983604

Ion	Ratio	Lower	Upper
45	100		
43	128.8	103.1	154.7
87	49.3	35.8	53.8

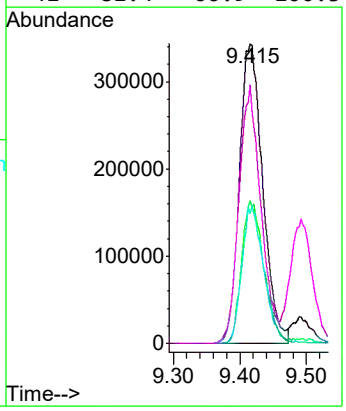


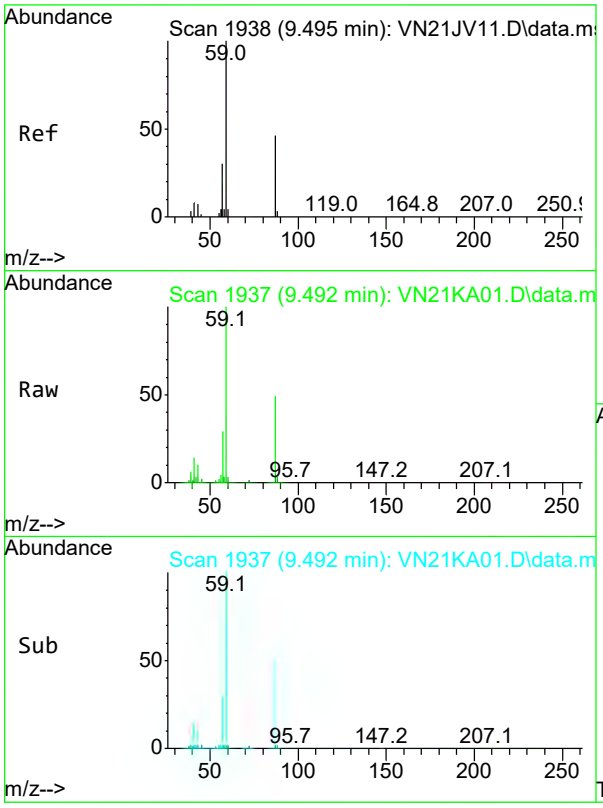


#32
Tetrahydrofuran
Concen: 15.14 ppbv
RT: 9.415 min Scan# 1910
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 42 Resp: 833893

Ion	Ratio	Lower	Upper
42	100		
72	46.6	36.2	54.4
71	43.1	33.0	49.4
41	81.4	66.9	100.3

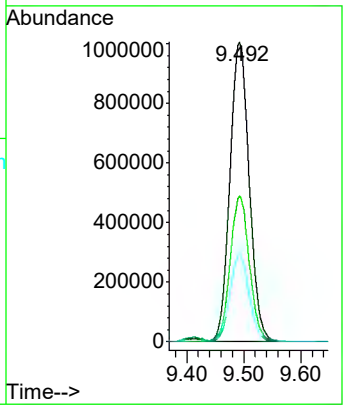


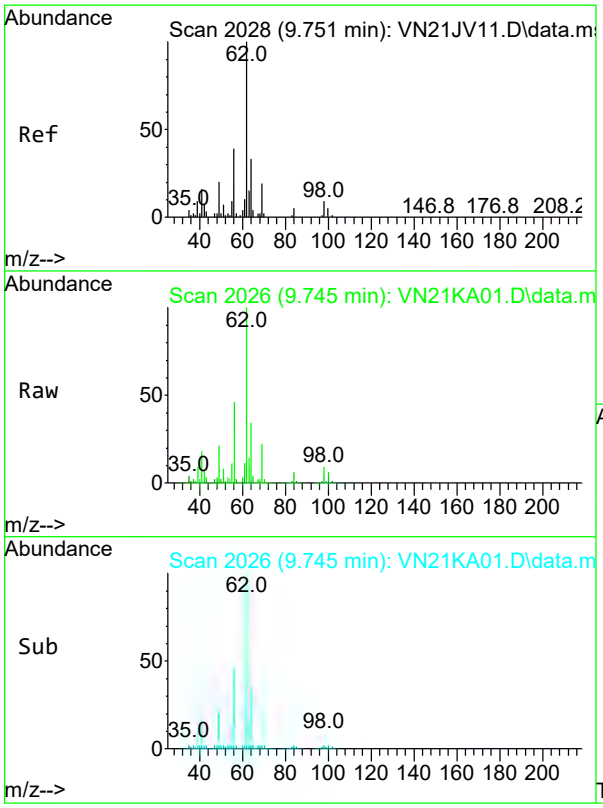


#33
ETBE
Concen: 11.40 ppbv
RT: 9.492 min Scan# 1937
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 59 Resp: 2360759

Ion	Ratio	Lower	Upper
59	100		
87	48.5	37.2	55.8
57	28.8	23.7	35.5

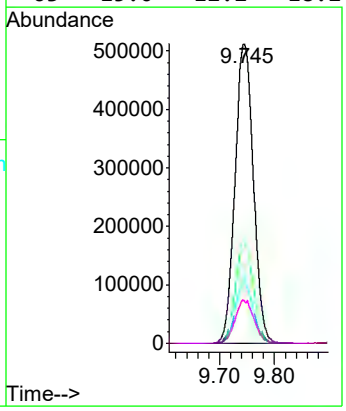


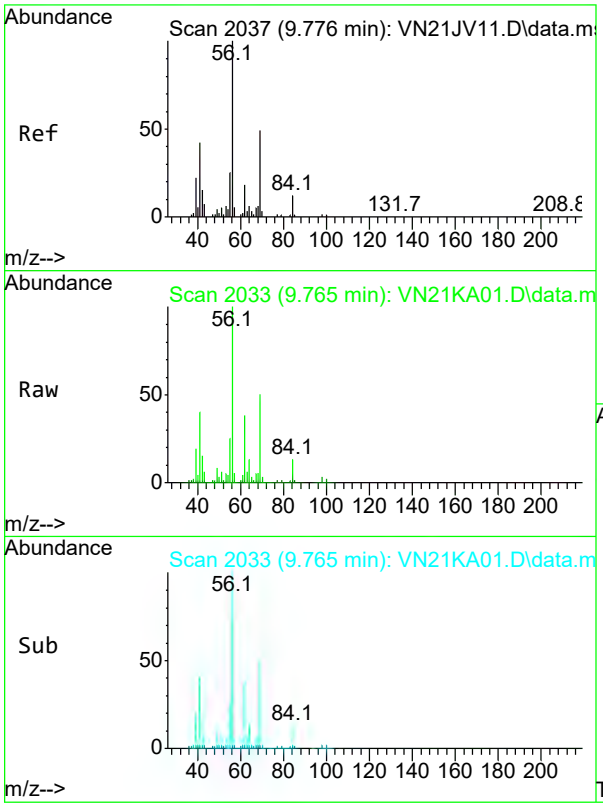


#34
1,2-Dichloroethane
Concen: 11.42 ppbv
RT: 9.745 min Scan# 2026
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 62 Resp: 1191523

Ion	Ratio	Lower	Upper
62	100		
64	33.2	26.4	39.6
49	20.1	17.1	25.7
63	15.0	12.2	18.2

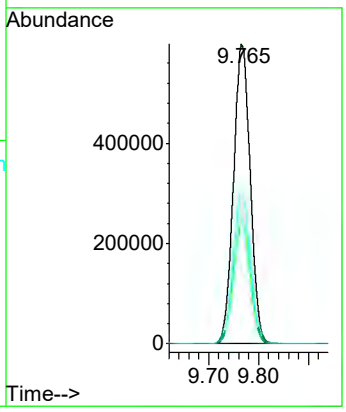


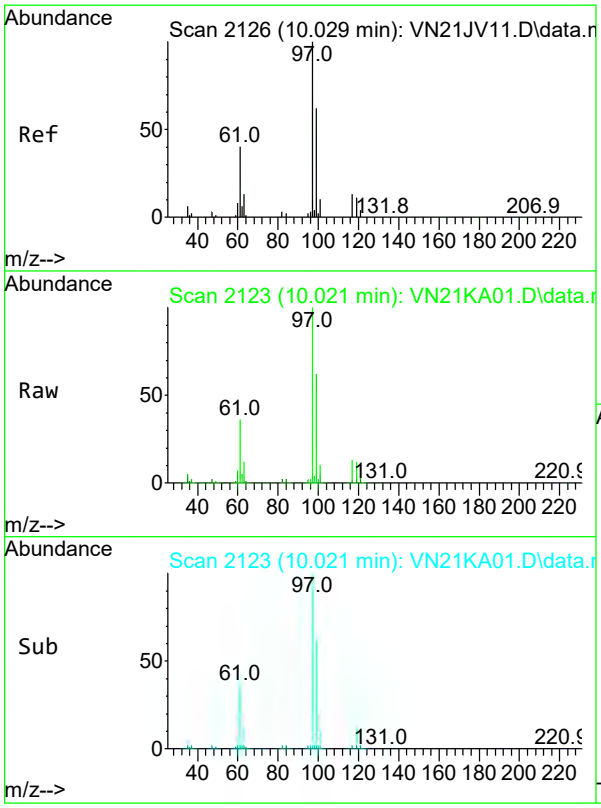


#35
Methylcyclopentane
Concen: 11.75 ppbv
RT: 9.765 min Scan# 2033
Delta R.T. -0.011 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 56 Resp: 1397616

Ion	Ratio	Lower	Upper
56	100		
41	41.0	34.5	51.7
69	50.6	39.8	59.8

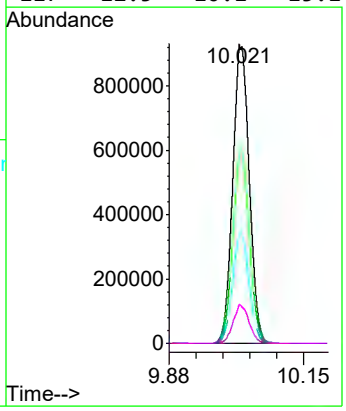


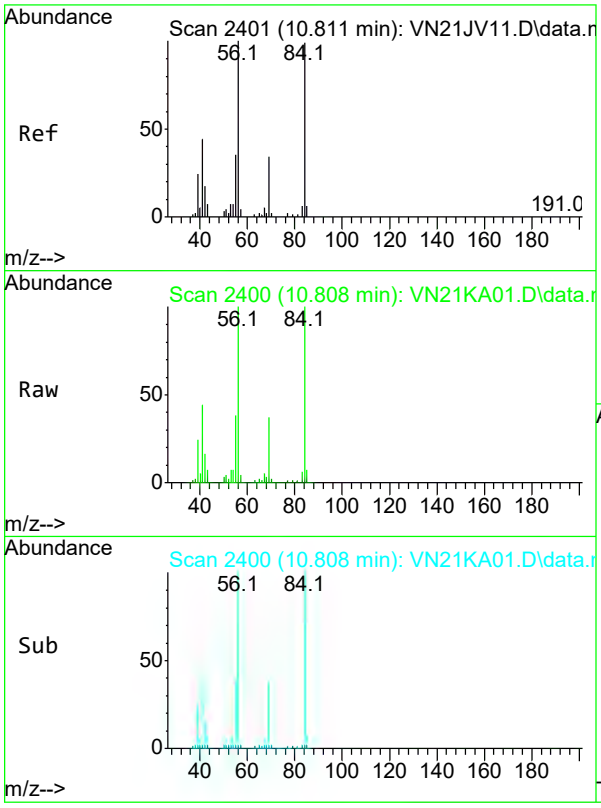


#37
1,1,1-Trichloroethane
Concen: 13.04 ppbv
RT: 10.021 min Scan# 2123
Delta R.T. -0.009 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 97 Resp: 2177137

Ion	Ratio	Lower	Upper
97	100		
99	64.6	51.5	77.3
61	36.9	32.2	48.2
117	12.5	10.1	15.1

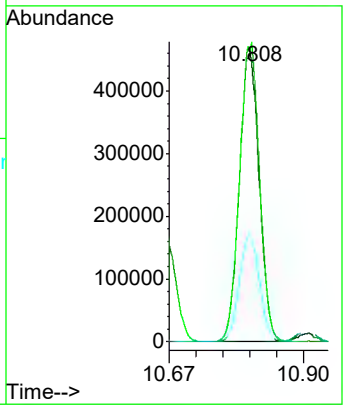


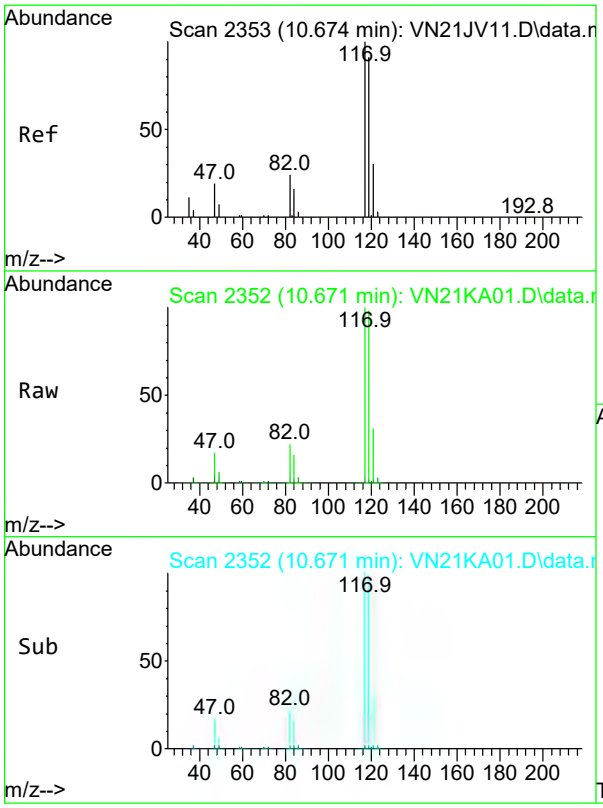


#38
Cyclohexane
Concen: 11.56 ppbv
RT: 10.808 min Scan# 2400
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 56 Resp: 1056383

Ion	Ratio	Lower	Upper
56	100		
84	103.5	81.4	122.2
69	36.8	28.6	43.0

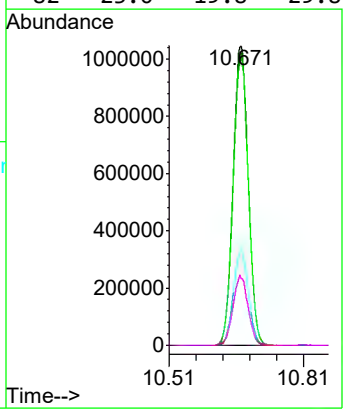


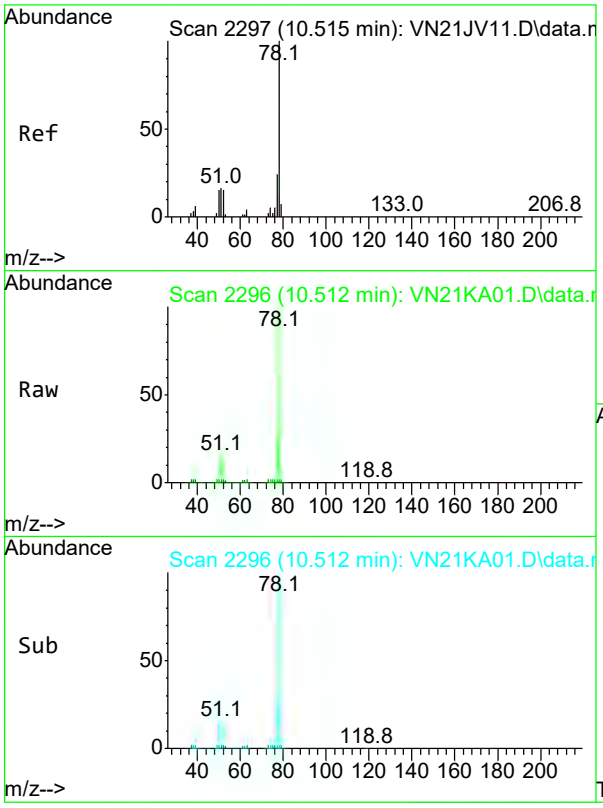


#39
Carbon Tetrachloride
Concen: 13.72 ppbv
RT: 10.671 min Scan# 2352
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:117 Resp: 2411594

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.9	115.3
121	31.2	24.9	37.3
82	23.0	19.8	29.8

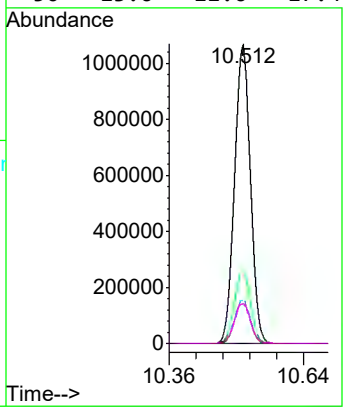


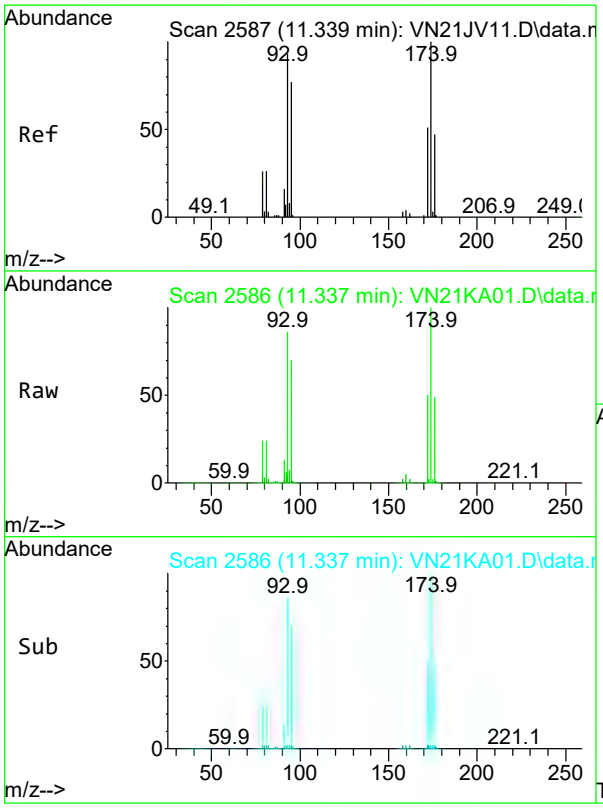


#40
Benzene
Concen: 11.71 ppbv
RT: 10.512 min Scan# 2296
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 78 Resp: 2400486

Ion	Ratio	Lower	Upper
78	100		
77	24.6	20.2	30.4
51	14.6	12.2	18.4
50	13.6	11.6	17.4

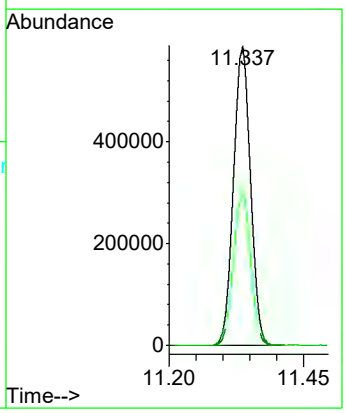


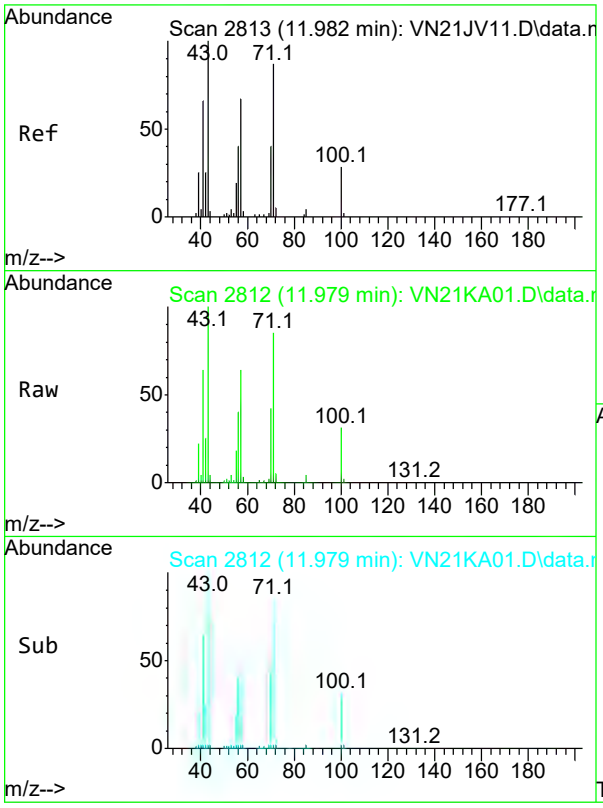


#41
Dibromomethane
Concen: 14.10 ppbv
RT: 11.337 min Scan# 2586
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:174 Resp: 1270236

Ion	Ratio	Lower	Upper
174	100		
172	51.6	42.2	63.2

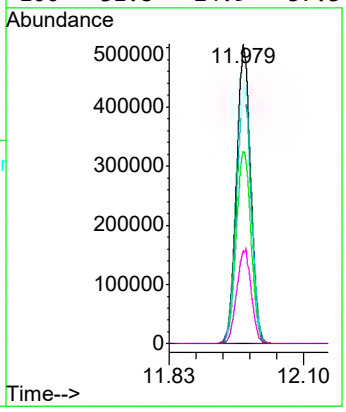


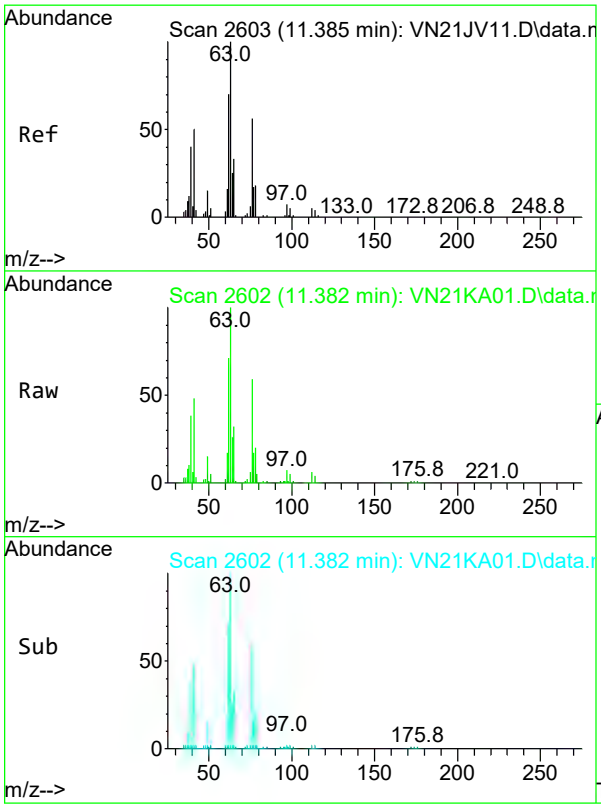


#42
n-Heptane
Concen: 12.22 ppbv
RT: 11.979 min Scan# 2812
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 43 Resp: 992806

Ion	Ratio	Lower	Upper
43	100		
41	66.2	55.8	83.8
71	86.0	70.3	105.5
100	31.8	24.9	37.3

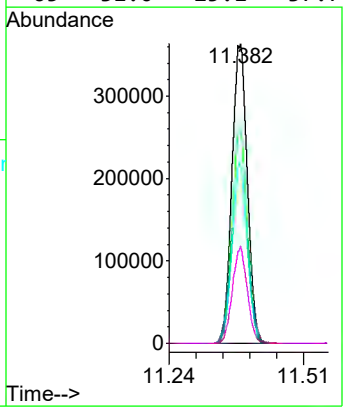


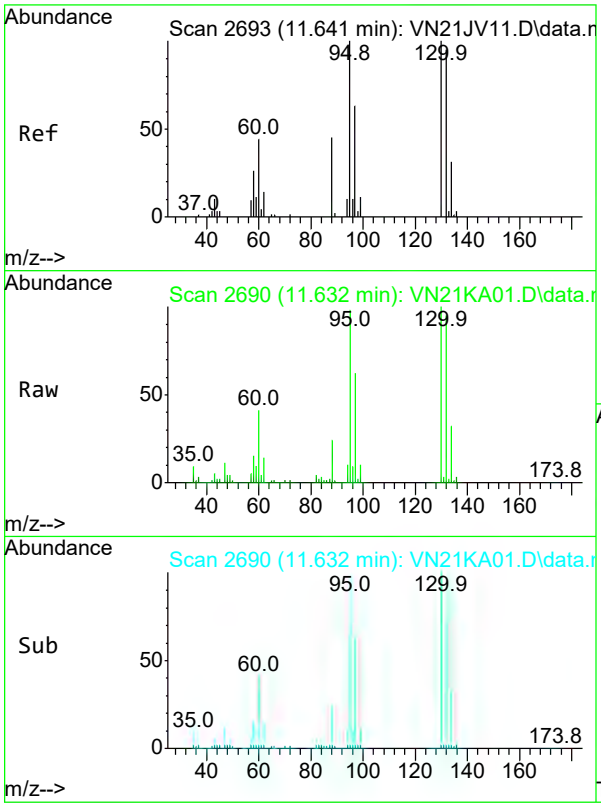


#43
1,2-Dichloropropane
Concen: 12.07 ppbv
RT: 11.382 min Scan# 2602
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 63 Resp: 797215

Ion	Ratio	Lower	Upper
63	100		
62	70.9	57.0	85.4
76	58.4	44.8	67.2
65	31.0	25.1	37.7

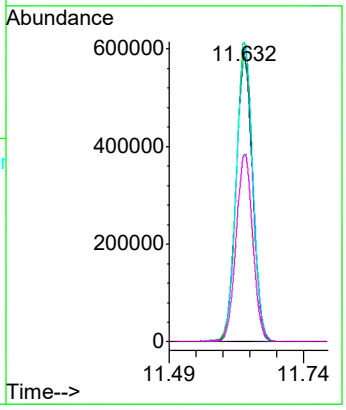


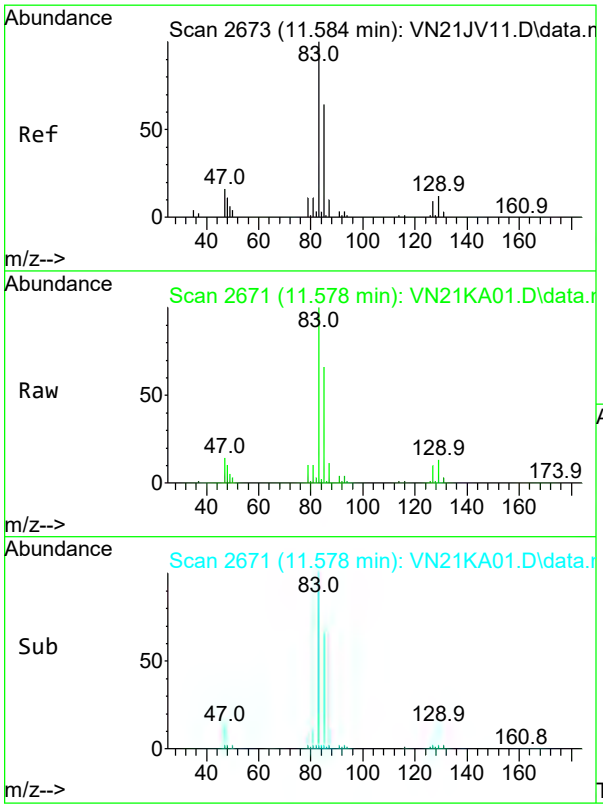


#44
Trichloroethene
Concen: 12.67 ppbv
RT: 11.632 min Scan# 2690
Delta R.T. -0.009 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 95 Resp: 1231615

Ion	Ratio	Lower	Upper
95	100		
130	105.8	82.2	123.4
132	102.9	78.8	118.2
97	66.0	52.2	78.2

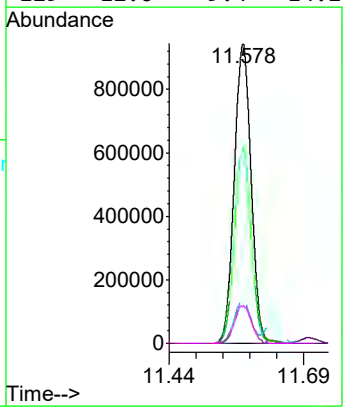


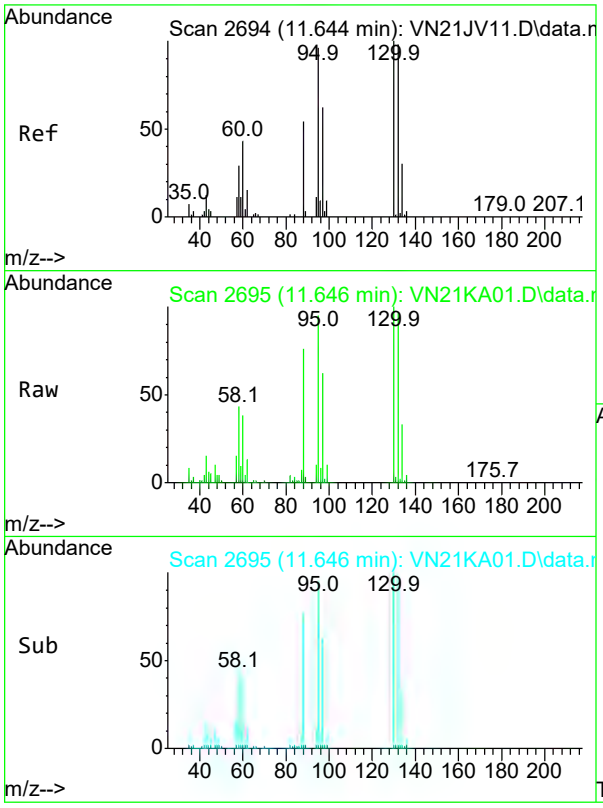


#45
Bromodichloromethane
Concen: 12.48 ppbv
RT: 11.578 min Scan# 2671
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 83 Resp: 2064453

Ion	Ratio	Lower	Upper
83	100		
85	64.9	51.0	76.6
47	14.5	13.1	19.7
129	12.6	9.4	14.2

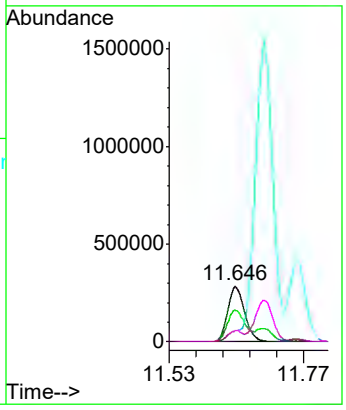


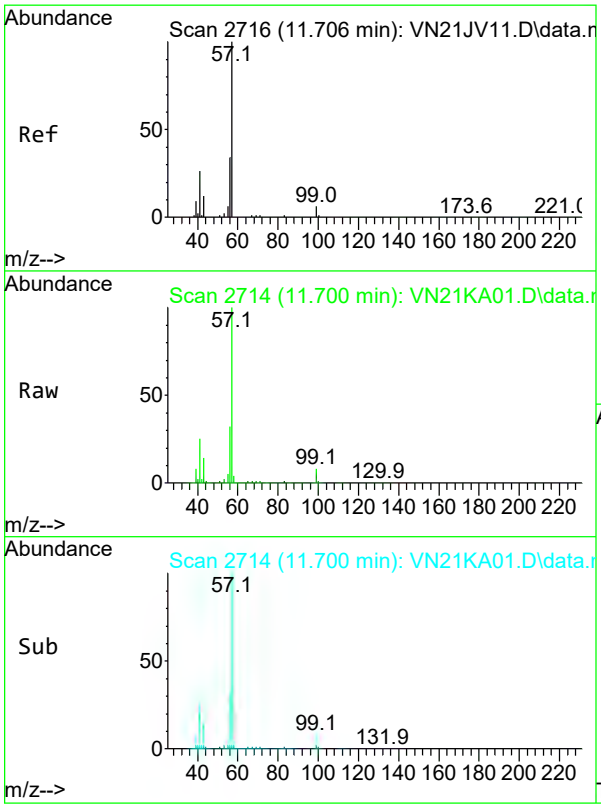


#46
1,4-Dioxane
Concen: 13.29 ppbv
RT: 11.646 min Scan# 2695
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 88 Resp: 603650

Ion	Ratio	Lower	Upper
88	100		
58	84.5	49.5	74.3#
57	0.0	13.8	20.8#
43	19.1	17.1	25.7

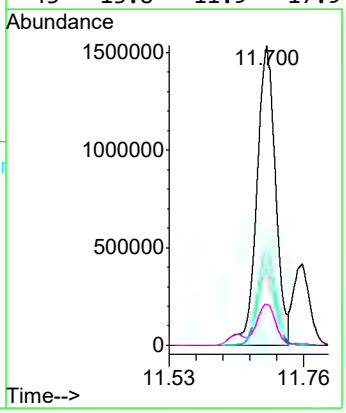


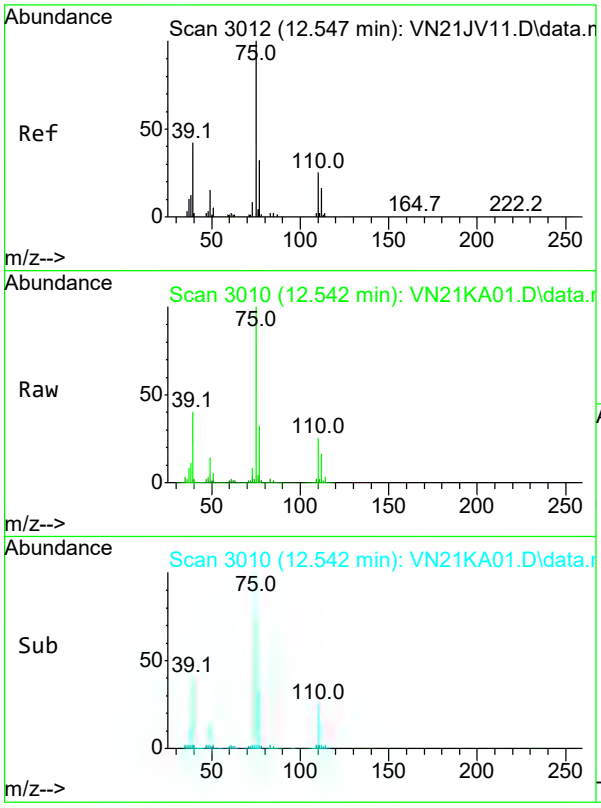


#47
2,2,4-Trimethylpentane
Concen: 12.24 ppbv
RT: 11.700 min Scan# 2714
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 57 Resp: 3495850

Ion	Ratio	Lower	Upper
57	100		
41	24.2	20.6	30.8
56	30.9	25.6	38.4
43	13.8	11.9	17.9

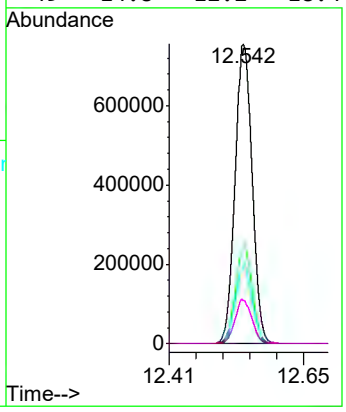


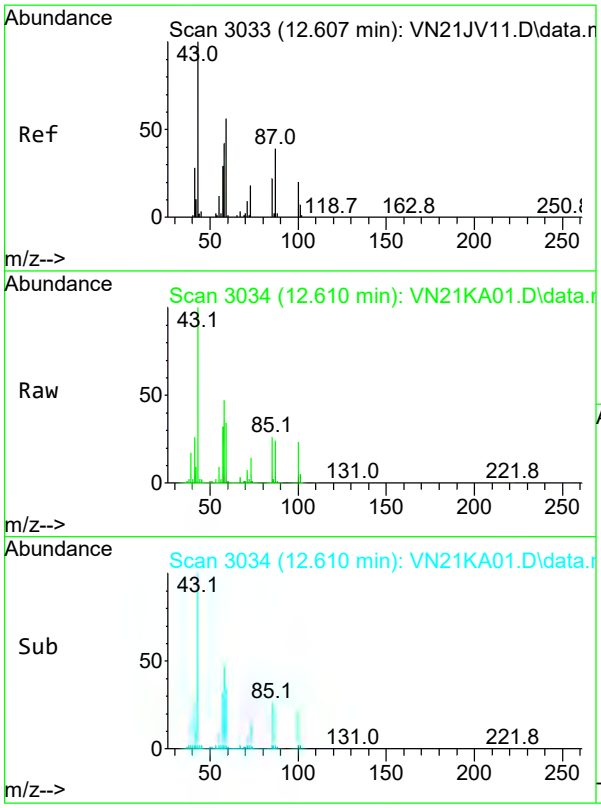


#48
cis-1,3-Dichloropropene
Concen: 12.88 ppbv
RT: 12.542 min Scan# 3010
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 75 Resp: 1543400

Ion	Ratio	Lower	Upper
75	100		
77	31.8	25.4	38.2
110	25.3	19.8	29.8
49	14.8	12.2	18.4

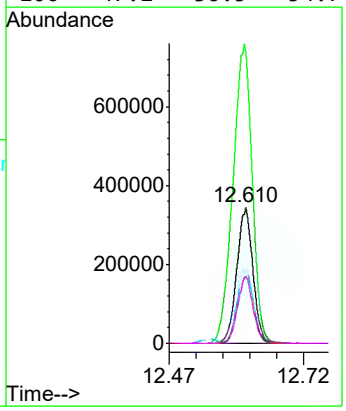


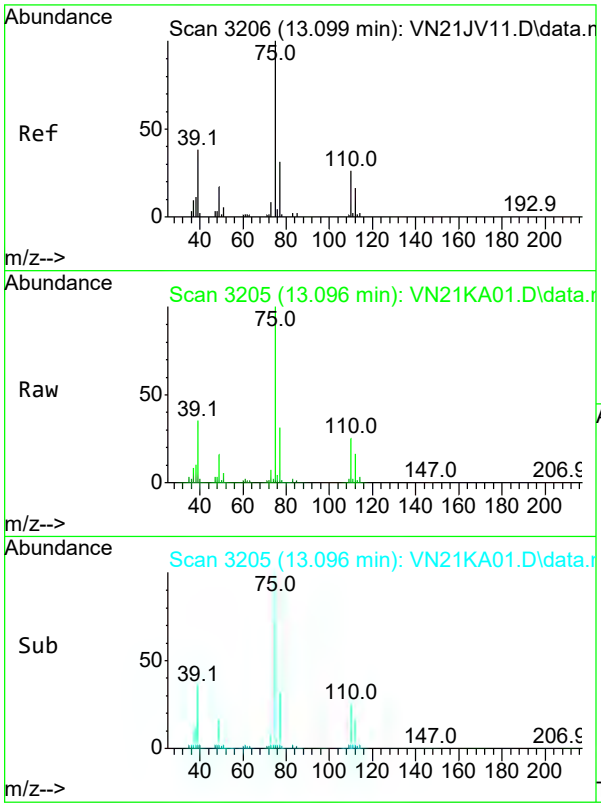


#49
4-Methyl-2-pentanone
Concen: 10.61 ppbv
RT: 12.610 min Scan# 3034
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 58 Resp: 704444

Ion	Ratio	Lower	Upper
58	100		
43	263.3	216.6	325.0
85	55.2	42.6	64.0
100	47.2	36.5	54.7

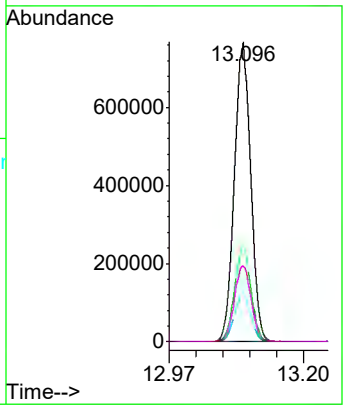


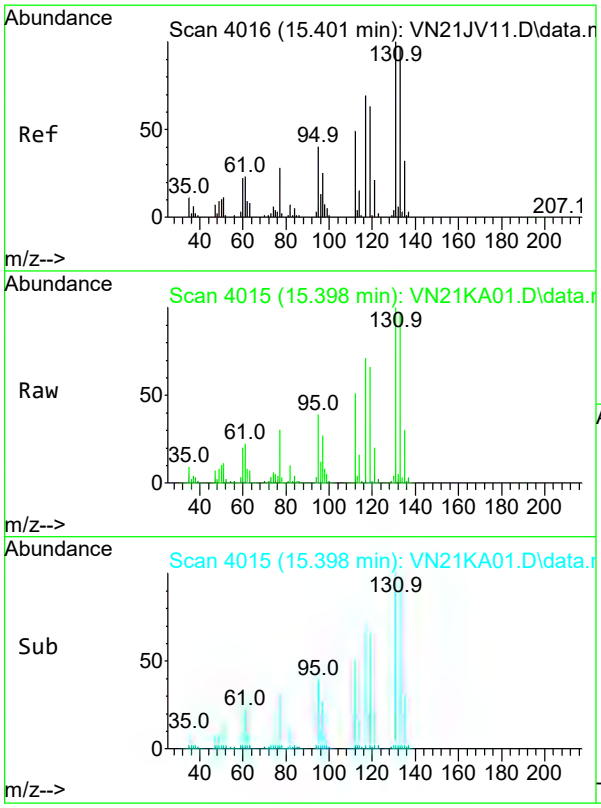


#50
trans-1,3-Dichloropropene
Concen: 13.33 ppbv
RT: 13.096 min Scan# 3205
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 75 Resp: 1494305

Ion	Ratio	Lower	Upper
75	100		
77	31.8	25.2	37.8
49	15.7	13.4	20.2
110	25.8	20.7	31.1

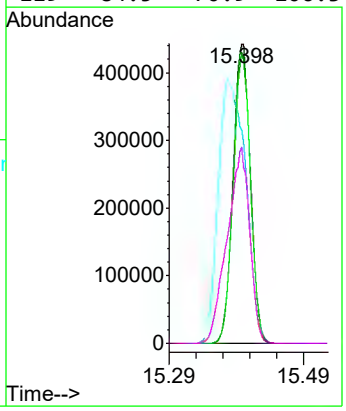


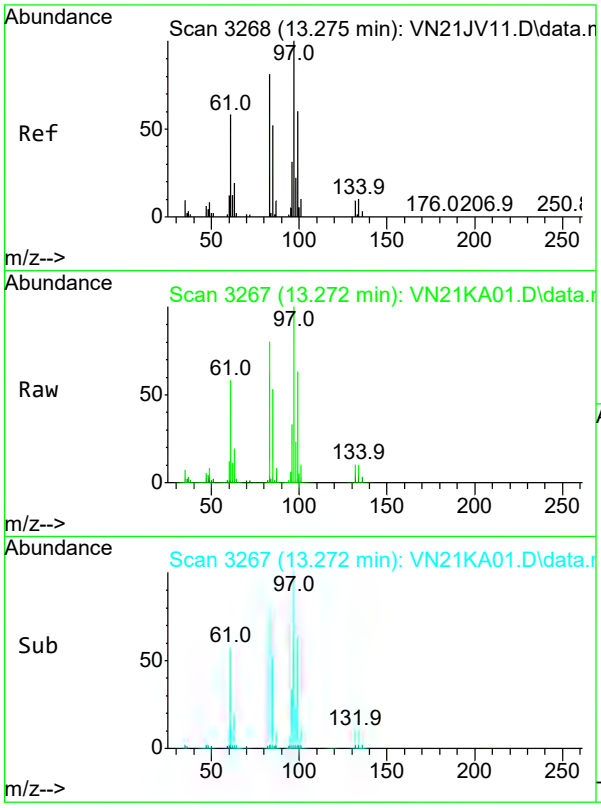


#51
1,1,1,2-Tetrachloroethane
Concen: 14.27 ppbv
RT: 15.398 min Scan# 4015
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:131 Resp: 821797

Ion	Ratio	Lower	Upper
131	100		
133	95.9	76.8	115.2
117	137.7	116.6	175.0
119	84.5	70.9	106.3

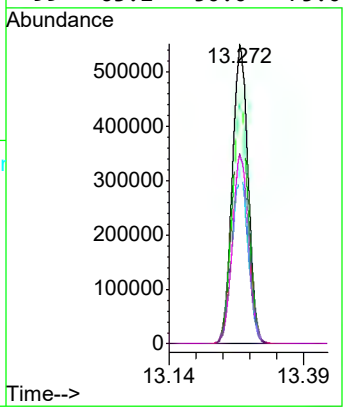


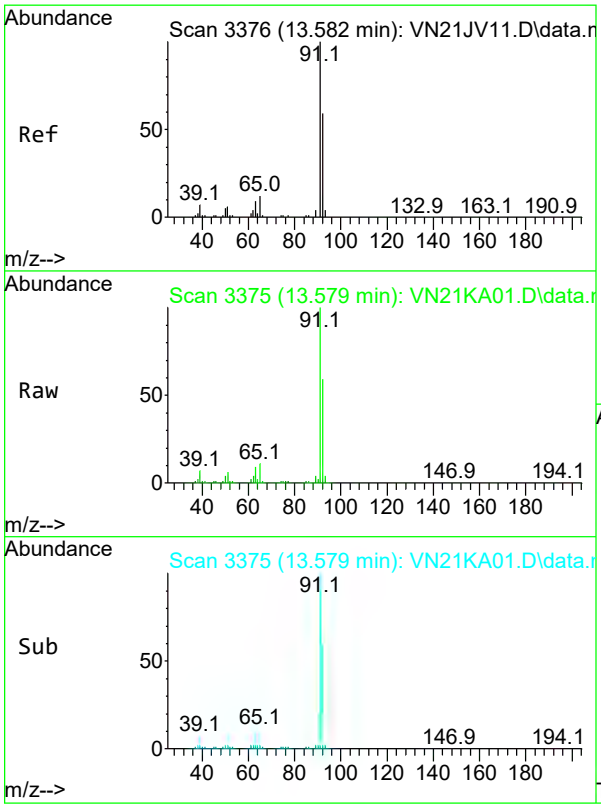


#53
1,1,2-Trichloroethane
Concen: 14.97 ppbv
RT: 13.272 min Scan# 3267
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 97 Resp: 1112529

Ion	Ratio	Lower	Upper
97	100		
83	80.8	65.4	98.0
61	57.3	47.2	70.8
99	63.2	50.0	75.0

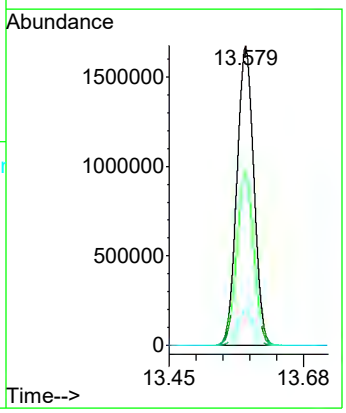


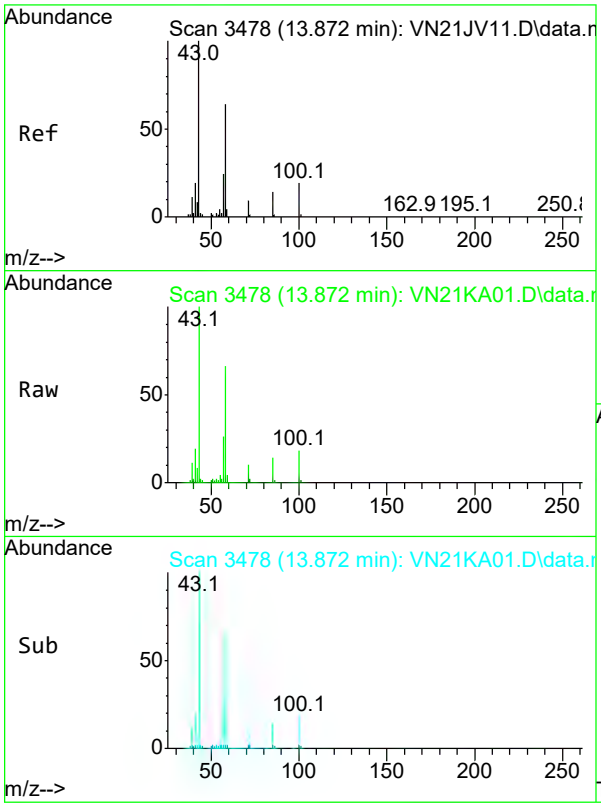


#54
Toluene
Concen: 14.24 ppbv
RT: 13.579 min Scan# 3375
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 3315894

Ion	Ratio	Lower	Upper
91	100		
92	58.0	46.7	70.1
65	11.6	9.3	13.9

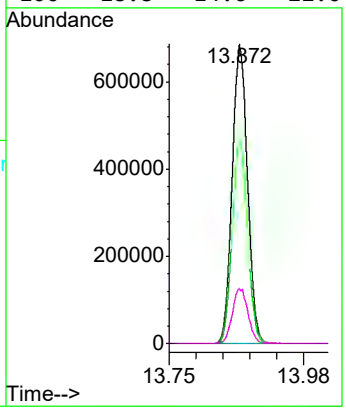


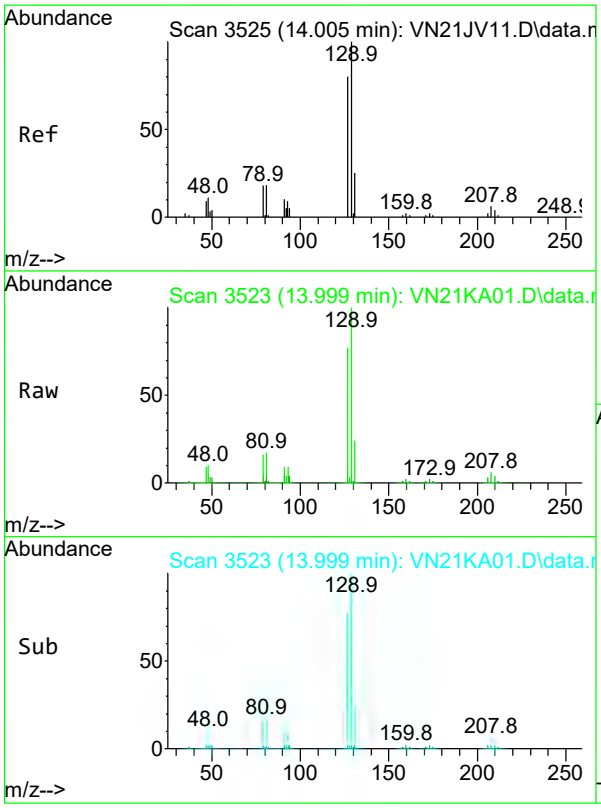


#55
2-Hexanone
Concen: 11.51 ppbv
RT: 13.872 min Scan# 3478
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 43 Resp: 1283240

Ion	Ratio	Lower	Upper
43	100		
58	67.9	53.0	79.4
73	0.1	0.1	0.1#
100	18.8	14.6	22.0

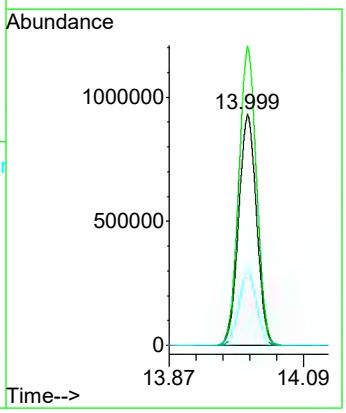


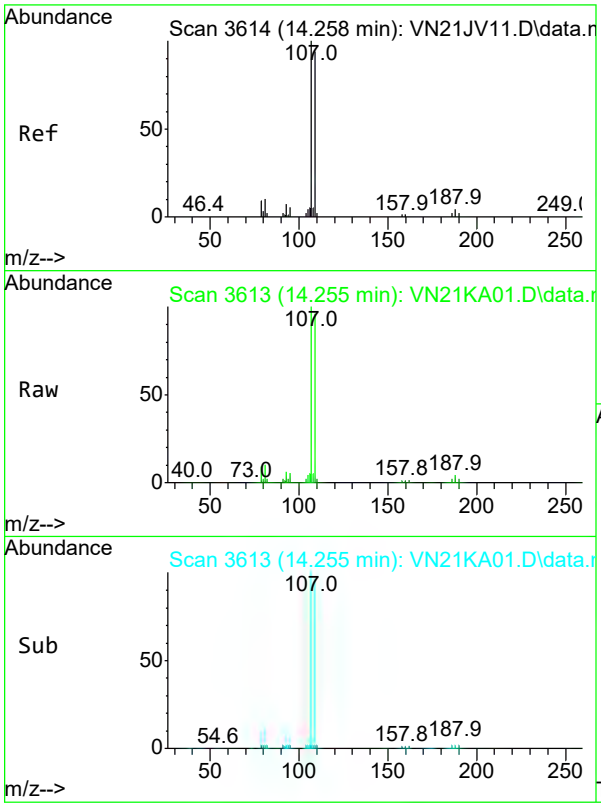


#56
Dibromochloromethane
Concen: 14.37 ppbv
RT: 13.999 min Scan# 3523
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:127 Resp: 1856134

Ion	Ratio	Lower	Upper
127	100		
129	128.9	103.8	155.8
131	31.5	25.0	37.4

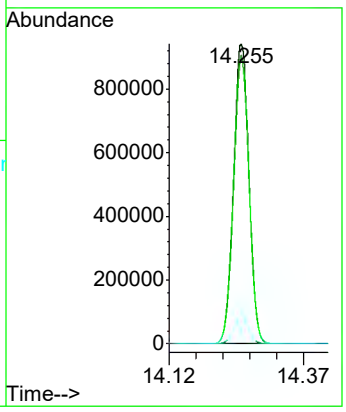


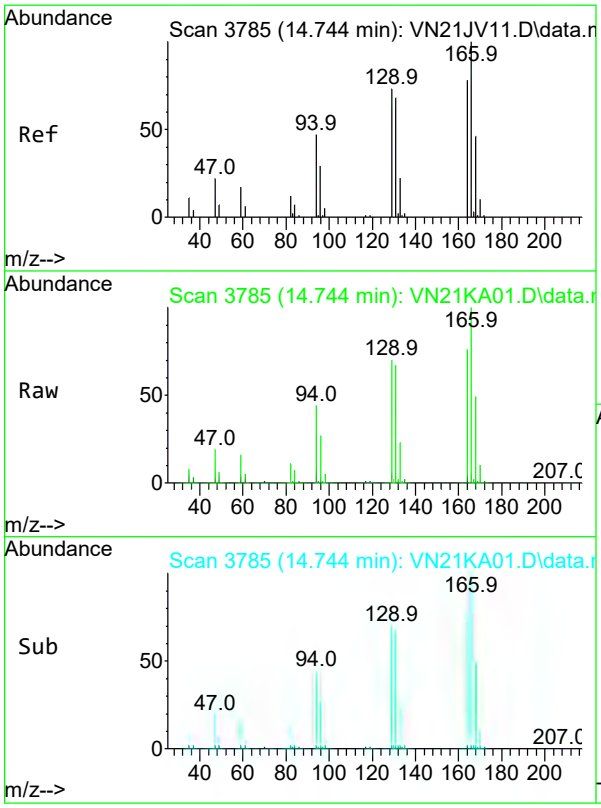


#57
Ethylene Dibromide
Concen: 15.34 ppbv
RT: 14.255 min Scan# 3613
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:107 Resp: 1857449

Ion	Ratio	Lower	Upper
107	100		
109	94.6	75.4	113.2
79	8.8	7.4	11.0

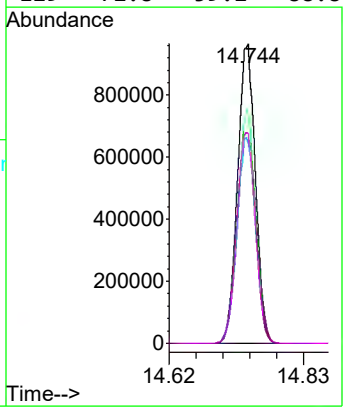


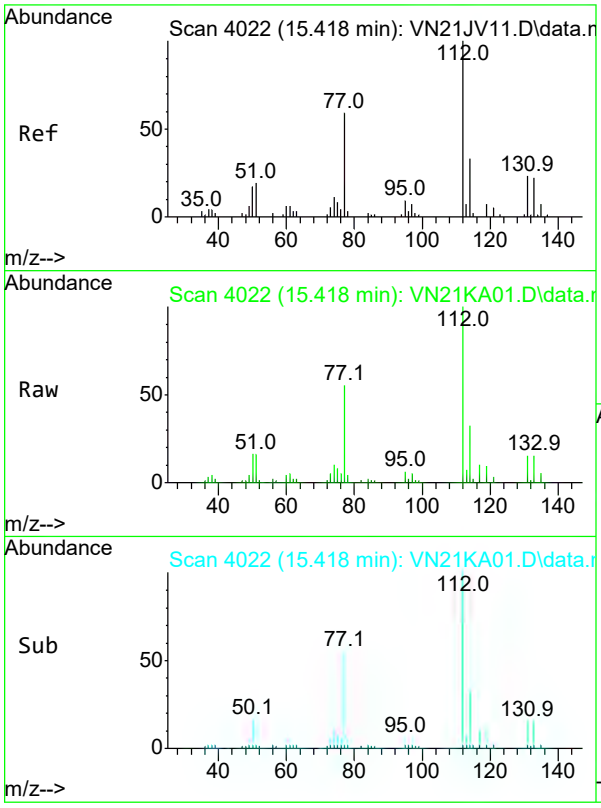


#58
Tetrachloroethene
Concen: 15.75 ppbv
RT: 14.744 min Scan# 3785
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:166 Resp: 1802130

Ion	Ratio	Lower	Upper
166	100		
164	78.3	62.4	93.6
131	70.2	56.2	84.2
129	72.8	59.2	88.8

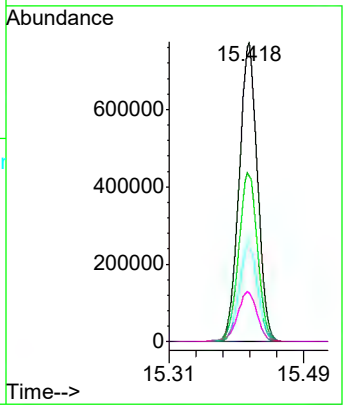


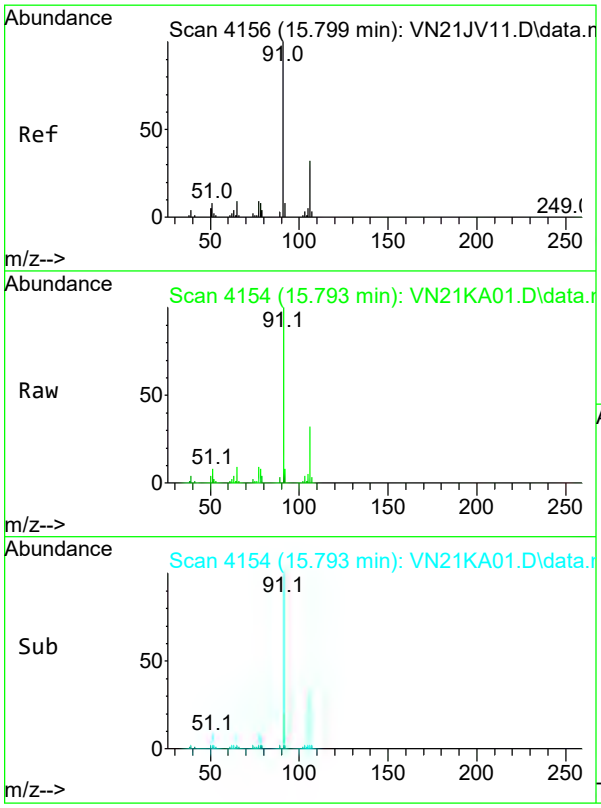


#59
Chlorobenzene
Concen: 14.78 ppbv
RT: 15.418 min Scan# 4022
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:112 Resp: 1370110

Ion	Ratio	Lower	Upper
112	100		
77	58.2	47.5	71.3
114	32.6	25.7	38.5
51	18.1	15.5	23.3

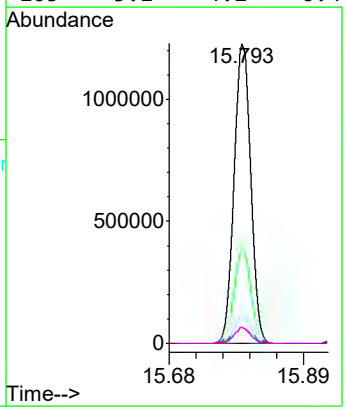


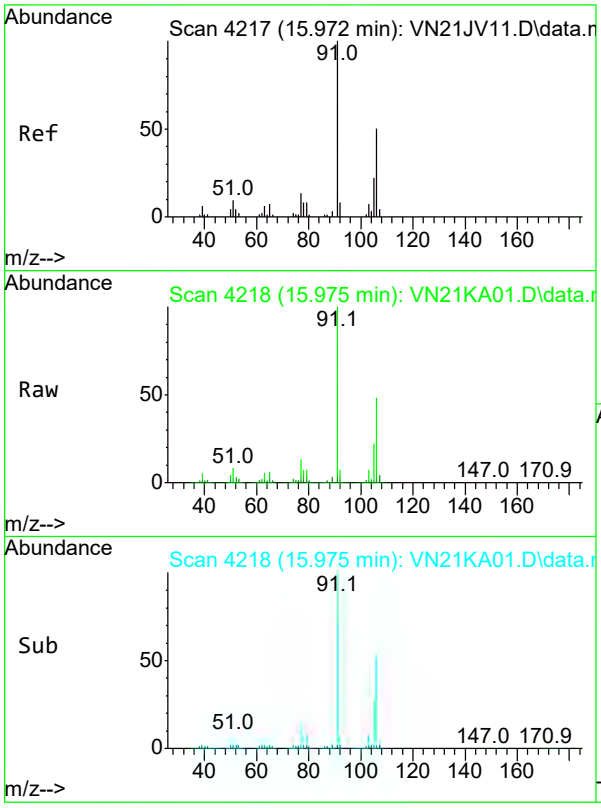


#60
Ethylbenzene
Concen: 14.16 ppbv
RT: 15.793 min Scan# 4154
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 2182580

Ion	Ratio	Lower	Upper
91	100		
106	31.4	25.2	37.8
77	8.9	7.1	10.7
105	5.1	4.2	6.4

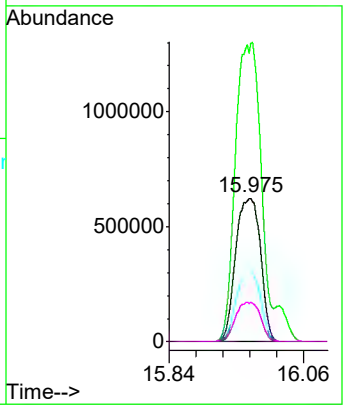


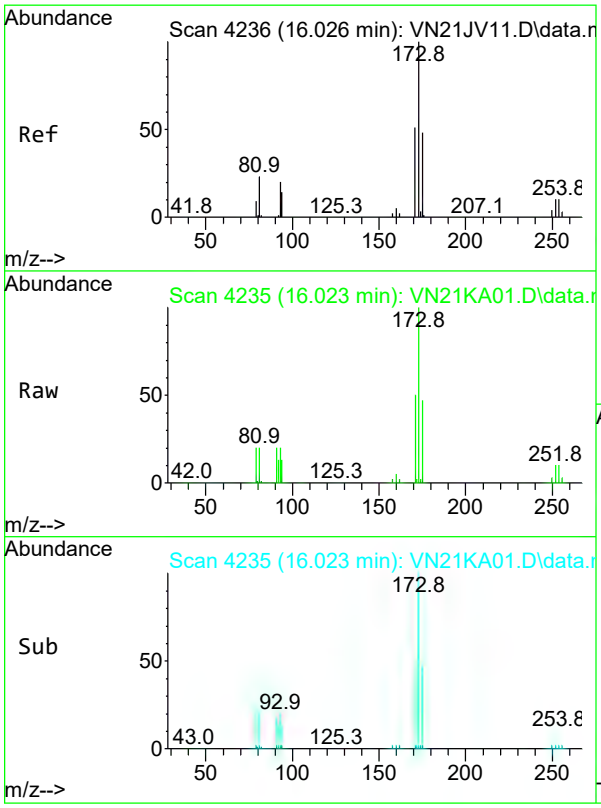


#61
m&p-Xylene
Concen: 29.55 ppbv
RT: 15.975 min Scan# 4218
Delta R.T. 0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:106 Resp: 1737118

Ion	Ratio	Lower	Upper
106	100		
91	225.2	177.6	266.4
105	45.7	37.2	55.8
77	27.5	22.0	33.0

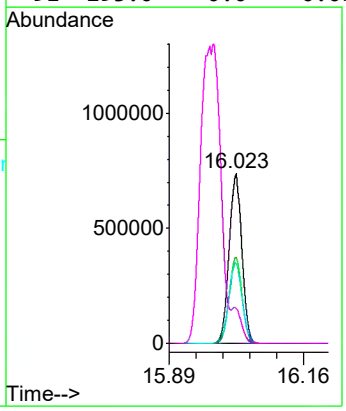


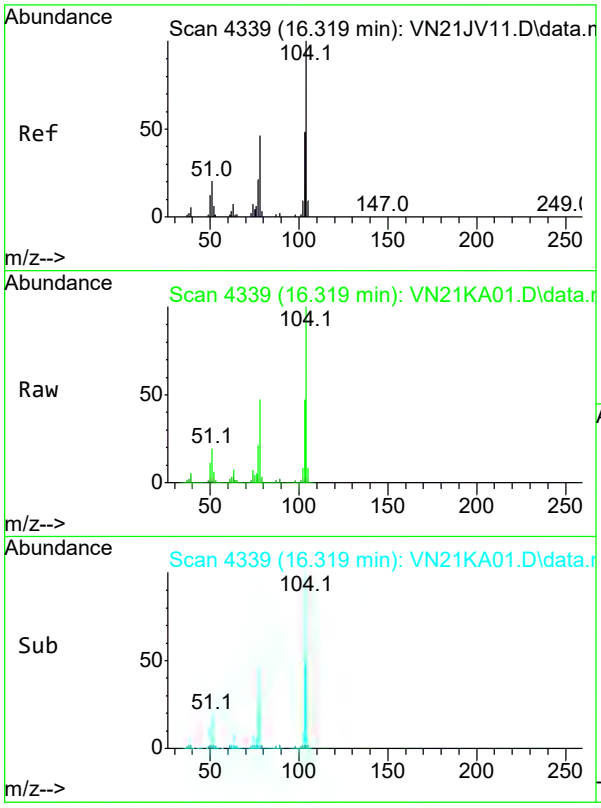


#62
Bromoform
Concen: 17.41 ppbv
RT: 16.023 min Scan# 4235
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:173 Resp: 1335279

Ion	Ratio	Lower	Upper
173	100		
171	51.5	41.4	62.0
175	48.4	39.0	58.4
91	293.0	0.0	0.0#

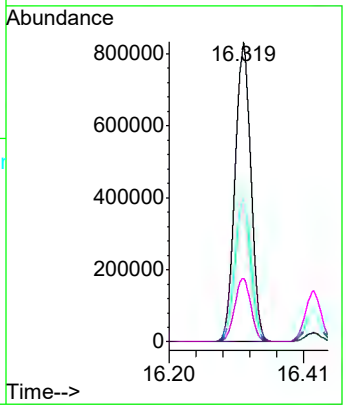


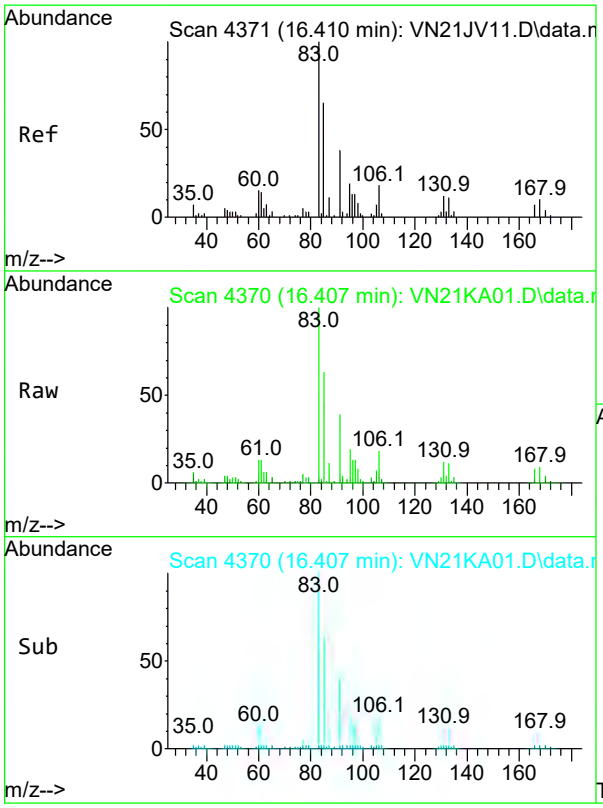


#63
Styrene
Concen: 16.06 ppbv
RT: 16.319 min Scan# 4339
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:104 Resp: 1411151

Ion	Ratio	Lower	Upper
104	100		
103	48.2	38.6	57.8
78	47.2	37.1	55.7
77	21.7	17.3	25.9

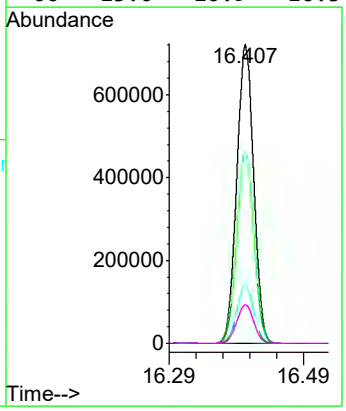


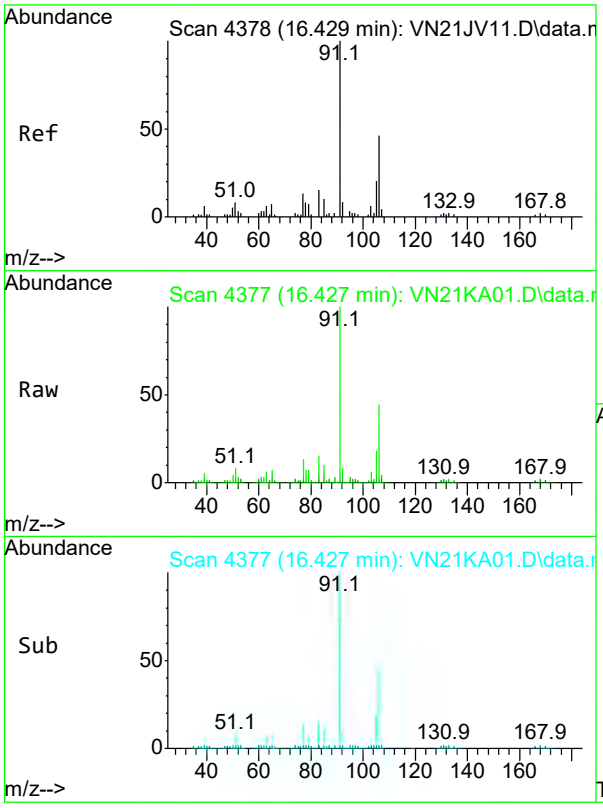


#64
1,1,2,2-Tetrachloroethane
Concen: 14.55 ppbv
RT: 16.407 min Scan# 4370
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 83 Resp: 1247819

Ion	Ratio	Lower	Upper
83	100		
85	65.1	51.9	77.9
95	19.2	15.1	22.7
60	13.0	10.9	16.3

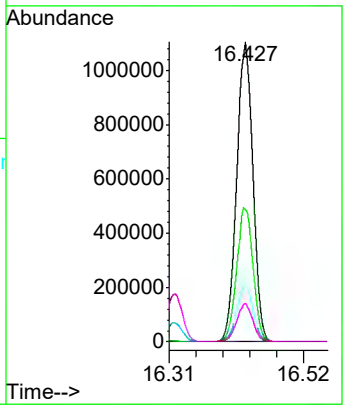


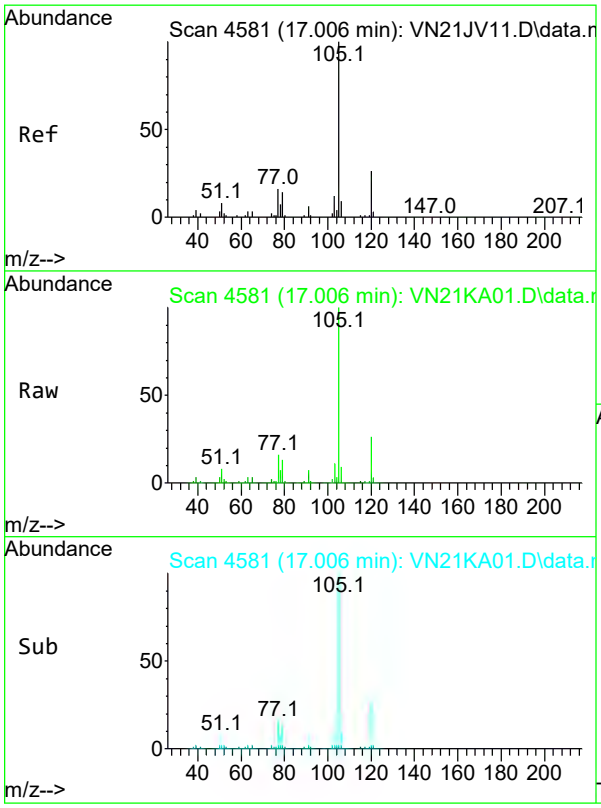


#65
o-Xylene
Concen: 14.92 ppbv
RT: 16.427 min Scan# 4377
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 1908424

Ion	Ratio	Lower	Upper
91	100		
106	45.2	36.8	55.2
105	18.6	15.4	23.0
77	12.6	10.2	15.2

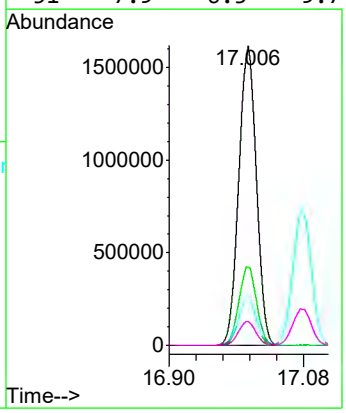


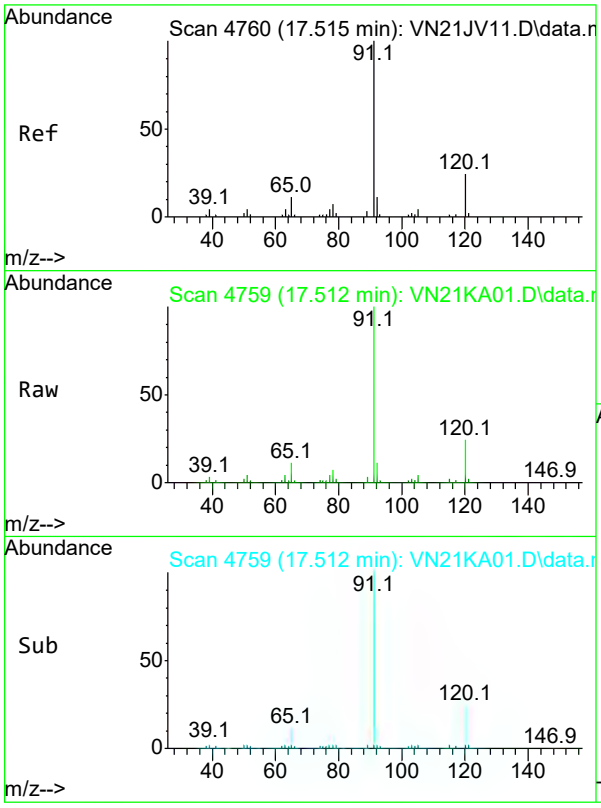


#67
Isopropylbenzene
Concen: 16.62 ppbv
RT: 17.006 min Scan# 4581
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 2683628

Ion	Ratio	Lower	Upper
105	100		
120	26.3	21.2	31.8
77	15.9	13.0	19.4
51	7.9	6.5	9.7

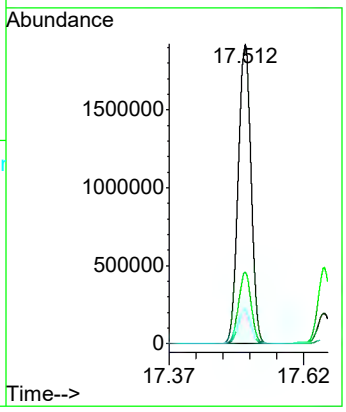


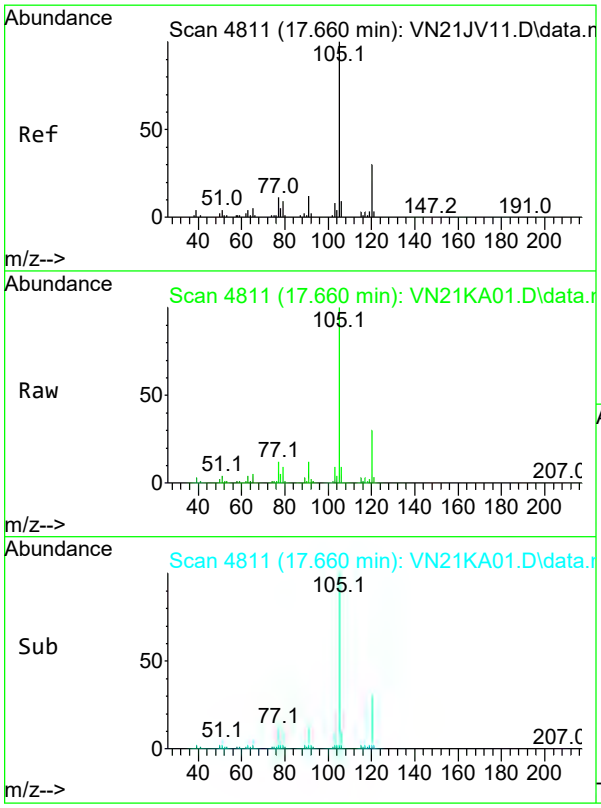


#68
n-Propylbenzene
Concen: 17.90 ppbv
RT: 17.512 min Scan# 4759
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 3204415

Ion	Ratio	Lower	Upper
91	100		
120	23.4	18.9	28.3
92	10.8	8.6	13.0

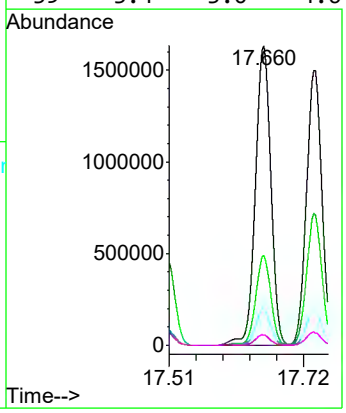


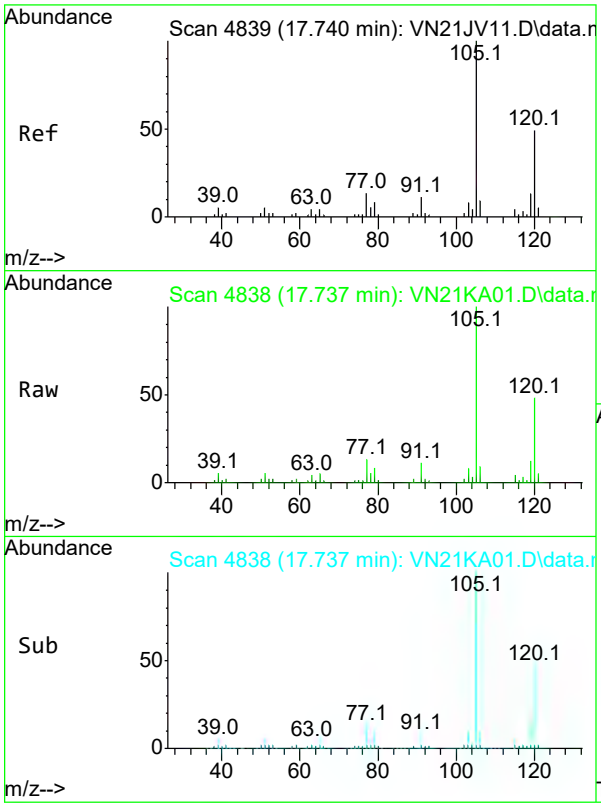


#69
4-Ethyltoluene
Concen: 15.73 ppbv
RT: 17.660 min Scan# 4811
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 2700045

Ion	Ratio	Lower	Upper
105	100		
120	28.9	24.3	36.5
77	11.5	9.6	14.4
39	3.4	3.0	4.6

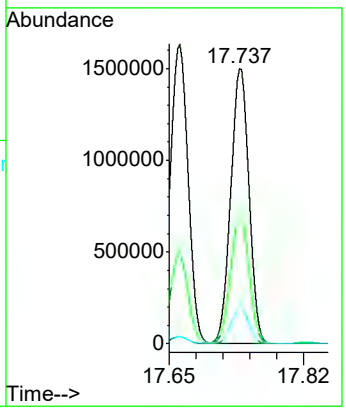


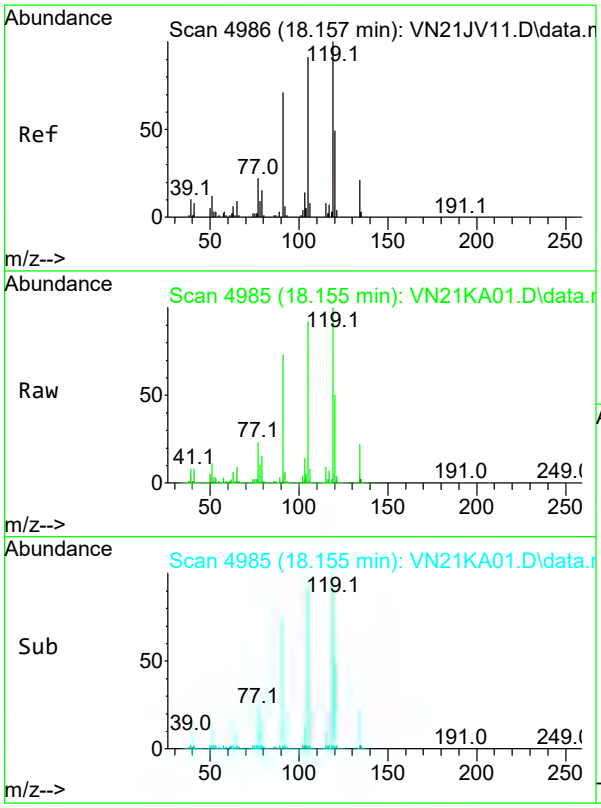


#70
1,3,5-Trimethylbenzene
Concen: 15.79 ppbv
RT: 17.737 min Scan# 4838
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 2451641

Ion	Ratio	Lower	Upper
105	100		
120	47.4	38.8	58.2
119	12.2	10.2	15.2

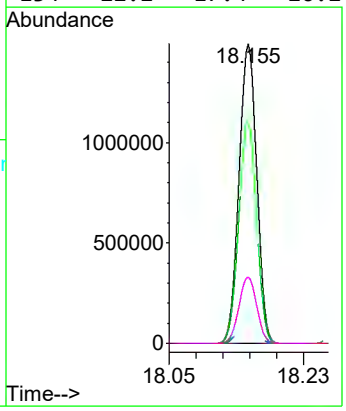


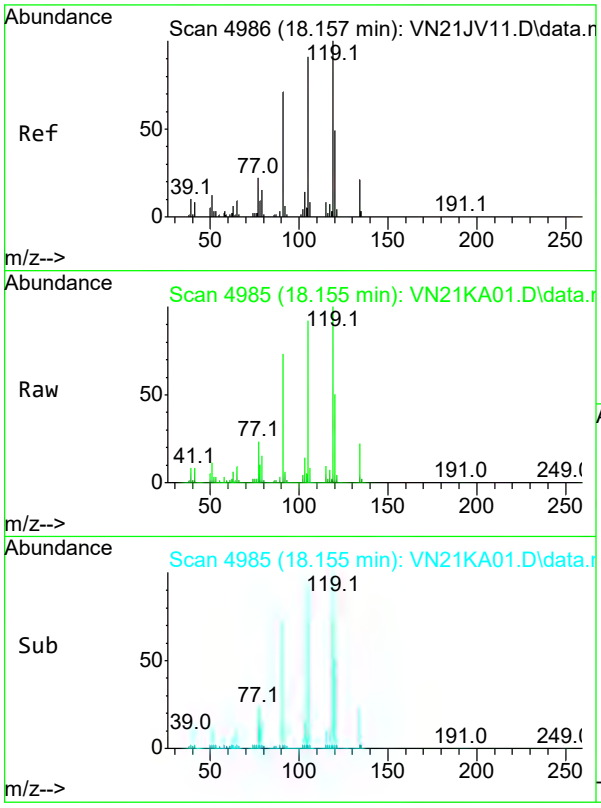


#71
tert-Butylbenzene
Concen: 17.41 ppbv
RT: 18.155 min Scan# 4985
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:119 Resp: 2504193

Ion	Ratio	Lower	Upper
119	100		
91	74.5	57.8	86.6
41	8.4	6.7	10.1
134	22.2	17.4	26.2

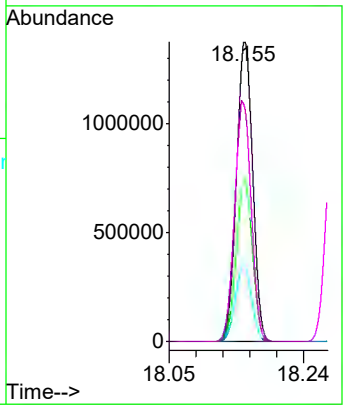


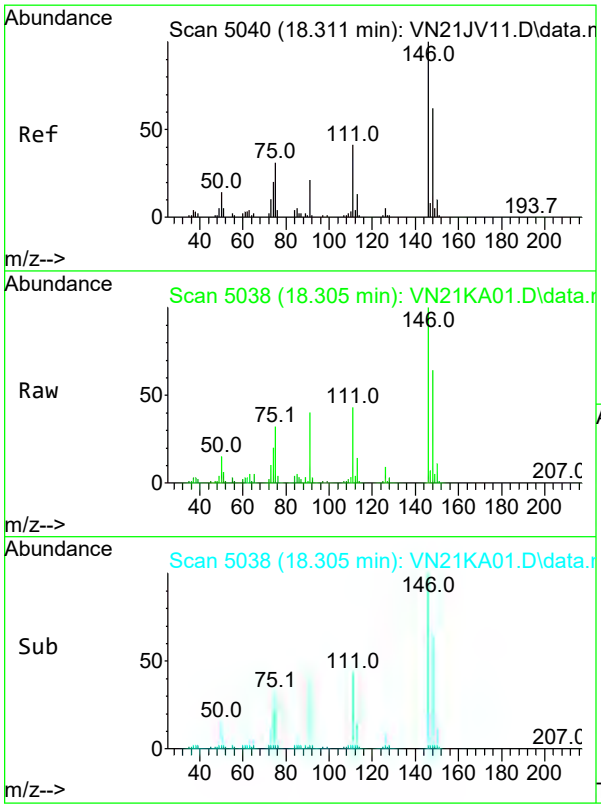


#72
1,2,4-Trimethylbenzene
Concen: 15.25 ppbv
RT: 18.155 min Scan# 4985
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 2271616

Ion	Ratio	Lower	Upper
105	100		
120	54.0	43.8	65.8
77	25.5	20.3	30.5
91	82.1	64.3	96.5

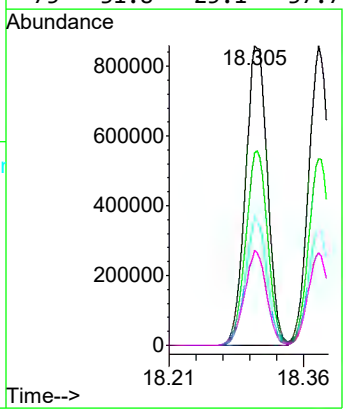


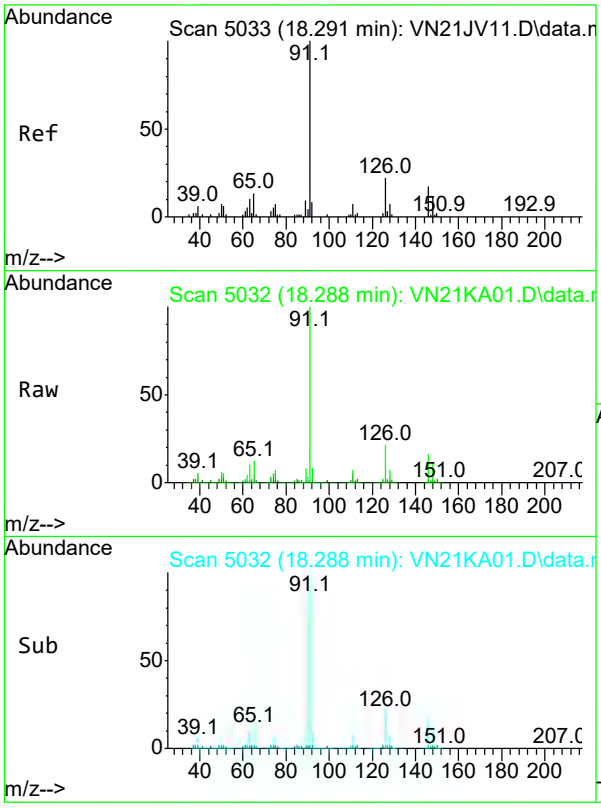


#73
1,3-Dichlorobenzene
Concen: 20.92 ppbv
RT: 18.305 min Scan# 5038
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:146 Resp: 1449413

Ion	Ratio	Lower	Upper
146	100		
148	64.3	51.1	76.7
111	41.4	32.3	48.5
75	31.8	25.1	37.7

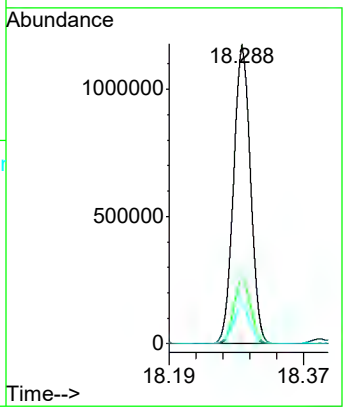


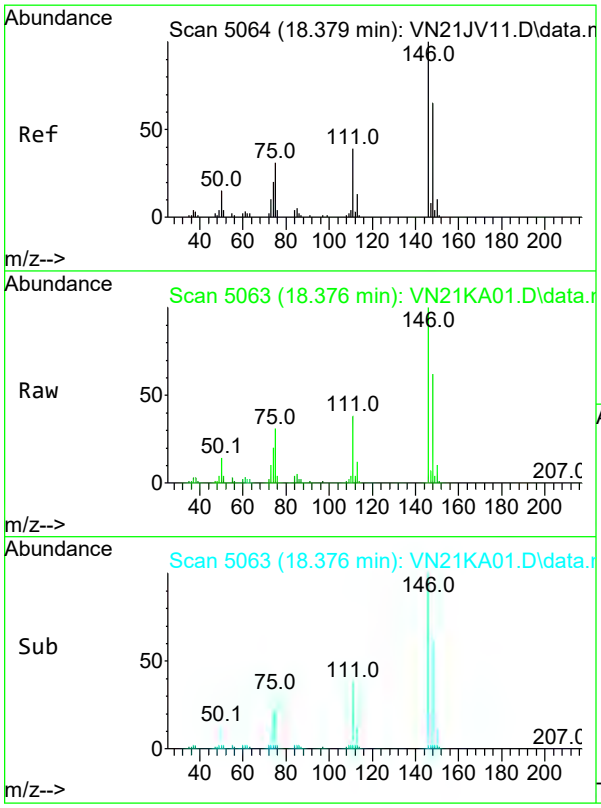


#74
Benzyl Chloride
Concen: 21.53 ppbv
RT: 18.288 min Scan# 5032
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 1880488

Ion	Ratio	Lower	Upper
91	100		
126	21.4	17.3	25.9
65	12.5	10.1	15.1

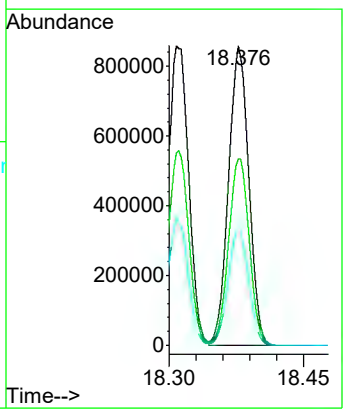


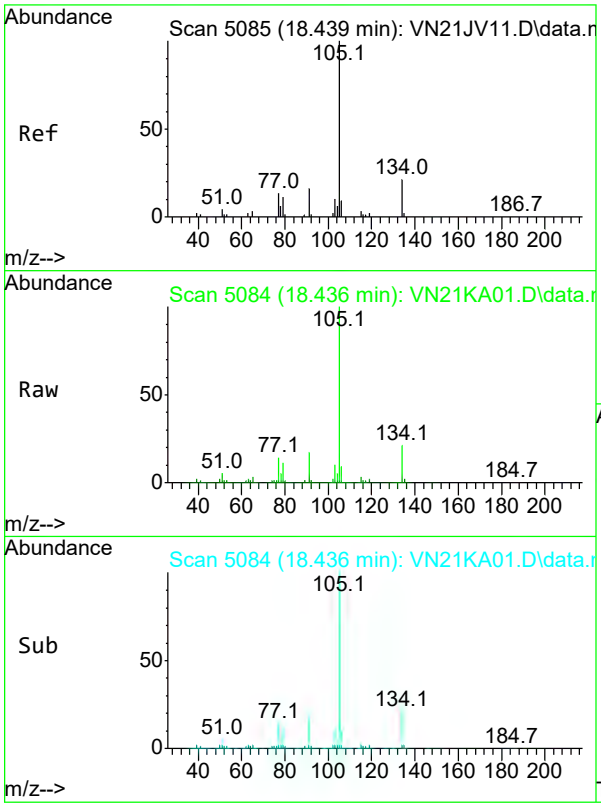


#75
1,4-Dichlorobenzene
Concen: 21.06 ppbv
RT: 18.376 min Scan# 5063
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:146 Resp: 1380217

Ion	Ratio	Lower	Upper
146	100		
148	63.5	50.8	76.2
111	39.4	31.1	46.7

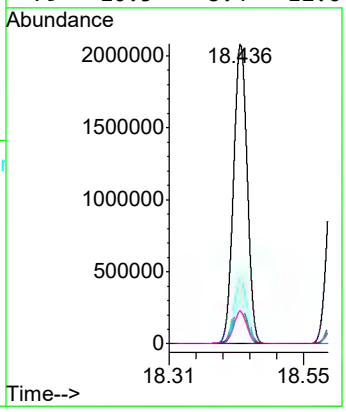


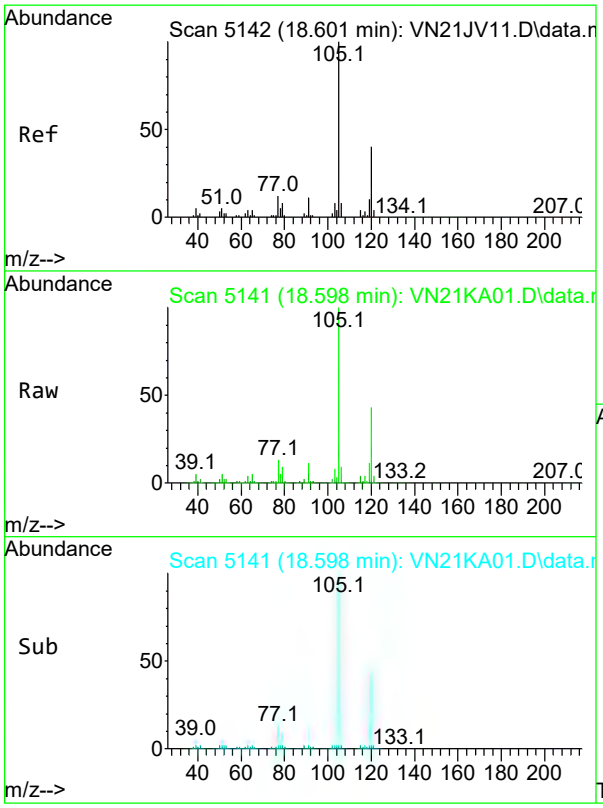


#76
sec-Butylbenzene
Concen: 17.10 ppbv
RT: 18.436 min Scan# 5084
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 3395189

Ion	Ratio	Lower	Upper
105	100		
77	13.4	10.6	16.0
134	20.7	16.7	25.1
79	10.5	8.4	12.6

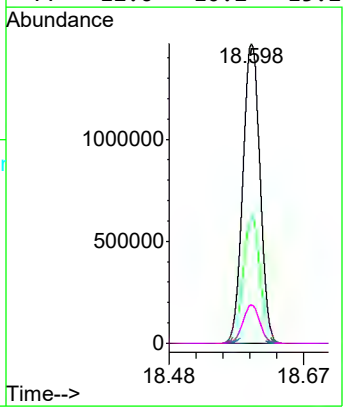


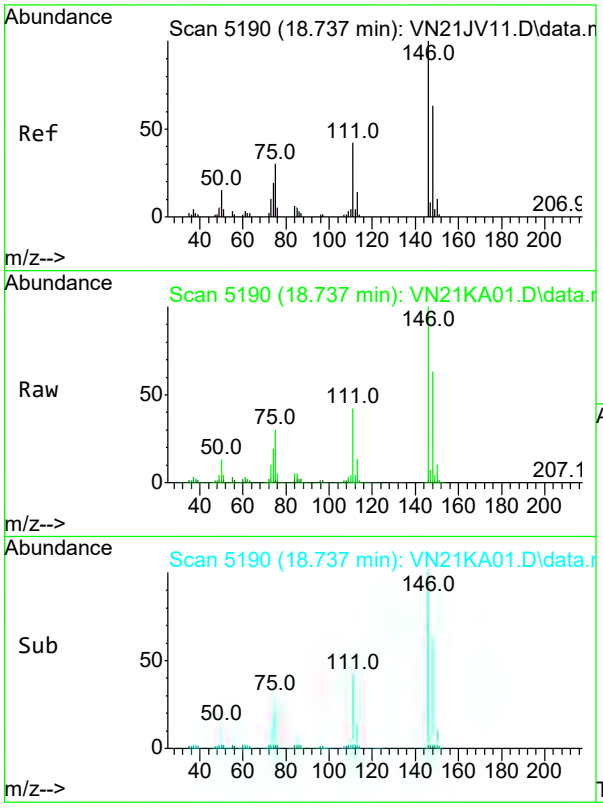


#77
1,2,3-Trimethylbenzene
Concen: 18.29 ppbv
RT: 18.598 min Scan# 5141
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:105 Resp: 2444088

Ion	Ratio	Lower	Upper
105	100		
120	41.6	33.4	50.0
39	4.6	3.9	5.9
77	12.6	10.2	15.2

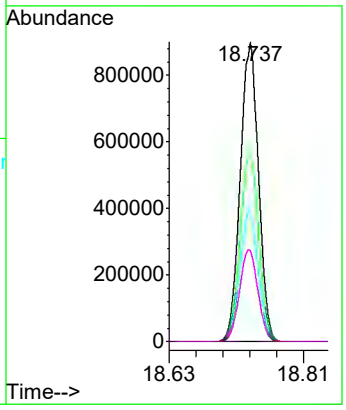


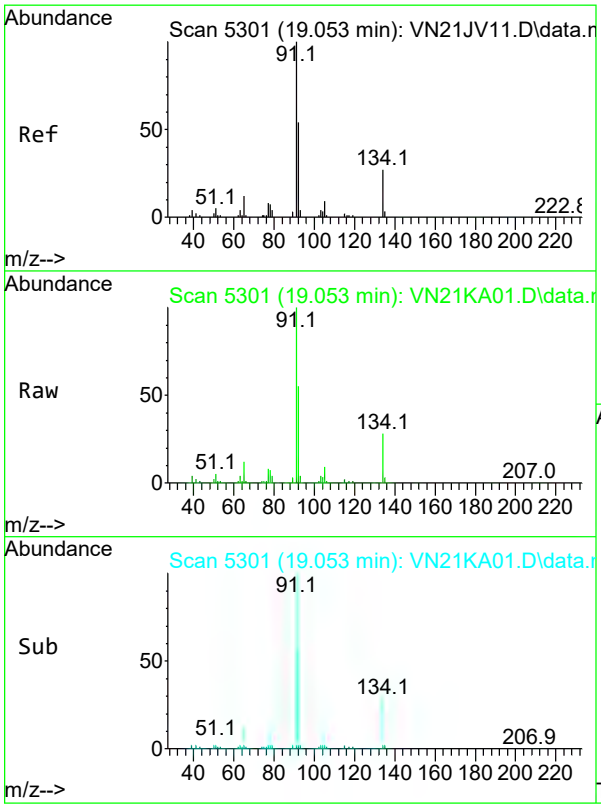


#78
1,2-Dichlorobenzene
Concen: 16.66 ppbv
RT: 18.737 min Scan# 5190
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:146 Resp: 1472397

Ion	Ratio	Lower	Upper
146	100		
148	63.8	51.0	76.6
111	42.9	33.8	50.8
75	30.9	24.4	36.6

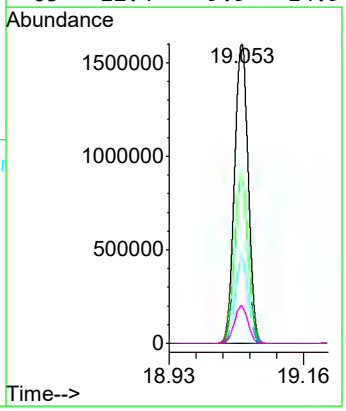


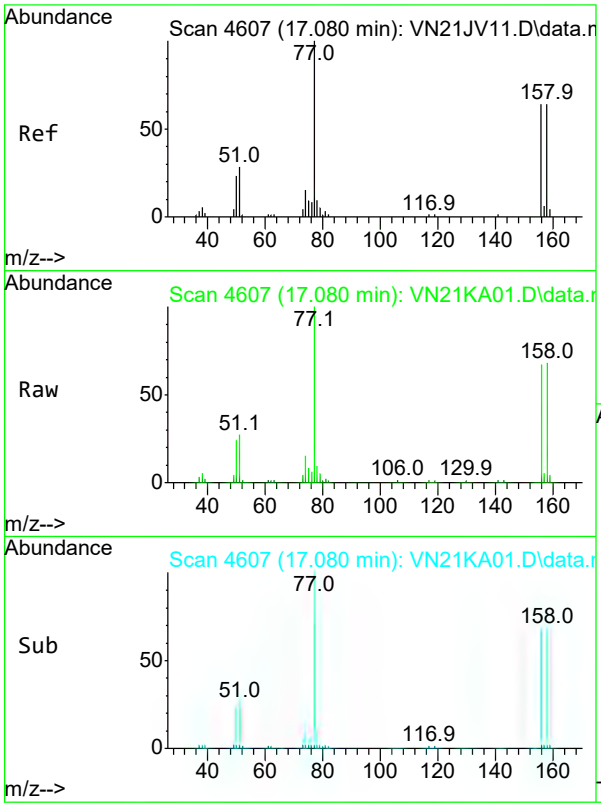


#79
n-Butylbenzene
Concen: 15.17 ppbv
RT: 19.053 min Scan# 5301
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 91 Resp: 2563808

Ion	Ratio	Lower	Upper
91	100		
92	54.8	43.5	65.3
134	27.4	22.0	33.0
65	12.4	9.9	14.9

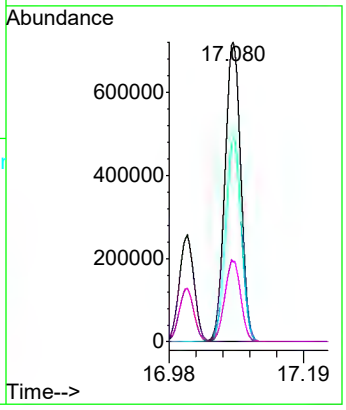


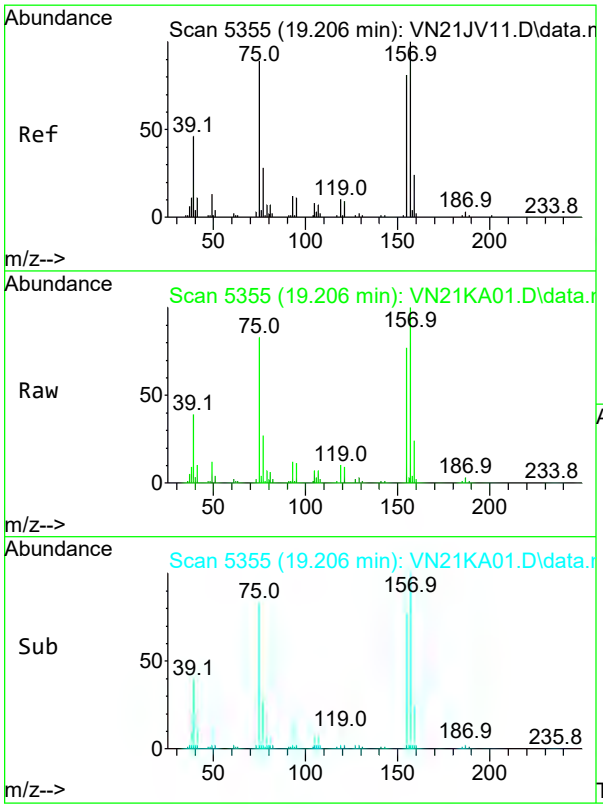


#80
Bromobenzene
Concen: 16.03 ppbv
RT: 17.080 min Scan# 4607
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion: 77 Resp: 1280380

Ion	Ratio	Lower	Upper
77	100		
156	67.5	53.2	79.8
158	66.3	52.1	78.1
51	27.3	22.7	34.1

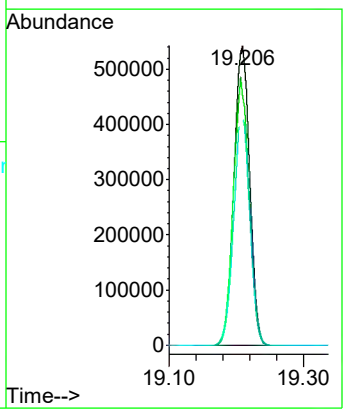


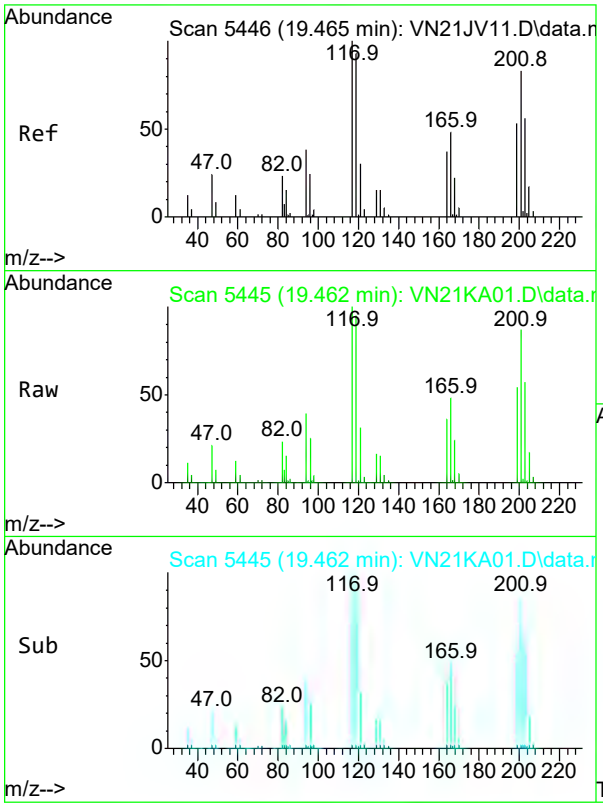


#81
1,2-Dibromo-3-chloropropane
Concen: 25.99 ppbv
RT: 19.206 min Scan# 5355
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:157 Resp: 901888

Ion	Ratio	Lower	Upper
157	100		
75	87.6	69.5	104.3
155	77.3	62.6	93.8

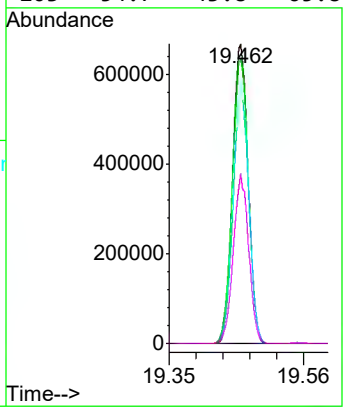


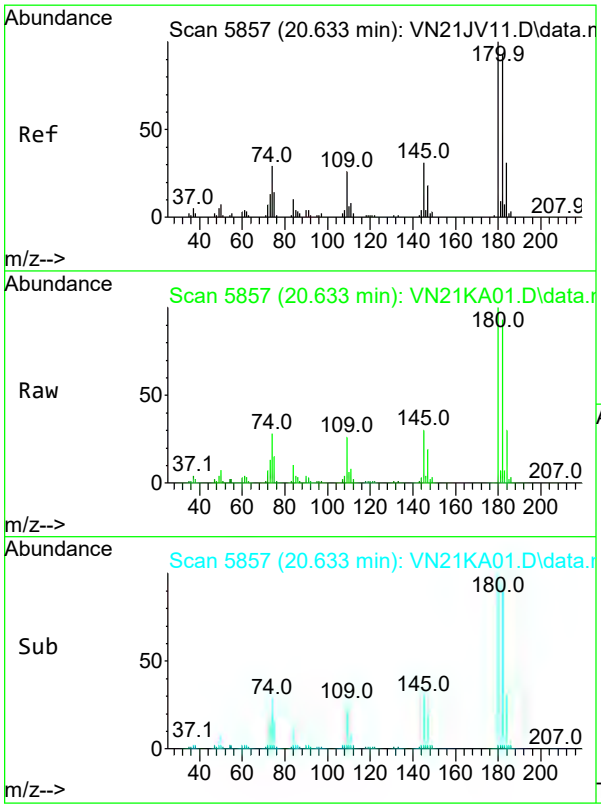


#82
Hexachloroethane
Concen: 16.05 ppbv
RT: 19.462 min Scan# 5445
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:117 Resp: 1108685

Ion	Ratio	Lower	Upper
117	100		
119	95.9	77.0	115.4
201	84.8	68.2	102.2
203	54.7	43.8	65.8

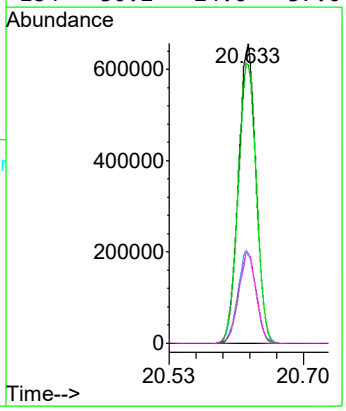


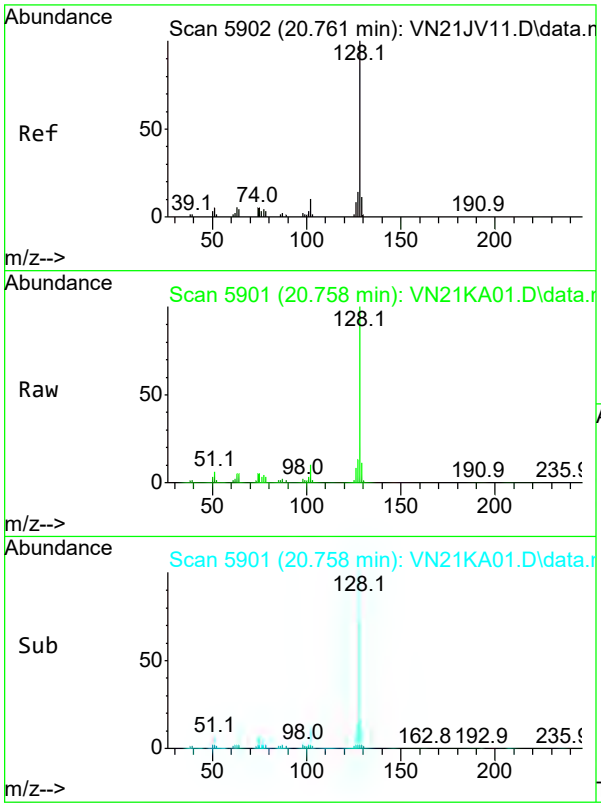


#83
1,2,4-Trichlorobenzene
Concen: 16.23 ppbv
RT: 20.633 min Scan# 5857
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:180 Resp: 1040003

Ion	Ratio	Lower	Upper
180	100		
182	94.8	75.8	113.8
145	31.2	25.0	37.6
184	30.2	24.6	37.0

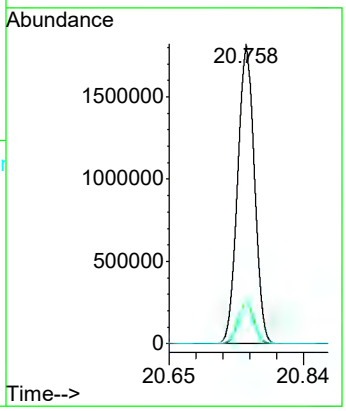


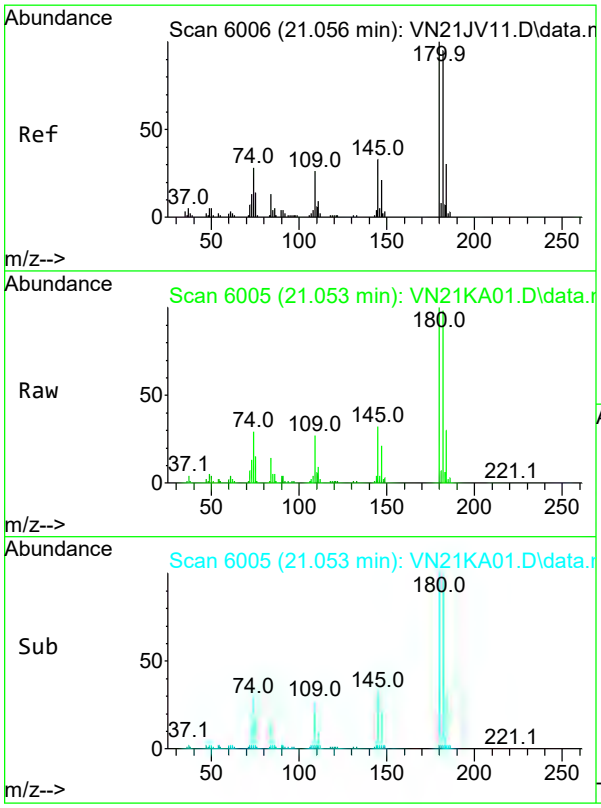


#84
Naphthalene
Concen: 17.17 ppbv
RT: 20.758 min Scan# 5901
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:128 Resp: 2881153

Ion	Ratio	Lower	Upper
128	100		
127	13.4	11.3	16.9
102	9.7	7.6	11.4

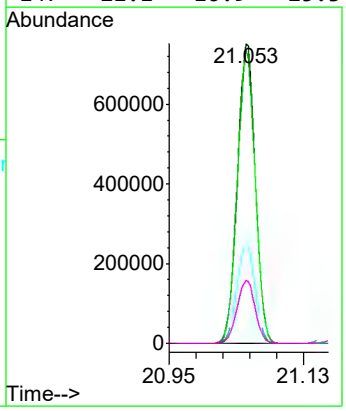


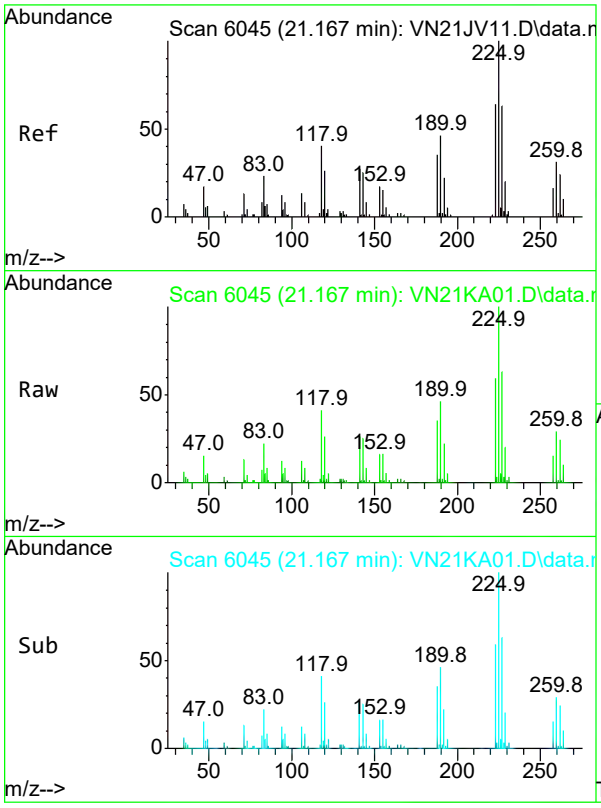


#85
1,2,3-Trichlorobenzene
Concen: 17.89 ppbv
RT: 21.053 min Scan# 6005
Delta R.T. -0.003 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:180 Resp: 1210999

Ion	Ratio	Lower	Upper
180	100		
182	96.1	76.2	114.4
145	33.3	26.5	39.7
147	21.1	16.9	25.3

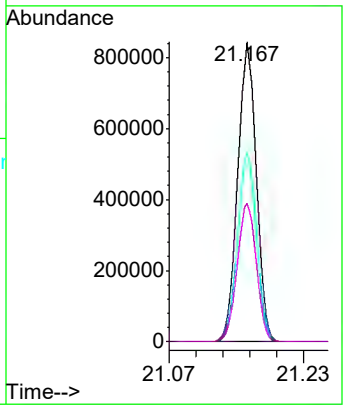


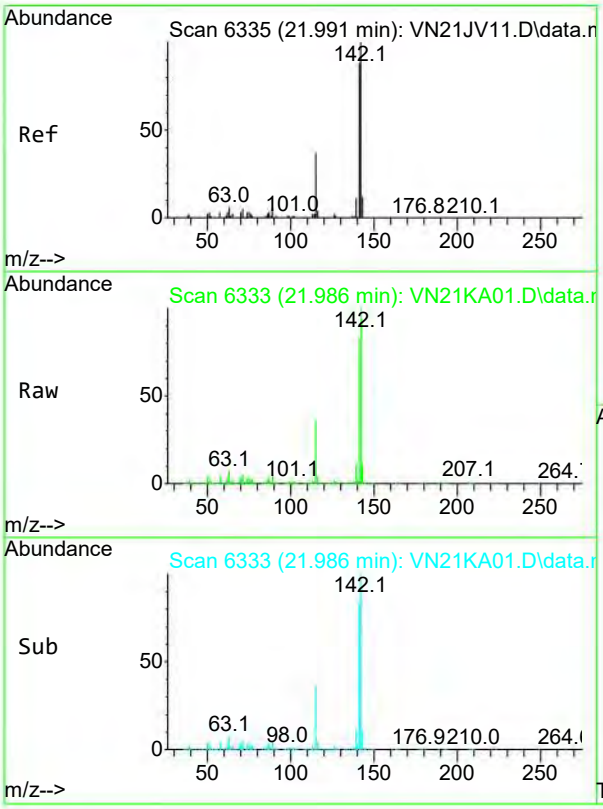


#86
Hexachlorobutadiene
Concen: 14.25 ppbv
RT: 21.167 min Scan# 6045
Delta R.T. -0.000 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:225 Resp: 1289453

Ion	Ratio	Lower	Upper
225	100		
223	63.0	50.6	75.8
227	64.1	50.6	75.8
190	47.4	37.4	56.0

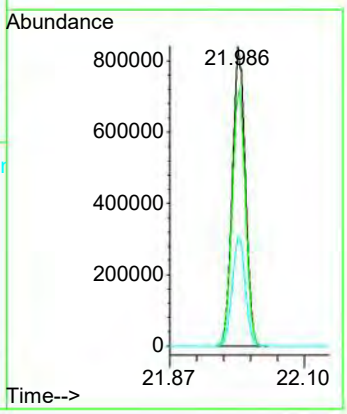




#87
2-Methylnaphthalene
Concen: 15.78 ppbv
RT: 21.986 min Scan# 6333
Delta R.T. -0.006 min
Lab File: VN21KA01.D
Acq: 10 Nov 2021 01:22 pm

Tgt Ion:142 Resp: 1270896

Ion	Ratio	Lower	Upper
142	100		
141	88.1	71.0	106.6
115	36.9	29.3	43.9



Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	463475	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1674772	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	134616	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	230993	7.42	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 110.42%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2234802	14.33		100	14.33
3) Chloromethane	4.231	50	420983	12.24		99	12.24
4) Dichlorotetrafluoroethane	4.325	85	1811959	13.45		94	13.45
5) Vinyl Chloride	4.427	62	564926	12.10		100	12.10
6) 1,3-Butadiene	4.555	54	418415	10.19		98	10.19
7) Bromomethane	4.800	94	568574	14.18		99	14.18
8) Chloroethane	4.953	64	304529	12.69		98	12.69
9) Ethanol	5.067	45	150627	10.57		99	10.57
10) Acrolein	5.391	56	211204	13.00		100	13.00
11) Trichlorofluoromethane	5.698	101	2060042	15.42		99	15.42
12) Isopropanol	5.783	45	921414	9.80		100	9.80
13) Acetone	5.536	58	254232	7.34		95	7.34
14) Acrylonitrile	5.996	53	572268	12.24	#	99	12.24
15) n-Pentane	6.073	43	1177057	12.91	#	100	12.91
16) Diethyl Ether	6.113	59	688346	12.62		98	12.62
17) 1,1-Dichloroethene	6.363	61	1409047	11.78		97	11.78
18) t-Butanol	6.437	59	1788208	11.83	#	98	11.83
19) Methylene Chloride	6.488	49	815421	11.65		95	11.65
20) 1,1,2-Trichlorotrifluo...	6.798	101	1952308	11.84		95	11.84
21) Carbon Disulfide	6.800	76	2366605	11.93		98	11.93
22) trans-1,2-Dichloroethene	7.511	61	1221180	11.47		97	11.47
23) MTBE	7.841	73	2675136	12.34		97	12.34
24) 1,1-Dichloroethane	7.730	63	1434488	11.23		100	11.23
25) Vinyl Acetate	7.915	86	244827	15.96		88	15.96
26) n-Hexane	8.895	57	1132744	9.85		96	9.85
27) 2-Butanone	8.187	43	1242466	9.89		98	9.89
28) cis-1,2-Dichloroethene	8.639	61	1154306	11.84		97	11.84
29) Chloroform	8.960	83	2173480	12.65		98	12.65
30) Ethyl Acetate	8.926	61	247686	11.83		96	11.83
31) Diisopropyl Ether	8.918	45	2326898	13.80		99	13.80
32) Tetrahydrofuran	9.421	42	976288	16.42		96	16.42
33) ETBE	9.495	59	2696269	12.06		100	12.06
34) 1,2-Dichloroethane	9.748	62	1307314	11.61		99	11.61
35) Methylcyclopentane	9.768	56	1528101	11.90		99	11.90
37) 1,1,1-Trichloroethane	10.029	97	2300676	12.79		99	12.79
38) Cyclohexane	10.813	56	1187119	12.05		99	12.05
39) Carbon Tetrachloride	10.677	117	2514902	13.28		99	13.28
40) Benzene	10.515	78	2647443	11.98		99	11.98
41) Dibromomethane	11.342	174	1324091	13.64		98	13.64
42) n-Heptane	11.987	43	1163812	13.29		94	13.29
43) 1,2-Dichloropropane	11.382	63	883535	12.42		100	12.42
44) Trichloroethene	11.638	95	1337373	12.77		99	12.77
45) Bromodichloromethane	11.581	83	2215539	12.43		98	12.43

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

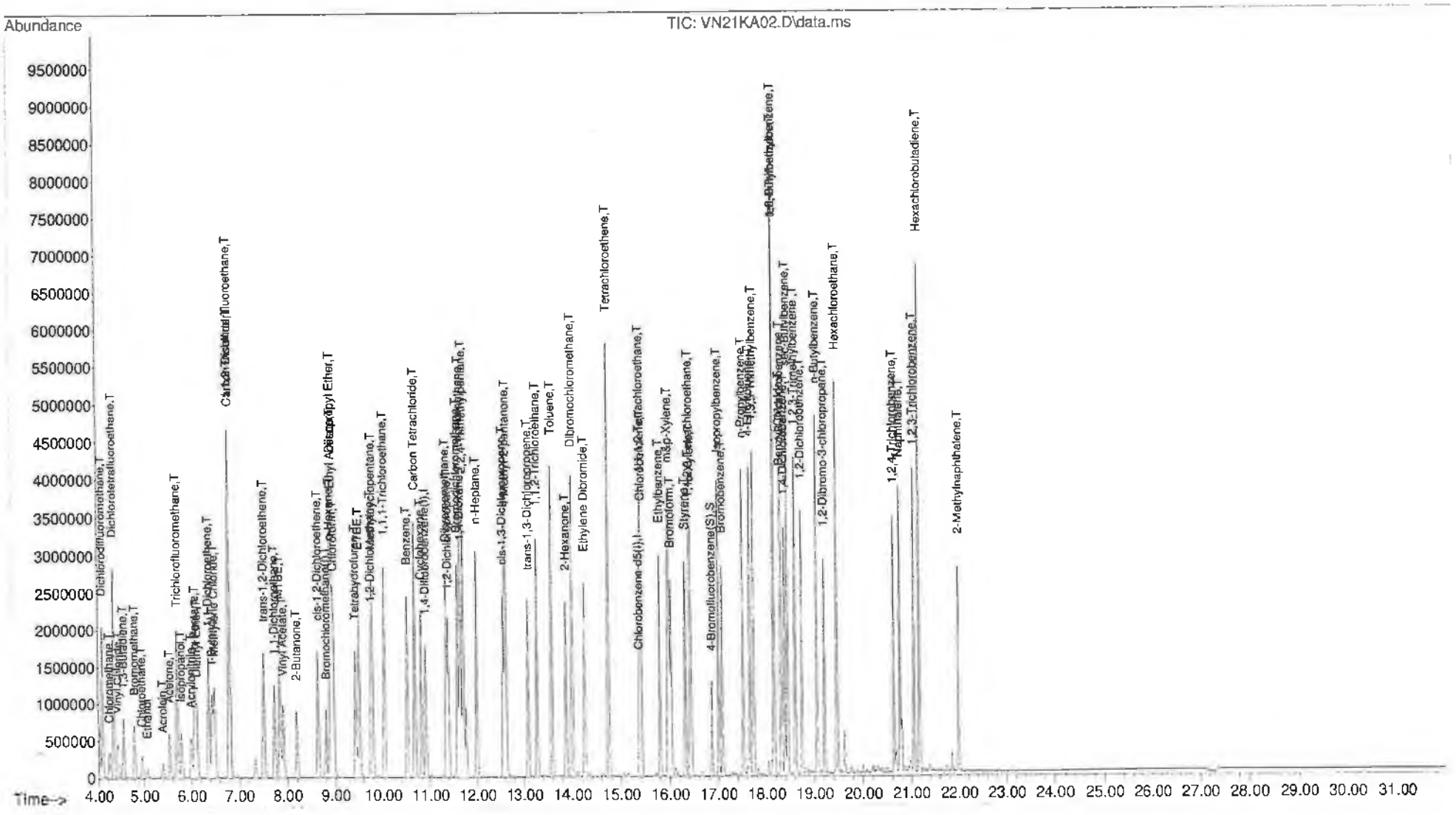
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.652	88	643551	13.15		#	90	13.15
47) 2,2,4-Trimethylpentane	11.706	57	3987756	12.96			98	12.96
48) cis-1,3-Dichloropropene	12.547	75	1690080	13.09			100	13.09
49) 4-Methyl-2-pentanone	12.615	58	789316	11.03			99	11.03
50) trans-1,3-Dichloropropene	13.101	75	1623204	13.44			99	13.44
51) 1,1,1,2-Tetrachloroethane	15.403	131	859014	13.84			97	13.84
53) 1,1,2-Trichloroethane	13.277	97	1183168	14.44			100	14.44
54) Toluene	13.582	91	3599823	14.02			100	14.02
55) 2-Hexanone	13.877	43	1507928	12.27		#	99	12.27
56) Dibromochloromethane	14.002	127	1928582	13.54			100	13.54
57) Ethylene Dibromide	14.258	107	1968968	14.75			100	14.75
58) Tetrachloroethene	14.747	166	1865843	14.79			99	14.79
59) Chlorobenzene	15.420	112	1467610	14.36			100	14.36
60) Ethylbenzene	15.798	91	2367332	13.93			99	13.93
61) m&p-Xylene	15.977	106	1852072	28.57			98	28.57
62) Bromoform	16.026	173	1354390	16.02		#	100	16.02
63) Styrene	16.321	104	1509162	15.58			99	15.58
64) 1,1,2,2-Tetrachloroethane	16.409	83	1318045	13.94			99	13.94
65) o-Xylene	16.432	91	2020634	14.33			98	14.33
67) Isopropylbenzene	17.012	105	2798807	15.72			100	15.72
68) n-Propylbenzene	17.515	91	3373772	17.09			99	17.09
69) 4-Ethyltoluene	17.663	105	2821822	14.91			98	14.91
70) 1,3,5-Trimethylbenzene	17.739	105	2550762	14.90			99	14.90
71) tert-Butylbenzene	18.157	119	2594715	16.36			98	16.36
72) 1,2,4-Trimethylbenzene	18.160	105	2406283	14.65			99	14.65
73) 1,3-Dichlorobenzene	18.311	146	1521564	19.92			99	19.92
74) Benzyl Chloride	18.294	91	1967426	20.43			100	20.43
75) 1,4-Dichlorobenzene	18.382	146	1426958	19.75			99	19.75
76) sec-Butylbenzene	18.439	105	3536928	16.15			100	16.15
77) 1,2,3-Trimethylbenzene	18.603	105	2549236	17.30			100	17.30
78) 1,2-Dichlorobenzene	18.737	146	1528599	15.69			99	15.69
79) n-Butylbenzene	19.055	91	2705121	14.52			100	14.52
80) Bromobenzene	17.083	77	1356012	15.40			99	15.40
81) 1,2-Dibromo-3-chloropr...	19.209	157	912959	23.86			99	23.86
82) Hexachloroethane	19.464	117	1134681	14.90			98	14.90
83) 1,2,4-Trichlorobenzene	20.635	180	1080507	15.30			99	15.30
84) Naphthalene	20.763	128	3045619	16.46			99	16.46
85) 1,2,3-Trichlorobenzene	21.059	180	1221996	16.38			100	16.38
86) Hexachlorobutadiene	21.170	225	1302738	13.06			99	13.06
87) 2-Methylnaphthalene	21.991	142	1320135	14.87			99	14.87

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	463475	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.907	114	1674772	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	134616	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	230993	7.42	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 110.42%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2234802	14.33		100	14.33
3) Chloromethane	4.231	50	420983	12.24		99	12.24
4) Dichlorotetrafluoroethane	4.325	85	1811959	13.45		94	13.45
5) Vinyl Chloride	4.427	62	564926	12.10		100	12.10
6) 1,3-Butadiene	4.555	54	418415	10.19		98	10.19
7) Bromomethane	4.800	94	568574	14.18		99	14.18
8) Chloroethane	4.953	64	304529	12.69		98	12.69
9) Ethanol	5.067	45	150627	10.57		99	10.57
10) Acrolein	5.391	56	211204	13.00		100	13.00
11) Trichlorofluoromethane	5.698	101	2060042	15.42		99	15.42
12) Isopropanol	5.783	45	921414	9.80		100	9.80
13) Acetone	5.536	58	254232	7.34		95	7.34
14) Acrylonitrile	5.996	53	572268	12.24	#	99	12.24
15) n-Pentane	6.073	43	1177057	12.91	#	100	12.91
16) Diethyl Ether	6.113	59	688346	12.62		98	12.62
17) 1,1-Dichloroethene	6.363	61	1409047	11.78		97	11.78
18) t-Butanol	6.437	59	1788208	11.83	#	98	11.83
19) Methylene Chloride	6.488	49	815421	11.65		95	11.65
20) 1,1,2-Trichlorotrifluo...	6.798	101	1952308	11.84		95	11.84
21) Carbon Disulfide	6.800	76	2366605	11.93		98	11.93
22) trans-1,2-Dichloroethene	7.511	61	1221180	11.47		97	11.47
23) MTBE	7.841	73	2675136	12.34		97	12.34
24) 1,1-Dichloroethane	7.730	63	1434488	11.23		100	11.23
25) Vinyl Acetate	7.915	86	244827	15.96		88	15.96
26) n-Hexane	8.895	57	1132744	9.85		96	9.85
27) 2-Butanone	8.187	43	1242466	9.89		98	9.89
28) cis-1,2-Dichloroethene	8.639	61	1154306	11.84		97	11.84
29) Chloroform	8.960	83	2173480	12.65		98	12.65
30) Ethyl Acetate	8.926	61	247686	11.83		96	11.83
31) Diisopropyl Ether	8.918	45	2326898	13.80		99	13.80
32) Tetrahydrofuran	9.421	42	976288	16.42		96	16.42
33) ETBE	9.495	59	2696269	12.06		100	12.06
34) 1,2-Dichloroethane	9.748	62	1307314	11.61		99	11.61
35) Methylcyclopentane	9.768	56	1528101	11.90		99	11.90
37) 1,1,1-Trichloroethane	10.029	97	2300676	12.79		99	12.79
38) Cyclohexane	10.813	56	1187119	12.05		99	12.05
39) Carbon Tetrachloride	10.677	117	2514902	13.28		99	13.28
40) Benzene	10.515	78	2647443	11.98		99	11.98
41) Dibromomethane	11.342	174	1324091	13.64		98	13.64
42) n-Heptane	11.987	43	1163812	13.29		94	13.29
43) 1,2-Dichloropropane	11.382	63	883535	12.42		100	12.42
44) Trichloroethene	11.638	95	1337373	12.77		99	12.77
45) Bromodichloromethane	11.581	83	2215539	12.43		98	12.43

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

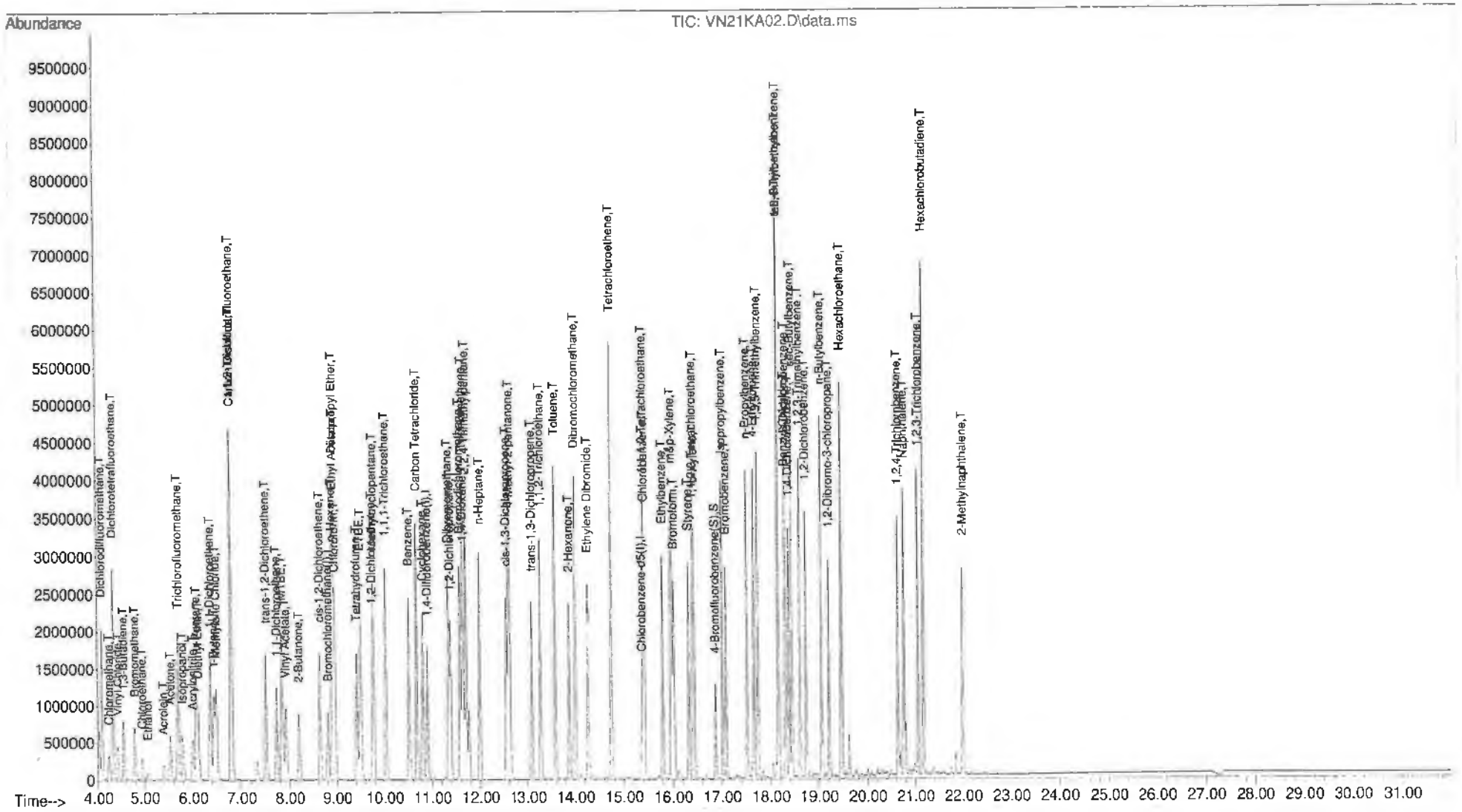
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,4-Dioxane	11.652	88	643551	13.15		# 90	13.15
47) 2,2,4-Trimethylpentane	11.706	57	3987756	12.96		98	12.96
48) cis-1,3-Dichloropropene	12.547	75	1690080	13.09		100	13.09
49) 4-Methyl-2-pentanone	12.615	58	789316	11.03		99	11.03
50) trans-1,3-Dichloropropene	13.101	75	1623204	13.44		99	13.44
51) 1,1,1,2-Tetrachloroethane	15.403	131	859014	13.84		97	13.84
53) 1,1,2-Trichloroethane	13.277	97	1183168	14.44		100	14.44
54) Toluene	13.582	91	3599823	14.02		100	14.02
55) 2-Hexanone	13.877	43	1507928	12.27		# 99	12.27
56) Dibromochloromethane	14.002	127	1928582	13.54		100	13.54
57) Ethylene Dibromide	14.258	107	1968968	14.75		100	14.75
58) Tetrachloroethene	14.747	166	1865843	14.79		99	14.79
59) Chlorobenzene	15.420	112	1467610	14.36		100	14.36
60) Ethylbenzene	15.798	91	2367332	13.93		99	13.93
61) m&p-Xylene	15.977	106	1852072	28.57		98	28.57
62) Bromoform	16.026	173	1354390	16.02		# 100	16.02
63) Styrene	16.321	104	1509162	15.58		99	15.58
64) 1,1,2,2-Tetrachloroethane	16.409	83	1318045	13.94		99	13.94
65) o-Xylene	16.432	91	2020634	14.33		98	14.33
67) Isopropylbenzene	17.012	105	2798807	15.72		100	15.72
68) n-Propylbenzene	17.515	91	3373772	17.09		99	17.09
69) 4-Ethyltoluene	17.663	105	2821822	14.91		98	14.91
70) 1,3,5-Trimethylbenzene	17.739	105	2550762	14.90		99	14.90
71) tert-Butylbenzene	18.157	119	2594715	16.36		98	16.36
72) 1,2,4-Trimethylbenzene	18.160	105	2406283	14.65		99	14.65
73) 1,3-Dichlorobenzene	18.311	146	1521564	19.92		99	19.92
74) Benzyl Chloride	18.294	91	1967426	20.43		100	20.43
75) 1,4-Dichlorobenzene	18.382	146	1426958	19.75		99	19.75
76) sec-Butylbenzene	18.439	105	3536928	16.15		100	16.15
77) 1,2,3-Trimethylbenzene	18.603	105	2549236	17.30		100	17.30
78) 1,2-Dichlorobenzene	18.737	146	152B599	15.69		99	15.69
79) n-Butylbenzene	19.055	91	2705121	14.52		100	14.52
80) Bromobenzene	17.083	77	1356012	15.40		99	15.40
81) 1,2-Dibromo-3-chloropr...	19.209	157	912959	23.86		99	23.86
82) Hexachloroethane	19.464	117	1134681	14.90		98	14.90
83) 1,2,4-Trichlorobenzene	20.635	180	1080507	15.30		99	15.30
84) Naphthalene	20.763	128	3045619	16.46		99	16.46
85) 1,2,3-Trichlorobenzene	21.059	180	1221996	16.38		100	16.38
86) Hexachlorobutadiene	21.170	225	1302738	13.06		99	13.06
87) 2-Methylnaphthalene	21.991	142	1320135	14.87		99	14.87

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA02.D
Acq On : 10 Nov 2021 02:10 pm
Operator :
Sample : VLCS01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 14:42:24 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VLCS01
Inject Time:	11/10/2021 2:10:10 PM
Sample Start:	11/10/2021 1:56:00 PM
Sample End:	11/10/2021 1:58:20 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D7
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	26.8 (25)	5.33	21.58	20.9	1.94	3.08
Calibration Std			0.00				
Sample	200.9 (200)	99 (100)	2.33	38.75	36.66	2.86	5.15
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	95.3 (100)	1.00	24.84	22.19	3.41	4.27
M1/ M2 Transfer	100.3 (100)	21.1 (20)	5.63	24.96	24.51	4.2	5.35

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				122 (120)
M2	-47 (-50)	-47 (-50)	-46 (-50)	227 (230)		209 (210)
M2 Bulk Head	33 (33)			62 (62)		120 (120)
M3	3			-173 (-165)	72 (80)	-62
Rot Valve Plate	92/91 (90)					91/91 (90)
GC Xfer Line					99 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	80 (80)
Transfer Line:		Transfer Line:	89 (80)
Sample:		Oven:	10 (0)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	47600 (47600)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

VM 11/11/21

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	483865	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1756099	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	144200	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.870	75	241869	7.25	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 107.89%			

Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2304276	14.15		100	14.15
3) Chloromethane	4.229	50	441452	12.30		99	12.30
4) Dichlorotetrafluoroethane	4.325	85	1851423	13.17		94	13.17
5) Vinyl Chloride	4.433	62	586821	12.04		100	12.04
6) 1,3-Butadiene	4.555	54	435502	10.16		98	10.16
7) Bromomethane	4.800	94	590800	14.11		99	14.11
8) Chloroethane	4.962	64	319079	12.73		99	12.73
9) Ethanol	5.073	45	158986	10.69		98	10.69
10) Acrolein	5.400	56	221296	13.05		100	13.05
11) Trichlorofluoromethane	5.701	101	2121904	15.22		99	15.22
12) Isopropanol	5.786	45	980615	10.00		100	10.00
13) Acetone	5.539	58	272938	7.54		92	7.54
14) Acrylonitrile	5.996	53	637903	13.07	#	96	13.07
15) n-Pentane	6.076	43	1276636	13.42	#	100	13.42
16) Diethyl Ether	6.113	59	741029	13.02		98	13.02
17) 1,1-Dichloroethene	6.366	61	1520492	12.18		98	12.18
18) t-Butanol	6.443	59	1970944	12.49	#	99	12.49
19) Methylene Chloride	6.488	49	879645	12.04		95	12.04
20) 1,1,2-Trichlorotrifluo...	6.798	101	2054600	11.94		96	11.94
21) Carbon Disulfide	6.801	76	2534675	12.24		98	12.24
22) trans-1,2-Dichloroethene	7.514	61	1311264	11.80		98	11.80
23) MTBE	7.844	73	2837711	12.54		97	12.54
24) 1,1-Dichloroethane	7.730	63	1568203	11.76		99	11.76
25) Vinyl Acetate	7.920	86	254227	15.88		99	15.88
26) n-Hexane	8.895	57	1232442	10.26		98	10.26
27) 2-Butanone	8.193	43	1395899	10.65		99	10.65
28) cis-1,2-Dichloroethene	8.639	61	1245966	12.24		98	12.24
29) Chloroform	8.961	83	2296822	12.80		99	12.80
30) Ethyl Acetate	8.927	61	266999	12.21		92	12.21
31) Diisopropyl Ether	8.918	45	2565322	14.58		99	14.58
32) Tetrahydrofuran	9.421	42	1091630	17.58		95	17.58
33) ETBE	9.495	59	2896855	12.41		99	12.41
34) 1,2-Dichloroethane	9.751	62	1394499	11.86		99	11.86
35) Methylcyclopentane	9.771	56	1670616	12.46		98	12.46
37) 1,1,1-Trichloroethane	10.032	97	2429721	12.88		99	12.88
38) Cyclohexane	10.814	56	1311960	12.71		96	12.71
39) Carbon Tetrachloride	10.677	117	2630850	13.25		99	13.25
40) Benzene	10.515	78	2866945	12.38		99	12.38
41) Dibromomethane	11.342	174	1356580	13.33		98	13.33
42) n-Heptane	11.987	43	1292247	14.08		92	14.08
43) 1,2-Dichloropropane	11.388	63	960784	12.88		99	12.88
44) Trichloroethene	11.638	95	1406016	12.80		99	12.80
45) Bromodichloromethane	11.581	83	2355037	12.60		99	12.60

QH 11-11-21

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

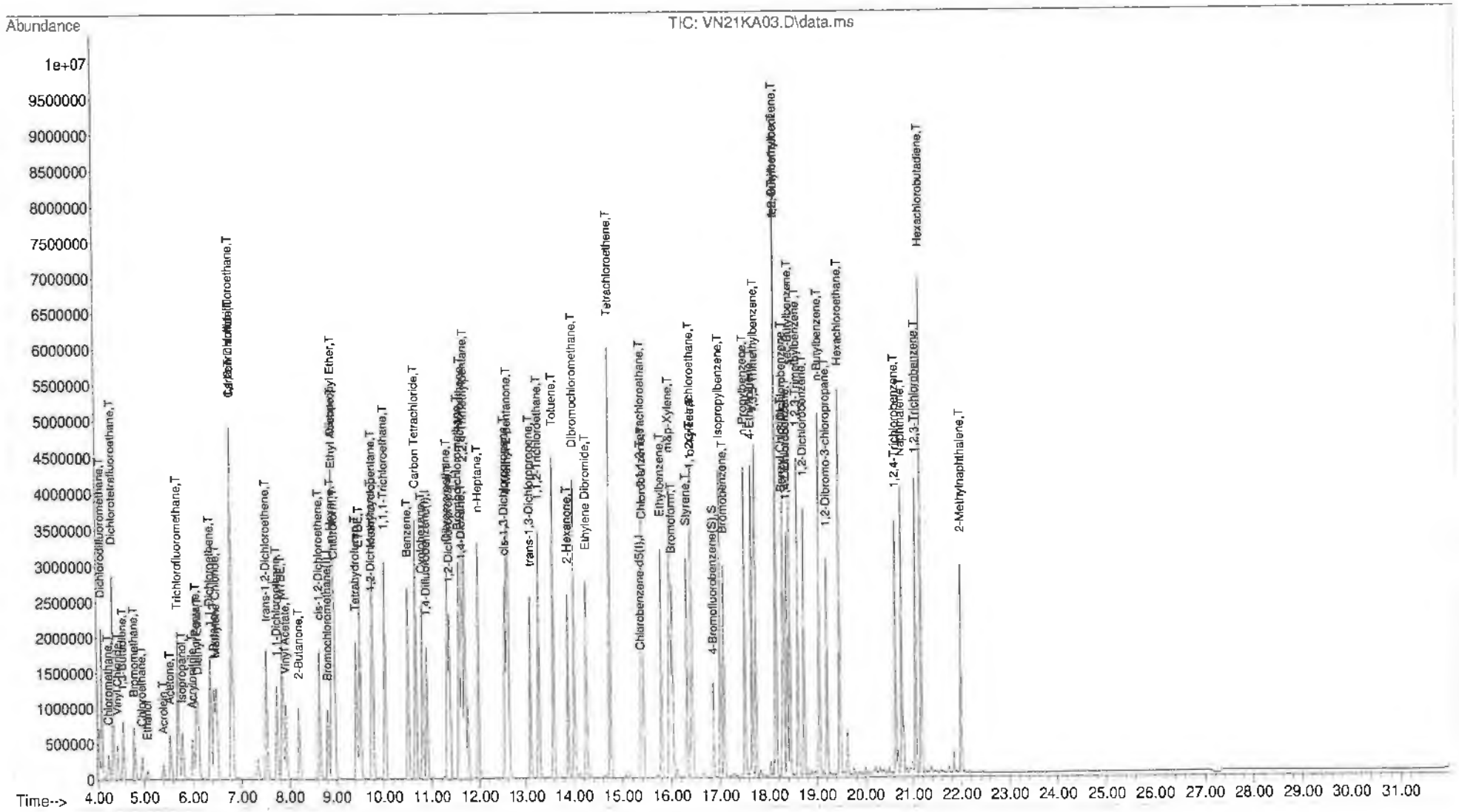
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.655	88	711178	13.85		#	72	13.85
47) 2,2,4-Trimethylpentane	11.706	57	4314236	13.38			98	13.38
48) cis-1,3-Dichloropropene	12.547	75	1815935	13.41			99	13.41
49) 4-Methyl-2-pentanone	12.615	58	868929	11.59			99	11.59
50) trans-1,3-Dichloropropene	13.101	75	1737872	13.72			99	13.72
51) 1,1,1,2-Tetrachloroethane	13.401	131	893052	13.73			97	13.73
53) 1,1,2-Trichloroethane	13.278	97	1261648	14.38			99	14.38
54) Toluene	13.582	91	3804922	13.83			99	13.83
55) 2-Hexanone	13.877	43	1667086	12.66		#	98	12.66
56) Dibromochloromethane	14.002	127	2002392	13.12			100	13.12
57) Ethylene Dibromide	14.261	107	2063108	14.43			100	14.43
58) Tetrachloroethene	14.747	166	1936689	14.33			100	14.33
59) Chlorobenzene	15.423	112	1534085	14.02			99	14.02
60) Ethylbenzene	15.799	91	2505729	13.76			99	13.76
61) m&p-Xylene	15.978	106	1941363	27.96			97	27.96
62) Bromoform	16.026	173	1389976	15.35		#	100	15.35
63) Styrene	16.321	104	1576882	15.19			99	15.19
64) 1,1,2,2-Tetrachloroethane	16.412	83	1405695	13.87			100	13.87
65) o-Xylene	16.429	91	2121401	14.05			99	14.05
67) Isopropylbenzene	17.009	105	2938537	15.41			99	15.41
68) n-Propylbenzene	17.515	91	3584412	16.95			99	16.95
69) 4-Ethyltoluene	17.660	105	2969703	14.65			97	14.65
70) 1,3,5-Trimethylbenzene	17.742	105	2675969	14.59			98	14.59
71) tert-Butylbenzene	18.157	119	2707990	15.94			97	15.94
72) 1,2,4-Trimethylbenzene	18.160	105	2496620	14.19			99	14.19
73) 1,3-Dichlorobenzene	18.311	146	1550316	18.94			98	18.94
74) Benzyl Chloride	18.291	91	2079384	20.15			99	20.15
75) 1,4-Dichlorobenzene	18.382	146	1454016	18.78			98	18.78
76) sec-Butylbenzene	18.442	105	3688121	15.73			99	15.73
77) 1,2,3-Trimethylbenzene	18.601	105	2653055	16.81			99	16.81
78) 1,2-Dichlorobenzene	18.740	146	1564944	14.99			99	14.99
79) n-Butylbenzene	19.055	91	2855098	14.30			99	14.30
80) Bromobenzene	17.086	77	1439742	15.27			97	15.27
81) 1,2-Dibromo-3-chloropr...	19.206	157	938110	22.89			97	22.89
82) Hexachloroethane	19.468	117	1171955	14.37			98	14.37
83) 1,2,4-Trichlorobenzene	20.636	180	1105087	14.61			99	14.61
84) Naphthalene	20.761	128	3144259	15.87			99	15.87
85) 1,2,3-Trichlorobenzene	21.059	180	1239975	15.51			99	15.51
86) Hexachlorobutadiene	21.170	225	1314453	12.30			99	12.30
87) 2-Methylnaphthalene	21.991	142	1383330	14.55			99	14.55

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	483865	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.90S	114	1756099	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	144200	6.67	ppbv		0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.870	75	241869	7.25	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 107.89%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.089	85	2304276	14.15		100	14.15
3) Chloromethane	4.229	S0	441452	12.30		99	12.30
4) Dichlorotetrafluoroethane	4.325	85	1851423	13.17		94	13.17
5) Vinyl Chloride	4.433	62	586821	12.04		100	12.04
6) 1,3-Butadiene	4.555	54	435502	10.16		98	10.16
7) Bromomethane	4.800	94	S90800	14.11		99	14.11
8) Chloroethane	4.962	64	319079	12.73		99	12.73
9) Ethanol	S.073	45	158986	10.69		98	10.69
10) Acrolein	5.400	56	221296	13.05		100	13.05
11) Trichlorofluoromethane	5.701	101	2121904	15.22		99	15.22
12) Isopropanol	5.786	45	9B0615	10.00		100	10.00
13) Acetone	5.S39	58	272938	7.54		92	7.54
14) Acrylonitrile	5.996	53	637903	13.07	#	96	13.07
15) n-Pentane	6.076	43	1276636	13.42	#	100	13.42
16) Diethyl Ether	6.113	59	741029	13.02		98	13.02
17) 1,1-Dichloroethene	6.366	61	1520492	12.18		98	12.18
18) t-Butanol	6.443	59	1970944	12.49	#	99	12.49
19) Methylene Chloride	6.488	49	879645	12.04		95	12.04
20) 1,1,2-Trichlorotrifluo...	6.798	101	2054600	11.94		96	11.94
21) Carbon Disulfide	6.801	76	2534675	12.24		98	12.24
22) trans-1,2-Dichloroethene	7.514	61	1311264	11.80		98	11.80
23) MTBE	7.844	73	2837711	12.54		97	12.54
24) 1,1-Dichloroethane	7.730	63	1568203	11.76		99	11.76
25) Vinyl Acetate	7.920	86	254227	15.88		99	15.88
26) n-Hexane	8.895	57	1232442	10.26		98	10.26
27) 2-Butanone	8.193	43	1395899	10.65		99	10.65
28) cis-1,2-Dichloroethene	8.639	61	1245966	12.24		98	12.24
29) Chloroform	B.961	83	2296822	12.80		99	12.80
30) Ethyl Acetate	8.927	61	266999	12.21		92	12.21
31) Diisopropyl Ether	8.918	45	2565322	14.58		99	14.58
32) Tetrahydrofuran	9.421	42	1091630	17.58		95	17.58
33) ETBE	9.495	59	2896855	12.41		99	12.41
34) 1,2-Dichloroethane	9.751	62	1394499	11.86		99	11.86
35) Methylcyclopentane	9.771	56	1670616	12.46		98	12.46
37) 1,1,1-Trichloroethane	10.032	97	2429721	12.88		99	12.88
38) Cyclohexane	10.B14	56	1311960	12.71		96	12.71
39) Carbon Tetrachloride	10.677	117	2630850	13.25		99	13.25
40) Benzene	10.515	78	2B66945	12.38		99	12.38
41) Dibromomethane	11.342	174	1356580	13.33		98	13.33
42) n-Heptane	11.987	43	1292247	14.08		92	14.08
43) 1,2-Dichloropropane	11.388	63	9607B4	12.88		99	12.88
44) Trichloroethene	11.638	95	1406016	12.80		99	12.80
45) Bromodichloromethane	11.581	83	2355037	12.60		99	12.60

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUND5 BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

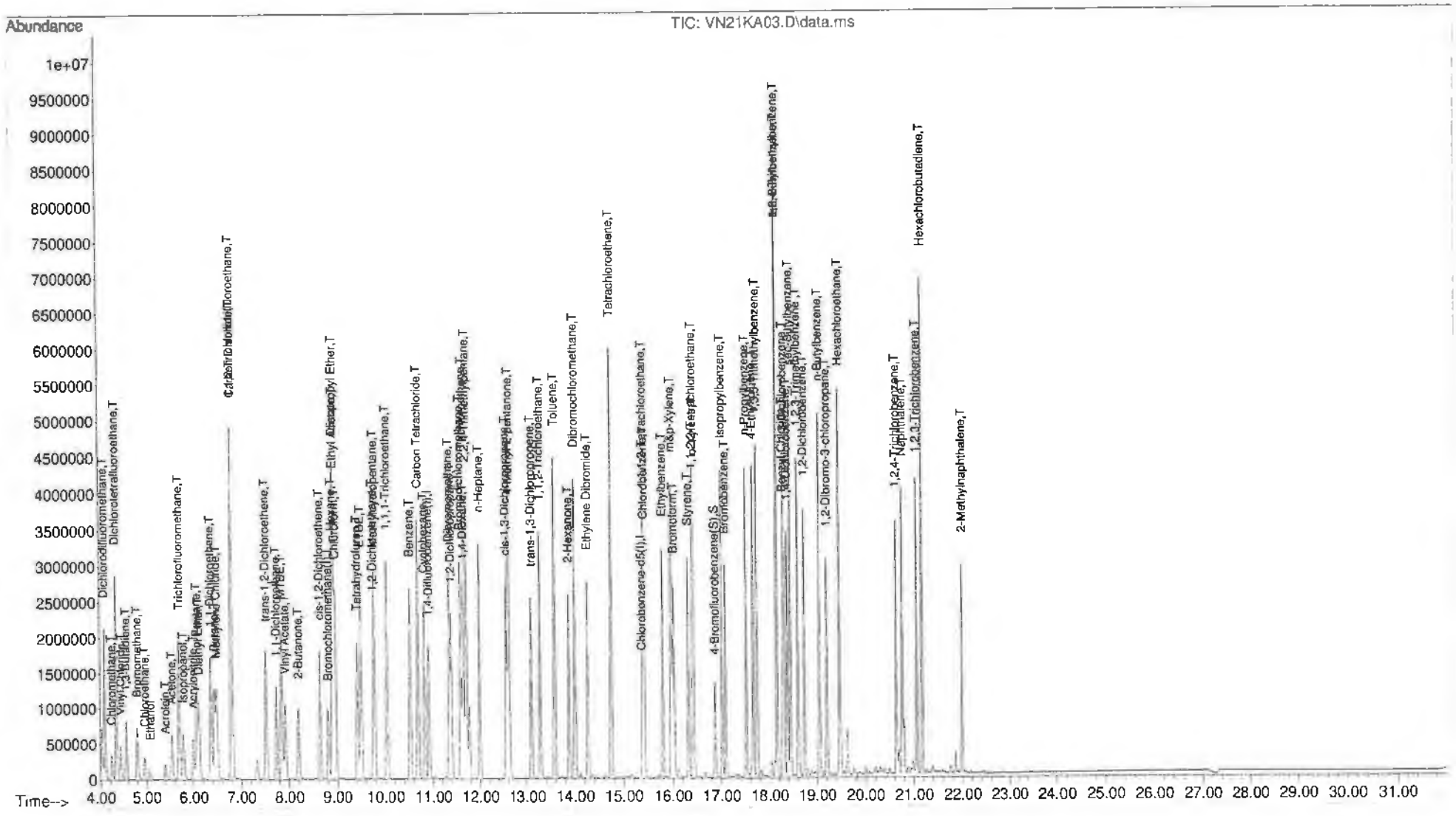
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
46) 1,4-Dioxane	11.655	88	711178	13.85		#	72	13.85
47) 2,2,4-Trimethylpentane	11.706	57	4314236	13.38			98	13.38
48) cis-1,3-Dichloropropene	12.547	75	1815935	13.41			99	13.41
49) 4-Methyl-2-pentanone	12.615	58	868929	11.59			99	11.59
50) trans-1,3-Dichloropropene	13.101	75	1737872	13.72			99	13.72
51) 1,1,1,2-Tetrachloroethane	15.401	131	893052	13.73			97	13.73
53) 1,1,2-Trichloroethane	13.278	97	1261648	14.38			99	14.38
54) Toluene	13.582	91	3804922	13.83			99	13.83
55) 2-Hexanone	13.877	43	1667086	12.66		#	98	12.66
56) Dibromochloromethane	14.002	127	2002392	13.12			100	13.12
57) Ethylene Dibromide	14.261	107	2063108	14.43			100	14.43
58) Tetrachloroethene	14.747	166	1936689	14.33			100	14.33
59) Chlorobenzene	15.423	112	1534085	14.02			99	14.02
60) Ethylbenzene	15.799	91	2505729	13.76			99	13.76
61) m&p-Xylene	15.978	106	1941363	27.96			97	27.96
62) Bromoform	16.026	173	1389976	15.35		#	100	15.35
63) Styrene	16.321	104	1576882	15.19			99	15.19
64) 1,1,2,2-Tetrachloroethane	16.412	83	1405695	13.87			100	13.87
65) o-Xylene	16.429	91	2121401	14.05			99	14.05
67) Isopropylbenzene	17.009	105	2938537	15.41			99	15.41
68) n-Propylbenzene	17.515	91	3584412	16.95			99	16.95
69) 4-Ethyltoluene	17.660	105	2969703	14.65			97	14.65
70) 1,3,5-Trimethylbenzene	17.742	105	2675969	14.59			98	14.59
71) tert-Butylbenzene	18.157	119	2707990	15.94			97	15.94
72) 1,2,4-Trimethylbenzene	18.160	105	2496620	14.19			99	14.19
73) 1,3-Dichlorobenzene	18.311	146	1550316	18.94			98	18.94
74) Benzyl Chloride	18.291	91	2079384	20.15			99	20.15
75) 1,4-Dichlorobenzene	18.382	146	1454016	18.78			98	18.78
76) sec-Butylbenzene	18.442	105	3688121	15.73			99	15.73
77) 1,2,3-Trimethylbenzene	18.601	105	2653055	16.81			99	16.81
78) 1,2-Dichlorobenzene	18.740	146	1564944	14.99			99	14.99
79) n-Butylbenzene	19.055	91	2855098	14.30			99	14.30
80) Bromobenzene	17.086	77	1439742	15.27			97	15.27
81) 1,2-Dibromo-3-chloropr...	19.206	157	938110	22.89			97	22.89
82) Hexachloroethane	19.468	117	1171955	14.37			98	14.37
83) 1,2,4-Trichlorobenzene	20.636	180	1105087	14.61			99	14.61
84) Naphthalene	20.761	128	3144259	15.87			99	15.87
85) 1,2,3-Trichlorobenzene	21.059	180	1239975	15.51			99	15.51
86) Hexachlorobutadiene	21.170	225	1314453	12.30			99	12.30
87) 2-Methylnaphthalene	21.991	142	1383330	14.55			99	14.55

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA03.D
Acq On : 10 Nov 2021 02:57 pm
Operator :
Sample : VLCD01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 15:29:37 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VLCD01
Inject Time:	11/10/2021 2:57:24 PM
Sample Start:	11/10/2021 2:43:37 PM
Sample End:	11/10/2021 2:45:57 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D7
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	22.6 (25)	5.32	21.44	20.74	1.92	3.07
Calibration Std			0.00				
Sample	201.5 (200)	100.6 (100)	2.33	37.96	35.82	2.84	5.14
Calc Sample Vol							
Sweep/Prg Flush	75.8 (75)	100.6 (100)	0.98	24.82	22.05	3.35	4.21
M1/ M2 Transfer	100.9 (100)	24.8 (20)	5.65	24.94	24.44	4.23	5.38

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	61 (60)				119 (120)
M2	-47 (-50)	-46 (-50)	-49 (-50)	228 (230)		208 (210)
M2 Bulk Head	31 (31)			62 (62)		119 (119)
M3	3			-174 (-165)	71 (80)	-64
Rot Valve Plate	92/90 (90)					92/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	90 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	84 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91181 (91180)
Y:	47600 (47600)

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA04.D
Acq On : 10 Nov 2021 03:45 pm
Operator :
Sample : RNS
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 16:17:27 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

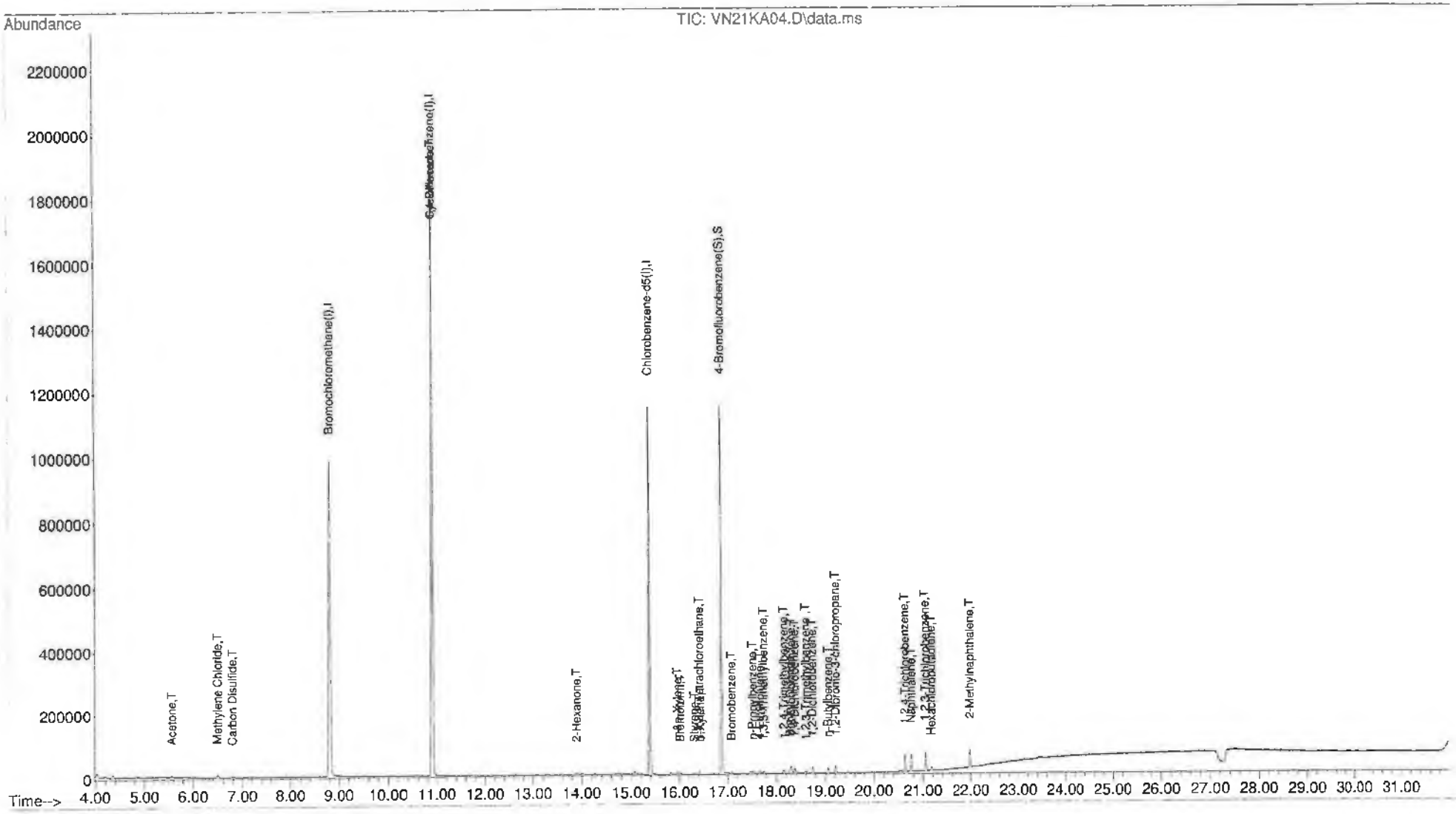
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.804	130	488788	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1784210	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	140889	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.864	75	210362	6.45	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 95.98%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
13) Acetone	5.567	58	1525	0.04	#	38	0.04
19) Methylene Chloride	6.494	49	3280	0.04	#	72	0.04
21) Carbon Disulfide	6.798	76	7375	0.04	#	91	0.04
38) Cyclohexane	10.908	56	33535	0.32	#	1	0.32
55) 2-Hexanone	13.894	43	3623	0.03	#	92	0.03
61) m&p-Xylene	15.963	106	3213	0.05	#	84	0.05
62) Bromoform	16.020	173	2111	0.02	#	80	0.02
63) Styrene	16.316	104	2322	0.02	#	80	0.02
64) 1,1,2,2-Tetrachloroethane	16.412	83	2462	0.02		91	0.02
65) o-Xylene	16.432	91	3026	0.02		98	0.02
68) n-Propylbenzene	17.509	91	6888	0.03		98	0.03
69) 4-Ethyltoluene	17.663	105	5866	0.03	#	96	0.03
70) 1,3,5-Trimethylbenzene	17.740	105	3980	0.02	#	91	0.02
72) 1,2,4-Trimethylbenzene	18.160	105	5429	0.03	#	63	0.03
73) 1,3-Dichlorobenzene	18.302	146	6508	0.08		93	0.08
74) Benzyl Chloride	18.285	91	11317	0.11		99	0.11
75) 1,4-Dichlorobenzene	18.376	146	6736	0.09		90	0.09
77) 1,2,3-Trimethylbenzene	18.601	105	4058	0.03		99	0.03
78) 1,2-Dichlorobenzene	18.732	146	8208	0.08		97	0.08
79) n-Butylbenzene	19.056	91	8999	0.05		99	0.05
80) Bromobenzene	17.080	77	3641	0.04		89	0.04
81) 1,2-Dibromo-3-chloropr...	19.212	157	6839	0.17		89	0.17
83) 1,2,4-Trichlorobenzene	20.633	180	15330	0.21		99	0.21
84) Naphthalene	20.758	128	42620	0.22		99	0.22
85) 1,2,3-Trichlorobenzene	21.054	180	17312	0.22		98	0.22
86) Hexachlorobutadiene	21.170	225	2355	0.02	#	92	0.02
87) 2-Methylnaphthalene	21.991	142	25256	0.27		97	0.27

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA04.D
Acq On : 10 Nov 2021 03:45 pm
Operator :
Sample : RNS
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 16:17:27 2021
Quant Method : O:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA05.D
Acq On : 10 Nov 2021 04:35 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 17:07:31 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

KM 11/11/21

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	485898	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1785203	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	1523B0	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	213822	6.07	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 90.33%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
9) Ethanol	5.095	45	374	0.03	#	14	0.03
10) Acrolein	5.411	56	498	0.03		90	0.03
13) Acetone	5.564	58	1971m	0.05			0.05
19) Methylene Chloride	6.497	49	5588m	0.08			0.08
21) Carbon Disulfide	6.812	76	10504m	0.05			0.05
61) m&p-Xylene	15.960	106	1969	0.03	#	1	0.03
73) 1,3-Dichlorobenzene	18.302	146	2167	0.03	#	90	0.03
74) Benzyl Chloride	18.288	91	3124	0.03	#	93	0.03
75) 1,4-Dichlorobenzene	18.379	146	2186	0.03	#	89	0.03
78) 1,2-Dichlorobenzene	18.740	146	2785	0.03		94	0.03
79) n-Butylbenzene	19.047	91	4258	0.02		97	0.02
81) 1,2-Dibromo-3-chloropr...	19.203	157	2718	0.06	#	83	0.06
83) 1,2,4-Trichlorobenzene	20.633	180	4768	0.06		98	0.06
84) Naphthalene	20.761	128	17807	0.09		99	0.09
85) 1,2,3-Trichlorobenzene	21.051	180	7358	0.09	#	95	0.09
87) 2-Methylnaphthalene	21.991	142	9902	0.10	#	95	0.10

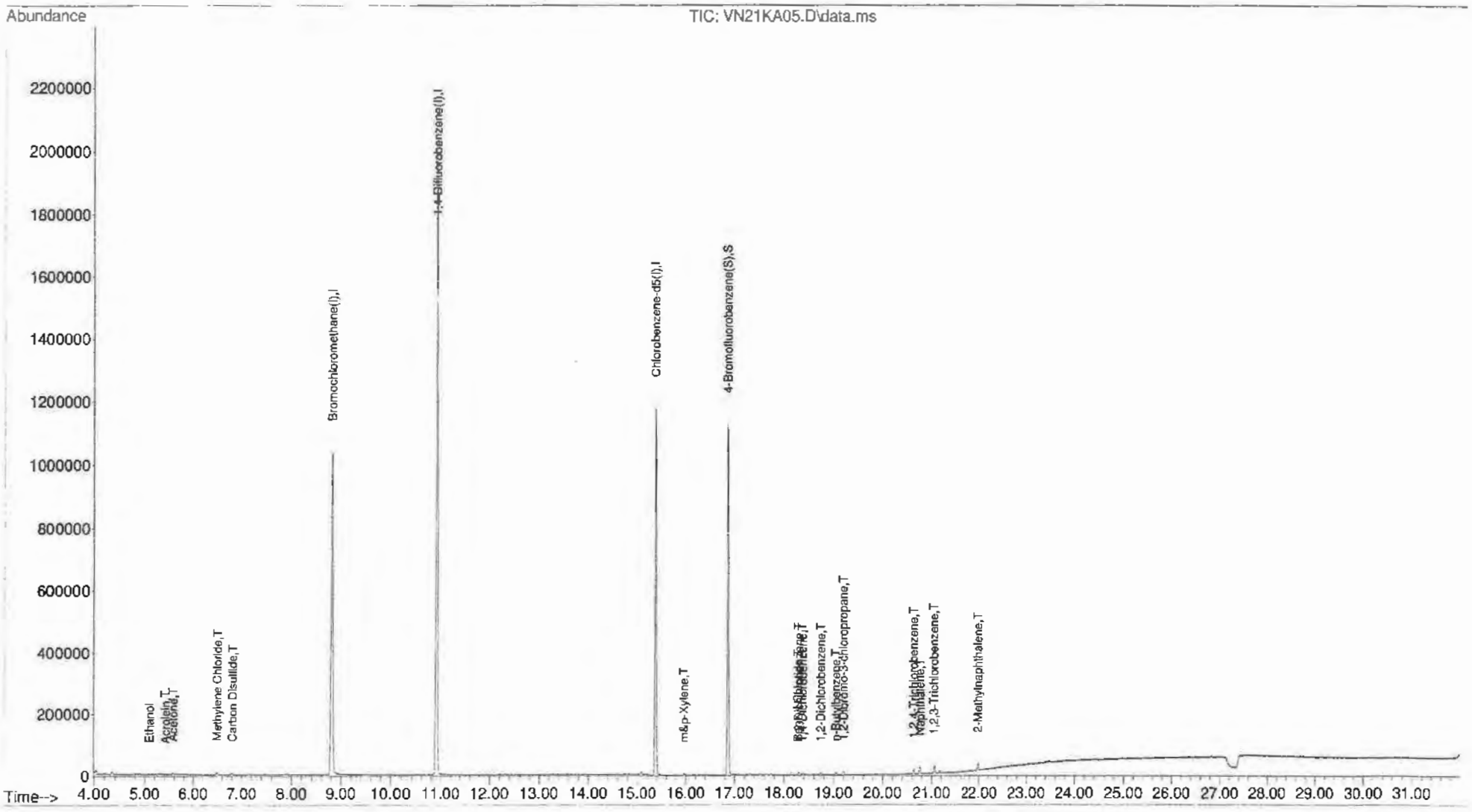
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

DA 11-11-21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA05.D
Acq On : 10 Nov 2021 04:35 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 17:07:31 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA05.D
Acq On : 10 Nov 2021 04:35 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 17:07:31 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

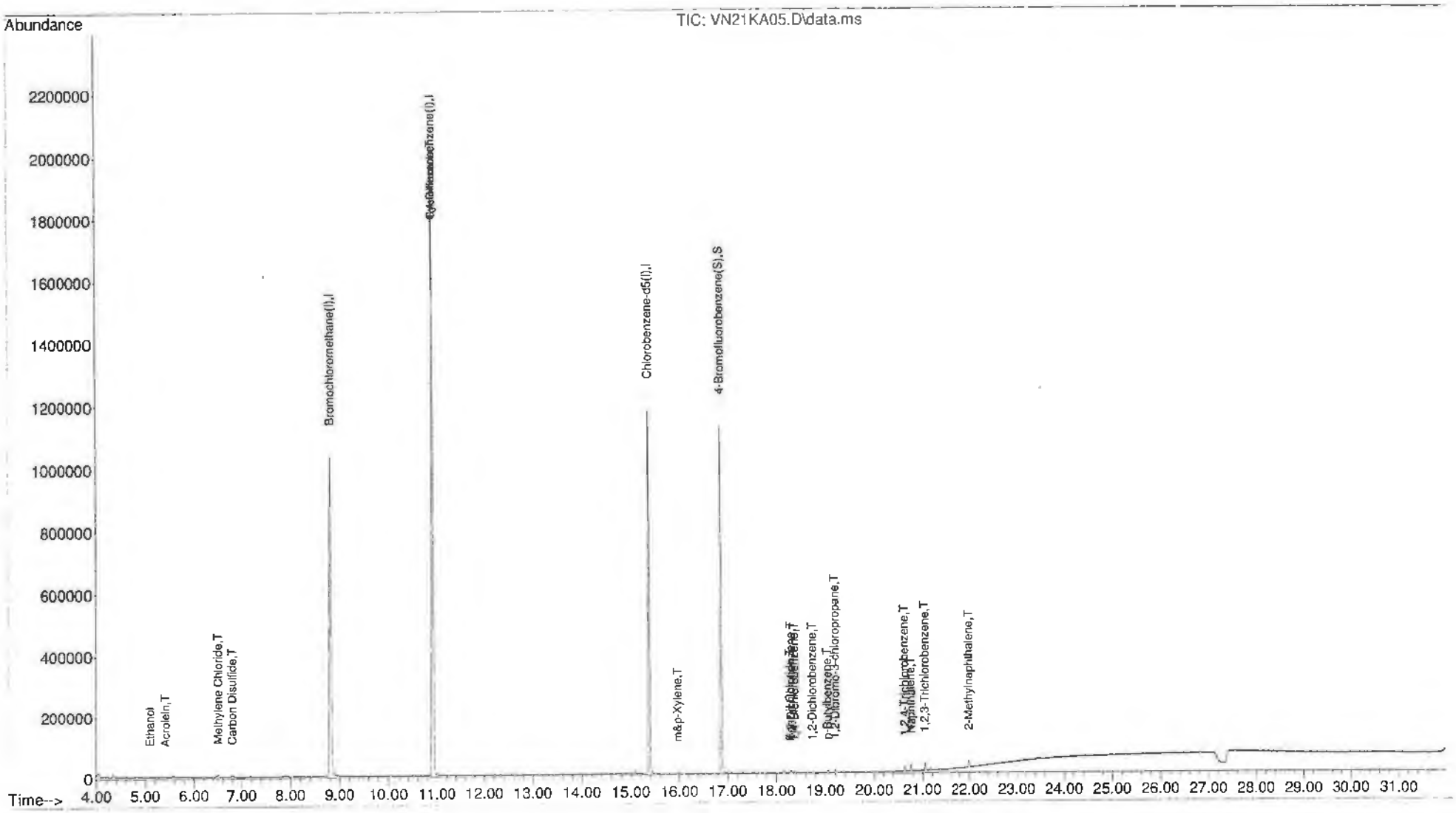
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.810	130	485898	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1785203	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	152380	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	213822	6.07	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 90.33%				
Target Compounds (Multiplier applied to Results = NO)					ppb	Qvalue	Raw Result
9) Ethanol	5.095	45	374		0.03	# 14	0.03
10) Acrolein	5.411	56	498		0.03	90	0.03
19) Methylene Chloride	6.497	49	4539		0.06	# 38	0.06
21) Carbon Disulfide	6.798	76	5529		0.03	# 78	0.03
38) Cyclohexane	10.905	56	37200		0.35	# 1	0.35
61) m&p-Xylene	15.960	106	1969		0.03	# 1	0.03
73) 1,3-Dichlorobenzene	18.302	146	2167		0.03	# 90	0.03
74) Benzyl Chloride	18.288	91	3124		0.03	# 93	0.03
75) 1,4-Dichlorobenzene	18.379	146	2186		0.03	# 89	0.03
78) 1,2-Dichlorobenzene	18.740	146	2785		0.03	94	0.03
79) n-Butylbenzene	19.047	91	4258		0.02	97	0.02
81) 1,2-Dibromo-3-chloropr...	19.203	157	2718		0.06	# 83	0.06
83) 1,2,4-Trichlorobenzene	20.633	180	4768		0.06	98	0.06
84) Naphthalene	20.761	128	17807		0.09	99	0.09
85) 1,2,3-Trichlorobenzene	21.051	180	7358		0.09	# 95	0.09
87) 2-Methylnaphthalene	21.991	142	9902		0.10	# 95	0.10

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA05.D
Acq On : 10 Nov 2021 04:35 pm
Operator :
Sample : VBLK01
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 10 17:07:31 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	VBLK01
Inject Time:	11/10/2021 4:35:18 PM
Sample Start:	11/10/2021 4:18:39 PM
Sample End:	11/10/2021 4:23:17 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	D6
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	29 (25)	5.32	21.13	20.41	1.94	3.09
Calibration Std			0.00				
Sample	401.7 (400)	97.4 (100)	4.62	40.09	37.5	1.94	6.52
Calc Sample Vol							
Sweep/Prg Flush	75.5 (75)	95.3 (100)	1.00	24.78	22.14	4.18	5.04
M1/ M2 Transfer	100.3 (100)	16.8 (20)	5.58	24.9	24.5	4.95	6.09

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-46 (-50)	-47 (-50)	-50 (-50)	227 (230)		209 (210)
M2 Bulk Head	32 (32)			61 (61)		119 (119)
M3	5			-176 (-165)	71 (80)	-66
Rot Valve Plate	91/90 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	94 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	89 (80)
Sample:		Oven:	10 (30)

7650 Autosampler

Encoder	Position (steps)
X:	91182 (91180)
Y:	44400 (44400)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA06.D
Acq On : 10 Nov 2021 05:22 pm
Operator :
Sample : A05022-004.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 17:54:43 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

KM 11/11/21

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.807	130	468845	6.46	ppbv	#	0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1718590	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.375	54	159031	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	221201	6.01	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 89.43%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	23558	0.15		95	0.15
9) Ethanol	5.079	45	62845	4.36		94	4.36
11) Trichlorofluoromethane	5.701	101	19110	0.14	#	47	0.14
12) Isopropanol	5.820	45	26283	0.28	#	86	0.28
13) Acetone	5.556	58	36055	1.03	#	48	1.03
15) n-Pentane	6.076	43	48480	0.53	#	94	0.53
19) Methylene Chloride	6.491	49	18707	0.26	#	74	0.26
20) 1,1,2-Trichlorotrifluo...	6.809	101	4944m B	0.03			0.03
21) Carbon Disulfide	6.801	76	108812	0.54	#	96	0.54
26) n-Hexane	8.898	57	35409	0.30	#	9	0.30
27) 2-Butanone	8.225	43	23886	0.19	#	92	0.19
32) Tetrahydrofuran	9.484	42	4223m B	0.07			0.07
35) Methylcyclopentane	9.774	56	30759	0.24	#	89	0.24
38) Cyclohexane	10.814	56	16706	0.17		92	0.17
39) Carbon Tetrachloride	10.666	117	4208	0.02	#	44	0.02
40) Benzene	10.515	78	27417	0.12	#	96	0.12
42) n-Heptane	11.979	43	23445	0.26	#	83	0.26
47) 2,2,4-Trimethylpentane	11.703	57	30254	0.10	#	60	0.10
49) 4-Methyl-2-pentanone	12.641	58	2365	0.03	#	85	0.03
54) Toluene	13.579	91	117723	0.39		98	0.39
58) Tetrachloroethene	14.744	166	63010	0.42		92	0.42
60) Ethylbenzene	15.796	91	26996	0.13	#	96	0.13
61) m&p-Xylene	15.958	106	27117	0.35	#	98	0.35
63) Styrene	16.322	104	2310	0.02	#	83	0.02
65) o-Xylene	16.430	91	35558	0.21	#	96	0.21
67) Isopropylbenzene	17.009	105	7848	0.04	#	85	0.04
68) n-Propylbenzene	17.515	91	24373	0.10	#	91	0.10
70) 1,3,5-Trimethylbenzene	17.737	105	20817	0.10		89	0.10
72) 1,2,4-Trimethylbenzene	18.160	105	44749	0.23	#	55	0.23
80) Bromobenzene	17.080	77	2296	0.02	#	63	0.02
81) 1,2-Dibromo-3-chloropr...	19.209	157	2152	0.05	#	41	0.05
84) Naphthalene	20.761	128	15405	0.07	#	92	0.07
86) Hexachlorobutadiene	21.164	225	2427	0.02		95	0.02
87) 2-Methylnaphthalene	21.988	142	9860	0.09		95	0.09

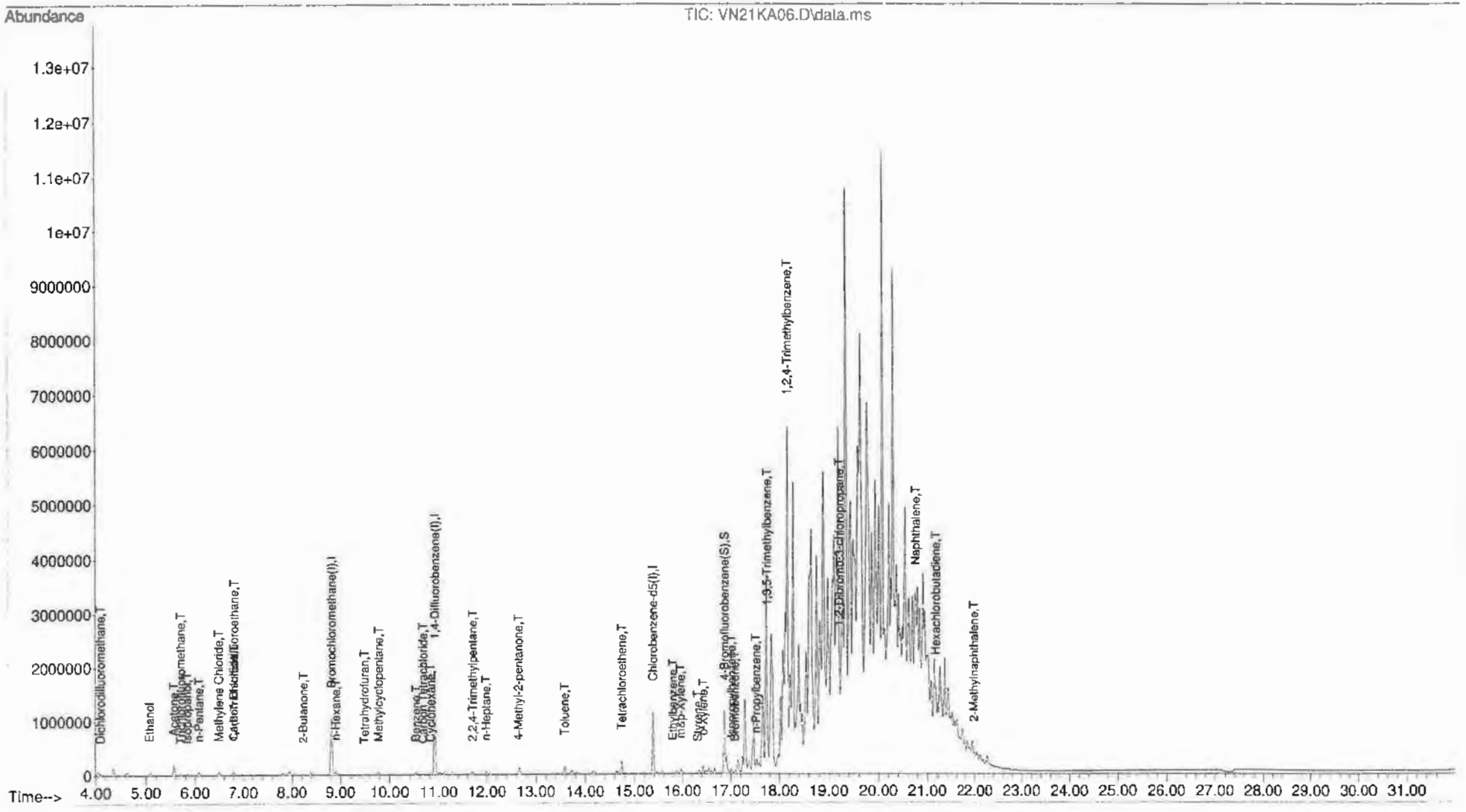
OH 11-11-21

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA06.D
Acq On : 10 Nov 2021 05:22 pm
Operator :
Sample : A05022-004.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 17:54:43 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA06.D
Acq On : 10 Nov 2021 05:22 pm
Operator :
Sample : A05022-004.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 17:54:43 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.807	130	468845	6.46	ppbv	# 0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1718590	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	159031	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.867	75	221201	6.01	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 89.43%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.092	85	23558	0.15	95	0.15
9) Ethanol	5.079	45	62845	4.36	94	4.36
11) Trichlorofluoromethane	5.701	101	19110	0.14	# 47	0.14
12) Isopropanol	5.820	45	26283	0.28	# 86	0.28
13) Acetone	5.556	58	36055	1.03	# 48	1.03
15) n-Pentane	6.076	43	48480	0.53	# 94	0.53
18) t-Butanol	6.488	59	44759	0.29	# 100	0.29
19) Methylene Chloride	6.491	49	18707	0.26	# 74	0.26
21) Carbon Disulfide	6.801	76	108812	0.54	# 96	0.54
25) Vinyl Acetate	7.926	86	701	0.05	# 1	0.05
26) n-Hexane	8.898	57	35409	0.30	# 9	0.30
27) 2-Butanone	8.225	43	23886	0.19	# 92	0.19
32) Tetrahydrofuran	9.455	42	1315	0.02	# 41	0.02
35) Methylcyclopentane	9.774	56	30759	0.24	# 89	0.24
38) Cyclohexane	10.814	56	16706	0.17	92	0.17
39) Carbon Tetrachloride	10.666	117	4208	0.02	# 44	0.02
40) Benzene	10.515	78	27417	0.12	# 96	0.12
42) n-Heptane	11.979	43	23445	0.26	# 83	0.26
47) 2,2,4-Trimethylpentane	11.703	57	30254	0.10	# 60	0.10
49) 4-Methyl-2-pentanone	12.641	58	2365	0.03	# 85	0.03
S4) Toluene	13.579	91	117723	0.39	98	0.39
58) Tetrachloroethene	14.744	166	63010	0.42	92	0.42
60) Ethylbenzene	15.796	91	26996	0.13	# 96	0.13
61) m&p-Xylene	15.958	106	27117	0.35	# 98	0.35
63) Styrene	16.322	104	2310	0.02	# 83	0.02
64) 1,1,2,2-Tetrachloroethane	16.421	83	3737	0.03	# 70	0.03
65) o-Xylene	16.430	91	35558	0.21	# 96	0.21
67) Isopropylbenzene	17.009	105	7848	0.04	# 85	0.04
68) n-Propylbenzene	17.515	91	24373	0.10	# 91	0.10
69) 4-Ethyltoluene	17.666	105	18598	0.08	# 1	0.08
70) 1,3,5-Trimethylbenzene	17.737	105	20817	0.10	89	0.10
71) tert-Butylbenzene	18.155	119	11085	0.06	# 1	0.06
72) 1,2,4-Trimethylbenzene	18.160	105	44749	0.23	# 55	0.23
74) Benzyl Chloride	18.288	91	4645	0.04	# 1	0.04
75) 1,4-Dichlorobenzene	18.376	146	2126	0.02	# 1	0.02
76) sec-Butylbenzene	18.442	105	7200	0.03	# 1	0.03
77) 1,2,3-Trimethylbenzene	18.601	105	18605	0.11	# 1	0.11
79) n-Butylbenzene	19.073	91	45490	0.21	# 1	0.21
80) Bromobenzene	17.080	77	2296	0.02	# 63	0.02
81) 1,2-Dibromo-3-chloropr...	19.209	157	2152	0.05	# 41	0.05
83) 1,2,4-Trichlorobenzene	20.636	180	4185	0.05	# 90	0.05
84) Naphthalene	20.761	128	15405	0.07	# 92	0.07
85) 1,2,3-Trichlorobenzene	21.053	180	5138	0.06	# 66	0.06

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA06.D
Acq On : 10 Nov 2021 05:22 pm
Operator :
Sample : A05022-004.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 17:54:43 2021
Quant Method : O:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

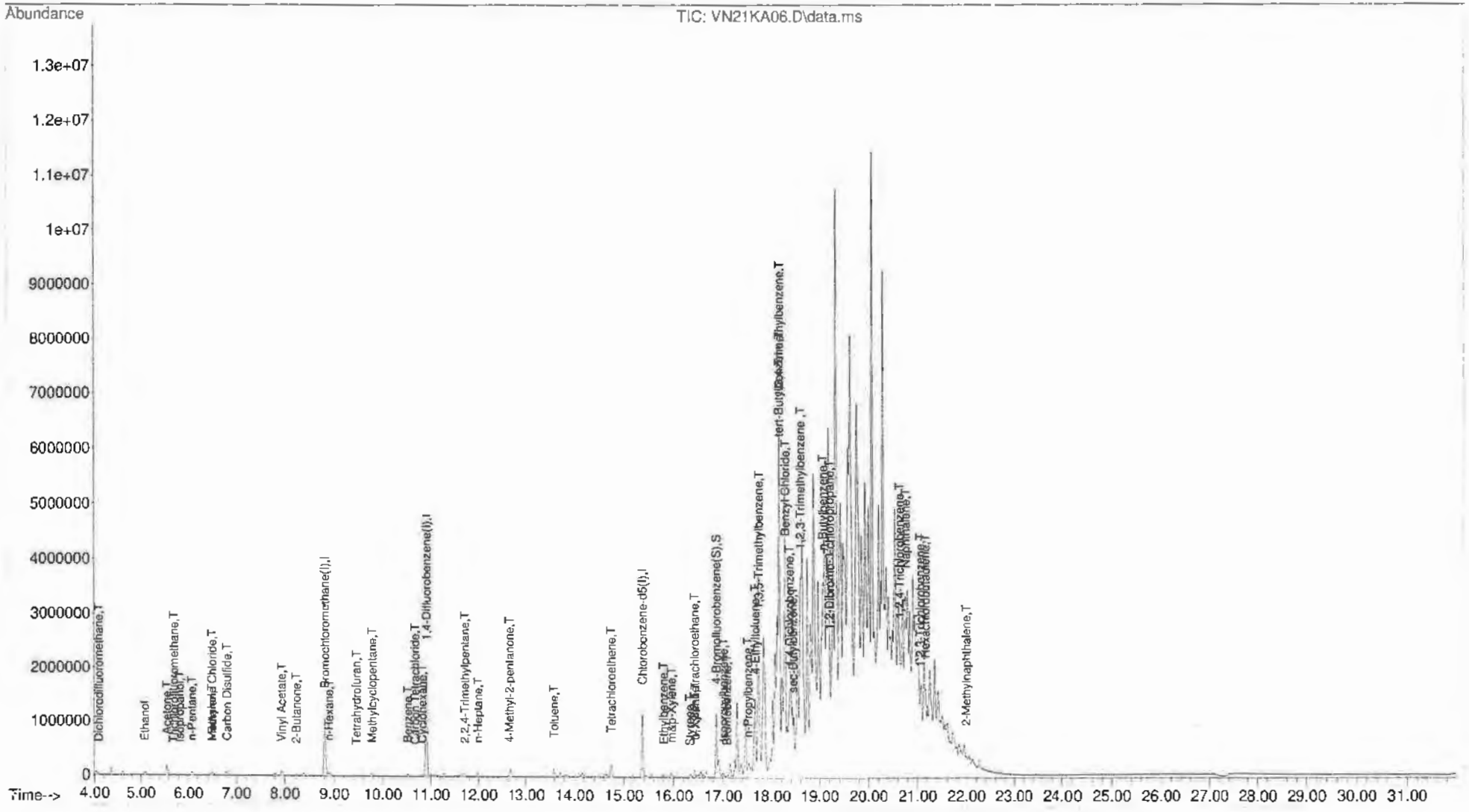
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
86) Hexachlorobutadiene	21.164	225	2427	0.02		95	0.02
87) 2-Methylnaphthalene	21.988	142	9860	0.09		95	0.09

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K108\
Data File : VN21KA06.D
Acq On : 10 Nov 2021 05:22 pm
Operator :
Sample : A05022-004.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 17:54:43 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-004.02
Inject Time:	11/10/2021 5:22:30 PM
Sample Start:	11/10/2021 5:08:40 PM
Sample End:	11/10/2021 5:10:36 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A1
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	26.8 (25)	5.32	21	20.3	1.95	3.09
Calibration Std			0.00				
Sample	100.9 (100)	73.2 (100)	1.93	11.87	5.14	2.87	4.02
Calc Sample Vol							
Sweep/Prg Flush	76.2 (75)	95.3 (100)	1.02	24.82	22.11	2.76	3.63
M1/ M2 Transfer	100.3 (100)	16.8 (20)	5.60	24.94	24.49	3.51	4.65

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				121 (120)
M1 BulkHead	32 (30)	62 (60)				121 (120)
M2	-47 (-50)	-47 (-50)	-48 (-50)	227 (230)		208 (210)
M2 Bulk Head	31 (31)			61 (61)		122 (122)
M3	0			-176 (-165)	71 (80)	-67
Rot Valve Plate	91/92 (90)					91/92 (90)
GC Xfer Line					100 (100)	
4 Sample Line	88 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	88 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

Encoder	Position (steps)
X:	14992 (14992)
Y:	1525 (1524)

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

LM 11/11/21

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	421685	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1572182	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	123176	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	187327	6.57	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 97.77%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	21695	0.15	# 94	0.15
5) Vinyl Chloride	4.428	62	2651	0.06	# 80	0.06
9) Ethanol	5.079	45	123200	9.50	99	9.50
10) Acrolein	5.397	56	883	0.06	# 63	0.06
11) Trichlorofluoromethane	5.701	101	13649	0.11	# 78	0.11
12) Isopropanol	5.806	45	19520	0.23	# 93	0.23
13) Acetone	5.553	58	19291 B	0.61	81	0.61
15) n-Pentane	6.079	43	2942m	0.04		0.04
18) t-Butanol	6.474	59	10491	0.08	# 83	0.08
19) Methylene Chloride	6.488	49	8271	0.13	# 47	0.13
20) 1,1,2-Trichlorotrifluo...	6.792	101	4441	0.03	# 89	0.03
21) Carbon Disulfide	6.807	76	8001	0.04	# 85	0.04
26) n-Hexane	8.887	57	3559	0.03	# 5	0.03
27) 2-Butanone	8.222	43	11839	0.10	96	0.10
28) cis-1,2-Dichloroethene	8.640	61	6933	0.08	# 64	0.08
38) Cyclohexane	10.811	56	2513	0.03	# 67	0.03
40) Benzene	10.518	78	8733	0.04	# 77	0.04
42) n-Heptane	11.985	43	2551m B	0.03		0.03
44) Trichloroethene	11.638	95	29178	0.30	98	0.30
49) 4-Methyl-2-pentanone	12.633	58	1773m B	0.03		0.03
54) Toluene	13.576	91	34868	0.15	# 96	0.15
58) Tetrachloroethene	14.741	166	10801	0.09	93	0.09
60) Ethylbenzene	15.802	91	8241	0.05	# 98	0.05
61) m&p-Xylene	15.961	106	12538	0.21	96	0.21
63) Styrene	16.324	104	1774	0.02	# 91	0.02
64) 1,1,2,2-Tetrachloroethane	16.407	83	1740	0.02	# 80	0.02
65) o-Xylene	16.427	91	10389	0.08	97	0.08
67) Isopropylbenzene	17.007	105	3269	0.02	# 87	0.02
68) n-Propylbenzene	17.512	91	5199	0.03	95	0.03
69) 4-Ethyltoluene	17.663	105	4313	0.02	# 90	0.02
70) 1,3,5-Trimethylbenzene	17.737	105	5350	0.03	90	0.03
73) 1,3-Dichlorobenzene	18.300	146	1906	0.03	# 1	0.03
76) sec-Butylbenzene	18.433	105	4172	0.02	# 89	0.02
77) 1,2,3-Trimethylbenzene	18.598	105	4465	0.03	# 1	0.03
79) n-Butylbenzene	19.053	91	5692	0.03	# 94	0.03
81) 1,2-Dibromo-3-chloropr...	19.206	157	1697	0.05	# 71	0.05
83) 1,2,4-Trichlorobenzene	20.633	180	2413	0.04	94	0.04
84) Naphthalene	20.758	128	8911	0.05	96	0.05
85) 1,2,3-Trichlorobenzene	21.059	180	3971	0.06	# 84	0.06
86) Hexachlorobutadiene	21.167	225	2289	0.03	95	0.03
87) 2-Methylnaphthalene	21.989	142	6001	0.07	95	0.07

DH 11/12/21

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

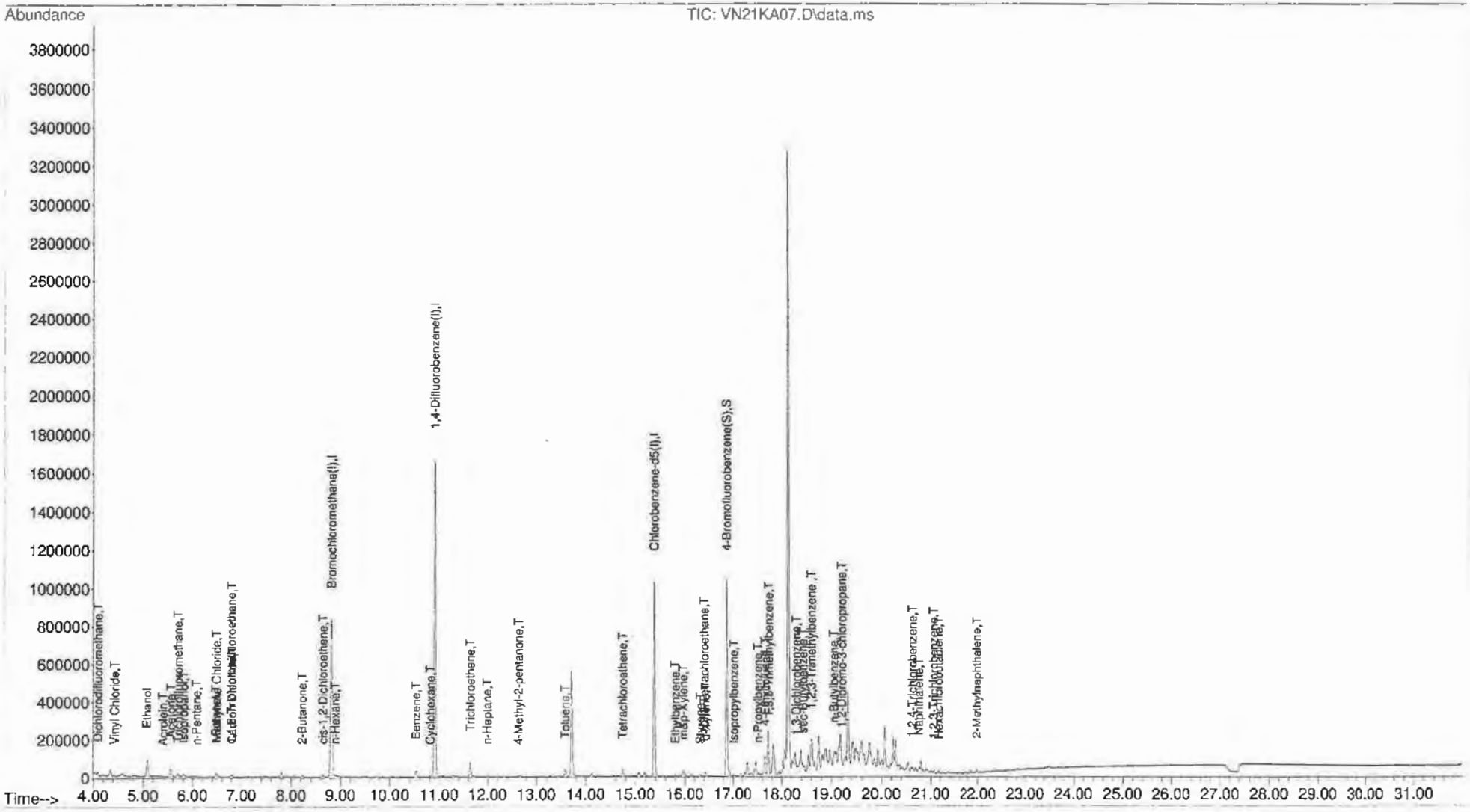
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (QT Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.810	130	421685	6.46	ppbv	0.00
36) 1,4-Difluorobenzene(I)	10.905	114	1572182	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.375	54	123176	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.864	75	187327	6.57	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 97.77%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
2) Dichlorodifluoromethane	4.090	85	21695	0.15	# 94	0.15
5) Vinyl Chloride	4.428	62	2651	0.06	# 80	0.06
9) Ethanol	5.079	45	123200	9.50	99	9.50
10) Acrolein	5.397	56	883	0.06	# 63	0.06
11) Trichlorofluoromethane	5.701	101	13649	0.11	# 78	0.11
12) Isopropanol	5.806	45	19520	0.23	# 93	0.23
13) Acetone	5.553	58	19291	0.61	81	0.61
18) t-Butanol	6.474	59	10491	0.08	# 83	0.08
19) Methylene Chloride	6.488	49	8271	0.13	# 47	0.13
20) 1,1,2-Trichlorotrifluo...	6.792	101	4441	0.03	# 89	0.03
21) Carbon Disulfide	6.807	76	8001	0.04	# 85	0.04
25) Vinyl Acetate	7.901	86	370	0.03	# 91	0.03
26) n-Hexane	8.887	57	3559	0.03	# 5	0.03
27) 2-Butanone	8.222	43	11839	0.10	96	0.10
28) cis-1,2-Dichloroethene	8.640	61	6933	0.08	# 64	0.08
38) Cyclohexane	10.811	56	2513	0.03	# 67	0.03
40) Benzene	10.518	78	8733	0.04	# 77	0.04
44) Trichloroethene	11.638	95	29178	0.30	98	0.30
54) Toluene	13.576	91	34868	0.15	# 96	0.15
58) Tetrachloroethene	14.741	166	10801	0.09	93	0.09
60) Ethylbenzene	15.802	91	8241	0.05	# 98	0.05
61) m&p-Xylene	15.961	106	12538	0.21	96	0.21
63) Styrene	16.324	104	1774	0.02	# 91	0.02
64) 1,1,2,2-Tetrachloroethane	16.407	83	1740	0.02	# 80	0.02
65) o-Xylene	16.427	91	10389	0.08	97	0.08
67) Isopropylbenzene	17.007	105	3269	0.02	# 87	0.02
68) n-Propylbenzene	17.512	91	5199	0.03	95	0.03
69) 4-Ethyltoluene	17.663	105	4313	0.02	# 90	0.02
70) 1,3,5-Trimethylbenzene	17.737	105	5350	0.03	90	0.03
71) tert-Butylbenzene	18.140	119	82766	0.57	# 17	0.57
72) 1,2,4-Trimethylbenzene	18.140	105	28235	0.19	# 61	0.19
73) 1,3-Dichlorobenzene	18.300	146	1906	0.03	# 1	0.03
74) Benzyl Chloride	18.291	91	3802	0.04	# 96	0.04
75) 1,4-Dichlorobenzene	18.382	146	1881	0.03	# 1	0.03
76) sec-Butylbenzene	18.433	105	4172	0.02	# 89	0.02
77) 1,2,3-Trimethylbenzene	18.598	105	4465	0.03	# 1	0.03
78) 1,2-Dichlorobenzene	18.740	146	2276	0.03	# 1	0.03
79) n-Butylbenzene	19.053	91	5692	0.03	# 94	0.03
81) 1,2-Dibromo-3-chloropr...	19.206	157	1697	0.05	# 71	0.05
83) 1,2,4-Trichlorobenzene	20.633	180	2413	0.04	94	0.04
84) Naphthalene	20.758	128	8911	0.05	96	0.05
85) 1,2,3-Trichlorobenzene	21.059	180	3971	0.06	# 84	0.06
86) Hexachlorobutadiene	21.167	225	2289	0.03	95	0.03

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration

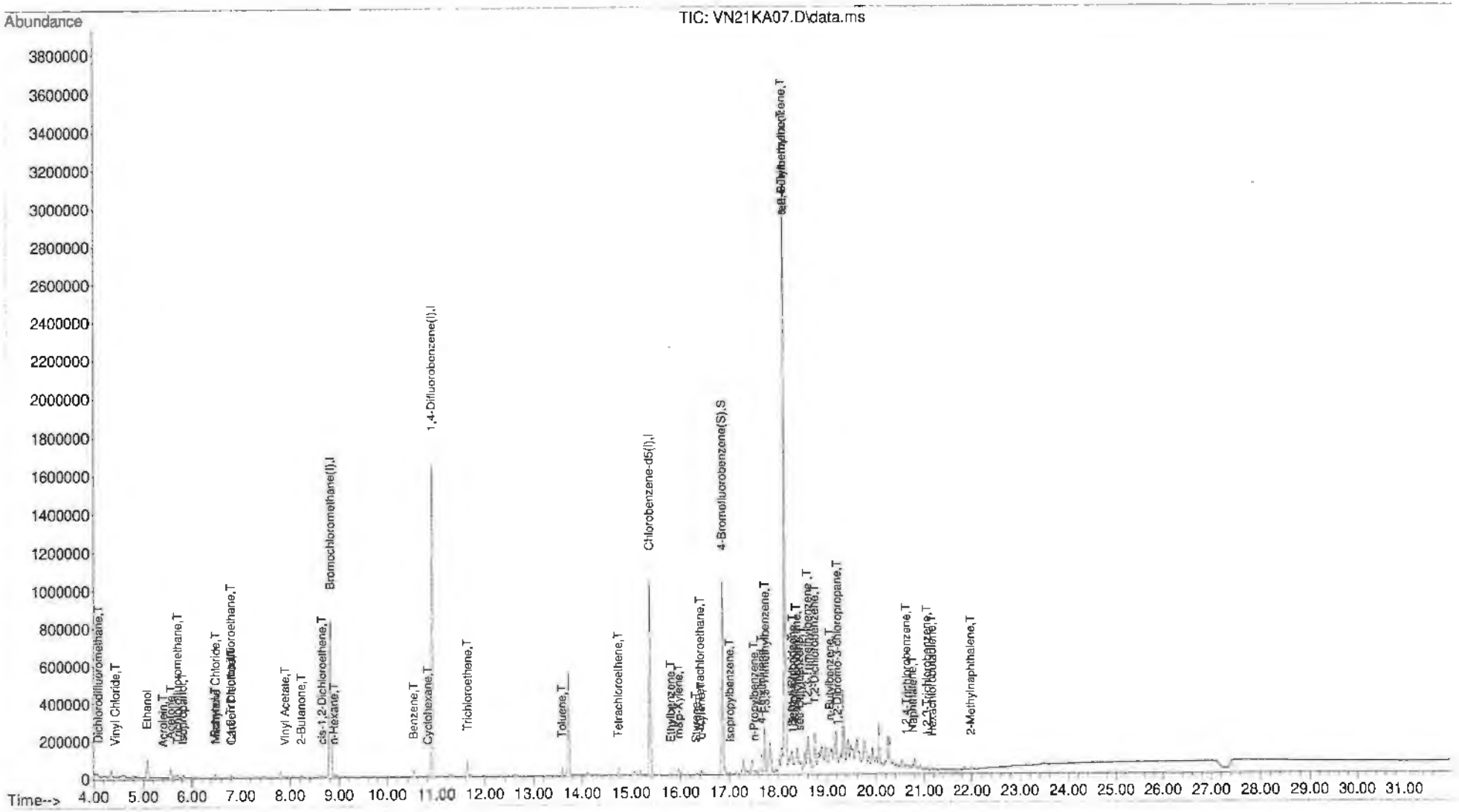
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
87) 2-Methylnaphthalene	21.989	142	6001	0.07		95	0.07

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VN\VN_DATA\VN21K10B\
Data File : VN21KA07.D
Acq On : 10 Nov 2021 06:09 pm
Operator :
Sample : A05022-005.02
Misc :
ALS Vial : 1 Sample Multiplier: 4

Quant Time: Nov 10 18:41:49 2021
Quant Method : D:\VN\VN_METHOD\VN400B77.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Mon Nov 01 10:57:19 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	C:\SmartLabs\Data\7200\Sequences\QC_211101.7200.Seq
Method:	C:\SmartLabs\Data\7200\Methods\VNCONA19.CTD3
Sample Name:	A05022-005.02
Inject Time:	11/10/2021 6:09:36 PM
Sample Start:	11/10/2021 5:55:50 PM
Sample End:	11/10/2021 5:57:57 PM

Version:	3.3.0.41
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A2
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	24.8 (25)	5.30	20.85	20.13	1.93	3.08
Calibration Std			0.00				
Sample	100.9 (100)	60 (100)	2.10	11.05	4.83	2.85	4
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	95.3 (100)	1.02	24.78	22.06	2.74	3.61
M1/ M2 Transfer	100.6 (100)	22.6 (20)	5.63	24.9	24.43	3.56	4.7

7200 Trap & Inlet Temperatures

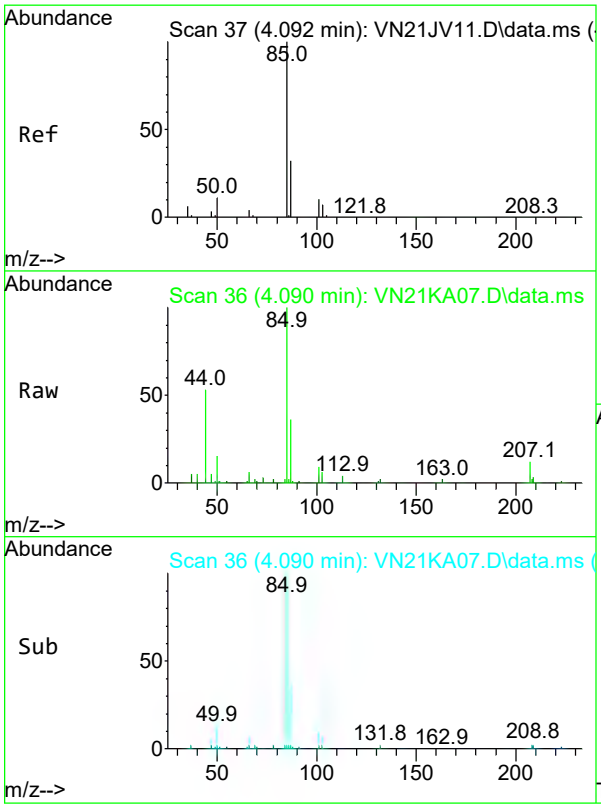
	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	-2 (0)				122 (120)
M1 BulkHead	32 (30)	62 (60)				120 (120)
M2	-47 (-50)	-47 (-50)	-47 (-50)	227 (230)		210 (210)
M2 Bulk Head	32 (32)			62 (62)		120 (120)
M3	0			-172 (-165)	72 (80)	-59
Rot Valve Plate	91/90 (90)					91/91 (90)
GC Xfer Line					100 (100)	
4 Sample Line	89 (90)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	78 (80)
Sample:		Oven:	9 (30)

7650 Autosampler

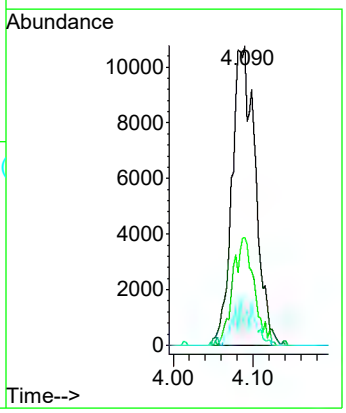
Encoder	Position (steps)
X:	14993 (14992)
Y:	18204 (18204)

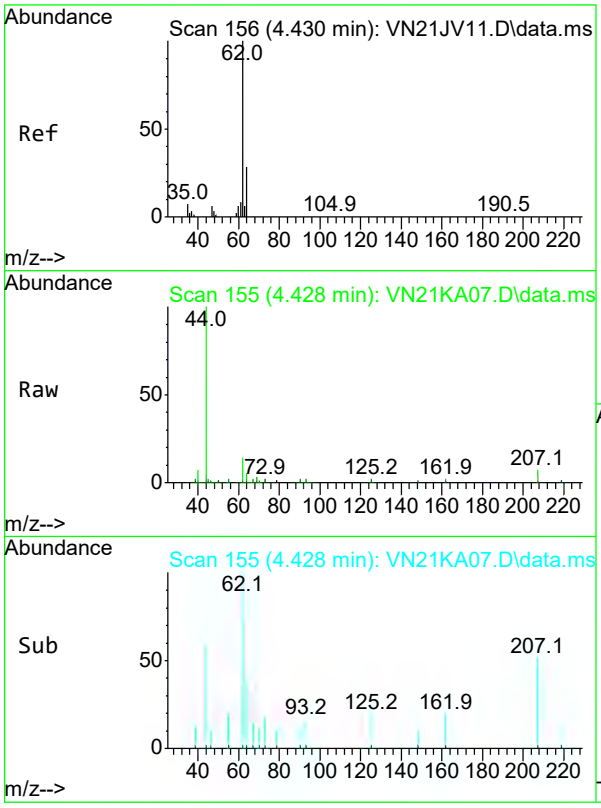


#2
Dichlorodifluoromethane
Concen: 0.15 ppbv
RT: 4.090 min Scan# 36
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 85 Resp: 21695

Ion	Ratio	Lower	Upper
85	100		
87	33.4	26.0	39.0
101	2.4	7.6	11.4#

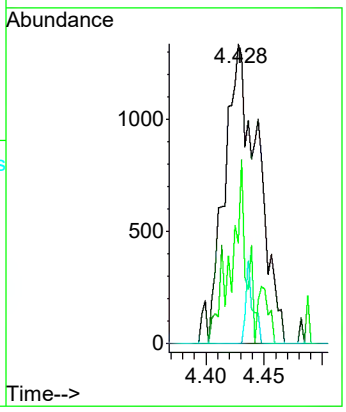


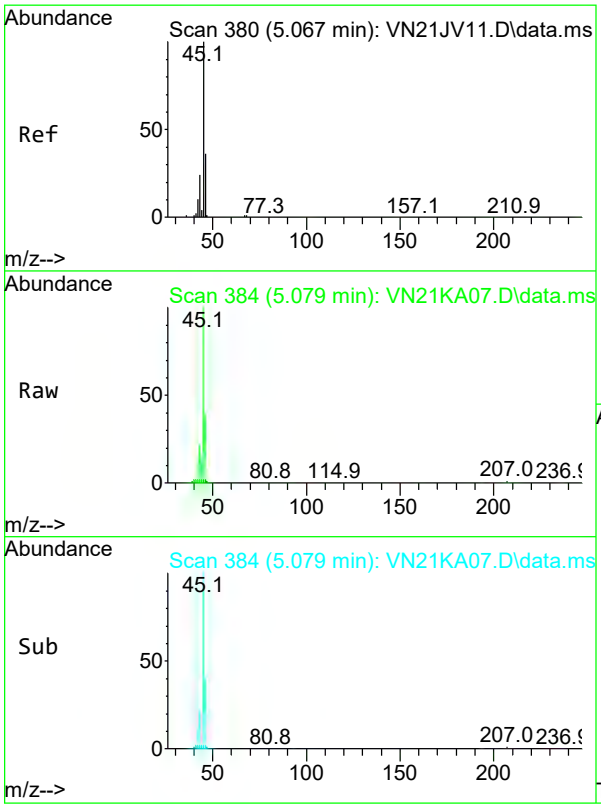


#5
Vinyl Chloride
Concen: 0.06 ppbv
RT: 4.428 min Scan# 155
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 62 Resp: 2651

Ion	Ratio	Lower	Upper
62	100		
64	21.8	25.4	38.2#
61	0.0	7.4	11.0#

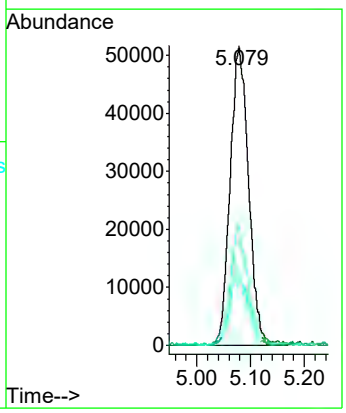


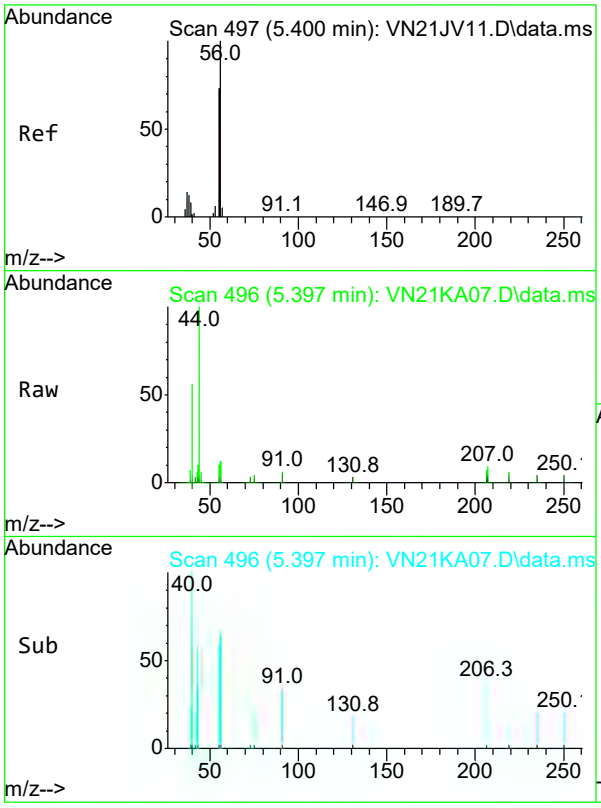


#9
Ethanol
Concen: 9.50 ppbv
RT: 5.079 min Scan# 384
Delta R.T. 0.011 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 45 Resp: 123200

Ion	Ratio	Lower	Upper
45	100		
46	36.8	29.8	44.8
43	23.4	19.0	28.4

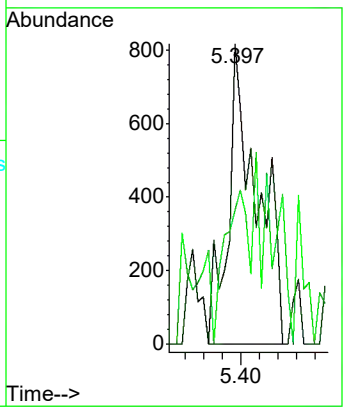


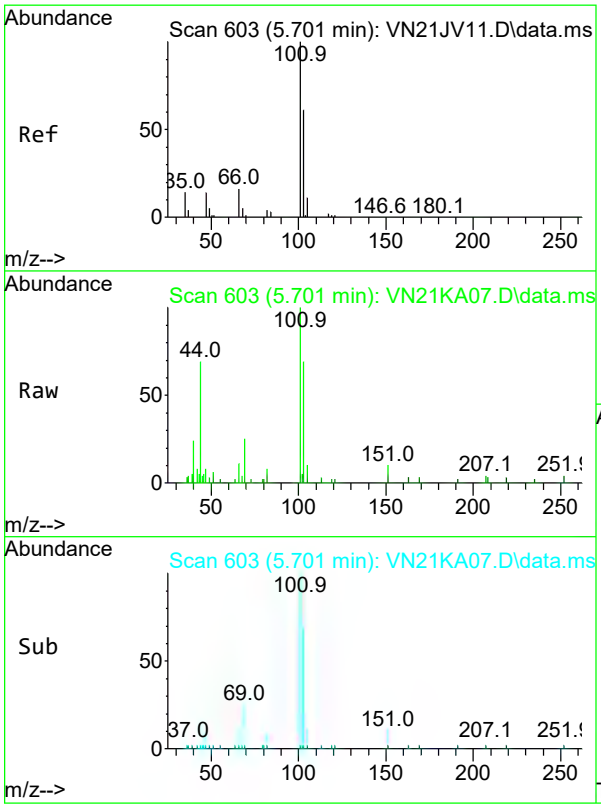


#10
Acrolein
Concen: 0.06 ppbv
RT: 5.397 min Scan# 496
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 56 Resp: 883

Ion	Ratio	Lower	Upper
56	100		
55	41.2	57.3	85.9#

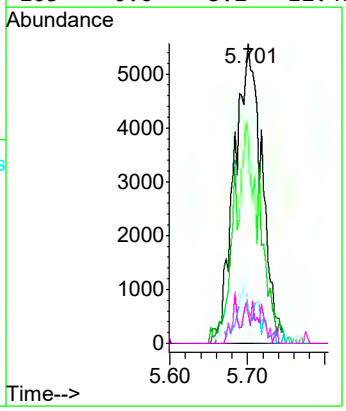


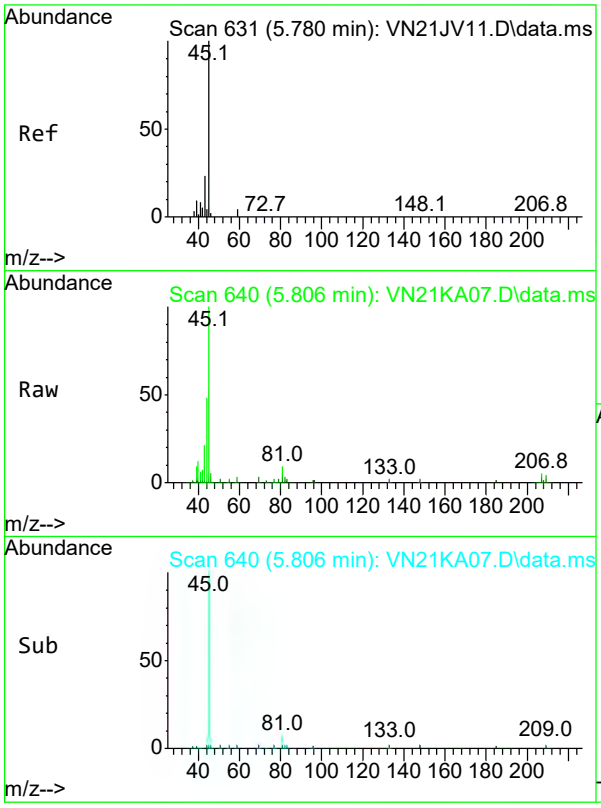


#11
Trichlorofluoromethane
Concen: 0.11 ppbv
RT: 5.701 min Scan# 603
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:101 Resp: 13649

Ion	Ratio	Lower	Upper
101	100		
103	47.3	51.0	76.6#
66	6.3	13.3	19.9#
105	0.0	8.2	12.4#

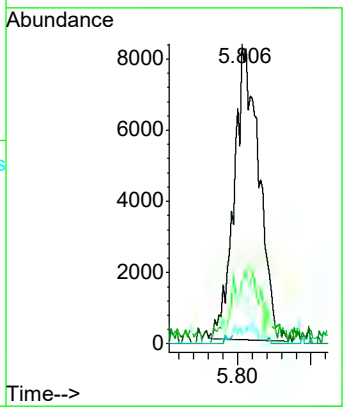


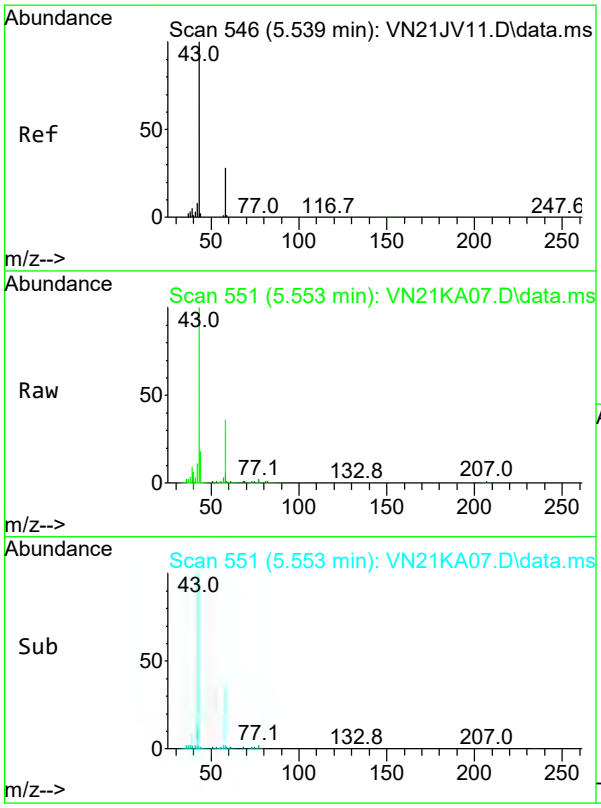


#12
Isopropanol
Concen: 0.23 ppbv
RT: 5.806 min Scan# 640
Delta R.T. 0.026 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 45 Resp: 19520

Ion	Ratio	Lower	Upper
45	100		
43	18.5	17.9	26.9
59	2.8	3.1	4.7#

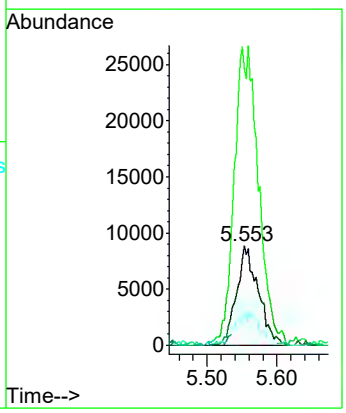


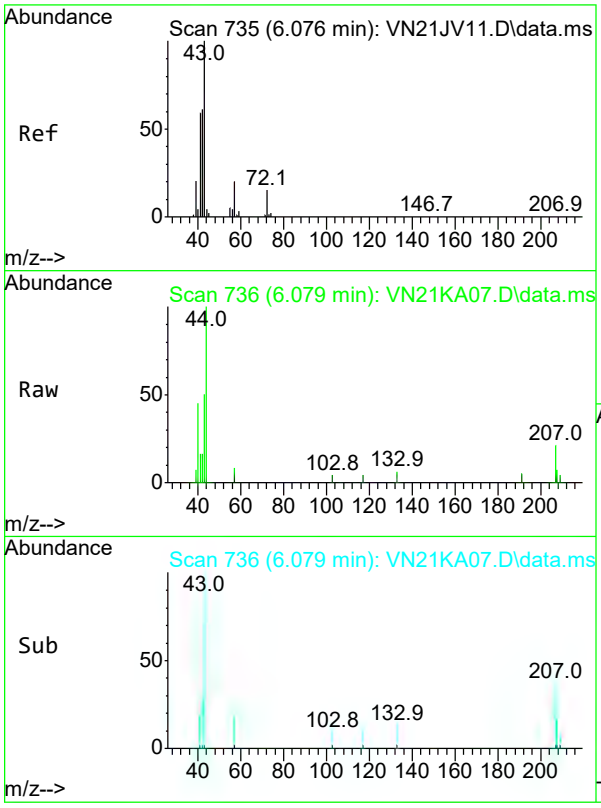


#13
Acetone
Concen: 0.61 ppbv
RT: 5.553 min Scan# 551
Delta R.T. 0.014 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 58 Resp: 19291

Ion	Ratio	Lower	Upper
58	100		
43	333.8	304.6	456.8
42	35.7	26.4	39.6

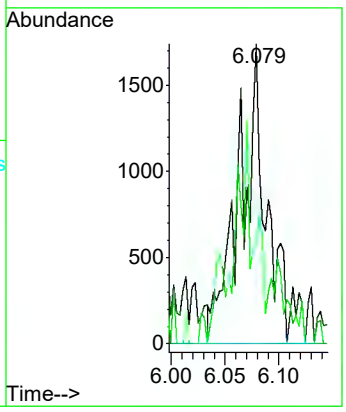


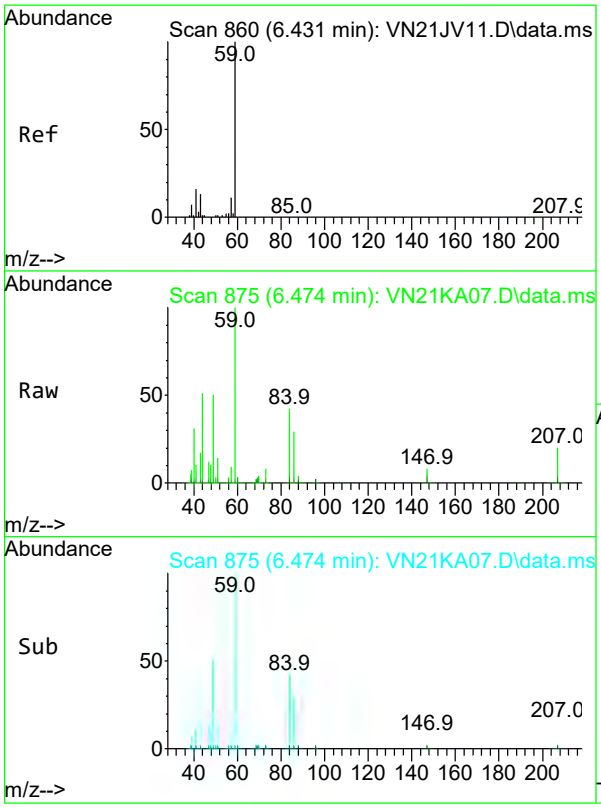


#15
n-Pentane
Concen: 0.04 ppbv m
RT: 6.079 min Scan# 736
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 43 Resp: 2942

Ion	Ratio	Lower	Upper
43	100		
42	44.7	45.4	68.2#
27	0.0	0.0	0.0

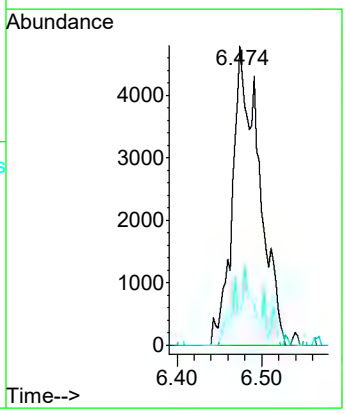


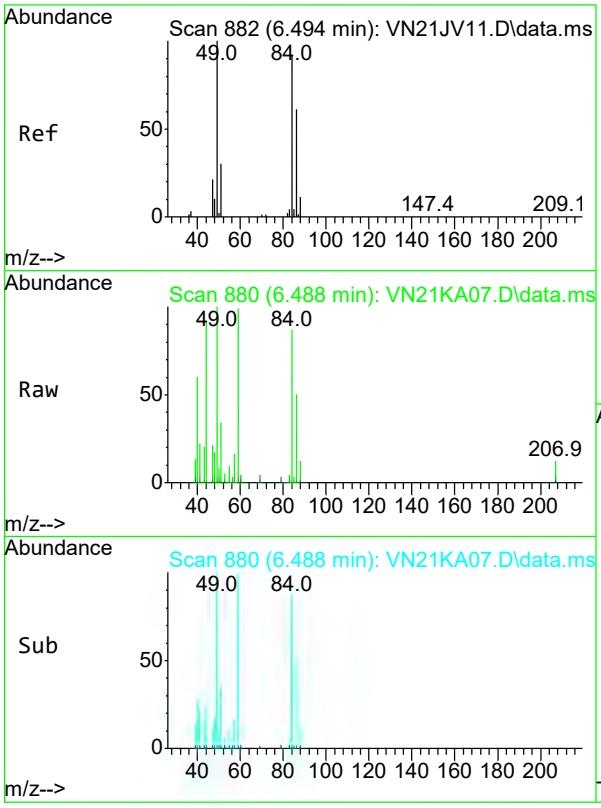


#18
t-Butanol
Concen: 0.08 ppbv
RT: 6.474 min Scan# 875
Delta R.T. 0.043 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 59 Resp: 10491

Ion	Ratio	Lower	Upper
59	100		
31	0.0	0.0	0.0
41	9.9	13.8	20.6#

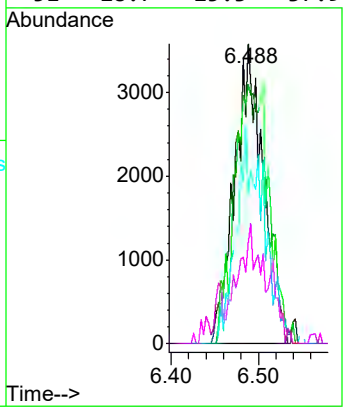


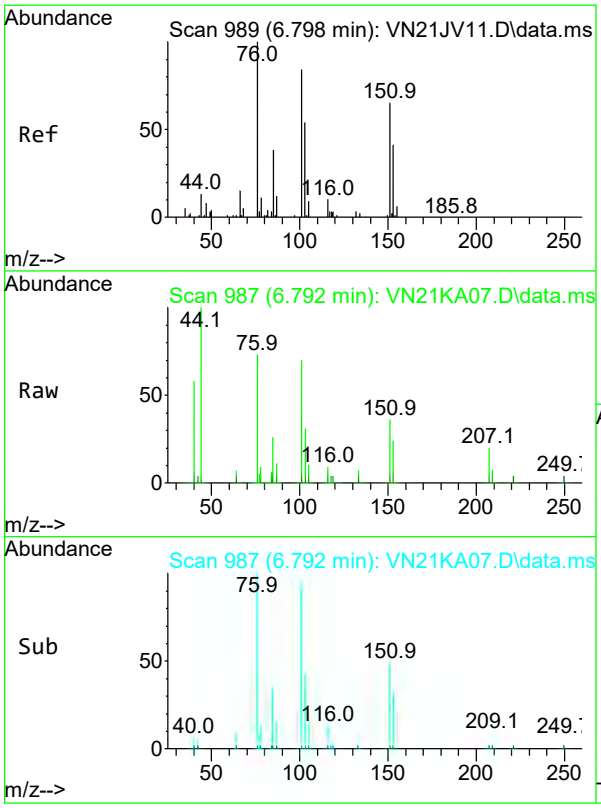


#19
Methylene Chloride
Concen: 0.13 ppbv
RT: 6.488 min Scan# 880
Delta R.T. -0.006 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 49 Resp: 8271

Ion	Ratio	Lower	Upper
49	100		
84	0.0	74.0	111.0#
86	68.2	47.6	71.4
51	28.7	25.3	37.9

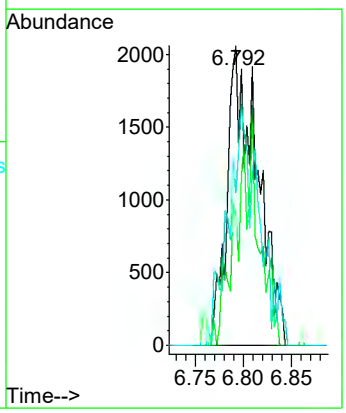


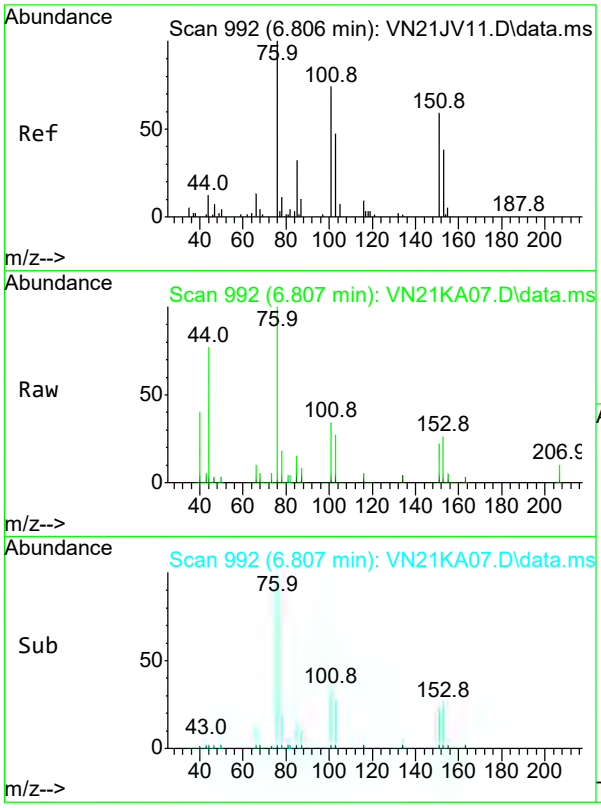


#20
1,1,2-Trichlorotrifluoroethane
Concen: 0.03 ppbv
RT: 6.792 min Scan# 987
Delta R.T. -0.006 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:101 Resp: 4441

Ion	Ratio	Lower	Upper
101	100		
103	49.7	51.3	76.9#
151	81.2	61.9	92.9

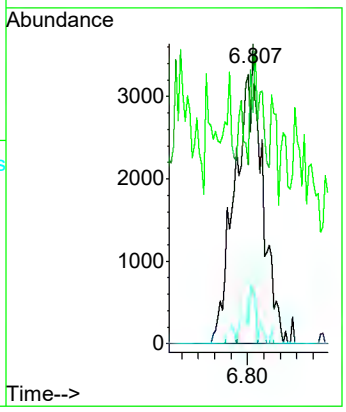


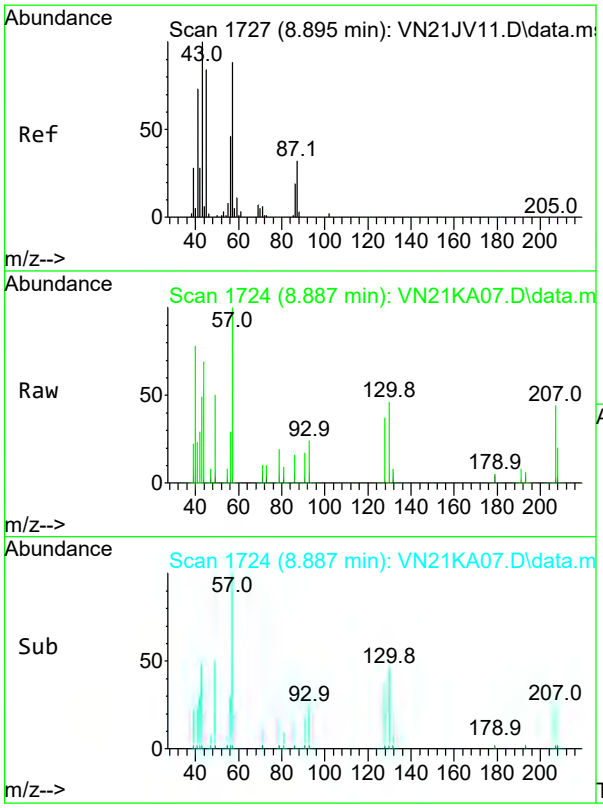


#21
Carbon Disulfide
Concen: 0.04 ppbv
RT: 6.807 min Scan# 992
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 76 Resp: 8001

Ion	Ratio	Lower	Upper
76	100		
44	21.1	10.3	15.5#
78	7.9	9.4	14.0#

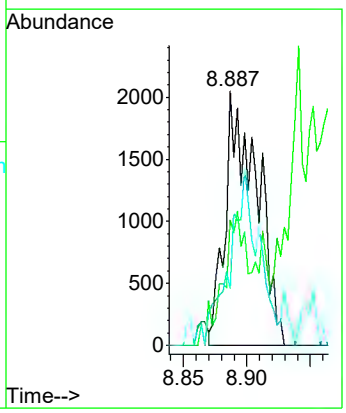


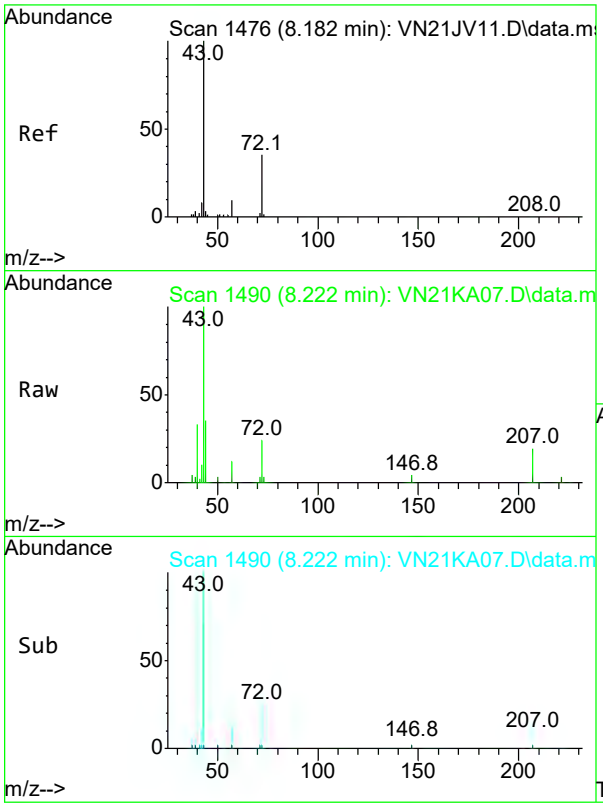


#26
n-Hexane
Concen: 0.03 ppbv
RT: 8.887 min Scan# 1724
Delta R.T. -0.008 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 57 Resp: 3559

Ion	Ratio	Lower	Upper
57	100		
43	55.3	214.3	321.5#
41	64.4	81.2	121.8#

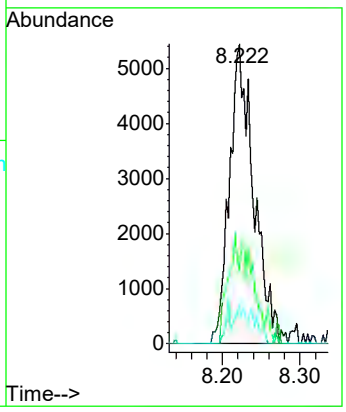


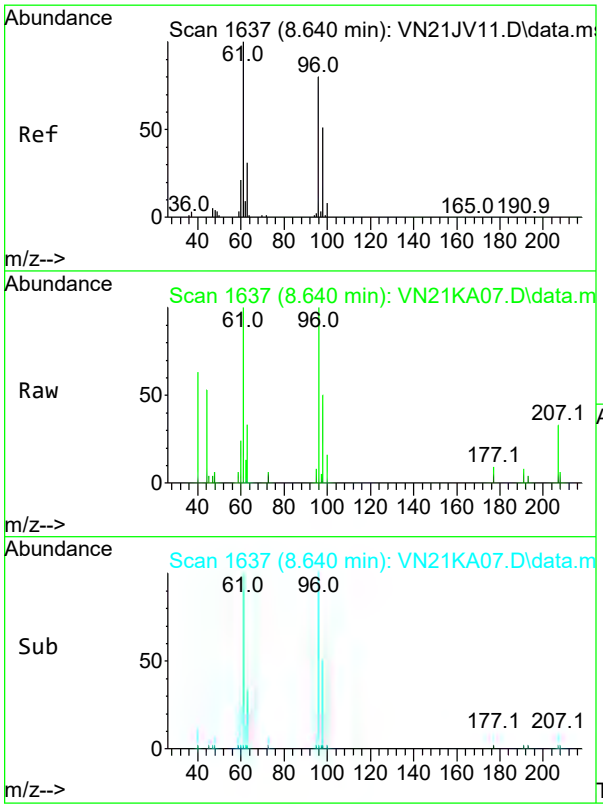


#27
2-Butanone
Concen: 0.10 ppbv
RT: 8.222 min Scan# 1490
Delta R.T. 0.040 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 43 Resp: 11839

Ion	Ratio	Lower	Upper
43	100		
72	36.4	26.7	40.1
57	9.3	7.6	11.4

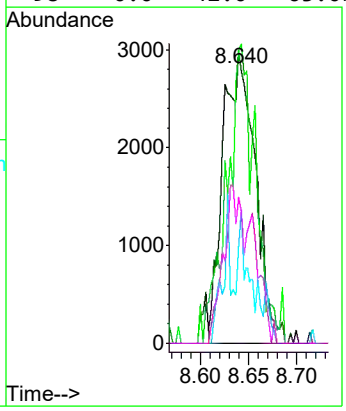


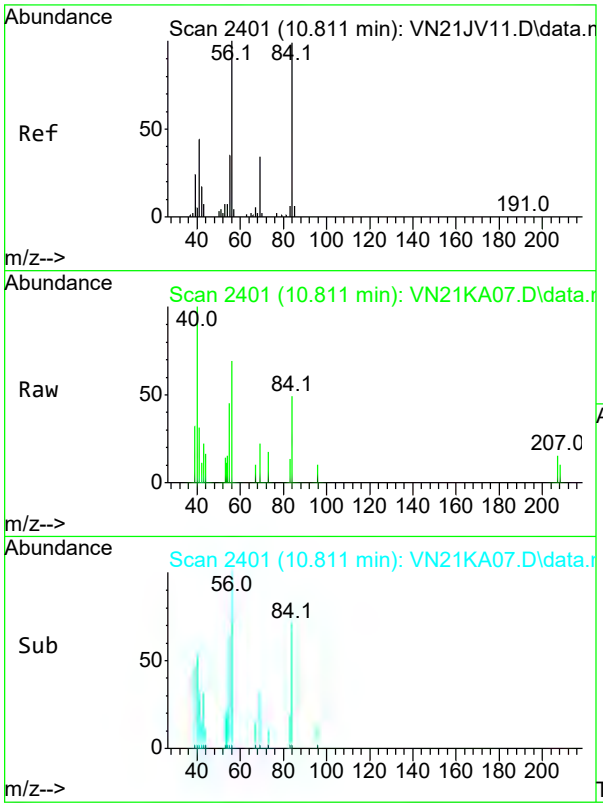


#28
cis-1,2-Dichloroethene
Concen: 0.08 ppbv
RT: 8.640 min Scan# 1637
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 61 Resp: 6933

Ion	Ratio	Lower	Upper
61	100		
96	91.4	65.3	97.9
63	11.5	26.2	39.2#
98	0.0	42.0	63.0#

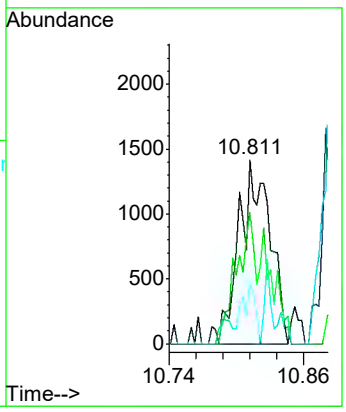


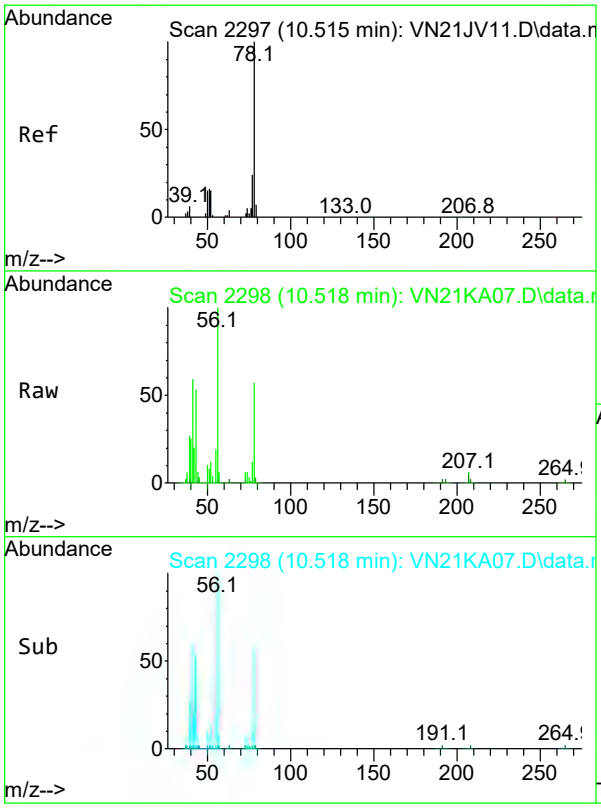


#38
Cyclohexane
Concen: 0.03 ppbv
RT: 10.811 min Scan# 2401
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 56 Resp: 2513

Ion	Ratio	Lower	Upper
56	100		
84	70.4	81.4	122.2#
69	12.7	28.6	43.0#

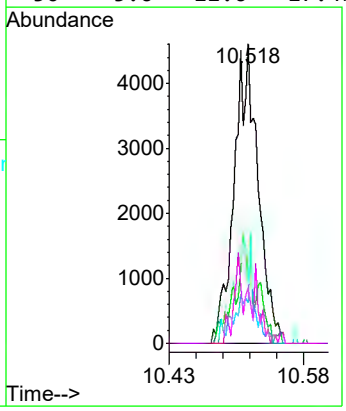


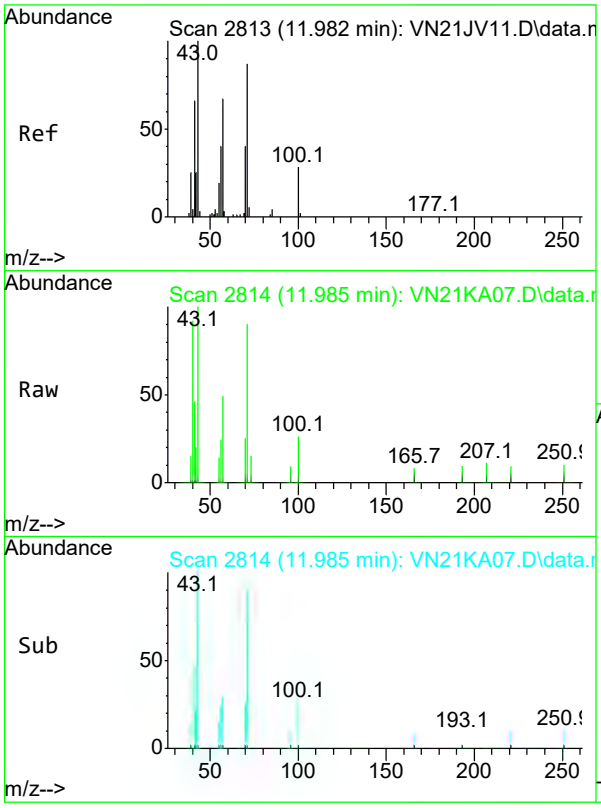


#40
Benzene
Concen: 0.04 ppbv
RT: 10.518 min Scan# 2298
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 78 Resp: 8733

Ion	Ratio	Lower	Upper
78	100		
77	6.7	20.2	30.4#
51	14.8	12.2	18.4
50	5.6	11.6	17.4#

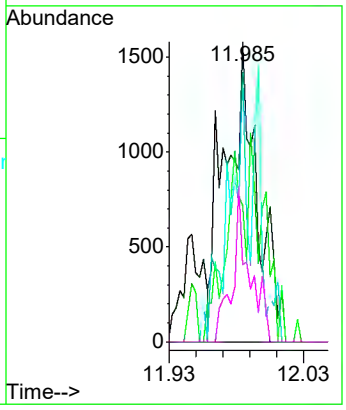


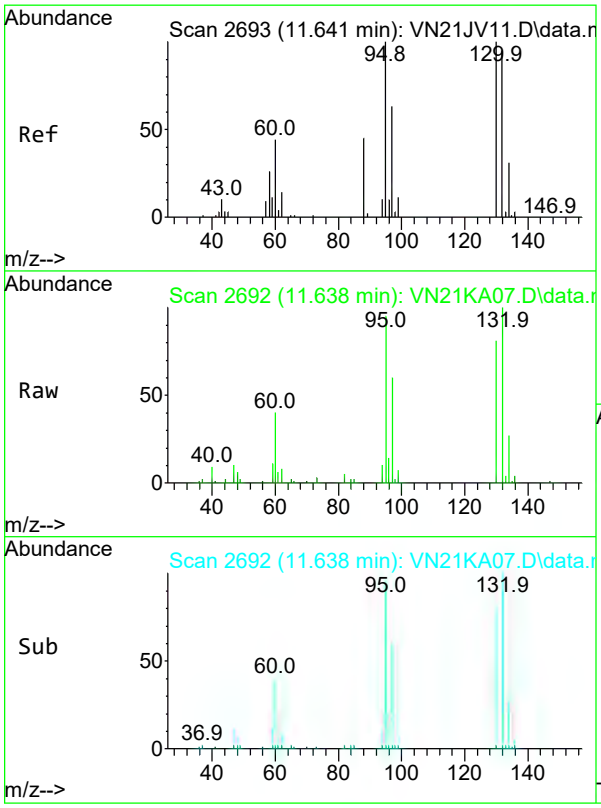


#42
n-Heptane
Concen: 0.03 ppbv m
RT: 11.985 min Scan# 2814
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 43 Resp: 2551

Ion	Ratio	Lower	Upper
43	100		
41	37.2	55.8	83.8#
71	49.3	70.3	105.5#
100	27.3	24.9	37.3

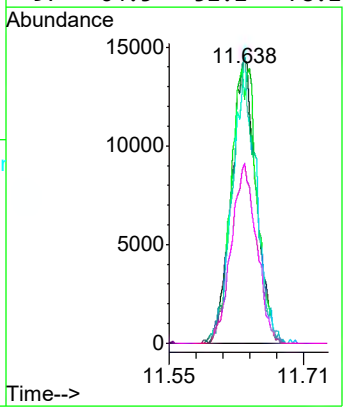


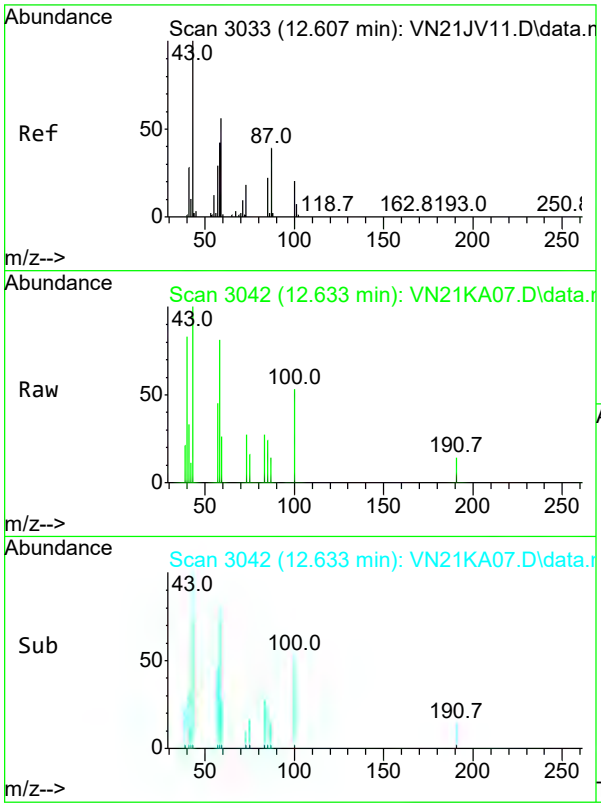


#44
Trichloroethene
Concen: 0.30 ppbv
RT: 11.638 min Scan# 2692
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 95 Resp: 29178

Ion	Ratio	Lower	Upper
95	100		
130	102.3	82.2	123.4
132	95.1	78.8	118.2
97	64.5	52.2	78.2

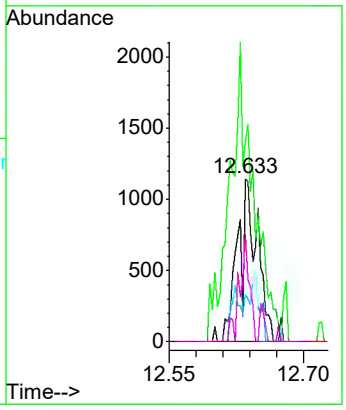


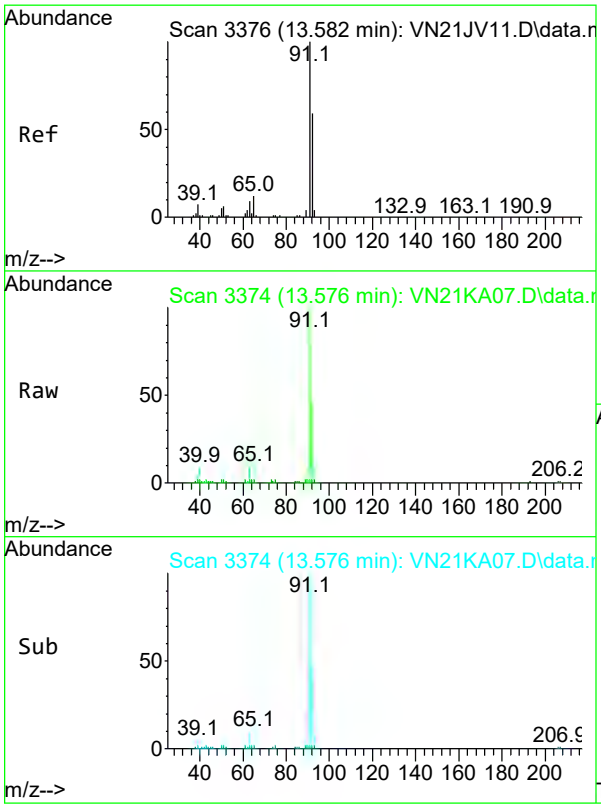


#49
4-Methyl-2-pentanone
Concen: 0.03 ppbv m
RT: 12.633 min Scan# 3042
Delta R.T. 0.026 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 58 Resp: 1773

Ion	Ratio	Lower	Upper
58	100		
43	216.6	216.6	325.0#
85	15.6	42.6	64.0#
100	0.0	36.5	54.7#

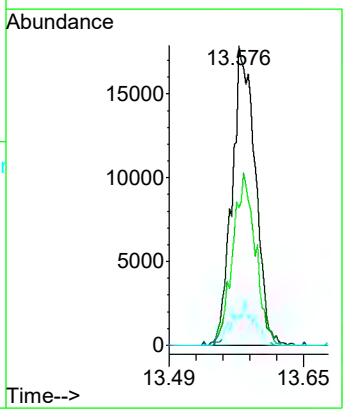


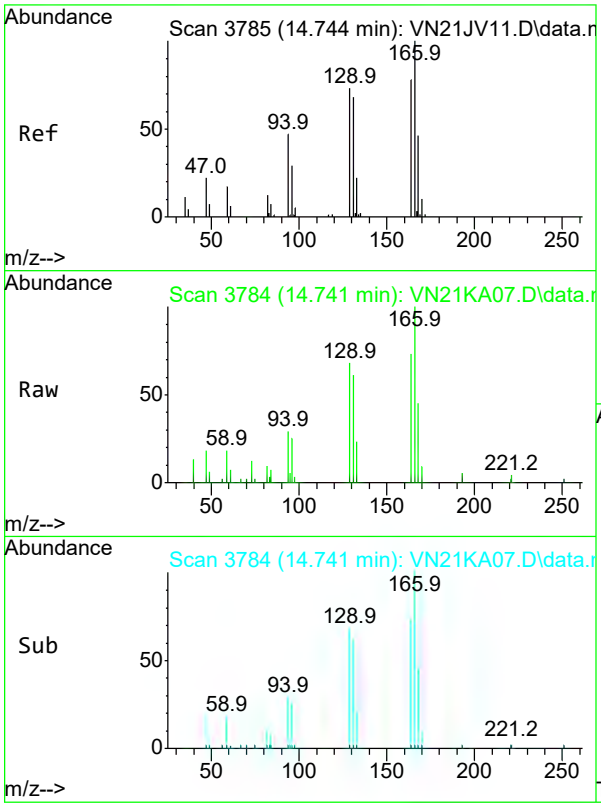


#54
Toluene
Concen: 0.15 ppbv
RT: 13.576 min Scan# 3374
Delta R.T. -0.006 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 91 Resp: 34868

Ion	Ratio	Lower	Upper
91	100		
92	56.2	46.7	70.1
65	7.0	9.3	13.9#

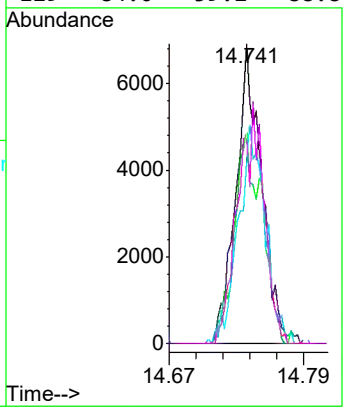


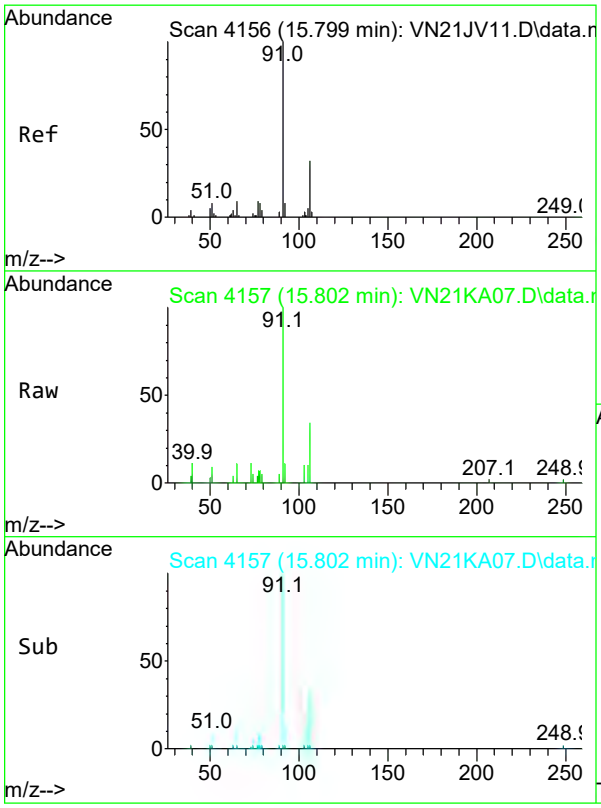


#58
Tetrachloroethene
Concen: 0.09 ppbv
RT: 14.741 min Scan# 3784
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:166 Resp: 10801

Ion	Ratio	Lower	Upper
166	100		
164	77.5	62.4	93.6
131	77.5	56.2	84.2
129	84.0	59.2	88.8

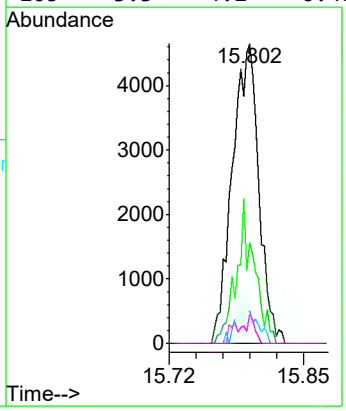


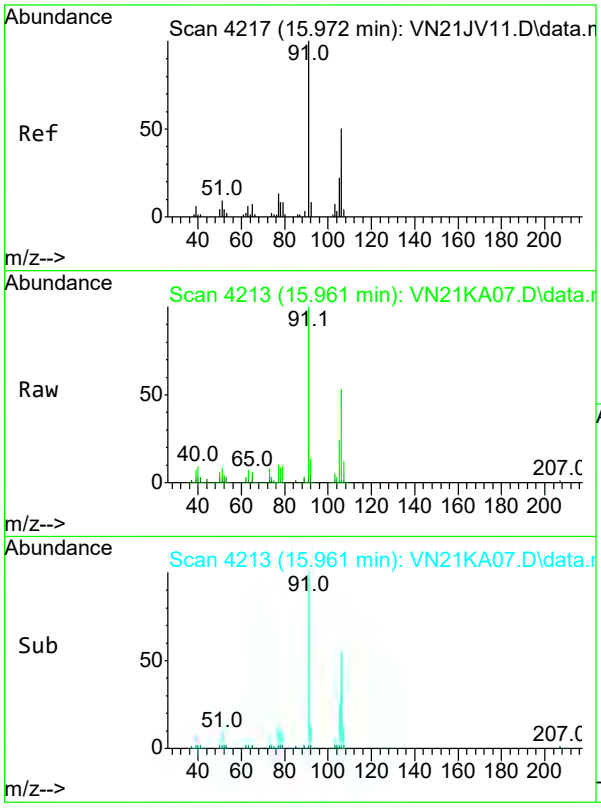


#60
Ethylbenzene
Concen: 0.05 ppbv
RT: 15.802 min Scan# 4157
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 91 Resp: 8241

Ion	Ratio	Lower	Upper
91	100		
106	32.5	25.2	37.8
77	9.2	7.1	10.7
105	3.3	4.2	6.4#

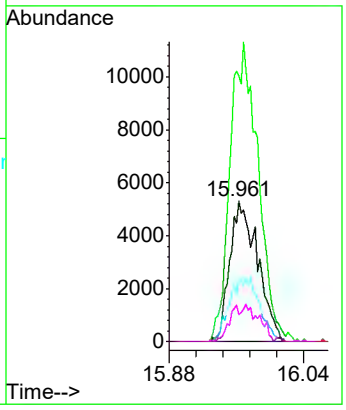


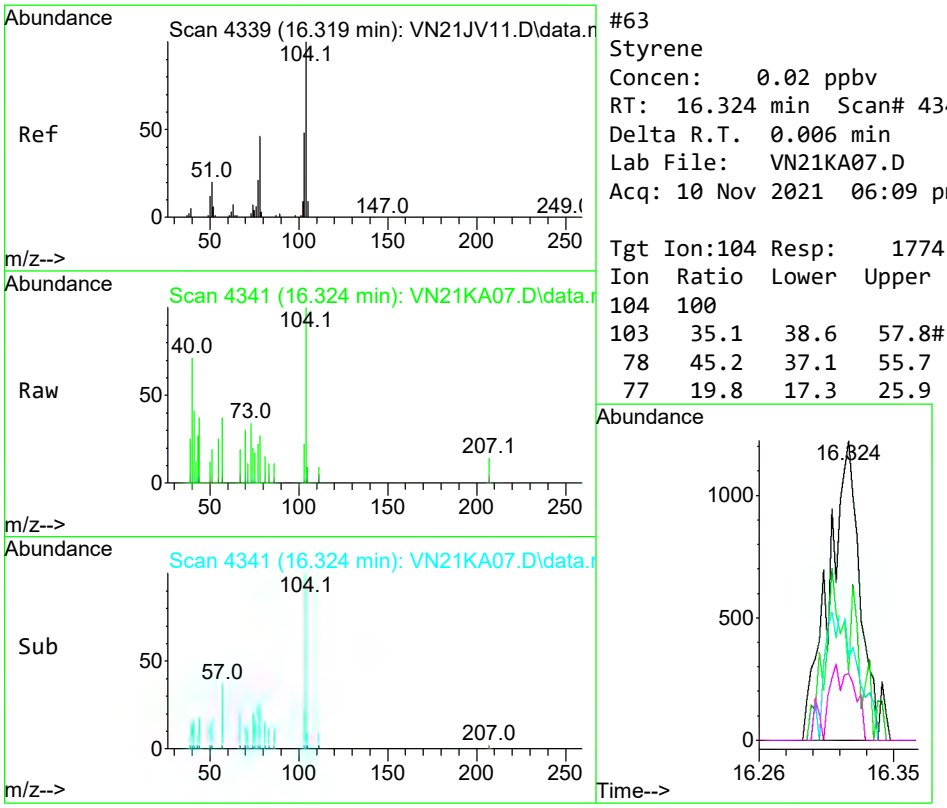


#61
m&p-Xylene
Concen: 0.21 ppbv
RT: 15.961 min Scan# 4213
Delta R.T. -0.011 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:106 Resp: 12538

Ion	Ratio	Lower	Upper
106	100		
91	215.0	177.6	266.4
105	48.0	37.2	55.8
77	26.4	22.0	33.0

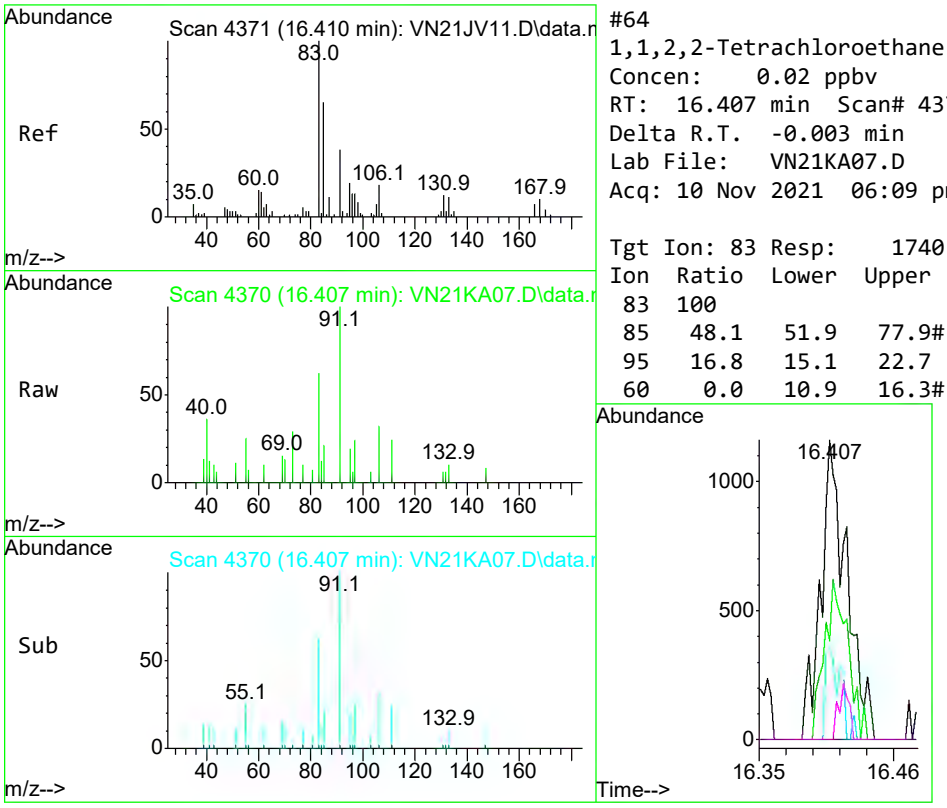




#63
Styrene
Concen: 0.02 ppbv
RT: 16.324 min Scan# 4341
Delta R.T. 0.006 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:104 Resp: 1774

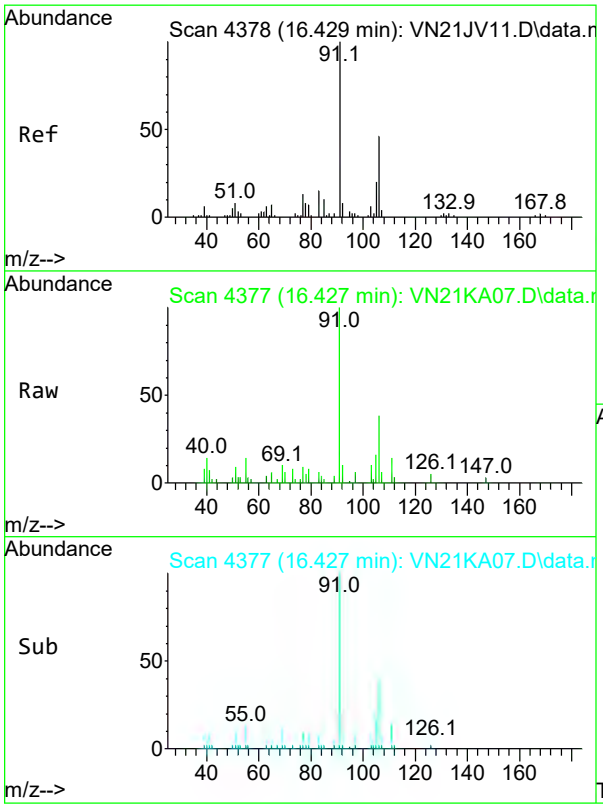
Ion	Ratio	Lower	Upper
104	100		
103	35.1	38.6	57.8#
78	45.2	37.1	55.7
77	19.8	17.3	25.9



#64
1,1,2,2-Tetrachloroethane
Concen: 0.02 ppbv
RT: 16.407 min Scan# 4370
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 83 Resp: 1740

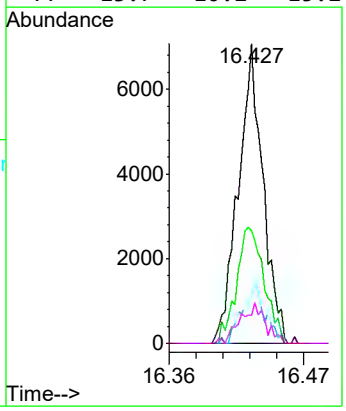
Ion	Ratio	Lower	Upper
83	100		
85	48.1	51.9	77.9#
95	16.8	15.1	22.7
60	0.0	10.9	16.3#

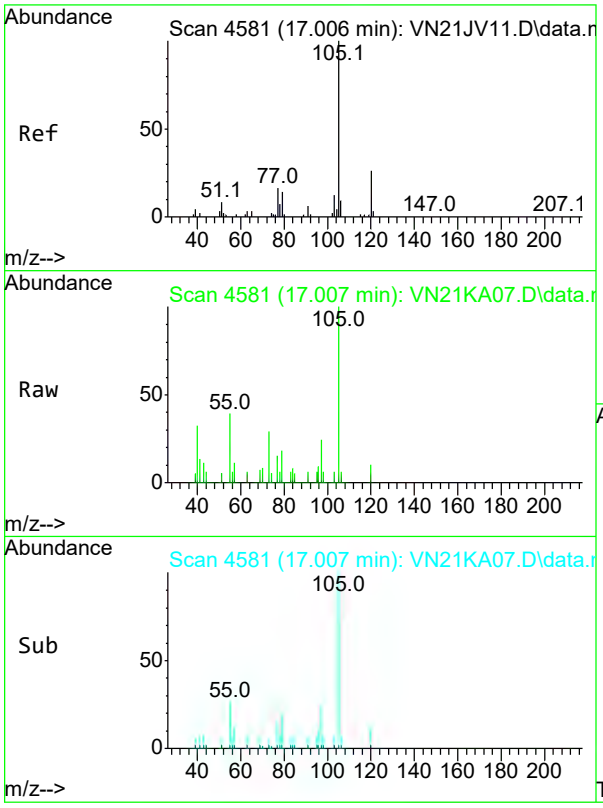


#65
o-Xylene
Concen: 0.08 ppbv
RT: 16.427 min Scan# 4377
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 91 Resp: 10389

Ion	Ratio	Lower	Upper
91	100		
106	43.3	36.8	55.2
105	18.2	15.4	23.0
77	13.7	10.2	15.2

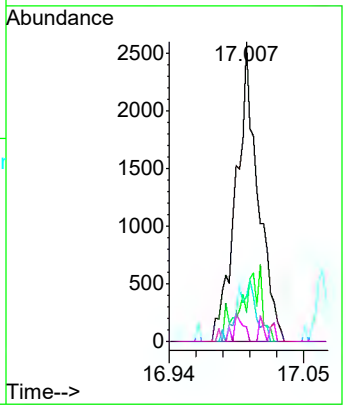


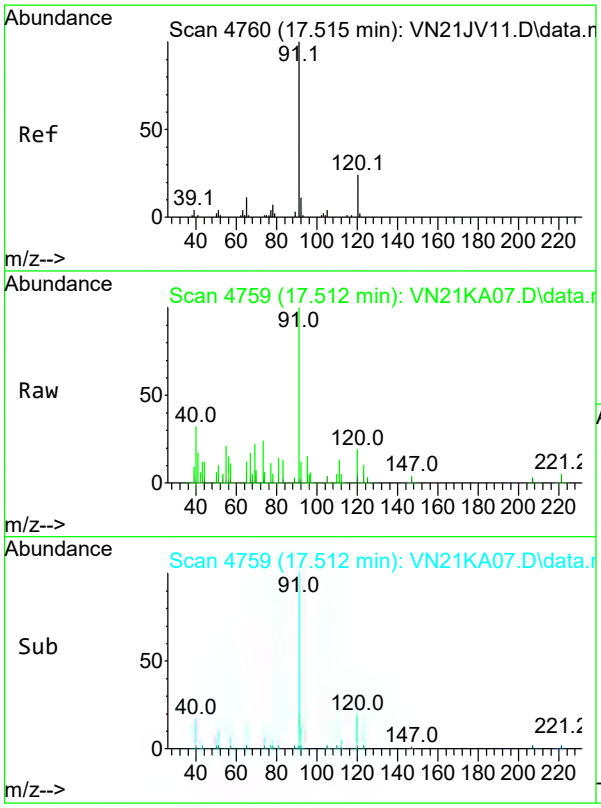


#67
Isopropylbenzene
Concen: 0.02 ppbv
RT: 17.007 min Scan# 4581
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:105 Resp: 3269

Ion	Ratio	Lower	Upper
105	100		
120	18.0	21.2	31.8#
77	17.6	13.0	19.4
51	0.0	6.5	9.7#

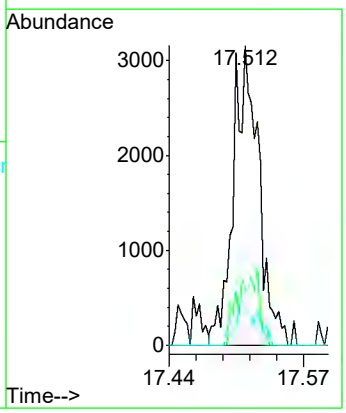


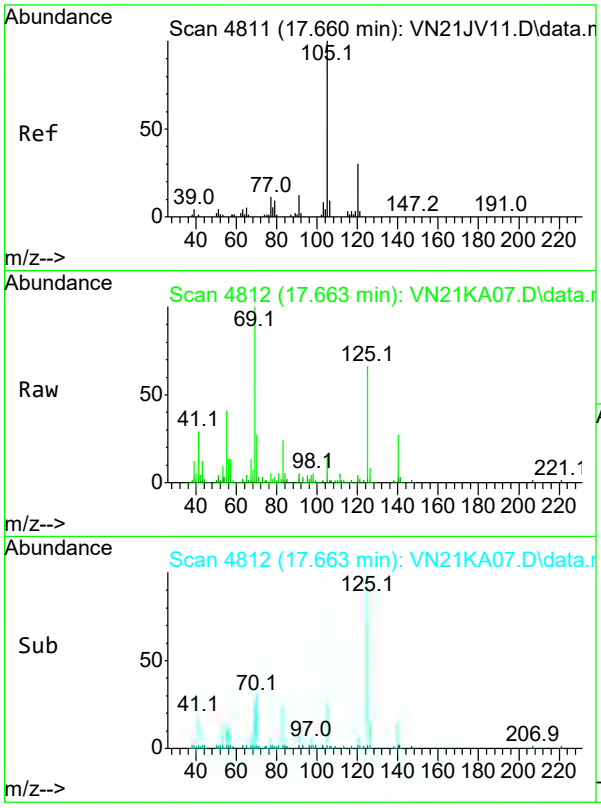


#68
n-Propylbenzene
Concen: 0.03 ppbv
RT: 17.512 min Scan# 4759
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 91 Resp: 5199

Ion	Ratio	Lower	Upper
91	100		
120	20.7	18.9	28.3
92	11.9	8.6	13.0

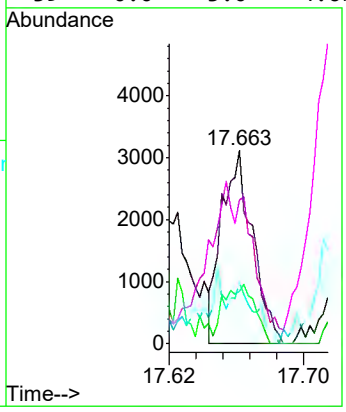


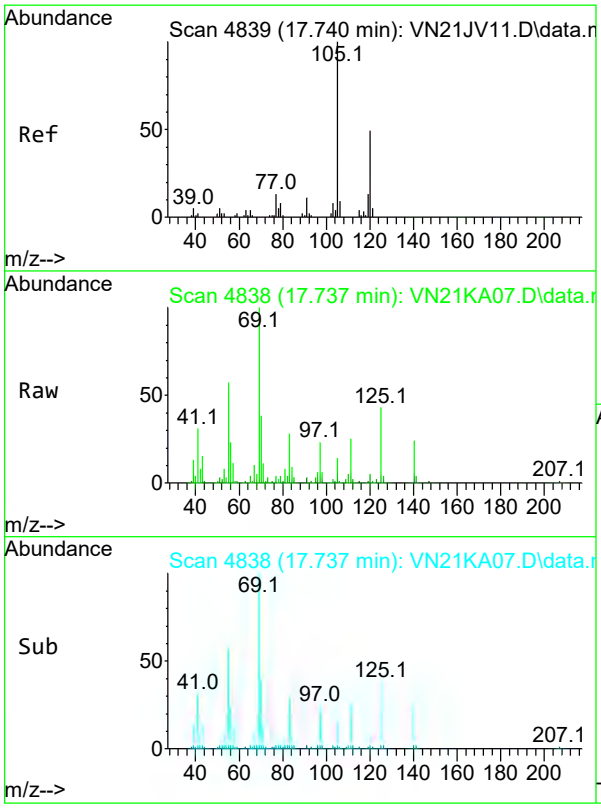


#69
4-Ethyltoluene
Concen: 0.02 ppbv
RT: 17.663 min Scan# 4812
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:105 Resp: 4313

Ion	Ratio	Lower	Upper
105	100		
120	30.9	24.3	36.5
77	24.6	9.6	14.4#
39	0.0	3.0	4.6#

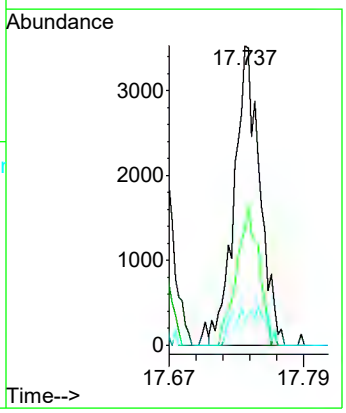


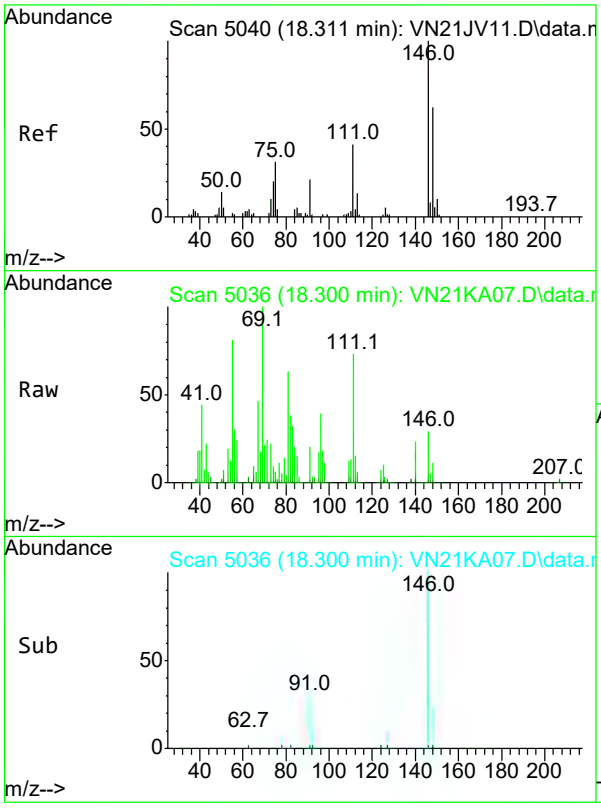


#70
1,3,5-Trimethylbenzene
Concen: 0.03 ppbv
RT: 17.737 min Scan# 4838
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:105 Resp: 5350

Ion	Ratio	Lower	Upper
105	100		
120	41.2	38.8	58.2
119	14.7	10.2	15.2

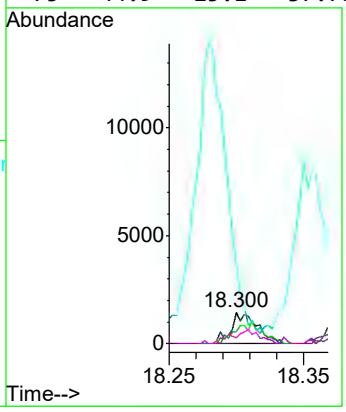


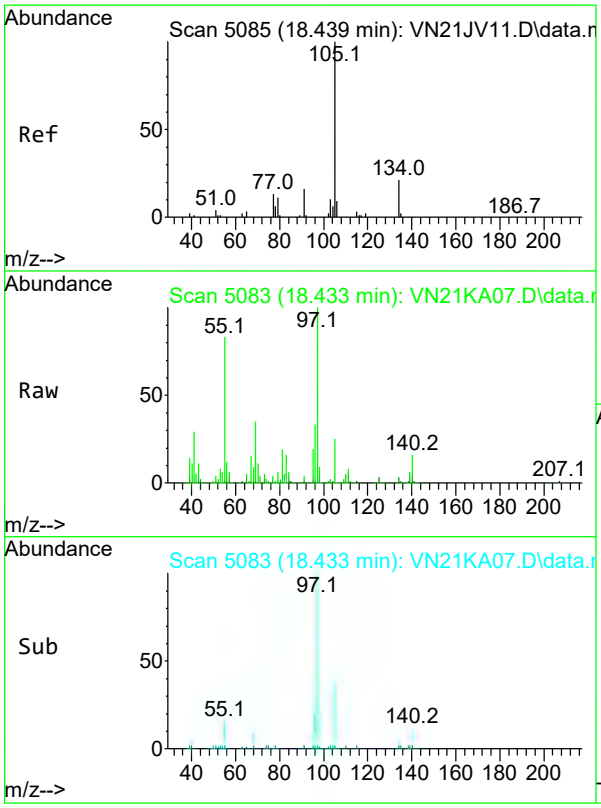


#73
1,3-Dichlorobenzene
Concen: 0.03 ppbv
RT: 18.300 min Scan# 5036
Delta R.T. -0.011 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:146 Resp: 1906

Ion	Ratio	Lower	Upper
146	100		
148	69.9	51.1	76.7
111	1071.4	32.3	48.5#
75	44.9	25.1	37.7#

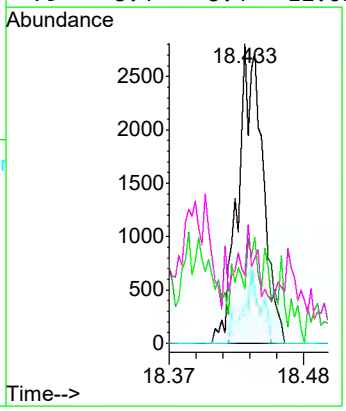


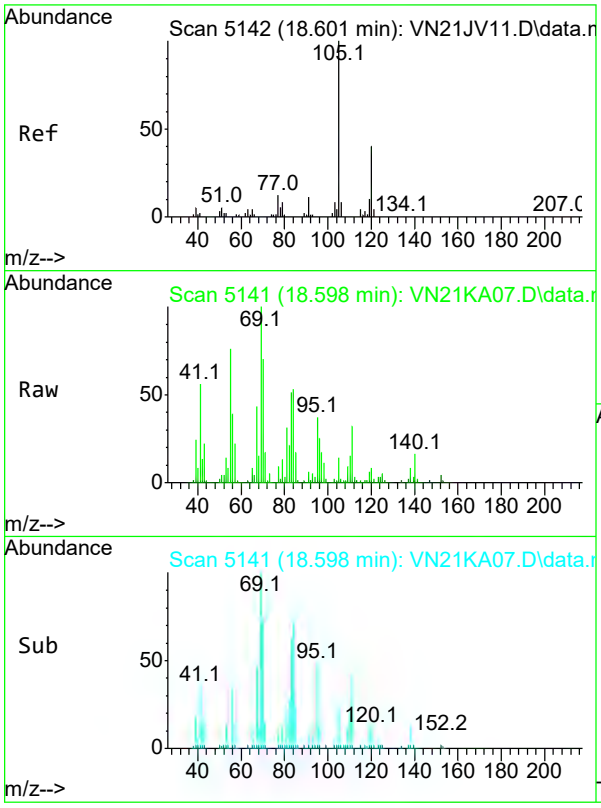


#76
sec-Butylbenzene
Concen: 0.02 ppbv
RT: 18.433 min Scan# 5083
Delta R.T. -0.006 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:105 Resp: 4172

Ion	Ratio	Lower	Upper
105	100		
77	5.9	10.6	16.0#
134	16.9	16.7	25.1
79	8.4	8.4	12.6#

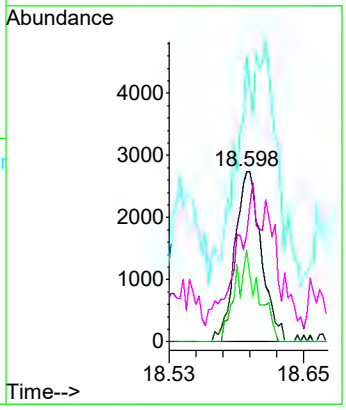


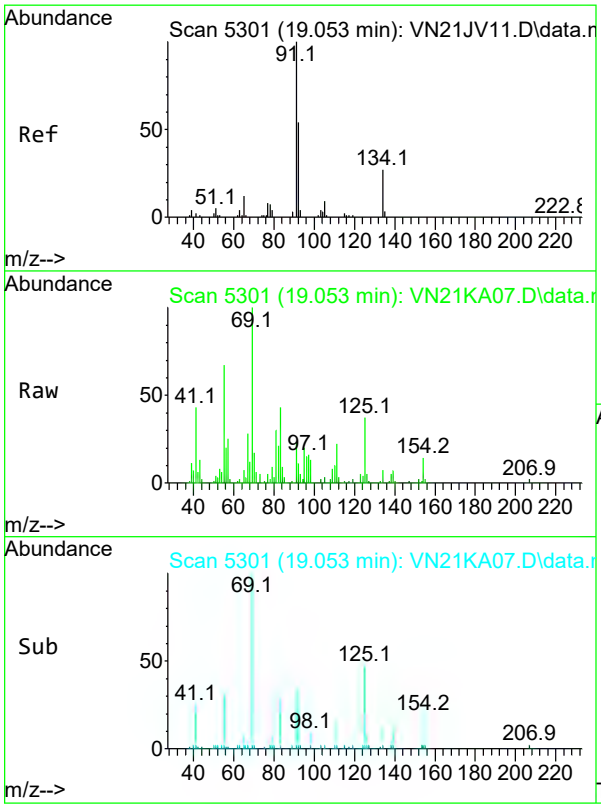


#77
1,2,3-Trimethylbenzene
Concen: 0.03 ppbv
RT: 18.598 min Scan# 5141
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:105 Resp: 4465

Ion	Ratio	Lower	Upper
105	100		
120	46.7	33.4	50.0
39	229.8	3.9	5.9#
77	125.5	10.2	15.2#

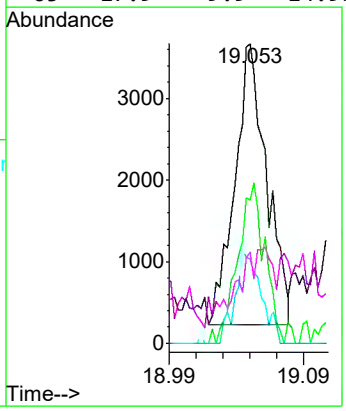


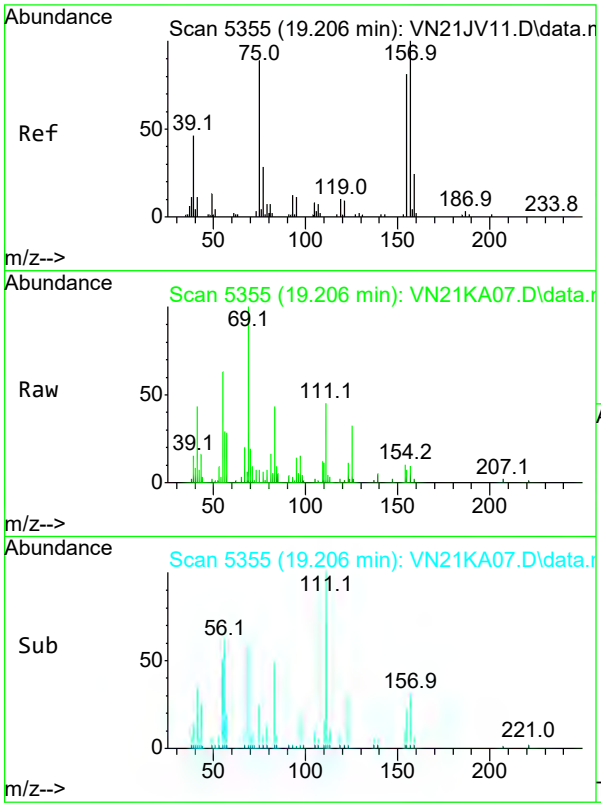


#79
n-Butylbenzene
Concen: 0.03 ppbv
RT: 19.053 min Scan# 5301
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion: 91 Resp: 5692

Ion	Ratio	Lower	Upper
91	100		
92	49.1	43.5	65.3
134	26.9	22.0	33.0
65	17.9	9.9	14.9#

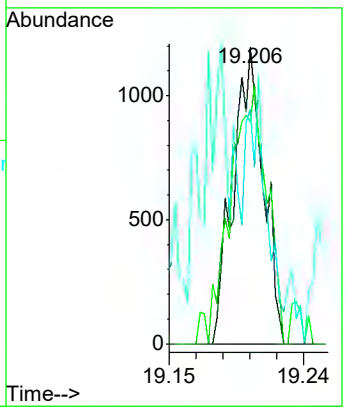


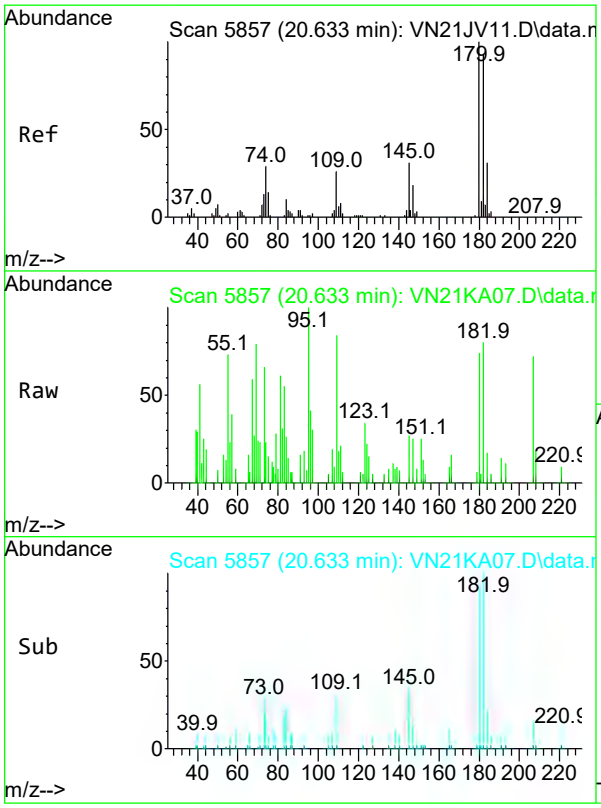


#81
1,2-Dibromo-3-chloropropane
Concen: 0.05 ppbv
RT: 19.206 min Scan# 5355
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:157 Resp: 1697

Ion	Ratio	Lower	Upper
157	100		
75	106.7	69.5	104.3#
155	45.5	62.6	93.8#

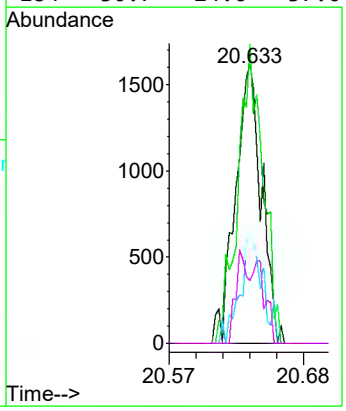


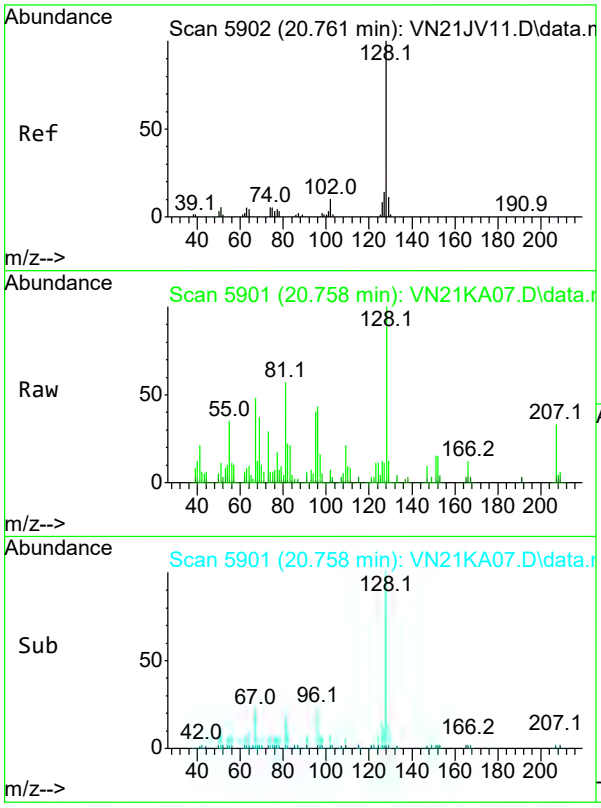


#83
1,2,4-Trichlorobenzene
Concen: 0.04 ppbv
RT: 20.633 min Scan# 5857
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:180 Resp: 2413

Ion	Ratio	Lower	Upper
180	100		
182	102.8	75.8	113.8
145	33.8	25.0	37.6
184	30.7	24.6	37.0

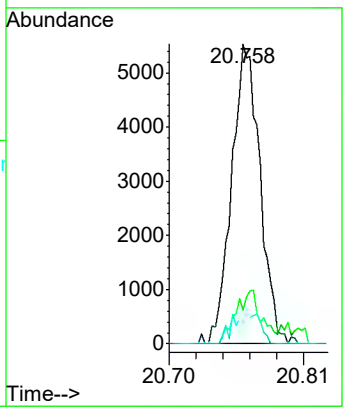


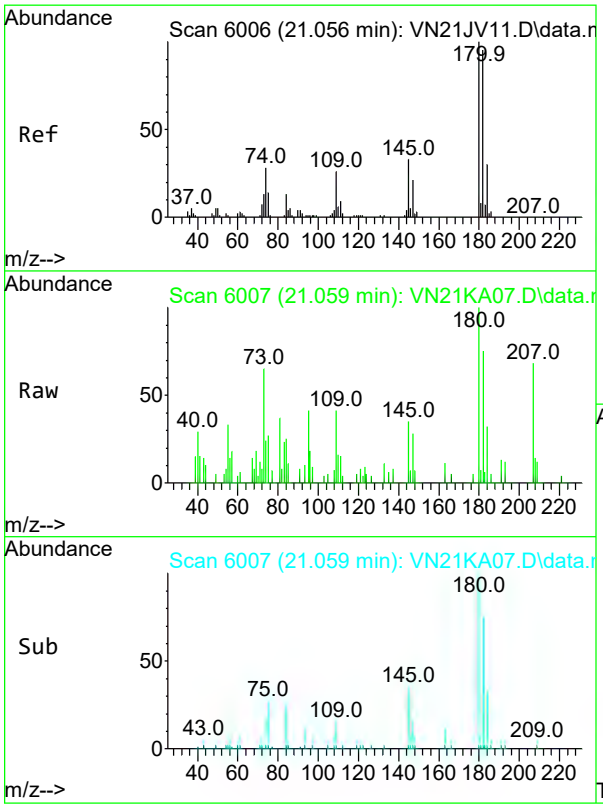


#84
Naphthalene
Concen: 0.05 ppbv
RT: 20.758 min Scan# 5901
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:128 Resp: 8911

Ion	Ratio	Lower	Upper
128	100		
127	16.3	11.3	16.9
102	10.1	7.6	11.4

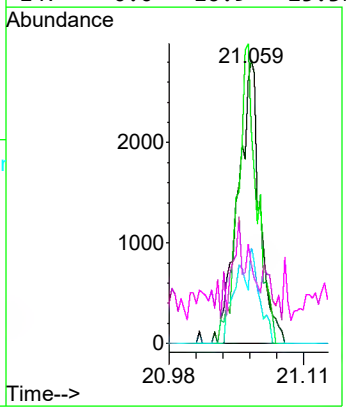


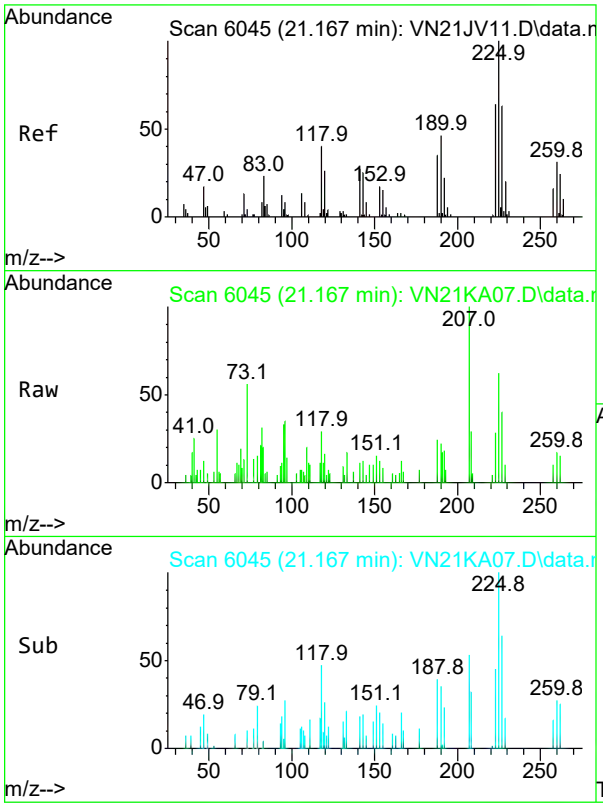


#85
1,2,3-Trichlorobenzene
Concen: 0.06 ppbv
RT: 21.059 min Scan# 6007
Delta R.T. 0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:180 Resp: 3971

Ion	Ratio	Lower	Upper
180	100		
182	91.6	76.2	114.4
145	15.0	26.5	39.7#
147	0.0	16.9	25.3#

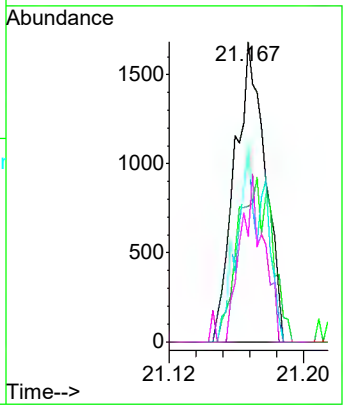


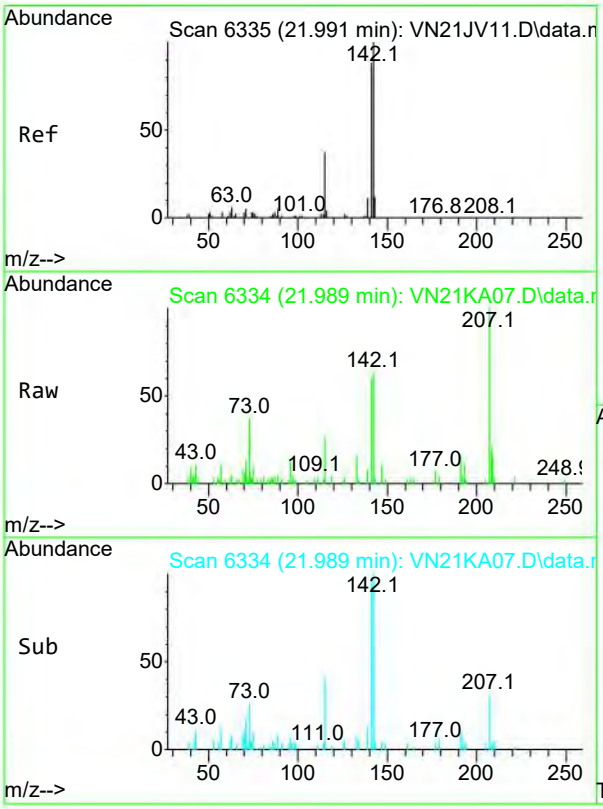


#86
Hexachlorobutadiene
Concen: 0.03 ppbv
RT: 21.167 min Scan# 6045
Delta R.T. 0.000 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:225 Resp: 2289

Ion	Ratio	Lower	Upper
225	100		
223	61.2	50.6	75.8
227	58.7	50.6	75.8
190	42.5	37.4	56.0

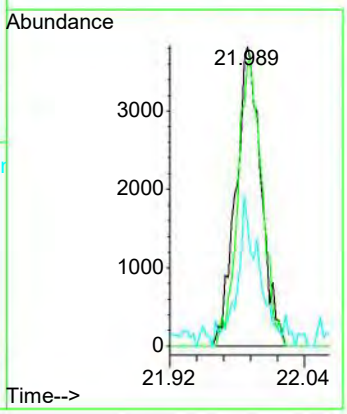




#87
2-Methylnaphthalene
Concen: 0.07 ppbv
RT: 21.989 min Scan# 6334
Delta R.T. -0.003 min
Lab File: VN21KA07.D
Acq: 10 Nov 2021 06:09 pm

Tgt Ion:142 Resp: 6001

Ion	Ratio	Lower	Upper
142	100		
141	91.8	71.0	106.6
115	42.3	29.3	43.9



SECTION #5: SAMPLE AND STANDARD PREPARATION DOCUMENTATION

PAH PREPARATION BENCH SHEET

TO-15 PREPARATION BATCH REPORT

TO-15 CALIBRATION CURVE PREPARATION REPORT

PAH STANDARD PREPARATION

TO-15 STANDARD PREPARATION

PAH STANDARD CERTIFICATES OF ANALYSIS

TO-15 STANDARD CERTIFICATES OF ANALYSIS

TO-15 CALIBRATION TABLE

TO-15 CANISTER FIELD TAGS

TO-15 FIELD EQUIPMENT CERTIFICATION RAW DATA with LOGBOOK

PAH VAPOR TUBE SAMPLING FIELD WORKSHEET

FS21K11C.MB*-PNA

PNA

PNA Air Prep

PNA AIR SURROGATE	PNA AIR SPIKE	PNA AIR INTERNAL STD.
8 ug/mL	1 ug/mL	20 ug/mL
10 uL added	20 uL added	10 uL added
Working # pna air sur 102921	Working # pna air spike 10282	Working # pna air is 110321

	Date	Tech Initial
In Solvent	11-11-21	R.B.
Extracted	11-11-21	R.B.

Instructions:
Front Sorbent + Glass Wool ↑ 5 mL MeCl2
Rear Sorbent + Glass Wool ↑ 5 mL MeCl2

Initial	Sample #	Surrogate	Volume of Air	Comments
	LCS			Tube: 13421
	LCD			
	MB			
Level 4	A05022 7		2000	Tube: 13422
	8			
	9			
	10			
	11			
	12			
	13		1000	FB
	14	O		FS (10/12D) not spiked
	A05087 15 X		2000	Tube: 13422
	16 X			
	17 X			
	18 X		1000	FB
	19 X	O		FS (10/22C)

MeCl2 47180 PNA Air Tubes 13421

Keys to Symbols Surrogate X Spike O

Volume (mL) = Avg flow rate (L/min) x Time (min) x 1000 mL/L

PrepMaster Batch Report

Samples and Dilutions included in this Batch

Prep Batch: **VN21K09A**

Department: **Volatiles** Procedure: **Purge & Trap (VN), Air: TO-15**

Date: **11/09/21** Procedure Code: **VN******

Standard(s)

	Description:	Lot Number/ID:
1	CCV	VT-CCV-211103
2	SPK [200_mL]	VT-LCS-211026
3	IS/SS [100_mL]	VT-ISSS-211108
4	0.25 standard	
5	2.5 standard	

	Prep ID:	Source ID (Vial):	Initial Mass/Vol: (gram or mL)		Final Vol: (mL)	Current Prep Factor:	Overall Prep Factor*:	Wet Weight?	Comment:
1	A05020-001.01	A05020-001 (1)	100	mL	400	4.00	4.00	No	TO-TRELL
2	A05022-001.01	A05022-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
3	A05022-002.01	A05022-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
4	A05022-003.01	A05022-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
5	A05022-003.02	A05022-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
6	A05022-004.01	A05022-004 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
7	A05022-005.01	A05022-005 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
8	A05022-006.01	A05022-006 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
9	A05023-001.02	A05023-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
10	A05030-001.02	A05030-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
11	A05030-002.02	A05030-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
12	A05030-003.02	A05030-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
13	A05031-001.02	A05031-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
14	A05031-002.02	A05031-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
15	A05031-003.02	A05031-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
16	A05036-001.01	A05036-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
17	A05036-002.01	A05036-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
18	A05036-003.01	A05036-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
19	A05076-001.01	A05076-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG

11-10-21

*Overall prep factor based on current prep factor multiplied by the source prep factor. D - Indicates Dilution

DCSID: G-6016.4 (08/14/18)

VN21K09A

PrepMaster Batch Report

Samples and Dilutions included in this Batch

Prep Batch: **VN21K10B**

Date: 11/11/21
Time: 10:30
Printed By: kmercado

Department: **Volatiles**
Procedure: **Purge & Trap (VN), Air: TO-15**
Date: **11/10/21**
Procedure Code: **VN******

Standard(s)

	Description:	Lot Number/ID:
1	CCV	VT-CCV-211103
2	SPK [200_mL]	VT-LCS-211110
3	IS/SS [100_mL]	VT-ISSS-211108
4	0.25 standard	
5	2.5 standard	

		Prep ID:	Source ID (Vial):	Initial Mass/Vol: (gram or mL)		Final Vol: (mL)	Current Prep Factor:	Overall Prep Factor*:	Wet Weight?	Comment:
1		A04889-002.02	A04889-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG TO-BV-MI
2		A04889-004.02	A04889-004 (1)	100	mL	400	4.00	4.00	No	TO-BV-MI
3		A04889-005.02	A04889-005 (1)	100	mL	400	4.00	4.00	No	TO-BV-MI
4		A04889-011.02	A04889-011 (1)	100	mL	400	4.00	4.00	No	TO-BV-MI
5		A04993-002.03	A04993-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
6		A04993-004.03	A04993-004 (1)	80	mL	400	5.00	5.00	No	TO-BV-SG
7		A05022-004.02	A05022-004 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
8		A05022-005.02	A05022-005 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
9		A05102-001.01	A05102-001 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
10		A05102-002.01	A05102-002 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
11		A05102-003.01	A05102-003 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
12		A05102-004.01	A05102-004 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
13		A05102-005.01	A05102-005 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
14		A05102-006.01	A05102-006 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG
15		A05102-007.01	A05102-007 (1)	100	mL	400	4.00	4.00	No	TO-BV-SG

OH 11-11-21

*Overall prep factor based on current prep factor multiplied by the source prep factor. D - Indicates Dilution

DCSID: G-6016.4 (08/14/18)

VN21K10B

PrepMaster Batch Report

Samples and Dilutions included in this Batch

Prep Batch: **VN21J31A**

Date: 11/01/21
Time: 10:45
Printed By: cmoua

Department: **Volatiles**
Procedure: **Purge & Trap (VN), Air: TO-15**
Date: **11/01/21**
Procedure Code: **VN******

Standard(s)

	Description:	Lot Number/ID:
1	CCV	VT-CCV-211024
2	SPK [200_mL]	VT-LCS-211026
3	IS/SS [100_mL]	VT-ISSS-211025
4	0.25 standard	VT-STD-0.25-211027
5	2.5 standard	VT-STD-2.5-211027

	Prep ID:	Source ID (Vial):	Initial Mass/Vol: (gram or mL)		Final Vol: (mL)	Current Prep Factor:	Overall Prep Factor*:	Wet Weight?	Comment:
0	D	#Error	#Error		mL	#Error	#Error	Yes	

*Overall prep factor based on current prep factor multiplied by the source prep factor. D - Indicates Dilution

DCSID: G-6016.4 (08/14/18)

VN21J31A

PAH AIR STANDARD PREPARATION

pna air is 110321

Description: **pna air is** Prep. Date: **11/3/2021** Exp. Date: **2/1/2022** Prepared By: **rbrown**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene-d10(I)	20000 µg/L				
2. Chrysene-d12(I)	20000 µg/L				
3. 1,4-Dichlorobenzene-d4(I)	20000 µg/L				
4. Naphthalene-d8(I)	20000 µg/L				
5. Perylene-d12(I)	20000 µg/L				
6. Phenanthrene-d10(I)	20000 µg/L				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47165	Environmental Consulting and Su	ECS-N-201	Semivolatile Internal Standard Mix ...	ND210413001	20 uL	4/12/2024
47965	Avantor Performance Materials, L	9264-03	Methylene Chloride - J.T.Baker 9264	0000287380	1.98 mL	9/28/2022

pna air is 110321

Description: **pna air is** Prep. Date: **11/3/2021** Exp. Date: **2/1/2022** Prepared By: **rbrown**

Solution Stock Sources and Intermediate Sources

pna air is 110321
- 47965
- 47165

pnaspk211011-02-80

Description: **pna spike** Prep. Date: **10/11/2021** Exp. Date: **1/9/2022** Prepared By: **kguenther**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	80.00 µg/mL				
2. Acenaphthene (SIM)	80.00 µg/mL				
3. Acenaphthylene	80.00 µg/mL				
4. Acenaphthylene (SIM)	80.00 µg/mL				
5. Anthracene	80.00 µg/mL				
6. Anthracene (SIM)	80.00 µg/mL				
7. Benzo(a)anthracene	80.00 µg/mL				
8. Benzo(a)anthracene (SIM)	80.00 µg/mL				
9. Benzo(a)pyrene	80.00 µg/mL				
10. Benzo(a)pyrene (SIM)	80.00 µg/mL				
11. Benzo(b)fluoranthene	80.00 µg/mL				
12. Benzo(b)fluoranthene (SIM)	80.00 µg/mL				
13. Benzo(ghi)perylene	80.00 µg/mL				
14. Benzo(ghi)perylene (SIM)	80.00 µg/mL				
15. Benzo(k)fluoranthene	80.00 µg/mL				
16. Benzo(k)fluoranthene (SIM)	80.00 µg/mL				
17. Chrysene	80.00 µg/mL				
18. Chrysene (SIM)	80.00 µg/mL				
19. Dibenzo(a,h)anthracene	80.00 µg/mL				
20. Dibenzo(a,h)anthracene (SIM)	80.00 µg/mL				
21. Fluoranthene	80.00 µg/mL				
22. Fluoranthene (SIM)	80.00 µg/mL				
23. Fluorene	80.00 µg/mL				
24. Fluorene (SIM)	80.00 µg/mL				
25. Indeno(1,2,3-cd)pyrene	80.00 µg/mL				
26. Indeno(1,2,3-cd)pyrene (SIM)	80.00 µg/mL				
27. 2-Methylnaphthalene	80.00 µg/mL				
28. 2-Methylnaphthalene (SIM)	80.00 µg/mL				
29. Naphthalene	80.00 µg/mL				
30. Naphthalene (SIM)	80.00 µg/mL				
31. Phenanthrene	80.00 µg/mL				
32. Phenanthrene (SIM)	80.00 µg/mL				
33. Pyrene	80.00 µg/mL				
34. Pyrene (SIM)	80.00 µg/mL				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46915	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	2 mL	5/17/2024
47657	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285802	48 mL	2/3/2024

pnaspk211011-02-80

Description: **pna spike** Prep. Date: **10/11/2021** Exp. Date: **1/9/2022** Prepared By: **kguenther**

Solution Stock Sources and Intermediate Sources

pnaspk211011-02-80
- 47657
- 46915

pna air spike 102821

Description: **pna air spike** Prep. Date: **10/28/2021** Exp. Date: **1/27/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	1000 µg/L				
2. Acenaphthene (SIM)	1000 µg/L				
3. Acenaphthylene	1000 µg/L				
4. Acenaphthylene (SIM)	1000 µg/L				
5. Anthracene	1000 µg/L				
6. Anthracene (SIM)	1000 µg/L				
7. Benzo(a)anthracene	1000 µg/L				
8. Benzo(a)anthracene (SIM)	1000 µg/L				
9. Benzo(a)pyrene	1000 µg/L				
10. Benzo(a)pyrene (SIM)	1000 µg/L				
11. Benzo(b)fluoranthene	1000 µg/L				
12. Benzo(b)fluoranthene (SIM)	1000 µg/L				
13. Benzo(ghi)perylene	1000 µg/L				
14. Benzo(ghi)perylene (SIM)	1000 µg/L				
15. Benzo(k)fluoranthene	1000 µg/L				
16. Benzo(k)fluoranthene (SIM)	1000 µg/L				
17. Chrysene	1000 µg/L				
18. Chrysene (SIM)	1000 µg/L				
19. Dibenzo(a,h)anthracene	1000 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	1000 µg/L				
21. Fluoranthene	1000 µg/L				
22. Fluoranthene (SIM)	1000 µg/L				
23. Fluorene	1000 µg/L				
24. Fluorene (SIM)	1000 µg/L				
25. Indeno(1,2,3-cd)pyrene	1000 µg/L				
26. Indeno(1,2,3-cd)pyrene (SIM)	1000 µg/L				
27. 2-Methylnaphthalene	1000 µg/L				
28. 2-Methylnaphthalene (SIM)	1000 µg/L				
29. Naphthalene	1000 µg/L				
30. Naphthalene (SIM)	1000 µg/L				
31. Phenanthrene	1000 µg/L				
32. Phenanthrene (SIM)	1000 µg/L				
33. Pyrene	1000 µg/L				
34. Pyrene (SIM)	1000 µg/L				

Solution Stock Sources

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On.
46915	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.001 mL	5/17/2024
47657	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285502	0.024 mL	2/3/2024

pna air spike 102821

Description: **pna air spike** Prep. Date: **10/28/2021** Exp. Date: **1/27/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

pna air spike 102821
- pnaspk211011-02-80 (25 uL)
  - 47657
  - 46915

pnaairsur 102921

Description: **pna air surrogate** Prep. Date: **10/29/2021** Exp. Date: **1/27/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1 2-Fluorobiphenyl(S)	8000 µg/L				
2 1-Fluoronaphthalene(S)	8000 µg/L				
3 4-Terphenyl-d14(S)	8000 µg/L				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fiberlec Base/Neutral Surrogate Mix	ND210520014	16 uL	5/19/2025

pnaairsur 102921

Description: **pna air surrogate** Prep. Date: **10/29/2021** Exp. Date: **1/27/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

pnaairsur 102921
- 47150

pnaairspk210922-01-1

Description: **pah air spike, 1ug/ml** Prep. Date: **9/22/2021** Exp. Date: **12/21/2021** Prepared By: **gpayne**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	1000 µg/L				
2 Acenaphthene (SIM)	1000 µg/L				
3. Acenaphthylene	1000 µg/L				
4. Acenaphthylene (SIM)	1000 µg/L				
5. Anthracene	1000 µg/L				
6. Anthracene (SIM)	1000 µg/L				
7. Benzo(a)anthracene	1000 µg/L				
8. Benzo(a)anthracene (SIM)	1000 µg/L				
9. Benzo(a)pyrene	1000 µg/L				
10. Benzo(a)pyrene (SIM)	1000 µg/L				
11. Benzo(b)fluoranthene	1000 µg/L				
12. Benzo(b)fluoranthene (SIM)	1000 µg/L				
13. Benzo(ghi)perylene	1000 µg/L				
14. Benzo(ghi)perylene (SIM)	1000 µg/L				
15. Benzo(k)fluoranthene	1000 µg/L				
16 Benzo(k)fluoranthene (SIM)	1000 µg/L				
17. Chrysene	1000 µg/L				
18 Chrysene (SIM)	1000 µg/L				
19. Dibenzo(a,h)anthracene	1000 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	1000 µg/L				
21. Fluoranthene	1000 µg/L				
22 Fluoranthene (SIM)	1000 µg/L				
23. Fluorene	1000 µg/L				
24 Fluorene (SIM)	1000 µg/L				
25. Indeno(1,2,3-cd)pyrene	1000 µg/L				
26. Indeno(1,2,3-cd)pyrene (SIM)	1000 µg/L				
27. 2-Methylnaphthalene	1000 µg/L				
28. 2-Methylnaphthalene (SIM)	1000 µg/L				
29. Naphthalene	1000 µg/L				
30. Naphthalene (SIM)	1000 µg/L				
31. Phenanthrene	1000 µg/L				
32 Phenanthrene (SIM)	1000 µg/L				
33. Pyrene	1000 µg/L				
34 Pyrene (SIM)	1000 µg/L				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	1975 uL	6/15/2023

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.001 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	0.024 mL	5/11/2024

pnaairspk210922-01-1

Description: **pah air spike, 1ug/ml** Prep. Date: **9/22/2021** Exp. Date: **12/21/2021** Prepared By: **gpayne**

Solution Stock Sources and Intermediate Sources

pnaairspk210922-01-1
- pnaspk210915-01-80 (25 uL)
  - 47378
  - 46916
- 47180

pnaspk210915-01-80

Description: **pna spike** Prep. Date: **9/15/2021** Exp. Date: **12/14/2021** Prepared By: **kguenther**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	80.00 µg/mL				
2. Acenaphthene (SIM)	80.00 µg/mL				
3. Acenaphthylene	80.00 µg/mL				
4. Acenaphthylene (SIM)	80.00 µg/mL				
5. Anthracene	80.00 µg/mL				
6. Anthracene (SIM)	80.00 µg/mL				
7. Benzo(a)anthracene	80.00 µg/mL				
8. Benzo(a)anthracene (SIM)	80.00 µg/mL				
9. Benzo(a)pyrene	80.00 µg/mL				
10. Benzo(a)pyrene (SIM)	80.00 µg/mL				
11. Benzo(b)fluoranthene	80.00 µg/mL				
12. Benzo(b)fluoranthene (SIM)	80.00 µg/mL				
13. Benzo(ghi)perylene	80.00 µg/mL				
14. Benzo(ghi)perylene (SIM)	80.00 µg/mL				
15. Benzo(k)fluoranthene	80.00 µg/mL				
16. Benzo(k)fluoranthene (SIM)	80.00 µg/mL				
17. Chrysene	80.00 µg/mL				
18. Chrysene (SIM)	80.00 µg/mL				
19. Dibenzo(a,h)anthracene	80.00 µg/mL				
20. Dibenzo(a,h)anthracene (SIM)	80.00 µg/mL				
21. Fluoranthene	80.00 µg/mL				
22. Fluoranthene (SIM)	80.00 µg/mL				
23. Fluorene	80.00 µg/mL				
24. Fluorene (SIM)	80.00 µg/mL				
25. Indeno(1,2,3-cd)pyrene	80.00 µg/mL				
26. Indeno(1,2,3-cd)pyrene (SIM)	80.00 µg/mL				
27. 2-Methylnaphthalene	80.00 µg/mL				
28. 2-Methylnaphthalene (SIM)	80.00 µg/mL				
29. Naphthalene	80.00 µg/mL				
30. Naphthalene (SIM)	80.00 µg/mL				
31. Phenanthrene	80.00 µg/mL				
32. Phenanthrene (SIM)	80.00 µg/mL				
33. Pyrene	80.00 µg/mL				
34. Pyrene (SIM)	80.00 µg/mL				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	2 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	48 mL	5/11/2024

pnaspk210915-01-80

Description: pna spike Prep. Date: 9/15/2021 Exp. Date: 12/14/2021 Prepared By: kguenther

Solution Stock Sources and Intermediate Sources

pnaspk210915-01-80
- 47378
- 46916

250 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	250.0 µg/L				
2. Acenaphthene (SIM)	250.0 µg/L				
3. Acenaphthylene	250.0 µg/L				
4. Acenaphthylene (SIM)	250.0 µg/L				
5. Anthracene	250.0 µg/L				
6. Anthracene (SIM)	250.0 µg/L				
7. Benzo(a)anthracene	250.0 µg/L				
8. Benzo(a)anthracene (SIM)	250.0 µg/L				
9. Benzo(a)pyrene	250.0 µg/L				
10. Benzo(a)pyrene (SIM)	250.0 µg/L				
11. Benzo(b)fluoranthene	250.0 µg/L				
12. Benzo(b)fluoranthene (SIM)	250.0 µg/L				
13. Benzo(ghi)perylene	250.0 µg/L				
14. Benzo(ghi)perylene (SIM)	250.0 µg/L				
15. Benzo(k)fluoranthene	250.0 µg/L				
16. Benzo(k)fluoranthene (SIM)	250.0 µg/L				
17. Chrysene	250.0 µg/L				
18. Chrysene (SIM)	250.0 µg/L				
19. Dibenzo(a,h)anthracene	250.0 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	250.0 µg/L				
21. Fluoranthene	250.0 µg/L				
22. Fluoranthene (SIM)	250.0 µg/L				
23. Fluorene	250.0 µg/L				
24. Fluorene (SIM)	250.0 µg/L				
25. 2-Fluorobiphenyl(S)	500.0 µg/L				
26. 1-Fluoronaphthalene(S)	500.0 µg/L				
27. Indeno(1,2,3-cd)pyrene	250.0 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	250.0 µg/L				
29. 2-Methylnaphthalene	250.0 µg/L				
30. 2-Methylnaphthalene (SIM)	250.0 µg/L				
31. Naphthalene	250.0 µg/L				
32. Naphthalene (SIM)	250.0 µg/L				
33. Phenanthrene	250.0 µg/L				
34. Phenanthrene (SIM)	250.0 µg/L				
35. Pyrene	250.0 µg/L				
36. Pyrene (SIM)	250.0 µg/L				
37. 4-Terphenyl-d14(S)	500.0 µg/L				

Solution Stock Sources

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.001 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.49375 mL	6/15/2023

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.00025 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	0.006 mL	5/11/2024

250 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

- 250 pna 102921
  - pnaairsur 102921 (125 uL)
    - 47150
  - pnaairspk210922-01-1 (500 uL)
    - 47180
    - pnaspk210915-01-80 (25 uL)
      - 47378
      - 46916

100 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	100.0 µg/L				
2. Acenaphthene (SIM)	100.0 µg/L				
3. Acenaphthylene	100.0 µg/L				
4. Acenaphthylene (SIM)	100.0 µg/L				
5. Anthracene	100.0 µg/L				
6. Anthracene (SIM)	100.0 µg/L				
7. Benzo(a)anthracene	100.0 µg/L				
8. Benzo(a)anthracene (SIM)	100.0 µg/L				
9. Benzo(a)pyrene	100.0 µg/L				
10. Benzo(a)pyrene (SIM)	100.0 µg/L				
11. Benzo(b)fluoranthene	100.0 µg/L				
12. Benzo(b)fluoranthene (SIM)	100.0 µg/L				
13. Benzo(ghi)perylene	100.0 µg/L				
14. Benzo(ghi)perylene (SIM)	100.0 µg/L				
15. Benzo(k)fluoranthene	100.0 µg/L				
16. Benzo(k)fluoranthene (SIM)	100.0 µg/L				
17. Chrysene	100.0 µg/L				
18. Chrysene (SIM)	100.0 µg/L				
19. Dibenzo(a,h)anthracene	100.0 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	100.0 µg/L				
21. Fluoranthene	100.0 µg/L				
22. Fluoranthene (SIM)	100.0 µg/L				
23. Fluorene	100.0 µg/L				
24. Fluorane (SIM)	100.0 µg/L				
25. 2-Fluorobiphenyl(S)	100.0 µg/L				
26. 1-Fluoronaphthalene(S)	100.0 µg/L				
27. Indeno(1,2,3-cd)pyrene	100.0 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	100.0 µg/L				
29. 2-Methylnaphthalene	100.0 µg/L				
30. 2-Methylnaphthalene (SIM)	100.0 µg/L				
31. Naphthalene	100.0 µg/L				
32. Naphthalene (SIM)	100.0 µg/L				
33. Phenanthrene	100.0 µg/L				
34. Phenanthrene (SIM)	100.0 µg/L				
35. Pyrene	100.0 µg/L				
36. Pyrene (SIM)	100.0 µg/L				
37. 4-Terphenyl-d14(S)	100.0 µg/L				

Solution Stock Sources

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.0002 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.1975 mL	6/15/2023

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.0001 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T Baker 9254	0000285137	0.0024 mL	5/11/2024

100 pna 102921

Description: air cal Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

100 pna 102921
- pnaairsur 102921 (25 uL)
  - 47150
- pnaairspk210922-01-1 (200 uL)
  - 47180
  - pnaspk210915-01-80 (25 uL)
    - 47378
    - 46916

25 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	25.00 µg/L				
2. Acenaphthene (SIM)	25.00 µg/L				
3. Acenaphthylene	25.00 µg/L				
4. Acenaphthylene (SIM)	25.00 µg/L				
5. Anthracene	25.00 µg/L				
6. Anthracene (SIM)	25.00 µg/L				
7. Benzo(a)anthracene	25.00 µg/L				
8. Benzo(a)anthracene (SIM)	25.00 µg/L				
9. Benzo(a)pyrene	25.00 µg/L				
10. Benzo(a)pyrene (SIM)	25.00 µg/L				
11. Benzo(b)fluoranthene	25.00 µg/L				
12. Benzo(b)fluoranthene (SIM)	25.00 µg/L				
13. Benzo(ghi)perylene	25.00 µg/L				
14. Benzo(ghi)perylene (SIM)	25.00 µg/L				
15. Benzo(k)fluoranthene	25.00 µg/L				
16. Benzo(k)fluoranthene (SIM)	25.00 µg/L				
17. Chrysene	25.00 µg/L				
18. Chrysene (SIM)	25.00 µg/L				
19. Dibenzo(a,h)anthracene	25.00 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	25.00 µg/L				
21. Fluoranthene	25.00 µg/L				
22. Fluoranthene (SIM)	25.00 µg/L				
23. Fluorene	25.00 µg/L				
24. Fluorene (SIM)	25.00 µg/L				
25. 2-Fluorobiphenyl(S)	50.00 µg/L				
26. 1-Fluoronaphthalene(S)	50.00 µg/L				
27. Indeno(1,2,3-cd)pyrene	25.00 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	25.00 µg/L				
29. 2-Methylnaphthalene	25.00 µg/L				
30. 2-Methylnaphthalene (SIM)	25.00 µg/L				
31. Naphthalene	25.00 µg/L				
32. Naphthalene (SIM)	25.00 µg/L				
33. Phenanthrene	25.00 µg/L				
34. Phenanthrene (SIM)	25.00 µg/L				
35. Pyrene	25.00 µg/L				
36. Pyrene (SIM)	25.00 µg/L				
37. 4-Terphenyl-d14(S)	50.00 µg/L				

Solution Stock Sources

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.0001 mL	5/19/2025
47180	Honeywell International Inc	299-4	Dichloromethane	EB820	0.049375 mL	6/15/2023

Dilution Order: 3

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.000025 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	0.0006 mL	5/11/2024

25 pna 102921

Description: air cal Prep. Date: 10/29/2021 Exp. Date: 1/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 25 pna 102921
  - 250 pna 102921 (200 uL)
    - pnaairsur 102921 (125 uL)
      - 47150
    - pnaairspk210922-01-1 (500 uL)
      - 47180
      - pnaspk210915-01-80 (25 uL)
        - 47378
        - 46916

10 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	10.00 µg/L				
2. Acenaphthene (SIM)	10.00 µg/L				
3. Acenaphthylene	10.00 µg/L				
4. Acenaphthylene (SIM)	10.00 µg/L				
5. Anthracene	10.00 µg/L				
6. Anthracene (SIM)	10.00 µg/L				
7. Benzo(a)anthracene	10.00 µg/L				
8. Benzo(a)anthracene (SIM)	10.00 µg/L				
9. Benzo(a)pyrene	10.00 µg/L				
10. Benzo(a)pyrene (SIM)	10.00 µg/L				
11. Benzo(b)fluoranthene	10.00 µg/L				
12. Benzo(b)fluoranthene (SIM)	10.00 µg/L				
13. Benzo(ghi)perylene	10.00 µg/L				
14. Benzo(ghi)perylene (SIM)	10.00 µg/L				
15. Benzo(k)fluoranthene	10.00 µg/L				
16. Benzo(k)fluoranthene (SIM)	10.00 µg/L				
17. Chrysene	10.00 µg/L				
18. Chrysene (SIM)	10.00 µg/L				
19. Dibenzo(a,h)anthracene	10.00 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	10.00 µg/L				
21. Fluoranthene	10.00 µg/L				
22. Fluoranthene (SIM)	10.00 µg/L				
23. Fluorene	10.00 µg/L				
24. Fluorene (SIM)	10.00 µg/L				
25. 2-Fluorobiphenyl(S)	10.00 µg/L				
26. 1-Fluoronaphthalene(S)	10.00 µg/L				
27. Indeno(1,2,3-cd)pyrene	10.00 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	10.00 µg/L				
29. 2-Methylnaphthalene	10.00 µg/L				
30. 2-Methylnaphthalene (SIM)	10.00 µg/L				
31. Naphthalene	10.00 µg/L				
32. Naphthalene (SIM)	10.00 µg/L				
33. Phenanthrene	10.00 µg/L				
34. Phenanthrene (SIM)	10.00 µg/L				
35. Pyrene	10.00 µg/L				
36. Pyrene (SIM)	10.00 µg/L				
37. 4-Terphenyl-d14(S)	10.00 µg/L				

Solution Stock Sources

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.00002 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.01975 mL	6/15/2023

Dilution Order: 3

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.00001 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T Baker 9254	0000285137	0.00024 mL	5/11/2024

10 pna 102921

Description: air cal Prep. Date: 10/29/2021 Exp. Date: 1/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 10 pna 102921
  - 100 pna 102921 (200 uL)
    - pnaairsur 102921 (25 uL)
      - 47150
    - pnaairspk210922-01-1 (200 uL)
      - 47180
      - pnaspk210915-01-80 (25 uL)
        - 47378
        - 46916

2.5 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	2.500 µg/L				
2. Acenaphthene (SIM)	2.500 µg/L				
3. Acenaphthylene	2.500 µg/L				
4. Acenaphthylene (SIM)	2.500 µg/L				
5. Anthracene	2.500 µg/L				
6. Anthracene (SIM)	2.500 µg/L				
7. Benzo(a)anthracene	2.500 µg/L				
8. Benzo(a)anthracene (SIM)	2.500 µg/L				
9. Benzo(a)pyrene	2.500 µg/L				
10. Benzo(a)pyrene (SIM)	2.500 µg/L				
11. Benzo(b)fluoranthene	2.500 µg/L				
12. Benzo(b)fluoranthene (SIM)	2.500 µg/L				
13. Benzo(ghi)perylene	2.500 µg/L				
14. Benzo(ghi)perylene (SIM)	2.500 µg/L				
15. Benzo(k)fluoranthene	2.500 µg/L				
16. Benzo(k)fluoranthene (SIM)	2.500 µg/L				
17. Chrysene	2.500 µg/L				
18. Chrysene (SIM)	2.500 µg/L				
19. Dibenzo(a,h)anthracene	2.500 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	2.500 µg/L				
21. Fluoranthene	2.500 µg/L				
22. Fluoranthene (SIM)	2.500 µg/L				
23. Fluorene	2.500 µg/L				
24. Fluorene (SIM)	2.500 µg/L				
25. 2-Fluorobiphenyl(S)	5.000 µg/L				
26. 1-Fluoronaphthalene(S)	5.000 µg/L				
27. Indeno(1,2,3-cd)pyrene	2.500 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	2.500 µg/L				
29. 2-Methylnaphthalene	2.500 µg/L				
30. 2-Methylnaphthalene (SIM)	2.500 µg/L				
31. Naphthalene	2.500 µg/L				
32. Naphthalene (SIM)	2.500 µg/L				
33. Phenanthrene	2.500 µg/L				
34. Phenanthrene (SIM)	2.500 µg/L				
35. Pyrene	2.500 µg/L				
36. Pyrene (SIM)	2.500 µg/L				
37. 4-Terphenyl-d14(S)	5.000 µg/L				

Solution Stock Sources

Dilution Order: 3

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.00001 mL	5/19/2025
47180	Honeywell International Inc	299-4	Dichloromethane	EB820	0.0349375 mL	6/15/2023

Dilution Order: 4

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.0000025 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T Baker 9254	0000285137	0.00005 mL	5/11/2024

2.5 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

- 2.5 pna 102921
  - 25 pna 102921 (200 uL)
    - 250 pna 102921 (200 uL)
      - pnaairsur 102921 (125 uL)
        - 47150
      - pnaairspk210922-01-1 (500 uL)
        - 47180
        - pnaspk210915-01-80 (25 uL)
          - 47378
          - 46916

1.25 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	1.250 µg/L				
2. Acenaphthene (SIM)	1.250 µg/L				
3. Acenaphthylene	1.250 µg/L				
4. Acenaphthylene (SIM)	1.250 µg/L				
5. Anthracene	1.250 µg/L				
6. Anthracene (SIM)	1.250 µg/L				
7. Benzo(a)anthracene	1.250 µg/L				
8. Benzo(a)anthracene (SIM)	1.250 µg/L				
9. Benzo(a)pyrene	1.250 µg/L				
10. Benzo(a)pyrene (SIM)	1.250 µg/L				
11. Benzo(b)fluoranthene	1.250 µg/L				
12. Benzo(b)fluoranthene (SIM)	1.250 µg/L				
13. Benzo(ghi)perylene	1.250 µg/L				
14. Benzo(ghi)perylene (SIM)	1.250 µg/L				
15. Benzo(k)fluoranthene	1.250 µg/L				
16. Benzo(k)fluoranthene (SIM)	1.250 µg/L				
17. Chrysene	1.250 µg/L				
18. Chrysene (SIM)	1.250 µg/L				
19. Dibenzo(a,h)anthracene	1.250 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	1.250 µg/L				
21. Fluoranthene	1.250 µg/L				
22. Fluoranthene (SIM)	1.250 µg/L				
23. Fluorene	1.250 µg/L				
24. Fluorene (SIM)	1.250 µg/L				
25. 2-Fluorobiphenyl(S)	2.500 µg/L				
26. 1-Fluoronaphthalene(S)	2.500 µg/L				
27. Indeno(1,2,3-cd)pyrene	1.250 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	1.250 µg/L				
29. 2-Methylnaphthalene	1.250 µg/L				
30. 2-Methylnaphthalene (SIM)	1.250 µg/L				
31. Naphthalene	1.250 µg/L				
32. Naphthalene (SIM)	1.250 µg/L				
33. Phenanthrene	1.250 µg/L				
34. Phenanthrene (SIM)	1.250 µg/L				
35. Pyrene	1.250 µg/L				
36. Pyrene (SIM)	1.250 µg/L				
37. 4-Terphenyl-d14(S)	2.500 µg/L				

Solution Stock Sources

Dilution Order: 3

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.000005 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.00245875 mL	6/15/2023

Dilution Order: 4

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.00000125 mL	5/17/2024
47378	Avantor Performance Materials, I	9254-03	Acetone - J.T Baker 9254	0000285137	0.00003 mL	5/11/2024

1.25 pna 102921

Description: air cal Prep. Date: 10/29/2021 Exp. Date: 1/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 1.25 pna 102921
  - 25 pna 102921 (100 uL)
    - 250 pna 102921 (200 uL)
      - pnaairsur 102921 (125 uL)
        - 47150
      - pnaairspk210922-01-1 (500 uL)
        - 47180
        - pnaspk210915-01-80 (25 uL)
          - 47378
          - 46916

1 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	1.000 µg/L				
2. Acenaphthene (SIM)	1.000 µg/L				
3. Acenaphthylene	1.000 µg/L				
4. Acenaphthylene (SIM)	1.000 µg/L				
5. Anthracene	1.000 µg/L				
6. Anthracene (SIM)	1.000 µg/L				
7. Benzo(a)anthracene	1.000 µg/L				
8. Benzo(a)anthracene (SIM)	1.000 µg/L				
9. Benzo(a)pyrene	1.000 µg/L				
10. Benzo(a)pyrene (SIM)	1.000 µg/L				
11. Benzo(b)fluoranthene	1.000 µg/L				
12. Benzo(b)fluoranthene (SIM)	1.000 µg/L				
13. Benzo(ghi)perylene	1.000 µg/L				
14. Benzo(ghi)perylene (SIM)	1.000 µg/L				
15. Benzo(k)fluoranthene	1.000 µg/L				
16. Benzo(k)fluoranthene (SIM)	1.000 µg/L				
17. Chrysene	1.000 µg/L				
18. Chrysene (SIM)	1.000 µg/L				
19. Dibenzo(a,h)anthracene	1.000 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	1.000 µg/L				
21. Fluoranthene	1.000 µg/L				
22. Fluoranthene (SIM)	1.000 µg/L				
23. Fluorene	1.000 µg/L				
24. Fluorene (SIM)	1.000 µg/L				
25. 2-Fluorobiphenyl(S)	1.000 µg/L				
26. 1-Fluoronaphthalene(S)	1.000 µg/L				
27. Indeno(1,2,3-cd)pyrene	1.000 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	1.000 µg/L				
29. 2-Methylnaphthalene	1.000 µg/L				
30. 2-Methylnaphthalene (SIM)	1.000 µg/L				
31. Naphthalene	1.000 µg/L				
32. Naphthalene (SIM)	1.000 µg/L				
33. Phenanthrene	1.000 µg/L				
34. Phenanthrene (SIM)	1.000 µg/L				
35. Pyrene	1.000 µg/L				
36. Pyrene (SIM)	1.000 µg/L				
37. 4-Terphenyl-d14(S)	1.000 µg/L				

Solution Stock Sources

Dilution Order: 3

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.000002 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.001975 mL	6/15/2023

Dilution Order: 4

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.000001 mL	5/17/2024
47378	Avantor Performance Materials, I	9254-03	Acetone - J.T.Baker 9254	0000285137	0.000024 mL	5/11/2024

1 pna 102921

Description: air cal Prep. Date: 10/29/2021 Exp. Date: 1/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 1 pna 102921
  - 10 pna 102921 (200 uL)
    - 100 pna 102921 (200 uL)
      - pnaairsur 102921 (25 uL)
        - 47150
      - pnaairspk210922-01-1 (200 uL)
        - 47180
        - pnaspk210915-01-80 (25 uL)
          - 47378
          - 46916

0.25 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	0.2500 µg/L				
2. Acenaphthene (SIM)	0.2500 µg/L				
3. Acenaphthylene	0.2500 µg/L				
4. Acenaphthylene (SIM)	0.2500 µg/L				
5. Anthracene	0.2500 µg/L				
6. Anthracene (SIM)	0.2500 µg/L				
7. Benzo(a)anthracene	0.2500 µg/L				
8. Benzo(a)anthracene (SIM)	0.2500 µg/L				
9. Benzo(a)pyrene	0.2500 µg/L				
10. Benzo(a)pyrene (SIM)	0.2500 µg/L				
11. Benzo(b)fluoranthene	0.2500 µg/L				
12. Benzo(b)fluoranthene (SIM)	0.2500 µg/L				
13. Benzo(ghi)perylene	0.2500 µg/L				
14. Benzo(ghi)perylene (SIM)	0.2500 µg/L				
15. Benzo(k)fluoranthene	0.2500 µg/L				
16. Benzo(k)fluoranthene (SIM)	0.2500 µg/L				
17. Chrysene	0.2500 µg/L				
18. Chrysene (SIM)	0.2500 µg/L				
19. Dibenzo(a,h)anthracene	0.2500 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	0.2500 µg/L				
21. Fluoranthene	0.2500 µg/L				
22. Fluoranthene (SIM)	0.2500 µg/L				
23. Fluorene	0.2500 µg/L				
24. Fluorene (SIM)	0.2500 µg/L				
25. 2-Fluorobiphenyl(S)	0.5000 µg/L				
26. 1-Fluoronaphthalene(S)	0.5000 µg/L				
27. Indeno(1,2,3-cd)pyrene	0.2500 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	0.2500 µg/L				
29. 2-Methylnaphthalene	0.2500 µg/L				
30. 2-Methylnaphthalene (SIM)	0.2500 µg/L				
31. Naphthalene	0.2500 µg/L				
32. Naphthalene (SIM)	0.2500 µg/L				
33. Phenanthrene	0.2500 µg/L				
34. Phenanthrene (SIM)	0.2500 µg/L				
35. Pyrene	0.2500 µg/L				
36. Pyrene (SIM)	0.2500 µg/L				
37. 4-Terphenyl-d14(S)	0.5000 µg/L				

Solution Stock Sources

Dilution Order: 4

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.000001 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	0.00049375 mL	6/15/2023

Dilution Order: 5

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	0.00000025 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	0.000025 mL	5/11/2024

0.25 pna 102921

Description: air cal Prep. Date: 10/29/2021 Exp. Date: 1/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 0.25 pna 102921
  - 2.5 pna 102921 (200 uL)
    - 25 pna 102921 (200 uL)
      - 250 pna 102921 (200 uL)
        - pnaairsur 102921 (125 uL)
          - 47150
        - pnaairspk210922-01-1 (500 uL)
          - 47180
          - pnaspk210915-01-80 (25 uL)
            - 47378
            - 46916

0.125 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	0.1250 µg/L				
2. Acenaphthene (SIM)	0.1250 µg/L				
3. Acenaphthylene	0.1250 µg/L				
4. Acenaphthylene (SIM)	0.1250 µg/L				
5. Anthracene	0.1250 µg/L				
6. Anthracene (SIM)	0.1250 µg/L				
7. Benzo(a)anthracene	0.1250 µg/L				
8. Benzo(a)anthracene (SIM)	0.1250 µg/L				
9. Benzo(a)pyrene	0.1250 µg/L				
10. Benzo(a)pyrene (SIM)	0.1250 µg/L				
11. Benzo(b)fluoranthene	0.1250 µg/L				
12. Benzo(b)fluoranthene (SIM)	0.1250 µg/L				
13. Benzo(ghi)perylene	0.1250 µg/L				
14. Benzo(ghi)perylene (SIM)	0.1250 µg/L				
15. Benzo(k)fluoranthene	0.1250 µg/L				
16. Benzo(k)fluoranthene (SIM)	0.1250 µg/L				
17. Chrysene	0.1250 µg/L				
18. Chrysene (SIM)	0.1250 µg/L				
19. Dibenzo(a,h)anthracene	0.1250 µg/L				
20. Dibenzo(a,h)anthracene (SIM)	0.1250 µg/L				
21. Fluoranthene	0.1250 µg/L				
22. Fluoranthene (SIM)	0.1250 µg/L				
23. Fluorene	0.1250 µg/L				
24. Fluorene (SIM)	0.1250 µg/L				
25. 2-Fluorobiphenyl(S)	0.2500 µg/L				
26. 1-Fluoronaphthalene(S)	0.2500 µg/L				
27. Indeno(1,2,3-cd)pyrene	0.1250 µg/L				
28. Indeno(1,2,3-cd)pyrene (SIM)	0.1250 µg/L				
29. 2-Methylnaphthalene	0.1250 µg/L				
30. 2-Methylnaphthalene (SIM)	0.1250 µg/L				
31. Naphthalene	0.1250 µg/L				
32. Naphthalene (SIM)	0.1250 µg/L				
33. Phenanthrene	0.1250 µg/L				
34. Phenanthrene (SIM)	0.1250 µg/L				
35. Pyrene	0.1250 µg/L				
36. Pyrene (SIM)	0.1250 µg/L				
37. 4-Terphenyl-d14(S)	0.2500 µg/L				

Solution Stock Sources

Dilution Order: 4

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47150	Environmental Consulting and Su	ECS-X-FIBNSR	Fibertec Base/Neutral Surrogate Mix	ND210520014	0.0000005 mL	5/19/2025
47180	Honeywell International Inc.	299-4	Dichloromethane	EB820	[illegible] mL	6/15/2023

Dilution Order: 5

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46916	Environmental Consulting and Su	ECS-N-FIBPAH	Fibertec PAH Mix	ND210518007	1.25E-07 mL	5/17/2024
47378	Avantor Performance Materials, L	9254-03	Acetone - J.T.Baker 9254	0000285137	[illegible] mL	5/11/2024

0.125 pna 102921

Description: **air cal** Prep. Date: **10/29/2021** Exp. Date: **1/29/2022** Prepared By: **bannett**

Solution Stock Sources and Intermediate Sources

- 0.125 pna 102921
  - 1.25 pna 102921 (200 uL)
    - 25 pna 102921 (100 uL)
      - 250 pna 102921 (200 uL)
        - pnaairsur 102921 (125 uL)
          - 47150
        - pnaairspk210922-01-1 (500 uL)
          - 47180
          - pnaspk210915-01-80 (25 uL)
            - 47378
            - 46916

40 air icv 102921

Description: **40 air ICV** Prep. Date: **10/29/2021** Exp. Date: **11/29/2022** Prepared By: **bannett**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acenaphthene	40.00 µg/L	41. 1,3-Dinitrobenzene	40.00 µg/L	81. Pyridine	40.00 µg/L
2. Acenaphthene-d10(I)	20.00 µg/L	42. 1,4-Dinitrobenzene	40.00 µg/L	82. 4-Terphenyl-d14(S)	40.00 µg/L
3. Acenaphthylene	40.00 µg/L	43. 2,4-Dinitrophenol	40.00 µg/L	83. 2,3,4,6-Tetrachlorophenol	40.00 µg/L
4. Aniline	40.00 µg/L	44. 2,4-Dinitrotoluene	40.00 µg/L	84. 2,3,5,6-Tetrachlorophenol	40.00 µg/L
5. Anthracene	40.00 µg/L	45. 2,6-Dinitrotoluene	40.00 µg/L	85. 2,4,6-Tribromophenol(S)	80.00 µg/L
6. Azobenzene	40.00 µg/L	46. Diphenylamine	40.00 µg/L	86. 1,2,4-Trichlorobenzene	40.00 µg/L
7. Benzo(a)anthracene	40.00 µg/L	47. Fluoranthene	40.00 µg/L	87. 2,4,5-Trichlorophenol	40.00 µg/L
8. Benzo(a)pyrene	40.00 µg/L	48. Fluorene	40.00 µg/L	88. 2,4,6-Trichlorophenol	40.00 µg/L
9. Benzo(b)fluoranthene	40.00 µg/L	49. 2-Fluorobiphenyl(S)	40.00 µg/L		
10. Benzo(ghi)perylene	40.00 µg/L	50. 1-Fluoronaphthalene(S)	40.00 µg/L		
11. Benzo(k)fluoranthene	40.00 µg/L	51. 2-Fluorophenol(S)	80.00 µg/L		
12. Benzyl Alcohol	40.00 µg/L	52. Hexachlorobenzene	40.00 µg/L		
13. Bis(2-chloro-1-methylethyl) Ether	40.00 µg/L	53. Hexachlorobutadiene	40.00 µg/L		
14. Bis(2-chloroethoxy)methane	40.00 µg/L	54. Hexachlorocyclopentadiene	40.00 µg/L		
15. Bis(2-chloroethyl)ether	40.00 µg/L	55. Hexachloroethane	40.00 µg/L		
16. Bis(2-ethylhexyl)adipate	40.00 µg/L	56. Indeno(1,2,3-cd)pyrene	40.00 µg/L		
17. Bis(2-ethylhexyl)phthalate	40.00 µg/L	57. Isophorone	40.00 µg/L		
18. 4-Bromophenyl-phenylether	40.00 µg/L	58. 1-Methylnaphthalene	40.00 µg/L		
19. Butylbenzylphthalate	40.00 µg/L	59. 2-Methylnaphthalene	40.00 µg/L		
20. Carbazole	40.00 µg/L	60. 2-Methylphenol	40.00 µg/L		
21. 4-Chloro-3-methylphenol	40.00 µg/L	61. 3-Methylphenol	40.00 µg/L		
22. 4-Chloroaniline	40.00 µg/L	62. 4-Methylphenol	40.00 µg/L		
23. 2-Chloronaphthalene	40.00 µg/L	63. Naphthalene	40.00 µg/L		
24. 2-Chlorophenol	40.00 µg/L	64. Naphthalene-d8(I)	20.00 µg/L		
25. 4-Chlorophenyl Phenylether	40.00 µg/L	65. 2-Nitroaniline	40.00 µg/L		
26. Chrysene	40.00 µg/L	66. 3-Nitroaniline	40.00 µg/L		
27. Chrysene-d12(I)	20.00 µg/L	67. 4-Nitroaniline	40.00 µg/L		
28. Dibenz(a,h)anthracene	40.00 µg/L	68. Nitrobenzene	40.00 µg/L		
29. Dibenzofuran	40.00 µg/L	69. 2-Nitrophenol	40.00 µg/L		
30. 1,2-Dichlorobenzene	40.00 µg/L	70. 4-Nitrophenol	40.00 µg/L		
31. 1,3-Dichlorobenzene	40.00 µg/L	71. N-Nitrosodimethylamine	40.00 µg/L		
32. 1,4-Dichlorobenzene	40.00 µg/L	72. N-Nitrosodi-n-propylamine	40.00 µg/L		
33. 1,4-Dichlorobenzene-d4(I)	20.00 µg/L	73. Di-n-octylphthalate	40.00 µg/L		
34. 2,4-Dichlorophenol	40.00 µg/L	74. Pentachlorophenol	40.00 µg/L		
35. Diethylphthalate	40.00 µg/L	75. Perylene-d12(I)	20.00 µg/L		
36. 2,4-Dimethylphenol	40.00 µg/L	76. Phenanthrene	40.00 µg/L		
37. Dimethylphthalate	40.00 µg/L	77. Phenanthrene-d10(I)	20.00 µg/L		
38. Di-n-butylphthalate	40.00 µg/L	78. Phenol	40.00 µg/L		
39. 4,6-Dinitro-2-methylphenol	40.00 µg/L	79. Phenol-d6(S)	80.00 µg/L		
40. 1,2-Dinitrobenzene	40.00 µg/L	80. Pyrene	40.00 µg/L		

Solution Stock Sources

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
45242	Restek Corporation	31850	8270 Megamix	A0161372	0.00008 mL	12/31/2021
46811	Environmental Consulting and Su	ECS-X-FISVSR	Fibertec Semivolatile Surrogate Mix..	AA200110017	0.00008 mL	1/8/2022
47708	Environmental Consulting and Su	ECS-N-201	Semivolatile Internal Standard Mix .	ND210413001	0.00002 mL	4/12/2024

40 air icv 102921

Description: 40 air ICV Prep. Date: 10/29/2021 Exp. Date: 11/29/2022 Prepared By: bannett

Solution Stock Sources and Intermediate Sources

- 40 air icv 102921
  - 4 sim icv 102921 (20 uL)
    - 40 bna icv 102921 (200 uL)
      - 47708
      - 46811
      - 45242

TO-15 STANDARD PREPARATION

VT-CCV-211024

Description: **TO-15 Working CCV** Prep. Date: **10/24/2021** Exp. Date: **11/23/2021** Prepared By: **dholmes**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	16.08 ppbv	41. 1,4-Dioxane	25.93 ppbv	81. Vinyl Chloride	25.03 ppbv
2. Acrolein	29.00 ppbv	42. ETBE	24.65 ppbv	82. m&p-Xylene	50.70 ppbv
3. Acrylonitrile	27.50 ppbv	43. Ethanol	26.15 ppbv	83. o-Xylene	25.48 ppbv
4. Benzene	25.73 ppbv	44. Ethyl Acetate	25.43 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Ethylbenzene	24.98 ppbv		
6. Bromobenzene	25.75 ppbv	46. Ethylene Dibromide	26.05 ppbv		
7. Bromodichloromethane	25.18 ppbv	47. 4-Ethyltoluene	24.75 ppbv		
8. Bromoform	25.95 ppbv	48. n-Heptane	23.10 ppbv		
9. Bromomethane	26.40 ppbv	49. Hexachlorobutadiene	21.25 ppbv		
10. 1,3-Butadiene	22.10 ppbv	50. Hexachloroethane	25.18 ppbv		
11. t-Butanol	25.93 ppbv	51. n-Hexane	22.05 ppbv		
12. 2-Butanone	20.98 ppbv	52. 2-Hexanone	20.70 ppbv		
13. n-Butylbenzene	24.08 ppbv	53. Isopropanol	25.73 ppbv		
14. sec-Butylbenzene	28.00 ppbv	54. Isopropylbenzene	28.00 ppbv		
15. tert-Butylbenzene	28.50 ppbv	55. 4-Methyl-2-pentanone	22.03 ppbv		
16. Carbon Disulfide	24.90 ppbv	56. Methylcyclopentane	26.28 ppbv		
17. Carbon Tetrachloride	25.98 ppbv	57. Methylene Chloride	25.20 ppbv		
18. Chlorobenzene	25.65 ppbv	58. 2-Methylnaphthalene	29.25 ppbv		
19. Chloroethane	26.53 ppbv	59. MTBE	25.80 ppbv		
20. Chloroform	26.18 ppbv	60. Naphthalene	25.30 ppbv		
21. Chloromethane	26.00 ppbv	61. n-Pentane	29.00 ppbv		
22. Cyclohexane	25.45 ppbv	62. n-Propylbenzene	29.25 ppbv		
23. 1,2-Dibromo-3-chloropropane	38.75 ppbv	63. Styrene	25.60 ppbv		
24. Dibromochloromethane	23.20 ppbv	64. 1,1,1,2-Tetrachloroethane	25.38 ppbv		
25. Dibromomethane	24.88 ppbv	65. 1,1,2,2-Tetrachloroethane	25.83 ppbv		
26. 1,2-Dichlorobenzene	25.30 ppbv	66. Tetrachloroethene	25.50 ppbv		
27. 1,3-Dichlorobenzene	30.25 ppbv	67. Tetrahydrofuran	33.50 ppbv		
28. 1,4-Dichlorobenzene	28.75 ppbv	68. Toluene	25.43 ppbv		
29. Dichlorodifluoromethane	26.00 ppbv	69. 1,2,3-Trichlorobenzene	29.00 ppbv		
30. 1,1-Dichloroethane	25.33 ppbv	70. 1,2,4-Trichlorobenzene	25.30 ppbv		
31. 1,2-Dichloroethane	25.15 ppbv	71. 1,1,1-Trichloroethane	25.55 ppbv		
32. 1,1-Dichloroethene	25.55 ppbv	72. 1,1,2-Trichloroethane	26.43 ppbv		
33. cis-1,2-Dichloroethene	25.25 ppbv	73. Trichloroethene	25.45 ppbv		
34. trans-1,2-Dichloroethene	25.58 ppbv	74. Trichlorofluoromethane	25.43 ppbv		
35. 1,2-Dichloropropane	26.00 ppbv	75. 1,1,2-Trichlorotrifluoroethane	24.68 ppbv		
36. cis-1,3-Dichloropropene	25.70 ppbv	76. 1,2,3-Trimethylbenzene	29.50 ppbv		
37. trans-1,3-Dichloropropene	25.13 ppbv	77. 1,2,4-Trimethylbenzene	25.03 ppbv		
38. Dichlorotetrafluoroethane	25.45 ppbv	78. 1,3,5-Trimethylbenzene	25.63 ppbv		
39. Diethyl Ether	26.13 ppbv	79. 2,2,4-Trimethylpentane	26.08 ppbv		
40. Diisopropyl Ether	28.50 ppbv	80. Vinyl Acetate	31.25 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47543	Apel-Riemer Environmental, Inc	CC518780-20167.1-210816	Gas-phase Calibration Standard (rec...	210723/210816	3.75 L	7/23/2022

VT-CCV-211024

Description: **TO-15 Working CCV** Prep. Date: **10/24/2021** Exp. Date: **11/23/2021** Prepared By: **dholmes**

Solution Stock Sources and Intermediate Sources

VT-CCV-211024
- 47543

VT-CCV-211022

Description: **TO-15 Working CCV** Prep. Date: **10/22/2021** Exp. Date: **11/21/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	16.08 ppbv	41. 1,4-Dioxane	25.93 ppbv	81. Vinyl Chloride	25.03 ppbv
2. Acrolein	29.00 ppbv	42. ETBE	24.65 ppbv	82. m&p-Xylene	50.70 ppbv
3. Acrylonitrile	27.50 ppbv	43. Ethanol	26.15 ppbv	83. o-Xylene	25.48 ppbv
4. Benzene	25.73 ppbv	44. Ethyl Acetate	25.43 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Ethylbenzene	24.98 ppbv		
6. Bromobenzene	25.75 ppbv	46. Ethylene Dibromide	26.05 ppbv		
7. Bromodichloromethane	25.18 ppbv	47. 4-Ethyltoluene	24.75 ppbv		
8. Bromoform	25.95 ppbv	48. n-Heptane	23.10 ppbv		
9. Bromomethane	26.40 ppbv	49. Hexachlorobutadiene	21.25 ppbv		
10. 1,3-Butadiene	22.10 ppbv	50. Hexachloroethane	25.18 ppbv		
11. t-Butanol	25.93 ppbv	51. n-Hexane	22.05 ppbv		
12. 2-Butanone	20.98 ppbv	52. 2-Hexanone	20.70 ppbv		
13. n-Butylbenzene	24.08 ppbv	53. Isopropanol	25.73 ppbv		
14. sec-Butylbenzene	26.00 ppbv	54. Isopropylbenzene	26.00 ppbv		
15. tert-Butylbenzene	26.50 ppbv	55. 4-Methyl-2-pentanone	22.03 ppbv		
16. Carbon Disulfide	24.90 ppbv	56. Methylcyclopentane	26.28 ppbv		
17. Carbon Tetrachloride	25.98 ppbv	57. Methylene Chloride	25.20 ppbv		
18. Chlorobenzene	25.65 ppbv	58. 2-Methylnaphthalene	29.25 ppbv		
19. Chloroethane	26.53 ppbv	59. MTBE	25.80 ppbv		
20. Chloroform	26.18 ppbv	60. Naphthalene	25.30 ppbv		
21. Chloromethane	26.00 ppbv	61. n-Pentane	29.00 ppbv		
22. Cyclohexane	25.45 ppbv	62. n-Propylbenzene	29.25 ppbv		
23. 1,2-Dibromo-3-chloropropane	38.75 ppbv	63. Styrene	25.60 ppbv		
24. Dibromochloromethane	23.20 ppbv	64. 1,1,1,2-Tetrachloroethane	25.38 ppbv		
25. Dibromomethane	24.88 ppbv	65. 1,1,2,2-Tetrachloroethane	25.83 ppbv		
26. 1,2-Dichlorobenzene	25.30 ppbv	66. Tetrachloroethene	25.50 ppbv		
27. 1,3-Dichlorobenzene	30.25 ppbv	67. Tetrahydrofuran	33.50 ppbv		
28. 1,4-Dichlorobenzene	26.75 ppbv	68. Toluene	25.43 ppbv		
29. Dichlorodifluoromethane	26.00 ppbv	69. 1,2,3-Trichlorobenzene	29.00 ppbv		
30. 1,1-Dichloroethane	25.33 ppbv	70. 1,2,4-Trichlorobenzene	25.30 ppbv		
31. 1,2-Dichloroethane	25.15 ppbv	71. 1,1,1-Trichloroethane	25.55 ppbv		
32. 1,1-Dichloroethene	25.55 ppbv	72. 1,1,2-Trichloroethane	26.43 ppbv		
33. cis-1,2-Dichloroethene	25.25 ppbv	73. Trichloroethene	25.45 ppbv		
34. trans-1,2-Dichloroethene	25.58 ppbv	74. Trichlorofluoromethane	25.43 ppbv		
35. 1,2-Dichloropropane	26.00 ppbv	75. 1,1,2-Trichlorotrifluoroethane	24.68 ppbv		
36. cis-1,3-Dichloropropene	25.70 ppbv	76. 1,2,3-Trimethylbenzene	29.50 ppbv		
37. trans-1,3-Dichloropropene	25.13 ppbv	77. 1,2,4-Trimethylbenzene	25.03 ppbv		
38. Dichlorotetrafluoroethane	25.45 ppbv	78. 1,3,5-Trimethylbenzene	25.63 ppbv		
39. Diethyl Ether	26.13 ppbv	79. 2,2,4-Trimethylpentane	26.08 ppbv		
40. Diisopropyl Ether	28.50 ppbv	80. Vinyl Acetate	31.25 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47543	Apel-Riemer Environmental, Inc.	CC518780-20167.1-210816	Gas-phase Calibration Standard (rec...	210723/210816	3.75 L	7/23/2022

VT-CCV-211022

Description: **TO-15 Working CCV** Prep. Date: **10/22/2021** Exp. Date: **11/21/2021** Prepared By: **cmous**

Solution Stock Sources and Intermediate Sources

VT-CCV-211022
- 47543

VT-STD-2.5-211027

Description: **TO-15 Working CCV** Prep. Date: **10/27/2021** Exp. Date: **11/21/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	1.608 ppbv	41. 1,4-Dioxane	2.593 ppbv	81. Vinyl Chloride	2.503 ppbv
2. Acrolein	2.900 ppbv	42. ETBE	2.465 ppbv	82. m&p-Xylene	5.070 ppbv
3. Acrylonitrile	2.750 ppbv	43. Ethanol	2.615 ppbv	83. o-Xylene	2.548 ppbv
4. Benzene	2.573 ppbv	44. Ethyl Acetate	2.543 ppbv		
5. Benzyl Chloride	2.925 ppbv	45. Ethylbenzene	2.498 ppbv		
6. Bromobenzene	2.575 ppbv	46. Ethylene Dibromide	2.605 ppbv		
7. Bromodichloromethane	2.518 ppbv	47. 4-Ethyltoluene	2.475 ppbv		
8. Bromoform	2.595 ppbv	48. n-Heptane	2.310 ppbv		
9. Bromomethane	2.640 ppbv	49. Hexachlorobutadiene	2.125 ppbv		
10. 1,3-Butadiene	2.210 ppbv	50. Hexachloroethane	2.518 ppbv		
11. t-Butanol	2.593 ppbv	51. n-Hexane	2.205 ppbv		
12. 2-Butanone	2.098 ppbv	52. 2-Hexanone	2.070 ppbv		
13. n-Butylbenzene	2.408 ppbv	53. Isopropanol	2.573 ppbv		
14. sec-Butylbenzene	2.800 ppbv	54. Isopropylbenzene	2.600 ppbv		
15. tert-Butylbenzene	2.850 ppbv	55. 4-Methyl-2-pentanone	2.203 ppbv		
16. Carbon Disulfide	2.490 ppbv	56. Methylcyclopentane	2.628 ppbv		
17. Carbon Tetrachloride	2.598 ppbv	57. Methylene Chloride	2.520 ppbv		
18. Chlorobenzene	2.565 ppbv	58. 2-Methylnaphthalene	2.925 ppbv		
19. Chloroethane	2.653 ppbv	59. MTBE	2.580 ppbv		
20. Chloroform	2.618 ppbv	60. Naphthalene	2.530 ppbv		
21. Chloromethane	2.600 ppbv	61. n-Pentane	2.900 ppbv		
22. Cyclohexane	2.545 ppbv	62. n-Propylbenzene	2.925 ppbv		
23. 1,2-Dibromo-3-chloropropane	3.875 ppbv	63. Styrene	2.560 ppbv		
24. Dibromochloromethane	2.320 ppbv	64. 1,1,1,2-Tetrachloroethane	2.538 ppbv		
25. Dibromomethane	2.488 ppbv	65. 1,1,2,2-Tetrachloroethane	2.583 ppbv		
26. 1,2-Dichlorobenzene	2.530 ppbv	66. Tetrachloroethene	2.550 ppbv		
27. 1,3-Dichlorobenzene	3.025 ppbv	67. Tetrahydrofuran	3.350 ppbv		
28. 1,4-Dichlorobenzene	2.875 ppbv	68. Toluene	2.543 ppbv		
29. Dichlorodifluoromethane	2.600 ppbv	69. 1,2,3-Trichlorobenzene	2.900 ppbv		
30. 1,1-Dichloroethane	2.533 ppbv	70. 1,2,4-Trichlorobenzene	2.530 ppbv		
31. 1,2-Dichloroethane	2.515 ppbv	71. 1,1,1-Trichloroethane	2.555 ppbv		
32. 1,1-Dichloroethene	2.555 ppbv	72. 1,1,2-Trichloroethane	2.643 ppbv		
33. cis-1,2-Dichloroethene	2.525 ppbv	73. Trichloroethene	2.545 ppbv		
34. trans-1,2-Dichloroethene	2.558 ppbv	74. Trichlorofluoromethane	2.543 ppbv		
35. 1,2-Dichloropropane	2.600 ppbv	75. 1,1,2-Trichlorotrifluoroethane	2.468 ppbv		
36. cis-1,3-Dichloropropene	2.570 ppbv	76. 1,2,3-Trimethylbenzene	2.950 ppbv		
37. trans-1,3-Dichloropropene	2.513 ppbv	77. 1,2,4-Trimethylbenzene	2.503 ppbv		
38. Dichlorotetrafluoroethane	2.545 ppbv	78. 1,3,5-Trimethylbenzene	2.563 ppbv		
39. Diethyl Ether	2.613 ppbv	79. 2,2,4-Trimethylpentane	2.608 ppbv		
40. Diisopropyl Ether	2.850 ppbv	80. Vinyl Acetate	3.125 ppbv		

Solution Stock Sources

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47543	Apel-Riemer Environmental, Inc.	CC518780-20167.1-210816	Gas-phase Calibration Standard (rec..	210723/210816	0.15 L	7/23/2022

VT-STD-2.5-211027

Description: **TO-15 Working CCV** Prep. Date: **10/27/2021** Exp. Date: **11/21/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-STD-2.5-211027
- VT-CCV-211022 (0.6 L)
  - 47543

VT-STD-0.25-211027

Description: **TO-15 Working CCV** Prep. Date: **10/27/2021** Exp. Date: **11/21/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	0.1608 ppbv	41. 1,4-Dioxane	0.2593 ppbv	81. Vinyl Chloride	0.2502 ppbv
2. Acrolein	0.2900 ppbv	42. ETBE	0.2465 ppbv	82. m&p-Xylene	0.5070 ppbv
3. Acrylonitrile	0.2750 ppbv	43. Ethanol	0.2615 ppbv	83. o-Xylene	0.2547 ppbv
4. Benzene	0.2573 ppbv	44. Ethyl Acetate	0.2542 ppbv		
5. Benzyl Chloride	0.2925 ppbv	45. Ethylbenzene	0.2498 ppbv		
6. Bromobenzene	0.2575 ppbv	46. Ethylene Dibromide	0.2605 ppbv		
7. Bromodichloromethane	0.2517 ppbv	47. 4-Ethyltoluene	0.2475 ppbv		
8. Bromoform	0.2595 ppbv	48. n-Heptane	0.2310 ppbv		
9. Bromomethane	0.2640 ppbv	49. Hexachlorobutadiene	0.2125 ppbv		
10. 1,3-Butadiene	0.2210 ppbv	50. Hexachloroethane	0.2517 ppbv		
11. t-Butanol	0.2593 ppbv	51. n-Hexane	0.2205 ppbv		
12. 2-Butanone	0.2098 ppbv	52. 2-Hexanone	0.2070 ppbv		
13. n-Butylbenzene	0.2408 ppbv	53. Isopropanol	0.2573 ppbv		
14. sec-Butylbenzene	0.2600 ppbv	54. Isopropylbenzene	0.2600 ppbv		
15. tert-Butylbenzene	0.2850 ppbv	55. 4-Methyl-2-pentanone	0.2203 ppbv		
16. Carbon Disulfide	0.2490 ppbv	56. Methylcyclopentane	0.2628 ppbv		
17. Carbon Tetrachloride	0.2598 ppbv	57. Methylene Chloride	0.2520 ppbv		
18. Chlorobenzene	0.2665 ppbv	58. 2-Methylnaphthalene	0.2925 ppbv		
19. Chloroethane	0.2653 ppbv	59. MTBE	0.2580 ppbv		
20. Chloroform	0.2618 ppbv	60. Naphthalene	0.2530 ppbv		
21. Chloromethane	0.2600 ppbv	61. n-Pentane	0.2900 ppbv		
22. Cyclohexane	0.2545 ppbv	62. n-Propylbenzene	0.2925 ppbv		
23. 1,2-Dibromo-3-chloropropane	0.3875 ppbv	63. Styrene	0.2560 ppbv		
24. Dibromochloromethane	0.2320 ppbv	64. 1,1,1,2-Tetrachloroethane	0.2537 ppbv		
25. Dibromomethane	0.2488 ppbv	65. 1,1,2,2-Tetrachloroethane	0.2583 ppbv		
26. 1,2-Dichlorobenzene	0.2530 ppbv	66. Tetrachloroethene	0.2550 ppbv		
27. 1,3-Dichlorobenzene	0.3025 ppbv	67. Tetrahydrofuran	0.3350 ppbv		
28. 1,4-Dichlorobenzene	0.2875 ppbv	68. Toluene	0.2542 ppbv		
29. Dichlorodifluoromethane	0.2600 ppbv	69. 1,2,3-Trichlorobenzene	0.2900 ppbv		
30. 1,1-Dichloroethane	0.2532 ppbv	70. 1,2,4-Trichlorobenzene	0.2530 ppbv		
31. 1,2-Dichloroethane	0.2515 ppbv	71. 1,1,1-Trichloroethane	0.2555 ppbv		
32. 1,1-Dichloroethene	0.2555 ppbv	72. 1,1,2-Trichloroethane	0.2643 ppbv		
33. cis-1,2-Dichloroethene	0.2525 ppbv	73. Trichloroethene	0.2545 ppbv		
34. trans-1,2-Dichloroethene	0.2558 ppbv	74. Trichlorofluoromethane	0.2542 ppbv		
35. 1,2-Dichloropropane	0.2600 ppbv	75. 1,1,2-Trichlorotrifluoroethane	0.2468 ppbv		
36. cis-1,3-Dichloropropene	0.2570 ppbv	76. 1,2,3-Trimethylbenzene	0.2950 ppbv		
37. trans-1,3-Dichloropropene	0.2512 ppbv	77. 1,2,4-Trimethylbenzene	0.2502 ppbv		
38. Dichlorotetrafluoroethane	0.2545 ppbv	78. 1,3,5-Trimethylbenzene	0.2563 ppbv		
39. Diethyl Ether	0.2613 ppbv	79. 2,2,4-Trimethylpentane	0.2608 ppbv		
40. Diisopropyl Ether	0.2850 ppbv	80. Vinyl Acetate	0.3125 ppbv		

Solution Stock Sources

Dilution Order: 2

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47543	Apel-Riemer Environmental, Inc.	CC518780-20167.1-210816	Gas-phase Calibration Standard (rec...	210723/210816	0.015 L	7/23/2022

VT-STD-0.25-211027

Description: **TO-15 Working CCV** Prep. Date: **10/27/2021** Exp. Date: **11/21/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-STD-0.25-211027
- VT-STD-2.5-211027 (0.6 L)
  - VT-CCV-211022 (0.6 L)
    - 47543

VT-CCV-211103

Description: **TO-15 Working CCV** Prep. Date: **11/3/2021** Exp. Date: **12/3/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	16.08 ppbv	41. 1,4-Dioxane	25.93 ppbv	81. Vinyl Chloride	25.03 ppbv
2. Acrolein	29.00 ppbv	42. ETBE	24.65 ppbv	82. m&p-Xylene	50.70 ppbv
3. Acrylonitrile	27.50 ppbv	43. Ethanol	26.15 ppbv	83. o-Xylene	25.48 ppbv
4. Benzene	25.73 ppbv	44. Ethyl Acetate	25.43 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Ethylbenzene	24.98 ppbv		
6. Bromobenzene	25.75 ppbv	46. Ethylene Dibromide	26.05 ppbv		
7. Bromodichloromethane	25.18 ppbv	47. 4-Ethyltoluene	24.75 ppbv		
8. Bromoform	25.95 ppbv	48. n-Heptane	23.10 ppbv		
9. Bromomethane	26.40 ppbv	49. Hexachlorobutadiene	21.25 ppbv		
10. 1,3-Butadiene	22.10 ppbv	50. Hexachloroethane	25.18 ppbv		
11. t-Butanol	25.93 ppbv	51. n-Hexane	22.05 ppbv		
12. 2-Butanone	20.98 ppbv	52. 2-Hexanone	20.70 ppbv		
13. n-Butylbenzene	24.08 ppbv	53. Isopropanol	25.73 ppbv		
14. sec-Butylbenzene	28.00 ppbv	54. Isopropylbenzene	28.00 ppbv		
15. tert-Butylbenzene	28.50 ppbv	55. 4-Methyl-2-pentanone	22.03 ppbv		
16. Carbon Disulfide	24.90 ppbv	56. Methylcyclopentane	26.28 ppbv		
17. Carbon Tetrachloride	25.98 ppbv	57. Methylene Chloride	25.20 ppbv		
18. Chlorobenzene	25.65 ppbv	58. 2-Methylnaphthalene	29.25 ppbv		
19. Chloroethane	26.53 ppbv	59. MTBE	25.80 ppbv		
20. Chloroform	26.18 ppbv	60. Naphthalene	25.30 ppbv		
21. Chloromethane	26.00 ppbv	61. n-Pentane	29.00 ppbv		
22. Cyclohexane	25.45 ppbv	62. n-Propylbenzene	29.25 ppbv		
23. 1,2-Dibromo-3-chloropropane	38.75 ppbv	63. Styrene	25.60 ppbv		
24. Dibromochloromethane	23.20 ppbv	64. 1,1,1,2-Tetrachloroethane	25.38 ppbv		
25. Dibromomethane	24.88 ppbv	65. 1,1,2,2-Tetrachloroethane	25.83 ppbv		
26. 1,2-Dichlorobenzene	25.30 ppbv	66. Tetrachloroethene	25.50 ppbv		
27. 1,3-Dichlorobenzene	30.25 ppbv	67. Tetrahydrofuran	33.50 ppbv		
28. 1,4-Dichlorobenzene	28.75 ppbv	68. Toluene	25.43 ppbv		
29. Dichlorodifluoromethane	26.00 ppbv	69. 1,2,3-Trichlorobenzene	29.00 ppbv		
30. 1,1-Dichloroethane	25.33 ppbv	70. 1,2,4-Trichlorobenzene	25.30 ppbv		
31. 1,2-Dichloroethane	25.15 ppbv	71. 1,1,1-Trichloroethane	25.55 ppbv		
32. 1,1-Dichloroethene	25.55 ppbv	72. 1,1,2-Trichloroethane	26.43 ppbv		
33. cis-1,2-Dichloroethene	25.25 ppbv	73. Trichloroethene	25.45 ppbv		
34. trans-1,2-Dichloroethene	25.58 ppbv	74. Trichlorofluoromethane	25.43 ppbv		
35. 1,2-Dichloropropane	26.00 ppbv	75. 1,1,2-Trichlorotrifluoroethane	24.68 ppbv		
36. cis-1,3-Dichloropropene	25.70 ppbv	76. 1,2,3-Trimethylbenzene	29.50 ppbv		
37. trans-1,3-Dichloropropene	25.13 ppbv	77. 1,2,4-Trimethylbenzene	25.03 ppbv		
38. Dichlorotetrafluoroethane	25.45 ppbv	78. 1,3,5-Trimethylbenzene	25.63 ppbv		
39. Diethyl Ether	26.13 ppbv	79. 2,2,4-Trimethylpentane	26.08 ppbv		
40. Diisopropyl Ether	28.50 ppbv	80. Vinyl Acetate	31.25 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47543	Apel-Riemer Environmental, Inc.	CC518760-20167.1-210816	Gas-phase Calibration Standard (rec...	210723/210816	3.75 L	7/23/2022

VT-CCV-211103

Description: **TO-15 Working CCV** Prep. Date: **11/3/2021** Exp. Date: **12/3/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-CCV-211103
- 47543

VT-LCS-211026

Description: **TO-15 Working LCS** Prep. Date: **10/26/2021** Exp. Date: **11/25/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	15.88 ppbv	41. 1,4-Dioxane	25.88 ppbv	81. Vinyl Chloride	25.03 ppbv
2. Acrolein	28.50 ppbv	42. ETBE	24.90 ppbv	82. m&p-Xylene	50.68 ppbv
3. Acrylonitrile	25.38 ppbv	43. Ethanol	26.03 ppbv	83. o-Xylene	25.43 ppbv
4. Benzene	25.83 ppbv	44. Ethyl Acetate	25.38 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Ethylbenzene	24.95 ppbv		
6. Bromobenzene	25.70 ppbv	46. Ethylene Dibromide	26.28 ppbv		
7. Bromodichloromethane	25.30 ppbv	47. 4-Ethyltoluene	24.68 ppbv		
8. Bromoform	25.90 ppbv	48. n-Heptane	25.75 ppbv		
9. Bromomethane	26.65 ppbv	49. Hexachlorobutadiene	20.95 ppbv		
10. 1,3-Butadiene	21.93 ppbv	50. Hexachloroethane	24.95 ppbv		
11. t-Butanol	25.88 ppbv	51. n-Hexane	22.00 ppbv		
12. 2-Butanone	20.85 ppbv	52. 2-Hexanone	21.00 ppbv		
13. n-Butylbenzene	26.50 ppbv	53. Isopropanol	26.03 ppbv		
14. sec-Butylbenzene	28.25 ppbv	54. Isopropylbenzene	28.00 ppbv		
15. tert-Butylbenzene	28.75 ppbv	55. 4-Methyl-2-pentanone	22.35 ppbv		
16. Carbon Disulfide	24.90 ppbv	56. Methylcyclopentane	26.23 ppbv		
17. Carbon Tetrachloride	25.98 ppbv	57. Methylene Chloride	25.20 ppbv		
18. Chlorobenzene	25.88 ppbv	58. 2-Methylnaphthalene	25.35 ppbv		
19. Chloroethane	26.68 ppbv	59. MTBE	25.93 ppbv		
20. Chloroform	26.23 ppbv	60. Naphthalene	24.90 ppbv		
21. Chloromethane	26.08 ppbv	61. n-Pentane	25.83 ppbv		
22. Cyclohexane	25.50 ppbv	62. n-Propylbenzene	29.50 ppbv		
23. 1,2-Dibromo-3-chloropropane	36.25 ppbv	63. Styrene	25.55 ppbv		
24. Dibromochloromethane	23.33 ppbv	64. 1,1,1,2-Tetrachloroethane	25.33 ppbv		
25. Dibromomethane	25.13 ppbv	65. 1,1,2,2-Tetrachloroethane	25.73 ppbv		
26. 1,2-Dichlorobenzene	27.75 ppbv	66. Tetrachloroethene	25.58 ppbv		
27. 1,3-Dichlorobenzene	30.50 ppbv	67. Tetrahydrofuran	33.25 ppbv		
28. 1,4-Dichlorobenzene	28.75 ppbv	68. Toluene	25.55 ppbv		
29. Dichlorodifluoromethane	26.18 ppbv	69. 1,2,3-Trichlorobenzene	24.80 ppbv		
30. 1,1-Dichloroethane	25.43 ppbv	70. 1,2,4-Trichlorobenzene	25.08 ppbv		
31. 1,2-Dichloroethane	25.10 ppbv	71. 1,1,1-Trichloroethane	25.63 ppbv		
32. 1,1-Dichloroethene	25.75 ppbv	72. 1,1,2-Trichloroethane	26.65 ppbv		
33. cis-1,2-Dichloroethene	25.43 ppbv	73. Trichloroethene	25.45 ppbv		
34. trans-1,2-Dichloroethene	22.98 ppbv	74. Trichlorofluoromethane	25.38 ppbv		
35. 1,2-Dichloropropane	26.10 ppbv	75. 1,1,2-Trichlorotrifluoroethane	24.85 ppbv		
36. cis-1,3-Dichloropropene	25.90 ppbv	76. 1,2,3-Trimethylbenzene	28.75 ppbv		
37. trans-1,3-Dichloropropene	25.43 ppbv	77. 1,2,4-Trimethylbenzene	24.93 ppbv		
38. Dichlorotetrafluoroethane	25.48 ppbv	78. 1,3,5-Trimethylbenzene	25.53 ppbv		
39. Diethyl Ether	28.75 ppbv	79. 2,2,4-Trimethylpentane	26.28 ppbv		
40. Diisopropyl Ether	28.50 ppbv	80. Vinyl Acetate	31.50 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47544	Apel-Riemer Environmental, Inc.	CC518782-20167.2-210816	Gas-phase Calibration Standard (rec...	210723/210816	1.5 L	7/23/2022

VT-LCS-211026

Description: **TO-15 Working LCS** Prep. Date: **10/26/2021** Exp. Date: **11/25/2021** Prepared By: **cmoua**

Solution Stock Sources and Intermediate Sources

VT-LCS-211026
- 47544

VT-LCS-211108

Description: **TO-15 Working LCS** Prep. Date: **11/8/2021** Exp. Date: **12/8/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	15.88 ppbv	41. 1,4-Dioxane	25.85 ppbv	81. Vinyl Chloride	25.03 ppbv
2. Acrolein	28.50 ppbv	42. ETBE	24.90 ppbv	82. m&p-Xylene	50.68 ppbv
3. Acrylonitrile	25.38 ppbv	43. Ethanol	26.03 ppbv	83. o-Xylene	25.43 ppbv
4. Benzene	25.83 ppbv	44. Ethyl Acetate	25.38 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Ethylbenzene	24.95 ppbv		
6. Bromobenzene	25.70 ppbv	46. Ethylene Dibromide	26.28 ppbv		
7. Bromodichloromethane	25.30 ppbv	47. 4-Ethyltoluene	24.68 ppbv		
8. Bromoform	25.90 ppbv	48. n-Heptane	25.75 ppbv		
9. Bromomethane	26.65 ppbv	49. Hexachlorobutadiene	20.95 ppbv		
10. 1,3-Butadiene	21.93 ppbv	50. Hexachloroethane	24.95 ppbv		
11. t-Butanol	25.88 ppbv	51. n-Hexane	22.00 ppbv		
12. 2-Butanone	20.85 ppbv	52. 2-Hexanone	21.00 ppbv		
13. n-Butylbenzene	26.50 ppbv	53. Isopropanol	26.03 ppbv		
14. sec-Butylbenzene	28.25 ppbv	54. Isopropylbenzene	26.00 ppbv		
15. tert-Butylbenzene	28.75 ppbv	55. 4-Methyl-2-pentanone	22.35 ppbv		
16. Carbon Disulfide	24.90 ppbv	56. Methylcyclopentane	26.23 ppbv		
17. Carbon Tetrachloride	25.98 ppbv	57. Methylene Chloride	25.20 ppbv		
18. Chlorobenzene	25.88 ppbv	58. 2-Methylnaphthalene	25.35 ppbv		
19. Chloroethane	26.68 ppbv	59. MTBE	25.93 ppbv		
20. Chloroform	26.23 ppbv	60. Naphthalene	24.90 ppbv		
21. Chloromethane	26.08 ppbv	61. n-Pentane	25.83 ppbv		
22. Cyclohexane	25.50 ppbv	62. n-Propylbenzene	29.50 ppbv		
23. 1,2-Dibromo-3-chloropropane	36.25 ppbv	63. Styrene	25.55 ppbv		
24. Dibromochloromethane	23.33 ppbv	64. 1,1,1,2-Tetrachloroethane	25.33 ppbv		
25. Dibromomethane	25.13 ppbv	65. 1,1,2,2-Tetrachloroethane	25.73 ppbv		
26. 1,2-Dichlorobenzene	27.75 ppbv	66. Tetrachloroethene	25.58 ppbv		
27. 1,3-Dichlorobenzene	30.50 ppbv	67. Tetrahydrofuran	33.25 ppbv		
28. 1,4-Dichlorobenzene	28.75 ppbv	68. Toluene	25.55 ppbv		
29. Dichlorodifluoromethane	26.18 ppbv	69. 1,2,3-Trichlorobenzene	24.60 ppbv		
30. 1,1-Dichloroethane	25.43 ppbv	70. 1,2,4-Trichlorobenzene	25.08 ppbv		
31. 1,2-Dichloroethane	25.10 ppbv	71. 1,1,1-Trichloroethane	25.63 ppbv		
32. 1,1-Dichloroethene	25.75 ppbv	72. 1,1,2-Trichloroethane	26.65 ppbv		
33. cis-1,2-Dichloroethene	25.43 ppbv	73. Trichloroethene	25.45 ppbv		
34. trans-1,2-Dichloroethene	22.98 ppbv	74. Trichlorofluoromethane	25.38 ppbv		
35. 1,2-Dichloropropane	26.10 ppbv	75. 1,1,2-Trichlorotrifluoroethane	24.85 ppbv		
36. cis-1,3-Dichloropropene	25.90 ppbv	76. 1,2,3-Trimethylbenzene	28.75 ppbv		
37. trans-1,3-Dichloropropene	25.43 ppbv	77. 1,2,4-Trimethylbenzene	24.93 ppbv		
38. Dichlorotetrafluoroethane	25.48 ppbv	78. 1,3,5-Trimethylbenzene	25.53 ppbv		
39. Diethyl Ether	28.75 ppbv	79. 2,2,4-Trimethylpentane	26.28 ppbv		
40. Diisopropyl Ether	28.50 ppbv	80. Vinyl Acetate	31.50 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47544	Apel-Riemer Environmental, Inc.	CC518782-20167.2-210816	Gas-phase Calibration Standard (rec. .	210723/210816	1.5 L	7/23/2022

VT-LCS-211108

Description:	TO-15 Working LCS	Prep. Date: 11/8/2021	Exp. Date: 12/8/2021	Prepared By: cmoua

Solution Stock Sources and Intermediate Sources

VT-LCS-211108
- 47544

VT-ISSS-211025

Description: **TO-15 Working IS/SS** Prep. Date: **10/25/2021** Exp. Date: **11/24/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1 Bromochloromethane(I)	25.53 ppbv				
2 4-Bromofluorobenzene(S)	25.55 ppbv				
3. Chlorobenzene-d5(I)	25.56 ppbv				
4. 1,4-Difluorobenzene(I)	25.50 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID	Manufacturer	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46646	Airgas Specialty Gases	X05NI99CA98C001-210427	RESTEK P/N 26354 Internal Tuning St...	160-402087993-1	0.1475 L	4/27/2023

VT-ISSS-211025

Description: **TO-15 Working IS/SS** Prep. Date: **10/25/2021** Exp. Date: **11/24/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-ISSS-211025

└ 46646

VT-ISSS-211108

Description: **TO-15 Working IS/SS** Prep. Date: **11/8/2021** Exp. Date: **12/8/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Bromochloromethane(I)	25.93 ppbv				
2. 4-Bromofluorobenzene(S)	26.58 ppbv				
3 Chlorobenzene-d5(I)	26.56 ppbv				
4. 1,4-Difluorobenzene(I)	26.80 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46646	Airgas Specialty Gases	X05NI99CA98C001-210427	RESTEK P/N 26354 Internal Tuning St..	160-402087993-1	0.1475 L	4/27/2023

VT-ISSS-211108

Description: **TO-15 Working IS/SS** Prep. Date: **11/8/2021** Exp. Date: **12/8/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-ISSS-211108

└.....46646

PAH AIR CERTIFICATES OF ANALYSIS

46915 - 46918 ECS 46915/46916

ACCREDITED Reference Materials Producer Cert #2495.01

Certificate of Analysis

ILAC-MRA ACCREDITED Chemical Testing Cert #2495.02

Catalog Number: ECS-N-FIBPAH **Lot No.** ND210518007

Description: Fibertech PAH Mix

Matrix: MeCl2:Benzene(95:5)

Manufactured Date: 5-18-2021

Expiration Date: 5-17-2024

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
2-Methylnaphthalene	91-57-6	2000 µg/mL	98%	2005 µg/mL	± 50 µg/mL
Acenaphthene	83-32-9	2000 µg/mL	99%	2023 µg/mL	± 51 µg/mL
Anthracene	120-12-7	2000 µg/mL	99%	2012 µg/mL	± 50 µg/mL
Benz(a)anthracene	56-55-3	2000 µg/mL	98%	2014 µg/mL	± 50 µg/mL
Benzo(b)fluoranthene	205-99-2	2000 µg/mL	99.5%	2011 µg/mL	± 50 µg/mL
Benzo(g,h,i)perylene	191-24-2	2000 µg/mL	98%	2011 µg/mL	± 50 µg/mL
Benzo(k)fluoranthene	207-08-9	2000 µg/mL	98%	2014 µg/mL	± 50 µg/mL
Fluoranthene	206-44-0	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Fluorene	86-73-7	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Indeno(1,2,3-c,d)pyrene	193-39-5	2000 µg/mL	98%	2011 µg/mL	± 50 µg/mL
Naphthalene	91-20-3	2000 µg/mL	96%	2029 µg/mL	± 51 µg/mL
Phenanthrene	85-01-8	2000 µg/mL	98%	2038 µg/mL	± 51 µg/mL
Pyrene	129-00-0	2000 µg/mL	98%	2012 µg/mL	± 50 µg/mL
Acenaphthylene	208-96-8	2000 µg/mL	95%	2029 µg/mL	± 51 µg/mL
Benzo(a)pyrene	50-32-8	2000 µg/mL	95%	2026 µg/mL	± 51 µg/mL
Chrysene	218-01-9	2000 µg/mL	99%	2011 µg/mL	± 50 µg/mL
Dibenz(a,h)anthracene	53-70-3	2000 µg/mL	96%	2012 µg/mL	± 50 µg/mL

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 5-18-2021 Certifying Officer: Shannon Nave

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Report of Certification

Catalog Number: ECS-N-FIBPAH
Lot No. ND210518007
Description: Fibertech PAH Mix
Matrix: MeCl2:Benzene(95:5)
Manufactured Date: 5-18-2021
Expiration Date: 5-17-2024

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u, where $u_c = \sqrt{\sum u^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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ACCREDITED
Reference Materials Producer
Cert #2495.01

Certificate of Analysis

ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ECS-X-FIBNSR **Lot No.** ND210520014

Description: Custom Organic Standard

Matrix: Methylene Chloride

Manufactured Date: 5-20-2021

Expiration Date: 5-19-2025

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1-Fluoronaphthalene	321-38-0	1000 µg/mL	99%	1001 µg/mL	± 25 µg/mL
2-Fluorobiphenyl	321-60-8	1000 µg/mL	97%	1001 µg/mL	± 25 µg/mL
p-Terphenyl-d14	1718-51-0	1000 µg/mL	98%	1001 µg/mL	± 25 µg/mL

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190008 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 5-20-2021 Certifying Officer: Shannon Nora

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Report of Certification

Catalog Number: ECS-X-FIBNSR **Lot No.** ND210520014

Description: Custom Organic Standard

Matrix: Methylene Chloride

Manufactured Date: 5-20-2021

Expiration Date: 5-19-2025

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u, where $u_c = \sqrt{\sum u^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Reference Materials Producer
Cert #2495.01

ECS

Certificate of Analysis

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ECS-N-201 **Lot No.** ND210413001

Description: SVOA ISTD Mix

Matrix: Methylene Chloride

Manufactured Date: 4-13-2021

Expiration Date: 4-12-2024

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1,4-Dichlorobenzene-d4	3855-82-1	2000 µg/mL	99.2%	2012 µg/mL	± 50 µg/mL
Naphthalene-d8	1146-65-2	2000 µg/mL	99.2%	2002 µg/mL	± 50 µg/mL
Acenaphthene-d10	15067-26-2	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Chrysene-d12	1719-03-5	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Perylene-d12	1520-96-3	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Phenanthrene-d10	1517-22-2	2000 µg/mL	98%	2002 µg/mL	± 50 µg/mL

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 4-13-2021 Certifying Officer: Shannon Mora

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Report of Certification

Catalog Number: ECS-N-201 **Lot No.** ND210413001

Description: SVOA ISTD Mix

Matrix: Methylene Chloride

Manufactured Date: 4-13-2021

Expiration Date: 4-12-2024

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u, where $u_c = \sqrt{\sum u^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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SPEX CertiPrep

Your Science Is Our Passion.®

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Phone: 1-732-549-7144 • Fax 1-732-603-9647

47180

Honeywell

CERTIFICATE OF ANALYSIS

Honeywell Burdick & Jackson®
1953 South Harvey Street
Muskegon, MI 49442
Phone: (800) 368-0050
Fax: (231) 728-8226
lab.honeywell.com

Brand:	Research Chemicals - B&J
Product:	299
Lot No.:	EB820
Production Date:	15-Jun-2021
Best Before:	15-Jun-2023

Dichloromethane, B&J Brand™, Contains Amylene Preservative, >99.9%
for HPLC, GC, pesticide residue analysis and spectrophotometry

Parameter	Specification Min.	Max.	Result	Units
Water by Karl Fischer Titration		0.01	0.007	%
UV Cutoff		233	230	nm
Refractive Index (20°C)	1.4236	1.4246	1.4241	
Residue		1	<0.5	mg/L
GC Analysis	99.9		99.98	%
Acidity (as HCl)		1	<1	mg/L
Chloride		10	<10	mg/L
Electron Capture GC		10	<10	ng/L
Flame Ionization GC (as nonane)		5	<5	ppb
UV Absorbance @ 240 nm		0.100	0.0952	AU
UV Absorbance @ 250 nm		0.010	0.0098	AU
UV Absorbance @ 300 nm		0.005	0.0011	AU
UV Absorbance @ 400 nm		0.005	<0.0001	AU

Honeywell
Quality Control Approval

Jenna Dickinson

Muskegon 6/15/2021 LIMS Sample No.: AM01884

Acetone
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 0000285137
Manufactured Date: 2021/05/12
Expiration Date: 2024/05/11
Revision No: 1

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	>= 99.4 %	99.7
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0000 ppm	0.4000
Substances Reducing Permanganate	Passes Test	PT
Titrable Acid (µeq/g)	<= 0.3	0.1
Titrable Base (µeq/g)	<= 0.6	< 0.1
Water (H_2O)	<= 0.5 %	0.3
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	2

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087, U.S.A. Phone: 610.386.1700

Acetone
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 0000285502
Manufactured Date: 2021/02/03
Expiration Date: 2024/02/03
Revision No: 1

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	>= 99.4 %	99.7
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0000 ppm	0.1000
Substances Reducing Permanganate	Passes Test	PT
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	< 0.1
Water (H_2O)	<= 0.5 %	0.3
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor™ | J.T.Baker®

Material No.: 9264-03
Batch No.: 0000287380
Manufactured Date: 2021/06/29
Expiration Date: 2022/09/28
Revision No: 1

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	100.0
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0000 ppm	0.4000
Titrable Acid (µeq/g)	<= 0.3	< 0.1
Chloride (Cl)	<= 10 ppm	< 5
Water (by KF, coulometric)	<= 0.02 %	< 0.01

For Laboratory, Research or Manufacturing Use
Contains a methanol-alkene preservative system.

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

TO-15 CERTIFICATES OF ANALYSIS

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VK21H16A

Recertified Catalog Number: cc518780-20167.1-210816

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number: 47543

2 Certifications combined to form 47543 (47221 and 47543)

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
1,2,3-Trichlorobenzene	100.5	13.68	16.37	13.73	15.61	13.78	15.49	13.36	15.27	13.64	1.4%	Pass	15.69	3.1%	Pass	116.0
1,2,3-Trimethylbenzene	99.8	13.81	16.86	13.74	16.06	13.76	15.91	13.36	15.79	13.66	1.5%	Pass	16.15	3.0%	Pass	118
1,2-Dibromo-3-chloropropane	101.9	10.82	16.95	10.76	16.13	10.64	15.95	10.26	15.61	10.62	2.4%	Pass	16.16	3.5%	Pass	155
Bromobenzene	103	13.52	14.24	13.61	13.82	13.52	13.65	13.26	13.46	13.48	1.1%	Pass	13.79	2.4%	Pass	105
Dibromomethane	99.5	13.57	13.19	13.74	13.02	13.74	12.94	13.74	12.94	13.70	0.6%	Pass	13.02	0.9%	Pass	95
Diethyl Ether	104.5	11.91	13.12	12.29	13.32	12.33	13.41	12.12	13.29	12.16	1.6%	Pass	13.29	0.9%	Pass	114.0
Hexachloroethane	100.7	14.30	15.60	14.24	14.85	14.22	14.67	13.78	14.47	14.13	1.7%	Pass	14.90	3.3%	Pass	106
Methylcyclopentane	105.1	13.19	14.38	13.64	14.48	13.82	14.56	13.58	14.48	13.56	1.9%	Pass	14.48	0.5%	Pass	112
n-Pentane	101.9	10.84	12.39	11.39	12.72	11.41	12.94	11.21	12.81	11.21	2.4%	Pass	12.71	1.9%	Pass	116.0
Isopropanol	102.9	13.42	12.15	14.11	12.60	14.15	13.05	14.04	13.03	13.93	2.5%	Pass	12.71	3.3%	Pass	94
2-Methylnaphthalene	98.7	12.20	15.75	13.08	15.24	13.23	14.97	12.91	14.99	12.85	3.5%	Pass	15.24	2.4%	Pass	117.0

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VK21H16A

Recertified Catalog Number: cc518780-20167.1-210816

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47543

Compound	Vendor Cert. Conc.	A ppbv	B ppbv	A ppbv	B ppbv	A ppbv	B ppbv	A ppbv	B ppbv	A Avg. ppbv	A %RSD*	A RSD Passes	B Avg. ppbv	B %RSD*	B RSD Passes	Recertified ppbv

① Original cylinder #

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	47307, 47308, 47309, 47310, 47311, 47312, 47313, 47314, 47291, 47290, 43361	① 43733	26354-210427 (46646)
Working Standard Fibertec #	VT-CCV-MI-210809	VT-CCV-210805A	VT-ISSS-210811
Dilution Factor	8	8	

Data Review

- ☑ Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- ☑ Data entered in correct location for each Standard A & B.
- ☑ Standard Identification numbers correctly recorded.

Compounds Not Certified:	0
Compounds Certified:	11
Compounds in Vendor Certified Standard:	11

Reviewed By

Primary Analyst/Date: KM 8/20/21

Peer Review/Date: AB 8/20/21

Group Leader/Date: AB 8/20/21

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

new ID:
47543

43733

KM 8/20/21

Compound	Old Cert Values	New Cert Values	% Difference	Change (y/n)
1,2,3-Trichlorobenzene	100.5	116	15%	Y
1,2,3-Trimethylbenzene	99.8	118	18%	Y
1,2-Dibromo-3-chloropropane	101.9	155	52%	Y
Bromobenzene	103	105	2%	N
Dibromomethane	99.5	94.6	-5%	N
Diethyl Ether	104.5	114	9%	N
Hexachloroethane	100.7	106	5%	N
Methylcyclopentane	105.1	112	7%	N
n-Pentane	101.9	116	14%	Y
Isopropanol	102.9	93.9	-9%	N
2-Methylnaphthalene	98.7	117	19%	Y

CM 8/20/21

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

Analytical Sequence: VQ21G22B

A = Vendor Certified Standard
B = Expired Standard for Recertification

Recertified Catalog Number: cc518780-20167.1-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number: 47221

Certificate # 1 of 2

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
Acetone	99	18.84	12.19	19.01	12.46	19.16	12.35	19.43	12.65	19.11	1.3%	Pass	12.41	1.5%	Pass	64.3
Acrolein	103	11.42	12.98	11.53	13.02	11.79	13.09	11.84	13.52	11.64	1.7%	Pass	13.15	1.9%	Pass	116
Acrylonitrile	104	12.28	12.85	12.07	12.92	12.24	12.90	12.33	13.19	12.23	0.9%	Pass	12.97	1.2%	Pass	110
Benzene	103	13.34	13.14	13.49	13.27	13.50	13.31	13.61	13.41	13.49	0.8%	Pass	13.28	0.8%	Pass	101
Benzyl Chloride	93	12.57	15.84	12.83	16.42	12.92	16.21	13.24	16.57	12.89	2.1%	Pass	16.26	1.9%	Pass	117
Bromodichloromethane	101	14.55	13.45	14.77	13.60	14.83	13.64	14.92	13.80	14.77	1.1%	Pass	13.63	1.1%	Pass	93.2
Bromoform	93	13.02	14.59	13.17	15.00	13.33	14.71	13.55	15.02	13.27	1.7%	Pass	14.83	1.4%	Pass	104
Bromomethane	100	13.57	13.75	13.56	13.88	13.75	13.85	13.92	14.06	13.70	1.3%	Pass	13.89	0.9%	Pass	101
1,3-Butadiene	104	16.36	14.01	16.51	14.09	16.65	14.01	16.80	14.25	16.58	1.2%	Pass	14.09	0.8%	Pass	88.4
t-Butanol	107	13.28	13.70	13.38	13.86	13.40	13.95	13.66	14.20	13.43	1.2%	Pass	13.93	1.5%	Pass	111
2-Butanone	98	15.06	12.89	15.01	12.88	15.23	12.91	15.29	13.17	15.15	0.9%	Pass	12.96	1.1%	Pass	83.9
n-Butylbenzene	98	12.51	13.46	12.64	13.80	12.80	13.62	13.02	13.91	12.74	1.7%	Pass	13.70	1.5%	Pass	105
sec-Butylbenzene	103	12.28	13.36	12.40	13.68	12.55	13.42	12.75	13.79	12.50	1.6%	Pass	13.56	1.5%	Pass	112
tert-Butylbenzene	106	12.30	13.30	12.44	13.64	12.58	13.41	12.81	13.71	12.53	1.7%	Pass	13.52	1.4%	Pass	114
Carbon Disulfide	99	12.40	11.60	12.38	11.72	12.52	11.67	12.61	11.83	12.48	0.8%	Pass	11.70	0.8%	Pass	92.9
Carbon Tetrachloride	103	13.90	13.87	14.16	14.03	14.23	14.01	14.32	14.19	14.15	1.3%	Pass	14.02	1.0%	Pass	102
Chlorobenzene	101	12.12	13.13	12.16	13.41	12.33	13.18	12.53	13.45	12.28	1.5%	Pass	13.29	1.2%	Pass	109
Chloroethane	98	13.47	14.05	13.51	14.13	13.69	14.05	13.82	14.36	13.62	1.2%	Pass	14.15	1.0%	Pass	102
Chloroform	102	13.33	13.67	13.43	13.80	13.56	13.75	13.64	14.08	13.49	1.0%	Pass	13.82	1.3%	Pass	105
Chloromethane	98	13.62	13.41	13.61	13.36	13.70	13.39	13.85	13.65	13.69	0.8%	Pass	13.45	1.0%	Pass	96.3
Cyclohexane	103	15.34	13.85	15.47	13.95	15.55	14.01	15.65	14.17	15.50	0.9%	Pass	13.99	1.0%	Pass	93.0
Dibromochloromethane	96	14.52	14.04	14.48	14.34	14.72	14.07	15.01	14.33	14.68	1.6%	Pass	14.19	1.1%	Pass	92.8
1,2-Dichlorobenzene	95	11.62	13.72	11.84	14.10	11.97	13.84	12.18	14.15	11.90	2.0%	Pass	13.95	1.5%	Pass	111
1,3-Dichlorobenzene	102	12.03	14.40	12.25	14.79	12.39	14.53	12.55	14.76	12.31	1.8%	Pass	14.62	1.3%	Pass	121
1,4-Dichlorobenzene	97	12.53	14.92	12.87	15.42	12.95	15.19	13.17	15.42	12.88	2.0%	Pass	15.24	1.6%	Pass	115
Dichlorodifluoromethane	97	14.87	14.65	14.71	14.58	14.89	14.61	15.13	14.98	14.90	1.2%	Pass	14.70	1.2%	Pass	95.7
1,1-Dichloroethane	104	13.40	13.14	13.33	13.17	13.51	13.17	13.60	13.37	13.46	0.9%	Pass	13.22	0.8%	Pass	102
1,2-Dichloroethane	110	13.23	13.16	13.41	13.29	13.63	13.21	13.66	13.51	13.48	1.5%	Pass	13.29	1.2%	Pass	108
1,1-Dichloroethene	103	14.06	13.81	14.09	13.96	14.20	13.93	14.30	14.20	14.16	0.8%	Pass	13.98	1.2%	Pass	102
cis-1,2-Dichloroethene	101	13.68	13.58	13.77	13.71	13.98	13.65	14.03	13.90	13.86	1.2%	Pass	13.71	1.0%	Pass	99.9
trans-1,2-Dichloroethene	101	14.93	13.69	15.03	13.76	15.22	13.77	15.27	14.06	15.11	1.0%	Pass	13.82	1.2%	Pass	92.4
1,2-Dichloropropane	100	13.45	13.61	13.62	13.66	13.68	13.70	13.74	13.87	13.62	0.9%	Pass	13.71	0.8%	Pass	101
cis-1,3-Dichloropropene	109	13.82	13.96	14.14	14.19	14.17	14.28	14.23	14.37	14.09	1.3%	Pass	14.19	1.2%	Pass	110
trans-1,3-Dichloropropene	93	12.60	13.77	12.96	14.01	12.98	14.02	13.09	14.21	12.91	1.7%	Pass	14.00	1.3%	Pass	101
Dichlorotetrafluoroethane	95	12.84	13.42	12.79	13.71	12.97	13.49	13.09	13.74	12.92	1.1%	Pass	13.59	1.2%	Pass	99.9
Diisopropyl Ether	107	12.80	13.70	12.78	13.63	12.99	13.73	12.98	14.02	12.89	0.9%	Pass	13.77	1.2%	Pass	114
1,4-Dioxane	101	14.13	13.66	14.35	13.89	14.34	13.89	14.60	14.03	14.35	1.3%	Pass	13.87	1.1%	Pass	97.6
ETBE	107	14.05	13.57	14.11	13.66	14.35	13.59	14.41	13.89	14.23	1.2%	Pass	13.68	1.1%	Pass	103
Ethanol	115	14.08	13.53	14.14	13.78	14.34	13.72	14.48	13.90	14.26	1.3%	Pass	13.73	1.1%	Pass	111
Ethyl Acetate	100	14.53	13.73	14.68	13.66	14.74	13.61	15.00	13.98	14.74	1.3%	Pass	13.75	1.2%	Pass	93.3
Ethylbenzene	102	13.08	13.32	13.11	13.60	13.28	13.40	13.51	13.72	13.24	1.5%	Pass	13.51	1.4%	Pass	104
Ethylene Dibromide	99	12.27	13.51	12.32	13.90	12.45	13.61	12.69	13.85	12.43	1.5%	Pass	13.72	1.4%	Pass	109
4-Ethyltoluene	93	13.89	13.89	14.02	14.21	14.20	14.01	14.39	14.31	14.12	1.5%	Pass	14.10	1.3%	Pass	92.9
n-Heptane	100	15.20	14.12	15.36	14.06	15.41	14.19	15.43	14.41	15.36	0.7%	Pass	14.19	1.1%	Pass	92.4
Hexachlorobutadiene	96	14.45	12.87	14.70	13.30	14.72	13.11	15.29	13.30	14.84	2.4%	Pass	13.14	1.6%	Pass	85.0
n-Hexane	97	14.74	13.40	14.79	13.42	14.98	13.53	15.00	13.75	14.88	0.9%	Pass	13.52	1.2%	Pass	88.2

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VQ21G228

Recertified Catalog Number: cc518780-20167.1-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47221

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
2-Hexanone	91	15.45	13.89	15.33	14.16	15.45	14.06	15.84	14.40	15.52	1.4%	Pass	14.13	1.5%	Pass	82.8
Isopropanol	109	13.42	15.01	8.96	10.14	8.95	10.21	9.15	11.12	10.12	21.8%	Fail	11.62	19.8%	Pass	**
Isopropylbenzene	106	12.48	13.15	12.58	13.44	12.73	13.23	12.92	13.54	12.68	1.5%	Pass	13.34	1.4%	Pass	112
4-Methyl-2-pentanone	95	15.07	14.01	15.22	14.08	15.29	14.11	15.43	14.37	15.25	1.0%	Pass	14.14	1.1%	Pass	88.1
Methylene Chloride	101	12.01	11.93	11.85	11.89	11.98	11.85	12.07	12.14	11.98	0.8%	Pass	11.95	1.1%	Pass	101
MTBE	108	15.08	13.82	15.18	13.93	15.37	13.90	15.46	14.18	15.27	1.1%	Pass	13.96	1.1%	Pass	98.7
Naphthalene	97	14.75	15.16	15.11	15.85	15.30	15.68	15.60	15.95	15.19	2.3%	Pass	15.66	2.2%	Pass	100
n-Propylbenzene	104	12.67	14.02	12.46	14.35	12.62	14.19	12.90	14.46	12.66	1.5%	Pass	14.25	1.4%	Pass	117
Styrene	99	12.86	14.55	13.01	14.92	13.18	14.72	13.41	15.01	13.12	1.8%	Pass	14.80	1.4%	Pass	112
1,1,1,2-Tetrachloroethane	106	13.09	13.57	13.39	13.76	13.39	13.72	13.51	13.90	13.34	1.3%	Pass	13.74	1.0%	Pass	109
1,1,2,2-Tetrachloroethane	98	12.00	13.56	12.05	13.81	12.20	13.61	12.37	13.92	12.15	1.4%	Pass	13.72	1.2%	Pass	111
Tetrachloroethene	98	11.01	11.55	11.07	11.79	11.21	11.58	11.44	11.77	11.18	1.7%	Pass	11.67	1.1%	Pass	102
Tetrahydrofuran	91	9.51	13.92	9.50	13.98	9.63	14.03	9.72	14.41	9.59	1.1%	Pass	14.08	1.6%	Pass	134
Toluene	103	12.63	12.93	12.66	13.19	12.81	13.00	13.02	13.25	12.78	1.4%	Pass	13.09	1.1%	Pass	106
1,2,4-Trichlorobenzene	94	12.68	14.10	13.01	14.83	13.16	14.65	13.43	14.77	13.07	2.4%	Pass	14.59	2.3%	Pass	105
1,1,1-Trichloroethane	103	13.36	13.42	13.55	13.58	13.65	13.63	13.71	13.73	13.57	1.1%	Pass	13.59	1.0%	Pass	103
1,1,2-Trichloroethane	101	13.06	13.49	12.97	13.78	13.16	13.52	13.40	13.79	13.15	1.4%	Pass	13.64	1.2%	Pass	105
Trichloroethene	108	13.09	13.28	13.35	13.49	13.41	13.44	13.46	13.62	13.33	1.2%	Pass	13.46	1.1%	Pass	109
Trichlorofluoromethane	101	13.60	13.70	11.13	11.67	11.23	11.57	11.36	11.85	11.83	10.0%	Pass	12.20	8.2%	Pass	104

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	AB-114666, AB-114632, AB-116172	43733	26354-210427 (46646)
Working Standard Fibertec #	48552	VT-CCV-210708	VT-ISSS-210712
Dilution Factor	8	8	

Reviewed By

Primary Analyst/Date: KM 8/20/21

Peer Review/Date: AB 8/20/21

Group Leader/Date: AB 8/20/21

Data Review

- ☑ Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- ☑ Data entered in correct location for each Standard A & B.
- ☑ Standard Identification numbers correctly recorded.

Compounds Not Certified:	0
Compounds Certified:	65 (1)
Compounds in Vendor Certified Standard:	65

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

(1) Failure on IDA noted. Error made from conversion of file. IDA recertified on VK21H604.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VQ21G22B

Recertified Catalog Number: cc518780-20167.1-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47221

Certificate # 2 of 2

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
1,1,2-Trichlorotrifluoroethane	109	13.17	12.89	13.19	13.07	13.34	13.00	13.43	13.25	13.28	0.9%	Pass	13.05	1.2%	Pass	107
1,2,4-Trimethylbenzene	95	12.23	13.12	12.40	13.48	12.57	13.26	12.75	13.59	12.49	1.8%	Pass	13.36	1.6%	Pass	102
1,3,5-Trimethylbenzene	96	12.33	13.60	12.44	13.92	12.58	13.74	12.79	14.00	12.53	1.6%	Pass	13.81	1.3%	Pass	106
2,2,4-Trimethylpentane	102	14.51	14.17	14.68	13.92	14.74	14.16	14.80	14.37	14.68	0.9%	Pass	14.15	1.3%	Pass	98.3
Vinyl Acetate	110	12.08	13.77	12.20	14.05	12.33	13.78	12.45	14.26	12.26	1.3%	Pass	13.97	1.7%	Pass	125
Vinyl Chloride	100	13.30	13.31	13.35	13.35	13.50	13.32	13.57	13.58	13.43	0.9%	Pass	13.39	0.9%	Pass	99.7
m&p-Xylene	198	24.97	26.48	25.13	27.07	25.43	26.57	25.83	27.13	25.34	1.5%	Pass	26.81	1.2%	Pass	210
o-Xylene	98	12.48	13.41	12.59	13.67	12.69	13.48	12.86	13.79	12.66	1.3%	Pass	13.59	1.3%	Pass	105

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VQ21G22B

Recertified Catalog Number: cc518780-20167.1-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47221

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	AB-114666, AB-114632, AB-116172	43733	26354-210427 (476646)
Working Standard Fibertec #	48552	VT-CCV-210708	VT-ISSS-210712
Dilution Factor	8	8	

Data Review

- ☑ Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- ☑ Data entered in correct location for each Standard A & B.
- ☑ Standard Identification numbers correctly recorded.

Reviewed By

Primary Analyst/Date: KM 8/20/21

Peer Review/Date: AB 8/20/21

Group Leader/Date: AB 8/20/21

Compounds Not Certified:	0
Compounds Certified:	8
Compounds in Vendor Certified Standard.	8

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

New ID 47221

43733
RECERT

AB
7123121

Compound	Old Cert Values	New Cert Values	% Difference	Change (y/n)
Acetone	102.8	64.3	-37%	Y
Acrolein	100.5	116	15%	Y
Acrylonitirile	97.6	110	13%	Y
Benzene	102.9	101	-2%	N
Benzyl Chloride	101.7	117	15%	Y
Bromodichloromethane	100.7	93.2	-7%	N
Bromoform	103.8	104	0%	N
Bromomethane	105.6	101	-4%	N
1,3-Butadiene	103	88.4	-14%	Y
t-Butanol	103.7	111	7%	N
2-Butanone	101	83.9	-17%	Y
n-Butylbenzene	96.3	105	9%	N
sec-Butylbenzene	100.6	112	11%	Y
tert-Butylbenzene	101.6	114	12%	Y
Carbon Disulfide	99.6	92.9	-7%	N
Carbon Tetrachloride	103.9	102	-2%	N
Chlorobenzene	102.6	109	6%	N
Chloroethane	106.1	102	-4%	N
Chloroform	104.7	105	0%	N
Chloromethane	104	96.3	-7%	N
Cylcohexane	101.8	93	-9%	N
Dibromochloromethane	105.6	92.8	-12%	Y
1,2-Dichlorobenzene	101.2	111	10%	N
1,3-Dichlorobenzene	101.9	121	19%	Y
1,4-Dichlorobenzene	101.5	115	13%	Y
Dichlorodifluoromethane	104	95.7	-8%	N
1,1-Dichloroethane	101.3	102	1%	N
1,2-Dichloroethane	100.6	108	7%	N
1,1-Dichloroethene	102.2	102	0%	N
cis-1,2-Dichloroethene	101	99.9	-1%	N
trans-1,2-Dichloroethene	102.3	92.4	-10%	N
1,2-Dichloropropane	104	101	-3%	N
cis-1,3-Dichloropropene	102.8	110	7%	N
trans-1,3-Dichloropropene	100.5	101	0%	N
Dichlrotetrafluoroethane	101.8	99.9	-2%	N
Diisopropyl Ether	100.5	114	13%	Y
1,4-Dioxane	103.7	97.6	-6%	N
ETBE	98.6	103	4%	N
Ethanol	104.6	111	6%	N
Ethyl Acetate	101.7	93.3	-8%	N
Ethylbenzene	99.9	104	4%	N
Ethylene Dibromide	104.2	109	5%	N
4-Ethyltoluene	99	92.9	-6%	N

KM
7123121

n-Heptane	102.7	92.4	-10%	Y
Hexachlorobutadiene	101.9	85	-17%	Y
n-Hexane	101	88.2	-13%	Y
2-Hexanone	100.1	82.8	-17%	Y
Isopropanol	102.9	**	#VALUE!	#VALUE!
Isopropylbenzene	100.9	112	11%	Y
4-Methyl-2-pentanone	102.3	88.1	-14%	Y
Methylene Chloride	100.8	101	0%	N
MTBE	103.2	98.7	-4%	N
Naphthalene	101.2	100	-1%	N
n-Propylbenzene	102.3	117	14%	Y
Styrene	102.4	112	9%	N
1,1,1,2-Tetrachloroethane	101.5	109	7%	N
1,1,2,2-Tetrachloroethane	103.3	111	7%	N
Tetrachloroethene	102	102	0%	N
Tetrahydrofuran	101.2	134	32%	Y
Toluene	101.7	106	4%	N
1,2,4-Trichlorobenzene	101.2	105	4%	N
1,1,1-Trichloroethane	102.2	103	1%	N
1,1,2-Trichloroethane	105.7	105	-1%	N
Trichloroethene	101.8	109	7%	N
Trichlorofluoromethane	101.7	104	2%	N
1,1,2-Trichlorotrifluoroethane	98.7	107	8%	N
1,2,4-Trimethylbenzene	100.1	102	2%	N
1,3,5-Trimethylbenzene	102.5	106	3%	N
2,2,4-Trimethylpentane	104.3	98.3	-6%	N
Vinyl Acetate	104	125	20%	Y
Vinyl Chloride	100.1	99.7	0%	N
m&p-Xylene	202.8	210	4%	N
o-Xylene	101.9	105	3%	N

TO-15 CALIBRATION TABLE

DCSID: V-404.8 (08/17/20)

TO-15 Calibration Table

Compounds	0.025	0.0625	0.1	0.25	0.75	1.25	2.5	5	12.5 (N7)	25	37.5	50
Bromochloromethane(I)	6.46	6.46	6.46	6.46	6.46	6.46	6.46	6.46	6.46	6.46	6.46	6.46
Dichlorodifluoromethane	0.026	0.065	0.104	0.260	0.780	1.30	2.60	5.20	13.0	26.0	39.0	52.0
Chloromethane	0.026	0.065	0.104	0.260	0.780	1.30	2.60	5.20	13.0	26.0	39.0	52.0
Dichlorotetrafluoroethane	0.025	0.064	0.102	0.255	0.764	1.27	2.55	5.09	12.7	25.5	38.2	50.9
Vinyl Chloride	0.025	0.063	0.100	0.250	0.751	1.25	2.50	5.01	12.5	25.0	37.5	50.1
1,3-Butadiene	0.022	0.055	0.088	0.221	0.663	1.11	2.21	4.42	11.1	22.1	33.2	44.2
Bromomethane	0.026	0.066	0.106	0.264	0.792	1.32	2.64	5.28	13.2	26.4	39.6	52.8
Chloroethane	0.027	0.066	0.106	0.265	0.796	1.33	2.65	5.31	13.3	26.5	39.8	53.1
Ethanol	0.026	0.065	0.105	0.262	0.785	1.31	2.62	5.23	13.1	26.2	39.2	52.3
Acrolein	0.029	0.073	0.116	0.290	0.870	1.45	2.90	5.80	14.5	29.0	43.5	58.0
Trichlorofluoromethane	0.025	0.064	0.102	0.254	0.763	1.27	2.54	5.09	12.7	25.4	38.1	50.9
Isopropanol	0.026	0.064	0.103	0.257	0.772	1.29	2.57	5.15	12.9	25.7	38.6	51.5
Acetone	0.016	0.040	0.064	0.161	0.482	0.80	1.61	3.22	8.0	16.1	24.1	32.2
Acrylonitrile	0.028	0.069	0.110	0.275	0.825	1.38	2.75	5.50	13.8	27.5	41.3	55.0
n-Pentane	0.029	0.073	0.116	0.290	0.870	1.45	2.90	5.80	14.5	29.0	43.5	58.0
Diethyl Ether	0.026	0.065	0.105	0.261	0.784	1.31	2.61	5.23	13.1	26.1	39.2	52.3
1,1-Dichloroethene	0.026	0.064	0.102	0.256	0.767	1.28	2.56	5.11	12.8	25.6	38.3	51.1
t-Butanol	0.026	0.065	0.104	0.259	0.778	1.30	2.59	5.19	13.0	25.9	38.9	51.9
Methylene Chloride	0.025	0.063	0.101	0.252	0.756	1.26	2.52	5.04	12.6	25.2	37.8	50.4
1,1,2-Trichlorotrifluoroethane	0.025	0.062	0.099	0.247	0.740	1.23	2.47	4.94	12.3	24.7	37.0	49.4
Carbon Disulfide	0.025	0.062	0.100	0.249	0.747	1.25	2.49	4.98	12.5	24.9	37.4	49.8
trans-1,2-Dichloroethene	0.026	0.064	0.102	0.256	0.767	1.28	2.56	5.12	12.8	25.6	38.4	51.2
MTBE	0.026	0.065	0.103	0.258	0.774	1.29	2.58	5.16	12.9	25.8	38.7	51.6
1,1-Dichloroethane	0.025	0.063	0.101	0.253	0.760	1.27	2.53	5.07	12.7	25.3	38.0	50.7
Vinyl Acetate	0.031	0.078	0.125	0.313	0.938	1.56	3.13	6.25	15.6	31.3	46.9	62.5
n-Hexane	0.022	0.055	0.088	0.221	0.662	1.10	2.21	4.41	11.0	22.1	33.1	44.1
2-Butanone	0.021	0.052	0.084	0.210	0.629	1.05	2.10	4.20	10.5	21.0	31.5	42.0
cis-1,2-Dichloroethene	0.025	0.063	0.101	0.253	0.758	1.26	2.53	5.05	12.6	25.3	37.9	50.5
Chloroform	0.026	0.065	0.105	0.262	0.785	1.31	2.62	5.24	13.1	26.2	39.3	52.4
Ethyl Acetate	0.025	0.064	0.102	0.254	0.763	1.27	2.54	5.09	12.7	25.4	38.1	50.9
Diisopropyl Ether	0.029	0.071	0.114	0.285	0.855	1.43	2.85	5.70	14.3	28.5	42.8	57.0
Tetrahydrofuran	0.034	0.084	0.134	0.335	1.005	1.68	3.35	6.70	16.8	33.5	50.3	67.0
ETBE	0.025	0.062	0.099	0.247	0.740	1.23	2.47	4.93	12.3	24.7	37.0	49.3
1,2-Dichloroethane	0.025	0.063	0.101	0.252	0.755	1.26	2.52	5.03	12.6	25.2	37.7	50.3

DCSID: V-404.8 (08/17/20)

TO-15 Calibration Table

Compounds	0.025	0.0625	0.1	0.25	0.75	1.25	2.5	5	12.5 (N7)	25	37.5	50
Methylcyclopentane	0.026	0.066	0.105	0.263	0.788	1.31	2.63	5.26	13.1	26.3	39.4	52.6
1,4-Difluorobenzene(I)	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
1,1,1-Trichloroethane	0.026	0.064	0.102	0.256	0.767	1.28	2.56	5.11	12.8	25.6	38.3	51.1
Cyclohexane	0.025	0.064	0.102	0.255	0.764	1.27	2.55	5.09	12.7	25.5	38.2	50.9
Carbon Tetrachloride	0.026	0.065	0.104	0.260	0.779	1.30	2.60	5.20	13.0	26.0	39.0	52.0
Benzene	0.026	0.064	0.103	0.257	0.772	1.29	2.57	5.15	12.9	25.7	38.6	51.5
Dibromomethane	0.023	0.058	0.093	0.232	0.696	1.16	2.32	4.64	11.6	23.2	34.8	46.4
n-Heptane	0.023	0.058	0.092	0.231	0.693	1.16	2.31	4.62	11.6	23.1	34.7	46.2
1,2-Dichloropropane	0.026	0.065	0.104	0.260	0.780	1.30	2.60	5.20	13.0	26.0	39.0	52.0
Trichloroethene	0.025	0.064	0.102	0.255	0.764	1.27	2.55	5.09	12.7	25.5	38.2	50.9
Bromodichloromethane	0.025	0.063	0.101	0.252	0.755	1.26	2.52	5.04	12.6	25.2	37.8	50.4
1,4-Dioxane	0.026	0.065	0.104	0.259	0.778	1.30	2.59	5.19	13.0	25.9	38.9	51.9
2,2,4-Trimethylpentane	0.026	0.065	0.104	0.261	0.782	1.30	2.61	5.22	13.0	26.1	39.1	52.2
cis-1,3-Dichloropropene	0.026	0.064	0.103	0.257	0.771	1.29	2.57	5.14	12.9	25.7	38.6	51.4
4-Methyl-2-pentanone	0.022	0.055	0.088	0.220	0.661	1.10	2.20	4.41	11.0	22.0	33.0	44.1
trans-1,3-Dichloropropene	0.025	0.063	0.101	0.251	0.754	1.26	2.51	5.03	12.6	25.1	37.7	50.3
1,1,1,2-Tetrachloroethane	0.025	0.063	0.102	0.254	0.761	1.27	2.54	5.08	12.7	25.4	38.1	50.8
Chlorobenzene-d5(I)	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67
1,1,2-Trichloroethane	0.026	0.066	0.106	0.264	0.793	1.32	2.64	5.29	13.2	26.4	39.6	52.9
Toluene	0.025	0.064	0.102	0.254	0.763	1.27	2.54	5.09	12.7	25.4	38.1	50.9
2-Hexanone	0.021	0.052	0.083	0.207	0.621	1.04	2.07	4.14	10.4	20.7	31.1	41.4
Dibromochloromethane	0.023	0.058	0.093	0.232	0.696	1.16	2.32	4.64	11.6	23.2	34.8	46.4
Ethylene Dibromide	0.026	0.065	0.104	0.261	0.782	1.30	2.61	5.21	13.0	26.1	39.1	52.1
Tetrachloroethene	0.026	0.064	0.102	0.255	0.765	1.28	2.55	5.10	12.8	25.5	38.3	51.0
Chlorobenzene	0.026	0.064	0.103	0.257	0.770	1.28	2.57	5.13	12.8	25.7	38.5	51.3
Ethylbenzene	0.025	0.062	0.100	0.250	0.749	1.25	2.50	5.00	12.5	25.0	37.5	50.0
m&p-Xylene	0.051	0.127	0.203	0.507	1.52	2.54	5.07	10.1	25.4	50.7	76.1	101.4
Bromoform	0.026	0.065	0.104	0.260	0.779	1.30	2.60	5.19	13.0	26.0	38.9	51.9
Styrene	0.026	0.064	0.102	0.256	0.768	1.28	2.56	5.12	12.8	25.6	38.4	51.2
1,1,2,2-Tetrachloroethane	0.026	0.065	0.103	0.258	0.775	1.29	2.58	5.17	12.9	25.8	38.7	51.7
o-Xylene	0.025	0.064	0.102	0.255	0.764	1.27	2.55	5.10	12.7	25.5	38.2	51.0
4-Bromofluorobenzene(S)	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72	6.72
Isopropylbenzene	0.028	0.070	0.112	0.280	0.840	1.40	2.80	5.60	14.0	28.0	42.0	56.0
n-Propylbenzene	0.029	0.073	0.117	0.293	0.878	1.46	2.93	5.85	14.6	29.3	43.9	58.5

DCSID: V-404.8 (08/17/20)

TO-15 Calibration Table

Compounds	0.025	0.0625	0.1	0.25	0.75	1.25	2.5	5	12.5 (N7)	25	37.5	50
4-Ethyltoluene	0.025	0.062	0.099	0.248	0.743	1.24	2.48	4.95	12.4	24.8	37.1	49.5
1,3,5-Trimethylbenzene	0.026	0.064	0.103	0.256	0.769	1.28	2.56	5.13	12.8	25.6	38.4	51.3
tert-Butylbenzene	0.029	0.071	0.114	0.285	0.855	1.43	2.85	5.70	14.3	28.5	42.8	57.0
1,2,4-Trimethylbenzene	0.025	0.063	0.100	0.250	0.751	1.25	2.50	5.01	12.5	25.0	37.5	50.1
1,3-Dichlorobenzene	0.030	0.076	0.121	0.303	0.908	1.51	3.03	6.05	15.1	30.3	45.4	60.5
Benzyl Chloride	0.029	0.073	0.117	0.293	0.878	1.46	2.93	5.85	14.6	29.3	43.9	58.5
1,4-Dichlorobenzene	0.029	0.072	0.115	0.288	0.863	1.44	2.88	5.75	14.4	28.8	43.1	57.5
sec-Butylbenzene	0.028	0.070	0.112	0.280	0.840	1.40	2.80	5.60	14.0	28.0	42.0	56.0
1,2,3-Trimethylbenzene	0.030	0.074	0.118	0.295	0.885	1.48	2.95	5.90	14.8	29.5	44.3	59.0
1,2-Dichlorobenzene	0.025	0.063	0.101	0.253	0.759	1.27	2.53	5.06	12.7	25.3	38.0	50.6
n-Butylbenzene	0.024	0.060	0.096	0.241	0.722	1.20	2.41	4.82	12.0	24.1	36.1	48.2
Bromobenzene	0.026	0.064	0.103	0.258	0.773	1.29	2.58	5.15	12.9	25.8	38.6	51.5
Dibromochloropropane	0.039	0.097	0.155	0.388	1.163	1.94	3.88	7.75	19.4	38.8	58.1	77.5
Hexachloroethane	0.025	0.063	0.101	0.252	0.755	1.26	2.52	5.04	12.6	25.2	37.8	50.4
1,2,4-Trichlorobenzene	0.025	0.063	0.101	0.253	0.759	1.27	2.53	5.06	12.7	25.3	38.0	50.6
Naphthalene	0.025	0.063	0.101	0.253	0.759	1.27	2.53	5.06	12.7	25.3	38.0	50.6
1,2,3-Trichlorobenzene	0.029	0.073	0.116	0.290	0.870	1.45	2.90	5.80	14.5	29.0	43.5	58.0
Hexachlorobutadiene	0.021	0.053	0.085	0.213	0.638	1.06	2.13	4.25	10.6	21.3	31.9	42.5
2-Methylnaphthalene	0.029	0.073	0.117	0.293	0.878	1.46	2.93	5.85	14.6	29.3	43.9	58.5

CCV#: LC518780-20167.i-210816

ISS#: 26354-21042 7

Analyst/Date: KM 8/20/21

DCSID: V-407.4 (02/19/16)

TO-15 STANDARD RECERTIFICATION

Analytical Sequence: VK21H16A

A = Vendor Certified Standard

B = Expired Standard for Recertification

Recertified Catalog Number: cc518780-20167.2-210816

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number: 47544

47544 is composed of the cert on this Page Combined w/47282

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
1,2,3-Trichlorobenzene	99.2	13.68	14.61	13.73	14.18	13.78	14.13	13.36	14.09	13.64	1.4%	Pass	14.25	1.7%	Pass	104.0
1,2,3-Trimethylbenzene	99.2	13.81	16.19	13.74	15.86	13.76	15.66	13.36	15.57	13.66	1.5%	Pass	15.82	1.7%	Pass	115
1,2-Dibromo-3-chloropropane	100.2	10.82	15.85	10.76	15.39	10.64	15.21	10.26	15.16	10.62	2.4%	Pass	15.40	2.1%	Pass	145
Bromobenzene	102.8	13.52	13.80	13.61	13.63	13.52	13.44	13.26	13.32	13.48	1.1%	Pass	13.55	1.6%	Pass	103
Dibromomethane	100.5	13.57	13.05	13.74	12.86	13.74	12.94	13.74	12.92	13.70	0.6%	Pass	12.94	0.6%	Pass	95
Diethyl Ether	101.4	11.91	13.57	12.29	13.88	12.33	13.94	12.12	13.85	12.16	1.6%	Pass	13.81	1.2%	Pass	115.0
Hexachloroethane	99.8	14.30	15.00	14.24	14.70	14.22	14.47	13.78	14.32	14.13	1.7%	Pass	14.63	2.0%	Pass	103
Methylcyclopentane	104.9	13.19	13.91	13.64	14.09	13.82	14.23	13.58	14.13	13.56	1.9%	Pass	14.09	1.0%	Pass	109
n-Pentane	103.3	10.84	11.87	11.39	12.15	11.41	12.23	11.21	12.15	11.21	2.4%	Pass	12.10	1.3%	Pass	111.0
Isopropanol	104.1	13.42	13.43	14.11	13.25	14.15	14.02	14.04	13.73	13.93	2.5%	Pass	13.11	7.4%	Pass	98
2-Methylnaphthalene	101.4	12.20	12.84	13.08	12.63	13.23	12.39	12.91	12.70	12.85	3.5%	Pass	12.64	1.5%	Pass	99.7

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VK21H16A

Recertified Catalog Number: cc518780-20167.2-210816

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47544

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	

(1) Original Cylinder ID#

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	47307, 47308, 47309, 47310, 47311, 47312, 47313, 47314, 47291, 47290, 43361	(1) 43734	26354-210427 (46646)
Working Standard Fibertec #	VT-CCV-MI-210809	VT-LCS-210806A	VT-ISSS-210811
Dilution Factor	8	8	

Data Review

- ☑ Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- ☑ Data entered in correct location for each Standard A & B.
- ☑ Standard Identification numbers correctly recorded.

Compounds Not Certified:	0
Compounds Certified:	11
Compounds in Vendor Certified Standard:	11

Reviewed By

Primary Analyst/Date: KM 8/20/21

Peer Review/Date: AB 8/20/21

Group Leader/Date: AB 8/20/21

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

DCSID: V-407.4 (02/19/16)

TO-15 STANDARD RECERTIFICATION

Analytical Sequence: VQ21G22B

A = Vendor Certified Standard

B = Expired Standard for Recertification

Recertified Catalog Number: CC518780-20167.2-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number: 47222

Certificate # 1 of 2

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
Acetone	99	18.84	11.98	19.01	12.31	19.16	12.26	19.43	12.48	19.11	1.3%	Pass	12.26	1.7%	Pass	63.5
Acrolein	103	11.42	12.57	11.53	12.89	11.79	12.82	11.84	13.15	11.64	1.7%	Pass	12.86	1.9%	Pass	114
Acrylonitirile	104	12.28	12.29	12.07	12.55	12.24	12.49	12.33	12.88	12.23	0.9%	Pass	12.55	2.0%	Pass	107
Benzene	103	13.34	13.18	13.49	13.30	13.50	13.42	13.61	13.45	13.49	0.8%	Pass	13.34	0.9%	Pass	102
Benzyl Chloride	93	12.57	16.17	12.83	16.11	12.92	16.32	13.24	16.34	12.89	2.1%	Pass	16.24	0.7%	Pass	117
Bromodichloromethane	101	14.55	13.50	14.77	13.64	14.83	13.69	14.92	13.85	14.77	1.1%	Pass	13.67	1.1%	Pass	93.5
Bromoform	93	13.02	14.84	13.17	14.85	13.33	14.97	13.55	14.95	13.27	1.7%	Pass	14.90	0.4%	Pass	104
Bromomethane	100	13.57	13.57	13.56	13.84	13.75	13.82	13.92	13.98	13.70	1.3%	Pass	13.80	1.3%	Pass	101
1,3-Butadiene	104	16.36	13.69	16.51	14.08	16.65	13.92	16.80	14.20	16.58	1.2%	Pass	13.97	1.6%	Pass	87.7
t-Butanol	107	13.28	13.75	13.38	14.00	13.40	13.90	13.66	14.25	13.43	1.2%	Pass	13.97	1.5%	Pass	111
2-Butanone	98	15.06	12.73	15.01	12.82	15.23	12.82	15.29	13.18	15.15	0.9%	Pass	12.89	1.5%	Pass	83.4
n-Butylbenzene	98	12.51	13.76	12.64	13.73	12.80	13.77	13.02	13.75	12.74	1.7%	Pass	13.75	0.1%	Pass	106
sec-Butylbenzene	103	12.28	13.71	12.40	13.64	12.55	13.67	12.75	13.65	12.50	1.6%	Pass	13.67	0.2%	Pass	113
tert-Butylbenzene	106	12.30	13.65	12.44	13.63	12.58	13.58	12.81	13.61	12.53	1.7%	Pass	13.62	0.2%	Pass	115
Carbon Disulfide	99	12.40	11.46	12.38	11.59	12.52	11.61	12.61	11.77	12.48	0.8%	Pass	11.60	1.1%	Pass	92.1
Carbon Tetrachloride	103	13.90	13.90	14.16	14.05	14.23	14.15	14.32	14.24	14.15	1.3%	Pass	14.08	1.0%	Pass	108
Chlorobenzene	101	12.12	13.37	12.16	13.38	12.33	13.43	12.53	13.37	12.28	1.5%	Pass	13.39	0.2%	Pass	110
Chloroethane	98	13.47	13.77	13.51	14.18	13.69	14.00	13.82	14.26	13.62	1.2%	Pass	14.05	1.6%	Pass	101
Chloroform	102	13.33	13.68	13.43	13.82	13.56	13.79	13.64	14.05	13.49	1.0%	Pass	13.84	1.1%	Pass	105
Chloromethane	98	13.62	13.11	13.61	13.36	13.70	13.31	13.85	13.52	13.69	0.8%	Pass	13.33	1.3%	Pass	95.4
Cyclohexane	103	15.34	13.82	15.47	13.98	15.55	14.08	15.65	14.18	15.50	0.9%	Pass	14.02	1.1%	Pass	93.1
Dibromochloromethane	96	14.52	14.23	14.48	14.25	14.72	14.31	15.01	14.27	14.68	1.6%	Pass	14.27	0.2%	Pass	93.3
1,2-Dichlorobenzene	95	11.62	13.90	11.84	13.95	11.97	13.94	12.18	13.93	11.90	2.0%	Pass	13.93	0.2%	Pass	111
1,3-Dichlorobenzene	102	12.03	14.63	12.25	14.63	12.39	14.71	12.55	14.69	12.31	1.8%	Pass	14.66	0.3%	Pass	122
1,4-Dichlorobenzene	97	12.53	15.16	12.87	15.18	12.95	15.27	13.17	15.31	12.88	2.0%	Pass	15.23	0.5%	Pass	115
Dichlorodifluoromethane	97	14.87	14.28	14.71	14.50	14.89	14.58	15.13	14.90	14.90	1.2%	Pass	14.57	1.8%	Pass	94.8
1,1-Dichloroethane	104	13.40	13.08	13.33	13.17	13.51	13.10	13.60	13.41	13.46	0.9%	Pass	13.19	1.2%	Pass	102
1,2-Dichloroethane	110	13.23	13.13	13.41	13.28	13.63	13.23	13.66	13.51	13.48	1.5%	Pass	13.29	1.2%	Pass	108
1,1-Dichloroethene	103	14.06	13.71	14.09	13.96	14.20	13.90	14.30	14.18	14.16	0.8%	Pass	13.94	1.4%	Pass	101
cis-1,2-Dichloroethene	101	13.68	13.55	13.77	13.62	13.98	13.64	14.03	13.92	13.86	1.2%	Pass	13.68	1.2%	Pass	99.7
trans-1,2-Dichloroethene	101	14.93	13.58	15.03	13.72	15.22	13.74	15.27	13.96	15.11	1.0%	Pass	13.75	1.1%	Pass	91.9
1,2-Dichloropropane	100	13.45	13.60	13.62	13.74	13.68	13.80	13.74	13.90	13.62	0.9%	Pass	13.76	0.9%	Pass	101
cis-1,3-Dichloropropene	109	13.82	14.00	14.14	14.22	14.17	14.34	14.23	14.45	14.09	1.3%	Pass	14.25	1.3%	Pass	110
trans-1,3-Dichloropropene	93	12.60	13.80	12.96	13.96	12.98	14.10	13.09	14.20	12.91	1.7%	Pass	14.01	1.2%	Pass	101
Dichlorotetrafluoroethane	95	12.84	13.30	12.79	13.55	12.97	13.53	13.09	13.74	12.92	1.1%	Pass	13.53	1.4%	Pass	99.5
Diisopropyl Ether	107	12.80	13.55	12.78	13.64	12.99	13.57	12.98	13.95	12.89	0.9%	Pass	13.68	1.4%	Pass	114
1,4-Dioxane	101	14.13	13.72	14.35	13.93	14.34	13.92	14.60	14.06	14.35	1.3%	Pass	13.91	1.0%	Pass	97.8
ETBE	107	14.05	13.72	14.11	13.89	14.35	13.89	14.41	14.22	14.23	1.2%	Pass	13.93	1.5%	Pass	105
Ethanol	115	14.08	12.27	14.14	12.59	14.34	12.48	14.48	12.77	14.26	1.3%	Pass	12.53	1.7%	Pass	101
Ethyl Acetate	100	14.53	13.55	14.68	13.65	14.74	13.64	15.00	13.97	14.74	1.3%	Pass	13.70	1.4%	Pass	93.0
Ethylbenzene	102	13.08	13.58	13.11	13.58	13.28	13.67	13.51	13.58	13.24	1.5%	Pass	13.60	0.3%	Pass	105
Ethylene Dibromide	99	12.27	13.68	12.32	13.75	12.45	13.85	12.69	13.77	12.43	1.5%	Pass	13.76	0.5%	Pass	110
4-Ethyltoluene	93	13.89	14.19	14.02	14.20	14.20	14.23	14.39	14.17	14.12	1.5%	Pass	14.20	0.2%	Pass	93.5
n-Heptane	100	15.20	14.11	15.36	14.25	15.44	14.28	15.43	14.42	15.36	0.7%	Pass	14.27	0.9%	Pass	92.9
Hexachlorobutadiene	96	14.45	12.97	14.70	12.91	14.92	13.03	15.29	12.93	14.84	2.4%	Pass	12.96	0.4%	Pass	83.8
n-Hexane	97	14.74	13.37	14.79	13.47	14.98	13.39	15.00	13.76	14.88	0.9%	Pass	13.50	1.3%	Pass	88.0

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

Analytical Sequence: VQ21G22B

A = Vendor Certified Standard
B = Expired Standard for Recertification

Recertified Catalog Number: CCS18780-20167.2-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47222

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
2-Hexanone	91	15.45	14.21	15.33	14.26	15.45	14.41	15.84	14.41	15.52	1.4%	Pass	14.32	0.7%	Pass	84.0
Isopropanol	109	13.42	9.86	8.96	10.01	8.95	9.99	9.15	10.31	10.12	21.8%	Fail	10.04	1.9%	Pass	**
Isopropylbenzene	106	12.48	13.44	12.58	13.44	12.73	13.44	12.92	13.46	12.68	1.5%	Pass	13.45	0.1%	Pass	112
4-Methyl-2-pentanone	95	15.07	14.19	15.22	14.26	15.29	14.43	15.43	14.54	15.25	1.0%	Pass	14.36	1.1%	Pass	89.4
Methylene Chloride	101	12.01	11.68	11.85	11.89	11.98	11.80	12.07	12.03	11.98	0.8%	Pass	11.85	1.3%	Pass	100
MTBE	108	15.08	13.85	15.18	13.95	15.37	13.92	15.46	14.22	15.27	1.1%	Pass	13.98	1.2%	Pass	98.9
Naphthalene	97	14.75	15.06	15.11	15.18	15.30	15.48	15.60	15.33	15.19	2.3%	Pass	15.26	1.2%	Pass	98
n-Propylbenzene	104	12.67	14.37	12.46	14.30	12.62	14.40	12.90	14.32	12.66	1.5%	Pass	14.35	0.3%	Pass	118
Styrene	99	12.86	14.85	13.01	14.87	13.18	14.97	13.41	14.90	13.12	1.8%	Pass	14.90	0.4%	Pass	112
1,1,1,2-Tetrachloroethane	106	13.09	13.67	13.39	13.81	13.39	13.93	13.51	14.02	13.34	1.3%	Pass	13.86	1.1%	Pass	110
1,1,2,2-Tetrachloroethane	98	12.00	13.76	12.05	13.74	12.20	13.78	12.37	13.79	12.15	1.4%	Pass	13.77	0.1%	Pass	111
Tetrachloroethene	98	11.01	11.73	11.07	11.75	11.21	11.80	11.44	11.70	11.18	1.7%	Pass	11.75	0.4%	Pass	103
Tetrahydrofuran	91	9.51	13.80	9.50	14.00	9.63	13.93	9.72	14.35	9.59	1.1%	Pass	14.02	1.7%	Pass	133
Toluene	103	12.63	13.18	12.66	13.15	12.81	13.19	13.02	13.14	12.78	1.4%	Pass	13.16	0.2%	Pass	106
1,2,4-Trichlorobenzene	94	12.68	13.83	13.01	13.84	13.16	14.68	13.43	14.27	13.07	2.4%	Pass	14.16	2.9%	Pass	102
1,1,1-Trichloroethane	103	13.36	13.50	13.55	13.58	13.65	13.65	13.71	13.75	13.57	1.1%	Pass	13.62	0.8%	Pass	103
1,1,2-Trichloroethane	101	13.06	13.73	12.97	13.70	13.16	13.74	13.40	13.71	13.15	1.4%	Pass	13.72	0.1%	Pass	105
Trichloroethene	108	13.09	13.35	13.35	13.54	13.41	13.56	13.46	13.69	13.33	1.2%	Pass	13.54	1.0%	Pass	110
Trichlorofluoromethane	101	13.60	11.51	11.13	11.61	11.23	11.61	11.36	11.82	11.83	10.0%	Pass	11.64	1.1%	Pass	99

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	AB-114666, AB-114632, AB-116172	43734	26354-210427 (46646)
Working Standard Fibertec #	48552	VT-LCS-210702	VT-ISSS-210712
Dilution Factor	8	8	

Data Review

- ☑ Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- ☑ Data entered in correct location for each Standard A & B.
- ☑ Standard Identification numbers correctly recorded.

Compounds Not Certified:	0
Compounds Certified:	65 (1)
Compounds in Vendor Certified Standard:	65

Reviewed By

Primary Analyst/Date: KM 7/23/21

Peer Review/Date: AB 7/23/21

Group Leader/Date: AB 7/23/21

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

(1) Failure of IDA identified. Error in code from conversion. IDA recalculated — VK 21H16A

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VQ21G22B

Recertified Catalog Number: CC518780-20167.2-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number: 47222

Certificate # 2 of 2.

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	
1,1,2-Trichlorotrifluoroethane	109	13.17	12.89	13.19	13.03	13.34	12.98	13.43	13.14	13.28	0.9%	Pass	13.01	0.8%	Pass	107
1,2,4-Trimethylbenzene	95	12.23	13.45	12.40	13.45	12.57	13.44	12.75	13.41	12.49	1.8%	Pass	13.44	0.1%	Pass	102
1,3,5-Trimethylbenzene	96	12.33	13.90	12.44	13.95	12.58	13.92	12.79	13.90	12.53	1.6%	Pass	13.92	0.2%	Pass	107
2,2,4-Trimethylpentane	102	14.51	14.11	14.68	14.17	14.74	14.29	14.80	14.57	14.68	0.9%	Pass	14.28	1.4%	Pass	99.2
Vinyl Acetate	110	12.08	13.79	12.20	13.94	12.33	14.11	12.45	14.21	12.26	1.3%	Pass	14.01	1.3%	Pass	126
Vinyl Chloride	100	13.30	13.13	13.35	13.31	13.50	13.15	13.57	13.43	13.43	0.9%	Pass	13.25	1.1%	Pass	98.7
m&p-Xylene	198	24.97	26.99	25.13	26.91	25.43	27.01	25.83	26.99	25.34	1.5%	Pass	26.97	0.2%	Pass	211
o-Xylene	98	12.48	13.69	12.59	13.65	12.69	13.71	12.86	13.67	12.66	1.3%	Pass	13.68	0.2%	Pass	106

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

TO-15 STANDARD RECERTIFICATION

DCSID: V-407.4 (02/19/16)

A = Vendor Certified Standard
B = Expired Standard for Recertification

Analytical Sequence: VQ21G22B

Recertified Catalog Number: CC518780-20167.2-210723

Recertified Expiration Date: 7/23/2022

Reserved for new Fibertec number:
47222

Compound	Vendor Cert. Conc.	A	B	A	B	A	B	A	B	A			B			Recertified ppbv
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	Avg. ppbv	%RSD*	RSD Passes	Avg. ppbv	%RSD*	RSD Passes	

	A: Vendor Certified Standard	B: Expired Standard for Recert	ISS
Stock Standard Fibertec #	AB-114666, AB-114632, AB-116172	43734	263S4-210427 (46646)
Working Standard Fibertec #	48552	VT-LCS-210702	VT-ISSS-210712
Dilution Factor	8	8	

Data Review

- [x] Include printouts from LIMS Edit a Standard for the vendor and expired working standards.
- [x] Data entered in correct location for each Standard A & B.
- [x] Standard Identification numbers correctly recorded.

Compounds Not Certified:	0
Compounds Certified:	8
Compounds in Vendor Certified Standard:	8

Reviewed By

Primary Analyst/Date: KM 7/23/21

Peer Review/Date: AB 7/23/21

Group Leader/Date: AB 7/23/21

* RSD criteria is < 20%.

** Parameter failed RSD criteria. This compound has not been recertified.

New ID: 47222

43734
RECERT

AB 7/23/24

Compound	Old Cert Values	New Cert Values	% Difference	Change (y/n)
Acetone	104.7	63.5	-39%	Y
Acrolein	101	114	13%	Y
Acrylonitirile	101.5	107	5%	N
Benzene	103.3	102	-1%	N
Benzyl Chloride	101.5	117	15%	Y
Bromodichloromethane	101.2	93.5	-8%	N
Bromoform	103.6	104	0%	N
Bromomethane	106.6	101	-5%	N
1,3-Butadiene	103.6	87.7	-15%	Y
t-Butanol	103.5	111	7%	N
2-Butanone	102.7	83.4	-19%	Y
n-Butylbenzene	95.6	106	11%	Y
sec-Butylbenzene	100.1	113	13%	Y
tert-Butylbenzene	102.2	115	13%	Y
Carbon Disulfide	99.6	92.1	-8%	N
Carbon Tetrachloride	103.9	103	-1%	N
Chlorobenzene	103.5	110	6%	N
Chloroethane	106.7	101	-5%	N
Chloroform	104.9	105	0%	N
Chloromethane	104.3	95.4	-9%	N
Cylcohexane	102	93.1	-9%	N
Dibromochloromethane	105	93.3	-11%	Y
1,2-Dichlorobenzene	100.2	111	11%	Y
1,3-Dichlorobenzene	101.1	122	21%	Y
1,4-Dichlorobenzene	100.7	115	14%	Y
Dichlorodifluoromethane	104.7	94.8	-9%	N
1,1-Dichloroethane	101.7	102	0%	N
1,2-Dichloroethane	100.4	108	8%	N
1,1-Dichloroethene	103	101	-2%	N
cis-1,2-Dichloroethene	101.7	99.7	-2%	N
trans-1,2-Dichloroethene	102.5	91.9	-10%	Y
1,2-Dichloropropane	104.4	101	-3%	N
cis-1,3-Dichloropropene	103.6	110	6%	N
trans-1,3-Dichloropropene	101.7	101	-1%	N
Dichlrotetrafluoroethane	101.9	99.5	-2%	N
Diisopropyl Ether	102.5	114	11%	Y
1,4-Dioxane	103.5	97.8	6%	N
ETBE	99.6	105	5%	N
Ethanol	104.1	101	-3%	N
Ethyl Acetate	101.5	93	-8%	N
Ethylbenzene	99.8	105	5%	N
Ethylene Dibromide	105.1	110	5%	N
4-Ethyltoluene	98.7	93.5	-5%	N

KM 7/23/24

n-Heptane	103	92.9	-10%	N
Hexachlorobutadiene	101.2	83.8	-17%	Y
n-Hexane	101.3	88	-13%	Y
2-Hexanone	101.9	84	-18%	Y
Isopropanol	104.1	**	#VALUE!	#VALUE!
Isopropylbenzene	100.6	112	11%	Y
4-Methyl-2-pentanone	102.1	89.4	-12%	Y
Methylene Chloride	100.8	99.9	-1%	N
MTBE	103.7	98.9	-5%	N
Naphthalene	99.6	97.5	-2%	N
n-Propylbenzene	102	118	16%	Y
Styrene	102.2	112	10%	N
1,1,1,2-Tetrachloroethane	101.3	110	9%	N
1,1,2,2-Tetrachloroethane	102.9	111	8%	N
Tetrachloroethene	102.3	103	1%	N
Tetrahydrofuran	104	133	28%	Y
Toluene	102.2	106	4%	N
1,2,4-Trichlorobenzene	100.3	102	2%	N
1,1,1-Trichloroethane	102.5	103	0%	N
1,1,2-Trichloroethane	106.6	105	-2%	N
Trichloroethene	101.8	110	8%	N
Trichlorofluoromethane	101.5	99.3	-2%	N
1,1,2-Trichlorotrifluoroethane	99.4	107	8%	N
1,2,4-Trimethylbenzene	99.7	102	2%	N
1,3,5-Trimethylbenzene	102.1	107	5%	N
2,2,4-Trimethylpentane	105.1	99.2	-6%	N
Vinyl Acetate	105.4	126	20%	Y
Vinyl Chloride	100.1	98.7	-1%	N
m&p-Xylene	202.7	211	4%	N
o-Xylene	101.7	106	4%	N

new IDI : 47544

43734

KM 8/20/21

Compound	Old Cert Values	New Cert Values	% Difference	Change (y/n)
1,2,3-Trichlorobenzene	99.2	104	5%	N
1,2,3-Trimethylbenzene	99.2	115	16%	Y
1,2-Dibromo-3-chloropropane	100.2	145	45%	Y
Bromobenzene	102.8	103	0%	N
Dibromomethane	100.5	95	-5%	N
Diethyl Ether	101.4	115	13%	Y
Hexachloroethane	99.8	103	3%	N
Methylcyclopentane	104.9	109	4%	N
n-Pentane	103.3	111	7%	N
Isopropanol	104.1	98	-6%	N
2-Methylnaphthalene	101.4	99.7	-2%	N

CM 8/20/21

VT-LCS-210702

Description: **TO-15 Working LCS** Prep. Date: **7/2/2021** Exp. Date: **8/1/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	26.18 ppbv	41. Diethyl Ether	25.35 ppbv	81. 1,1,2-Trichlorotrifluoroethane	24.85 ppbv
2. Acrolein	25.25 ppbv	42. Diisopropyl Ether	25.63 ppbv	82. 1,2,3-Trimethylbenzene	24.80 ppbv
3. Acrylonitrile	25.38 ppbv	43. 1,4-Dioxane	25.88 ppbv	83. 1,2,4-Trimethylbenzene	24.93 ppbv
4. tert-Amyl Ethyl Ether	22.78 ppbv	44. Epichlorohydrin	32.05 ppbv	84. 1,3,5-Trimethylbenzene	25.53 ppbv
5. Benzene	25.63 ppbv	45. ETBE	24.90 ppbv	85. 2,2,4-Trimethylpentane	26.28 ppbv
6. Benzyl Chloride	25.38 ppbv	46. Ethanol	26.03 ppbv	86. Vinyl Acetate	26.35 ppbv
7. Bromobenzene	25.70 ppbv	47. Ethyl Acetate	25.38 ppbv	87. Vinyl Chloride	25.03 ppbv
8. Bromodichloromethane	25.30 ppbv	48. Ethylbenzene	24.95 ppbv	88. m-Xylene	25.35 ppbv
9. Bromoform	25.90 ppbv	49. Ethylene Dibromide	26.28 ppbv	89. m&p-Xylene	50.68 ppbv
10. Bromomethane	26.65 ppbv	50. 4-Ethyltoluene	24.68 ppbv	90. o-Xylene	25.43 ppbv
11. 1,3-Butadiene	25.90 ppbv	51. n-Heptane	25.75 ppbv	91. p-Xylene	25.33 ppbv
12. t-Butanol	25.88 ppbv	52. Hexachlorobutadiene	25.30 ppbv		
13. 2-Butanone	25.68 ppbv	53. Hexachloroethane	24.95 ppbv		
14. n-Butylbenzene	23.90 ppbv	54. n-Hexane	25.33 ppbv		
15. sec-Butylbenzene	25.03 ppbv	55. 2-Hexanone	25.48 ppbv		
16. tert-Butylbenzene	25.55 ppbv	56. Isobutanol	26.33 ppbv		
17. Carbon Disulfide	24.90 ppbv	57. Isopropanol	26.03 ppbv		
18. Carbon Tetrachloride	25.98 ppbv	58. Isopropylbenzene	25.15 ppbv		
19. Chlorobenzene	25.88 ppbv	59. Methanol	24.38 ppbv		
20. Chloroethane	26.68 ppbv	60. 4-Methyl-2-pentanone	25.53 ppbv		
21. Chloroform	26.23 ppbv	61. Methylene Chloride	25.20 ppbv		
22. Chloromethane	26.08 ppbv	62. 2-Methylnaphthalene	25.35 ppbv		
23. Cyclohexane	25.50 ppbv	63. MTBE	25.93 ppbv		
24. Cyclopentane, methyl-	26.23 ppbv	64. Naphthalene	24.90 ppbv		
25. 1,2-Dibromo-3-chloropropane	25.05 ppbv	65. n-Pentane	25.83 ppbv		
26. Dibromochloromethane	26.25 ppbv	66. 1-Propanol	25.88 ppbv		
27. Dibromomethane	25.13 ppbv	67. n-Propylbenzene	25.50 ppbv		
28. 1,2-Dichlorobenzene	25.05 ppbv	68. Propylene	25.60 ppbv		
29. 1,3-Dichlorobenzene	25.28 ppbv	69. Styrene	25.55 ppbv		
30. 1,4-Dichlorobenzene	25.18 ppbv	70. 1,1,1,2-Tetrachloroethane	25.33 ppbv		
31. Dichlorodifluoromethane	26.18 ppbv	71. 1,1,2,2-Tetrachloroethane	25.73 ppbv		
32. 1,1-Dichloroethane	25.43 ppbv	72. Tetrachloroethene	25.58 ppbv		
33. 1,2-Dichloroethane	25.10 ppbv	73. Tetrahydrofuran	26.00 ppbv		
34. 1,1-Dichloroethene	25.75 ppbv	74. Toluene	25.55 ppbv		
35. cis-1,2-Dichloroethene	25.43 ppbv	75. 1,2,3-Trichlorobenzene	24.80 ppbv		
36. trans-1,2-Dichloroethene	25.63 ppbv	76. 1,2,4-Trichlorobenzene	25.08 ppbv		
37. 1,2-Dichloropropane	26.10 ppbv	77. 1,1,1-Trichloroethane	25.63 ppbv		
38. cis-1,3-Dichloropropene	25.90 ppbv	78. 1,1,2-Trichloroethane	26.65 ppbv		
39. trans-1,3-Dichloropropene	25.43 ppbv	79. Trichloroethene	25.45 ppbv		
40. Dichlorotetrafluoroethane	25.48 ppbv	80. Trichlorofluoromethane	25.38 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
43734	Apel-Riemer Environmental, Inc.	CC518782-20167.2	Gas-phase Calibration Standard	20167.2	1.5 L	7/13/2021

VT-LCS-210702

Description:	TO-15 Working LCS	Prep. Date: 7/2/2021	Exp. Date: 8/1/2021	Prepared By: cmoua

Solution Stock Sources and Intermediate Sources

VT-LCS-210702
- 43734

APEL-RIEMER ENVIRONMENTAL, INC

REFERENCE GASES AND ATMOSPHERIC CHEMISTRY

43734

Certification Report

Gas-phase Calibration Standard

This gas-phase standard is intended to be used as a reference material for the calibration of instruments.

Statement about preparation and traceability:

Standards are gravimetrically prepared in high-pressure aluminum cylinders (Luxfer, Inc., Riverside, California). Cylinders are cleaned and treated to eliminate contamination and ensure inertness. Standards are prepared in N150 cylinders (~4000 Liters calibration gas) or N033 cylinders (~800 Liters calibration gas) at a pressure of 2000 psia UHP nitrogen. Valves are high purity stainless steel (Ceodeux, Lintgen, Luxembourg) with a CGA-350 fitting. Pure compounds as liquids and gases are obtained from a number of sources. All lot numbers are cataloged. The gravimetric preparation is performed using calibrated microbalances (Mettler-Toledo, Columbus, Ohio) and microsyringes (Hamilton, Reno, Nevada and SGE, Austin, Texas) for measuring the compounds and cylinder balances (Mettler-Toledo, Columbus, Ohio) for the balance gas. Balances are calibrated with NIST traceable weights.

We prepare each cylinder individually. Accuracy is better than +/- 5%. Analysis confirms the accuracy of the gravimetric preparation. We use a series of NIST, NIST-traceable, NPL, and in-house standards to perform the instrument calibrations.

Stability varies depending on the compound, concentration, and cylinder size. Stability can be assured for 12 months. Many compounds are stable for several years.

Certified from analysis date for 12 months.

Daniel D. Riemer, Ph.D.

1295 NW 163rd Street, Miami, Florida 33169 USA
Telephone: 786-925-6201 / Fax: 786-364-1591
Email: info@apelriemerenvironmental.com

Cylinder: CC518782
Cylinder Date: 08/19
Valve: CGA350 SS 19/504787
Lot No.: 20167.2
Cylinder Pressure: 2000 psia
Analysis Date: July 13, 2020

43734 Apel-Riemer Environm
Cat# CC518782-2016
Lot# 20167.2
R: 7/16/2020 Logged in by
E: 7/13/2021 adonnelly
Initials

Multi-component calibration mixture in nitrogen

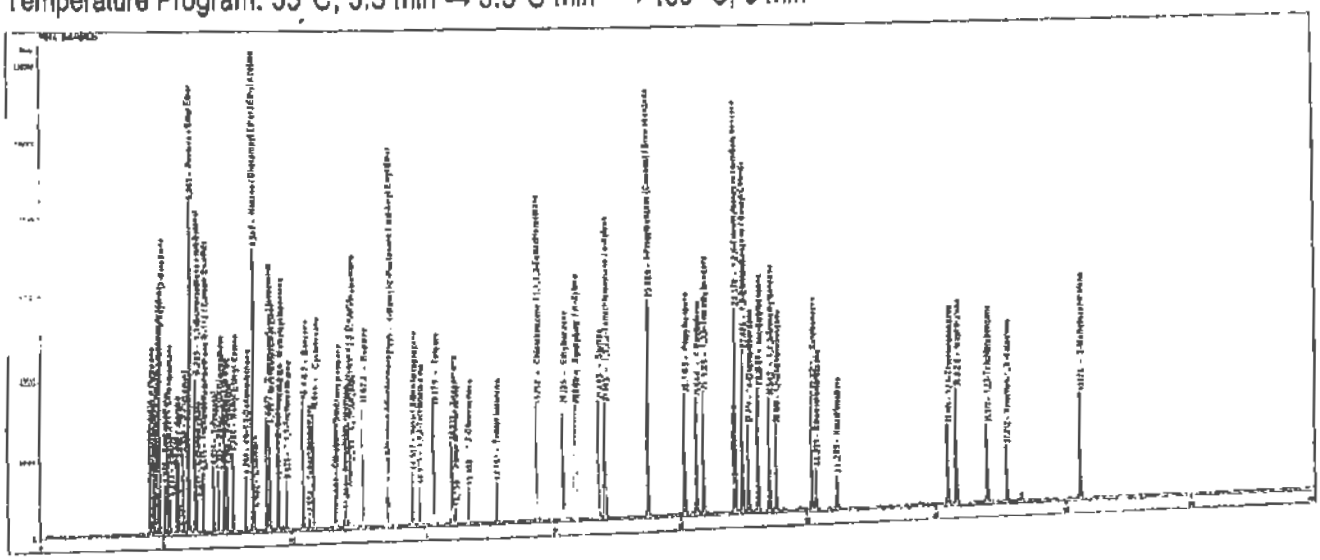
Compound	CAS#	Concentration (ppb)	Uncertainty
Propene	115-07-1	102.4	±5%
Dichlorodifluoromethane (F-12)	75-71-8	104.7	±5%
Chloromethane	74-87-3	104.3	±5%
1,2-Dichlorotetrafluoroethane (F-114)	76-14-2	101.9	±5%
Methanol	67-56-1	97.5	±5%
Vinyl Chloride	75-01-4	100.1	±5%
1,3-Butadiene	106-99-0	103.6	±5%
Bromomethane	74-83-9	106.6	±5%
Chloroethane	75-00-3	106.7	±5%
Ethanol	64-17-5	104.1	±5%
Acrolein	107-02-8	101.0	±5%
Acetone	67-64-1	104.7	±5%
Trichlorofluoromethane (F-11)	75-69-4	101.5	±5%
2-Propanol	67-63-0	104.1	±5%
Acrylonitrile	107-13-1	101.5	±5%
Pentane	109-66-0	103.3	±5%
Diethyl Ether	60-29-7	101.4	±5%
1,1-Dichloroethene	75-35-4	103.0	±5%
tert-Butyl alcohol	75-65-0	103.5	±5%
Dichloromethane	75-09-2	100.8	±5%
1,1,2-Trichloro-1,2,2-Trifluoroethane (CFC-113)	76-13-1	99.4	±5%
Carbon Disulfide	75-15-0	99.6	±5%
1-Propanol	71-23-8	103.5	±5%
trans-1,2-Dichloroethene	156-60-5	102.5	±5%
1,1-Dichloroethane	75-34-3	101.7	±5%
Methyl *tert*-Butyl Ether	1634-04-4	103.7	±5%
Vinyl Acetate	108-05-4	105.4	±5%
Methyl Ethyl Ketone	78-93-3	102.7	±5%
cis-1,2-Dichloroethene	156-59-2	101.7	±5%
Hexane	110-54-3	101.3	±5%
Diisopropyl ether	108-20-3	102.5	±5%
Ethyl Acetate	141-78-6	101.5	±5%
Chloroform	67-66-3	104.9	±5%
Tetrahydrofuran	109-99-9	104.0	±5%
Isobutanol	78-83-1	105.3	±5%
Ethyl *tert*-butyl ether	637-92-3	99.6	±5%
1,2-Dichloroethane	107-06-2	100.4	±5%
Methylcyclopentane	96-37-7	104.9	±5%
1,1,1-Trichloroethane	71-55-6	102.5	±5%
Benzene	71-43-2	103.3	±5%
Tetrachloromethane	56-23-5	103.9	±5%
Cyclohexane	110-82-7	102.0	±5%
Dibromomethane	74-95-3	100.5	±5%
1,2-Dichloropropane	78-87-5	104.4	±5%
Bromodichloromethane	75-27-4	101.2	±5%
Trichloroethylene	79-01-6	101.8	±5%
1,4-Dioxane	123-91-1	103.5	±5%
2,2,4-Trimethylpentane	540-84-1	105.1	±5%

Compound	CAS#	Concentration (ppb)	Uncertainty
Epichlorhydrin	106-89-8	128.2	±5%
Heptane	142-82-5	103.0	±5%
cis-1,3-Dichloropropene	10061-01-5	103.6	±5%
4-Methyl-2-Pentanone	108-10-1	102.1	±5%
tert-Amyl-Ethyl Ether	919-94-8	91.1	±5%
trans-1,3-Dichloropropene	10061-02-6	101.7	±5%
1,1,2-Trichloroethane	79-00-5	106.6	±5%
Toluene	108-88-3	102.2	±5%
2-Hexanone	591-78-6	101.9	±5%
Dibromochloromethane	124-48-1	105.0	±5%
1,2-Dibromoethane	106-93-4	105.1	±5%
Tetrachloroethylene	127-18-4	102.3	±5%
Chlorobenzene	108-90-7	103.5	±5%
1,1,1,2-Tetrachloroethane	630-20-6	101.3	±5%
Ethyl Benzene	100-41-4	99.8	±5%
Bromoform	75-25-2	103.6	±5%
m-Xylene	108-38-3	101.4	±5%
p-Xylene	106-42-3	101.3	±5%
Styrene	100-42-5	102.2	±5%
1,1,2,2-Tetrachloroethane	79-34-5	102.9	±5%
o-Xylene	95-47-6	101.7	±5%
i-Propylbenzene	98-82-8	100.6	±5%
Bromobenzene	108-86-1	102.8	±5%
Propylbenzene	103-65-1	102.0	±5%
4-Ethyltoluene	622-96-8	98.7	±5%
1,3,5-Trimethylbenzene	108-67-8	102.1	±5%
1,2,4-Trimethylbenzene	95-63-6	99.7	±5%
tert-Butylbenzene	98-06-6	102.2	±5%
m-Dichlorobenzene	541-73-1	101.1	±5%
Benzyl Chloride	100-44-7	101.5	±5%
p-Dichlorobenzene	106-46-7	100.7	±5%
sec-Butylbenzene	135-98-8	100.1	±5%
1,2,3-Trimethylbenzene	526-73-8	99.2	±5%
o-Dichlorobenzene	95-50-1	100.2	±5%
Butylbenzene	104-51-8	95.6	±5%
Dibromochloropropane	96-12-8	100.2	±5%
Hexachloroethane	67-72-1	99.8	±5%
1,2,4-Trichlorobenzene	120-82-1	100.3	±5%
Naphthalene	91-20-3	99.6	±5%
1,2,3-Trichlorobenzene	87-61-6	99.2	±5%
Hexachloro-1,3-Butadiene	87-68-3	101.2	±5%
2-Methylnaphthalene	91-57-6	101.4	±5%

Uncertainty is a conservative estimate of the combination of the uncertainties of the gravimetric preparation and analysis.

Chromatogram

100-meter DB-1, 0.25 mm id, 3.1 mL min^{-1} Helium carrier gas – constant flow
Temperature Program: 35°C, 3.5 min → 3.5°C min^{-1} → 180 °C, 6 min



VT-100ppbv-210809

Description: **Injectable solution** Prep. Date: **8/9/2021** Exp. Date: **8/23/2021** Prepared By: **dholmes**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Bromobenzene	770000 µg/L				
2. 1,2-Dibromo-3-chloropropane	1160000 µg/L				
3. Dibromomethane	850000 µg/L				
4. Diethyl Ether	360000 µg/L				
5. Hexachloroethane	1160000 µg/L				
6. Isopropanol	290000 µg/L				
7. Methylcyclopentane	410000 µg/L				
8. 2-Methylnaphthalene	700000 µg/L				
9. n-Pentane	350000 µg/L				
10. 1,2,3-Trichlorobenzene	890000 µg/L				
11. 1,2,3-Trimethylbenzene	590000 µg/L				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
43361	Honeywell International Inc.	323-4	Isopropyl Alcohol B&J Brand™, for H...	DX846	29 mg	11/21/2021
47290	Sigma-Aldrich, Inc.	16350-100ML	Bromobenzene	BCCC3505	77 mg	9/6/2024
47291	Sigma-Aldrich, Inc.	91238-1ML-F	Diethyl Ether	BCCD0973	36 mg	3/30/2023
47307	Chem Service Inc.	N-10171-1G	1,2,3-Trichlorobenzene	11425100	89 mg	3/31/2025
47308	Chem Service Inc.	N-12162-250MG	Hexachloroethane	11976100	116 mg	12/31/2024
47309	Chem Service Inc.	N-12470-1G	Methylcyclopentane	11047700	41 mg	1/31/2026
47310	Chem Service Inc.	N-12591-1G	n-Pentane	10818400	35 mg	4/30/2027
47311	Supelco (Millipore Sigma)	47799	Dibromomethane, 1000mg	LRAC3580	85 mg	7/1/2022
47312	Sigma-Aldrich, Inc.	31257-250MG	1,2-Dibromo-3-Chloropropane	BCBW8490	116 mg	3/1/2023
47313	Sigma-Aldrich, Inc.	45935-250MG	1,2,3-Trimethylbenzene	BCCF7088	59 mg	2/28/2026
47314	Sigma-Aldrich, Inc.	45796-250MG	2-Methylnaphthalene	BCCF3786	70 mg	12/1/2025
47980	Avantor Performance Materials, L	9077-02	Methanol, ULTRA RESI-ANALYZED	0000288059	100 mL	6/10/2024

VT-100ppbv-210809

Description: **Injectable solution** Prep. Date: **8/9/2021** Exp. Date: **8/23/2021** Prepared By: **dholmes**

Solution Stock Sources and Intermediate Sources

VT-100ppbv-210809
- 47980
- 47314
- 47313
- 47312
- 47311
- 47310
- 47309
- 47308
- 47307
- 47291
- 47290
- 43361

VT-CCV-MI-210809

Description: **Manual CCV with MI compounds** Prep. Date: **8/9/2021** Exp. Date: **9/8/2021** Prepared By: **dholmes**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Bromobenzene	999.6 ppbv				
2. 1,2-Dibromo-3-chloropropane	1000 ppbv				
3. Dibromomethane	996.7 ppbv				
4. Diethyl Ether	990.0 ppbv				
5. Hexachloroethane	998.8 ppbv				
6. Isopropanol	983.6 ppbv				
7. Methylcyclopentane	993.0 ppbv				
8. 2-Methylnaphthalene	1003 ppbv				
9. n-Pentane	988.8 ppbv				
10. 1,2,3-Trichlorobenzene	999.8 ppbv				
11. 1,2,3-Trimethylbenzene	1001 ppbv				

Solution Stock Sources

Dilution Order: 1

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
43361	Honeywell International Inc.	323-4	Isopropyl Alcohol B&J Brand™, for H...	DX846	0 L	11/21/2021
47290	Sigma-Aldrich, Inc.	16350-100ML	Bromobenzene	BCCC3505	0.0000001 L	9/6/2024
47291	Sigma-Aldrich, Inc.	91238-1ML-F	Diethyl Ether	BCCD0973	0.0000001 L	3/30/2023
47307	Chem Service Inc.	N-10171-1G	1,2,3-Trichlorobenzene	11425100	0.0000001 L	3/31/2025
47308	Chem Service Inc.	N-12162-250MG	Hexachloroethane	11976100	0.0000001 L	12/31/2024
47309	Chem Service Inc.	N-12470-1G	Methylcyclopentane	11047700	0.0000001 L	1/31/2026
47310	Chem Service Inc.	N-12591-1G	n-Pentane	10816400	0.0000001 L	4/30/2027
47311	Supelco (Millipore Sigma)	47799	Dibromomethane, 1000mg	LRAC3580	0.0000001 L	7/1/2022
47312	Sigma-Aldrich, Inc.	31257-250MG	1,2-Dibromo-3-Chloropropane	BCBW8490	0.0000001 L	3/1/2023
47313	Sigma-Aldrich, Inc.	45935-250MG	1,2,3-Trimethylbenzene	BCCF7088	0.0000001 L	2/28/2026
47314	Sigma-Aldrich, Inc.	45796-250MG	2-Methylnaphthalene	BCCF3786	0.0000001 L	12/1/2025
47980	Avantor Performance Materials, L	9077-02	Methanol, ULTRA RESI-ANALYZED	0000288059	0.0001 L	6/10/2024

VT-CCV-MI-210809

Description: **Manual CCV with MI compounds** Prep. Date: **8/9/2021** Exp. Date: **9/8/2021** Prepared By: **dholmes**

Solution Stock Sources and Intermediate Sources

VT-CCV-MI-210809
- VT-100ppbv-210809 (100 uL)
  - 47980
  - 47314
  - 47313
  - 47312
  - 47311
  - 47310
  - 47309
  - 47308
  - 47307
  - 47291
  - 47290
  - 43361

VT-CCV-210805A

Description: **TO-15 Working CCV** Prep. Date: **8/5/2021** Exp. Date: **9/4/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	16.08 ppbv	41. Ethylbenzene	24.98 ppbv		
2. Acrolein	29.00 ppbv	42. Ethylene Dibromide	26.05 ppbv		
3. Acrylonitrile	27.50 ppbv	43. 4-Ethyltoluene	24.75 ppbv		
4. Benzene	25.73 ppbv	44. n-Heptane	23.10 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Hexachlorobutadiene	21.25 ppbv		
6. Bromodichloromethane	25.18 ppbv	46. n-Hexane	22.05 ppbv		
7. Bromoform	25.95 ppbv	47. 2-Hexanone	20.70 ppbv		
8. Bromomethane	26.40 ppbv	48. Isopropylbenzene	28.00 ppbv		
9. 1,3-Butadiene	22.10 ppbv	49. 4-Methyl-2-pentanone	22.03 ppbv		
10. t-Butanol	25.93 ppbv	50. Methylene Chloride	25.20 ppbv		
11. 2-Butanone	20.98 ppbv	51. MTBE	25.80 ppbv		
12. n-Butylbenzene	24.08 ppbv	52. Naphthalene	25.30 ppbv		
13. sec-Butylbenzene	28.00 ppbv	53. n-Propylbenzene	29.25 ppbv		
14. tert-Butylbenzene	28.50 ppbv	54. Styrene	25.60 ppbv		
15. Carbon Disulfide	24.90 ppbv	55. 1,1,1,2-Tetrachloroethane	25.38 ppbv		
16. Carbon Tetrachloride	25.98 ppbv	56. 1,1,2,2-Tetrachloroethane	25.83 ppbv		
17. Chlorobenzene	25.65 ppbv	57. Tetrachloroethene	25.50 ppbv		
18. Chloroethane	26.53 ppbv	58. Tetrahydrofuran	33.50 ppbv		
19. Chloroform	26.18 ppbv	59. Toluene	25.43 ppbv		
20. Chloromethane	26.00 ppbv	60. 1,2,4-Trichlorobenzene	25.30 ppbv		
21. Cyclohexane	25.45 ppbv	61. 1,1,1-Trichloroethane	25.55 ppbv		
22. Dibromochloromethane	23.20 ppbv	62. 1,1,2-Trichloroethane	26.43 ppbv		
23. 1,2-Dichlorobenzene	25.30 ppbv	63. Trichloroethene	25.45 ppbv		
24. 1,3-Dichlorobenzene	30.25 ppbv	64. Trichlorofluoromethane	25.43 ppbv		
25. 1,4-Dichlorobenzene	28.75 ppbv	65. 1,1,2-Trichlorotrifluoroethane	24.68 ppbv		
26. Dichlorodifluoromethane	26.00 ppbv	66. 1,2,4-Trimethylbenzene	25.03 ppbv		
27. 1,1-Dichloroethane	25.33 ppbv	67. 1,3,5-Trimethylbenzene	25.63 ppbv		
28. 1,2-Dichloroethane	25.15 ppbv	68. 2,2,4-Trimethylpentane	26.08 ppbv		
29. 1,1-Dichloroethene	25.55 ppbv	69. Vinyl Acetate	31.25 ppbv		
30. cis-1,2-Dichloroethene	25.25 ppbv	70. Vinyl Chloride	25.03 ppbv		
31. trans-1,2-Dichloroethene	25.58 ppbv	71. m&p-Xylene	50.70 ppbv		
32. 1,2-Dichloropropane	26.00 ppbv	72. o-Xylene	25.48 ppbv		
33. cis-1,3-Dichloropropene	25.70 ppbv				
34. trans-1,3-Dichloropropene	25.13 ppbv				
35. Dichlorotetrafluoroethane	25.45 ppbv				
36. Diisopropyl Ether	28.50 ppbv				
37. 1,4-Dioxane	25.93 ppbv				
38. ETBE	24.85 ppbv				
39. Ethanol	26.15 ppbv				
40. Ethyl Acetate	25.43 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47221	Apel-Riemer Environmental, Inc.	CC518780-20167.1-210723	Gas-phase Calibration Standard (rec...	210723	3.75 L	7/23/2022

This is the ID of the partially recertified Cylinder which had an original ID# 43733. Certification of the remaining compounds completed in VKal H16A. The two certificates were then combined into one ID#, 47543.

VT-CCV-210805A

Description:	TO-15 Working CCV	Prep. Date: 8/5/2021	Exp. Date: 9/4/2021	Prepared By: cmoua

Solution Stock Sources and Intermediate Sources

VT-CCV-210805A
- 47221

VT-CCV-210708

Description: **TO-15 Working CCV** Prep. Date: **7/8/2021** Exp. Date: **8/7/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	25.70 ppbv	41. Diethyl Ether	26.13 ppbv	81. 1,1,2-Trichlorotrifluoroethane	24.68 ppbv
2. Acrolein	25.13 ppbv	42. Diisopropyl Ether	25.13 ppbv	82. 1,2,3-Trimethylbenzene	24.95 ppbv
3. Acrylonitrile	24.40 ppbv	43. 1,4-Dioxane	25.93 ppbv	83. 1,2,4-Trimethylbenzene	25.03 ppbv
4. tert-Amyl Ethyl Ether	22.33 ppbv	44. Epichlorohydrin	31.55 ppbv	84. 1,3,5-Trimethylbenzene	25.63 ppbv
5. Benzene	25.73 ppbv	45. ETBE	24.65 ppbv	85. 2,2,4-Trimethylpentane	26.08 ppbv
6. Benzyl Chloride	25.43 ppbv	46. Ethanol	26.15 ppbv	86. Vinyl Acetate	26.00 ppbv
7. Bromobenzene	25.75 ppbv	47. Ethyl Acetate	25.43 ppbv	87. Vinyl Chloride	25.03 ppbv
8. Bromodichloromethane	25.18 ppbv	48. Ethylbenzene	24.98 ppbv	88. m-Xylene	25.40 ppbv
9. Bromoform	25.95 ppbv	49. Ethylene Dibromide	26.05 ppbv	89. m&p-Xylene	50.70 ppbv
10. Bromomethane	26.40 ppbv	50. 4-Ethyltoluene	24.75 ppbv	90. o-Xylene	25.48 ppbv
11. 1,3-Butadiene	25.75 ppbv	51. n-Heptane	25.68 ppbv	91. p-Xylene	25.30 ppbv
12. t-Butanol	25.93 ppbv	52. Hexachlorobutadiene	25.48 ppbv		
13. 2-Butanone	25.25 ppbv	53. Hexachloroethane	25.18 ppbv		
14. n-Butylbenzene	24.08 ppbv	54. n-Hexane	25.25 ppbv		
15. sec-Butylbenzene	25.15 ppbv	55. 2-Hexanone	25.03 ppbv		
16. tert-Butylbenzene	25.40 ppbv	56. Isobutanol	26.38 ppbv		
17. Carbon Disulfide	24.90 ppbv	57. Isopropanol	25.73 ppbv		
18. Carbon Tetrachloride	25.98 ppbv	58. Isopropylbenzene	25.23 ppbv		
19. Chlorobenzene	25.65 ppbv	59. Methanol	24.78 ppbv		
20. Chloroethane	26.53 ppbv	60. 4-Methyl-2-pentanone	25.58 ppbv		
21. Chloroform	26.18 ppbv	61. Methylene Chloride	25.20 ppbv		
22. Chloromethane	26.00 ppbv	62. 2-Methylnaphthalene	24.68 ppbv		
23. Cyclohexane	25.45 ppbv	63. MTBE	25.80 ppbv		
24. Cyclopentane, methyl-	26.28 ppbv	64. Naphthalene	25.30 ppbv		
25. 1,2-Dibromo-3-chloropropane	25.48 ppbv	65. n-Pentane	25.48 ppbv		
26. Dibromochloromethane	26.40 ppbv	66. 1-Propanol	25.78 ppbv		
27. Dibromomethane	24.88 ppbv	67. n-Propylbenzene	25.58 ppbv		
28. 1,2-Dichlorobenzene	25.30 ppbv	68. Propylene	25.45 ppbv		
29. 1,3-Dichlorobenzene	25.48 ppbv	69. Styrene	25.60 ppbv		
30. 1,4-Dichlorobenzene	25.38 ppbv	70. 1,1,1,2-Tetrachloroethane	25.38 ppbv		
31. Dichlorodifluoromethane	26.00 ppbv	71. 1,1,2,2-Tetrachloroethane	25.63 ppbv		
32. 1,1-Dichloroethane	25.33 ppbv	72. Tetrachloroethene	25.50 ppbv		
33. 1,2-Dichloroethane	25.15 ppbv	73. Tetrahydrofuran	25.30 ppbv		
34. 1,1-Dichloroethene	25.55 ppbv	74. Toluene	25.43 ppbv		
35. cis-1,2-Dichloroethene	25.25 ppbv	75. 1,2,3-Trichlorobenzene	25.13 ppbv		
36. trans-1,2-Dichloroethene	25.58 ppbv	76. 1,2,4-Trichlorobenzene	25.30 ppbv		
37. 1,2-Dichloropropane	26.00 ppbv	77. 1,1,1-Trichloroethane	25.55 ppbv		
38. cis-1,3-Dichloropropene	25.70 ppbv	78. 1,1,2-Trichloroethane	26.43 ppbv		
39. trans-1,3-Dichloropropene	25.13 ppbv	79. Trichloroethene	25.45 ppbv		
40. Dichlorotetrafluoroethane	25.45 ppbv	80. Trichlorofluoromethane	25.43 ppbv		

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
43733	Apel-Riemer Environmental, Inc.	CC518780-20167.1	Gas-phase Calibration Standard	20167.1	3.75 L	7/13/2021

VT-CCV-210708

Description:	TO-15 Working CCV	Prep. Date: 7/8/2021	Exp. Date: 8/7/2021	Prepared By: cmoua

Solution Stock Sources and Intermediate Sources

VT-CCV-210708
- 43733

VT-LCS-210806A

Description: **TO-15 Working LCS** Prep. Date: **8/6/2021** Exp. Date: **9/5/2021** Prepared By: **vduvvurl**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	15.68 ppbv	41. Ethylbenzene	24.95 ppbv		
2. Acrolein	28.50 ppbv	42. Ethylene Dibromide	26.28 ppbv		
3. Acrylonitrile	25.38 ppbv	43. 4-Ethyltoluene	24.68 ppbv		
4. Benzene	25.83 ppbv	44. n-Heptane	25.75 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Hexachlorobutadiene	20.95 ppbv		
6. Bromodichloromethane	25.30 ppbv	46. n-Hexane	22.00 ppbv		
7. Bromoform	25.90 ppbv	47. 2-Hexanone	21.00 ppbv		
8. Bromomethane	26.65 ppbv	48. Isopropylbenzene	28.00 ppbv		
9. 1,3-Butadiene	21.93 ppbv	49. 4-Methyl-2-pentanone	22.35 ppbv		
10. t-Butanol	25.88 ppbv	50. Methylene Chloride	25.20 ppbv		
11. 2-Butanone	20.85 ppbv	51. MTBE	25.93 ppbv		
12. n-Butylbenzene	26.50 ppbv	52. Naphthalene	24.90 ppbv		
13. sec-Butylbenzene	28.25 ppbv	53. n-Propylbenzene	29.50 ppbv		
14. tert-Butylbenzene	28.75 ppbv	54. Styrene	25.55 ppbv		
15. Carbon Disulfide	24.90 ppbv	55. 1,1,1,2-Tetrachloroethane	25.33 ppbv		
16. Carbon Tetrachloride	25.98 ppbv	56. 1,1,2,2-Tetrachloroethane	25.73 ppbv		
17. Chlorobenzene	25.88 ppbv	57. Tetrachloroethene	25.58 ppbv		
18. Chloroethane	26.68 ppbv	58. Tetrahydrofuran	33.25 ppbv		
19. Chloroform	26.23 ppbv	59. Toluene	25.55 ppbv		
20. Chloromethane	26.08 ppbv	60. 1,2,4-Trichlorobenzene	25.08 ppbv		
21. Cyclohexane	25.50 ppbv	61. 1,1,1-Trichloroethane	25.63 ppbv		
22. Dibromochloromethane	23.33 ppbv	62. 1,1,2-Trichloroethane	26.65 ppbv		
23. 1,2-Dichlorobenzene	27.75 ppbv	63. Trichloroethene	25.45 ppbv		
24. 1,3-Dichlorobenzene	30.50 ppbv	64. Trichlorofluoromethane	25.38 ppbv		
25. 1,4-Dichlorobenzene	28.75 ppbv	65. 1,1,2-Trichlorotrifluoroethane	24.85 ppbv		
26. Dichlorodifluoromethane	26.18 ppbv	66. 1,2,4-Trimethylbenzene	24.93 ppbv		
27. 1,1-Dichloroethane	25.43 ppbv	67. 1,3,5-Trimethylbenzene	25.53 ppbv		
28. 1,2-Dichloroethane	25.10 ppbv	68. 2,2,4-Trimethylpentane	26.28 ppbv		
29. 1,1-Dichloroethene	25.75 ppbv	69. Vinyl Acetate	31.50 ppbv		
30. cis-1,2-Dichloroethene	25.43 ppbv	70. Vinyl Chloride	25.03 ppbv		
31. trans-1,2-Dichloroethene	22.98 ppbv	71. m&p-Xylene	50.68 ppbv		
32. 1,2-Dichloropropane	26.10 ppbv	72. o-Xylene	25.43 ppbv		
33. cis-1,3-Dichloropropene	25.90 ppbv				
34. trans-1,3-Dichloropropene	25.43 ppbv				
35. Dichlorotetrafluoroethane	25.48 ppbv				
36. Diisopropyl Ether	28.50 ppbv				
37. 1,4-Dioxane	25.88 ppbv				
38. ETBE	24.90 ppbv				
39. Ethanol	26.03 ppbv				
40. Ethyl Acetate	25.38 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47222 (1)	Apel-Riemer Environmental, Inc.	CC518782-20167.2-210723	Gas-phase Calibration Standard (rec...	210723	1.5 L	7/23/2022

This is the ID of the partially recertified cylinder, which had an original ID # 43734. Certification of the remaining compounds completed in VK21 H1cA. The two certifications were then combined into one new ID #, ~~47222~~ 47544
VB 11/22/21

VT-LCS-210702

Description: **TO-15 Working LCS** Prep. Date: **7/2/2021** Exp. Date: **8/1/2021** Prepared By: **cmoua**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Acetone	15.88 ppbv	41. Ethylbenzene	24.95 ppbv		
2. Acrolein	28.50 ppbv	42. Ethylene Dibromide	26.28 ppbv		
3. Acrylonitrile	25.38 ppbv	43. 4-Ethyltoluene	24.68 ppbv		
4. Benzene	25.83 ppbv	44. n-Heptane	25.75 ppbv		
5. Benzyl Chloride	29.25 ppbv	45. Hexachlorobutadiene	20.95 ppbv		
6. Bromodichloromethane	25.30 ppbv	46. n-Hexane	22.00 ppbv		
7. Bromoform	25.90 ppbv	47. 2-Hexanone	21.00 ppbv		
8. Bromomethane	26.65 ppbv	48. Isopropylbenzene	28.00 ppbv		
9. 1,3-Buladiene	21.93 ppbv	49. 4-Methyl-2-pentanone	22.35 ppbv		
10. t-Butanol	25.88 ppbv	50. Methylene Chloride	25.20 ppbv		
11. 2-Butanone	20.85 ppbv	51. MTBE	25.93 ppbv		
12. n-Butylbenzene	26.50 ppbv	52. Naphthalene	24.90 ppbv		
13. sec-Butylbenzene	28.25 ppbv	53. n-Propylbenzene	29.50 ppbv		
14. tert-Butylbenzene	28.75 ppbv	54. Styrene	25.55 ppbv		
15. Carbon Disulfide	24.90 ppbv	55. 1,1,1,2-Tetrachloroethane	26.33 ppbv		
16. Carbon Tetrachloride	25.98 ppbv	56. 1,1,2,2-Tetrachloroethane	25.73 ppbv		
17. Chlorobenzene	25.88 ppbv	57. Tetrachloroethene	25.58 ppbv		
18. Chloroethane	26.68 ppbv	58. Tetrahydrofuran	33.25 ppbv		
19. Chloroform	26.23 ppbv	59. Toluene	25.55 ppbv		
20. Chloromethane	26.08 ppbv	60. 1,2,4-Trichlorobenzene	25.08 ppbv		
21. Cyclohexane	25.50 ppbv	61. 1,1,1-Trichloroethane	25.63 ppbv		
22. Dibromochloromethane	23.33 ppbv	62. 1,1,2-Trichloroethane	26.65 ppbv		
23. 1,2-Dichlorobenzene	27.75 ppbv	63. Trichloroethene	25.45 ppbv		
24. 1,3-Dichlorobenzene	30.50 ppbv	64. Trichlorofluoromethane	25.38 ppbv		
25. 1,4-Dichlorobenzene	28.75 ppbv	65. 1,1,2-Trichlorotrifluoroethane	24.85 ppbv		
26. Dichlorodifluoromethane	26.18 ppbv	66. 1,2,4-Trimethylbenzene	24.93 ppbv		
27. 1,1-Dichloroethane	25.43 ppbv	67. 1,3,5-Trimethylbenzene	25.53 ppbv		
28. 1,2-Dichloroethane	25.10 ppbv	68. 2,2,4-Trimethylpentane	26.28 ppbv		
29. 1,1-Dichloroethene	25.75 ppbv	69. Vinyl Acetate	31.50 ppbv		
30. cis-1,2-Dichloroethene	25.43 ppbv	70. Vinyl Chloride	25.03 ppbv		
31. trans-1,2-Dichloroethene	22.98 ppbv	71. m&p-Xylene	50.68 ppbv		
32. 1,2-Dichloropropane	26.10 ppbv	72. o-Xylene	25.43 ppbv		
33. cis-1,3-Dichloropropene	25.90 ppbv				
34. trans-1,3-Dichloropropene	25.43 ppbv				
35. Dichlorotetrafluoroethane	25.48 ppbv				
36. Diisopropyl Ether	28.50 ppbv				
37. 1,4-Dioxane	25.88 ppbv				
38. ETBE	24.90 ppbv				
39. Ethanol	26.03 ppbv				
40. Ethyl Acetate	25.38 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
47222	Apel-Riemer Environmental, Inc.	CC518782-20167.2-210723	Gas-phase Calibration Standard (rec...	210723	1.5 L	7/23/2022

VT-LCS-210702

Description:	TO-15 Working LCS	Prep. Date: 7/2/2021	Exp. Date: 8/1/2021	Prepared By: cmoua

Solution Stock Sources and Intermediate Sources

VT-LCS-210702
- 47222 (1)

(1) This is the ID of the partially recertified ~~Syringe~~ Cylinder CM 11/22/21 which had an original ID # 43734. Certification of the remaining compounds completed in VK21H16A. The two certifications were then combined into one new ID # 47544

VT-ISSS-210811

Description: **TO-15 Working IS/SS** Prep. Date: **8/11/2021** Exp. Date: **9/10/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Bromochloromethane(I)	25.83 ppbv				
2 4-Bromofluorobenzene(S)	26.88 ppbv				
3. Chlorobenzene-d5(I)	26.68 ppbv				
4. 1,4-Difluorobenzene(I)	26.80 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46646	Airgas Specialty Gases	X05NI99CA98C001-210427	RESTEK P/N 26354 Internal Tuning St...	160-402087993-1	0.1475 L	4/27/2023

VT-ISSS-210811

Description: **TO-15 Working IS/SS** Prep. Date: **8/11/2021** Exp. Date: **9/10/2021** Prepared By: **kmercado**

Solution Stock Sources and Intermediate Sources

VT-ISSS-210811
- 46646 ✓

Friday, November 19, 2021
2:43:37 PM

VT-ISSS-210712

Description: **TO-15 Working IS/SS** Prep. Date: **7/12/2021** Exp. Date: **8/11/2021** Prepared By: **kmercado**

Parameter:	Conc.	Parameter:	Conc.	Parameter:	Conc.
1. Bromochloromethane(I)	25.83 ppbv				
2. 4-Bromofluorobenzene(S)	26.88 ppbv				
3. Chlorobenzene-d5(I)	26.68 ppbv				
4. 1,4-Difluorobenzene(I)	26.80 ppbv				

Solution Stock Sources

Dilution Order: 0

Inventory ID:	Manufacturer:	Catalog No.:	Description:	Lot No.:	Amount:	Expires On:
46646	Airgas Specialty Gases	X05NI99CA98C001-210427	RESTEK P/N 26354 Internal Tuning St...	160-402087993-1	0.1475 L	4/27/2023

VT-ISSS-210712

Description:	TO-15 Working IS/SS	Prep. Date: 7/12/2021	Exp. Date: 8/11/2021	Prepared By: kmercado

Solution Stock Sources and Intermediate Sources

VT-ISSS-210712
- 46646

48552 Bureau Veritas N America
Cat#: Mixed Gas Stand
Lot#: 210720
R: 7/21/2021
E: 8/20/2021
O:
Logged in by: jschaefer
Initials:

AB 7/20/21

Standards were made using an Entech 4600 dynamic diluter

The standards were made by adding 25 cc of the following 3 standards to 925 cc of nitrogen
No lot number for nitrogen as the gas is pulled off a large liquid nitrogen tank (1.)

125ul of DI H2O was added to the cannister prior to introducing the standards

Final pressure is 30.7 PSI

Prepd by Tim Fields at Bureau Veritas on 7/20/21.
Expires: 8/20/21

(1.) AB-114666
AB-114632
AB-116172

THE LINDE GROUP

Linde

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22345 Roethel Dr
Novi, MI 48375

TO-15 RUS N8199

PAGE: 1 of 1

ANALYSIS REPORT

Sales#:	117411608	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1531662	**Cylinder # :**	AB-114666
Report Date:	Mar-25-2021	**Cylinder Pressure:**	1700 psig
P.O.# :	0567371	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	QUALIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24087311	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Mar-25-2022	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

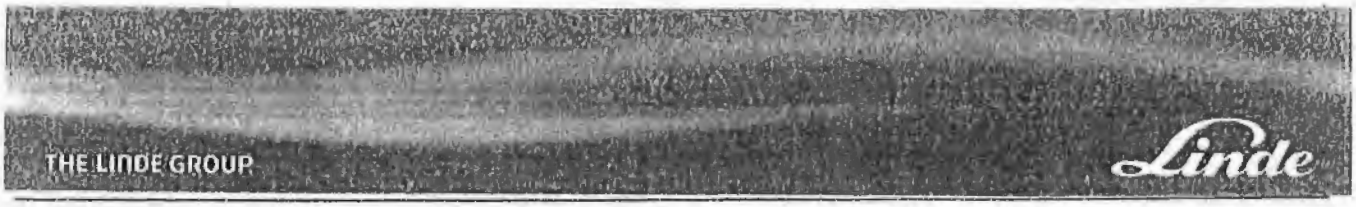
COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Methanol (Analytical Accuracy ± 10%)	67-56-1	1.00 ppm	0.94 ppm
Ethanol (Analytical Accuracy ± 10%)	64-17-5	1.00 ppm	1.15 ppm
Acetonitrile (Analytical Accuracy ± 10%)	75-05-8	1.00 ppm	0.99 ppm
Acrolein (Analytical Accuracy ± 10%)	107-02-8	1.00 ppm	1.03 ppm
Acrylonitrile	107-13-1	1.00 ppm	1.04 ppm
Tert-Butanol	75-65-0	1.00 ppm	1.07 ppm
2-Chloroprene	126-99-8	1.00 ppm	1.09 ppm
Di-isopropyl Ether	108-20-3	1.00 ppm	1.07 ppm
Ethyl Tert-Butyl Ether	637-92-3	1.00 ppm	1.07 ppm
Tert Amyl Methyl Ether	994-05-8	1.00 ppm	1.09 ppm
Methyl Methacrylate	80-62-6	1.00 ppm	1.04 ppm
1,1,1,2-Tetrachloroethane	630-20-6	1.00 ppm	1.06 ppm
Cumene	98-82-8	1.00 ppm	1.06 ppm
o-Chlorotoluene	95-49-8	1.00 ppm	1.06 ppm
n-Propylbenzene	103-65-1	1.00 ppm	1.04 ppm
Tert-Butyl Benzene	98-06-6	1.00 ppm	1.06 ppm
Sec-Butyl Benzene	135-98-8	1.00 ppm	1.03 ppm
o-Cymene	527-84-4	1.00 ppm	1.02 ppm
n-Butyl Benzene	104-51-8	1.00 ppm	0.98 ppm
Naphthalene (Analytical Accuracy ± 10%)	91-20-3	1.00 ppm	0.97 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Mar-25-2021

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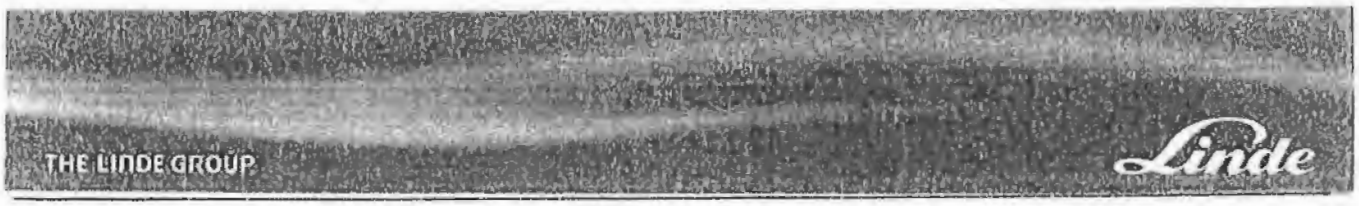
SHIPPED TO: Bureau Veritas N America
22345 Roethel Dr.
Novi, MI 48375-4710

TO-15 SUBST N8798

ANALYSIS REPORT

Sales#:	117411608	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1531092	**Cylinder # :**	AB-114632
Report Date:	Mar-26-2021	**Cylinder Pressure:**	1700 psig
P.O.# :	0567371	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	QUALIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086380	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Mar-26-2022	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 ppm	1.04 ppm
1,3-Butadiene	106-99-0	1.00 ppm	1.04 ppm
Vinyl Bromide	593-60-2	1.00 ppm	0.99 ppm
Acetone	67-64-1	1.00 ppm	0.99 ppm
Isopropyl Alcohol	67-63-0	1.00 ppm	1.09 ppm
Carbon Disulfide (Analytical Accuracy ± 10%)	75-15-0	1.00 ppm	0.99 ppm
Allyl Chloride	107-05-1	1.00 ppm	1.08 ppm
Trans-1,2-Dichloroethene	156-60-5	1.00 ppm	1.01 ppm
Methyl Tert-Butyl Ether	1634-04-4	1.00 ppm	1.08 ppm
Vinyl Acetate	108-05-4	1.00 ppm	1.10 ppm
Methyl Ethyl Ketone	78-93-3	1.00 ppm	0.98 ppm
n-Hexane	110-54-3	1.00 ppm	0.97 ppm
Ethyl Acetate	141-78-6	1.00 ppm	1.00 ppm
Tetrahydrofuran	109-99-9	1.00 ppm	0.91 ppm
Cyclohexane	110-82-7	1.00 ppm	1.03 ppm
Bromodichloromethane	75-27-4	1.00 ppm	1.01 ppm
1,4-Dioxane	123-91-1	1.00 ppm	1.01 ppm
2,2,4-Trimethylpentane	540-84-1	1.00 ppm	1.02 ppm
n-Heptane	142-82-5	1.00 ppm	1.00 ppm
Methyl Isobutyl Ketone	108-10-1	1.00 ppm	0.95 ppm
Methyl Butyl Ketone	591-78-6	1.00 ppm	0.91 ppm
Dibromochloromethane	124-48-1	1.00 ppm	0.96 ppm
Bromoform	75-25-2	1.00 ppm	0.93 ppm



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ANALYSIS REPORT

Sales#:	117411608	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1531092	**Cylinder # :**	AB-114632
Report Date:	Mar-26-2021	**Cylinder Pressure:**	1700 psig
P.O.# :	0567371	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	QUALIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086380	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Mar-26-2022	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
4-Ethyltoluene	622-96-8	1.00 ppm	0.93 ppm
Benzyl Chloride (Analytical Accuracy ± 10%)	100-44-7	1.00 ppm	0.93 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Brian Bramkamp

DATE: Mar-26-2021

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PAGE: 1 of 2

N8797

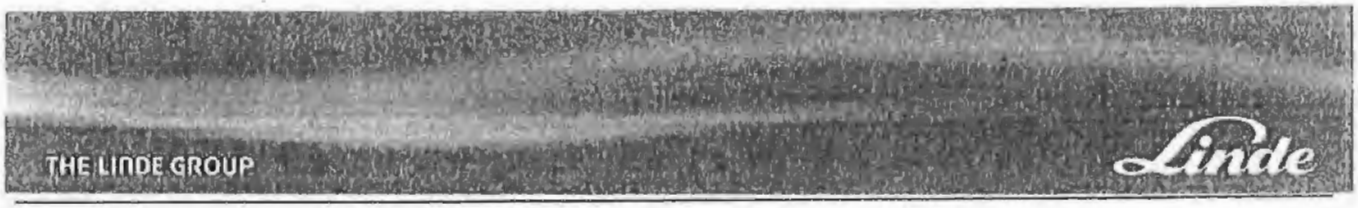
ANALYSIS REPORT

Sales#:	117411608	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1531090	**Cylinder # :**	AB-116172
Report Date:	Mar-30-2021	**Cylinder Pressure:**	1700 psig
P.O.# :	0567371	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	QUALIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086377	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Mar-30-2022	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Dichlorodifluoromethane	75-71-8	1.00 ppm	0.97 ppm
Chloromethane	74-87-3	1.00 ppm	0.98 ppm
Freon-114	76-14-2	1.00 ppm	0.95 ppm
Vinyl Chloride	75-01-4	1.00 ppm	1.00 ppm
Bromomethane	74-83-9	1.00 ppm	1.00 ppm
Chloroethane	75-00-3	1.00 ppm	0.98 ppm
Freon-11	75-69-4	1.00 ppm	1.01 ppm
1,1-Dichloroethene	75-35-4	1.00 ppm	1.03 ppm
Methylene Chloride	75-09-2	1.00 ppm	1.01 ppm
Freon-113	76-13-1	1.00 ppm	1.09 ppm
1,1-Dichloroethane	75-34-3	1.00 ppm	1.04 ppm
Cis-1,2-Dichloroethylene	156-59-2	1.00 ppm	1.01 ppm
Chloroform	67-66-3	1.00 ppm	1.02 ppm
1,2-Dichloroethane	107-06-2	1.00 ppm	1.10 ppm
1,1,1-Trichloroethane	71-55-6	1.00 ppm	1.03 ppm
Benzene	71-43-2	1.00 ppm	1.03 ppm
Carbon Tetrachloride	56-23-5	1.00 ppm	1.03 ppm
1,2-Dichloropropane	78-87-5	1.00 ppm	1.00 ppm
Trichloroethylene	79-01-6	1.00 ppm	1.08 ppm
Cis-1,3-Dichloropropene	10061-01-5	1.00 ppm	1.09 ppm
Trans-1,3-Dichloropropene	10061-02-6	1.00 ppm	0.93 ppm
1,1,2-Trichloroethane	79-00-5	1.00 ppm	1.01 ppm
Toluena	108-88-3	1.00 ppm	1.03 ppm
1,2-Dibromoethane	106-93-4	1.00 ppm	0.99 ppm
Tetrachloroethylene	127-18-4	1.00 ppm	0.98 ppm
Chlorobenzene	108-90-7	1.00 ppm	1.01 ppm
Ethylbenzene	100-41-4	1.00 ppm	1.02 ppm
P-Xylene	106-42-3	1.00 ppm	0.99 ppm

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ANALYSIS REPORT

Sales#:	117411608	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1531090	**Cylinder # :**	AB-116172
Report Date:	Mar-30-2021	**Cylinder Pressure:**	1700 psig
P.O.# :	0567371	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	QUALIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086377	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Mar-30-2022	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
M-Xylene	108-38-3	1.00 ppm	0.99 ppm
Styrene	100-42-5	1.00 ppm	0.99 ppm
O-Xylene	95-47-6	1.00 ppm	0.98 ppm
1,1,2,2-Tetrachloroethane	79-34-5	1.00 ppm	0.98 ppm
1,3,5-Trimethylbenzene	108-67-8	1.00 ppm	0.96 ppm
1,2,4-Trimethylbenzene	95-63-6	1.00 ppm	0.95 ppm
1,3-Dichlorobenzene	541-73-1	1.00 ppm	1.02 ppm
1,4-Dichlorobenzene	106-46-7	1.00 ppm	0.97 ppm
1,2-Dichlorobenzene	95-50-1	1.00 ppm	0.95 ppm
1,2,4-Trichlorobenzene	120-82-1	1.00 ppm	0.94 ppm
Hexachloro-1,3-Butadiene	87-68-3	1.00 ppm	0.96 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Brian Bramkamp

DATE: Mar-30-2021

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Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

47980

avantor™ | J.T.Baker®

Material No.: 9077-02
Batch No.: 0000288059
Manufactured Date: 2021/06/11
Expiration Date: 2024/06/10

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	0.6000
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.1	0.1
Water (by KF, coulometric)	<= 0.08 %	0.01
Volatile Organic Trace Analysis - Below EPA 8260B CRQL	Conforms / Fails	Conforms

For Laboratory, Research or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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47307

CERTIFICATE OF ANALYSIS

1,2,3-Trichlorobenzene

CATALOG NUMBER	N-10171-1G
LOT NUMBER	11425100
DATE CERTIFIED	03/04/21
EXPIRATION DATE	03/31/25
CAS NUMBER	87-61-6
MOLECULAR FORMULA	C6H3Cl3
MOLECULAR WEIGHT	181.45
STORAGE	Store at room temperature (20 - 25 °C).
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.5

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service is accredited to ISO 17034:2016, ISO/IEC 17025:2017 and certified to ISO 9001:2015

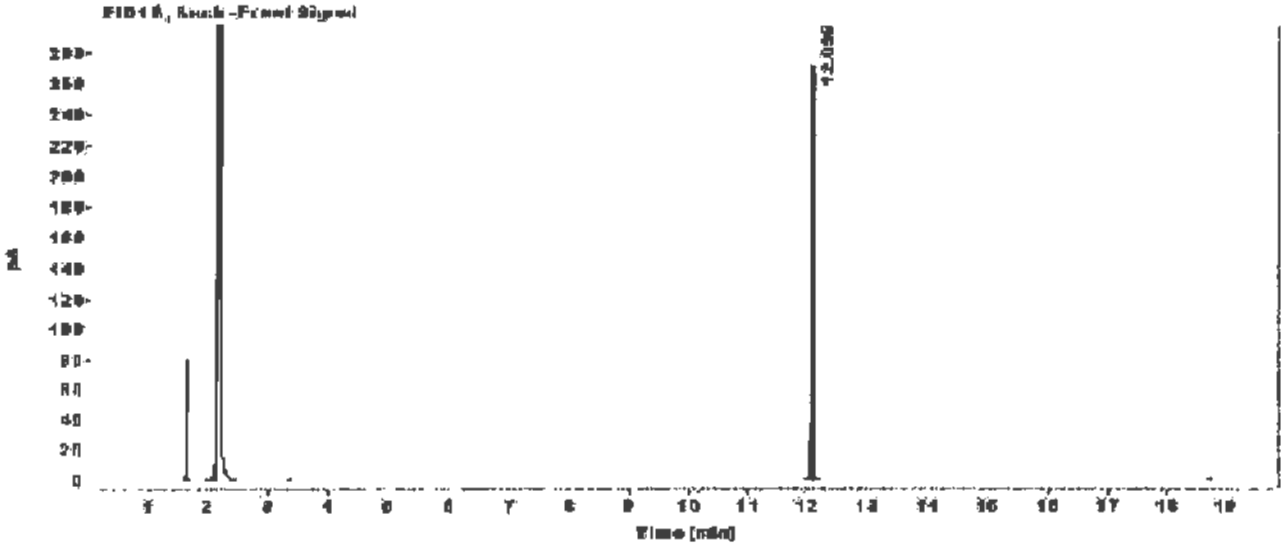
COA Form
Revision 3 (3/2015)

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CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file:	C:\CHEM32\1\DATA\2021 DATA\0321\N-10171.D		
Sample name:	N-10171		
Acq. method:	FRANNY-BACK.M		
Instrument:	GC3	**Location:**	202
Injection date:	3/4/2021 2:01:02 PM	**Injection Vol:**	0.400
Column name:	RTx-5MS (30m x 0.25mm x 0.5µm)	**# Of Injections:**	1



Signal: FID1 B, Back - Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
12.095	BB	0.0272	488.5581	270.7000	100.0000
		Sum	488.5581		

Chem Service is accredited to ISO 17034:2016, ISO/IEC 17025:2017 and certified to ISO 9001:2015

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47308

CERTIFICATE OF ANALYSIS

Hexachloroethane

CATALOG NUMBER	N-12162-250MG
LOT NUMBER	11976100
DATE CERTIFIED	12/02/19
EXPIRATION DATE	12/31/24
CAS NUMBER	67-72-1
MOLECULAR FORMULA	C2Cl6
MOLECULAR WEIGHT	236.74
STORAGE	Store at room temperature (20 - 25 °C).
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.5

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

COA Form
Revision 3 (3/2015)

PJLA Testing

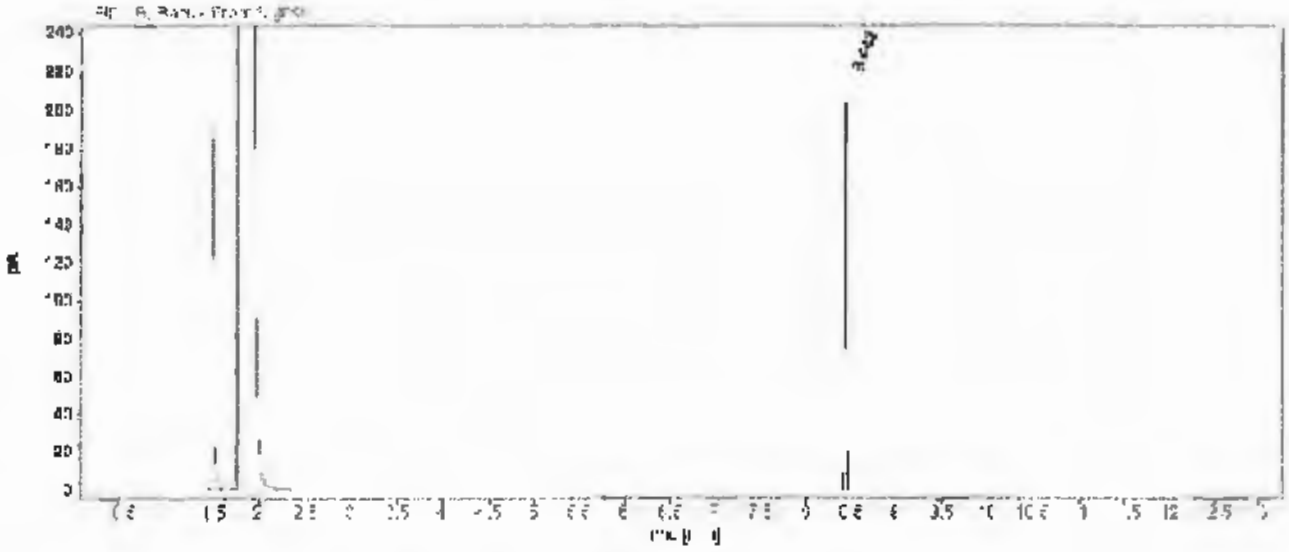
Print Date: 06/30/21

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CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file:	C:\CHEM32\1\DATA\2019 DATA\1219\N-12162 2.D						
Sample name:	N-12162						
Description:							
Acq. method:	MIX1.M						
			Location:	201			
Instrument:	GC3		**Injection Vol:**	1.000			
Injection date:	12/2/2019 9:09:25 AM		**# Of Injections:**	1			
Column name:	HP-5ms Ultra Inert	**Diameter**	250.000	**Length**	30.000	**Particle Size**	0.250



Signal: FID1 B, Back - Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
8.442	BB	0.0218	318.7210	220.9804	100.0000
		Sum	318.7210		

PJLA Testing

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47309

CERTIFICATE OF ANALYSIS

Methylcyclopentane

CATALOG NUMBER	N-12470-1G
LOT NUMBER	11047700
DATE CERTIFIED	01/28/20
EXPIRATION DATE	01/31/26
CAS NUMBER	96-37-7
MOLECULAR FORMULA	C6H12
MOLECULAR WEIGHT	84.16
STORAGE	Store at room temperature (20 - 25 °C).
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.2
FT-IR SPECTROSCOPY	CONFORMS TO STRUCTURE

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

COA Form
Revision 3 (3/2015)

PJLA Testing

Print Date: 06/11/21

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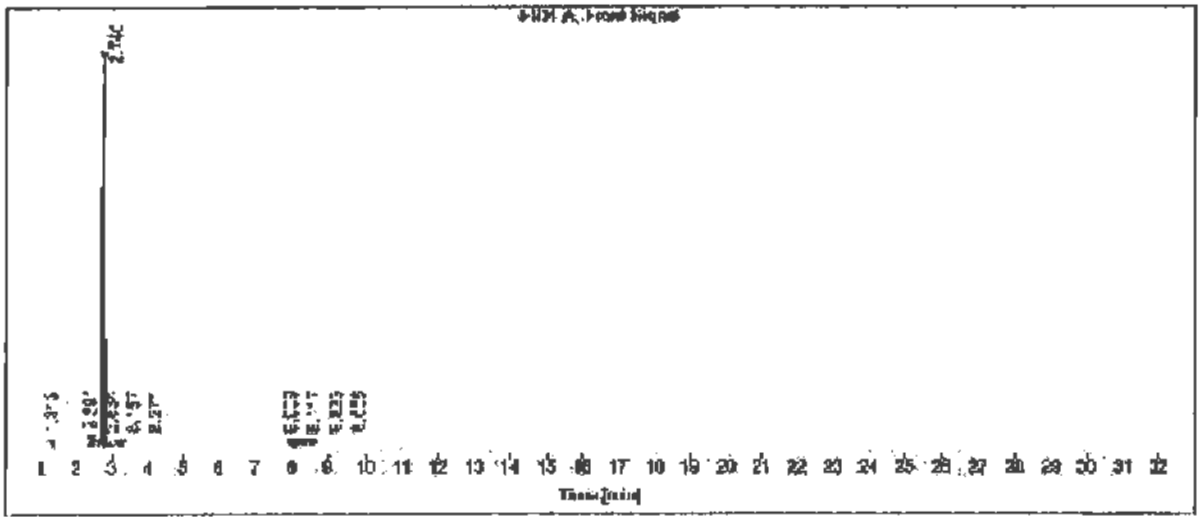
Gas

Data file: C:\CHEM32\
Sample name: N-12470 NI

Instrument: GC 2
Injection date: 1/27/2020 3:46:33 PM
Acq. method: SCREEN.M
Column name: HP-5

CERTIFICATE OF ANALYSIS

Vial: 23
Injection volume: 1.0uL



Signal: FID1 A, Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
1.313	BB	0.0115	46.6284	64.7125	0.03
2.391	BB	0.0246	890.5125	565.9405	0.62
2.534	VV	0.0324	61.7978	29.1904	0.04
2.746	VB S	0.0283	141553.4375	75724.7734	99.23
3.157	BB	0.0338	32.3408	14.3463	0.02
3.271	BB	0.0306	7.5461	3.5196	0.01
6.009	BV	0.0469	28.6505	8.0250	0.02
6.117	VB	0.0331	9.5453	3.5753	0.01
6.333	BB	0.0307	7.0119	2.8248	0.00
6.556	BB	0.0321	6.7413	2.5761	0.00
		Sum	142648.2123		

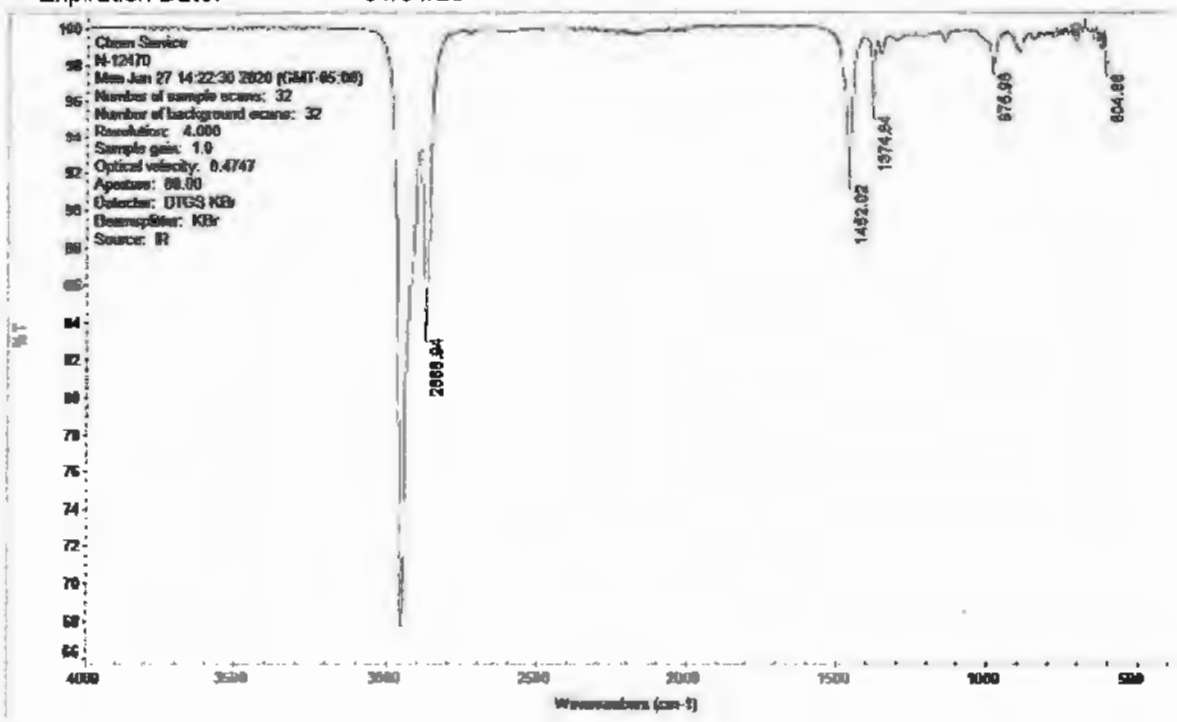
PJLA Testing

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method:

Catalog Number:	N-12470-1G
Description:	Methylcyclopentane
Lot Number:	11047700
Expiration Date:	01/31/26



PJLA Testing

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1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

47310

CERTIFICATE OF ANALYSIS

n-Pentane

CATALOG NUMBER	N-12591-1G
LOT NUMBER	10818400
DATE CERTIFIED	04/05/19
EXPIRATION DATE	04/30/27
CAS NUMBER	109-66-0
MOLECULAR FORMULA	C5H12
MOLECULAR WEIGHT	72.15
STORAGE	Store at room temperature (20 - 25 °C).
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.5
FT-IR SPECTROSCOPY	CONFORMS TO STRUCTURE

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

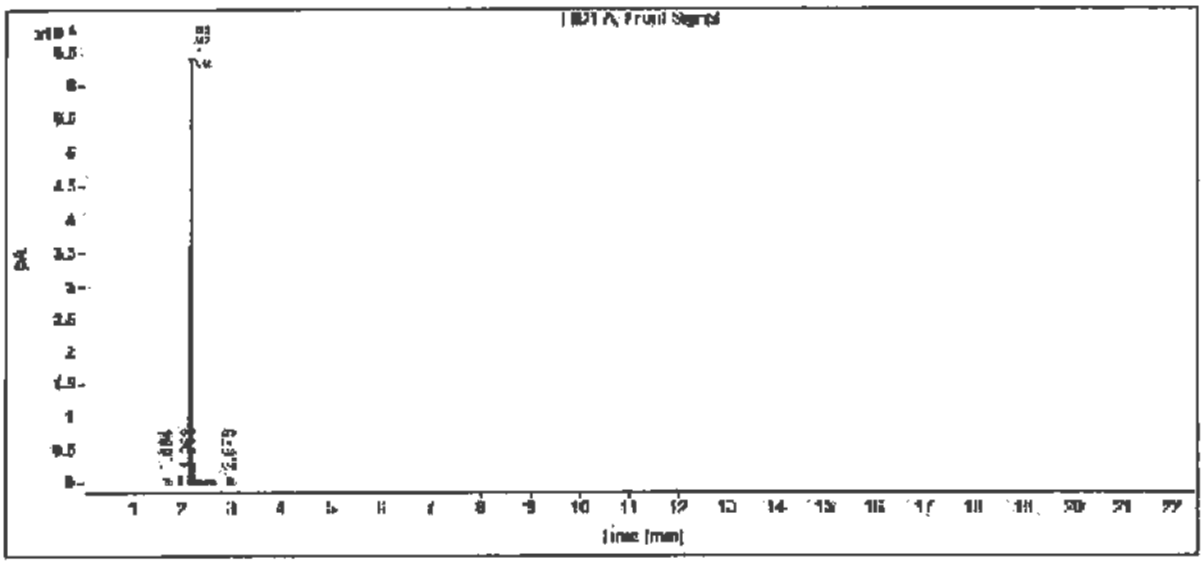
Chem Service is accredited to ISO 17034:2016, ISO/IEC 17025:2017 and certified to ISO 9001:2015

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CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file:	C:\CHEM32\1\DATA\2019 DATA\0410\FID040609.D		
Sample name:	N-12591 NEAT		
Instrument:	GC 1	**Sample type:**	Sample
Injection date:	4/6/2019 1:33:46 PM	**Location:**	Vial 5
Acq. method:	MD1.M	**Injection volume:**	1.0uL
Column name:	DB-624 (30m x 0.53mm x 3.0um)		



Signal: FID1 A, Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
1.694	BB	0.0156	11.0928	11.1543	0.0114
1.953	BB	0.0244	419.0245	265.7286	0.4312
2.156	BB S	0.0236	96495.8719	63851.8711	99.5941
2.976	BB	0.0299	22.5598	11.9956	0.0233
		Sum	96937.3487		

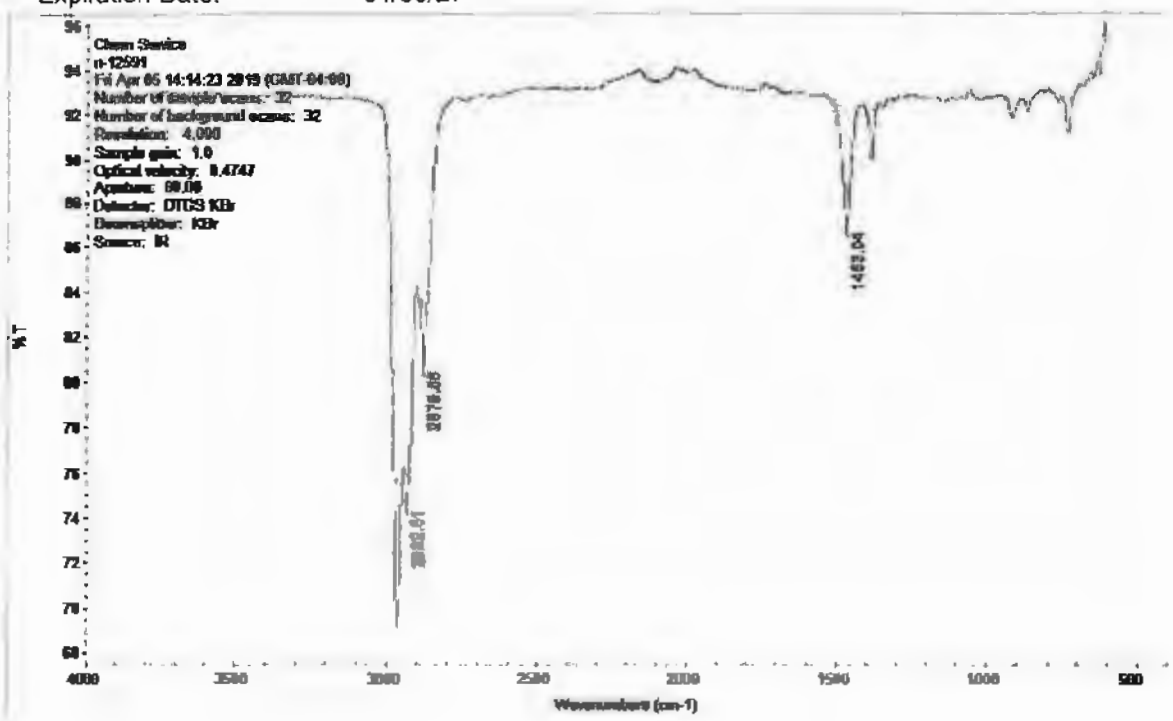
Chem Service is accredited to ISO 17034:2016, ISO/IEC 17025:2017 and certified to ISO 9001:2015

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CERTIFICATE OF ANALYSIS

Analysis Method: FT-IR Spectroscopy

Catalog Number:	N-12591-1G
Description:	n-Pentane
Lot Number:	10818400
Expiration Date:	04/30/27



Certificate of Analysis

DIBROMOMETHANE, 1000MG, NEAT

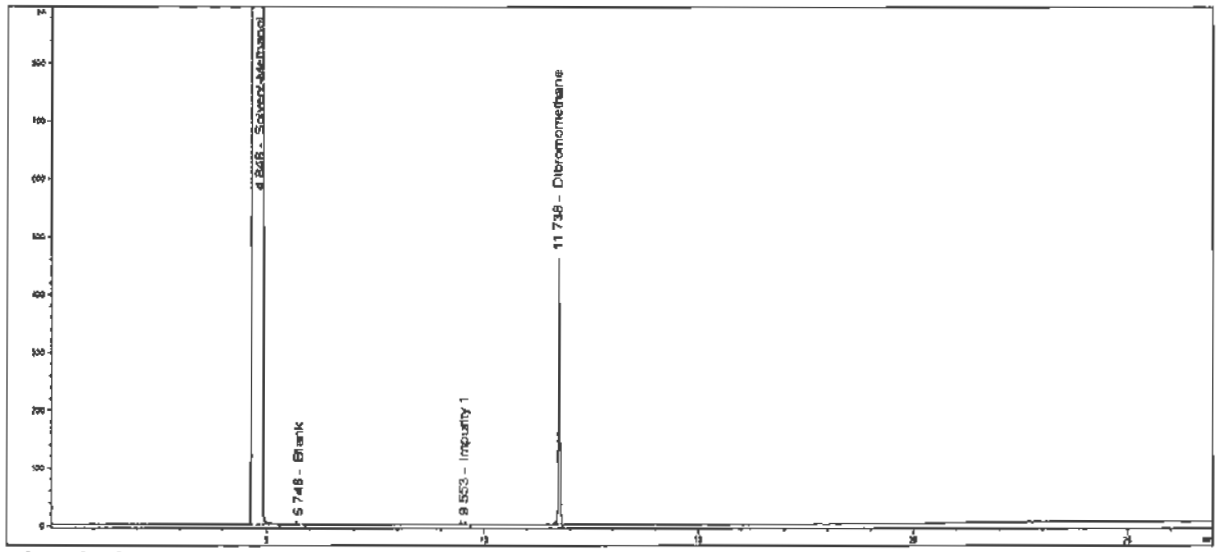
SUPELCO®
Solutions within.™

47311

Product ID	47799
Lot	**LRAC3580**
MFG Date	July 2019
Expiration Date	July 2022
Storage Conditions	Room Temperature
Solvent/Matrix	NEAT
Molecular Formula	CH2Br2
Molecular Weight	173.83
CAS No.	74-95-3

PHYSICAL PROPERTIES	*ASSAY*	
PURITY	**98.3 %**	
Apperance	COLORLESS LIQUID	
FTIR	MATCHES: LAR	LIB NO.: LB81118

TOTAL CHROMATOGRAPHIC IMPURITIES



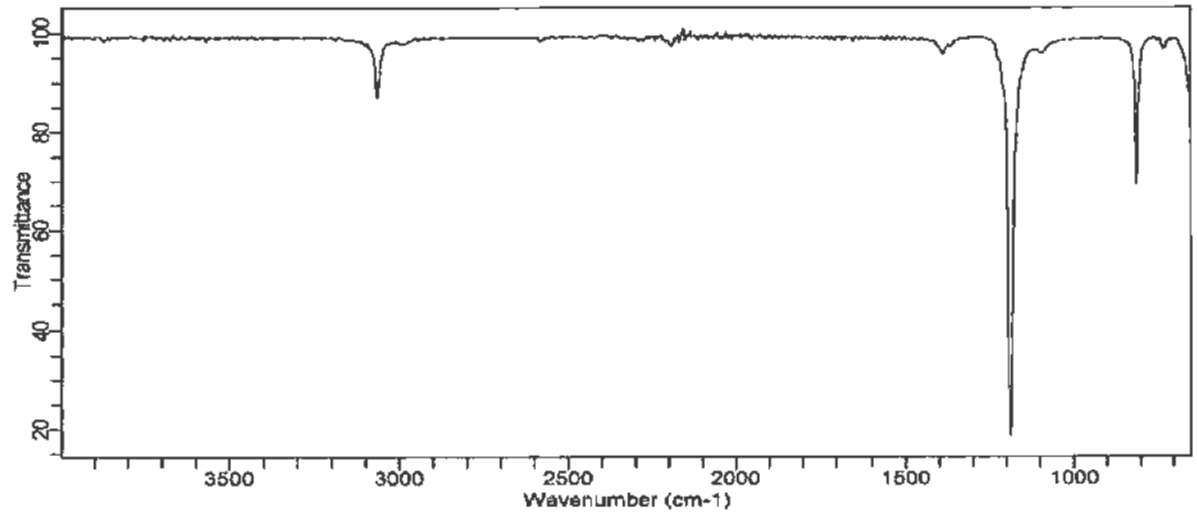
Analytical Method Parameters:

Column: Supelco VOCOL, 60 m × 0.32 mm I.D., 1.8 µm film thickness
Carrier Gas: H2, Flow: 2.0 mL/min
Inlet Temperature: 200 °C, Injection Volume: 1 µL
Injection Mode: Split, Split Ratio: 10:1
Temperature Program: 40 °C (Hold 2 min) @ 10 °C/min to 240 °C (Hold 5 min)
Detector: FID, Detector Temperature: 250 °C

MilliporeSigma
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-3010
www.sigma-aldrich.com

Lot	**LRAC3580**
MFG Date	July 2019
Expiration Date	July 2022
Storage Conditions	Room Temperature
Solvent/Matrix	NEAT
Molecular Formula	CH2Br2
Molecular Weight	173.83
CAS No.	74-95-3

IDENTIFICATION TESTS



Sample Information

MilliporeSigma guarantees the purity of this chemical standard +/- 0.5% deviation prior to the expiration date shown on the label. This guarantee is exclusive of any contamination caused by the customer.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically.

Expiration is at end of month given on certificate and label.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

Robert O'Brien - Program Manager

Mark Pooler - QA Supervisor

Certification Date	August 26, 2019
Version	-8262019

MILLIPORE SIGMA

SIGMA-ALDRICH®
3050 Spruce Street, Saint Louis, MO 63103 USA
Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:	1,2-DIBROMO-3-CHLOROPROPANE PESTANAL™, analytical standard
Product Number:	31257
Batch Number:	BCBW8490
Brand:	Sigma-Aldrich
CAS Number:	96-12-8
Formula:	$CH_2BrCHBrCH_2Cl$
Formula Weight:	236.33
Expiration Date:	MAR 2023
Quality Release Date:	23 JUL 2018

47312

TEST	SPECIFICATION	RESULT
PURITY (GC AREA %)	≥ 95.0 %	97.1 %
REFRACTIVE INDEX N20/D	1.5511 - 1.5551	1.5535
PROTON NMR SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Dr. Claudia Geitner
Manager Quality Control
Buchs, Switzerland

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of Invoice or packing slip for additional terms and conditions of sale.

31257 1,2-Dibromo-3-chloropropane

Lot Number: BCBW8490	Sample Name: 00000000627212_001_GC

Shimadzu GC-2010 Plus

Injector :	250 °C	*GC Serial Number:*	C11804802786
Detector (FID):	320 °C	*Injection Time:*	12.04.18 00:39
Carriergas:	Helium	*Sample Type:*	unknown
Velocity:	40.0 cm/s	*Channel:*	GC_1
Temp. Control:	see Figure 1	*Sequence Creation Time:*	10.04.18 11:17
Split Ratio:	100:1	*Sequence Created By:*	Cheyenne Marty
Range:	-	*Time Processed:*	24.07.18 10:46
Injection Volume:	2.0 ul	*Processed By:*	Markus Urthaler
Vial Number:	5		
Run Time:	20.00 min		
Column:	Equity-5, 30 m x 0.25 mm, 1.0 um		
Sample Prep.:	10ul sample in 1ml methylene chloride		

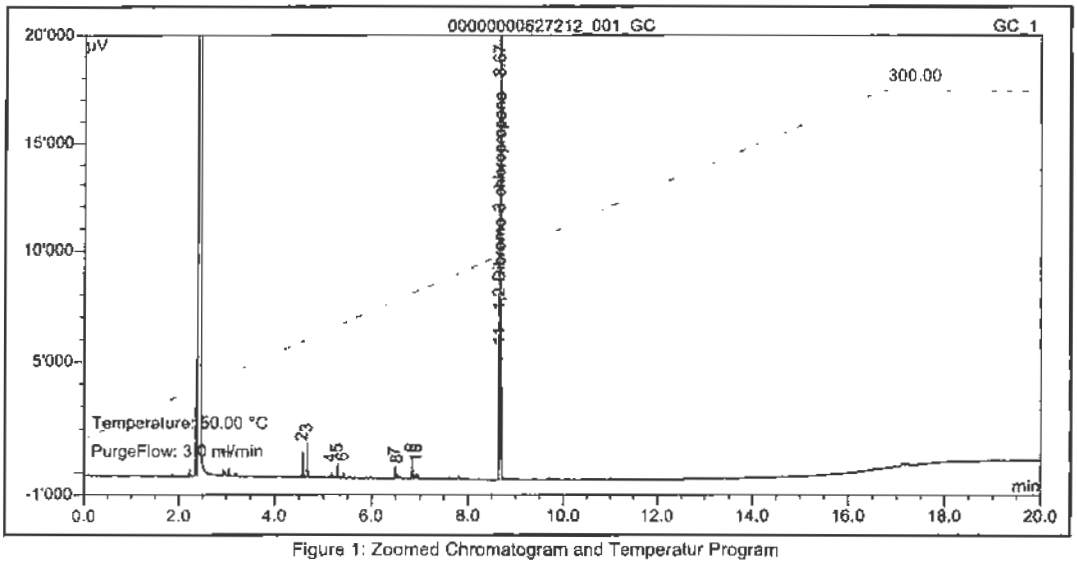


Figure 1: Zoomed Chromatogram and Temperatur Program

No.	Ret.Time min	Peak Name	Type	Height µV	Area µV*min	Amount	Rel.Area %
1	3.048	n.a.	BMB	350	6.4208	n.a.	0.144
2	4.584	n.a.	BMB	1151	24.6683	n.a.	0.553
3	4.675	n.a.	BMB	1566	35.1938	n.a.	0.790
4	5.168	n.a.	BMB	220	5.1092	n.a.	0.115
5	5.303	n.a.	BMB	647	14.2379	n.a.	0.319
6	5.417	n.a.	BMB	262	6.3479	n.a.	0.142
7	6.500	n.a.	BMB	547	12.3375	n.a.	0.277
8	6.548	n.a.	BMB	175	3.3192	n.a.	0.074
9	6.839	n.a.	BMB	713	16.6575	n.a.	0.374
10	6.949	n.a.	BMB	234	4.6925	n.a.	0.105
11	8.669	1,2-Dibromo-3-chloro	BMB	196532	4328.0758	n.a.	97.106
Total:				202397	4457.0604		100.000

SIGMA-ALDRICH®

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Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

47313

Product Name:	1,2,3-Trimethylbenzene analytical standard
Product Number:	45935
Batch Number:	BCCF7088
Brand:	Sigma-Aldrich
CAS Number:	526-73-8
Formula:	$C_6H_3(CH_3)_3$
Formula Weight:	120.19
Expiration Date:	FEB 2026
Quality Release Date:	31 MAR 2021

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	COLORLESS TO VERY FAINT YELLOW	COLORLESS
APPEARANCE (FORM)	LIQUID	LIQUID
PURITY (GC AREA %)	≥ 90.0 %	93.0 %
REFRACTIVE INDEX N20/D	1.5100 - 1.5140	1.5141
PROTON NMR SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland

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Certificate of Analysis

Shimadzu GC-2010 Plus

Injector :	250 °C	*GC Serial Number:*	C11805270285 US
Detector (FID):	280 °C	*Injection Time:*	23.03.21 12:43
Carrlergas:	Helium	*Sample Type:*	Unknown
Velocity:	40.0 cm/s	*Channel:*	GC_1
Temp. Control:	see Figure 1	*Sequence Creation Time:*	23.03.21 10:37
Split Ratio:	100:1	*Sequence Created By:*	Matteo Gaemperli
Range:	-	*Time Processed:*	01/Apr/2021 09:53
Injection Volume:	1.0 ul	*Processed By:*	murhale
Vial Number:	Tray1:5		
Run Time:	25.00 min		
Column:	Supelcowax 10, 30 m x 0.25 mm, 0.5 um		
Sample Prep.:	15 ul sample in 1 ml heptane		

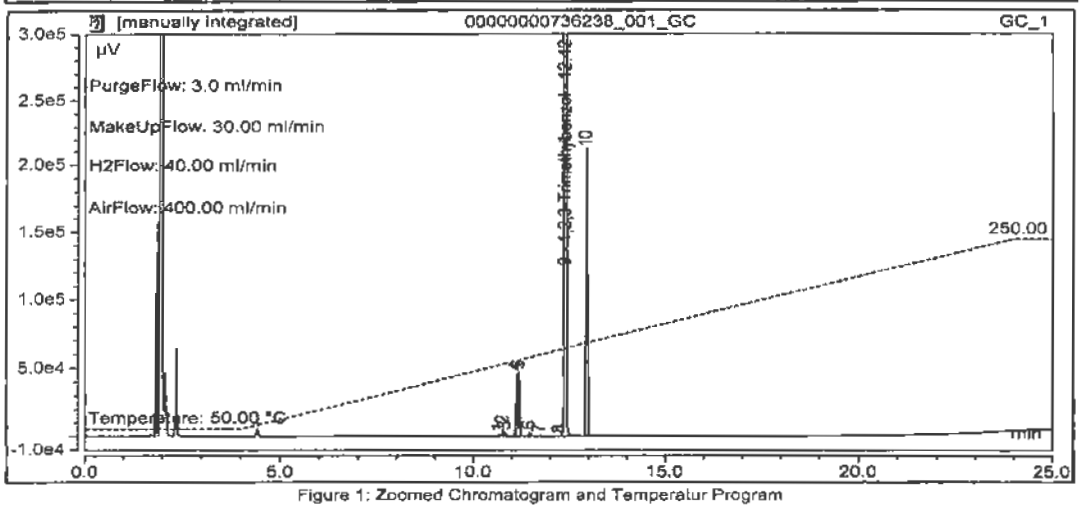


Figure 1: Zoomed Chromatogram and Temperatur Program

No.	Ret.Time min	Peak Name	Type	Height µV	Area µV*min	Amount	Rel.Area %
1	10.691		BMB	1421	46.4260	n.a.	0.035
2	10.791		BM *	7182	243.2598	n.a.	0.181
3	10.840		MB*	2593	82.0614	n.a.	0.061
4	11.138		BM *	45582	1345.6813	n.a.	1.002
5	11.197		MB*	46614	1406.8823	n.a.	1.048
6	11.466		BMB	2926	105.2482	n.a.	0.078
7	11.738		BMB	698	25.9463	n.a.	0.019
8	12.253		BMB*	186	6.7637	n.a.	0.005
9	12.418	1,2,3-Trimethylbenzol	BMB*	3575855	124941.1467	n.a.	93.042
10	12.965		BMB*	212147	6080.8177	n.a.	4.528
Total:				3895204	134284.2333		100.000

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Certificate of Analysis

47314

Product Name:	2-Methylnaphthalene analytical standard
Product Number:	45796
Batch Number:	BCCF3786
Brand:	Sigma-Aldrich
CAS Number:	91-57-6
Formula:	$C_{11}H_{10}$
Formula Weight:	142.20
Expiration Date:	DEC 2025
Quality Release Date:	10 FEB 2021

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	WHITE TO YELLOW AND FAINT BEIGE TO BEIGE AND FAINT BROWN TO LIGHT BROWN AND YELLOW-BROWN	VERY FAINT RED
APPEARANCE (FORM)	POWDER OR CRYSTALS	CRYSTALS AND CHUNKS
PURITY (GC AREA %)	≥ 98.0 %	99.5 %
MELTING POINT	31 - 37 C	34 C
PROTON NMR SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Dr. R. Schwenninger

Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland

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Certificate of Analysis

Shimadzu GC-2010 Plus

Injector :	250 °C	*GC Serial Number:*	C11805270285 US
Detector (FID):	280 °C	*Injection Time:*	14.01.21 19:51
Carriergas:	Helium	*Sample Type:*	Unknown
Velocity:	40.0 cm/s	*Channel:*	GC_1
Temp. Control:	see Figure 1	*Sequence Creation Time:*	25.09.20 15:47
Split Ratio:	100:1	*Sequence Created By:*	Matteo Gaemperli
Range:	-	*Time Processed:*	15/Feb/2021 13:00
Injection Volume:	1.0 ul	*Processed By:*	murthale
Vial Number:	Tray1:6		
Run Time:	20.00 min		
Column:	Supelcowax 10, 30 m x 0.25 mm, 0.5 um		
Sample Prep.:	ca 10 ul sample in 1 ml methylene chloride		

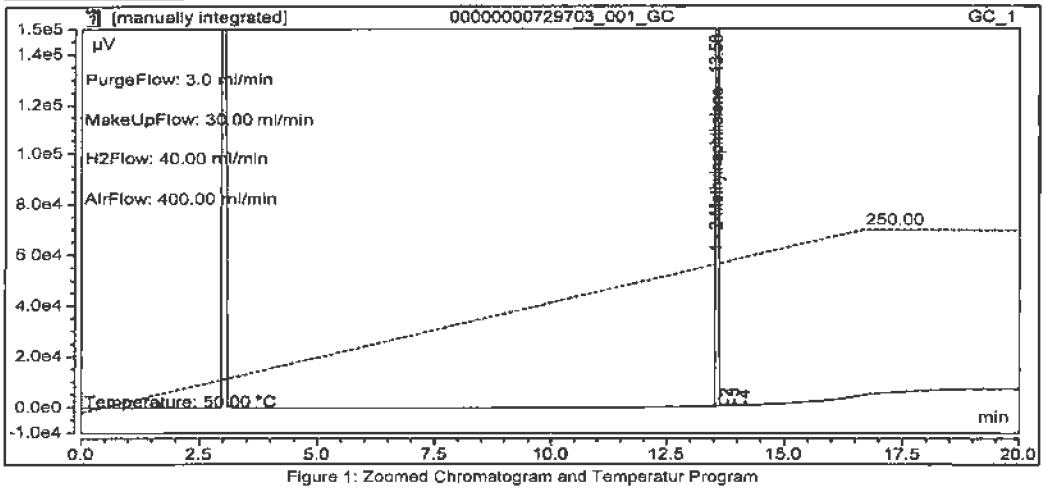


Figure 1: Zoomed Chromatogram and Temperatur Program

No.	Ret.Time min	Peak Name	Type	Height µV	Area µV*min	Amount	Rel.Area %
1	13.579	2-Methylnaphthalene	BMB*	1480969	38447.4983	n.a.	99.514
2	13.797		BMB	2409	66.2893	n.a.	0.172
3	13.950		BMB	2222	64.5527	n.a.	0.167
4	14.183		BMB	1724	57.0923	n.a.	0.148
Total:				1487324	38635.4327		100.000

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Certificate of Analysis

Product Name:	Diethyl ether analytical standard
Product Number:	91238
Batch Number:	BCCD0973
Brand:	Sigma-Aldrich
CAS Number:	60-29-7
Formula:	$(CH_3CH_2)_2O$
Formula Weight:	74.12
Expiration Date:	MAR 2023
Quality Release Date:	30 MAR 2020

47291

TEST	SPECIFICATION	RESULT
STABILIZER	STABILIZED WITH ~0.0005 % 2,6--DI-TERT-BUTYL-4-METHYLPHENOL	0.0008 %
APPEARANCE (COLOR)	COLORLESS	COLORLESS
APPEARANCE (FORM)	LIQUID	LIQUID
PURITY (GC AREA %)	≥ 99.9 %	100.0 %
REFRACTIVE INDEX N20/D	1.3520 - 1.3540	1.3523
WATER (COULOMETR.)	≤ 0.10 %	0.01 %
TRACES PEROXIDE (AS H2O2)	≤ 0.30 MG/KG	< 0.3 PPM

Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland

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Certificate of Analysis

91238 Diethyl ether

Lot Number: **BCCD0973**	Sample Name: **00000000705216_001_GC**

Shimadzu GC-2010 Plus

Injector :	250 °C	***GC Serial Number:***	C11805270285 US
Detector (FID):	280 °C	***Injection Time:***	30.03.20 16:27
Carriergas:	Helium	***Sample Type:***	Unknown
Velocity:	40.0 cm/s	***Channel:***	GC_2
Temp. Control:	see Figure 1	***Sequence Creation Time:***	03.01.20 15:20
Split Ratio:	100:1	***Sequence Created By:***	Dosch Nicolas
Range:	-	***Time Processed:***	22/Apr/2020 18:11
Injection Volume:	0.1 ul	***Processed By:***	murthale
Vial Number:	Tray1:2		
Run Time:	20.00 min		
Column:	Equity-1701, 30 m x 0.25 mm, 1.0 um		
Sample Prep.:	neat		

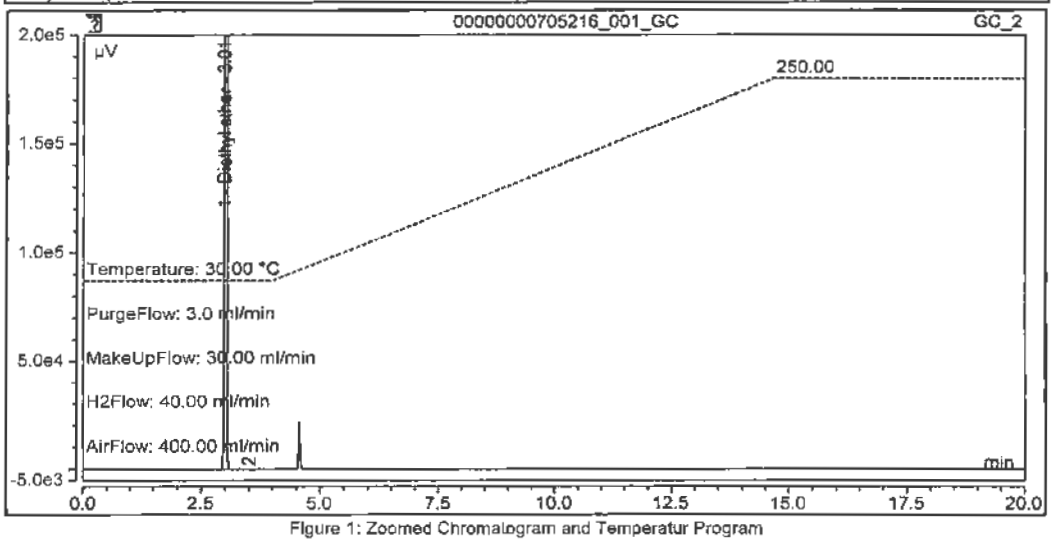


Figure 1: Zoomed Chromatogram and Temperatur Program

No.	Ret.Time min	Peak Name	Type	Height µV	Area µV*min	Amount	Rel.Area %
1	3.011	Diethyl ether	BMB	2563227	71484.5867	n.a.	99.991
2	3.527		BMB	205	6.5723	n.a.	0.009
Total:				2563432	71491.1590		100.000

SIGMA-ALDRICH®

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Certificate of Analysis

Product Name:	Bromobenzene
	>= 99.5 % GC
Product Number:	16350
Batch Number:	BCCC3505
Brand:	Aldrich
CAS Number:	108-86-1
Formula:	C_6H_5Br
Formula Weight:	157.01
Quality Release Date:	06 NOV 2019

47290

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	COLORLESS TO ALMOST COLORLESS	COLORLESS
APPEARANCE (FORM)	LIQUID	LIQUID
PURITY (GC AREA %)	≥ 99.5 %	100.0 %
REFRACTIVE INDEX N20/D	1.558 - 1.560	1.560
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland

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433361

Honeywell

CERTIFICATE OF ANALYSIS

Honeywell Burdick & Jackson®
1953 South Harvey Street
Muskegon, MI 49442
Phone: (800) 368-0050
Fax: (231) 728-8226
www.lab-honeywell.com

Brand:	Research Chemicals - B&J
Product:	323
Lot No.:	DX846
Production Date:	22-Nov-2019
Best Before:	21-Nov-2021

Isopropyl Alcohol, B&J Brand™, >99.9%
for HPLC, GC, pesticide residue analysis, and spectrophotometry

Parameter	Specification Min.	Max.	Result	Units
Water by Karl Fischer Titration		0.06	0.002	%
UV Cutoff		205	203	nm
Refractive Index (20°C)	1.3766	1.3778	1.3773	
Residue		1	<0.5	mg/L
GC Analysis	99.9		99.98	%
Electron Capture GC		2	<2	µg/L
UV Absorbance @ 225 nm		0.160	0.0932	AU
UV Absorbance @ 250 nm		0.020	0.0114	AU
UV Absorbance @ 300 nm		0.005	0.0025	AU
UV Absorbance @ 400 nm		0.005	<0.0001	AU

Honeywell
Quality Control Approval

Muskegon 11/25/2019 LIMS Sample No.: AK03474

Cylinder: CC518780
Cylinder Date: 08/19
Valve: CGA350 SS 19/504809
Lot No.: 20167.1
Cylinder Pressure: 2000 psia
Analysis Date: July 13, 2020



Multi-component calibration mixture in nitrogen

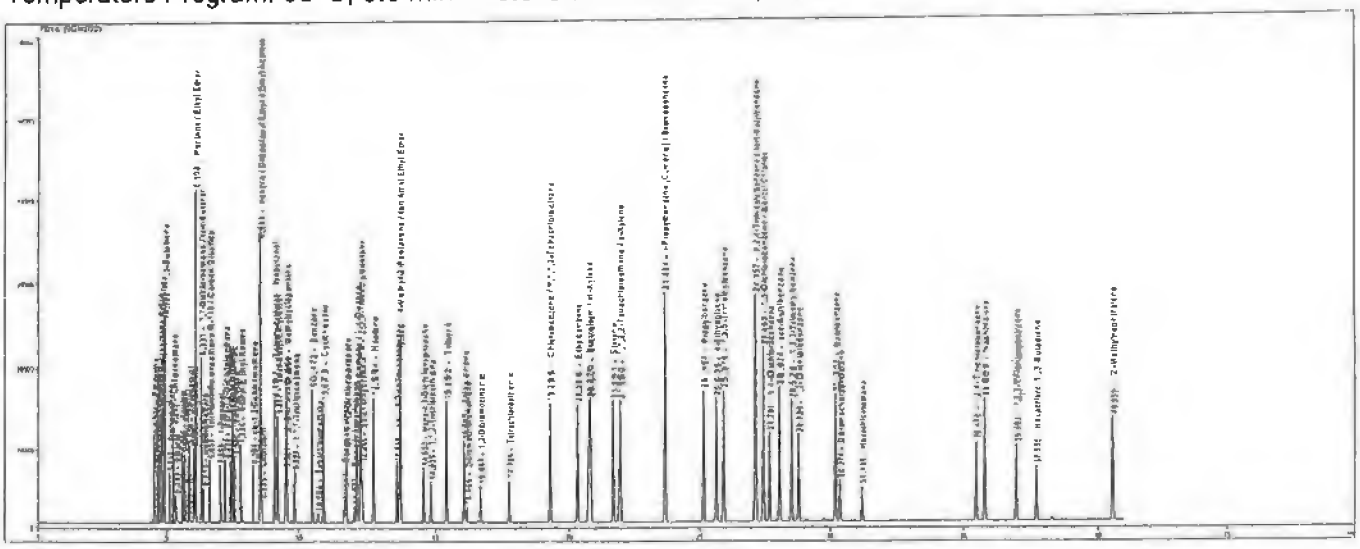
Compound	CAS#	Concentration (ppb)	Uncertainty
Propene	115-07-1	101.8	±5%
Dichlorodifluoromethane (F-12)	75-71-8	104.0	±5%
Chloromethane	74-87-3	104.0	±5%
1,2-Dichlorotetrafluoroethane (F-114)	76-14-2	101.8	±5%
Methanol	67-56-1	99.1	±5%
Vinyl Chloride	75-01-4	100.1	±5%
1,3-Butadiene	106-99-0	103.0	±5%
Bromomethane	74-83-9	105.6	±5%
Chloroethane	75-00-3	106.1	±5%
Ethanol	64-17-5	104.6	±5%
Acrolein	107-02-8	100.5	±5%
Acetone	67-64-1	102.8	±5%
Trichlorofluoromethane (F-11)	75-69-4	101.7	±5%
2-Propanol	67-63-0	102.9	±5%
Acrylonitrile	107-13-1	97.6	±5%
Pentane	109-66-0	101.9	±5%
Diethyl Ether	60-29-7	104.5	±5%
1,1-Dichloroethene	75-35-4	102.2	±5%
tert-Butyl alcohol	75-65-0	103.7	±5%
Dichloromethane	75-09-2	100.8	±5%
1,1,2-Trichloro-1,2,2-Trifluoroethane (CFC-113)	76-13-1	98.7	±5%
Carbon Disulfide	75-15-0	99.6	±5%
1-Propanol	71-23-8	103.1	±5%
trans-1,2-Dichloroethene	156-60-5	102.3	±5%
1,1-Dichloroethane	75-34-3	101.3	±5%
Methyl *tert*-Butyl Ether	1634-04-4	103.2	±5%
Vinyl Acetate	108-05-4	104.0	±5%
Methyl Ethyl Ketone	78-93-3	101.0	±5%
cis-1,2-Dichloroethene	156-59-2	101.0	±5%
Hexane	110-54-3	101.0	±5%
Diisopropyl ether	108-20-3	100.5	±5%
Ethyl Acetate	141-78-6	101.7	±5%
Chloroform	67-66-3	104.7	±5%
Tetrahydrofuran	109-99-9	101.2	±5%
Isobutanol	78-83-1	105.5	±5%
Ethyl tert-butyl ether	637-92-3	98.6	±5%
1,2-Dichloroethane	107-06-2	100.6	±5%
Methylcyclopentane	96-37-7	105.1	±5%
1,1,1-Trichloroethane	71-55-6	102.2	±5%
Benzene	71-43-2	102.9	±5%
Tetrachloromethane	56-23-5	103.9	±5%
Cyclohexane	110-82-7	101.8	±5%
Dibromomethane	74-95-3	99.5	±5%
1,2-Dichloropropane	78-87-5	104.0	±5%
Bromodichloromethane	75-27-4	100.7	±5%
Trichloroethylene	79-01-6	101.8	±5%
1,4-Dioxane	123-91-1	103.7	±5%
2,2,4-Trimethylpentane	540-84-1	104.3	±5%

Compound	CAS#	Concentration (ppb)	Uncertainty
Epichlorhydrin	106-89-8	126.2	±5%
Heptane	142-82-5	102.7	±5%
cis-1,3-Dichloropropene	10061-01-5	102.8	±5%
4-Methyl-2-Pentanone	108-10-1	102.3	±5%
tert-Amyl-Ethyl Ether	919-94-8	89.3	±5%
trans-1,3-Dichloropropene	10061-02-6	100.5	±5%
1,1,2-Trichloroethane	79-00-5	105.7	±5%
Toluene	108-88-3	101.7	±5%
2-Hexanone	591-78-6	100.1	±5%
Dibromochloromethane	124-48-1	105.6	±5%
1,2-Dibromoethane	106-93-4	104.2	±5%
Tetrachloroethylene	127-18-4	102.0	±5%
Chlorobenzene	108-90-7	102.6	±5%
1,1,1,2-Tetrachloroethane	630-20-6	101.5	±5%
Ethyl Benzene	100-41-4	99.9	±5%
Bromoform	75-25-2	103.8	±5%
m-Xylene	108-38-3	101.6	±5%
p-Xylene	106-42-3	101.2	±5%
Styrene	100-42-5	102.4	±5%
1,1,2,2-Tetrachloroethane	79-34-5	103.3	±5%
o-Xylene	95-47-6	101.9	±5%
i-Propylbenzene	98-82-8	100.9	±5%
Bromobenzene	108-86-1	103.0	±5%
Propylbenzene	103-65-1	102.3	±5%
4-Ethyltoluene	622-96-8	99.0	±5%
1,3,5-Trimethylbenzene	108-67-8	102.5	±5%
1,2,4-Trimethylbenzene	95-63-6	100.1	±5%
tert-Butylbenzene	98-06-6	101.6	±5%
m-Dichlorobenzene	541-73-1	101.9	±5%
Benzyl Chloride	100-44-7	101.7	±5%
p-Dichlorobenzene	106-46-7	101.5	±5%
sec-Butylbenzene	135-98-8	100.6	±5%
1,2,3-Trimethylbenzene	526-73-8	99.8	±5%
o-Dichlorobenzene	95-50-1	101.2	±5%
Butylbenzene	104-51-8	96.3	±5%
Dibromochloropropane	96-12-8	101.9	±5%
Hexachloroethane	67-72-1	100.7	±5%
1,2,4-Trichlorobenzene	120-82-1	101.2	±5%
Naphthalene	91-20-3	101.2	±5%
1,2,3-Trichlorobenzene	87-61-6	100.5	±5%
Hexachloro-1,3-Butadiene	87-68-3	101.9	±5%
2-Methylnaphthalene	91-57-6	98.7	±5%

Uncertainty is a conservative estimate of the combination of the uncertainties of the gravimetric preparation and analysis.

Chromatogram

100-meter DB-1, 0.25 mm id, 3.1 mL min^{-1} Helium carrier gas – constant flow
Temperature Program: 35°C, 3.5 min → 3.5°C min^{-1} → 180 °C, 6 min



APEL-RIEMER ENVIRONMENTAL, INC
REFERENCE GASES AND ATMOSPHERIC CHEMISTRY

Certification Report

Gas-phase Calibration Standard

This gas-phase standard is intended to be used as a reference material for the calibration of instruments.

Statement about preparation and traceability:

Standards are gravimetrically prepared in high-pressure aluminum cylinders (Luxfer, Inc., Riverside, California). Cylinders are cleaned and treated to eliminate contamination and ensure inertness. Standards are prepared in N150 cylinders (~4000 Liters calibration gas) or N033 cylinders (~800 Liters calibration gas) at a pressure of 2000 psia UHP nitrogen. Valves are high purity stainless steel (Ceodeux, Lintgen, Luxembourg) with a CGA-350 fitting. Pure compounds as liquids and gases are obtained from a number of sources. All lot numbers are cataloged. The gravimetric preparation is performed using calibrated microbalances (Mettler-Toledo, Columbus, Ohio) and microsyringes (Hamilton, Reno, Nevada and SGE, Austin, Texas) for measuring the compounds and cylinder balances (Mettler-Toledo, Columbus, Ohio) for the balance gas. Balances are calibrated with NIST traceable weights.

We prepare each cylinder individually. Accuracy is better than +/- 5%. Analysis confirms the accuracy of the gravimetric preparation. We use a series of NIST, NIST-traceable, NPL, and in-house standards to perform the instrument calibrations.

Stability varies depending on the compound, concentration, and cylinder size. Stability can be assured for 12 months. Many compounds are stable for several years.

Certified from analysis date for 12 months.

Daniel D. Riemer, Ph.D.

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Telephone: 786-925-6201 / Fax: 786-364-1591
Email: info@apelriemerenvironmental.com

43734

Apel-Riemer Environm
Cat# CC518782-2016
Lot# 20167.2

R: 7/16/2020 Logged in by
E: 7/13/2021 adonnelly
Initials

Cylinder: CC518782
Cylinder Date: 08/19
Valve: CGA350 SS 19/504787
Lot No.: 20167.2
Cylinder Pressure: 2000 psia
Analysis Date: July 13, 2020

Multi-component calibration mixture in nitrogen

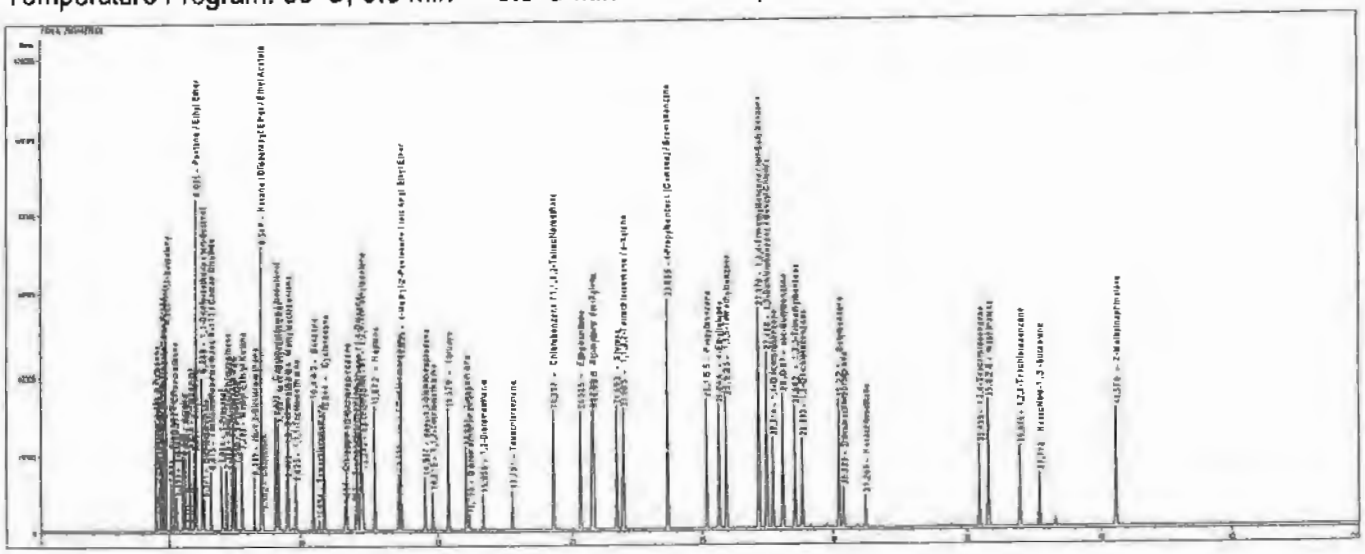
Compound	CAS#	Concentration (ppb)	Uncertainty
Propene	115-07-1	102.4	±5%
Dichlorodifluoromethane (F-12)	75-71-8	104.7	±5%
Chloromethane	74-87-3	104.3	±5%
1,2-Dichlorotetrafluoroethane (F-114)	76-14-2	101.9	±5%
Methanol	67-56-1	97.5	±5%
Vinyl Chloride	75-01-4	100.1	±5%
1,3-Butadiene	106-99-0	103.6	±5%
Bromomethane	74-83-9	106.6	±5%
Chloroethane	75-00-3	106.7	±5%
Ethanol	64-17-5	104.1	±5%
Acrolein	107-02-8	101.0	±5%
Acetone	67-64-1	104.7	±5%
Trichlorofluoromethane (F-11)	75-69-4	101.5	±5%
2-Propanol	67-63-0	104.1	±5%
Acrylonitrile	107-13-1	101.5	±5%
Pentane	109-66-0	103.3	±5%
Diethyl Ether	60-29-7	101.4	±5%
1,1-Dichloroethene	75-35-4	103.0	±5%
tert-Butyl alcohol	75-65-0	103.5	±5%
Dichloromethane	75-09-2	100.8	±5%
1,1,2-Trichloro-1,2,2-Trifluoroethane (CFC-113)	76-13-1	99.4	±5%
Carbon Disulfide	75-15-0	99.6	±5%
1-Propanol	71-23-8	103.5	±5%
trans-1,2-Dichloroethene	156-60-5	102.5	±5%
1,1-Dichloroethane	75-34-3	101.7	±5%
Methyl *tert*-Butyl Ether	1634-04-4	103.7	±5%
Vinyl Acetate	108-05-4	105.4	±5%
Methyl Ethyl Ketone	78-93-3	102.7	±5%
cis-1,2-Dichloroethene	156-59-2	101.7	±5%
Hexane	110-54-3	101.3	±5%
Diisopropyl ether	108-20-3	102.5	±5%
Ethyl Acetate	141-78-6	101.5	±5%
Chloroform	67-66-3	104.9	±5%
Tetrahydrofuran	109-99-9	104.0	±5%
Isobutanol	78-83-1	105.3	±5%
Ethyl *tert*-butyl ether	637-92-3	99.6	±5%
1,2-Dichloroethane	107-06-2	100.4	±5%
Methylcyclopentane	96-37-7	104.9	±5%
1,1,1-Trichloroethane	71-55-6	102.5	±5%
Benzene	71-43-2	103.3	±5%
Tetrachloromethane	56-23-5	103.9	±5%
Cyclohexane	110-82-7	102.0	±5%
Dibromomethane	74-95-3	100.5	±5%
1,2-Dichloropropane	78-87-5	104.4	±5%
Bromodichloromethane	75-27-4	101.2	±5%
Trichloroethylene	79-01-6	101.8	±5%
1,4-Dioxane	123-91-1	103.5	±5%
2,2,4-Trimethylpentane	540-84-1	105.1	±5%

Compound	CAS#	Concentration (ppb)	Uncertainty
Epichlorhydrin	106-89-8	128.2	±5%
Heptane	142-82-5	103.0	±5%
cis-1,3-Dichloropropene	10061-01-5	103.6	±5%
4-Methyl-2-Pentanone	108-10-1	102.1	±5%
tert-Amyl-Ethyl Ether	919-94-8	91.1	±5%
trans-1,3-Dichloropropene	10061-02-6	101.7	±5%
1,1,2-Trichloroethane	79-00-5	106.6	±5%
Toluene	108-88-3	102.2	±5%
2-Hexanone	591-78-6	101.9	±5%
Dibromochloromethane	124-48-1	105.0	±5%
1,2-Dibromoethane	106-93-4	105.1	±5%
Tetrachloroethylene	127-18-4	102.3	±5%
Chlorobenzene	108-90-7	103.5	±5%
1,1,1,2-Tetrachloroethane	630-20-6	101.3	±5%
Ethyl Benzene	100-41-4	99.8	±5%
Bromoform	75-25-2	103.6	±5%
m-Xylene	108-38-3	101.4	±5%
p-Xylene	106-42-3	101.3	±5%
Styrene	100-42-5	102.2	±5%
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Propylbenzene	103-65-1	102.0	±5%
4-Ethyltoluene	622-96-8	98.7	±5%
1,3,5-Trimethylbenzene	108-67-8	102.1	±5%
1,2,4-Trimethylbenzene	95-63-6	99.7	±5%
tert-Butylbenzene	98-06-6	102.2	±5%
m-Dichlorobenzene	541-73-1	101.1	±5%
Benzyl Chloride	100-44-7	101.5	±5%
p-Dichlorobenzene	106-46-7	100.7	±5%
sec-Butylbenzene	135-98-8	100.1	±5%
1,2,3-Trimethylbenzene	526-73-8	99.2	±5%
o-Dichlorobenzene	95-50-1	100.2	±5%
Butylbenzene	104-51-8	95.6	±5%
Dibromochloropropane	96-12-8	100.2	±5%
Hexachloroethane	67-72-1	99.8	±5%
1,2,4-Trichlorobenzene	120-82-1	100.3	±5%
Naphthalene	91-20-3	99.6	±5%
1,2,3-Trichlorobenzene	87-61-6	99.2	±5%
Hexachloro-1,3-Butadiene	87-68-3	101.2	±5%
2-Methylnaphthalene	91-57-6	101.4	±5%

Uncertainty is a conservative estimate of the combination of the uncertainties of the gravimetric preparation and analysis.

Chromatogram

100-meter DB-1, 0.25 mm id, 3.1 mL min^{-1} Helium carrier gas – constant flow
Temperature Program: 35°C, 3.5 min → 3.5°C min^{-1} → 180 °C, 6 min



APEL-RIEMER ENVIRONMENTAL, INC
REFERENCE GASES AND ATMOSPHERIC CHEMISTRY

Certification Report

Gas-phase Calibration Standard

This gas-phase standard is intended to be used as a reference material for the calibration of instruments.

Statement about preparation and traceability:

Standards are gravimetrically prepared in high-pressure aluminum cylinders (Luxfer, Inc., Riverside, California). Cylinders are cleaned and treated to eliminate contamination and ensure inertness. Standards are prepared in N150 cylinders (~4000 Liters calibration gas) or N033 cylinders (~800 Liters calibration gas) at a pressure of 2000 psia UHP nitrogen. Valves are high purity stainless steel (Ceodeux, Lintgen, Luxembourg) with a CGA-350 fitting. Pure compounds as liquids and gases are obtained from a number of sources. All lot numbers are cataloged. The gravimetric preparation is performed using calibrated microbalances (Mettler-Toledo, Columbus, Ohio) and microsyringes (Hamilton, Reno, Nevada and SGE, Austin, Texas) for measuring the compounds and cylinder balances (Mettler-Toledo, Columbus, Ohio) for the balance gas. Balances are calibrated with NIST traceable weights.

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Stability varies depending on the compound, concentration, and cylinder size. Stability can be assured for 12 months. Many compounds are stable for several years.

Certified from analysis date for 12 months.

Daniel D. Riemer, Ph.D.

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Email: info@apelriemerenvironmental.com

Airgas
an Air Liquide company

46646 Restek Corporation
Cat#: 26354-210427
Lot#: 160-402087993-1
R: 4/27/2021 Logged in by
E: 4/27/2023 adonnelly
O: Initials

Airgas Specialty Gases
Airgas USA, LLC
6141 Easton Road
Bldg 2
Plumsteadville, PA 18949
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Customer:	FIBERTEC ENV SVCS INC		
Part Number:	X05NI99CA98C001	Reference Number:	160-402087993-1
Cylinder Number:	ST0000229445	Cylinder Volume:	98.0 LG
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	1800 PSIG
Analysis Date:	Apr 27, 2021	Valve Outlet:	180
Lot Number:	160-402087993-1		

Expiration Date: Apr 27, 2023

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
1,4 DIFLUOROBENZENE	1.000 PPM	1.072 PPM	+/- 5%
4 BROMOFLUOROBENZENE	1.000 PPM	1.075 PPM	+/- 5%
BROMOCHLOROMETHANE	1.000 PPM	1.033 PPM	+/- 5%
CHLOROBENZENE-D5	1.000 PPM	1.067 PPM	+/- 5%
NITROGEN	Balance		

Permanent Notes: RESTEK P/N 26354 Internal Tuning Standard

Approved for Release

Airgas
an Air Liquide company

Airgas Specialty Gases 46646
Airgas USA, LLC
6141 Easton Road
Bldg 2
Plumsteadville, PA 18949
Airgas.com

CERTIFICATE OF ANALYSIS

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CHLOROBENZENE-D5	1.000 PPM	1.067 PPM	+/- 5%
NITROGEN	Balance		

Permanent Notes: RESTEK P/N 26354 Internal Tuning Standard

Signature on file
Approved for Release

LAB ● 2340 SIDE

DATE	(SP) in Hg	Analyst
10/23/21	-28.93	JM
10/26/21	-26.56	CD

LOGIN: Date Received: 11/4/21

(RP) 0.55 in Hg Analyst: CD

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-001 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD CL-SG-GP-1 (7')

LAB ● 3021 SIDE

DATE	(SP) in Hg	Analyst
10/23/21	-28.92	JM
10/24/21	-26.55	CD

LOGIN: Date Received: 11/4/21

(RP) -0.00 in Hg Analyst: CD

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-002 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD CL-SG-GP-2 (4.5')

LAB ● 3567 SIDE

DATE	(SP) in Hg	Analyst
10/23/21	-28.91	JM
10/26/21	-26.55	CD

LOGIN: Date Received: 11/4/21

(RP) 0.21 in Hg Analyst: CD

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-003 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD CL-SG-GP-3 (4.5')

FIELD SIDE

CAN # 3567
SAMPLER: _____
SITE DESCRIPTION: _____

Project No./Name 211365
Sample I.D CL-SG-GP-3(4.5')
Date/Time 11/01/21 11:55
Collected By MEH
Bottle/Preservative 1 L bottle vac
Parameters USEPA TO-15 Full List

START TIME: 11 : 48 AM / PM IP: 27 "Hg
STOP TIME: 11 : 55 AM / PM FP: 2 "Hg
REGULATOR # 3259
COMMENTS: _____

Fibertec environmental services

FIELD SIDE

CAN # 3021
SAMPLER: _____
SITE DESCRIPTIOI

Project No./Name 211365
Sample I.D. CL-SG-GP-2(4.5')
Date/Time 11/01/21 13:00
Collected By MEH
Bottle/Preservative 1 L bottle vac
Parameters USEPA TO-15 Full List

START TIME: 12 : 53 AM / (PM) IP: 27 "Hg
STOP TIME: 13 : 00 AM / (PM) FP: 2 "Hg
REGULATOR # 2633
COMMENTS: _____

Fibertec environmental services

FIELD SIDE

CAN # 2340
SAMPLER: _____
SITE DESCRIPTION: _____

Project No./Name 211365
Sample I.D. CL-SG-GP-1 (3')
Date/Time 11/01/21 13:53
Collected By MEH
Bottle/Preservative 1 L bottle vac
Parameters USEPA TO-15 Full List

START TIME: 13 : 46 AM / (PM) IP: 30 "Hg
STOP TIME: 13 : 53 AM / (PM) FP: 3 "Hg
REGULATOR # 2506
COMMENTS: _____

Fibertec environmental services

LAB 2589 SIDE

DATE	(SP) in Hg	Analyst
10/23/21	-28.92	XM
10/25/21	-28.59	CA

LOGIN: Date Received: 11/4/21

(RP) -2.19 in Hg Analyst: CA

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-004 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD
CL-SG-GP-4 (1.75")

LAB 2269 SIDE

DATE	(SP) in Hg	Analyst
10/14/21	-28.77	XM
10/18/21	-28.94	AB
10/19/21	-28.84	CA

LOGIN: Date Received: 11/4/21

(RP) -3.94 in Hg Analyst: CA

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-005 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD
CL-SG-GP-5 (10")

LAB 30680 SIDE

DATE	(SP) in Hg	Analyst
10/12/21	-28.78	AB
10/18/21	-28.92	AB
10/19/21	-28.83	CA

LOGIN: Date Received: 11/4/21

(RP) -0.70 in Hg Analyst: CA

Dilutions:
(SP) _____ in Hg
(RP) _____ in Hg
(FP) _____ psi
Analyst/Date: _____

Comments: _____

A05022-006 | VL
Bottle Vac | NONE | 1 of 1
CSN
CSD
CL-SG-GP-1 (7") (D)

Project No /Name 211365

CAN # 3680

Sample I.D. CL-SG-GP-1 (7') (D)

SAMPLER: _____

Date/Time 11/01/21 14:01

Collected By MRH

SITE DESCRIPTION:

Bottle/Preservative 1 L bottle vac

Parameters USEPA TO-15 Full List

SIDE

FIELD

START TIME: 13 : 54 AM / PM IP: 30+ "Hg

STOP TIME: 14 : 01 AM / PM FP: 3.5 "Hg

REGULATOR # 2500

COMMENTS: _____

Fibertec environmental services

Project No./Name 211365

CAN # 2269

Sample I.D. CL-SG-GP-5(I)

SAMPLER: _____

Date/Time 11/01/21 15:34

Collected By MRH

SITE DESCRIPTION:

Bottle/Preservative 1 L bottle vac

Parameters USEPA TO-15 Full List

SIDE

FIELD

START TIME: 15 : 27 AM / PM IP: 26 "Hg

STOP TIME: 15 : 34 AM / PM FP: 4 "Hg

REGULATOR # 3379

COMMENTS: _____

Fibertec environmental services

Project No./Name 211365

CAN # 2589

Sample I.D. CL-SG-GP-4(I)

SAMPLER: _____

Date/Time 11/01/21 14:42

MRH

Collected By _____

SITE DESCRIPTION:

Bottle/Preservative 1 bottle vac

Parameters TO-15 Full List

SIDE

FIELD

START TIME: 14 : 36 AM / PM IP: 28 "Hg

STOP TIME: 14 : 42 AM / PM FP: 3.5 "Hg

REGULATOR # 3988

COMMENTS: _____

Fibertec environmental services

Item Tested	Analytical Batch #	Other items in cleaning batch
BV 3585	VK21J22A	

☒ Bottle Vac

☐ Summa 6L / 1L

☐ Flow Controllers - Summa / BV

☐ Tubing: _____ feet

☐ Other: _____

• Tubing results calculated for 10 foot segments.

• Masterflex tubing results calculated for 1 foot

Oven used (circle one): 01 (02) _____

Comments:

3585	A04232-003
3021	A04303-002
31620	A04303-001
31666	A04212-001
988	A04222-034
35566	A04188-019
527	A04230-008
2573	A04232-001
30661	A04272-003
2558	A04272-001
3447	A04267-002
5166	A04222-036
3574	A04230-007
2305	A04233-004
487	A04299-003
3733	A04267-001
567	A04222-035
46666	A04230-0016
511	A04233-003
3053	A04299-002
26694	A04188-020
2835	A04230-004
2401	A04233-002
36666	A04299-001
2340	A04272-004
3567	A04233-001

535	A04230-005
3488	A04299-004
2589	A04306-001
995	A04222-037

Analyst/Date: [signature] 10/23/21

DCSID: V-535.4 (07/28/20)

Data Path : C:\VK\VK_DATA\VK21J22A\
Data File : VK21JM07.D
Acq On : 22 Oct 2021 2:19 pm
Operator : VK
Sample : BV 3585
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 10/22/21

Quant Time: Oct 22 15:20:33 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	299579	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	405587	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	75785	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.945	95	205028	5.91	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		87.95%

Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
19) Methylene Chloride	6.196	49	4255	0.08	# 90	0.08
21) Carbon Disulfide	6.529	76	33443	0.23	# 86	0.23
58) Tetrachloroethene	14.807	166	5785	0.16	89	0.16
87) 2-Methylnaphthalene	22.083	142	546m	0.02		0.02

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

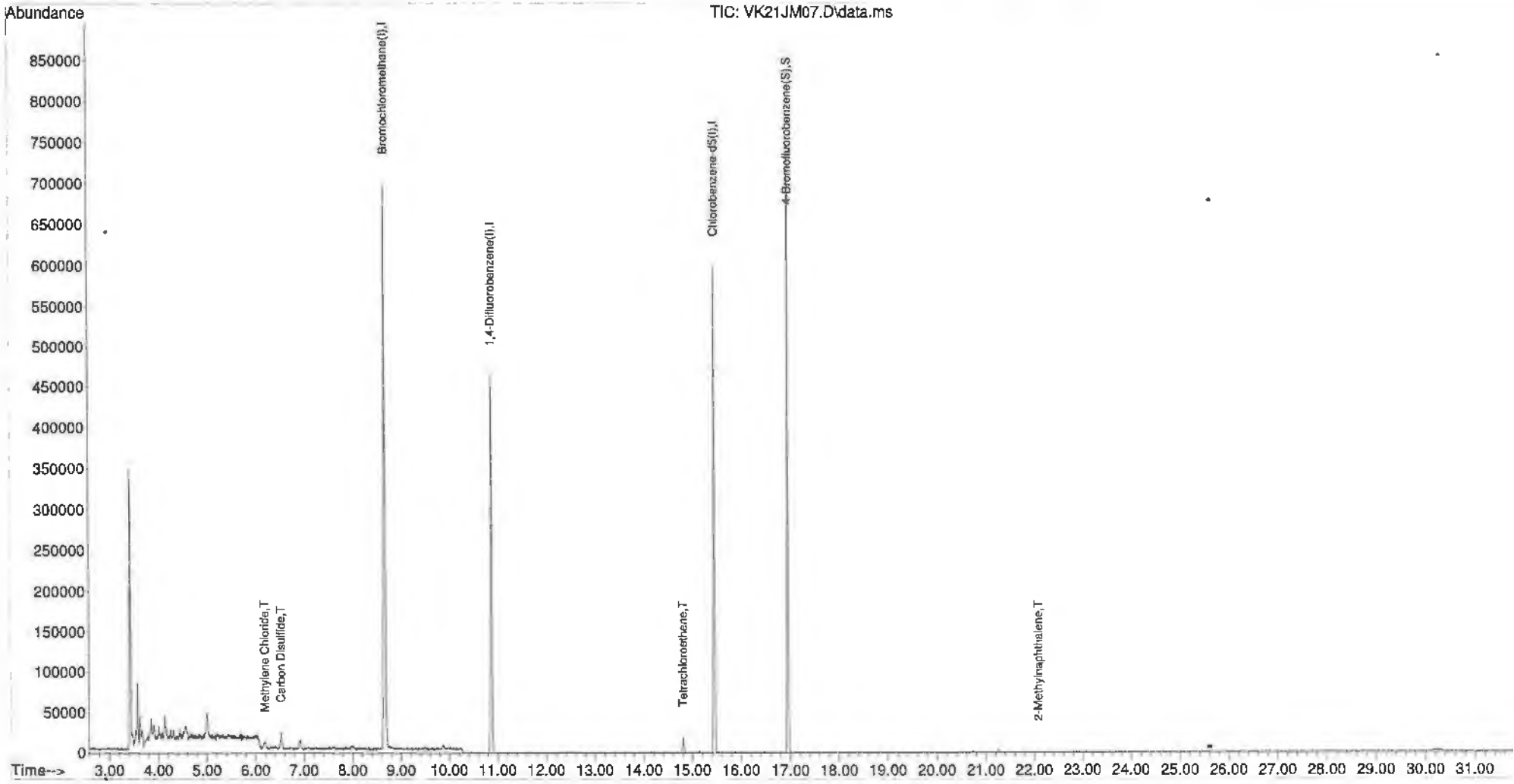
Clean

DCA 10-25-21

Quantitation Report (QT Reviewed)

Data Path : C:\VK\VK_DATA\VK21J22A\
Data File : VK21JM07.D
Acq On : 22 Oct 2021 2:19 pm
Operator : VK
Sample : BV 3585
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 15:20:33 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Data Path : C:\VK\VK_DATA\VK21J22A\
Data File : VK21JM07.D
Acq On : 22 Oct 2021 2:19 pm
Operator : VK
Sample : BV 3585
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 14:48:48 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

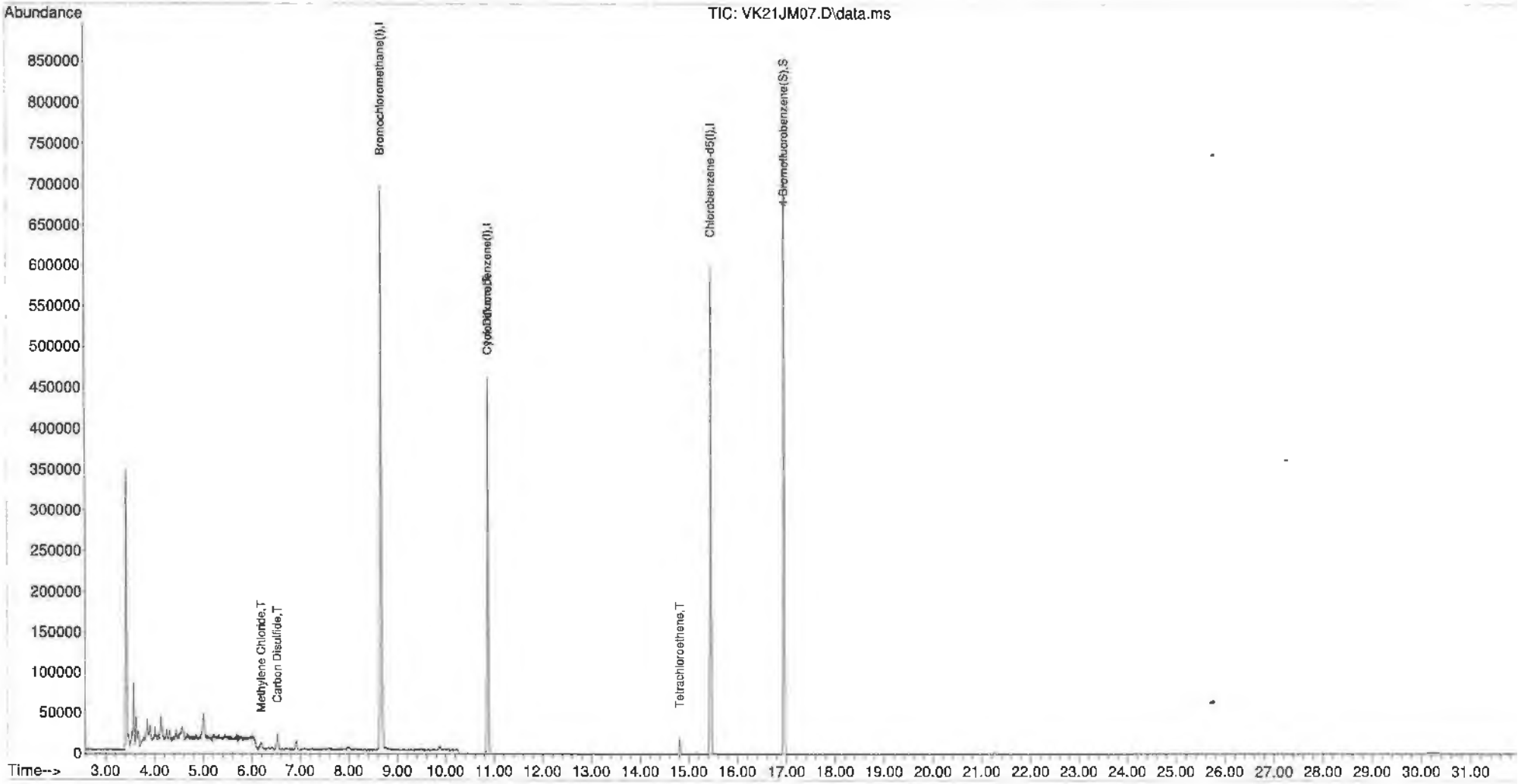
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	299579	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	405587	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	75785	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.945	95	205028	5.91	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		87.95%
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
19) Methylene Chloride	6.196	49	4255	0.08	# 90	0.08
21) Carbon Disulfide	6.529	76	33443	0.23	# 86	0.23
38) Cyclohexane	10.868	56	10474	0.42	# 4	0.42
58) Tetrachloroethene	14.807	166	5785	0.16	89	0.16

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : C:\VK\VK_DATA\VK21J22A\
Data File : VK21JM07.D
Acq On : 22 Oct 2021 2:19 pm
Operator : VK
Sample : BV 3585
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 14:48:48 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	BV 3585
Method:	VKCONC28.ctd
Sample Name:	BV 3585
Inject Time:	10/22/2021 2:16:40 PM
App Version:	2.0.0.251

Instrument SN:	
Sample Inlet (1-4):	1
AS 1 Position:	1
AS 2 Position:	-1
AS 3 Position:	-1
Auto Sampler:	7016D

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100 (100)	103 (100)	1.73	25.46	24.72	1.95	3.12
Calibration Std	0 (0)	--	0.00	--	--	--	--
Sample	400 (400)	94 (100)	5.27	24.88	17.97	1.91	6.5
Calc Sample Vol	--						
Helium Flush	76 (75)	97 (100)	1.35	24.38	23.65	1.7	2.59
M1/ M2 Transfer	50 (50)	8 (10)	5.18	24.9	23.73	1.91	2.48

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bakeout
M1	-37(-40)	-2(0)				154(150)
M1 BulkHead	33(30)	63(60)				151(150)
M2	-37(-40)	-37(-40)	-38(-40)	219(220)		223(220)
M2 Bulk Head	32(30)			91(90)		150(150)
M3	71(NA)			-199/-191(-165)	72(80)	72(NA)
Rot Valve Plate	92/91(90)					92/91(90)
GC Xfer Line					100(100)	
4 Sample Line	92(90)					

7200 Autosampler Temperatures

AS 1	Temp (C)	AS 2	Temp (C)	AS 3	Temp (C)	7650	Temp (C)
Rotary Valve:	83	Rotary Valve:	-1	Rotary Valve:	-1	Gripper:	-1
Transfer Line:	82	Transfer Line:	-1	Transfer Line:	-1	Transfer Line:	-1
Sample:	17	Sample:	-1	Sample:	-1	Oven:	-1

Item Tested	Analytical Batch #	Other items in cleaning batch
BV 3528	VK2J13A	3528 A04017-001

☑ Bottle Vac

☐ Summa 6L / 1L

☐ Flow Controllers - Summa / BV

☐ Tubing: _____ feet

☐ Other: _____

• Tubing results calculated for 10 foot segments.

• Masterflex tubing results calculated for 1 foot

Oven used (circle one): O1 (02) _____

Comments:

34090	BVPE
3492	A04067-006
3483	A04067-002
538	A04067-004
2325	A04067-005
3207 ~~3200~~	A04067-008
2839	A04067-010
2051	A04067-011
1069	A04023-005
3119	A04023-003
2274	A04048-005
3043	A04048-009
3634	A04067-003
2399	A04067-007
3671	A04039-007
2797	A04039-004
3494	A04039-002
2821	A04039-001
3182	A04039-006
3665	A04039-005
2263	A04039-003
5016	A04023-001
888	A04067-009 1°dil
3226	A04017-004 1°dil

475	TUBING
3129	A04017-006
3223	A04023-002
3689	A04023-004 1°dilution
2269	A04023-006 2°dilution

Analyst/Date: EM 10/14/21

DCSID: V-535.4 (07/28/20)

Data Path : C:\VK\VK_DATA\VK21J13A\
Data File : VK21JD10.D
Acq On : 13 Oct 2021 4:39 pm
Operator : VK
Sample : bv 3528
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 14 09:26:38 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

KM 10/14/21
CCAL

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	311256	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	404460	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	74073	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.947	95	219595	6.47	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		96.28%
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
12) Isopropanol	5.497	45	1044	0.02	# 13	0.02
19) Methylene Chloride	6.191	49	3925	0.07	# 87	0.07
21) Carbon Disulfide	6.534	76	6028	0.04	# 69	0.04

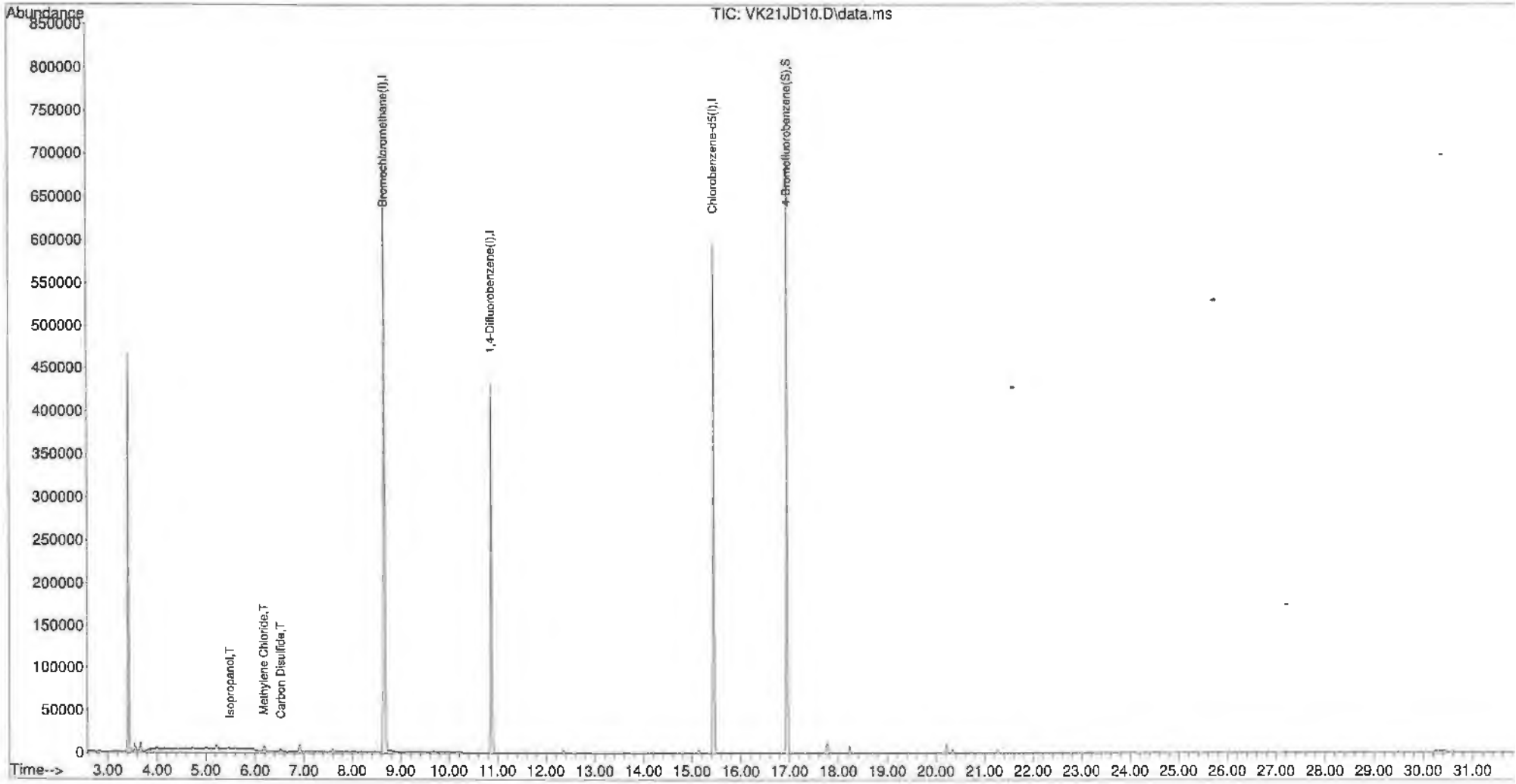
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

OM 10-14-21

Quantitation Report (QT Reviewed)

Data Path : C:\VK\VK_DATA\VK21J13A\
Data File : VK21JD10.D
Acq On : 13 Oct 2021 4:39 pm
Operator : VK
Sample : bv 3528
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 14 09:26:38 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Data Path : C:\VK\VK_DATA\VK21J13A\
Data File : VK21JD10.D
Acq On : 13 Oct 2021 4:39 pm
Operator : VK
Sample : bv 3528
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 13 17:08:54 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

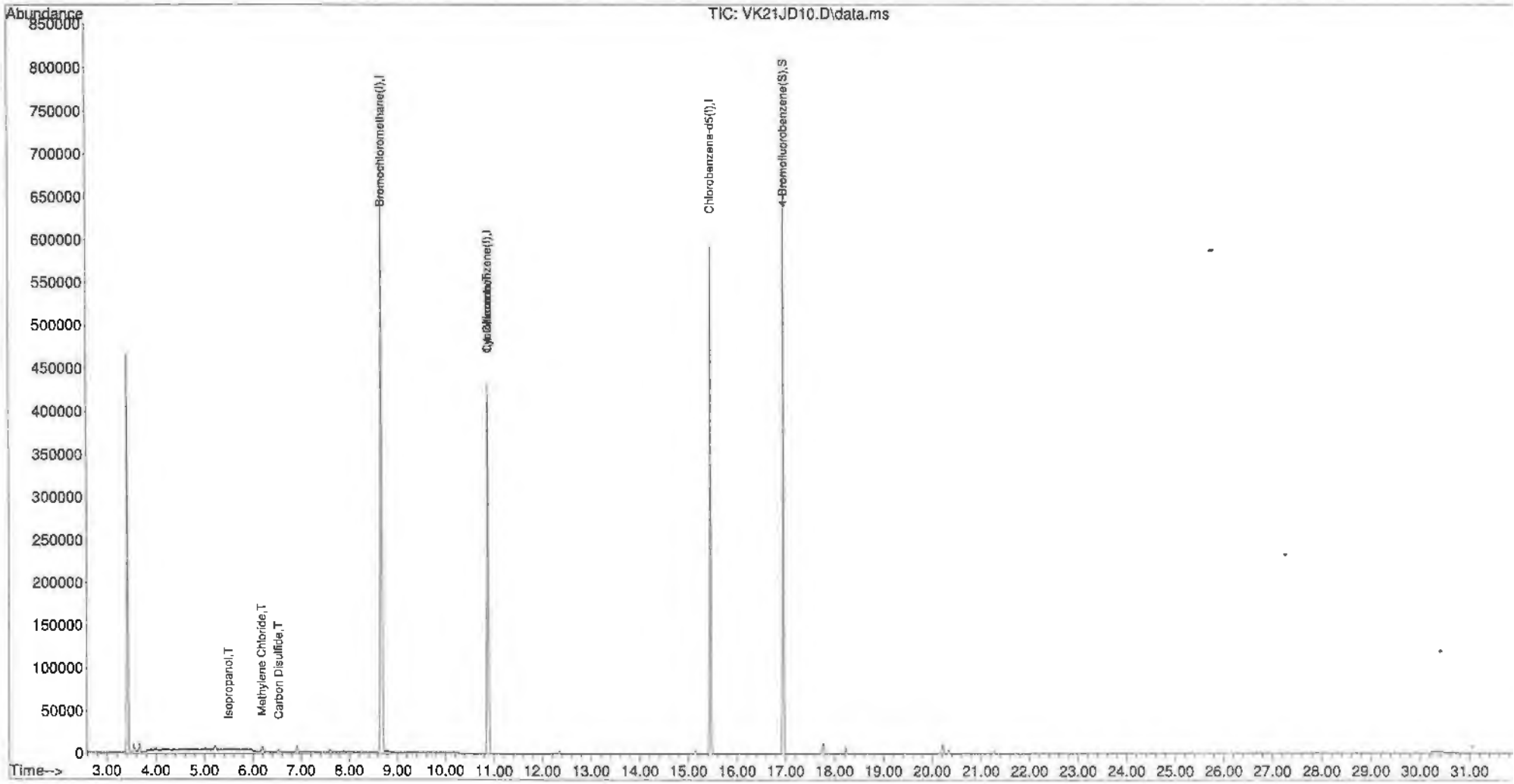
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	311256	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	404460	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	74073	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.947	95	219595	6.47	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		96.28%
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
12) Isopropanol	5.497	45	1044	0.02	# 13	0.02
19) Methylene Chloride	6.191	49	3925	0.07	# 87	0.07
21) Carbon Disulfide	6.534	76	6028	0.04	# 69	0.04
38) Cyclohexane	10.871	56	8551	0.34	# 1	0.34

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : C:\VK\VK_DATA\VK21J13A\
Data File : VK21JD10.D
Acq On : 13 Oct 2021 4:39 pm
Operator : VK
Sample : bv 3528
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 13 17:08:54 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	bv 3528	Instrument SN:	
Method:	VKCONC28.ctd	Sample Inlet (1-4):	1
Sample Name:	bv 3528	AS 1 Position:	4
Inject Time:	10/13/2021 4:36:50 PM	AS 2 Position:	-1
App Version:	2.0.0.251	AS 3 Position:	-1
		Auto Sampler:	7016D

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100 (100)	94 (100)	1.82	18.73	18.44	1.94	3.11
Calibration Std	0 (0)	--	0.00	--	--	--	--
Sample	400 (400)	90 (100)	5.33	22.86	15.77	1.91	6.47
Calc Sample Vol	--						
Helium Flush	75 (75)	96 (100)	1.38	24.41	23.72	1.71	2.6
M1/ M2 Transfer	50 (50)	8 (10)	5.33	24.99	23.78	1.91	2.48

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bakeout
M1	-37(-40)	-2(0)				155(150)
M1 BulkHead	32(30)	61(60)				151(150)
M2	-36(-40)	-37(-40)	-37(-40)	217(220)		219(220)
M2 Bulk Head	32(30)			91(90)		154(150)
M3	69(NA)			-199/-191(-165)	69(80)	69(NA)
Rot Valve Plate	91/91(90)					92/91(90)
GC Xfer Line					99(100)	
4 Sample Line	23(90)					

7200 Autosampler Temperatures

AS 1	Temp (C)	AS 2	Temp (C)	AS 3	Temp (C)	7650	Temp (C)
Rotary Valve:	83	Rotary Valve:	-1	Rotary Valve:	-1	Gripper:	-1
Transfer Line:	81	Transfer Line:	-1	Transfer Line:	-1	Transfer Line:	-1
Sample:	15	Sample:	-1	Sample:	-1	Oven:	-1

Item Tested	Analytical Batch #	Other items in cleaning batch
bv 3026 A03931-008	VQ21J011B KM 10/12/21	3057 A03934-007

☒ Bottle Vac

☐ Summa 6L / 1L

☐ Flow Controllers - Summa / BV

☐ Tubing: _____ feet

☐ Other: _____

- Tubing results calculated for 10 foot segments.
- Masterflex tubing results calculated for 1 foot

Oven used (circle one): 01 (02) _____

Comments:

1100	A03941-004
36080	A03934-010
3780	A03934-009
3467	A03941-002
892	A03934-004
2560	A03934-003
2383	A03934-012
3673	A03934-002
2792	A03934-006
513	A03941-006
2268	A03938-004
885	A03934-008
2346	A03934-013
2715	A03934-005
3041	A03941-003
3604	A03941-004
2648	A03919-010
2306	A03919-012
480	A03934-016
3475	A03919-011
2396	A03919-009
2350	A03919-005
3117	A03919-002
2327	A03919-006
3726	A03919-004
926	A03919-008
2365	A03919-003
3657	A03919-007

Analyst/Date: AB 10/12/21

DCSID: V-535.4 (07/28/20)

Data Path : D:\VQ\VQ_DATA\VQ21J11B\
Data File : VQ21JB06.D
Acq On : 11 Oct 2021 04:18 pm
Operator :
Sample : BV 3026
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 10/12/21

Quant Time: Oct 11 16:51:17 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400A99.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:53:42 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.787	130	205022	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.898	114	844295	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.377	54	139688	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	157795	6.48	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 96.43%				
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue		Raw Result
9) Ethanol	4.998	45	7583	0.34	#	82	0.34
12) Isopropanol	5.712	45	11809	0.11	#	73	0.11
13) Acetone	5.473	58	17488	0.41		89	0.41
18) t-Butanol	6.380	59	4243	0.04	#	66	0.04
19) Methylene Chloride	6.431	49	8724	0.12	#	55	0.12
21) Carbon Disulfide	6.755	76	89578	0.65	#	92	0.65
27) 2-Butanone	8.167	43	8280	0.05	#	76	0.05
44) Trichloroethene	11.632	95	1548m	0.03			0.03
49) 4-Methyl-2-pentanone	12.615	58	1178	0.02	#	76	0.02
54) Toluene	13.593	91	4709	0.03	#	67	0.03
58) Tetrachloroethene	14.752	166	1450	0.02		95	0.02
81) 1,2-Dibromo-3-chloropr...	19.203	157	637	0.04	#	58	0.04
83) 1,2,4-Trichlorobenzene	20.632	180	1613	0.04	#	70	0.04
84) Naphthalene	20.757	128	6030	0.05	#	94	0.05
85) 1,2,3-Trichlorobenzene	21.050	180	1867	0.05	#	35	0.05
87) 2-Methylnaphthalene	21.985	142	3910	0.07		96	0.07

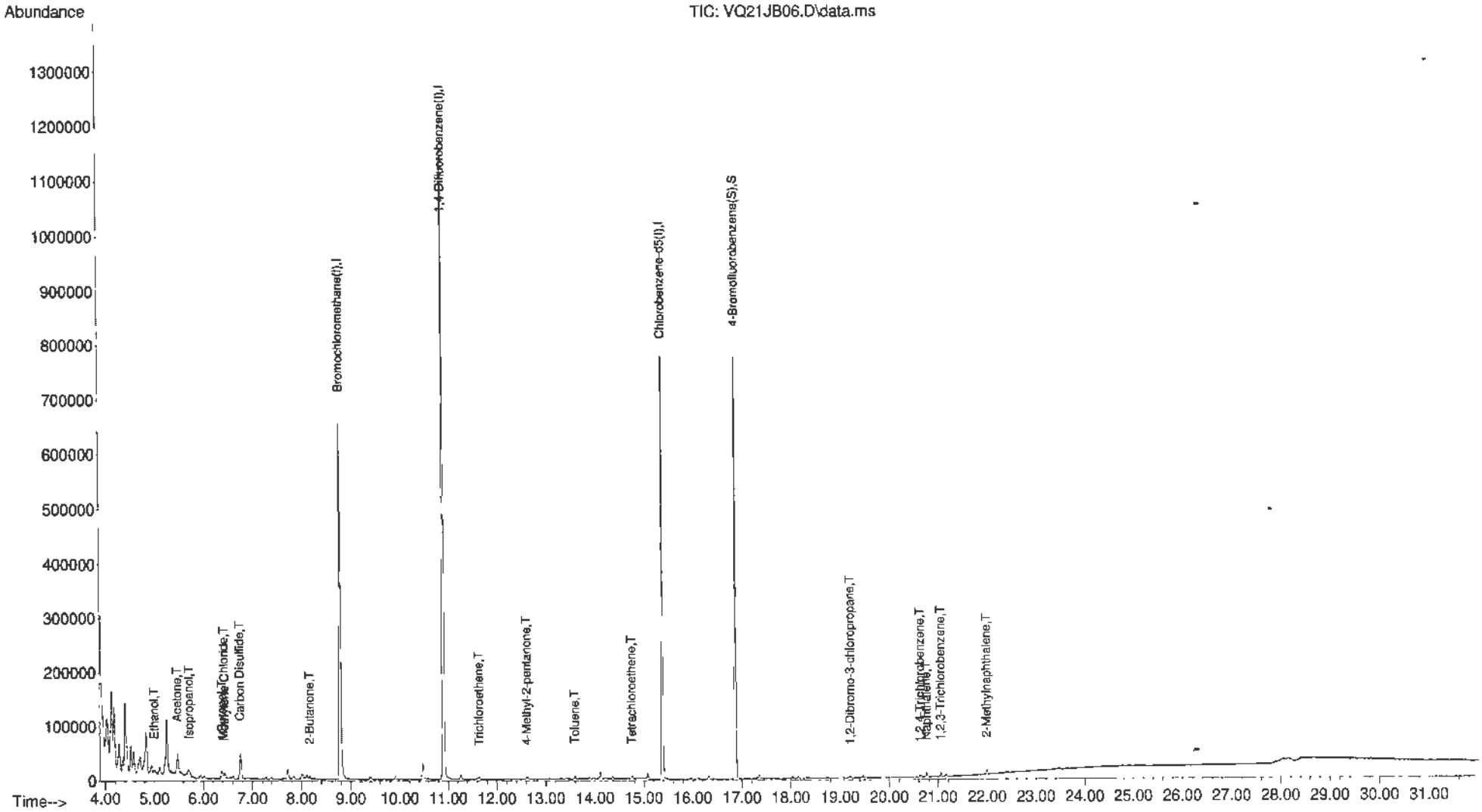
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Clean

OH 10.12.21

Data Path : D:\VQ\VQ_DATA\VQ21J11B\
Data File : VQ21JB06.D
Acq On : 11 Oct 2021 04:18 pm
Operator :
Sample : BV 3026
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 11 16:51:17 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400A99.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:53:42 2021
Response via : Initial Calibration



Data Path : D:\VQ\VQ_DATA\VQ21J11B\
Data File : VQ21JB06.D
Acq On : 11 Oct 2021 04:18 pm
Operator :
Sample : BV 3026
Misc :
ALS Vial : 1 Sample Multiplier: 1

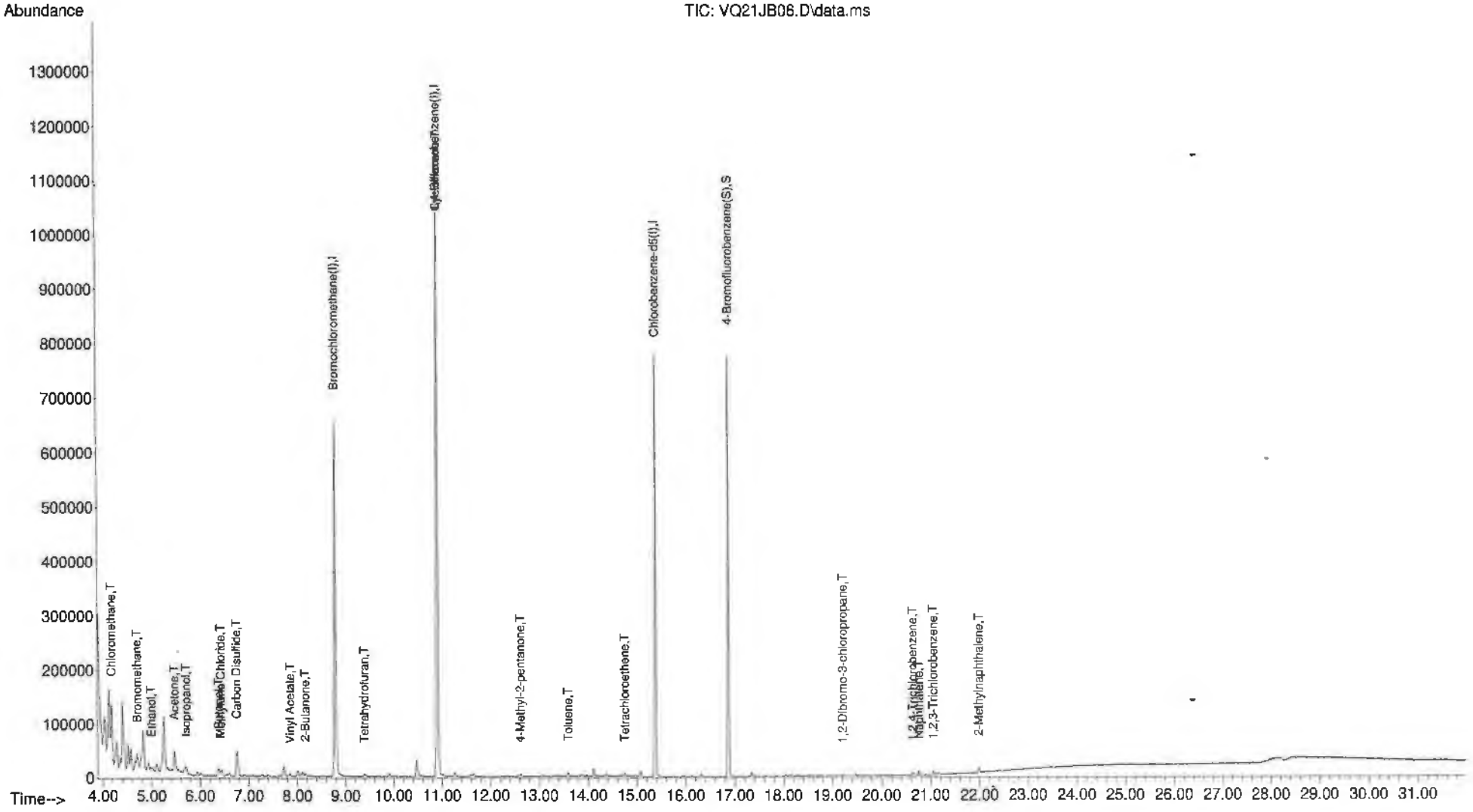
Quant Time: Oct 11 16:51:17 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400A99.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:53:42 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane(I)	8.787	130	205022	6.46	ppbv		0.00
36) 1,4-Difluorobenzene(I)	10.898	114	844295	6.70	ppbv		0.00
52) Chlorobenzene-d5(I)	15.377	54	139688	6.67	ppbv	#	0.00
System Monitoring Compounds							
66) 4-Bromofluorobenzene(S)	16.867	75	157795	6.48	ppbv		0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 96.43%				
Target Compounds (Multiplier applied to Results = NO)				ppb		Qvalue	Raw Result
3) Chloromethane	4.180	50	1600	0.03		# 75	0.03
7) Bromomethane	4.708	94	1777	0.04		# 32	0.04
9) Ethanol	4.998	45	7583	0.34		# 82	0.34
12) Isopropanol	5.712	45	11809	0.11		# 73	0.11
13) Acetone	5.473	58	17488	0.41		89	0.41
18) t-Butanol	6.380	59	4243	0.04		# 66	0.04
19) Methylene Chloride	6.431	49	8724	0.12		# 55	0.12
21) Carbon Disulfide	6.755	76	89578	0.65		# 92	0.65
25) Vinyl Acetate	7.855	86	415	0.06		# 41	0.06
27) 2-Butanone	8.167	43	8280	0.05		# 76	0.05
32) Tetrahydrofuran	9.389	42	1549	0.02		# 58	0.02
38) Cyclohexane	10.901	56	30697	0.40		# 1	0.40
49) 4-Methyl-2-pentanone	12.615	58	1178	0.02		# 76	0.02
54) Toluene	13.593	91	4709	0.03		# 67	0.03
58) Tetrachloroethene	14.752	166	1450	0.02		95	0.02
81) 1,2-Dibromo-3-chloropr...	19.203	157	637	0.04		# 58	0.04
83) 1,2,4-Trichlorobenzene	20.632	180	1613	0.04		# 70	0.04
84) Naphthalene	20.757	128	6030	0.05		# 94	0.05
85) 1,2,3-Trichlorobenzene	21.050	180	1867	0.05		# 35	0.05
87) 2-Methylnaphthalene	21.985	142	3910	0.07		96	0.07

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Data Path : D:\VQ\VQ_DATA\VQ21J11B\
Data File : VQ21JB06.D
Acq On : 11 Oct 2021 04:18 pm
Operator :
Sample : BV 3026
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 11 16:51:17 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400A99.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:53:42 2021
Response via : Initial Calibration



Entech 7200 CTD/MPT QAQC

Sequence:	C:\smartlabs\Data\7200\Sequences\QC_210727A.7200.Seq
Method:	C:\smartlabs\Data\7200\Methods\VQCON16.CTD 3
Sample Name:	BV 3026
Inject Time:	10/11/2021 4:18:57 PM
Sample Start:	10/11/2021 4:03:06 PM
Sample End:	10/11/2021 4:07:45 PM

Version:	3.3.2.16
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A1
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.6 (100)	26.8 (25)	4.52	22.96	22.31	1.99	3:14
Calibration Std			0.00				
Sample	402 (400)	94.8 (100)	4.63	24.23	15.06	1.95	6.53
Calc Sample Vol							
Sweep/Prg Flush	76.8 (75)	99 (100)	0.80	24.1	20.95	4.29	5.16
M1/ M2 Transfer	100.3 (100)	18.4 (20)	5.00	24.16	23.44	3.15	4.29

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-8 (-10)	9 (15)				150 (150)
M1 BulkHead	35 (30)	62 (60)				150 (150)
M2	-47 (-50)	-46 (-50)	-46 (-50)	205 (210)		208 (210)
M2 Bulk Head	32 (30)			42 (40)		150 (150)
M3	14			-169 (-160)	70 (80)	-68
Rot Valve Plate	91/91 (90)					92/91 (90)
GC Xfer Line					120 (120)	
4 Sample Line	81 (80)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	82 (80)
Sample:		Oven:	22 (0)

7650 Autosampler

Encoder	Position (steps)
X:	14992 (14992)
Y:	1525 (1524)

Item Tested	Analytical Batch #	Other items in cleaning batch
bv2283	V021386	

- ☐ Bottle Vac
- ☐ Summa 6L / 1L
- ☒ Flow Controllers - Summa / BV
- ☐ Tubing: _____ feet
- ☐ Other: _____

- Tubing results calculated for 10 foot segments.
- Masterflex tubing results calculated for 1 foot

Oven used (circle one): 01 02 _____

Comments:

04100
3409
1184
3246
3420
3881
4035
3098
~~4100~~ CB 10/29/21
3244
2633
2500
4032
3259
3968
2771
3986

Analyst/Date: CB 10/29/21

DCSID: V-535.4 (07/28/20)

Quantitation Report (QT Reviewed)

Data Path : D:\VQ\VQ_DATA\VQ21J26E\
Data File : VQ21JQ10.D
Acq On : 26 Oct 2021 10:01 pm
Operator :
Sample : BVFC 2283
Misc :
ALS Vial : 1 Sample Multiplier: 1

CK 10/27/21

Quant Time: Oct 26 22:33:59 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400B01.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Fri Oct 22 09:51:11 2021
Response via : Initial Calibration

KM 10/27/21

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Bromochloromethane(I)	8.775	130	181784	6.46 ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.893	114	772767	6.70 ppbv	0.00
52) Chlorobenzene-d5(I)	15.372	54	148880	6.67 ppbv	# 0.00
System Monitoring Compounds					
66) 4-Bromofluorobenzene(S)	16.861	75	181116	6.71 ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 99.85%		
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
3) Chloromethane	4.151	50	1456	0.03	# 86	0.03
6) 1,3-Butadiene	4.473	54	3664	0.07	# 41	0.07
9) Ethanol	4.996	45	34400	1.47	# 97	1.47
10) Acrolein	5.337	56	2608m	0.13		0.13
12) Isopropanol	5.712	45	74402	0.66	# 77	0.66
13) Acetone	5.462	58	74647	1.77	73	1.77
18) t-Butanol	6.365	59	33863m	0.29		0.29
19) Methylene Chloride	6.428	49	9913	0.14	# 42	0.14
21) Carbon Disulfide	6.760	76	45178	0.36	# 91	0.36
26) n-Hexane	8.875	57	1892m	0.02		0.02
27) 2-Butanone	8.139	43	53735	0.36	# 98	0.36
40) Benzene	10.498	78	6852	0.06	# 78	0.06
49) 4-Methyl-2-pentanone	12.615	58	3320	0.06	# 1	0.06
54) Toluene	13.584	91	11716	0.09	# 75	0.09
55) 2-Hexanone	13.865	43	15335	0.10	# 68	0.10
61) m&p-Xylene	15.971	106	1565m	0.05		0.05
72) 1,2,4-Trimethylbenzene	18.157	105	3307	0.04	# 29	0.04
75) 1,4-Dichlorobenzene	18.376	146	747	0.02	# 74	0.02
79) n-Butylbenzene	19.038	91	2366	0.02	# 63	0.02
84) Naphthalene	20.755	128	4608	0.05	# 94	0.05
85) 1,2,3-Trichlorobenzene	21.050	180	912	0.03	# 81	0.03
87) 2-Methylnaphthalene	21.985	142	2939	0.06	# 89	0.06

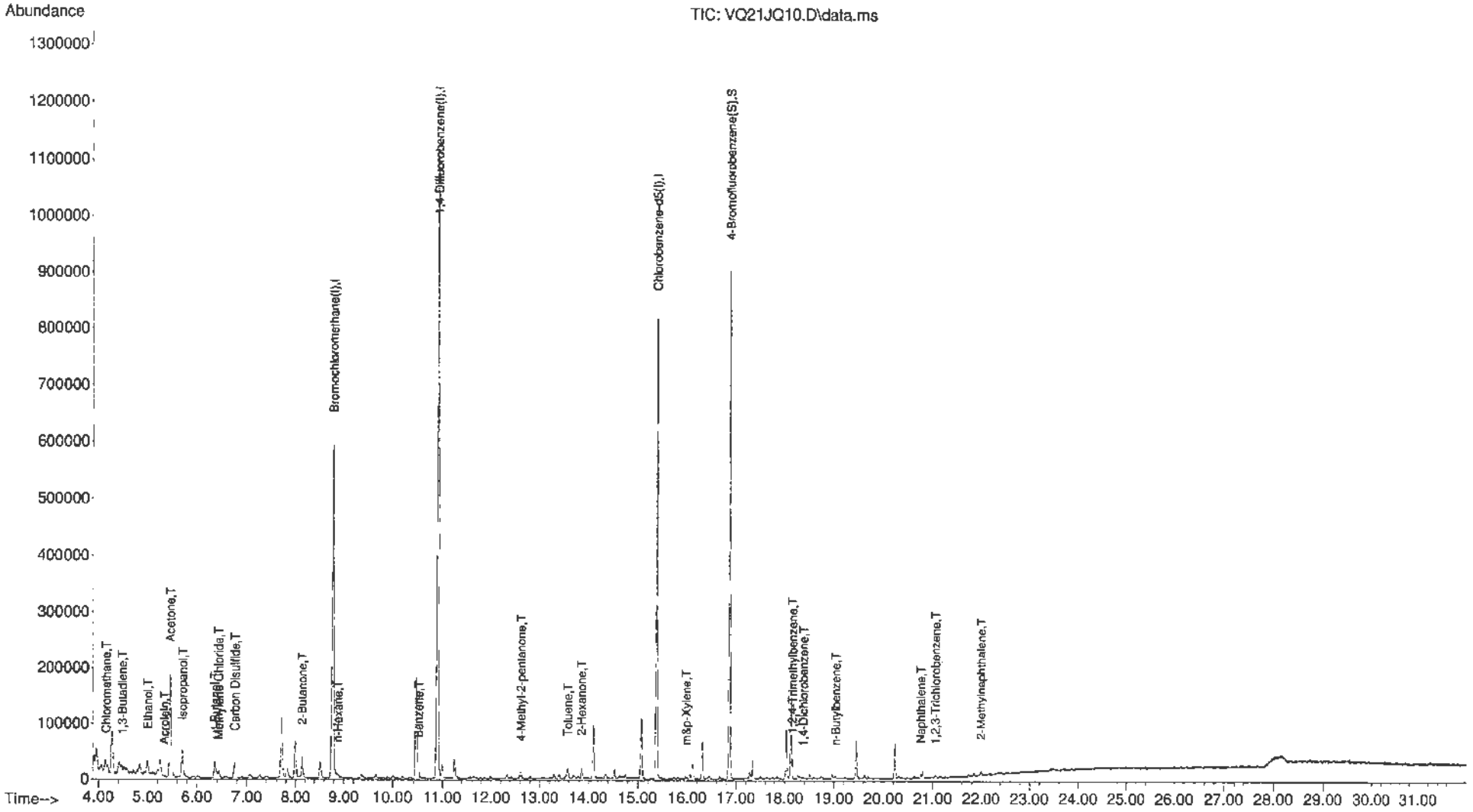
(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.2B.06 ATD

OH 10-27-21

Quantitation Report (QT Reviewed)

Data Path : D:\VQ\VQ_DATA\VQ21J26E\
Data File : VQ21JQ10.D
Acq On : 26 Oct 2021 10:01 pm
Operator :
Sample : BVFC 2283
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 26 22:33:59 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400B01.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Fri Oct 22 09:51:11 2021
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : D:\VQ\VQ_DATA\VQ21J26E\
Data File : VQ21JQ10.D
Acq On : 26 Oct 2021 10:01 pm
Operator :
Sample : BVFC 2283
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 26 22:33:59 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400B01.M
Quant Title : COMPOUNDS BY TO-1S
QLast Update : Fri Oct 22 09:51:11 2021
Response via : Initial Calibration

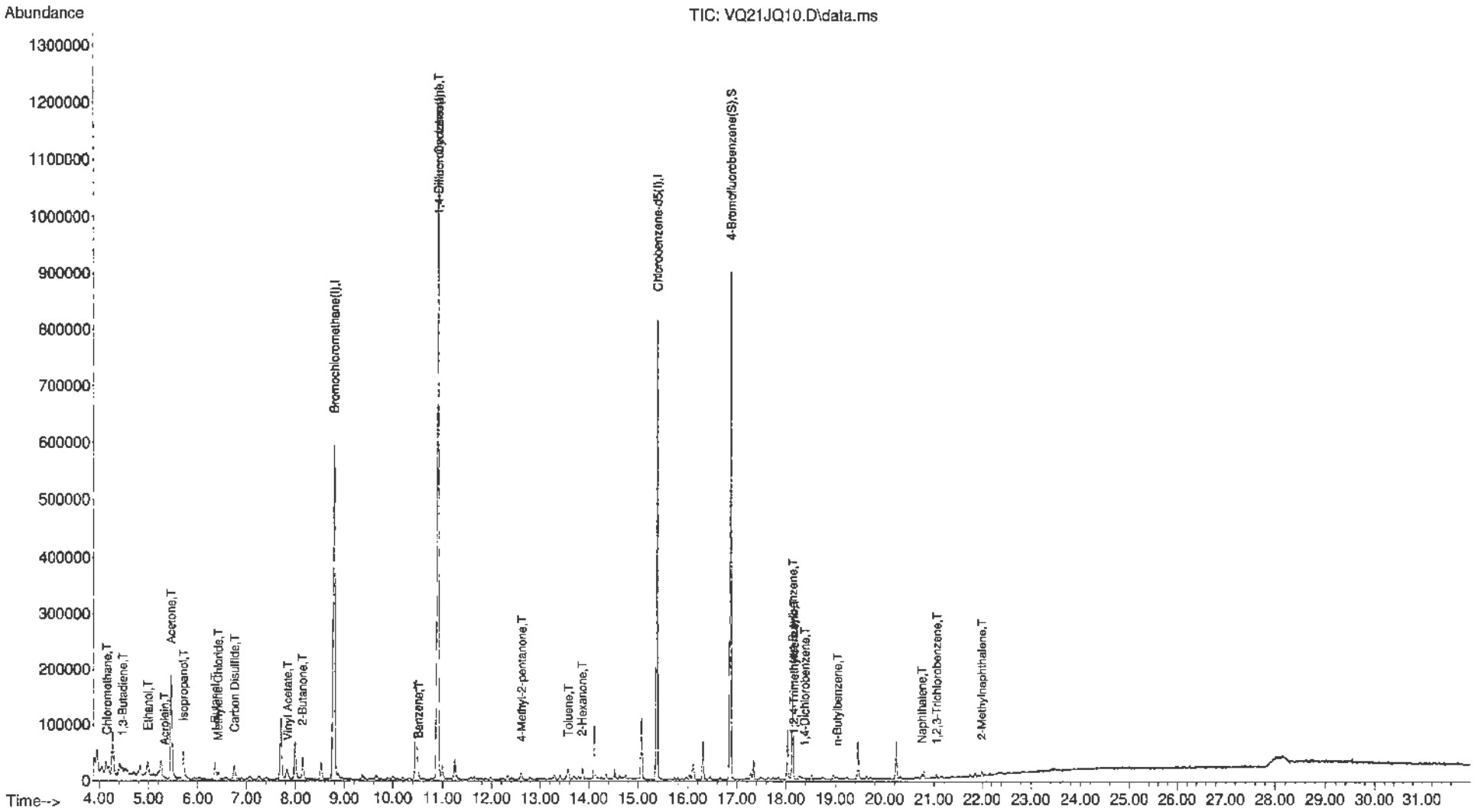
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane(I)	8.775	130	181784	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.893	114	772767	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.372	54	148880	6.67	ppbv	# 0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.861	75	181116	6.71	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120		Recovery = 99.85%			
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
3) Chloromethane	4.151	50	1456	0.03	# 86	0.03
6) 1,3-Butadiene	4.473	54	3664	0.07	# 41	0.07
9) Ethanol	4.996	45	34400	1.47	# 97	1.47
10) Acrolein	5.325	56	852	0.04	# 12	0.04
12) Isopropanol	5.712	45	74402	0.66	# 77	0.66
13) Acetone	5.462	58	74647	1.77	73	1.77
18) t-Butanol	6.365	59	32902	0.28	# 93	0.28
19) Methylene Chloride	6.428	49	9913	0.14	# 42	0.14
21) Carbon Disulfide	6.760	76	45170	0.36	# 91	0.36
25) Vinyl Acetate	7.840	86	794	0.12	# 1	0.12
27) 2-Butanone	8.139	43	53735	0.36	# 98	0.36
38) Cyclohexane	10.896	56	31535	0.44	# 1	0.44
40) Benzene	10.498	78	6852	0.06	# 78	0.06
49) 4-Methyl-2-pentanone	12.615	58	3320	0.06	# 1	0.06
54) Toluene	13.584	91	11716	0.09	# 75	0.09
55) 2-Hexanone	13.865	43	15335	0.10	# 68	0.10
71) tert-Butylbenzene	18.134	119	4370	0.06	# 34	0.06
72) 1,2,4-Trimethylbenzene	18.157	105	3307	0.04	# 29	0.04
75) 1,4-Dichlorobenzene	18.376	146	747	0.02	# 74	0.02
79) n-Butylbenzene	19.038	91	2366	0.02	# 63	0.02
84) Naphthalene	20.755	128	4608	0.05	# 94	0.05
85) 1,2,3-Trichlorobenzene	21.050	180	912	0.03	# 81	0.03
87) 2-Methylnaphthalene	21.985	142	2939	0.06	# 89	0.06

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : D:\VQ\VQ_DATA\VQ21J26E\
Data File : VQ21JQ10.D
Acq On : 26 Oct 2021 10:01 pm
Operator :
Sample : BVFC 2283
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 26 22:33:59 2021
Quant Method : D:\VQ\VQ_METHOD\VQ400B01.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Fri Oct 22 09:51:11 2021
Response via : Initial Calibration



Entech 7200 CTD/MPT QAQC

Sequence:	C:\smartlabs\Data\7200\Sequences\QC_210727A.7200.Seq
Method:	C:\smartlabs\Data\7200\Methods\VQCON16.CTD3
Sample Name:	BVFC 2283
Inject Time:	10/26/2021 10:01:40 PM
Sample Start:	10/26/2021 9:46:11 PM
Sample End:	10/26/2021 9:50:50 PM

Version:	3.3.2.16
System Id:	1
C.O.E:	False

Instrument SN:	
Inlet (1-4):	1
Auto Sampler:	7650
AS Position:	A4
Focus Duration	3
Inject Duration:	1

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100.3 (100)	24.8 (25)	4.53	23.99	23.35	1.95	3.09
Calibration Std			0.00				
Sample	401.4 (400)	98.5 (100)	4.65	23.73	14.07	1.96	6.54
Calc Sample Vol							
Sweep/Prg Flush	75.5 (75)	99 (100)	0.78	24.11	20.95	4.33	5.19
M1/ M2 Transfer	100.6 (100)	18.4 (20)	5.03	24.18	23.43	3.24	4.38

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bake Out
M1	-7 (-10)	10 (15)				150 (150)
M1 BulkHead	32 (30)	62 (60)				150 (150)
M2	-47 (-50)	-47 (-50)	-48 (-50)	206 (210)		208 (210)
M2 Bulk Head	32 (30)			42 (40)		151 (150)
M3	9			-165 (-160)	70 (80)	-70
Rot Valve Plate	91/91 (90)					91/91 (90)
GC Xfer Line					120 (120)	
4 Sample Line	80 (80)					

Autosampler Temperatures

Rot. AS.	Temp (C)	7650	Temp (C)
Rotary Valve:		Gripper:	81 (80)
Transfer Line:		Transfer Line:	81 (80)
Sample:		Oven:	24 (0)

7650 Autosampler

Encoder	Position (steps)
X:	31674 (31672)
Y:	18204 (18204)

Item Tested	Analytical Batch #	Other items in cleaning batch
BV2792	VK211141A	

- ☐ Bottle Vac
- ☐ Summa 6L / 1L
- ☒ Flow Controllers - Summa / (BV)
- ☐ Tubing: _____ feet
- ☐ Other: _____

- Tubing results calculated for 10 foot segments.
- Masterflex tubing results calculated for 1 foot

Oven used (circle one): (01) 02_____

Comments:

4059
4057
3379
1110
4064
3241
414
2786
3202
1108
4040
3984
1097
4008
4018
3985

Analyst/Date: 10/16/21

DCSID: V-535.4 (07/28/20)

Data Path : C:\VK\VK_DATA\VK21J14A\
Data File : VK21JE08.D
Acq On : 14 Oct 2021 3:14 pm
Operator : VK
Sample : BVFC 2792
Misc :
ALS Vial : 1 Sample Multiplier: 1

CM 10/15/21

Quant Time: Oct 15 09:43:00 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	320050	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	423168	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	70098	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.947	95	206725	6.44	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		95.83%
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
9) Ethanol	4.732	45	7691	1.07	# 80	1.07
12) Isopropanol	5.463	45	70832	1.55	# 36	1.55
13) Acetone	5.207	58	11901	0.69	# 85	0.69
15) n-Pentane	5.761	43	7863m	0.21		0.21
18) t-Butanol	6.162	59	27303	0.31	# 91	0.31
19) Methylene Chloride	6.190	49	11354	0.20	96	0.20
21) Carbon Disulfide	6.526	76	14300	0.09	# 93	0.09
26) n-Hexane	8.774	57	11245	0.13	# 8	0.13
27) 2-Butanone	8.012	43	11717	0.09	# 93	0.09
40) Benzene	10.462	78	1598	0.03	# 58	0.03
42) n-Heptane	12.002	43	3041	0.09	# 82	0.09
47) 2,2,4-Trimethylpentane	11.712	57	3344	0.04	# 48	0.04

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

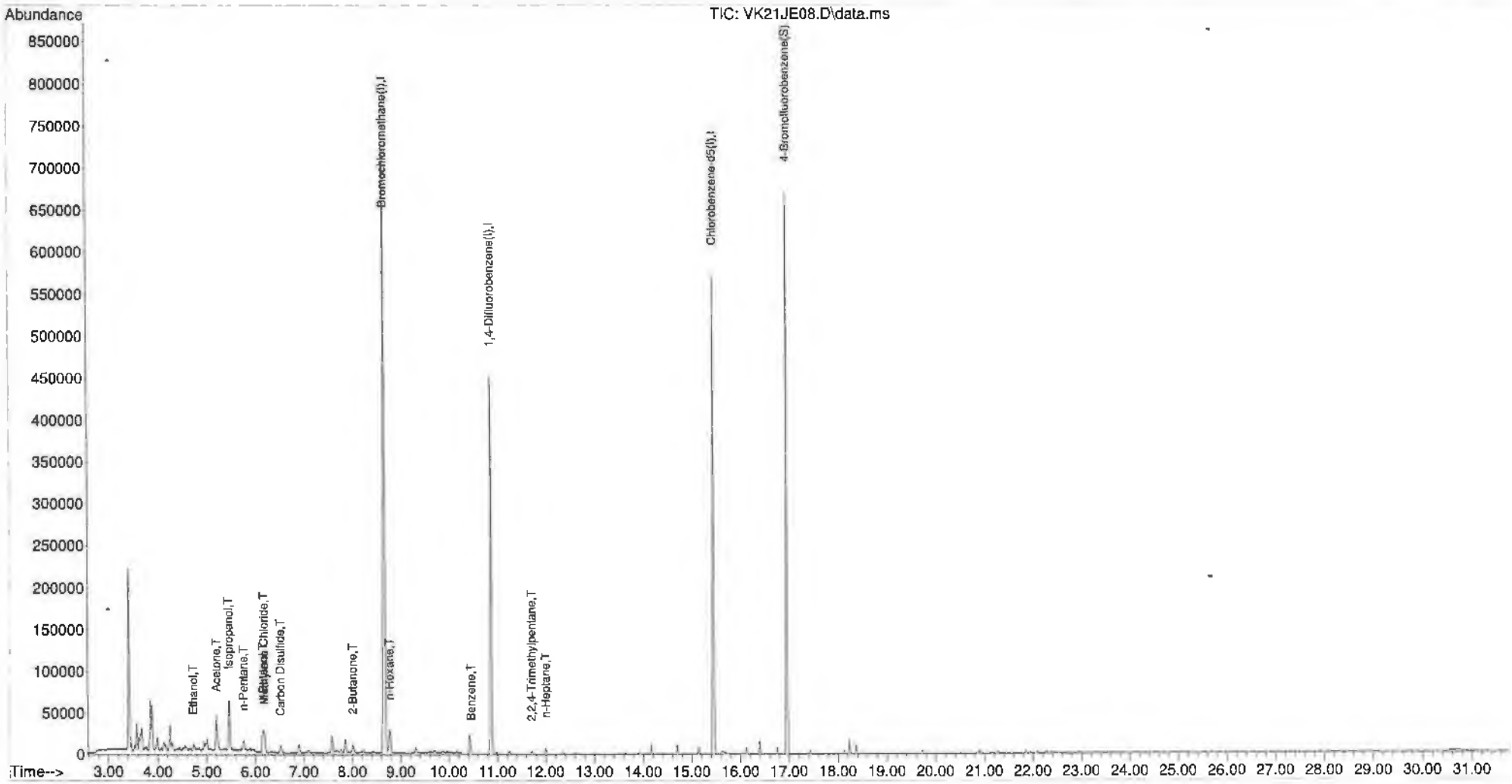
Clean

OH 10-15-21

Quantitation Report (QT Reviewed)

Data Path : C:\VK\VK_DATA\VK21J14A\
Data File : VK21JE08.D
Acq On : 14 Oct 2021 3:14 pm
Operator : VK
Sample : BVFC 2792
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 15 09:43:00 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Data Path : C:\VK\VK_DATA\VK21J14A\
Data File : VK21JE08.D
Acq On : 14 Oct 2021 3:14 pm
Operator : VK
Sample : BVFC 2792
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 14 15:43:41 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration

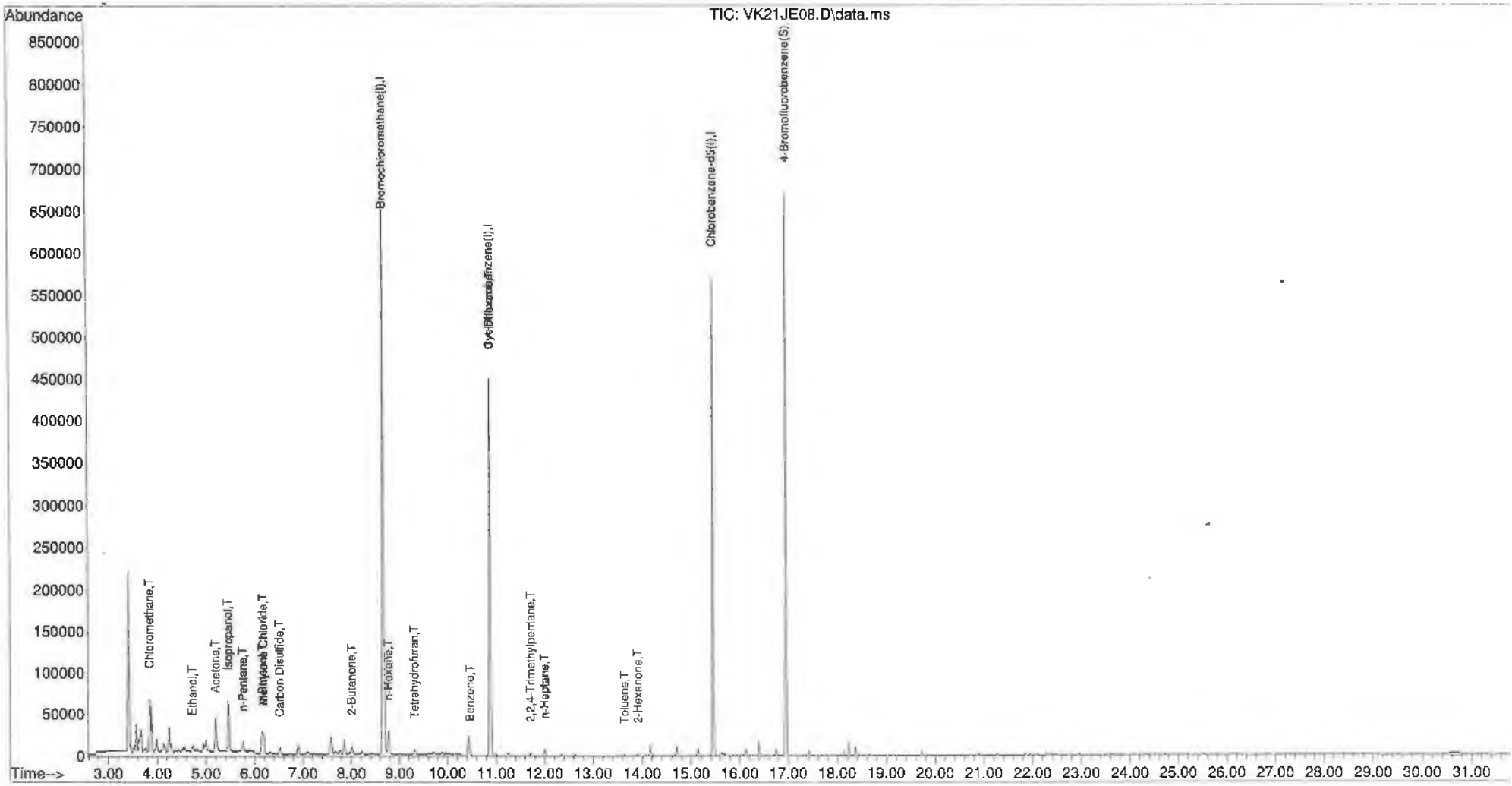
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane(I)	8.666	130	320050	6.46	ppbv	-0.01
36) 1,4-Difluorobenzene(I)	10.871	114	423168	6.70	ppbv	0.00
52) Chlorobenzene-d5(I)	15.444	54	70098	6.67	ppbv	0.00
System Monitoring Compounds						
66) 4-Bromofluorobenzene(S)	16.947	95	206725	6.44	ppbv	0.00
Spiked Amount 6.720	Range 80 - 120			Recovery =		95.83%
Target Compounds (Multiplier applied to Results = NO)				ppb	Qvalue	Raw Result
3) Chloromethane	3.854	50	2038	0.12	# 49	0.12
9) Ethanol	4.732	45	7691	1.07	# 80	1.07
12) Isopropanol	5.463	45	70832	1.55	# 36	1.55
13) Acetone	5.207	58	11901	0.69	# 85	0.69
15) n-Pentane	5.761	43	6692	0.18	# 75	0.18
18) t-Butanol	6.162	59	27303	0.31	# 91	0.31
19) Methylene Chloride	6.190	49	11354	0.20	96	0.20
21) Carbon Disulfide	6.526	76	14300	0.09	# 93	0.09
26) n-Hexane	8.774	57	11245	0.13	# 8	0.13
27) 2-Butanone	8.012	43	11717	0.09	# 93	0.09
32) Tetrahydrofuran	9.314	42	2251	0.03	# 25	0.03
38) Cyclohexane	10.874	56	8623	0.33	# 1	0.33
40) Benzene	10.462	78	1598	0.03	# 58	0.03
42) n-Heptane	12.002	43	3041	0.09	# 82	0.09
47) 2,2,4-Trimethylpentane	11.712	57	3344	0.04	# 48	0.04
54) Toluene	13.636	91	1712	0.03	# 29	0.03
55) 2-Hexanone	13.915	43	1109	0.03	# 37	0.03

(#) = qualifier out of range (m) = manual integration (+) = signals summed
(OR) = >300 ppb epa.mac Rev 3.0 8.28.06 ATD

Quantitation Report (Not Reviewed)

Data Path : C:\VK\VK_DATA\VK21J14A\
Data File : VK21JE08.D
Acq On : 14 Oct 2021 3:14 pm
Operator : VK
Sample : BVFC 2792
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 14 15:43:41 2021
Quant Method : C:\VK\VK_METHOD\VK400B85.M
Quant Title : COMPOUNDS BY TO-15
QLast Update : Tue Oct 05 09:50:20 2021
Response via : Initial Calibration



Entech 7200 QAQC

Sequence:	BVFC 2792
Method:	VKCONC28.ctd
Sample Name:	BVFC 2792
Inject Time:	10/14/2021 3:11:37 PM
App Version:	2.0.0.251

Instrument SN:	
Sample Inlet (1-4):	1
AS 1 Position:	2
AS 2 Position:	-1
AS 3 Position:	-1
Auto Sampler:	7016D

7200 Parameters (Volume, Flow, Time, Pressure)

	Volume(cc)	Flow(cc/min)	Time(min)	Psi Init	Psi Final	Start Res Psi	Final Res Psi
Internal Std	100 (100)	109 (100)	1.75	23.71	23.49	1.96	3.12
Calibration Std	0 (0)	--	0.00	--	--	--	--
Sample	401 (400)	93 (100)	5.42	22.16	14.97	1.88	6.48
Calc Sample Vol	--						
Helium Flush	76 (75)	99 (100)	1.37	24.39	23.68	1.71	2.59
M1/ M2 Transfer	50 (50)	12 (10)	5.25	25	23.71	1.93	2.5

7200 Trap & Inlet Temperatures

	Trap	M1-M2	M2 Preheat	LN2 Focus	Inject (M3)	Bakeout
M1	-37(-40)	-1(0)				156(150)
M1 BulkHead	32(30)	62(60)				152(150)
M2	-36(-40)	-36(-40)	-37(-40)	218(220)		221(220)
M2 Bulk Head	32(30)			91(90)		150(150)
M3	71(NA)			-198/-171(-165)	71(80)	71(NA)
Rot Valve Plate	92/92(90)					91/91(90)
GC Xfer Line					98(100)	
4 Sample Line	24(90)					

7200 Autosampler Temperatures

AS 1	Temp (C)	AS 2	Temp (C)	AS 3	Temp (C)	7650	Temp (C)
Rotary Valve:	83	Rotary Valve:	-1	Rotary Valve:	-1	Gripper:	-1
Transfer Line:	81	Transfer Line:	-1	Transfer Line:	-1	Transfer Line:	-1
Sample:	16	Sample:	-1	Sample:	-1	Oven:	-1

Fibertec environmental services

Vapor Tube Sampling Field Worksheet

Client Name: 211365
Project Name/Number:
Sample Date: 11/1/21
Sampled By: MRH

Sample Identifiers					Field Calibration					
Time Collected	Sample Descriptor	Tube Lot Number	Vapor Kit Number	Analysis Requested	Field Pre Cal Rate (L/min)	** Pre Back Pressure (hPa)	** Post Back Pressure (hPa)	Field Post Cal Rate (L/min)	***Field Cal Average (L/min)	Total Time (minutes)
N/A	Field Blank	13422	N/A	PAH	N/A	N/A	N/A	N/A	N/A	N/A
		F.S. ID Number								
N/A	Field Spike	13422	N/A		N/A	N/A	N/A	N/A	N/A	N/A
14:16 ✓	CL-SG-GP-1(7') I	13422			0.2	7.75 ✓	7.71 ✓	0.2	0.2	10
13:31 ✓	CL-SG-GP-2(4.5') I	13422				6.08	6.00 ✓			
12:34 ✓	CL-SG-GP-3(4.5') I	13422				5.56	5.51			
14:58 ✓	CL-SG-GP-4(1.75') I	13422				4.18 ✓	4.14 ✓			
13:48 ✓	CL-SG-GP-5(10') I	13422				8.09 ✓	8.08 ✓			
MH	CL-SG-GP-6	13422								
✓15:11	CL-SG-GP-4(1.75')	13422				4.11 ✓	4.05 ✓			

*Comments:

I verify that the field sampling was conducted in accordance with the specification(s) in the approval letter(s) included in the sampling kit.

* Any deviation or issue with sample collection will be noted above

PAH - Asborent tube
Method - TO-13
.2 L per min
10 minutes
Manometr # Sophia

e: _____
e: _____
e: _____

Sampling Notes

**Maximum Vacuum during sampling should be < 75hPa H_2O comp
*** Collection rate should be a maximum 0.2 L/minute

Sampling Media

Mercury: 200 mg Anasorb	PAH: 150mg XAD-2	PCE: 1

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Lab Use Only:
Fibertec Project Number:

DCSID: G-430.5 (08/03/2021)