Final Summary Report

Report of Findings

September 2023 to February 2024

at

Buxton Navy Facility

Formerly Used Defense Site

I04NC0001

U.S. Army Corps of Engineers

Savannah District

May 2024

Executive Summary

1. This report summarizes the United States Army Corps of Engineers (USACE) Savannah District findings and recommendations associated with the investigation into petroleum contaminated soils that initially washed up on the shore of Buxton Beach in Buxton, North Carolina in September 2023.

2. Buxton Naval Facility is a Formerly Used Defense Site (FUDS) in Buxton, Dare County, North Carolina. The FUDS property number I04NC0001. A Findings and Determination of Eligibility was approved on 1 August 1989 for an environmental restoration project to consist of sampling, testing, removal, and disposal of fuel storage tanks and contaminated soil.

3. Buxton Naval Facility was used by the United States Navy as a submarine monitoring station from 1956 to 1982 under a special use permit issued by the National Parks Service (NPS). In 1984, the United States Coast Guard obtained a Memorandum of Understanding, also referred to as a permit or agreement in historical documentation, from the NPS to utilize the site. The United States Coast Guard conducted logistical operations from 1984-2013 through extensions of the Memorandum of Understanding followed by a General Agreement. The NPS stated the agreement expired October 30th, 2013.

4. The United States Coast Guard identified petroleum contamination in the soil from underground storage tanks during investigations in the early 1990s. The Coast Guard removed twenty-seven tanks in 1991. The USACE removed 2,700 cubic yards of contaminated soil in 2004 associated with the Navy activities between 1956 and 1982. The USACE has been conducting groundwater monitoring from 2005 to present along with remedial injection events in 2020 and 2021, respectively.

5. Organic sediments of unknown origin washed up on the shore of Buxton beach in early September 2023. This was associated with significant surf that was the result of Hurricane Idalia in the Atlantic Ocean.

6. The USACE conducted site visits in September 2023, October 2023, November 2023, December 2023, and February 2024. Field teams collected soil and air samples for the September, October, and December 2023 events as well as conducted inspections of the beach conditions.

7. The USACE has not been able to establish a source of contamination on Buxton Beach or further inland beyond the beach dunes, though a pipe protruding from the dunes and holding a petroleum odor may be a potential source. Field teams attempted to find petroleum in concentrations significant enough to have caused the petroleum contaminated organic material and were not able to do so. Field teams did not find any evidence of free product petroleum.

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Acronyms and Abbreviations

AST	Above Ground Storage Tank
DRO	Diesel Range Organics
EPH	Extractable Petroleum Hydrocarbons
FDE	Findings and Determination of Eligibility
ft bgs	feet below ground surface
FUDS	Formerly Used Defense Site
GWQS	Ground Water Quality Standard
µg/L	micrograms per liter
MNA	Monitored Natural Attenuation
MSCC	Maximum Soil Contaminant Concentrations
NCDENR	North Carolina Department of Environment and Natural Resources
NCDEQ	North Carolina Department of Environmental Quality
NPS	National Parks Service
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photoionization Detector
ppmv	parts per million by volume
PVC	polyvinyl chloride
USACE	United States Army Corps of Engineers
USCG	Unites States Coast Guard
USN	United States Navy
UST	Underground Storage Tank
VPH	Volatile Petroleum Hydrocarbons

Site Name, Location, Description, and History

1.1. Site Name, Location, and Description

Buxton Naval Facility is a Formerly Used Defense Site (FUDS) in the town of Buxton, Dare County, North Carolina. The FUDS property number is I04NC0001. This project, known as Project 03, is the only currently active project on the property, designated as FUDS project number I04NC000103. USACE created Project 03 on August 20, 1998 to address soil contamination discovered at several areas including the oil change ramp and underground piping.

The project is located on Buxton Beach within the Cape Hatteras National Seashore. The Buxton Naval Facility FUDS property is approximately 49.9 acres and lies approximately 1,000 feet west-northwest of the original location of the historic Cape Hatteras Lighthouse, and adjacent to the Atlantic Ocean. The North Carolina mainland is across Pamlico Sound, approximately 30 miles to the northwest, and the city of Nags Head is approximately 50 miles to the north-northwest of the site. The project location is shown in Figure 1.

The project area consists of a beach that runs north-south with the Atlantic Ocean to the east. Dunes run the length of the beach and separate the beach from the formerly occupied areas to the west of the beach.

Various concrete structures, steel, and wires from U.S. Navy (USN) activities and polyvinyl chloride (PVC) pipes from United States Coast Guard (USCG) activities remain in the dunes and on the beach area and have become exposed recently due to shoreline erosion.

1.2. Site History

The USN used Buxton Naval Facility from 1956 to 1982 under a special use permit issued by the National Parks Service (NPS). USN used the facility as a submarine monitoring station. The USCG set up logistical operations on portions of the project area from 1984 to 2013.

The USACE completed a Findings and Determination of Eligibility of Department of Defense Responsibility on February 13, 1985, and found that removal of two buildings, foundations, utilities, roads, parking areas, and appurtenant structures was warranted. The USACE Wilmington District certified this as complete on February 21, 1986.

The USACE completed two Finding and Determinations of Eligibility (FDE) on August 1, 1989, and April 25, 1991 and removed 7 above ground storage tanks (ASTs) in 1989 and 3 additional ASTs in 1991.

The USCG removed 27 heating oil tanks associated with housing units in 1991 and completed a Site Characterization Report in 1992, which recommended remediation of

petroleum contamination. The North Carolina Department of Environment and Natural Resources (NCDENR) (now Department of Environmental Quality) concurred with closure of these tanks. The property associated with the housing units was sold to a private developer in 2008.

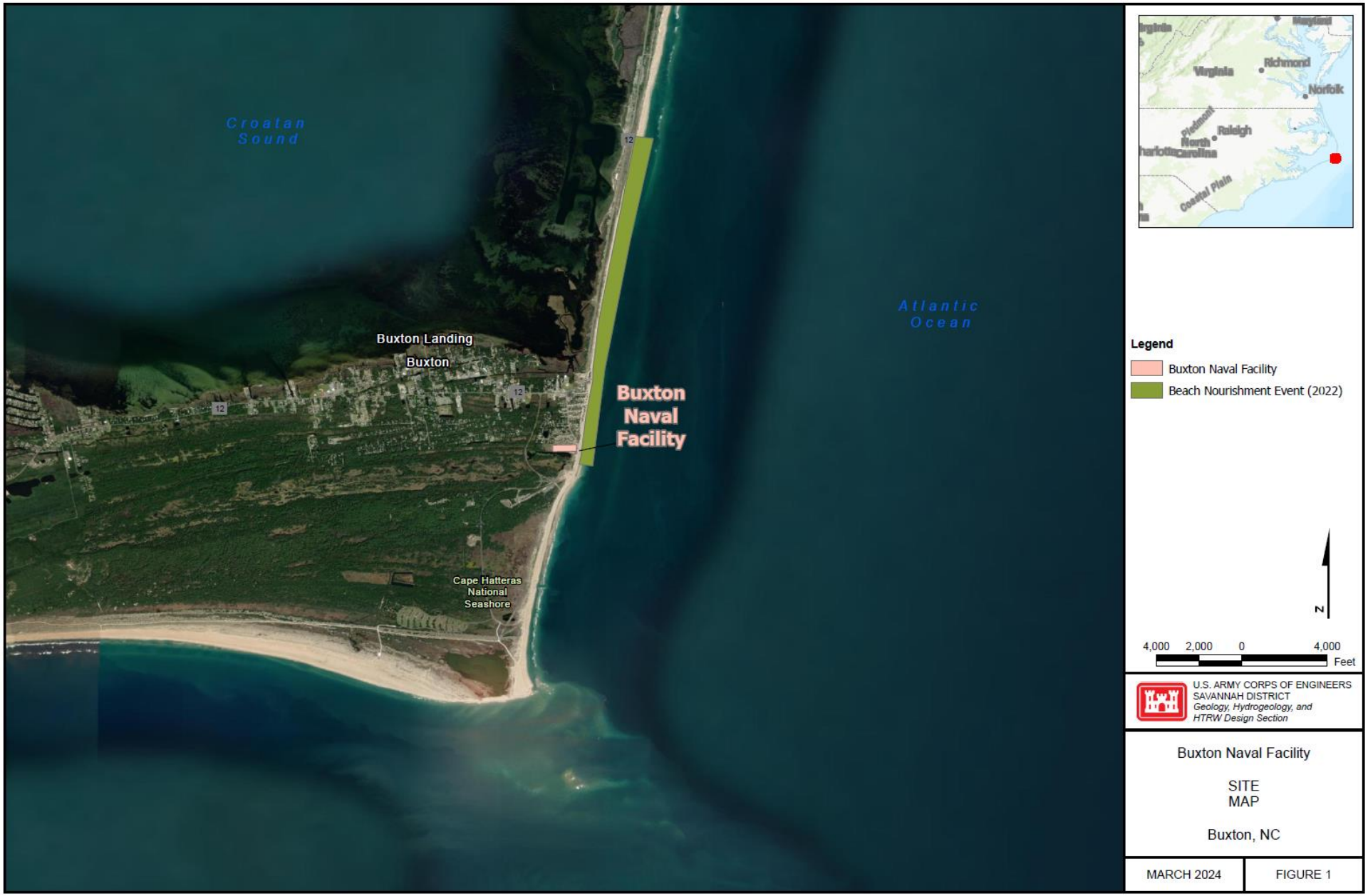
The USACE removed the Oil Change Ramp, a fuel distribution pipeline connecting a storage tank near Building 9 to Building 41 east of the entrance road, and 2,700 cubic yards of petroleum-contaminated soil beginning in 2004.

As part of this action, the USACE removed all the contaminated soil on the beach side where the former building 19 was located. The USACE removed approximately 90% of the contaminated soil on the land west of the dunes. The USACE was prevented from removing all the contaminated soil in this area because of access limitations posed by Old Lighthouse Road and critical infrastructure. These unexcavated areas are shown in Figure 3 as the shaded green areas without the pink cross hatching. Areas where the pink cross hatching is on top of the green shading areas designates that those soils were removed. The 2005 Final Soil Cleanup Report summarized the activities to remove the contaminated soil.

The USACE began groundwater monitoring in 2005. The sampling intervals varied, but on average sampling occurred every nine months. Laboratory analysis of the groundwater sampling showed a downward trend in concentrations of petroleum related contaminants, specifically Benzene, Toluene, Ethylene, and Xylene. This was indicative that Monitored Natural Attenuation (MNA) was taking place. MNA is a process utilizing natural conditions to degrade contaminates and involves the sampling of groundwater on a regular basis to validate that contaminant levels are degrading over time.

The USACE and the North Carolina Department of Environmental Quality (NCDEQ) met in 2018 and 2019 to discuss a path forward for site closure. The two groups agreed that groundwater injections would likely speed up the process. The USACE conducted groundwater injections with a product called Petrofix®, a fluid designed to treat petroleum fuel spills in soil and groundwater, in June and July of 2020 and August of 2021. The USACE followed this up by sampling for petroleum-based analytes and MNA parameters to determine if the remaining concentrations were decreasing.

The USACE sampled and analyzed the samples for polycyclic aromatic hydrocarbons (PAHs), volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH) and Monitored Natural Attenuation (MNA) parameters in November 2021, March 2022, June 2022, September 2022, December 2022, March 2023, June 2023, and December 2023. The MNA parameters were methane, carbon dioxide, nitrate, nitrite, and sulfate. Laboratory analysis indicated that the sample from one well had one analyte, methylnaphthalene, above regulatory action levels. It was detected in one of the wells located west of the dunes, not on the beach side. In addition, C9-C22 aromatics was detected above the regulatory action level in two temporary wells near the former Building 19 in September 2023. The laboratory analytical results for the September 2023 sampling groundwater sampling event are included for Job Number 680-240122-1 in Appendix III to this report.


Croatan Sound
Atlantic Ocean
Buxton Landing
Buxton
Buxton Naval Facility
Cape Hatteras National Seashore
12
Virginia
Richmond
Norfolk
Raleigh
North Carolina
Coastal Plain
Legend
Buxton Naval Facility
Beach Nourishment Event (2022)
N
4,000 2,000 0 4,000
Feet
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
Geology, Hydrogeology, and HTRW Design Section
Buxton Naval Facility
SITE MAP
Buxton, NC
MARCH 2024
FIGURE 1

Organic Material Investigation

2.1 Organic Material Incident – September 2023

Organic material of unknown origin washed up on the shore on Buxton Beach in early September 2023. The USACE Wilmington District notified USACE Savannah District about the reports of odor and sediments on the beach.

The USACE Savannah District had a team on location scheduled to conduct planned groundwater sampling and tasked them with evaluating the conditions on September 7, 2023. The team verified that the beach had sporadic accumulations of what appeared to be masses of organic material and sand that were saturated with an unknown substance. Figure 2 is a photo taken of the masses on the beach. The team verified the presence of a petroleum odor on the beach. The team collected a sample of the material for laboratory testing.

Figure 2 – Organic Accumulations Saturated with Petroleum on Buxton Beach

The team did not identify any source of petroleum on the beach or in the surrounding area that could have contributed to the accumulations washed up on the shore.

The sample of the organic material that the team collected on September 8, 2023, was delivered to Pace Analytical Services on September 13, 2023. Pace Analytical Services noted that the samples arrived in good condition, and, where required, were preserved on ice. Pace Analytical Services performed a method 8015C analysis which resulted in a reading of 36,000 mg/kg of Diesel Range Organics (DRO). The laboratory analytical report (Lot Number YI13020) is included in Appendix III to this report.

Analytical results for the September 2023 groundwater sampling event indicated C9-C22 aromatics was detected above the regulatory action level in two temporary wells near the former Building 19. The laboratory analytical results are included for Job Number 680-240122-1 in Appendix III to this report.

2.2 Buxton Beach Field Visit – October 2023

The USACE Savannah District conducted a site visit to gather additional information on October 12, 2023. The team collected ambient air readings, air readings at various exposed pipes protruding from the dunes, dug four test pits and collected two sub surface soil samples. The locations of the test pits are shown in Figure 3.

The team collected the ambient air readings and the air readings at exposed pipes exposed at that time using a RAE MiniRAE 3000 Photoionization Detector (PID). Field Environmental Instruments, Inc. provided the rental instrument, which was in good operating condition.

The air readings were recorded in parts per million by volume (ppmv). The ambient air reading of the beach was zero ppmv. The reading of one of the accumulated samples on the surface of the beach was zero ppmv. At test pit #1 (TP-1), the ambient air reading was 16 ppmv and the reading from soil at a depth of three feet below ground surface (ft bgs) was 49 ppmv. The 49 ppmv reading quickly dissipated once exposed to the atmosphere. The ambient air and at depth readings at test pit two were both zero ppmv. The team did not take readings at test pit three or four because a steady rain started, and the instrument cannot operate in rainy conditions.

The team dug the test pits to a depth of three ft bgs. The team classified all the soil removed from the test pits as fine sand with no peat, organic material, or petroleum products/byproducts in the test pits. One soil sample was collected from TP-1 and TP-4 at 3 and 3.5 feet bgs respectively and submitted for laboratory analysis for volatile organic compounds, semi-volatile organic compounds, extractable petroleum hydrocarbons, and volatile petroleum hydrocarbons. The laboratory analytical report (Lot Number YJ13025) is included in Appendix III to this report. Analytical results for constituents detected in sample TP-1 are as follows:

Constituent	Analytical Result	NCDEQ Maximum Soil Contaminant Concentrations (MSCCs) [1]	
		Soil to Water Maximum Contaminant Concentration	Residential Soil Maximum Contaminant Concentration
Phenanthrene	0.550 (QS)	64	56
C9-C22 Aromatics	774 (M-03)	31	469
C19-C36 Aliphatics	190 (M-03)	-	31,200
C9-C18 Aliphatics	988 (Q)	540	1,560

All values are in mg/kg
Notes:
[1] Screening criteria are obtained from the North Carolina Department of Environmental Quality, Division of Waste Management, Underground Storage Tank Section, Comprehensive Tables for Corrective Action Guidelines, Table 1 Maximum Soil Contaminant Concentration Levels (MSCCs), revised September 7, 2022.

The Q and QS qualifiers indicate the sample matrix caused interference issues with the laboratory analysis. The M-03 qualifier indicates incorrect auto integration indicating the results may be incorrect. The J qualifier indicates the result is estimated because it is between the level of detection and level of quantitation. The reported value is therefore an estimate. The analytical result for TP-1 for C9-C22 aromatics exceeded the North Carolina MSCC screening criteria for residential and soil to groundwater. The analytical result for TP-1 for C9-C18 aliphatics exceeded the North Carolina MSCC screening criteria for soil to groundwater. Analytical results for constituents detected in sample TP-4 were C9-C10 aromatics estimated at 0.77 mg/kg (J qualifier), which is below the North Carolina MSCC screening criteria. No soil samples were collected from test pits 2 and 3 (TP-2 and TP-3) as no visual or olfactory indication of petroleum contamination was present.

2.3 Buxton Beach Field Visit – November 2023

The USACE conducted a site visit on November 2, 2023. The purpose of the visit was to investigate the potential presence of a10,000 gallon underground storage tank (UST) behind the former Building 7and to inspect the beach. The USACE personnel met with NPS personnel and used a magnetic locator and hand excavation tools. Several magnetic objects (manhole lid, concrete pad with rebar, and metal saddle straps) were discovered, but no UST was found. No petroleum odor, petroleum-impacted soil, or petroleum saturated organic matter was observed during excavation activities or at the beach.

2.4 Buxton Beach Field Visit – December 2023

The USACE conducted a site visit during the week of December 18, 2023. The purpose of the visit was to attempt to identify a source of petroleum contamination capable of contributing to the organic material that was noticed on the beach as well as to the petroleum odor that was periodically reported.

The team mobilized with a Geoprobe® direct-push track mounted drill rig capable of operating on a beach. The drill crew placed nine boreholes to depths ranging from 15 ft bgs to 20 ft bgs. The depths were selected to identify a potential peat or organic layer below the groundwater table. The existing monitoring wells were installed in 2010, prior to any beach erosion. The beach eroded approximately twenty-five feet vertically in the time between installation in 2010 and the present. The depth of the December borings was therefore approximately 10 ft to 15 ft deeper than had been drilled previously. The locations (MC-1, MC-2, MC-3, MC-4, MC-5, SB-ZMW-10, SB-ZMW-11, SB-ZW-12, SB-ZMW-15) of the borings are shown in Figure 3.

The crew and the field geologist noted only fine sand in the nine temporary boreholes place on the beach. The crew found no evidence of peat, organic soils, or petroleum products. Every boring conducted was screened with a PID and all borings conducted on the beach were 0 ppm with the exception of MC-3. The only positive reading at MC-3 was 10 ppm at 7.5 feet, which was below the groundwater encountered at that location. Per EPA guidance, soil sample collection is not typically conducted below groundwater as the saturated zone is considered a groundwater issue. Moreover, correlating groundwater data was already available for TMW-3 and TMW-4 in that area. Therefore, based on the PID screening results, no sampling was warranted.

The field geologist did note the presence of peat at a depth of three and a half to four and a half ft bgs adjacent to existing monitoring well BNF-ZMW-11. The geologist collected a sample and sent it to Eurofins Lancaster Laboratories Environment Testing, LLC on December 20, 2023, with an arrival date at the laboratory of December 22, 2023. The laboratory noted that the samples arrived in good condition, and, where required, were properly preserved on ice. Laboratory results indicated that the sample had 5,200 mg/kg of TPH DRO which was further identified as coal tar, which is present in asphalt. It should be noted asphalt was present on the surface but not in the sample. The laboratory analytical results are included for Job Number 680-240122-1 in Appendix III to this report.

The USACE collected groundwater samples in conjunction with the field visit as part of a regularly scheduled periodic groundwater sampling event. The team collected samples from eight monitoring wells that have had detections above regulatory levels in the past two years. The USACE sent the samples to Eurofins Lancaster Laboratories Environment Testing, LLC on December 20, 2023, with an arrival date at the laboratory of December 22, 2023. The laboratory noted that the samples arrived in good condition, and, where required, were properly preserved on ice. An evaluation of the groundwater sample laboratory analytical results for this groundwater sampling event will be included in a monitoring report at a later date. Laboratory results indicated that one analyte in one well had an exceedance of NCDEQ Groundwater Quality Standard (GWQS). This exceedance of 1-Methylnaphthalene was in monitoring well BNF-ZMW-9R and measured 6.95 micrograms per liter (µg/L). The NCDEQ GWQS is 1.0 µg/L. The reported value of 6.95 µg/L had a “J” qualifier. The J qualifier indicates the result is estimated because it is between the level of detection and level of quantitation. The reported value is therefore an estimate. Section three will discuss this in more detail.

2.5 Buxton Beach Field Visit – February 2024

The USACE conducted a field visit on February 15 and 16, 2024. A team was sent to the site after a conference call on February 14, 2024, during which non-USACE personnel indicated that the odor of petroleum was so strong that persons on the site could not be present on the beach for extended periods of time. The USACE sent a geologist and an environmental engineer to assess conditions at Buxton Beach.

The field report from February 15, 2024, recorded the following: “USACE personnel arrived onsite at 1620 and departed at 1800. The tide was observed to be low (High tide: 1132 / Low tide: 1729). The USACE did not observe any petroleum odors, sheens, or stained soils during the site inspection. Approximately five baseball-sized peat balls were observed washed up on the shore. No petroleum odors were observed when the peat balls were crumbled. The USACE used a shovel to dig inside and around a concrete manhole structure exposed on the beach. No petroleum odors were observed and no other structures, such as a tank, were found below the manhole structure. The USACE personnel dug adjacent to a two-inch pipe observed south of the FUDS property boundary and found no evidence of a tank or structure. Additionally, the USACE used a ground probe and did not encounter subsurface objects to depths of approximately three feet in the vicinity of the manhole structure and exposed pipe.”

The field report from February 16, 2024, recorded the following: “USACE personnel arrived onsite at 1030 and departed at 1110. The tide was observed to be mid-tide and rising at the time of the inspection (High Tide: 1230). The USACE did not observe any petroleum odors, sheens, or stained soils during the site inspection. Three (3) baseball-sized peat balls were observed washed up on the shore. No petroleum odors were observed when the peat balls were crumbled. The USACE observed that the last high tide did not reach the concrete manhole structure located at the base of the dune. Site conditions observed near high tide on 2/16/2024 were similar to low tide conditions on 2/15/2024.”

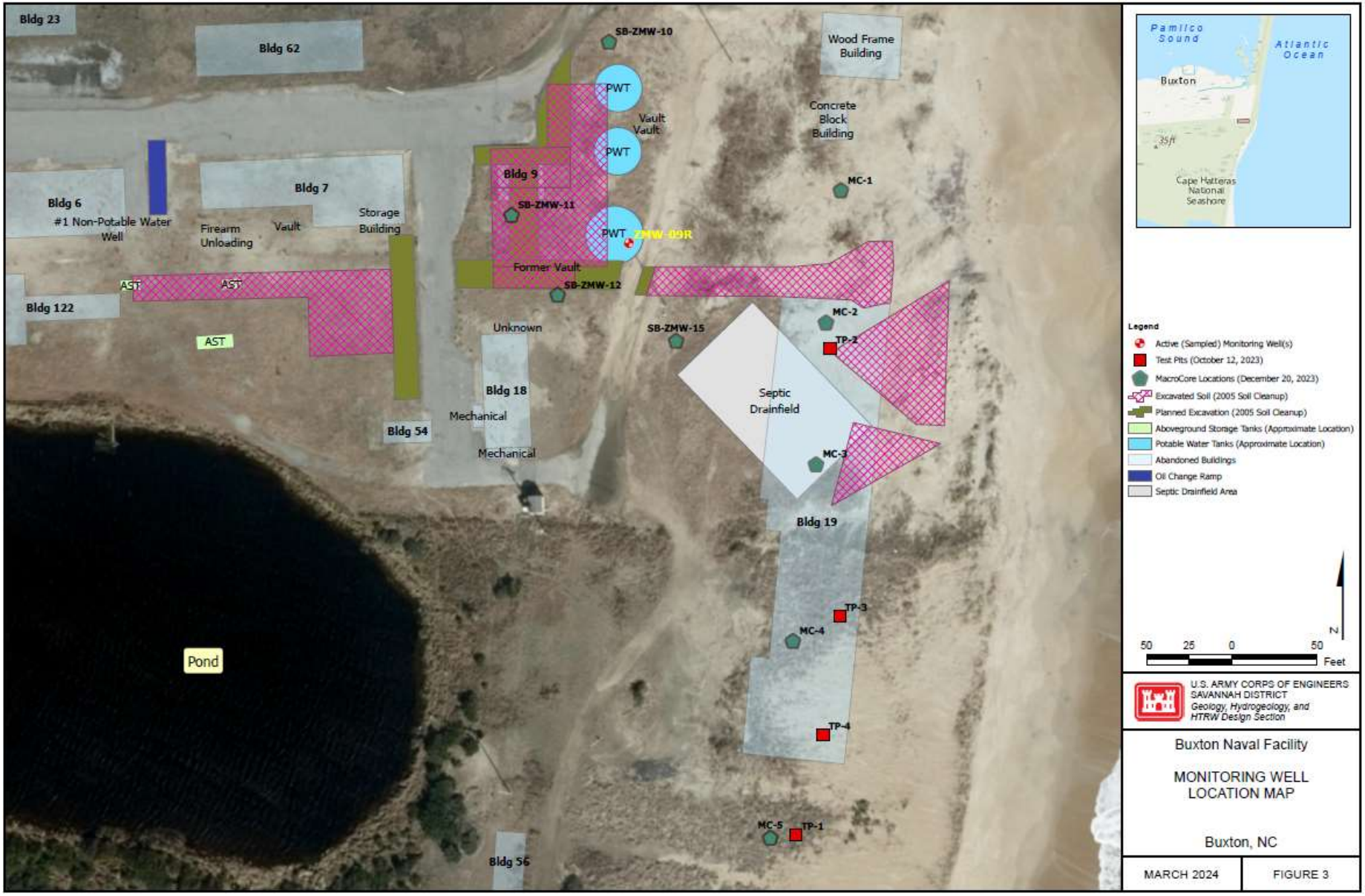


Figure 3 – Soil Boring Location Map

Interpretations and Findings

3.1 Interpretations and Findings from Site Visits

a. Site Visit – September 2023

The USACE did not identify a source of contamination in the vicinity of the shore that could have generated the amount of organic material washed up on the shore. The petroleum odor was noticeable but could not be explained either. The team that was on location was conducting regularly scheduled groundwater sample collection. The scope of the site visit in September 2023 was limited to documenting the conditions and gathering enough information to determine a course of action for additional investigations. It is worth noting that prior to the organic material washing up on shore, the highest concentration of DRO in soil recorded at the project is 410 mg/kg. This detection was found near the Oil Change Ramp detailed in Figure 12 of the USCG Site Characterization Report dated 1992.

The only interpretation from the September 2023 site visit is that there did not appear to be indications at the time of a significant source of petroleum contamination that would contribute to the event of early September 2023.

b. Site Visit – October 2023

The USACE site visit in October 2023 focused on assessing the air quality and identifying if there were indications of petroleum in the soil on the beach via digging four test pits. The ambient air readings were collected while standing on the beach holding the PID approximately 5 feet bgs and were all zero ppmv. This indicates a lack of measurable hazardous conditions in the ambient air. The readings in the vicinity of the test pits were measurable but at low levels. The highest reading was in test pit one at 49 ppmv, which was collected by allowing the bottom soil sample to volatilize in a plastic bag for approximately 5 minutes. The ambient air from within TP-1 was collected by holding the PID at a depth of approximately 2 ft bgs in the open space of TP-1. The USACE cannot make a definitive interpretation of the readings because a specific analyte is not known. DRO is not a specific analyte, but a family of analytes. It is worth noting though that Occupational Health and Safety Administration (OSHA) has set an exposure limit of 500 parts of petroleum distillates per million parts of air (500 ppm) for an eight-hour workday, 40-hour workweek (OSHA, 2024). This OSHA permissible exposure limit is not a Federal or State applicable remedial goal.

The analytical results for a soil sample collected from TP-1 are included (Lot Number YJ13025) in Appendix III to this report and were summarized in section 2.2.The analytical result for TP-1 for C9-C22 aromatics exceeded the North Carolina MSCC screening criteria for residential and soil to groundwater and residential. The analytical result for TP-1 for C9-C18 aliphatics exceeded the North Carolina MSCC screening criteria for soil to groundwater. Analytical results for constituents detected in sample TP-4 were below the North Carolina MSCC screening criteria. No soil samples were collected from test pits 2

and 3 (TP-2 and TP-3) as no visual or olfactory indication of petroleum contamination was present. The test pits that were dug had clean, fine sand with no indications of organic material, peat, or petroleum products.

The USACE interpreted the readings as indicative of some type of volatile compound on the beach that did have a petroleum odor. The USACE was not able to establish a source and concluded that additional site visits would be necessary to further understand the situation.

c. Site Visit – November 2023

The USACE site visit in November 2023 primarily focused on searching for a UST, the presence of which was suspected by NPS personnel, and inspecting the beach conditions. The results of this visit indicated no petroleum odor or impacted soil/organic matter was present and no presence of a UST. The USACE interpreted the suspected UST at the excavation site had been removed previously and beach conditions did not indicate presence of petroleum contamination.

d. Site Visit – December 2023

The site visit in December 2023 focused on determining if there was a peat layer or any type of organic material, to include petroleum, in the subsurface on the beach.

The USACE selected the depths for the boring on the beach based on the depths of previous monitoring wells on the beach and the amount of erosion that has taken place at the site. Some of the original monitoring wells were removed at various times over the years because beach erosion was causing the PVC to rise too high in the air. For example, wells that had once been 30 ft bgs were now only eight feet bgs. The USACE drilled the new soil borings to depths of 15 to 20 bgs, which is far deeper than had been drilled previously.

The USACE had already determined that the likelihood of encountering a peat layer on the beach side of the dunes was low due to the peat layer that is present on the land side of the dune's outcrops at the base of the dunes on the beach side. This leads to the logical geologic conclusion that the peat layer on the beach side of the dunes has long since eroded into the ocean. The lack of peat in any of the borings on the beach side confirms this.

Prior to the site visit, the USACE theorized that contamination may have been bound in that peat layer that was washed out to sea and that this petroleum saturated peat was then being washed back onto the shore. The theory was disproved when the sample of peat from the vicinity of BNF-ZMW-11 had laboratory results indicating only coal tar. Coal tar is often used in creosote and in asphalt road paving sealer. The lack of any petroleum constituents in the peat that was sampled ruled out a source of petroleum in the peat layer on the land side of the dunes. It is important to note that the color and consistency of the peat was significantly different from the material that washed up on the shore.

The groundwater sampling conducted during the December 2023 site visit resulted in only one well that had contamination above action levels. BNF-ZMW-09R had a concentration for 1-Methylnaphthalene of 6.95 µg/L. This was in exceedance of the NC GWQS of one µg/L. The value was an estimated value because of its low concentration. State regulatory agencies sometimes have action levels based on statistical projections that do not correlate to a laboratory's ability to accurately detect and report concentrations.

The interpretation of the data collected during the December 2023 site visit is that there is not a discoverable and detectable source of contamination in the beach subsurface that could contribute to the organic material that washed up on the shore or could contribute to the odor on the beach.

The conclusion was that the source of the organic materials and the odor is still of unknown origin and would require additional efforts to locate.

e. Site Visit – February 2024

The site visit in February 2024 was conducted specifically to verify reported conditions at Buxton Beach. Reports to the National Response Center were filed by various persons in the week preceding the visit. USCG responded to the calls but was not able to verify the conditions reported. NPS, in a meeting on February 14, 2024 with USCG, verified an odor coming from a pipe protruding from the dune near the former Building 19 location and stated that the odor on the beach that day was so significant that it was not possible to stand in the area for more than several minutes.

The USACE sent a team to the beach on February 15, 2024 to assess the conditions at Buxton Beach. The team was not able to verify the reported conditions and noted no odor, sheen, discolored soil, or any other indications of petroleum impacts to the beach.

The interpretation is that the presence of organic material and odor is potentially heavily dependent on conditions at sea at the time. The conclusion was that a predictive approach needs to be taken to try to identify if conditions might be favorable for the organic material to wash up and for odors to be present.

3.2 General Conclusions

The conditions at Buxton Beach are transient. The organic materials and the odor are not present on the beach constantly. This indicates that the source of the material and the odor is either not present in the project area or is in concentrations not identifiable. Comparing the highest concentration of DRO found on site in 1992 of 410 mg/kg to the concentration of DRO found in the organic material that washed onto shore in September 2023 is also an indicator that Navy activities may not be the source of contamination.

The groundwater monitoring data repeatedly shows a steady decrease in concentrations of contamination. The presence of free product would result in laboratory results with petroleum constituents such as benzene, toluene, ethylene, and xylene. The lack of these

analytes in the routine groundwater sampling precludes the possibility of an active source of petroleum in the subsurface.

The USACE has been remediating the groundwater for over 15 years with no incidents similar to what happened in early September 2023. Noteworthy is that a significant beach nourishment project in the area, as shown on Figure 1, was undertaken in June and July 2022. The possibility that this may have exposed offshore contamination has yet to be adequately investigated.

Recommendations

4.1 Petroleum Contaminated Sites

The USACE recommends coordinating with NPS to study what storm, tide, and wave conditions have led to occasions where the organic material washes onto the shore as well as conditions that lead to the noticeable odor. The odor exists and has been reported too many times to be discounted. Developing a predictive model, in as much as one might be developed, would allow the USACE to be proactive and have a team in place to not only verify the conditions but try to find the source.

4.2 Groundwater Sampling

The USACE recommends continuing the current groundwater sampling interval. There is no indication that the petroleum contamination in the groundwater is not being addressed in accordance with established procedures and stated goals.

4.3 Project-Wide

The USACE will continue to evaluate the project area for eligible activities and/or actions that can be taken under the FUDS program. Specifically, a pipe protruding from the dunes and holding a petroleum odor may be a potential source requires additional evaluation. The USACE feels it is imperative that USACE and other federal and state entities cooperate and collaborate in any future investigative endeavors.

References

OSHA, 2024, https://www.osha.gov/chemicaldata/804

Appendix I – Site Visit Reports

US Army Corps Of Engineers
Savannah District

TRIP REPORT

1. **SUBJECT:** Groundwater Sampling

2. **DATE OF TRIP:** 7-8 September 2023

3. **PLACE:** Buxton Naval Facility, North Carolina

4. **PURPOSE OF VISIT:** The purpose of the visit was to install 4 temporary wells (TWs) and collect groundwater samples from the 4 TWs and 8 existing monitoring wells (MWs).

5. **PERSONNEL ONSITE:**

Tracey Tapley (Geologist)	CESAS-ENG-G
Isoke James (Chemist)	CESAS-ENG-G
Jesse Coursey (Geologist)	CESAS-ENG-H
Steve Fox (Biologist)	CESAS-PM-H
Meaghan Johnson	National Park Service
Michelle Tongue	National Park Service
Brandon Mello	US Coast Guard

6. **SUMMARY:**
   A. September 7, 2023
      i. After arriving at the site (Tapley and Coursey), the location of the TWs was determined using measurements from existing MWs. Coursey used digging equipment to clear away any concrete or metal at each TW location. The TW points were driven with hammer to depths of six to seven feet below ground surface. Due to encroaching high tide and to ensure the locations were visible, an additional two feet of drive rod were added to each location before completing the day.
   B. September 8, 2023
      i. Arrived onsite in the morning to begin groundwater sampling (Tapley, James, and Coursey). Completed the MWs before sampling then removing TWs.
   C. Other Notes:
      i. September 1, 2023
         1. Received notification that beach erosion had caused removal of beach sands.
      ii. September 7, 2023
         1. During drive to Buxton, discussed site conditions with NPS (Meaghan Johnson) to determine the accessibility of the beach. It was determined we could not safely drive on the beach due to obstructions (concrete and rebar). During discussion, we were informed that NPS would be onsite next morning.
         2. Photos of obstructions and peat like debris.
         3. While installing TWs, personnel noted exposure of obstructions and strong odor on the beachside of dunes.
      iii. September 8, 2023
         1. Arrived on site to note odor still present. SAS personnel began sampling prior the arrival of NPS personnel.
         2. NPS informed SAS personnel that the beach was being put off limits for visitors and that personnel from USCG was in route to collect samples on the beach side of the dunes. USCG collected several beach samples. There was no with
         3. NPS personnel are credited for the provided attachment photos.

4. SAS personnel could not reach PVC seen in last photo prior to leaving the site. There are three vertical PVC locations along beach that are exposed and covered up during these erosion and replacement events.

Tracey Tapley, Geologist
CESAS-ENG-G

Attachments:

Beachside photos (taken by NPS Personnel)

USACE DAILY QUALITY ASSURANCE SITE VISIT REPORT

NAME / TITLE: Jeff Groblewski / Physical Scientist DATE: 10/12/2023

FUDS PROPERTY, PROJECT, & LOCATION: Buxton NF FUDS, Buxton, NC

WEATHER CONDITIONS: Light to moderate rain, 62 degrees F

USACE PERSONNEL ON SITE: Jeff Groblewski SAW; Ray Livermore SAW
OTHER PERSONNEL ON SITE: Meaghan Johnson, NPS; Michelle, NPS

SUBCONTRACTOR: NA SUBCONTRACTOR PERSONNEL ON SITE:

SUMMARY OF SITE ACTIVITIES: Took site photographs, walked the beach north and south of the Buxton NF FUDS, inspected peatballs, took ambient air readings along the beach and peatballs with a PID, installed 4 test pits (TP) using a shovel to 3-3.5 feet below ground surface, screened sand with a PID, collected 2 soil samples for laboratory analysis. Met with NPS personnel.

LEVEL OF HEALTH & SAFETY PROTECTION: Modified Level D; nitrile gloves

SITE PHOTOGRAPHS TAKEN: Yes, attached.

ISSUES: Beach erosion has exposed petroleum-impacted peatballs and old DoD infrastructure at the Buxton NF FUDS.

REMEDIES: NA

SAMPLES COLLECTED: Soil sample collected from TP-1 at 3 feet bgs; soil sample collected from TP-4 at 3.5 feet bgs. Samples submitted to Pace for VOC, SVOC, EPH, and VPH analyses.

ADDITIONAL REMARKS: PID readings in ambient beach air and peatballs was 0.0 ppmv. PID readings from the sand collected from the bottom of TP-1 at 3 ft bgs was 49 ppmv; ambient air from within TP-1 was 16 ppmv. JG noted the petroleum odor smelled like fuel/heating oil. No PID readings or petroleum odors were detected at TP-2. No petroleum odors were observed at TP-3 or TP-4; note the PID was malfunctioning due to the steady rain at TP-3 and TP-4. The GPS locations of the test pits were documented using an iPhone. A soil sample was collected from the bottom of TP-1 at 3 ft bgs and TP-4 at 3.5 ft bgs. All test pits were backfilled to grade with excavated sand. Soils encountered at TP-1 through TP-4 consisted of fine sand from 0 ft to termination depth between 3-3.5 ft bgs. No peatballs were encountered in the test pits. Site plan showing the locations of the test pits is attached.

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View of the beach facing north at the southern boundary of the closed beach section adjacent to the FUDS boundary.

Sample collection at TP-2.

Sample collection at TP-1.

Sample collection at TP-4

Sample collection at TP-3.

Infrastructure debris on the beach.

Site plan showing the locations of the test pits (TP1 - TP4)

US Army Corps Of Engineers
Savannah District

TRIP REPORT

1. **SUBJECT:** Groundwater/MacroCore Sampling

2. **DATE OF TRIP:** December 18-20, 2023

3. **PLACE:** Buxton Naval Facility, North Carolina

4. **PURPOSE OF VISIT:** The purpose of the visit was to i collect groundwater samples from t 8 existing monitoring wells (MWs) and complete macrocore soil borings to determine if peat was present onsite.

5. **PERSONNEL ONSITE:**

Tracey Tapley (Geologist)	CESAS-ENG-G
Isoke James (Chemist)	CESAS-ENG-G
Jesse Coursey (Geologist)	CESAS-ENG-H
Kyle Killebrew (Driller)	CESAS-ENG-Gx
Jafarri Brown (Driller Helper)	CESAS-ENG-Gx
Zach Eason (Driller Helper)	CESAS-ENG-Gx
Michael Flynn	National Park Service

6. **SUMMARY:**
   A. December 18, 2023
      i. Arrived onsite in the morning to begin groundwater sampling (Tapley, James, and Coursey). Completed the MWs before determining locations of macrocore sampling locations.
   B. December 19, 2023:
      i. The locations of the beach side macrocore samples were determined by the location of the northernmost monitoring well (BNF-ZMW-13) and the southern boundary of BNF along the beach. Initially there was to be two rows of borings, the first along the sand dune escarpment and the second row along the edge of the beach. The beach erosion was such that only the borings along the escarpment were completed. The borings were named MC-1 through MC-5, ranging north to south. MC-1 through MC-3 were taken at higher elevations and were completed to twenty feet below ground surface (bgs). MC-4 was completed to fifteen feet bgs and MC-5 was completed at ten feet bgs.
   C. December 20, 2023
      i. Prior to leaving the site, four additional borings were taken adjacent to four existing monitoring wells. Depths were determined by the depth of the monitoring wells.

Tracey Tapley, Geologist
CESAS-ENG-G

Attachments:

Beachside photos (taken by USACE Personnel)

Geoprobe 7822DT collecting macrocore soil samples

Southern groin structure

Southern groin structure

Organic material collected from the surface near the south boundary

Southernmost concrete anchor for ocean cable

Southernmost concrete anchor for ocean cable

Southernmost concrete anchor for ocean cable

Ocean cable anchor internal structure

USACE DAILY QUALITY ASSURANCE SITE VISIT REPORT

NAME / TITLE: Jeff Groblewski / Physical Scientist DATE: 10/12/2024

FUDS PROPERTY, PROJECT, & LOCATION: Buxton NF FUDS, Buxton, NC

WEATHER CONDITIONS: Partly cloudy, 50 degrees F

USACE PERSONNEL ON SITE: Jeff Groblewski SAW; Ray Livermore SAW

OTHER PERSONNEL ON SITE:

SUBCONTRACTOR: NA SUBCONTRACTOR PERSONNEL ON SITE:

SUMMARY OF SITE ACTIVITIES: Took photographs, inspected the beach within and surrounding the Buxton NF FUDS, shovel excavated around a large concrete manhole structure exposed on the beach, investigated a 2-inch pipe with a threaded cap observed on the beach south of the FUDS property boundary, removed previously abandoned well components from the beach.

LEVEL OF HEALTH & SAFETY PROTECTION: Modified Level D; safety boots.

SITE PHOTOGRAPHS TAKEN: Yes, attached.

ISSUES: Reports of petroleum sheens in the ocean and petroleum odors on the beach in the vicinity of the Buxton NF FUDS property. Old MW components exposed on the beach.

REMEDIES: Abandoned well components for ZMW-1, DCMW-1, & DCMW-4 were exposed due to beach erosion. USACE removed the remaining well components from the beach.

SAMPLES COLLECTED: No

ADDITIONAL REMARKS: USACE personnel arrived onsite at 1620 and departed at 1800. The tide was observed to be low (High tide: 1132 / Low tide: 1729). USACE did not observe any petroleum odors, sheens, or stained soils during the site inspection. Approximately 5 baseball sized peatballs were observed washed up on the shore. No petroleum odors were observed when the peatballs were crumbled. USACE used a shovel to dig inside and around a concrete structure exposed on the beach. No petroleum odors were observed and no other structures, such as a tank, were found below the manhole structure. USACE personnel dug adjacent to a 2-inch pipe observed south of the FUDS property boundary and found no evidence of a tank or structure. Additionally, USACE used a ground probe and did not encounter subsurface objects to depths of approximately 3 feet in the vicinity of the manhole structure and exposed pipe.

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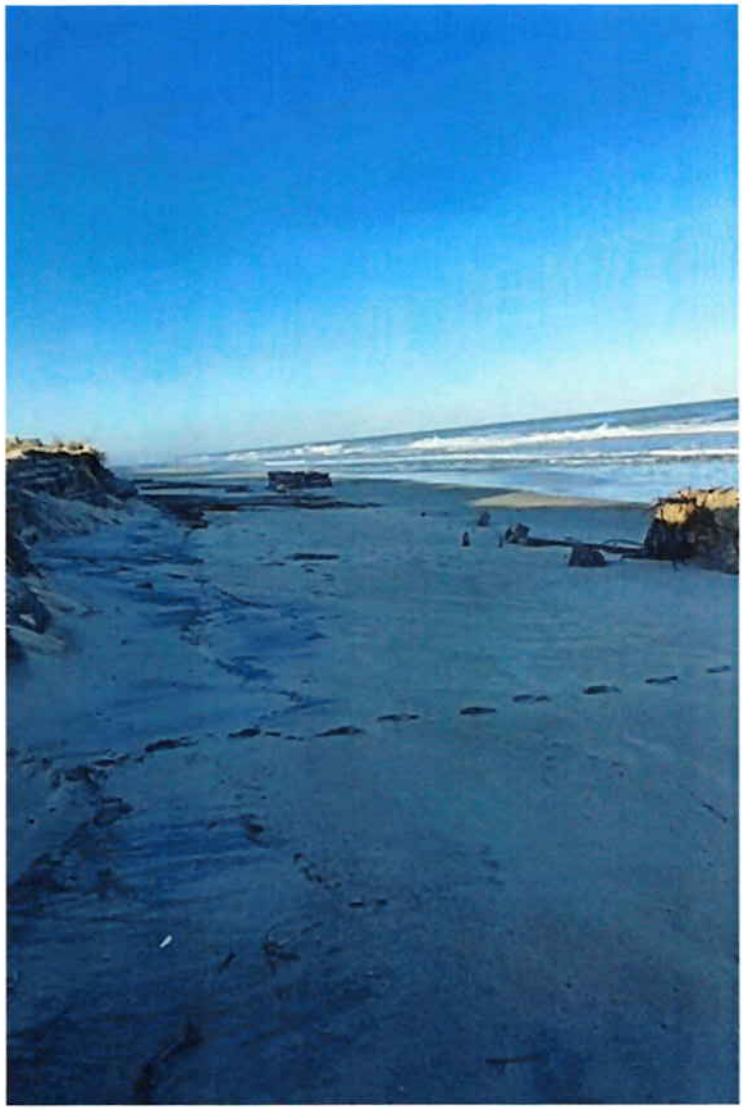
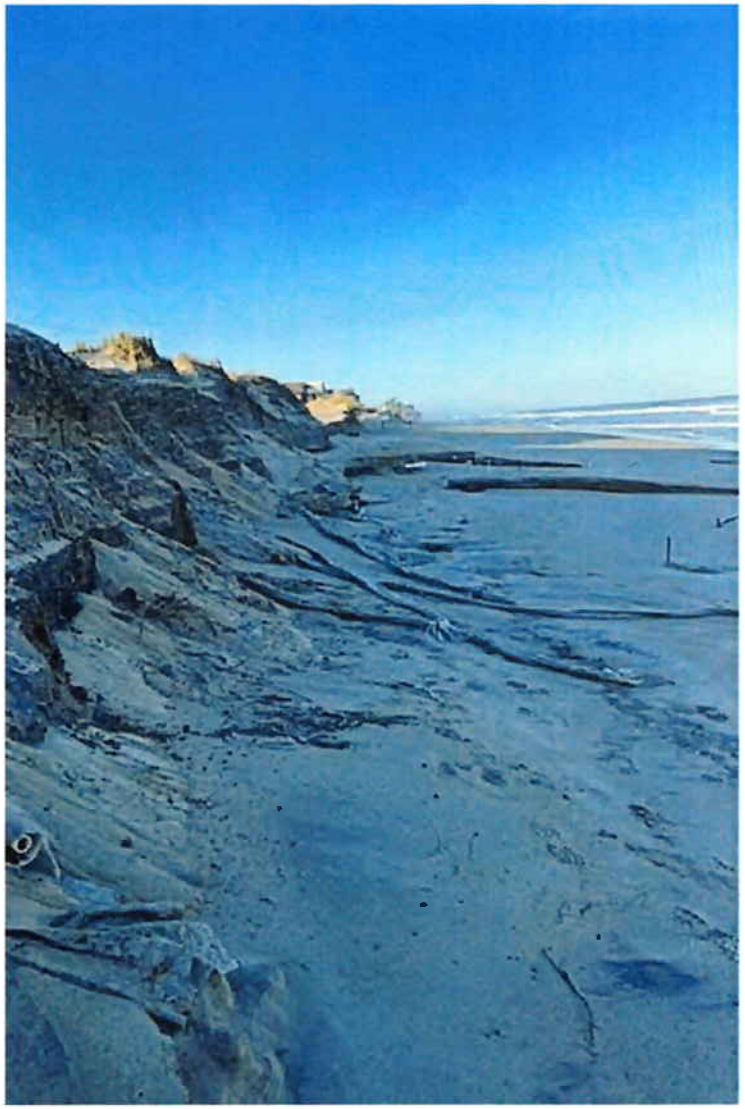
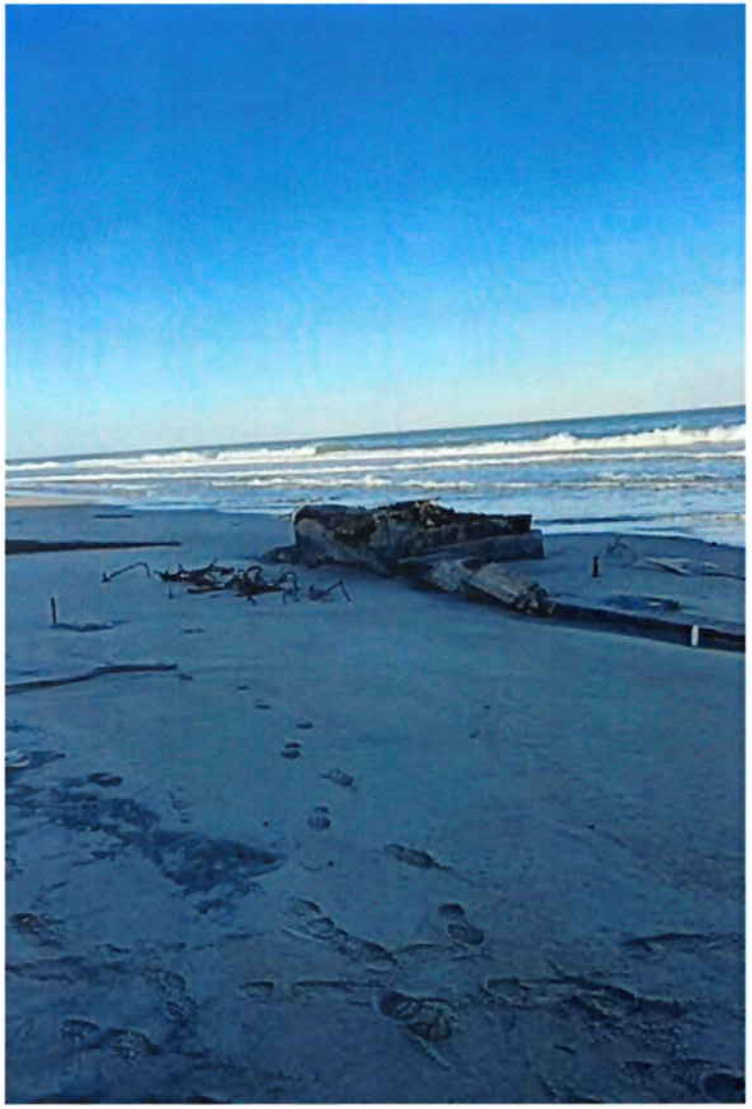
Photographs of the beach, dune erosion, and exposed infrastructure observed on February 15, 2024..



Photographs of the beach, dune erosion, and exposed infrastructure observed on February 15, 2024.

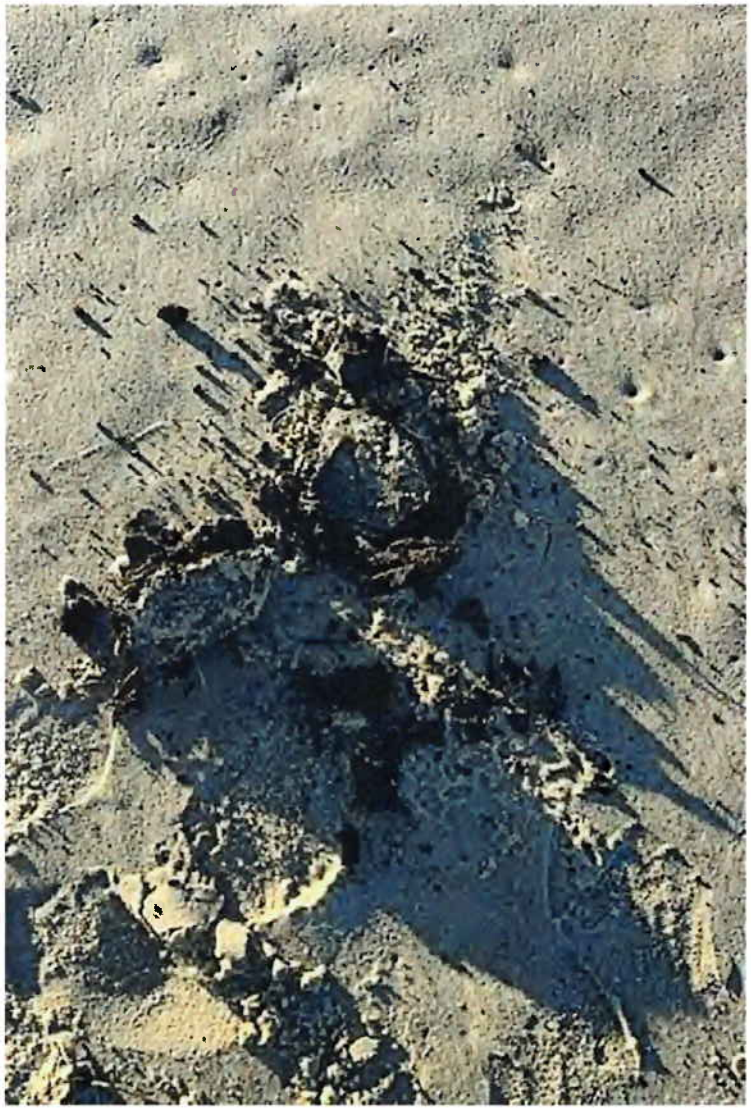




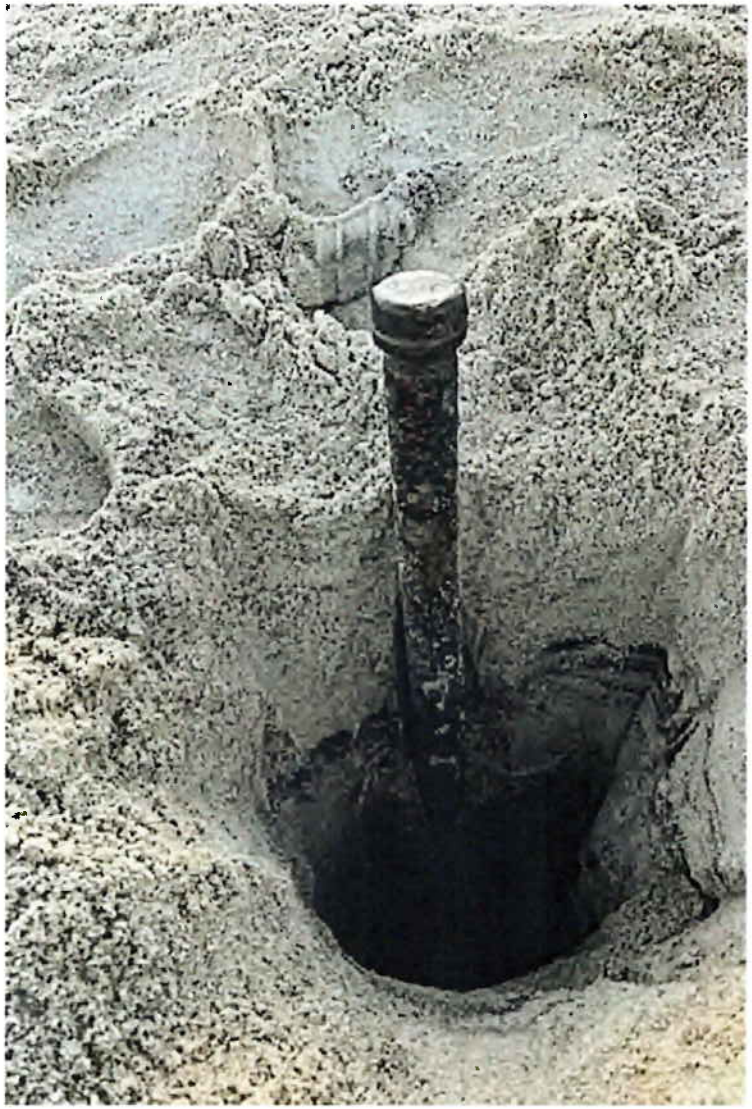
Photographs of the beach, dune erosion, and infrastructure observed on the beach on February 15, 2024.

Photographs of the manhole concrete structure exposed on the beach.

Photograph of a typical peatball observed on the beach on February 15, 2024.



Photograph of the exposed 2-inch pipe observed on the beach south of the Buxton NF FUDS property on February 15, 2024. The pipe was stiff in the ground and appeared to extend to at least 6 ft bgs. The pipe did not appear to be connected to a structure.



Photographs of the previously abandoned well components exposed due to beach erosion. Exposed well components were removed.

Photographs of the previously abandoned well components exposed due to beach erosion. Exposed well components were removed.

Photographs of the previously abandoned well components exposed due to beach erosion. Exposed well components were removed.

Photographs of the previously abandoned well components exposed due to beach erosion. Exposed well components were removed.

USACE DAILY QUALITY ASSURANCE SITE VISIT REPORT

NAME / TITLE: Jeff Groblewski / Physical Scientist DATE: 10/Feb/2024

FUDS PROPERTY, PROJECT, & LOCATION: Buxton NF FUDS, Buxton, NC

WEATHER CONDITIONS: Sunny, 55 degrees F

USACE PERSONNEL ON SITE: Jeff Groblewski SAW; Ray Livermore SAW

OTHER PERSONNEL ON SITE:

SUBCONTRACTOR: NA SUBCONTRACTOR PERSONNEL ON SITE:

SUMMARY OF SITE ACTIVITIES: Performed a site inspection of the beach in the vicinity of the Buxton NF FUDS. Inspected peatballs washed up on the shore. Took photographs to document site conditions. The purpose of today's site inspection was to document site conditions near high tide.

LEVEL OF HEALTH & SAFETY PROTECTION: Modified Level D; safety boots.

SITE PHOTOGRAPHS TAKEN: Yes, attached.

ISSUES: Reports of petroleum sheens in the ocean and petroleum odors on the beach in the vicinity of the Buxton NF FUDS property.

REMEDIES: NA

SAMPLES COLLECTED: No

ADDITIONAL REMARKS: USACE personnel arrived onsite at 1030 and departed at 1110. The tide was observed to be mid-tide and rising at the time of the inspection (High Tide: 1230). USACE did not observe any petroleum odors, sheens, or stained soils during the site inspection. Three (3) baseball sized peatballs were observed washed up on the shore. No petroleum odors were observed when the peatballs were crumbled. USASCE observed that the last high tide did not reach the concrete manhole structure located at the base of the dune. Site conditions observed near high tide on 2/16/2024 were similar to low tide conditions on 2/15/2024.

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Photographs of the beach, dune erosion, and exposed infrastructure on February 16, 2024.

Photographs of the beach, dune erosion, and exposed infrastructure on February 16, 2024.

Photographs of the beach, dune erosion, and exposed infrastructure on February 16, 2024.

Photographs of the beach, dune erosion, and exposed infrastructure on February 16, 2024.

Photograph of a typical peatball observed on the beach on February 16, 2024.

Appendix II – Boring Logs

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566964.92 E: 3038598.87	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: MC-1	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 19 2023	COMPLETED Dec 19 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 9.1'
			15. ELEVATION GROUND WATER: 1.9'
7. THICKNESS OF OVERBURDEN: 20.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 20.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
6.65	2.50		POORLY GRADED SAND (SP); light brown, dry to moist, trace shells, no odor, no cementation, no staining					
-5.05	14.20		POORLY GRADED SAND (SP); light brown, moist to wet, no odor, no cementation, no staining					
-10.85	20.00		POORLY GRADED SAND (SP); gray, wet, few shells, no odor, no cementation, no staining *Max shell size; 0.04'*					
			Borehole finished at 20.0					

5
0
-5
-10

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566887.49 E: 3038590.14	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: MC-2	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 19 2023	COMPLETED Dec 19 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 9.3'
			15. ELEVATION GROUND WATER: 3.3'
7. THICKNESS OF OVERBURDEN: 20.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 20.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
			POORLY GRADED SAND (SP); light brown, dry to wet, trace shells, no odor, no cementation, no staining					
0.79	8.50							
			POORLY GRADED SAND (SP); dark gray, wet, trace shells, no odor, no cementation, no staining					
-5.21	14.50							
			POORLY GRADED SAND (SP); light gray, wet, no odor, no cementation, no staining					
-9.31	18.60							
			SILTY SAND (SM); light gray, wet, some silt, trace shells, no odor, no cementation, no staining					
-10.71	20.00							
			Borehole finished at 20.0					

5
0
-5
-10

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566804.41 E: 3038584.26	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: MC-3	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 19 2023	COMPLETED Dec 19 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 6.9'
			15. ELEVATION GROUND WATER: 1.4'
7. THICKNESS OF OVERBURDEN: 20.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 20.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
			POORLY GRADED SAND (SP); light brown, dry to wet, trace shells, no odor, no cementation, no staining					
-0.09	7.00		POORLY GRADED SAND (SP); dark brown, wet, few shells, no odor, no cementation, no staining					
-6.09	13.00		POORLY GRADED SAND (SP); light gray, wet, trace shells, no odor, no cementation, no staining					
-13.09	20.00		Borehole finished at 20.0					

2
-3
-8
-13

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566701.00 E: 3038570.72	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: MC-4	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 19 2023	COMPLETED Dec 19 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 7.6'
			15. ELEVATION GROUND WATER: 3.3'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
			POORLY GRADED SAND (SP); light brown, dry to wet, trace shells, no odor, no cementation, no staining					
-3.37	11.00							
			POORLY GRADED SAND (SP); light gray, wet, trace shells, no odor, no cementation, no staining					
-7.37	15.00							
			Borehole finished at 15.0					

3
-2
-7
-12

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566585.75 E: 3038557.50	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: MC-5	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 19 2023	COMPLETED Dec 19 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 8.1'
			15. ELEVATION GROUND WATER: 4.6'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
6.06	2.00		POORLY GRADED SAND (SP); light brown, dry to moist, trace shells, no odor, no cementation, no staining					
4.56	3.50		POORLY GRADED SAND (SP); light brown, dry to moist, no odor, no cementation, no staining					
-1.94	10.00		POORLY GRADED SAND (SP); light brown, wet, no odor, no cementation, no staining					
-6.94	15.00		POORLY GRADED SAND (SP); light grayish brown, wet, no odor, no cementation, no staining					
			Borehole finished at 15.0					

4
-1
-6
-11

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 567051.92 E: 3038462.94	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: SB-ZMW-10	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 20 2023	COMPLETED Dec 20 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 8.4'
			15. ELEVATION GROUND WATER: 2.9'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
			POORLY GRADED SAND (SP); light yellowish brown, dry to moist, no odor, no cementation, no staining					
			Remant concrete					
2.90	5.50		POORLY GRADED SAND (SP); light brown, wet, trace shells, no odor, no cementation, no staining					
-6.60	15.00		Borehole finished at 15.0					

4
-1
-6
-11

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566950.49 E: 3038405.81	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: SB-ZMW-11	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 20 2023	COMPLETED Dec 20 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 8.8'
			15. ELEVATION GROUND WATER: 4.3'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
5.40	3.40		POORLY GRADED SAND (SP); light brown, dry to moist, no odor, no cementation, no staining					
4.30	4.50		PEAT (PT); dry to moist, some fine sand					
			POORLY GRADED SAND (SP); light grayish brown, wet, trace shells, no odor, no cementation, hydrocarbon staining					
			Petrofix Zone					
-6.20	15.00		Borehole finished at 15.0					

4
-1
-6
-11

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566903.80 E: 3038432.85	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: SB-ZMW-12	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 20 2023	COMPLETED Dec 20 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL:	BEARING:	14. ELEVATION SURFACE: 8.2'
			15. ELEVATION GROUND WATER: 1.3'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
7.70	0.50		POORLY GRADED SAND (SP); brown, dry, trace organics, trace shells, no odor, no cementation, no staining					
			POORLY GRADED SAND (SP); brown, dry to wet, trace shells, no odor, no cementation, no staining					
			Dark Brown, original horizon					
			Color change to light brown					
1.30	6.90		POORLY GRADED SAND (SP); grayish brown, wet, no odor, no cementation, no staining					
-0.60	8.80		POORLY GRADED SAND (SP); grayish brown, wet, no odor, no cementation, hydrocarbon staining					
-6.80	15.00		Borehole finished at 15.0					

4
-1
-6
-11

DRILLING LOG

DIVISION: South Atlantic		INSTALLATION: Buxton Naval Facility	Sheet 1 of 1
1. PROJECT: Buxton Naval Facility (104NC000103) Buxton, North Carolina		10. COORDINATE SYSTEM: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	VERTICAL: NAVD88
		LOCATION COORDINATES: N: 566876.79 E: 3038502.30	LOCATION METHOD: Trimble R12
2. HOLE NUMBER: SB-ZMW-15	3. DRILLING AGENCY: USACE-SAS	11. DATE BORING: STARTED Dec 20 2023	COMPLETED Dec 20 2023
4. NAME OF DRILLER: Kyle Killebrew		12. HAMMER TYPE	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: Direct Push	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL	BEARING	14. ELEVATION SURFACE: 8.4'
			15. ELEVATION GROUND WATER: 1.8'
7. THICKNESS OF OVERBURDEN: 15.0'			16. TOTAL NUMBER CORE BOXES
8. DEPTH DRILLED INTO ROCK			17. SIGNATURE AND TITLE OF INSPECTOR: Tracey Tapley, Geologist
9. TOTAL DEPTH OF BORING: 15.0'			

ELEV	DEPTH	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	PID (ppm)	INSTRUMENT	REMARKS
			POORLY GRADED SAND (SP); light brown, dry to moist, trace shells, no odor, no cementation, hydrocarbon staining					
			Petrofix saturation.					
-1.60	10.00		POORLY GRADED SAND (SP); dark gray to light gray, wet, no odor, no cementation, hydrocarbon staining *Petrofix staining*					
-6.60	15.00		Borehole finished at 15.0					

Appendix III – Laboratory Reports

Report of Analysis

USACE
100 W Oglethorpe Ave
Savannah, GA 31401
Attention: Tracey Tapley

Project Name: Buxton

Lot Number:**YI13020**

Date Completed:09/26/2023

Kathy Smith

09/26/2023 1:27 PM
Approved and released by:
Project Manager II: **Kathy E. Smith**

The electronic signature above is the equivalent of a handwritten signature.
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Pace Analytical Services, LLC (*formerly Shealy Environmental Services, Inc.*)
106 Vantage Point Drive West Columbia, SC 29172
Tel: 803-791-9700 Fax: 803-791-9111 www.pacelabs.com

Case Narrative
USACE
Lot Number: YI13020

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Additionally, the DoD QSM version 5.4 has been followed for these samples. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs, the DoD QSM, or policies are qualified on the results page or discussed below.

Pace is a DoD/DOE accredited laboratory; however, the following analyses are currently not listed on our DoD/DOE scope of accreditation: Drinking Water: pH EPA 150.1, Turbidity EPA 180.1, Metals EPA 200.7 & 200.8, Mercury EPA 245.1, Anions EPA 300.0, Cyanide EPA 335.4, Nitrates EPA 353.2, Orthophosphate & Phosphorus EPA 365.1, EDB/DBCP EPA 504.1, HPC SIMPLATE, Color SM 2120 B-2011, Alkalinity SM 2320 B-2011, Specific Conductance SM 2510 B-2011, Residue-filterable (TDS) SM 2540 C, Calcium Hardness (CaCO2) SM 3500-Ca B-2011, TRC SM 4500 Cl G-2011, pH SM 4500 H=B-2011, E.Coli, Total Coliform. Non-Potable Water: Metals EPA 200.7, Strontium EPA 200.8, Chlorate EPA 300.0, Cyanide EPA 335.4, Phenolics EPA 420.4, 2-Methyl-4,6-Dinitrophenol EPA 625.1, Propane RSK-175, Specific Conductance SM 2510 B-2011, Salinity SM2520 B, Residue- total SM 2540 B, Sulfite SM 4500 SO32- B-2011, Amenable Cyanide SM 4500-CN- G-2011, BOD & CBOD SM 5210 B, MBAS SM 5540 C-2011, Boron & Titanium SW-846 6010D, Boron, Molybdenum, & Titanium SW-846 6020B, Alcohols & Glycols SW-846 8015C, Pentachlorophenol SW-846 8151A, Ethyl Acetate, Hexane, & n-Hexane SW-846 8260D, SVOC 1,4-Dioxane, 4-Dimethyl aminoazobenzene, 1,4-Naphthoquinone, 3,5-Dinitroaniline, PETN SW-846 8270E, Amenable Cyanide SW-846 9012B. Solid and Chemical Materials: Boron & Titanium SW-846 6010D, Molybdenum SW-846 6020B, Ethylene Glycol SW-846 8015B, Pentachlorophenol SW-846 8151A, Chloroprene SW-846 8260B, SVOC 1,4-Dioxane, 1,3,5-Trinitrobenzene, 1,4- Naphthoquinone, 1,4-Phenylenediamine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3-Methylcholanthrene, 4-Aminobiphenyl, 4-Dimethyl aminoazobenzene, 4-Nitroquinoline-1-oxide, 7,12-Dimethylbenzo(a)anthracene, Chlorobenzilate, Diallate, Ethyl methanesulfonate, Isodrin, Isosafrole, Methyl methanesulfonate, n-Nitrosomethylethylamine, n-Nitrosomorpholine, n-Nitrosopiperidine, Piperonyl butoxide, Pronamide, Safrole, 3,5- Dinitroaniline, PETN SW-846 8270E, Oil & Grease SW-846 9071B.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18, PFAS by Isotope Dilution SOP.

Where applicable, all soil sample results (including LOQ and DL if requested) are corrected for dry weight unless flagged with a "W" qualifier.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Manual Integration Summary

USACE

Lot Number: YI13020

Project Name: Buxton

Project Number:

Where applicable, analytes for which manual integration occurred have been flagged with the following:

Qualifier	Technical Justification	Qualifier	Technical Justification	Qualifier	Technical Justification
M-01	Split peak	M-07	Low fit	M-13	Error
M-02	Peak tailing	M-08	Peak not found	M-14	Baseline
M-03	Incorrect auto integration	M-09	Analyte not Identified by the Data System	M-15	Other
M-04	Poor chromatography	M-10	Analyte misidentified by the Data System	M-16	Retention time shift
M-05	Manually assigned peak	M-11	Invalid integration	M-17	Shouldering
M-06	Wrong isomer	M-12	Wrong peak		

A summary of instances where manual integration occurred is included below:

Method	Sample	Run Number	Parameter	Qualifier
8015C	YI13020-001	1	o - Terphenyl	M-03
8015C	YQ84732-002	1	o - Terphenyl	M-03

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Sample Summary

USACE

Lot Number: YI13020

Project Name: Buxton

Project Number:

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	Beach Sample	Solid	09/08/2023 1200	09/13/2023

(1 sample)

Detection Summary
USACE
Lot Number: YI13020
Project Name: Buxton
Project Number:

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	Beach Sample	Solid	TPH-DRO	8015C	36000000		ug/kg	6

(1 detection)

TPH - DRO

Client: **USACE**			Laboratory ID: **YI13020-001**
Description: **Beach Sample**			Matrix: **Solid**
Date Sampled: **09/08/2023 1200**	Project Name: **Buxton**		% Solids: **78.5** **09/14/2023 1528**
Date Received: **09/13/2023**	Project Number:		

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8015C	100	09/21/2023 1702	MEZ	09/13/2023 2009	84732

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
TPH-DRO		**8015C**	**36000000**		**840000**	800000	**400000**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
o - Terphenyl	M-03	89	45-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

QC Summary

TPH - DRO - MB

Sample ID: YQ84732-001
Batch: 84732
Analytical Method: 8015C

Matrix: Solid
Prep Method: 3550C
Prep Date: 09/13/2023 2009

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
TPH-DRO	6400	U	1	6700	6400	3200	ug/kg	09/21/2023 1612

Surrogate	Q	% Rec	Acceptance Limit
o - Terphenyl		86	45-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

TPH - DRO - LCS

Sample ID: YQ84732-002
Batch: 84732
Analytical Method: 8015C

Matrix: Solid
Prep Method: 3550C
Prep Date: 09/13/2023 2009

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TPH-DRO	83000	67000		1	80	38-132	09/21/2023 1622

Surrogate	Q	% Rec	Acceptance Limit
o - Terphenyl	M-03	83	45-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Pace Analytical® **Chain of Custody Record**

Pace Analytical Services, LLC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.pacelabs.com

Number

Client: USACE	Report to Contact: Tracey Tapley	Telephone No. / E-mail: 0126528007 / tracey.tapley@usace.army.mil	Quote No.
Address: 100 West Oglethorpe Avenue	Sampler's Signature: x [signature]	Analysis (Attach list if more space is needed)	Page 1 of 1
City: Savannah; State: GA; Zip Code: 31401	Printed Name: Tracey Tapley		Lot # Bar Code: YI13020 KE62
Project Name: Buxton Naval Facility - Beach			
Project Number	P.O. No.		

Sample ID / Description (Containers for each sample may be combined on one line)	Collection Date(s)	Collection Time (military)	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 K1	Field Filtered	TPH DRO	Remarks / Cooler I.D.
Beach Sample	9/8/2023	1200	G		x		x							1	bag sample

Turn Around Time Required (Prior lab approval required for expedited TAT)	Sample Disposal	Possible Hazard Identification (List any known hazards in the remarks)	QC Requirements
☑ Standard ☐ Rush (Please Specify)	☐ Return to Client ☑ Disposal by Lab	☑ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ SDS provided ☐ Unknown	

1. Relinquished by: USACE	Date: 9/12/2023	Time	1. Received by: FEDEX	Date: 9/12/2023	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by: FedEx	Date: 9/13/23	Time: 0850	4. Laboratory Received by: [signature]	Date: 9/13/23	Time: 0850

Note: All samples are retained for four weeks from receipt unless other arrangements are made

LAB USE ONLY
Received on Ice (Check) ☑ Y ☐ N ☐ Ice Pack
Receipt Temp. 9.7 °C
Temp. Blank ☐ Y / ☑ N

merted

DC#_Title: ENV-FRM-WCOL-0286 v02_Samples Receipt Checklist (SRC)
Effective Date: 8/2/2022

Sample Receipt Checklist (SRC)

Client: USACE Cooler Inspected by/date: CJH / 09/13/23 Lot #: YI13020

Means of receipt: [ ] Pace [ ] Client [ ] UPS [✓] FedEx [ ] Other: _____

[ ] Yes	[✓] No		1. Were custody seals present on the cooler?
[ ] Yes	[ ] No	[✓] NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA

Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: 23-1215

9.2 / 9.2 °C NA / NA °C NA / NA °C NA / NA °C

Method: [ ] Temperature Blank [✓] Against Bottles IR Gun ID: 8 IR Gun Correction Factor: 0 °C

Method of coolant: [✓] Wet Ice [ ] Ice Packs [ ] Dry Ice [ ] None

[ ] Yes	[✓] No	[ ] NA	3. Were all coolers received at or below 6.0°C? If no, was Project Manager notified? PM was Notified by: phone / (email) / face-to-face (circle one).
[✓] Yes	[ ] No	[ ] NA	4. Is the commercial courier's packing slip attached to this form?
[✓] Yes	[ ] No		5. Were proper custody procedures (relinquished/received) followed?
[ ] Yes	[✓] No		6. Were sample IDs listed on the COC and all sample containers?
[ ] Yes	[✓] No		7. Was collection date & time listed on the COC and all sample containers?
[✓] Yes	[ ] No		8. Did all container label information (ID, date, time) agree with the COC?
[✓] Yes	[ ] No		9. Were tests to be performed listed on the COC?
[✓] Yes	[ ] No		10. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? _____
[✓] Yes	[ ] No		11. Was adequate sample volume available?
[✓] Yes	[ ] No		12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
[✓] Yes	[ ] No		13. Were all samples containers accounted for? (No missing/excess)
[ ] Yes	[ ] No	[✓] NA	14. Were VOA, 8015C and RSK-175 samples free of bubbles >"pea-size" (¾"or 6mm in diameter) in any of the VOA vials?
[ ] Yes	[ ] No	[✓] NA	15. Were all DRO/metals/nutrient samples received at a pH of < 2?
[ ] Yes	[ ] No	[✓] NA	16. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
[ ] Yes	[ ] No	[✓] NA	17. Were all applicable NH_3/TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
[ ] Yes	[✓] No	[ ] NA	18. Was the quote number listed on the container label? If yes, Quote # _____.

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA. ☐
Time of preservation NA. If more than one preservative is needed, please note in the comments below.

Sample(s) _____ were received with bubbles >6 mm in diameter.

Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Unique ID: NA.

Comments: *ICE MELTED*
NO ID/DATE/TIME ON BAG

Qualtrax ID: 56360 Pace® Analytical Services, LLC Page 1 of 1

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Kellie Arstino
Sure-BioChem Laboratories LLC
1000 Atlantic Ave
Camden, New Jersey 08104

Generated 10/11/2023 1:43:13 PM

JOB DESCRIPTION

Buxton NF

JOB NUMBER

680-240122-1

Eurofins Savannah
5102 LaRoche Avenue
Savannah GA 31404

See page two for job notes and contact information.

my EOL

Eurofins Savannah

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization

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Authorized for release by
Jerry Lanier, Project Manager I
Jerry.Lanier@et.eurofinsus.com
(912)250-0281

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-240122-1	BNF-ZMW-9R-9-23	Water	09/08/23 15:50	09/11/23 09:30
680-240122-2	BNF-ZMW-10-9-23	Water	09/08/23 11:25	09/11/23 09:30
680-240122-3	BNF-ZMW-12-9-23	Water	09/08/23 14:15	09/11/23 09:30
680-240122-4	BNF-DUP-9-23	Water	09/08/23 16:00	09/11/23 09:30
680-240122-5	BNF-EQB-9-23	Water	09/08/23 19:00	09/11/23 09:30
680-240122-6	BNF-ZMW-11-9-23	Water	09/08/23 13:00	09/11/23 09:30
680-240122-7	BNF-ZMW-13-9-23	Water	09/08/23 16:32	09/11/23 09:30
680-240122-8	BNF-ZMW-14-9-23	Water	09/08/23 13:43	09/11/23 09:30
680-240122-9	BNF-ZMW-15-9-23	Water	09/08/23 10:21	09/11/23 09:30
680-240122-10	BNF-ZMW-17-9-23	Water	09/08/23 12:15	09/11/23 09:30
680-240122-11	BNF-TW-1-9-23	Water	09/08/23 12:30	09/11/23 09:30
680-240122-12	BNF-TW-2-9-23	Water	09/08/23 17:55	09/11/23 09:30
680-240122-13	BNF-TW-3-9-23	Water	09/08/23 18:20	09/11/23 09:30
680-240122-14	BNF-TW-4-9-23	Water	09/08/23 18:50	09/11/23 09:30
680-240122-15	Trip Blank	Water	09/08/23 00:00	09/11/23 09:30

Job ID: 680-240122-1

Laboratory: Eurofins Savannah

Narrative

Job Narrative
680-240122-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/11/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.4°C, 2.0°C, 3.2°C and 3.5°C

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): BNF-EQB-9-23 (680-240122-5). The container labels list a collection time of 19:00, while the COC lists 00:00.

Subcontract Work
Method General Subcontract Method: This method was subcontracted to Katahdin Analytical Services. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

GC/MS Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method MAEPH_DOD: The breakthrough for naphthalene and 2-methylnaphthalene in the LCS and LCSD is <1%. The method requirement for breakthrough is 5% or less. BNF-ZMW-9R-9-23 (680-240122-1), BNF-ZMW-10-9-23 (680-240122-2), BNF-ZMW-10-9-23MS (680-240122-2[MS]), BNF-ZMW-10-9-23MSD (680-240122-2[MSD]), BNF-ZMW-12-9-23 (680-240122-3), BNF-DUP-9-23 (680-240122-4), BNF-EQB-9-23 (680-240122-5), BNF-ZMW-11-9-23 (680-240122-6), BNF-ZMW-13-9-23 (680-240122-7), BNF-ZMW-14-9-23 (680-240122-8), BNF-ZMW-15-9-23 (680-240122-9), BNF-ZMW-17-9-23 (680-240122-10), BNF-TW-1-9-23 (680-240122-11), BNF-TW-2-9-23 (680-240122-12), BNF-TW-3-9-23 (680-240122-13) and BNF-TW-4-9-23 (680-240122-14)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-9R-9-23

Lab Sample ID: 680-240122-1

Date Collected: 09/08/23 15:50
Matrix: Water
Date Received: 09/11/23 09:30

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1.7		0.20	0.018	ug/L		09/12/23 11:11	09/18/23 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:20*	*1*
Nitrobenzene-d5	*55*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:20*	*1*
Terphenyl-d14	*54*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:20*	*1*

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	320		100	30	ug/L			09/26/23 15:08	1
C11-C22 Aromatics (Adjusted)	150		39	9.9	ug/L		09/18/23 19:25	09/26/23 15:08	1
C19-C36 Aliphatics	23	J M	49	9.9	ug/L		09/18/23 19:25	09/26/23 15:08	1
C9-C18 Aliphatics	140	M	89	30	ug/L		09/18/23 19:25	09/26/23 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*59*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:08*	*1*
2-Fluorobiphenyl (Surr)	*81*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:08*	*1*
o- terphenyl (Surr)	*80*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:08*	*1*

Client Sample ID: BNF-ZMW-10-9-23

Lab Sample ID: 680-240122-2

Date Collected: 09/08/23 11:25
Matrix: Water
Date Received: 09/11/23 09:30

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.049	U J1	0.20	0.018	ug/L		09/12/23 11:11	09/18/23 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:43*	*1*
Nitrobenzene-d5	*52*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:43*	*1*
Terphenyl-d14	*69*		*30 - 130*	*09/12/23 11:11*	*09/18/23 00:43*	*1*

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	60	U	100	30	ug/L			09/26/23 15:30	1
C11-C22 Aromatics (Adjusted)	29	U	39	9.8	ug/L		09/18/23 19:25	09/26/23 15:30	1
C19-C36 Aliphatics	20	U	49	9.8	ug/L		09/18/23 19:25	09/26/23 15:30	1
C9-C18 Aliphatics	59	U	88	29	ug/L		09/18/23 19:25	09/26/23 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*44*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:30*	*1*
2-Fluorobiphenyl (Surr)	*84*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:30*	*1*
o- terphenyl (Surr)	*66*		*40 - 140*	*09/18/23 19:25*	*09/26/23 15:30*	*1*

Client Sample ID: BNF-ZMW-12-9-23

Lab Sample ID: 680-240122-3

Date Collected: 09/08/23 14:15
Matrix: Water
Date Received: 09/11/23 09:30

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.048	U M	0.19	0.017	ug/L		09/12/23 11:11	09/18/23 01:05	1

Client Sample Results

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-12-9-23

Lab Sample ID: 680-240122-3

Date Collected: 09/08/23 14:15
Matrix: Water
Date Received: 09/11/23 09:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	44		30 - 130	09/12/23 11:11	09/18/23 01:05	1
Nitrobenzene-d5	47		30 - 130	09/12/23 11:11	09/18/23 01:05	1
Terphenyl-d14	63		30 - 130	09/12/23 11:11	09/18/23 01:05	1

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	270		100	30	ug/L			09/26/23 16:37	1
C11-C22 Aromatics (Adjusted)	67		39	9.8	ug/L		09/18/23 19:25	09/26/23 16:37	1
C19-C36 Aliphatics	29	J M	49	9.8	ug/L		09/18/23 19:25	09/26/23 16:37	1
C9-C18 Aliphatics	170	M	88	29	ug/L		09/18/23 19:25	09/26/23 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	42		40 - 140	09/18/23 19:25	09/26/23 16:37	1
2-Fluorobiphenyl (Surr)	83	M	40 - 140	09/18/23 19:25	09/26/23 16:37	1
o- terphenyl (Surr)	61		40 - 140	09/18/23 19:25	09/26/23 16:37	1

Client Sample ID: BNF-DUP-9-23

Lab Sample ID: 680-240122-4

Date Collected: 09/08/23 16:00
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	400		100	30	ug/L			09/26/23 17:00	1
C11-C22 Aromatics (Adjusted)	110		38	9.5	ug/L		09/18/23 19:25	09/26/23 17:00	1
C19-C36 Aliphatics	84	M	47	9.5	ug/L		09/18/23 19:25	09/26/23 17:00	1
C9-C18 Aliphatics	200	M	85	28	ug/L		09/18/23 19:25	09/26/23 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	44	M	40 - 140	09/18/23 19:25	09/26/23 17:00	1
2-Fluorobiphenyl (Surr)	82	M	40 - 140	09/18/23 19:25	09/26/23 17:00	1
o- terphenyl (Surr)	51		40 - 140	09/18/23 19:25	09/26/23 17:00	1

Client Sample ID: BNF-EQB-9-23

Lab Sample ID: 680-240122-5

Date Collected: 09/08/23 19:00
Matrix: Water
Date Received: 09/11/23 09:30

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.050	U	0.20	0.018	ug/L		09/12/23 11:11	09/18/23 01:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		30 - 130	09/12/23 11:11	09/18/23 01:28	1
Nitrobenzene-d5	62		30 - 130	09/12/23 11:11	09/18/23 01:28	1
Terphenyl-d14	76		30 - 130	09/12/23 11:11	09/18/23 01:28	1

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	60	U	100	30	ug/L			09/26/23 17:45	1
C11-C22 Aromatics (Adjusted)	28	U	38	9.4	ug/L		09/18/23 19:25	09/26/23 17:45	1
C19-C36 Aliphatics	19	U	47	9.4	ug/L		09/18/23 19:25	09/26/23 17:45	1
C9-C18 Aliphatics	56	U	85	28	ug/L		09/18/23 19:25	09/26/23 17:45	1

Client Sample Results

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-EQB-9-23

Lab Sample ID: 680-240122-5

Date Collected: 09/08/23 19:00
Matrix: Water
Date Received: 09/11/23 09:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	58		40 - 140	09/18/23 19:25	09/26/23 17:45	1
2-Fluorobiphenyl (Surr)	85		40 - 140	09/18/23 19:25	09/26/23 17:45	1
o- terphenyl (Surr)	75		40 - 140	09/18/23 19:25	09/26/23 17:45	1

Client Sample ID: BNF-ZMW-11-9-23

Lab Sample ID: 680-240122-6

Date Collected: 09/08/23 13:00
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	60	U	100	30	ug/L			09/26/23 18:07	1
C11-C22 Aromatics (Adjusted)	29	U	39	9.7	ug/L		09/18/23 19:25	09/26/23 18:07	1
C19-C36 Aliphatics	19	U	48	9.7	ug/L		09/18/23 19:25	09/26/23 18:07	1
C9-C18 Aliphatics	58	U	87	29	ug/L		09/18/23 19:25	09/26/23 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	55		40 - 140	09/18/23 19:25	09/26/23 18:07	1
2-Fluorobiphenyl (Surr)	91		40 - 140	09/18/23 19:25	09/26/23 18:07	1
o- terphenyl (Surr)	79		40 - 140	09/18/23 19:25	09/26/23 18:07	1

Client Sample ID: BNF-ZMW-13-9-23

Lab Sample ID: 680-240122-7

Date Collected: 09/08/23 16:32
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	**460**		100	30	ug/L			09/26/23 18:29	1
C11-C22 Aromatics (Adjusted)	**140**		38	9.4	ug/L		09/18/23 19:25	09/26/23 18:29	1
C19-C36 Aliphatics	**92**	**M**	47	9.4	ug/L		09/18/23 19:25	09/26/23 18:29	1
C9-C18 Aliphatics	**220**	**M**	85	28	ug/L		09/18/23 19:25	09/26/23 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	44	M	40 - 140	09/18/23 19:25	09/26/23 18:29	1
2-Fluorobiphenyl (Surr)	87	M	40 - 140	09/18/23 19:25	09/26/23 18:29	1
o- terphenyl (Surr)	61		40 - 140	09/18/23 19:25	09/26/23 18:29	1

Client Sample ID: BNF-ZMW-14-9-23

Lab Sample ID: 680-240122-8

Date Collected: 09/08/23 13:43
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	**220**		100	30	ug/L			09/26/23 18:52	1
C11-C22 Aromatics (Adjusted)	**110**		38	9.5	ug/L		09/18/23 19:25	09/26/23 18:52	1
C19-C36 Aliphatics	**21**	**J M**	48	9.5	ug/L		09/18/23 19:25	09/26/23 18:52	1
C9-C18 Aliphatics	**82**	**J M**	86	29	ug/L		09/18/23 19:25	09/26/23 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	54		40 - 140	09/18/23 19:25	09/26/23 18:52	1
2-Fluorobiphenyl (Surr)	99	M	40 - 140	09/18/23 19:25	09/26/23 18:52	1
o- terphenyl (Surr)	86		40 - 140	09/18/23 19:25	09/26/23 18:52	1

Client Sample Results

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-15-9-23

Lab Sample ID: 680-240122-9

Date Collected: 09/08/23 10:21
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	**44**	**J**	100	30	ug/L			09/26/23 19:14	1
C11-C22 Aromatics (Adjusted)	**41**		38	9.4	ug/L		09/18/23 19:25	09/26/23 19:14	1
C19-C36 Aliphatics	19	U	47	9.4	ug/L		09/18/23 19:25	09/26/23 19:14	1
C9-C18 Aliphatics	57	U	85	28	ug/L		09/18/23 19:25	09/26/23 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*51*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:14*	*1*
2-Fluorobiphenyl (Surr)	*88*	*M*	*40 - 140*	*09/18/23 19:25*	*09/26/23 19:14*	*1*
o- terphenyl (Surr)	*73*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:14*	*1*

Client Sample ID: BNF-ZMW-17-9-23

Lab Sample ID: 680-240122-10

Date Collected: 09/08/23 12:15
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	60	U	100	30	ug/L			09/26/23 19:37	1
C11-C22 Aromatics (Adjusted)	**19**	**J**	38	9.4	ug/L		09/18/23 19:25	09/26/23 19:37	1
C19-C36 Aliphatics	19	U	47	9.4	ug/L		09/18/23 19:25	09/26/23 19:37	1
C9-C18 Aliphatics	57	U	85	28	ug/L		09/18/23 19:25	09/26/23 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*48*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:37*	*1*
2-Fluorobiphenyl (Surr)	*91*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:37*	*1*
o- terphenyl (Surr)	*78*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:37*	*1*

Client Sample ID: BNF-TW-1-9-23

Lab Sample ID: 680-240122-11

Date Collected: 09/08/23 12:30
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	**230**		100	30	ug/L			09/26/23 19:59	1
C11-C22 Aromatics (Adjusted)	**67**		37	9.3	ug/L		09/18/23 19:25	09/26/23 19:59	1
C19-C36 Aliphatics	**26**	**J M**	47	9.3	ug/L		09/18/23 19:25	09/26/23 19:59	1
C9-C18 Aliphatics	**120**	**M**	84	28	ug/L		09/18/23 19:25	09/26/23 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*59*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:59*	*1*
2-Fluorobiphenyl (Surr)	*89*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:59*	*1*
o- terphenyl (Surr)	*79*		*40 - 140*	*09/18/23 19:25*	*09/26/23 19:59*	*1*

Client Sample ID: BNF-TW-2-9-23

Lab Sample ID: 680-240122-12

Date Collected: 09/08/23 17:55
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	**270**		100	30	ug/L			09/26/23 20:21	1
C11-C22 Aromatics (Adjusted)	**94**		37	9.3	ug/L		09/18/23 19:25	09/26/23 20:21	1
C19-C36 Aliphatics	**30**	**J M**	46	9.3	ug/L		09/18/23 19:25	09/26/23 20:21	1
C9-C18 Aliphatics	**140**	**M**	83	28	ug/L		09/18/23 19:25	09/26/23 20:21	1

Client Sample Results

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-TW-2-9-23

Lab Sample ID: 680-240122-12

Date Collected: 09/08/23 17:55
Matrix: Water
Date Received: 09/11/23 09:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	52		40 - 140	09/18/23 19:25	09/26/23 20:21	1
2-Fluorobiphenyl (Surr)	87	M	40 - 140	09/18/23 19:25	09/26/23 20:21	1
o- terphenyl (Surr)	67		40 - 140	09/18/23 19:25	09/26/23 20:21	1

Client Sample ID: BNF-TW-3-9-23

Lab Sample ID: 680-240122-13

Date Collected: 09/08/23 18:20
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	590		100	30	ug/L			09/26/23 20:44	1
C11-C22 Aromatics (Adjusted)	390		38	9.4	ug/L		09/18/23 19:25	09/26/23 20:44	1
C19-C36 Aliphatics	29	J M	47	9.4	ug/L		09/18/23 19:25	09/26/23 20:44	1
C9-C18 Aliphatics	150	M	85	28	ug/L		09/18/23 19:25	09/26/23 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	44	M	40 - 140	09/18/23 19:25	09/26/23 20:44	1
2-Fluorobiphenyl (Surr)	91	M	40 - 140	09/18/23 19:25	09/26/23 20:44	1
o- terphenyl (Surr)	72	M	40 - 140	09/18/23 19:25	09/26/23 20:44	1

Client Sample ID: BNF-TW-4-9-23

Lab Sample ID: 680-240122-14

Date Collected: 09/08/23 18:50
Matrix: Water
Date Received: 09/11/23 09:30

Method: MA DEP MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Total EPH	340		100	30	ug/L			09/26/23 21:06	1
C11-C22 Aromatics (Adjusted)	210		38	9.5	ug/L		09/18/23 19:25	09/26/23 21:06	1
C19-C36 Aliphatics	23	J M	47	9.5	ug/L		09/18/23 19:25	09/26/23 21:06	1
C9-C18 Aliphatics	97	M	85	28	ug/L		09/18/23 19:25	09/26/23 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctadecane (Surr)	50		40 - 140	09/18/23 19:25	09/26/23 21:06	1
2-Fluorobiphenyl (Surr)	90	M	40 - 140	09/18/23 19:25	09/26/23 21:06	1
o- terphenyl (Surr)	68		40 - 140	09/18/23 19:25	09/26/23 21:06	1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 680-797522/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 798225 — **Prep Batch: 797522**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.050	U	0.20	0.018	ug/L		09/12/23 11:11	09/17/23 19:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*30 - 130*	*09/12/23 11:11*	*09/17/23 19:45*	*1*
Nitrobenzene-d5	*78*		*30 - 130*	*09/12/23 11:11*	*09/17/23 19:45*	*1*
Terphenyl-d14	*86*		*30 - 130*	*09/12/23 11:11*	*09/17/23 19:45*	*1*

Lab Sample ID: LCS 680-797522/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 798225 — **Prep Batch: 797522**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	10.0	6.08		ug/L		61	38 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*30 - 130*
Nitrobenzene-d5	*74*		*30 - 130*
Terphenyl-d14	*77*		*30 - 130*

Lab Sample ID: 680-240122-2 MS — **Client Sample ID: BNF-ZMW-10-9-23MS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 798225 — **Prep Batch: 797522**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.049	U J1	9.78	4.94		ug/L		51	30 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*30 - 130*
Nitrobenzene-d5	*57*		*30 - 130*
Terphenyl-d14	*70*		*30 - 130*

Lab Sample ID: 680-240122-2 MSD — **Client Sample ID: BNF-ZMW-10-9-23MSD**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 798225 — **Prep Batch: 797522**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.049	U J1	9.83	3.45	J1	ug/L		35	30 - 130	36	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*40*		*30 - 130*
Nitrobenzene-d5	*41*		*30 - 130*
Terphenyl-d14	*50*		*30 - 130*

Method: MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 410-420839/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 423889 — **Prep Batch: 420839**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
C19-C36 Aliphatics	20	U	50	10	ug/L		09/18/23 19:25	09/26/23 13:38	1
C9-C18 Aliphatics	60	U	90	30	ug/L		09/18/23 19:25	09/26/23 13:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctadecane (Surr)	*60*		*40 - 140*	*09/18/23 19:25*	*09/26/23 13:38*	*1*

Lab Sample ID: MB 410-420839/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 423883 — **Prep Batch: 420839**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
C11-C22 Aromatics (Adjusted)	30	U	40	10	ug/L		09/18/23 19:25	09/26/23 13:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*85*		*40 - 140*	*09/18/23 19:25*	*09/26/23 13:38*	*1*
o- terphenyl (Surr)	*68*		*40 - 140*	*09/18/23 19:25*	*09/26/23 13:38*	*1*

Lab Sample ID: LCS 410-420839/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 423889 — **Prep Batch: 420839**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C19-C36 Aliphatics			321	241		ug/L		75	40 - 140		
C9-C18 Aliphatics			241	182		ug/L		76	40 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctadecane (Surr)	*67*		*40 - 140*

Lab Sample ID: LCS 410-420839/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 423883 — **Prep Batch: 420839**

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*83*		*40 - 140*
o- terphenyl (Surr)	*75*		*40 - 140*

Lab Sample ID: LCSD 410-420839/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 423889 — **Prep Batch: 420839**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C19-C36 Aliphatics			321	226		ug/L		70	40 - 140	6	25
C9-C18 Aliphatics			241	188		ug/L		78	40 - 140	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctadecane (Surr)	*64*		*40 - 140*

Method: MA-EPH - Massachusetts - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: LCSD 410-420839/3-C
Matrix: Water
Analysis Batch: 423883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420839

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*89*		*40 - 140*
o- terphenyl (Surr)	*77*		*40 - 140*

Lab Sample ID: 680-240122-2 MS
Matrix: Water
Analysis Batch: 423889

Client Sample ID: BNF-ZMW-10-9-23MS
Prep Type: Total/NA
Prep Batch: 420839

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
C19-C36 Aliphatics	20	U	315	218		ug/L		69	40 - 140
C9-C18 Aliphatics	59	U	236	172		ug/L		73	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctadecane (Surr)	*52*		*40 - 140*
2-Fluorobiphenyl (Surr)	*102*		*40 - 140*
o- terphenyl (Surr)	*83*		*40 - 140*

Lab Sample ID: 680-240122-2 MSD
Matrix: Water
Analysis Batch: 423889

Client Sample ID: BNF-ZMW-10-9-23MSD
Prep Type: Total/NA
Prep Batch: 420839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C19-C36 Aliphatics	20	U	322	213		ug/L		66	40 - 140	2	50
C9-C18 Aliphatics	59	U	242	164		ug/L		68	40 - 140	5	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctadecane (Surr)	*51*		*40 - 140*
2-Fluorobiphenyl (Surr)	*88*		*40 - 140*
o- terphenyl (Surr)	*70*		*40 - 140*

QC Association Summary

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

GC/MS Semi VOA

Prep Batch: 797522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	3510C	
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	3510C	
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	3510C	
680-240122-5	BNF-EQB-9-23	Total/NA	Water	3510C	
MB 680-797522/1-A	Method Blank	Total/NA	Water	3510C	
LCS 680-797522/2-A	Lab Control Sample	Total/NA	Water	3510C	
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	3510C	
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	3510C	

Analysis Batch: 798225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	8270E SIM	797522
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	8270E SIM	797522
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	8270E SIM	797522
680-240122-5	BNF-EQB-9-23	Total/NA	Water	8270E SIM	797522
MB 680-797522/1-A	Method Blank	Total/NA	Water	8270E SIM	797522
LCS 680-797522/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	797522
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	8270E SIM	797522
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	8270E SIM	797522

GC Semi VOA

Prep Batch: 420839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	3510C	
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	3510C	
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	3510C	
680-240122-4	BNF-DUP-9-23	Total/NA	Water	3510C	
680-240122-5	BNF-EQB-9-23	Total/NA	Water	3510C	
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	3510C	
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	3510C	
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	3510C	
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	3510C	
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	3510C	
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	3510C	
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	3510C	
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	3510C	
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	3510C	
MB 410-420839/1-B	Method Blank	Total/NA	Water	3510C	
MB 410-420839/1-C	Method Blank	Total/NA	Water	3510C	
LCS 410-420839/2-B	Lab Control Sample	Total/NA	Water	3510C	
LCS 410-420839/2-C	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-420839/3-B	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 410-420839/3-C	Lab Control Sample Dup	Total/NA	Water	3510C	
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	3510C	
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	3510C	

Cleanup Batch: 423224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	3630C	420839
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	3630C	420839

GC Semi VOA (Continued)

Cleanup Batch: 423224 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	3630C	420839
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	3630C	420839
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	3630C	420839
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	3630C	420839
680-240122-4	BNF-DUP-9-23	Total/NA	Water	3630C	420839
680-240122-4	BNF-DUP-9-23	Total/NA	Water	3630C	420839
680-240122-5	BNF-EQB-9-23	Total/NA	Water	3630C	420839
680-240122-5	BNF-EQB-9-23	Total/NA	Water	3630C	420839
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	3630C	420839
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	3630C	420839
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	3630C	420839
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	3630C	420839
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	3630C	420839
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	3630C	420839
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	3630C	420839
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	3630C	420839
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	3630C	420839
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	3630C	420839
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	3630C	420839
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	3630C	420839
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	3630C	420839
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	3630C	420839
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	3630C	420839
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	3630C	420839
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	3630C	420839
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	3630C	420839
MB 410-420839/1-B	Method Blank	Total/NA	Water	3630C	420839
MB 410-420839/1-C	Method Blank	Total/NA	Water	3630C	420839
LCS 410-420839/2-B	Lab Control Sample	Total/NA	Water	3630C	420839
LCS 410-420839/2-C	Lab Control Sample	Total/NA	Water	3630C	420839
LCSD 410-420839/3-B	Lab Control Sample Dup	Total/NA	Water	3630C	420839
LCSD 410-420839/3-C	Lab Control Sample Dup	Total/NA	Water	3630C	420839
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	3630C	420839
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	3630C	420839
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	3630C	420839
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	3630C	420839

Analysis Batch: 423883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	MA-EPH	423224
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	MA-EPH	423224
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	MA-EPH	423224
680-240122-4	BNF-DUP-9-23	Total/NA	Water	MA-EPH	423224
680-240122-5	BNF-EQB-9-23	Total/NA	Water	MA-EPH	423224
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	MA-EPH	423224
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	MA-EPH	423224
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	MA-EPH	423224
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	MA-EPH	423224
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	MA-EPH	423224
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	MA-EPH	423224
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	MA-EPH	423224

GC Semi VOA (Continued)

Analysis Batch: 423883 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	MA-EPH	423224
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	MA-EPH	423224
MB 410-420839/1-C	Method Blank	Total/NA	Water	MA-EPH	423224
LCS 410-420839/2-C	Lab Control Sample	Total/NA	Water	MA-EPH	423224
LCSD 410-420839/3-C	Lab Control Sample Dup	Total/NA	Water	MA-EPH	423224
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	MA-EPH	423224
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	MA-EPH	423224

Analysis Batch: 423889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	MA-EPH	423224
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	MA-EPH	423224
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	MA-EPH	423224
680-240122-4	BNF-DUP-9-23	Total/NA	Water	MA-EPH	423224
680-240122-5	BNF-EQB-9-23	Total/NA	Water	MA-EPH	423224
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	MA-EPH	423224
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	MA-EPH	423224
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	MA-EPH	423224
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	MA-EPH	423224
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	MA-EPH	423224
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	MA-EPH	423224
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	MA-EPH	423224
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	MA-EPH	423224
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	MA-EPH	423224
MB 410-420839/1-B	Method Blank	Total/NA	Water	MA-EPH	423224
LCS 410-420839/2-B	Lab Control Sample	Total/NA	Water	MA-EPH	423224
LCSD 410-420839/3-B	Lab Control Sample Dup	Total/NA	Water	MA-EPH	423224
680-240122-2 MS	BNF-ZMW-10-9-23MS	Total/NA	Water	MA-EPH	423224
680-240122-2 MSD	BNF-ZMW-10-9-23MSD	Total/NA	Water	MA-EPH	423224

Analysis Batch: 424507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-240122-1	BNF-ZMW-9R-9-23	Total/NA	Water	MA-EPH	
680-240122-2	BNF-ZMW-10-9-23	Total/NA	Water	MA-EPH	
680-240122-3	BNF-ZMW-12-9-23	Total/NA	Water	MA-EPH	
680-240122-4	BNF-DUP-9-23	Total/NA	Water	MA-EPH	
680-240122-5	BNF-EQB-9-23	Total/NA	Water	MA-EPH	
680-240122-6	BNF-ZMW-11-9-23	Total/NA	Water	MA-EPH	
680-240122-7	BNF-ZMW-13-9-23	Total/NA	Water	MA-EPH	
680-240122-8	BNF-ZMW-14-9-23	Total/NA	Water	MA-EPH	
680-240122-9	BNF-ZMW-15-9-23	Total/NA	Water	MA-EPH	
680-240122-10	BNF-ZMW-17-9-23	Total/NA	Water	MA-EPH	
680-240122-11	BNF-TW-1-9-23	Total/NA	Water	MA-EPH	
680-240122-12	BNF-TW-2-9-23	Total/NA	Water	MA-EPH	
680-240122-13	BNF-TW-3-9-23	Total/NA	Water	MA-EPH	
680-240122-14	BNF-TW-4-9-23	Total/NA	Water	MA-EPH	

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-9R-9-23

Lab Sample ID: 680-240122-1

Date Collected: 09/08/23 15:50

Matrix: Water

Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			249.9 mL	1 mL	797522	09/12/23 11:11	MCH	EET SAV
Total/NA	Analysis	8270E SIM		1	1 mL	1 mL	798225	09/18/23 00:20	NED	EET SAV
	Instrument ID:	CMSY								
Total/NA	Prep	3510C			1013.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 15:08	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1013.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 15:08	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 15:08	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-ZMW-10-9-23

Lab Sample ID: 680-240122-2

Date Collected: 09/08/23 11:25

Matrix: Water

Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			255.9 mL	1 mL	797522	09/12/23 11:11	MCH	EET SAV
Total/NA	Analysis	8270E SIM		1	1 mL	1 mL	798225	09/18/23 00:43	NED	EET SAV
	Instrument ID:	CMSY								
Total/NA	Prep	3510C			1018 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 15:30	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1018 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 15:30	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 15:30	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-ZMW-12-9-23

Lab Sample ID: 680-240122-3

Date Collected: 09/08/23 14:15

Matrix: Water

Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258.1 mL	1 mL	797522	09/12/23 11:11	MCH	EET SAV
Total/NA	Analysis	8270E SIM		1	1 mL	1 mL	798225	09/18/23 01:05	NED	EET SAV
	Instrument ID:	CMSY								
Total/NA	Prep	3510C			1024.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 16:37	UHEW	ELLE
	Instrument ID:	18433-W								

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-12-9-23

Lab Sample ID: 680-240122-3

Date Collected: 09/08/23 14:15
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1024.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 16:37	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 16:37	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-DUP-9-23

Lab Sample ID: 680-240122-4

Date Collected: 09/08/23 16:00
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1054.6 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 17:00	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1054.6 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 17:00	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 17:00	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-EQB-9-23

Lab Sample ID: 680-240122-5

Date Collected: 09/08/23 19:00
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			251.4 mL	1 mL	797522	09/12/23 11:11	MCH	EET SAV
Total/NA	Analysis	8270E SIM		1	1 mL	1 mL	798225	09/18/23 01:28	NED	EET SAV
	Instrument ID:	CMSY								
Total/NA	Prep	3510C			1064.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 17:45	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1064.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 17:45	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 17:45	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-11-9-23

Lab Sample ID: 680-240122-6

Date Collected: 09/08/23 13:00
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1031.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 18:07	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1031.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 18:07	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 18:07	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-ZMW-13-9-23

Lab Sample ID: 680-240122-7

Date Collected: 09/08/23 16:32
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1060.9 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 18:29	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1060.9 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 18:29	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 18:29	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-ZMW-14-9-23

Lab Sample ID: 680-240122-8

Date Collected: 09/08/23 13:43
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1050.4 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 18:52	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1050.4 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 18:52	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 18:52	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-ZMW-15-9-23

Lab Sample ID: 680-240122-9

Date Collected: 09/08/23 10:21
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1059.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 19:14	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1059.5 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 19:14	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 19:14	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-ZMW-17-9-23

Lab Sample ID: 680-240122-10

Date Collected: 09/08/23 12:15
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1058.8 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 19:37	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1058.8 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 19:37	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 19:37	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-TW-1-9-23

Lab Sample ID: 680-240122-11

Date Collected: 09/08/23 12:30
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1072.7 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 19:59	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1072.7 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 19:59	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 19:59	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Client Sample ID: BNF-TW-2-9-23

Lab Sample ID: 680-240122-12

Date Collected: 09/08/23 17:55
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1078.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 20:21	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1078.1 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 20:21	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 20:21	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-TW-3-9-23

Lab Sample ID: 680-240122-13

Date Collected: 09/08/23 18:20
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1063.8 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 20:44	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1063.8 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 20:44	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 20:44	UHEW	ELLE
	Instrument ID:	NOEQUIP								

Client Sample ID: BNF-TW-4-9-23

Lab Sample ID: 680-240122-14

Date Collected: 09/08/23 18:50
Matrix: Water
Date Received: 09/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1056.9 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423883	09/26/23 21:06	UHEW	ELLE
	Instrument ID:	18433-W								
Total/NA	Prep	3510C			1056.9 mL	1 mL	420839	09/18/23 19:25	K2IL	ELLE
Total/NA	Cleanup	3630C			1.0 mL	1.0 mL	423224	09/25/23 07:21	YDF5	ELLE
Total/NA	Analysis	MA-EPH		1	1 mL	1 mL	423889	09/26/23 21:06	UHEW	ELLE
	Instrument ID:	18433-X								
Total/NA	Analysis	MA-EPH		1			424507	09/26/23 21:06	UHEW	ELLE
	Instrument ID:	NOEQUIP								

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Lab Chronicle

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Laboratory References:

= Katahdin Analytical Services Inc, 600 Technology Way, Scarborough, ME 04074

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Laboratory: Eurofins Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2463	09-22-24
North Carolina (WW/SW)	State	269	09-21-23

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24
North Carolina (WW/SW)	State	521	12-31-23

Method Summary

Client: Sure-BioChem Laboratories LLC
Project/Site: Buxton NF

Job ID: 680-240122-1

Method	Method Description	Protocol	Laboratory
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET SAV
MA-EPH	Massachusetts - Extractable Petroleum Hydrocarbons (GC)	MA DEP	ELLE
MA-VPH	MADEP VPH Volatile Petroleum Hydrocarbon	MA DEP	
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET SAV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3630C	Silica Gel Cleanup	SW846	ELLE

Protocol References:

MA DEP = Massachusetts Department Of Environmental Protection

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Katahdin Analytical Services Inc, 600 Technology Way, Scarborough, ME 04074

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

TEST AMERICA SAVANNAH

BUXTON NF

SQ5043

Ms. Leslie Dimond
207-874-2400

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

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SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
TEST AMERICA SAVANNAH
BUXTON NF
SQ5043

Sample Receipt

The following samples were received on September 20, 2023 and were logged in under Katahdin Analytical Services work order number SQ5043 for a hardcopy due date of October 11, 2023.

KATAHDIN Sample No.	TEST AMERICA SAVANNAH Sample Identification
SQ5043-1	BNF-ZMW-17-9-23
SQ5043-2	BNF-TW-1-9-23
SQ5043-3	BNF-TW-2-9-23
SQ5043-4	BNF-TW-3-9-23
SQ5043-5	BNF-TW-4-9-23
SQ5043-6	TRIP BLANK
SQ5043-7	BNF-ZMW-10-9-23
SQ5043-8	BNF-ZMW-12-9-23
SQ5043-9	BNF-DUP-9-23
SQ5043-10	BNF-EQB-9-23
SQ5043-11	BNF-ZMW-11-9-23
SQ5043-12	BNF-ZMW-13-9-23
SQ5043-13	BNF-ZMW-14-9-23
SQ5043-14	BNF-ZMW-15-9-23

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

We certify that the test results provided in this report are accredited under the laboratory's ISO/IEC 17025:2017 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation L2223.

Analytes which are reported but not listed on our ANAB scope of accreditation will be "^" flagged and the following language will be included in the case narrative for all DoD compliant work: "^" Indicates this analyte is not included on Katahdin Analytical Services DoD-ELAP Scope of Accreditation.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order SQ5043 were analyzed in accordance with Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MADEP, May 2004, Revision 1.1, and/or for the specific methods listed below or on the Report of Analysis.

Sample SQ5043-7 was used for the matrix spike (MS) and matrix spike duplicate (MSD) per the clients request.

MA VPH Analysis

Samples SQ5043-1, 2, 5, 5RA2, 6, 12RA2, and 13 were manually integrated for the extraction surrogate 2,5-dibromotoluene on the PID and FID. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

Sample SQ5043-5 was initially analyzed within hold time but had low recoveries for the extraction surrogate 2,5-dibromotoluene on the PID and FID that were outside of the method acceptance limits. The sample was reanalyzed 3 days out of hold and had similar surrogate issues. The results from both analyses were reported.

Sample SQ5043- 13 was initially analyzed within hold time but had low recoveries for the extraction surrogate 2,5-dibromotoluene on the PID and FID that were outside of the method acceptance limits. The sample was reanalyzed 1 day out of hold and had acceptable surrogate recoveries. The results from both analyses were reported.

The LCSD and MS/MSD WG342981-3, 4, and 5 had high recoveries for the extraction surrogate 2,5-dibromotoluene on the PID that were outside of the method acceptance limits. Since the spiked target analyte recoveries were acceptable and the surrogate recoveries were acceptable on the FID, no further action was taken.

The LCS WG342912-2RA had a low recovery for the C5-C8 aliphatic range that was outside of the method established acceptance limits. Since the recovery was acceptable in the LCSD, no further action was taken.

An anti-foam reagent was added to samples SQ5043-5RA2, 9RA2, and 12RA2 prior to analysis in order to prevent the sample from foaming during the purging phase of the analysis and possibly damaging the instrument. The anti-foam reagent was also added to the method blank WG343069-1RA. Any area that was due from the anti-foam reagent was subtracted from the total area of the affected hydrocarbon ranges.

Due to excessive sample foaming while purging, data could not be collected during the initial analysis of samples SQ5043-9 and 12. These samples were reanalyzed 3 days out of hold time. Additionally, these samples had low recoveries for the extraction surrogate 2,5-dibromotoluene on the PID and FID that were outside of the method acceptance limits. This is likely due to the matrix of the sample. The results from the reanalyses are reported.

Some opening calibration verification (CV) standards had low responses for one or more hydrocarbons on the FID that resulted in %Ds that exceeded the method acceptance criteria of ±25%. Since the responses of the aliphatic ranges were acceptable, no further action was taken.

The opening calibration verification (CV) standard (file 2QI10027) had a low response for the extraction surrogate 2,5-dibromotoluene on the PID that resulted in a %D that exceeded the method acceptance criteria of ±25%.

The closing CVs (files 2QI10048 and 2QI10077) had low responses for the C5-C8, C9-C12 aliphatic aromatic ranges and the C9-C10 aromatic range, and the extraction surrogate 2,5-dibromotoluene on the PID and FID that resulted in %Ds that exceeded the method acceptance criteria of ±25%. Since the opening CVs were acceptable and the low responses are likely due to the preceding samples, no further action was taken.

There were no other protocol deviations or observations noted by the organics laboratory staff.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized the Quality Assurance Officer, or their designee, as verified by the following signature.

_____

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eurofins	KAS PM: HHM	Sampled By: Client
Project:	KIMS Entry By: JCB	Delivered By: FedEx
KAS Work Order#: SQ5043	KIMS Review By: HHM	Received By: MLV
	Labeled By: DB	
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 9/20/23 940

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		/			
2. Chain of Custody present in cooler?		/			Email
3. Chain of Custody signed by client?		/			
4. Chain of Custody matches samples?	/				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	/				Temp (°C): 1.9 — Thermometer ID: IR-1
Samples received at <6 °C w/o freezing?	/				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	/				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	/				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				/	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?	/				
Soil/Sediment: Received in airtight container?				/	
Received in methanol?				/	
Methanol covering soil?				/	
D.I. Water - Received within 48 hour HT?				/	
7. Trip Blank present in cooler?	/				
8. Proper sample containers and volume?	/			x DB	
9. Samples within hold time upon receipt?	/			x DB	
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				/	
Sulfide - >9				/	
Cyanide – pH >12				/	
11. Bottleware Prepped on:					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

QA-048 – Revision 8 – 09/11/2020

SQ5043

paperwork received in sample shipment

Kristin Sears

From: Jerry Lanier
Sent: Monday, September 18, 2023 2:54 PM
To: Michele Hamilton
Cc: Lancaster - EPH/Misc GC (4032) Contacts; Bridget Kovacs; Kathrine Muramatsu; Richard Karam; Mark Makowiecki; Megan Moeller; Lancaster - SubContracting; Lancaster - Sample Entry
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Michele,

Please take VPH samples for Job 680-240122 to custody for mailout today to Katahdin labs.

Katahdin Analytical Services
A Small Business Enterprise
DoD ELAP Accredited
600 Technology Way
Scarborough, Maine 04074

I have not heard on the other two jobs yet.

Thanks

Jerry Lanier

Phone: 912-250-0281

E-mail: **Jerry.Lanier@ET.EurofinsUS.com**

From: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Sent: Monday, September 18, 2023 12:11 PM
To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Job 680-239983 – MAVPH water holding time expires 9/20
Job 680-240122– MAVPH water holding time expires 9/22
Job 680-239801– MAVPH solid holding time expires 9/28

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC

Kristin Sears 9/19/23 1513 EDT

2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

From: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Sent: Monday, September 18, 2023 12:02 PM
To: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

OK, Thanks Michele. I am checking to see where we can divert these.

Can you let me know when HT is up for both jobs?

Jerry Lanier

Phone: 912-250-0281

E-mail: **Jerry.Lanier@ET.EurofinsUS.com**

From: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Sent: Monday, September 18, 2023 10:49 AM
To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

We will not be able to analyze job 680-239983 either to meet the hold.

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

From: Michele Hamilton
Sent: Monday, September 18, 2023 10:30 AM

To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

Due to sample backlog, we will not be able to analyze job 680-24012 to meet the holds. It will be a struggle to analyze job 680-239801 to meet that hold also.

Jerry, can you please try to find a lab to send these jobs? Thanks

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

SQ5043

COC received via email

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-750282.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 2 of 2
Company: Katahdin Analytical Services		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 600 Technology Way, ,	Due Date Requested: 9/25/2023			
City: Scarborough	TAT Requested (days):			
State, Zip: ME, 04074				
Phone:	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68026223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (General Subcontract Method)	Special Instructions/Note:
BNF-ZMW-17-9-23 (680-240122-10)	9/8/23	12:15 Eastern		Water	X	
BNF-TW-1-9-23 (680-240122-11)	9/8/23	12:30 Eastern		Water	X	
BNF-TW-2-9-23 (680-240122-12)	9/8/23	17:55 Eastern		Water	X	
BNF-TW-3-9-23 (680-240122-13)	9/8/23	18:20 Eastern		Water	X	
BNF-TW-4-9-23 (680-240122-14)	9/8/23	18:50 Eastern		Water	X	
Trip Blank (680-240122-15)	9/8/23	Eastern		Water	X	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification Unconfirmed		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Kristi Sears	Date/Time: 9/20/23 *(8) 1036	Company: ELLET	Received by:	Date/Time: 9/20/23 940	Company: KAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

*(8) Samples were shipped on 9/19/23 but did not have COC at time of shipment KMS 9/23

COC received via email

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-750282.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 1 of 2
Company: Katahdin Analytical Services		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 600 Technology Way, ,	Due Date Requested: 9/25/2023			
City: Scarborough	TAT Requested (days):			
State, Zip: ME, 04074				
Phone:	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (General Subcontract Method)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BNF-ZMW-10-9-23 (680-240122-2)	9/8/23	11:25 Eastern		Water			X	3	
BNF-ZMW-10-9-23MS (680-240122-2MS)	9/8/23	11:25 Eastern	MS	Water			X	3	
BNF-ZMW-12-9-23 (680-240122-3)	9/8/23	14:15 Eastern		Water			X	3	
BNF-DUP-9-23 (680-240122-4)	9/8/23	16:00 Eastern		Water			X	3	
BNF-EQB-9-23 (680-240122-5)	9/8/23	Eastern		Water			X	3	
BNF-ZMW-11-9-23 (680-240122-6)	9/8/23	13:00 Eastern		Water			X	3	
BNF-ZMW-13-9-23 (680-240122-7)	9/8/23	16:32 Eastern		Water			X	3	
BNF-ZMW-14-9-23 (680-240122-8)	9/8/23	13:43 Eastern		Water			X	3	
BNF-ZMW-15-9-23 (680-240122-9)	9/8/23	10:21 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time:	Company	Received by: / Date/Time: / Company
Relinquished by:	Date/Time:	Company	Received by: / Date/Time: / Company
Relinquished by:	Date/Time:	Company	Received by: / Date/Time: / Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody (ln01)

Sep. 27, 2023
02:35 PM

Login Number: SQ5043

Account: TESTAMERICASAVLAB001
Test America Savannah

Project:

Primary Report Address:
Jerry Lanier
Test America Savannah
5102 LaRoche Avenue

Savannah, GA 31404

Jerry.Lanier@testamericainc.com

Primary Invoice Address:
Accounts Payable
Test America Savannah
5102 LaRoche Avenue

Savannah,GA 31404

email project manager and
beth.daughtry@et.eurofinsus.com

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming:

Login Information

ANALYSIS INSTRUCTIONS	:	DOD. Report un-adjusted ranges only, C5-C8 AL, C9-C10 AR, C9-C12AL.
CHECK NO.	:	
CLIENT PO#	:	680-240122-1
CLIENT PROJECT MANAGE	:	Jerry Lanier
CONTRACT	:	68028223
COOLER TEMPERATURE	:	1.9
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	FUDSCHEM
ISM INSTRUCTIONS	:	
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	Buxton NF
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email report and invoice to jerry.lanier@et.eurofinsus.com.
SDG ID	:	
SDG STATUS	:	
TEMPLATE	:	
VERBAL TAT	:	

Run Reports: Logindetail

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody (ln01)

Sep. 27, 2023
02:35 PM

Login Number: SQ5043

Account: TESTAMERICASAVLAB001
Test America Savannah

Project:

Quote/Incoming:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Due Date	Verbal Due Date	Mailed
SQ5043-1	BNF-ZMW-17-9-23	08-SEP-23 12:15	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-10						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
Service	S REPORTING-LVL4						
SQ5043-2	BNF-TW-1-9-23	08-SEP-23 12:30	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-11						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-3	BNF-TW-2-9-23	08-SEP-23 17:55	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-12						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-4	BNF-TW-3-9-23	08-SEP-23 18:20	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-13						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-5	BNF-TW-4-9-23	08-SEP-23 18:50	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-14						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-6	TRIP BLANK	08-SEP-23 00:00	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-16						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-7	BNF-ZMW-10-9-23	08-SEP-23 11:25	20-SEP-23		11-OCT-23		
Sample Comments:	MS/MSD limited volume. 680-240122-2						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-8	BNF-ZMW-12-9-23	08-SEP-23 14:15	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-3						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-9	BNF-DUP-9-23	08-SEP-23 16:00	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-4						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-10	BNF-EQB-9-23	08-SEP-23 00:00	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-5						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous	S MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		

Run Reports: Logindetail

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody (ln01)

Sep. 27, 2023
02:35 PM

Login Number: SQ5043

Account: TESTAMERICASAVLAB001
Test America Savannah

Project:

Quote/Incoming:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Due Date	Verbal Due Date	Mailed
SQ5043-11	BNF-ZMW-11-9-23	08-SEP-23 13:00	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-6						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-12	BNF-ZMW-13-9-23	08-SEP-23 16:32	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-7						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-13	BNF-ZMW-14-9-23	08-SEP-23 13:43	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-8						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-14	BNF-ZMW-15-9-23	08-SEP-23 10:21	20-SEP-23		11-OCT-23		
Sample Comments:	680-240122-9						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-15	MS CHARGE BNF-ZMW-10-9-23	08-SEP-23 11:25	20-SEP-23		11-OCT-23		
Sample Comments:	Not a sample, MS charge for SQ5043-7.						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		
SQ5043-16	MSD CHARGE BNF-ZMW-10-9-23	08-SEP-23 11:25	20-SEP-23		11-OCT-23		
Sample Comments:	Not a sample, MSD charge for SQ5043-7.						
Matrix	***Product***	***Hold Date (shortest)***	***Notes***		***Bottle Type***		
Aqueous S	MA-VPH-LOD	22-SEP-23			40mL Vial+HCl		

Total Samples: 16 ***Total Analyses: 17***

Run Reports: Logindetail

SAMPLE DATA SUMMARY PACKAGE

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U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

And/or

J Used for Dual Column analytes when there is a greater than 40% difference for detected concentrations between the two GC/HPLC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

I Indicates that the flagged compound did not meet DoD criteria in the corresponding Initial Calibration (ICAL).

D Indicates that the flagged compound did not meet DoD criteria in the corresponding Initial Calibration Verification (ICV).

C Indicates that the flagged compound did not meet DoD criteria in the corresponding opening Calibration Verification (CV).

V Indicates that the flagged compound did not meet DoD criteria in the corresponding closing Calibration Verification (CV).

L/LL Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M/MM Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike (MS) and/or Matrix Spike Duplicate MSD) prepared and/or analyzed concurrently with the native sample.

H Indicates the flagged compound was detected on the primary column but was not detected on the confirmation column therefore the compound is not reported as a positive detection. (SW846 8330A/B only)

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-1
Client ID: BNF-ZMW-17-9-23
Matrix: AQ
Lab File ID: 2QI10034.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		75.0	%					
2,5-Dibromotoluene (PID)		73.6	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-2
Client ID: BNF-TW-1-9-23
Matrix: AQ
Lab File ID: 2QI10035.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		74.6	%					
2,5-Dibromotoluene (PID)		72.6	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-3RA
Client ID: BNF-TW-2-9-23
Matrix: AQ
Lab File ID: 2QI10055.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		116.	%					
2,5-Dibromotoluene (PID)		120.	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-4
Client ID: BNF-TW-3-9-23
Matrix: AQ
Lab File ID: 2QI10037.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		70.4	%					
2,5-Dibromotoluene (PID)		80.6	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-5
Client ID: BNF-TW-4-9-23
Matrix: AQ
Lab File ID: 2QI10038.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	49.3	%					
2,5-Dibromotoluene (PID)	*	59.8	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-5RA2
Client ID: BNF-TW-4-9-23
Matrix: AQ
Lab File ID: 2QI10073.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	12.0	%					
2,5-Dibromotoluene (PID)	*	16.0	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-6
Client ID: TRIP BLANK
Matrix: AQ
Lab File ID: 2QI10032.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		84.0	%					
2,5-Dibromotoluene (PID)		87.3	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-7RA
Client ID: BNF-ZMW-10-9-23
Matrix: AQ
Lab File ID: 2QI10059.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		123.	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-8RA
Client ID: BNF-ZMW-12-9-23
Matrix: AQ
Lab File ID: 2QI10062.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		122.	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-9RA2
Client ID: BNF-DUP-9-23
Matrix: AQ
Lab File ID: 2QI10074.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	10.8	%					
2,5-Dibromotoluene (PID)	*	13.9	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-10RA
Client ID: BNF-EQB-9-23
Matrix: AQ
Lab File ID: 2QI10054.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		74.8	%					
2,5-Dibromotoluene (PID)		89.9	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-11RA
Client ID: BNF-ZMW-11-9-23
Matrix: AQ
Lab File ID: 2QI10063.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		121.	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-12RA2
Client ID: BNF-ZMW-13-9-23
Matrix: AQ
Lab File ID: 2QI10075.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	21.9	%					
2,5-Dibromotoluene (PID)	*	28.4	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-13
Client ID: BNF-ZMW-14-9-23
Matrix: AQ
Lab File ID: 2QI10046.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	34.9	%					
2,5-Dibromotoluene (PID)	*	47.2	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-13RA
Client ID: BNF-ZMW-14-9-23
Matrix: AQ
Lab File ID: 2QI10064.D

Sample Date: 08-SEP-23
Extract Date: 23-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 23-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		113.	%					
2,5-Dibromotoluene (PID)		124.	%					

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Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-14
Client ID: BNF-ZMW-15-9-23
Matrix: AQ
Lab File ID: 2QI10047.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		80.9	%					
2,5-Dibromotoluene (PID)		93.5	%					

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VOLATILE PETROLEUM HYDROCARBON DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **SDG:** SQ5043 **Matrix:** AQ

Client Sample ID	Lab Sample ID	Col. ID	DBT-FID	#	DBT-PID	#
BNF-ZMW-17-9-23	SQ5043-1	B	75.0		73.6	
BNF-TW-1-9-23	SQ5043-2	B	74.6		72.6	
BNF-TW-2-9-23	SQ5043-3RA	B	116.		120.	
BNF-TW-3-9-23	SQ5043-4	B	70.4		80.6	
BNF-TW-4-9-23	SQ5043-5	B	49.3	*	59.8	*
BNF-TW-4-9-23	SQ5043-5RA2	B	12.0	*	16.0	*
TRIP BLANK	SQ5043-6	B	84.0		87.3	
BNF-ZMW-10-9-23	SQ5043-7RA	B	109.		123.	
BNF-ZMW-12-9-23	SQ5043-8RA	B	109.		122.	
BNF-DUP-9-23	SQ5043-9RA2	B	10.8	*	13.9	*
BNF-EQB-9-23	SQ5043-10RA	B	74.8		89.9	
BNF-ZMW-11-9-23	SQ5043-11RA	B	109.		121.	
BNF-ZMW-13-9-23	SQ5043-12RA2	B	21.9	*	28.4	*
BNF-ZMW-14-9-23	SQ5043-13	B	34.9	*	47.2	*
BNF-ZMW-14-9-23	SQ5043-13RA	B	113.		124.	
BNF-ZMW-15-9-23	SQ5043-14	B	80.9		93.5	
Method Blank	WG342912-1	B	97.9		109.	
Laboratory Control S	WG342912-2RA	B	74.7		77.5	
Laboratory Control S	WG342912-3	B	73.7		83.7	
Method Blank	WG342981-1	B	93.4		105.	
Laboratory Control S	WG342981-2	B	116.		128.	
Laboratory Control S	WG342981-3	B	121.		134.	*
Matrix Spike	WG342981-4	B	117.		132.	*
Matrix Spike Duplica	WG342981-5	B	120.		132.	*
Method Blank	WG343069-1RA	B	71.4		71.4	
Laboratory Control S	WG343069-2	B	106.		115.	
Laboratory Control S	WG343069-3	B	118.		126.	

Abbr.	Surrogate Compound	QC Limits
DBT-FID	2,5-Dibromotoluene (FID)	70-130
DBT-PID	2,5-Dibromotoluene (PID)	70-130

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Lab Sample ID : WG342912-1
Lab File ID : 2QI10028.D
Instrument ID : GC02

SDG : SQ5043
Date Analyzed : 21-SEP-23
Time Analyzed : 11:56
Date Extracted : 21-SEP-23

This Method Blank applies to the following samples and QC Samples:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG342912-3	2QI10030.D	09/21/23	13:17
Laboratory Control S	WG342912-2RA	2QI10031.D	09/21/23	14:22
TRIP BLANK	SQ5043-6	2QI10032.D	09/21/23	16:50
BNF-ZMW-17-9-23	SQ5043-1	2QI10034.D	09/21/23	18:13
BNF-TW-1-9-23	SQ5043-2	2QI10035.D	09/21/23	18:56
BNF-TW-3-9-23	SQ5043-4	2QI10037.D	09/21/23	20:21
BNF-TW-4-9-23	SQ5043-5	2QI10038.D	09/21/23	21:03
BNF-ZMW-14-9-23	SQ5043-13	2QI10046.D	09/22/23	02:40
BNF-ZMW-15-9-23	SQ5043-14	2QI10047.D	09/22/23	03:22

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Lab Sample ID : WG342981-1
Lab File ID : 2QI10051.D
Instrument ID : GC02

SDG : SQ5043
Date Analyzed : 22-SEP-23
Time Analyzed : 14:56
Date Extracted : 22-SEP-23

This Method Blank applies to the following samples and QC Samples:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG342981-2	2QI10052.D	09/22/23	15:37
Laboratory Control S	WG342981-3	2QI10053.D	09/22/23	16:18
BNF-EQB-9-23	SQ5043-10RA	2QI10054.D	09/22/23	17:36
BNF-TW-2-9-23	SQ5043-3RA	2QI10055.D	09/22/23	18:18
BNF-ZMW-10-9-23	SQ5043-7RA	2QI10059.D	09/22/23	21:07
Matrix Spike	WG342981-4	2QI10060.D	09/22/23	21:49
Matrix Spike Duplica	WG342981-5	2QI10061.D	09/22/23	22:31
BNF-ZMW-12-9-23	SQ5043-8RA	2QI10062.D	09/22/23	23:13
BNF-ZMW-11-9-23	SQ5043-11RA	2QI10063.D	09/22/23	23:55
BNF-ZMW-14-9-23	SQ5043-13RA	2QI10064.D	09/23/23	00:38

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
SDG : SQ5043
Lab Sample ID : WG343069-1RA
Date Analyzed : 25-SEP-23
Lab File ID : 2QI10072.D
Time Analyzed : 16:52
Instrument ID : GC02
Date Extracted : 25-SEP-23

This Method Blank applies to the following samples and QC Samples:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG343069-2	2QI10070.D	09/25/23	15:01
Laboratory Control S	WG343069-3	2QI10071.D	09/25/23	15:42
BNF-TW-4-9-23	SQ5043-5RA2	2QI10073.D	09/25/23	18:05
BNF-DUP-9-23	SQ5043-9RA2	2QI10074.D	09/25/23	18:47
BNF-ZMW-13-9-23	SQ5043-12RA2	2QI10075.D	09/25/23	19:29

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** SQ5043
Instrument ID : GC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DBT (FID)	DBT (PID)
Initial Calibration	WG342400-4	09/08/23	11:40		31.608
Initial Calibration	WG342400-4	09/08/23	11:40	31.597	
Initial Calibration	WG342400-1	09/08/23	12:21		31.591
Initial Calibration	WG342400-1	09/08/23	12:21	31.577	
Initial Calibration	WG342400-2	09/08/23	13:02		31.599
Initial Calibration	WG342400-2	09/08/23	13:02	31.589	
Initial Calibration	WG342400-3	09/08/23	13:43		31.593
Initial Calibration	WG342400-3	09/08/23	13:43	31.583	
Initial Calibration	WG342400-5	09/08/23	14:25		31.599
Initial Calibration	WG342400-5	09/08/23	14:25	31.588	
Initial Calibration	WG342400-6	09/08/23	15:06		31.597
Initial Calibration	WG342400-6	09/08/23	15:06	31.587	
Independent Source	WG342400-7	09/08/23	17:40	31.599	31.612
Continuing Calibrati	WG342912-6	09/21/23	10:34	31.574	31.581
Method Blank	WG342912-1	09/21/23	11:56	31.575	31.585
Laboratory Control S	WG342912-3	09/21/23	13:17	31.553	31.563
Laboratory Control S	WG342912-2RA	09/21/23	14:22	31.57	31.58
TRIP BLANK	SQ5043-6	09/21/23	16:50	31.588	31.597
BNF-ZMW-17-9-23	SQ5043-1	09/21/23	18:13	31.54	31.551
BNF-TW-1-9-23	SQ5043-2	09/21/23	18:56	31.526	31.537
BNF-TW-3-9-23	SQ5043-4	09/21/23	20:21	31.527	31.537
BNF-TW-4-9-23	SQ5043-5	09/21/23	21:03	31.523	31.531
BNF-ZMW-14-9-23	SQ5043-13	09/22/23	02:40	31.51	31.525
BNF-ZMW-15-9-23	SQ5043-14	09/22/23	03:22	31.507	31.518
Continuing Calibrati	WG342912-7	09/22/23	04:04	31.51	31.52
Continuing Calibrati	WG342981-6	09/22/23	12:22	31.593	31.604
Method Blank	WG342981-1	09/22/23	14:56	31.587	31.598
Laboratory Control S	WG342981-2	09/22/23	15:37	31.574	31.584
Laboratory Control S	WG342981-3	09/22/23	16:18	31.561	31.571
BNF-EQB-9-23	SQ5043-10RA	09/22/23	17:36	31.571	31.582
BNF-TW-2-9-23	SQ5043-3RA	09/22/23	18:18	31.532	31.542
BNF-ZMW-10-9-23	SQ5043-7RA	09/22/23	21:07	31.52	31.53
Matrix Spike	WG342981-4	09/22/23	21:49	31.504	31.515
Matrix Spike Duplica	WG342981-5	09/22/23	22:31	31.513	31.523
BNF-ZMW-12-9-23	SQ5043-8RA	09/22/23	23:13	31.512	31.523
BNF-ZMW-11-9-23	SQ5043-11RA	09/22/23	23:55	31.505	31.515
BNF-ZMW-14-9-23	SQ5043-13RA	09/23/23	00:38	31.507	31.518

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Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services
Instrument ID : GC02
SDG : SQ5043

Continuing Calibrati	WG342981-7	09/23/23	02:02	31.497	31.508
Continuing Calibrati	WG343069-4	09/25/23	10:35	31.581	31.591
Laboratory Control S	WG343069-2	09/25/23	15:01	31.591	31.601
Laboratory Control S	WG343069-3	09/25/23	15:42	31.584	31.594
Method Blank	WG343069-1RA	09/25/23	16:52	31.584	31.597
BNF-TW-4-9-23	SQ5043-5RA2	09/25/23	18:05	31.563	31.577
BNF-DUP-9-23	SQ5043-9RA2	09/25/23	18:47	31.54	31.552
BNF-ZMW-13-9-23	SQ5043-12RA2	09/25/23	19:29	31.531	31.538
Continuing Calibrati	WG343069-5	09/25/23	20:54	31.517	31.527

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Sample Data Section

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U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

And/or

J Used for Dual Column analytes when there is a greater than 40% difference for detected concentrations between the two GC/HPLC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

I Indicates that the flagged compound did not meet DoD criteria in the corresponding Initial Calibration (ICAL).

D Indicates that the flagged compound did not meet DoD criteria in the corresponding Initial Calibration Verification (ICV).

C Indicates that the flagged compound did not meet DoD criteria in the corresponding opening Calibration Verification (CV).

V Indicates that the flagged compound did not meet DoD criteria in the corresponding closing Calibration Verification (CV).

L/LL Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M/MM Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike (MS) and/or Matrix Spike Duplicate MSD) prepared and/or analyzed concurrently with the native sample.

H Indicates the flagged compound was detected on the primary column but was not detected on the confirmation column therefore the compound is not reported as a positive detection. (SW846 8330A/B only)

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Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-1
Client ID: BNF-ZMW-17-9-23
Matrix: AQ
Lab File ID: 2QI10034.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		75.0	%					
2,5-Dibromotoluene (PID)		73.6	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10034.D
Report Date: 10-Oct-2023 07:21

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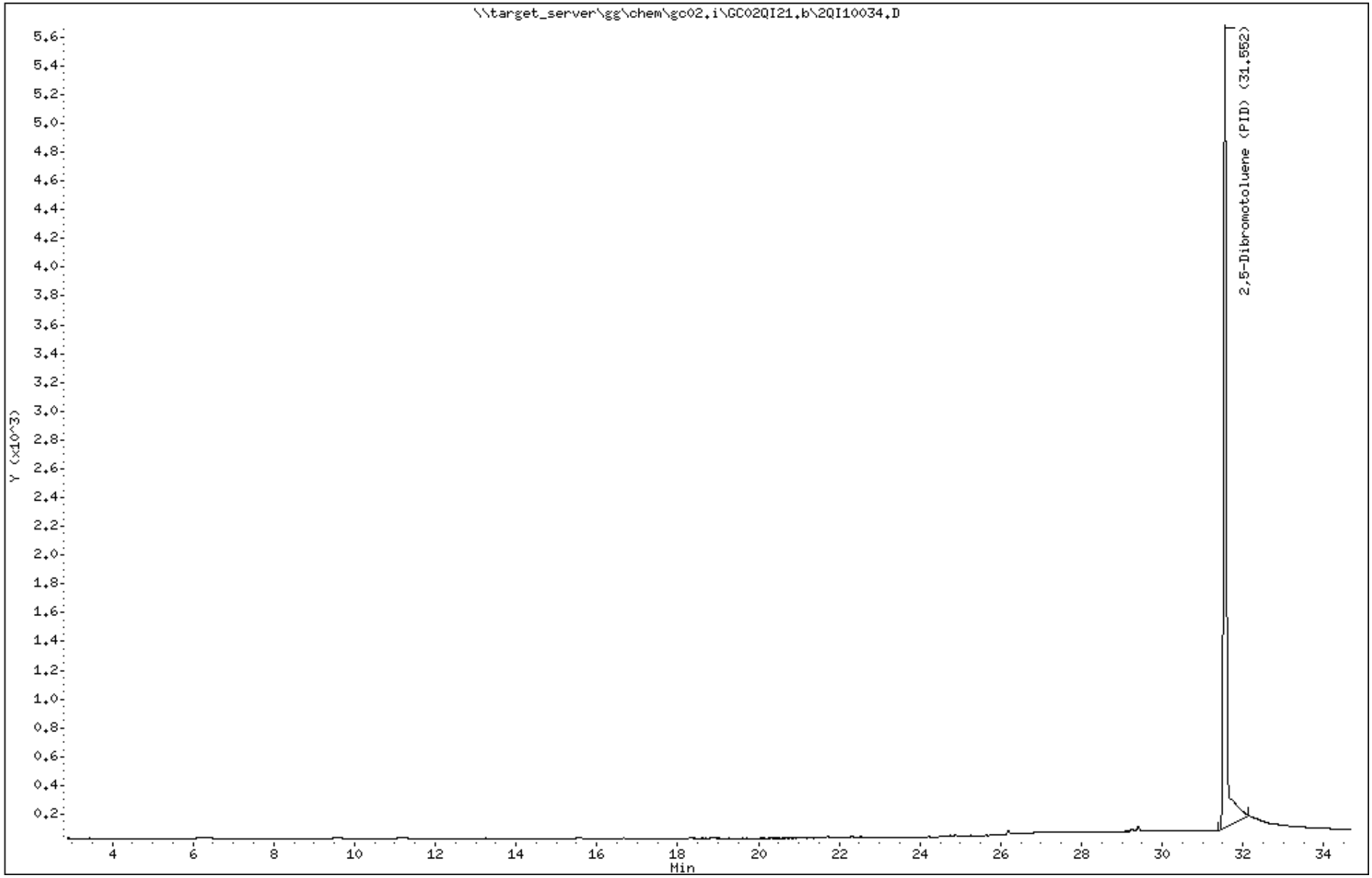
Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10034.D
Lab Smp Id: SQ5043-1 Client Smp ID: BNF-ZMW-17-9-23
Inj Date : 21-SEP-2023 18:13
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-1
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.551	31.597	-0.046	56230	73.5981	73.6	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10034.D
Date : 21-SEP-2023 18:13
Client ID: BNF-ZMW-17-9-23 Instrument: gc02.i
Sample Info: SQ5043-1
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10034.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10034.D
Lab Smp Id: SQ5043-1 Client Smp ID: BNF-ZMW-17-9-23
Inj Date : 21-SEP-2023 18:13
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-1
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

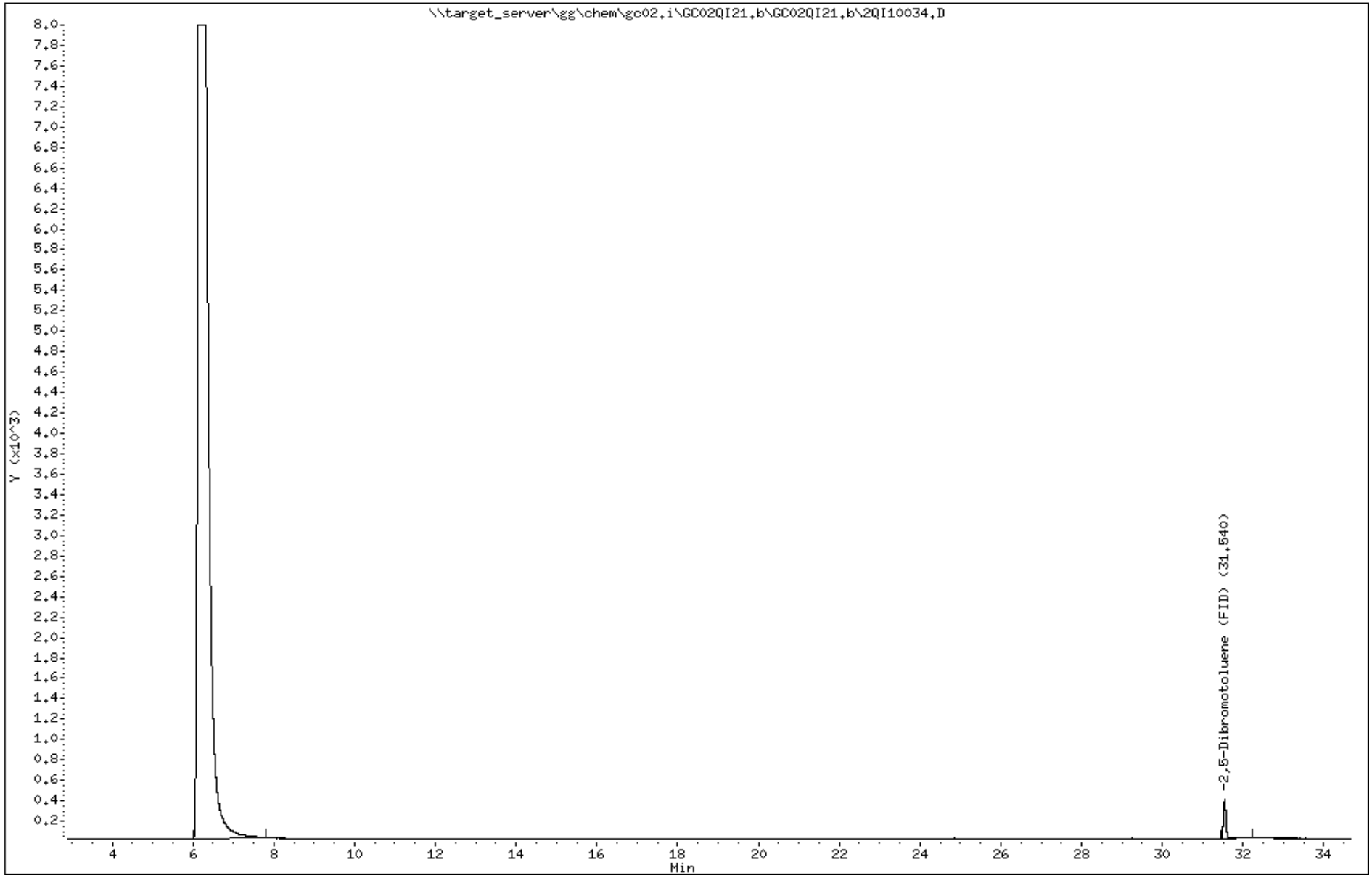
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.540	31.587	-0.047	37883	74.9718	75.0(M)	M9

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10034.D
Date : 21-SEP-2023 18:13
Client ID: BNF-ZMW-17-9-23 Instrument: gc02.i
Sample Info: SQ5043-1
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-2
Client ID: BNF-TW-1-9-23
Matrix: AQ
Lab File ID: 2QI10035.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		74.6	%					
2,5-Dibromotoluene (PID)		72.6	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10035.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

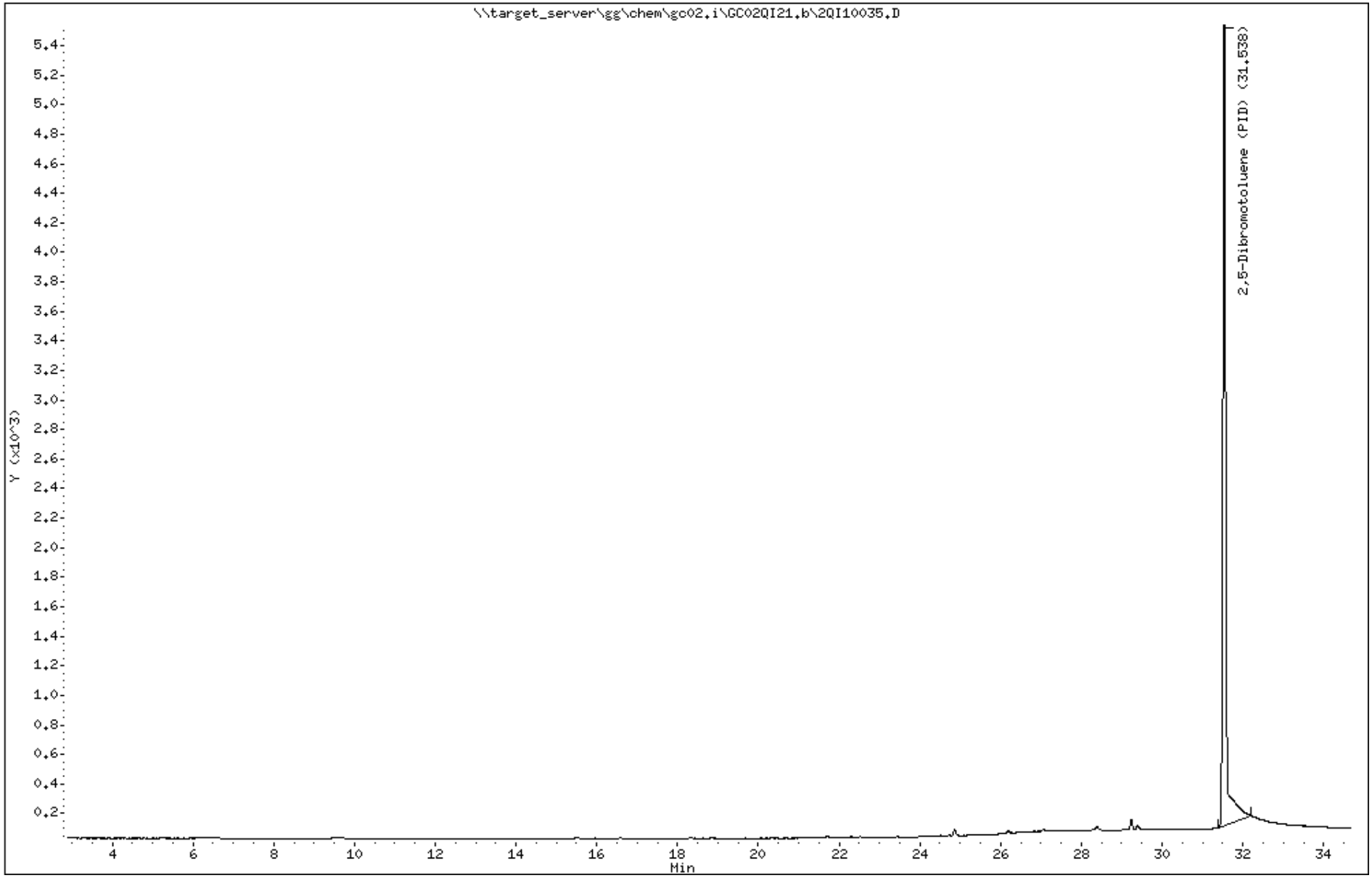
Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10035.D
Lab Smp Id: SQ5043-2 Client Smp ID: BNF-TW-1-9-23
Inj Date : 21-SEP-2023 18:56
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-2
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.537	31.597	-0.060	55484	72.6217	72.6	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10035.D
Date : 21-SEP-2023 18:56
Client ID: BNF-TW-1-9-23 Instrument: gc02.i
Sample Info: SQ5043-2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10035.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10035.D
Lab Smp Id: SQ5043-2 Client Smp ID: BNF-TW-1-9-23
Inj Date : 21-SEP-2023 18:56
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-2
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

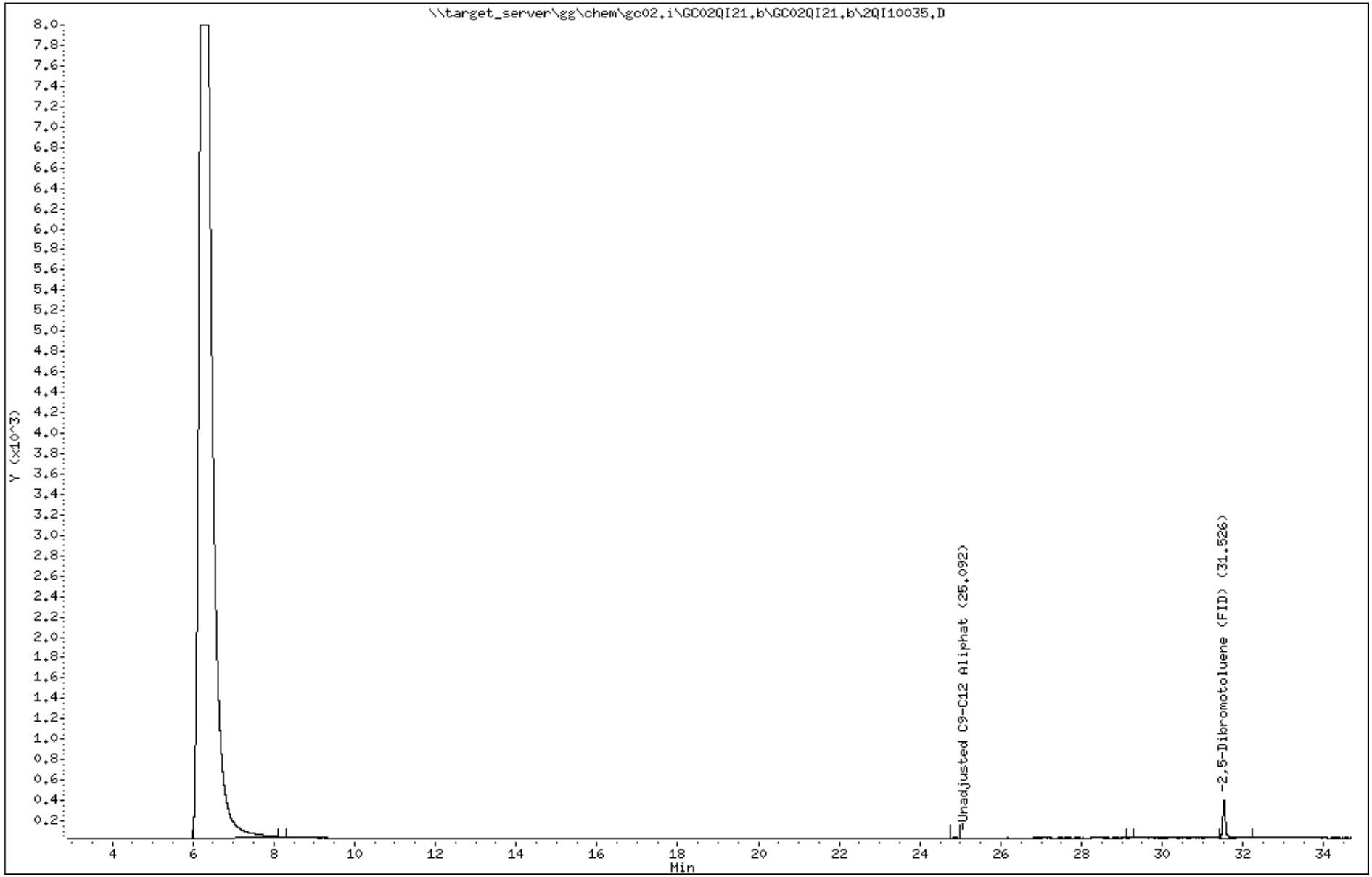
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.526	31.587	-0.061	37686	74.5819	74.6(M)	M9

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10035.D
Date : 21-SEP-2023 18:56
Client ID: BNF-TW-1-9-23 Instrument: gc02.i
Sample Info: SQ5043-2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-3RA
Client ID: BNF-TW-2-9-23
Matrix: AQ
Lab File ID: 2QI10055.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		116.	%					
2,5-Dibromotoluene (PID)		120.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10055.D
Report Date: 10-Oct-2023 07:26

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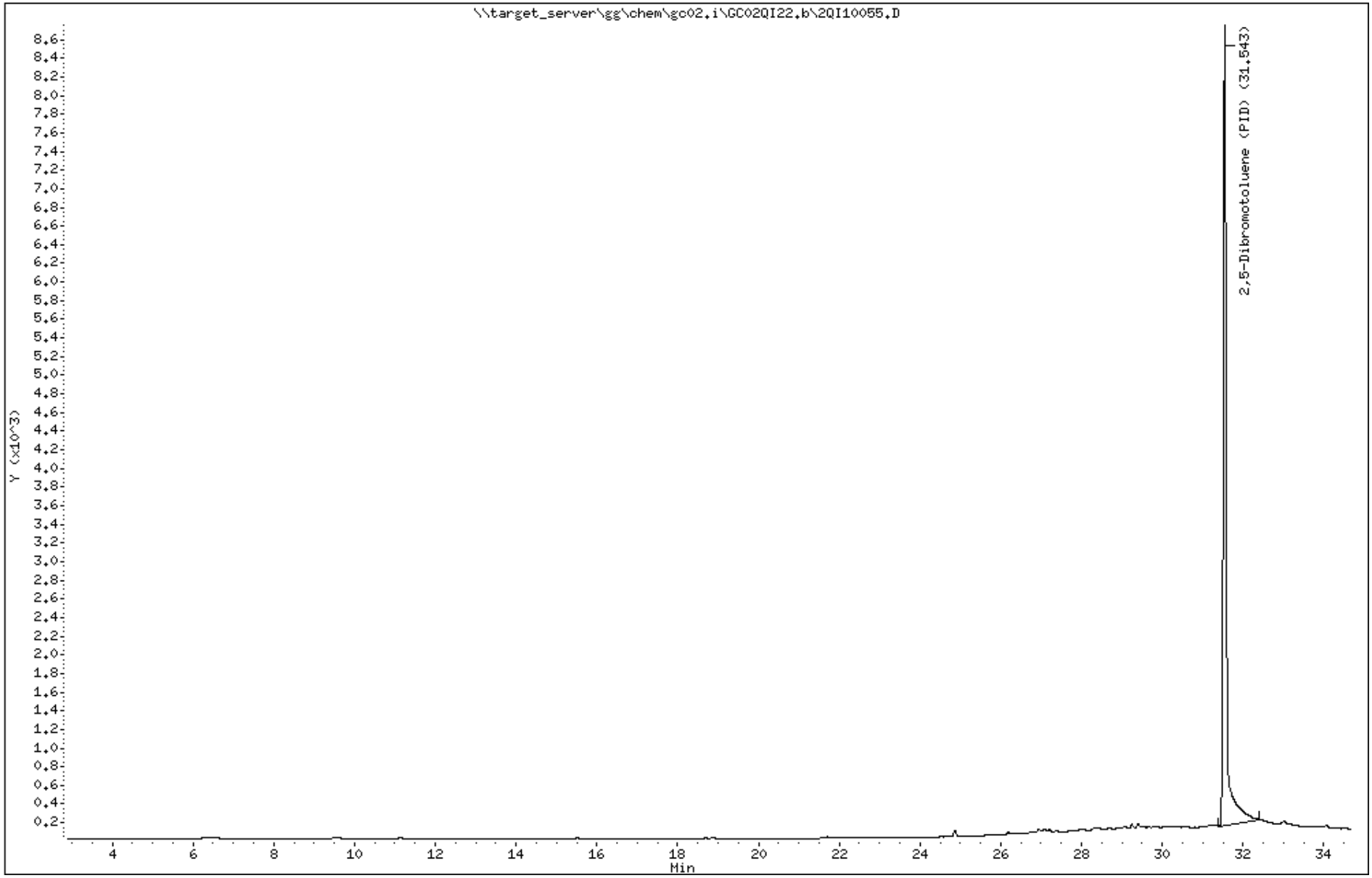
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10055.D
Lab Smp Id: SQ5043-3RA Client Smp ID: BNF-TW-2-9-23
Inj Date : 22-SEP-2023 18:18
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-3RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.542	31.597	-0.055	91499	119.761	120	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10055.D
Date : 22-SEP-2023 18:18
Client ID: BNF-TW-2-9-23 Instrument: gc02.i
Sample Info: SQ5043-3RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10055.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

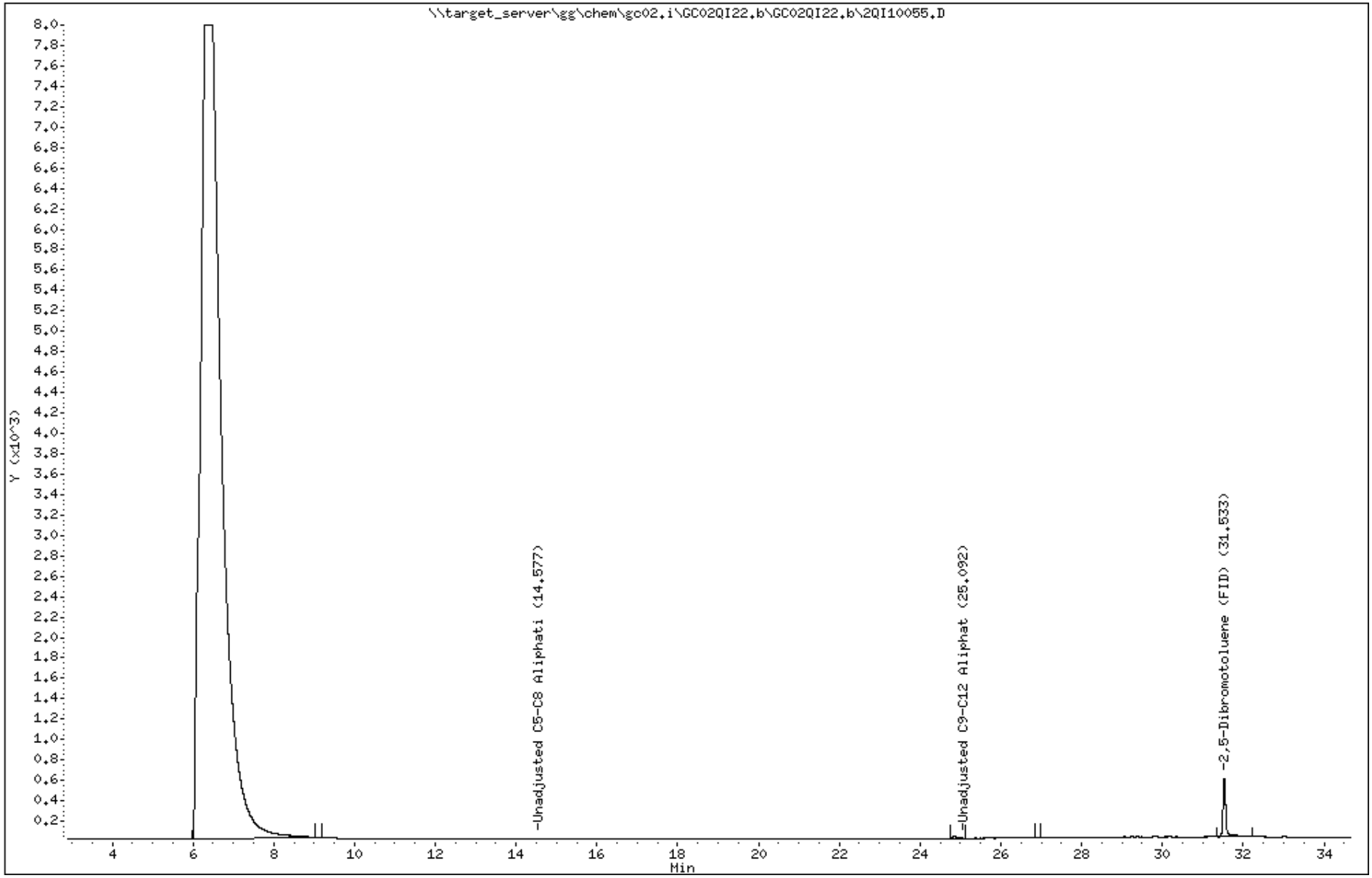
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10055.D
Lab Smp Id: SQ5043-3RA Client Smp ID: BNF-TW-2-9-23
Inj Date : 22-SEP-2023 18:18
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-3RA
Misc Info : WG342981,WG342400-4
Comment   : ALIPHATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.532	31.587	-0.055	58464	115.702	116	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10055.D
Date : 22-SEP-2023 18:18
Client ID: BNF-TW-2-9-23 Instrument: gc02.i
Sample Info: SQ5043-3RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-4
Client ID: BNF-TW-3-9-23
Matrix: AQ
Lab File ID: 2QI10037.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		70.4	%					
2,5-Dibromotoluene (PID)		80.6	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10037.D
Report Date: 10-Oct-2023 07:21

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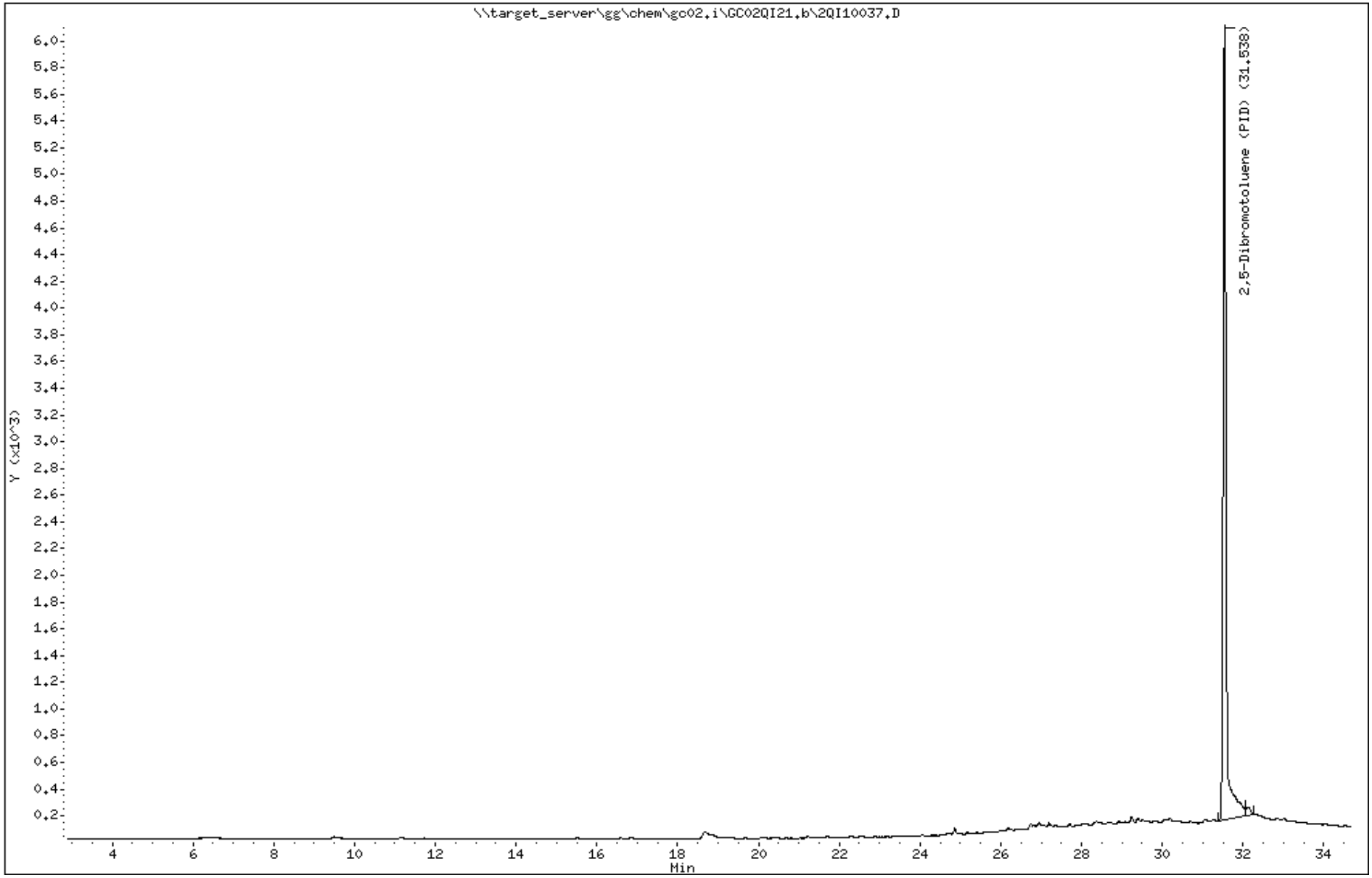
Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10037.D
Lab Smp Id: SQ5043-4 Client Smp ID: BNF-TW-3-9-23
Inj Date : 21-SEP-2023 20:21
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-4
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.537	31.597	-0.060	61545	80.5548	80.6	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10037.D
Date : 21-SEP-2023 20:21
Client ID: BNF-TW-3-9-23 Instrument: gc02.i
Sample Info: SQ5043-4
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10037.D
Report Date: 10-Oct-2023 07:22

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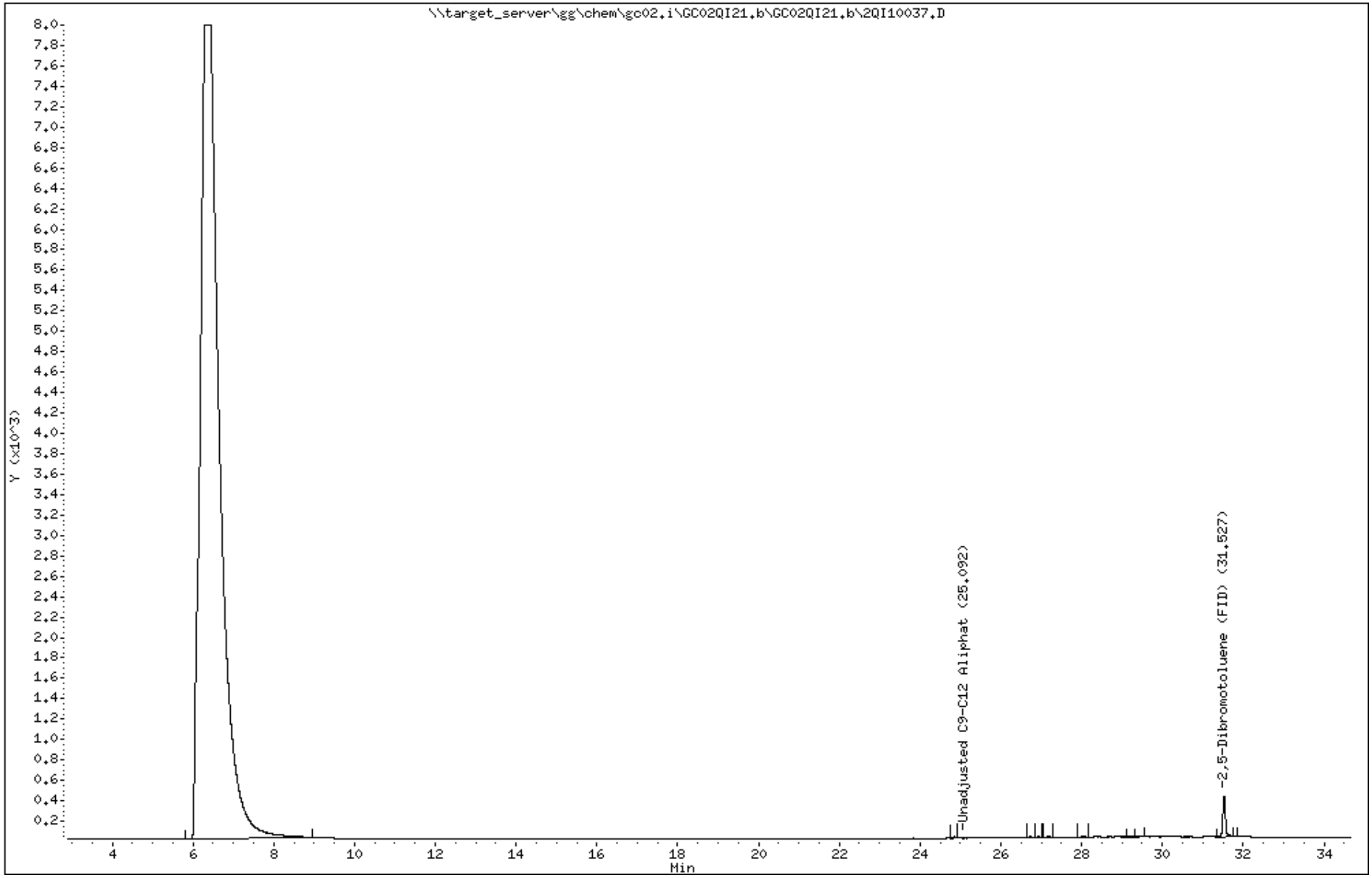
Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10037.D
Lab Smp Id: SQ5043-4 Client Smp ID: BNF-TW-3-9-23
Inj Date : 21-SEP-2023 20:21
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-4
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.527	31.587	-0.060	35600	70.4537	70.4	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10037.D
Date : 21-SEP-2023 20:21
Client ID: BNF-TW-3-9-23 Instrument: gc02.i
Sample Info: SQ5043-4
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-5
Client ID: BNF-TW-4-9-23
Matrix: AQ
Lab File ID: 2QI10038.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	49.3	%					
2,5-Dibromotoluene (PID)	*	59.8	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10038.D
Report Date: 10-Oct-2023 07:21

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10038.D
Lab Smp Id: SQ5043-5 Client Smp ID: BNF-TW-4-9-23
Inj Date : 21-SEP-2023 21:03
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-5
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

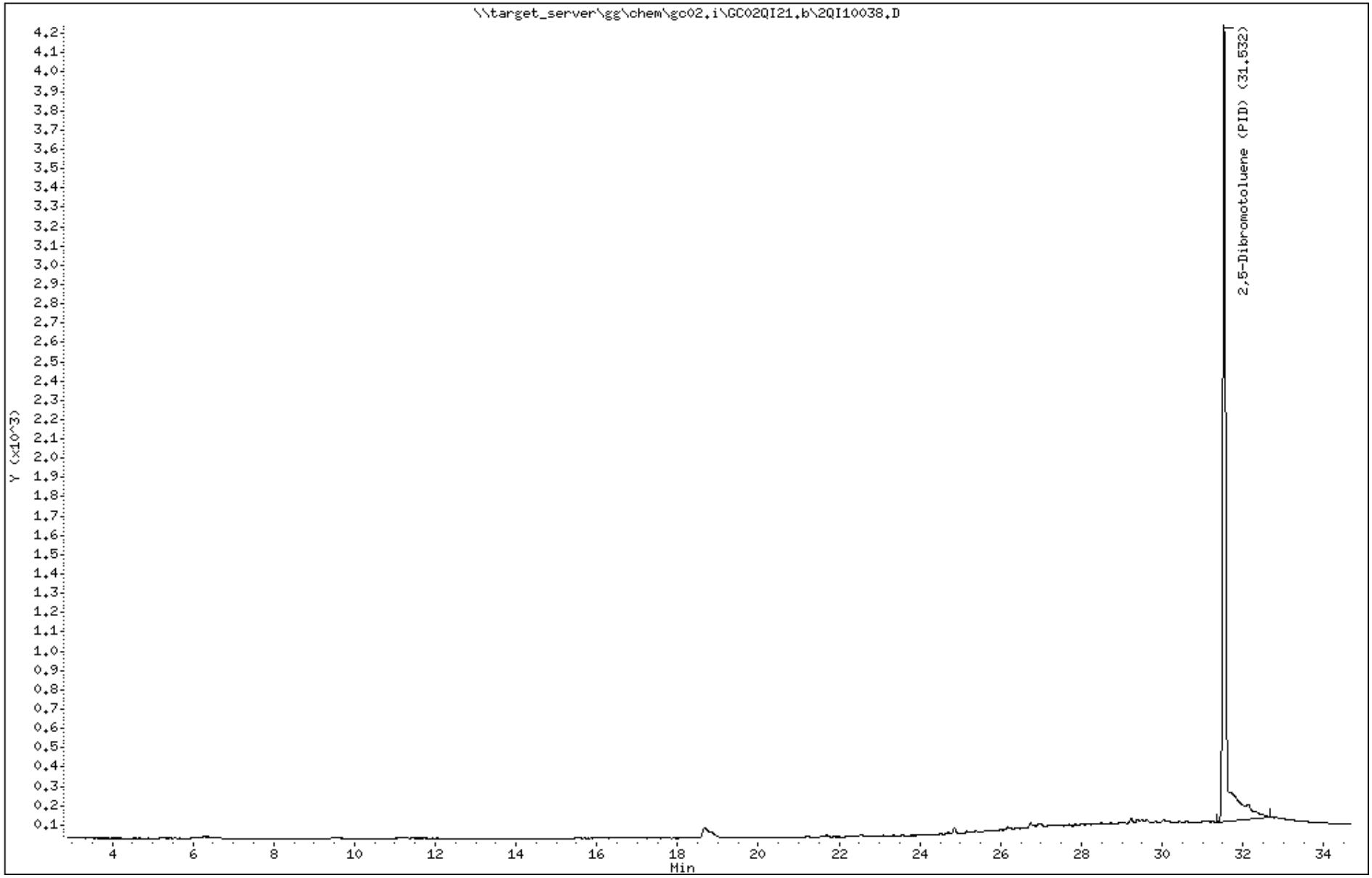
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.531	31.597	-0.066	45663	59.7672	59.8(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10038.D
Date : 21-SEP-2023 21:03
Client ID: BNF-TW-4-9-23 Instrument: gc02.i
Sample Info: SQ5043-5
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10038.D
Report Date: 10-Oct-2023 07:22

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10038.D
Lab Smp Id: SQ5043-5 Client Smp ID: BNF-TW-4-9-23
Inj Date : 21-SEP-2023 21:03
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-5
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

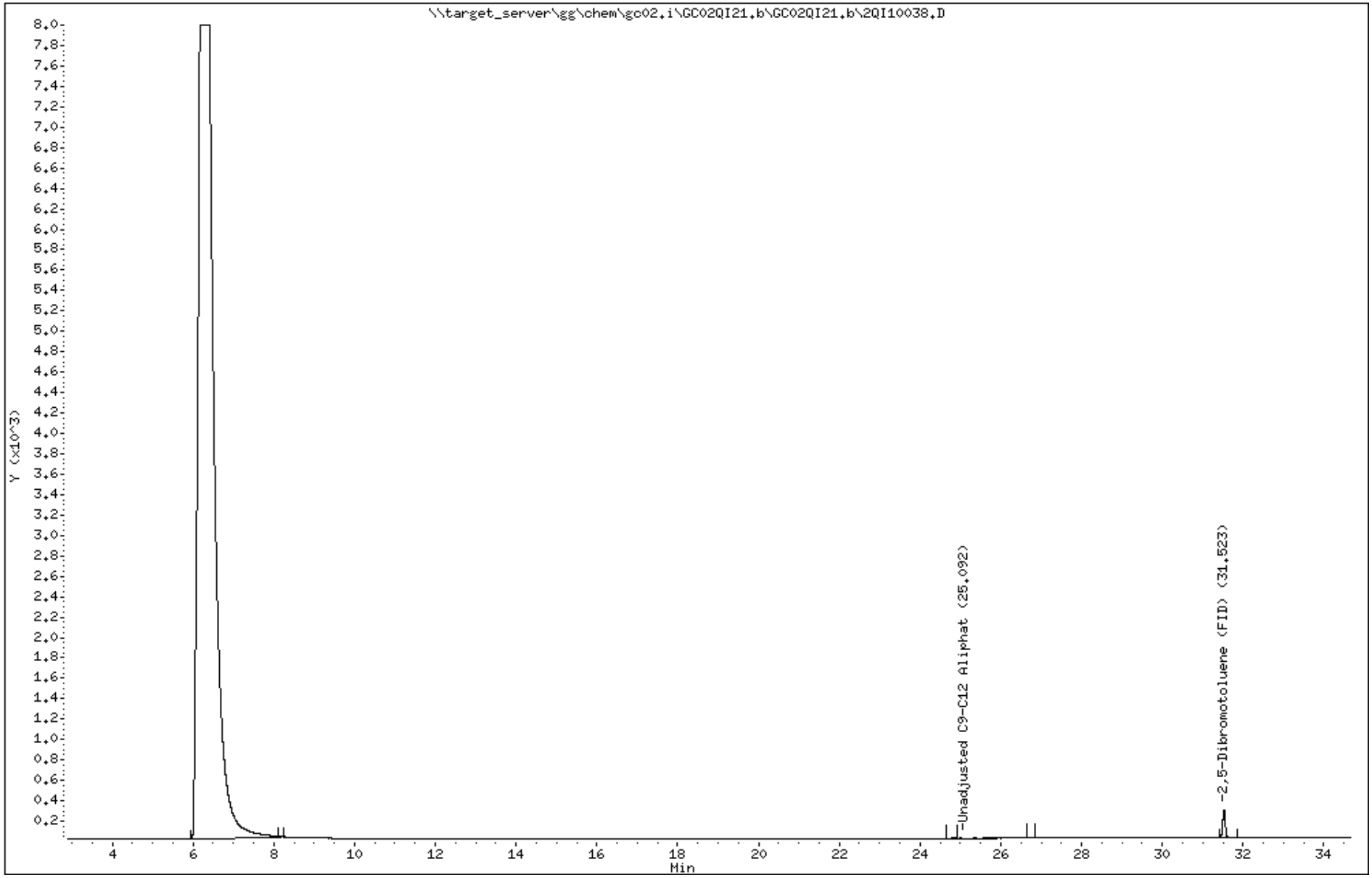
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.523	31.587	-0.064	24931	49.3393	49.3(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10038.D
Date : 21-SEP-2023 21:03
Client ID: BNF-TW-4-9-23 Instrument: gc02.i
Sample Info: SQ5043-5
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-5RA2
Client ID: BNF-TW-4-9-23
Matrix: AQ
Lab File ID: 2QI10073.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	12.0	%					
2,5-Dibromotoluene (PID)	*	16.0	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10073.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10073.D
Lab Smp Id: SQ5043-5RA2 Client Smp ID: BNF-TW-4-9-23
Inj Date : 25-SEP-2023 18:05
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-5RA2
Misc Info : WG343069,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

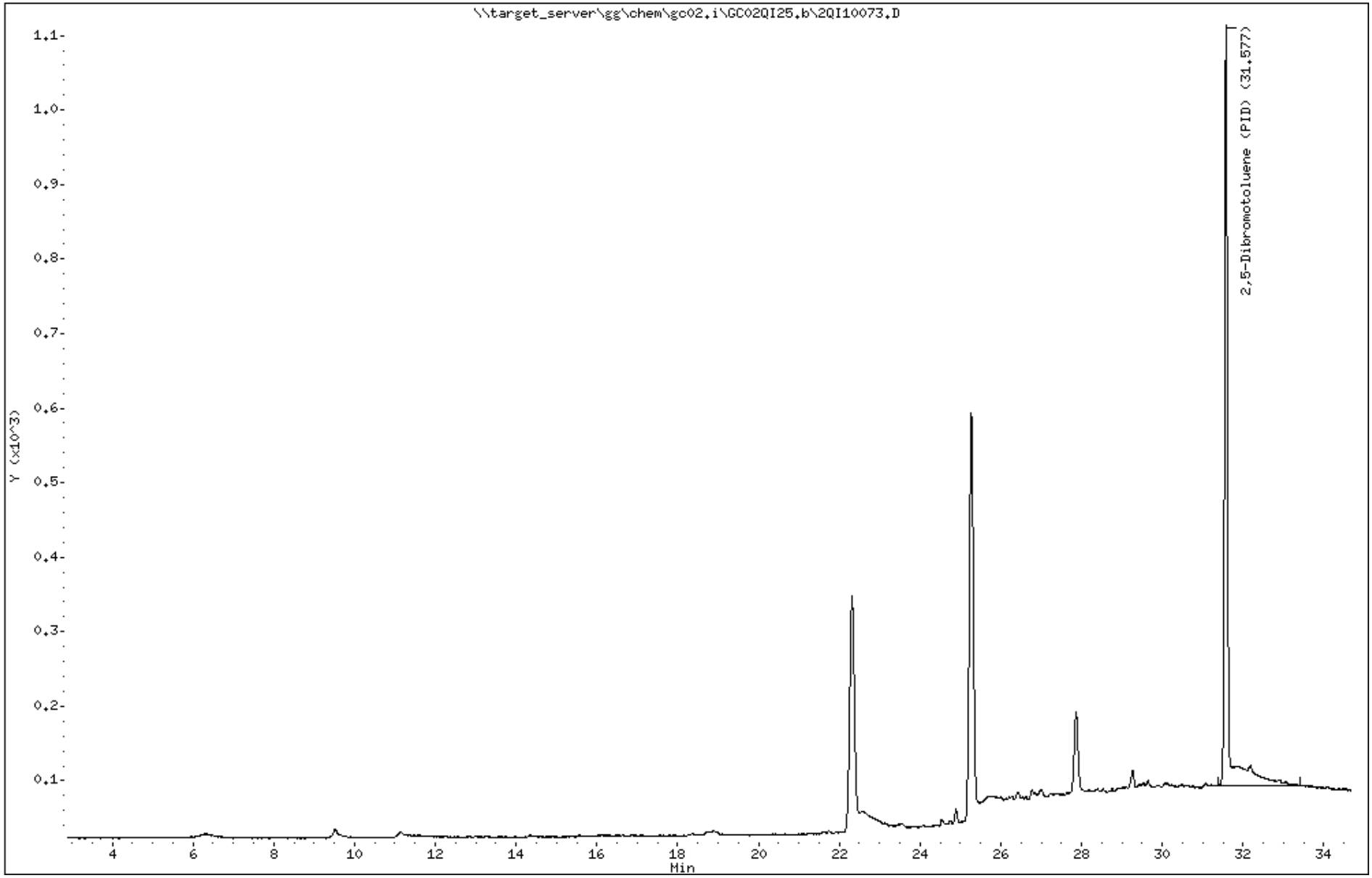
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.577	31.597	-0.020	12223	15.9984	16.0(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10073.D
Date : 25-SEP-2023 18:05
Client ID: BNF-TW-4-9-23
Sample Info: SQ5043-5RA2
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10073.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10073.D
Lab Smp Id: SQ5043-5RA2 Client Smp ID: BNF-TW-4-9-23
Inj Date : 25-SEP-2023 18:05
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-5RA2
Misc Info : WG343069,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

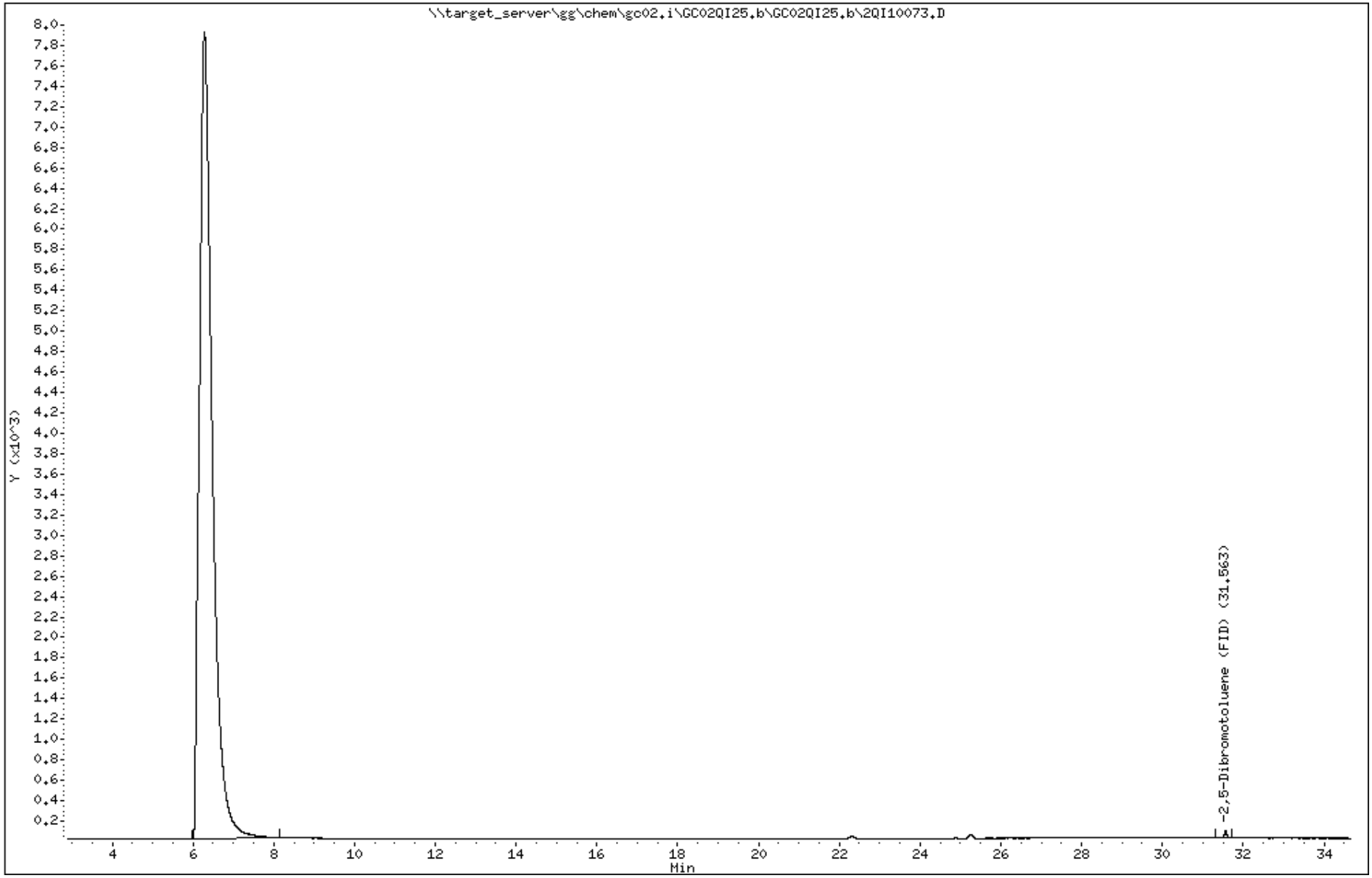
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.563	31.587	-0.024	6054	11.9811	12.0(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10073.D
Date : 25-SEP-2023 18:05
Client ID: BNF-TW-4-9-23 Instrument: gc02.i
Sample Info: SQ5043-5RA2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-6
Client ID: TRIP BLANK
Matrix: AQ
Lab File ID: 2QI10032.D

Sample Date: 08-SEP-23
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		84.0	%					
2,5-Dibromotoluene (PID)		87.3	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10032.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10032.D
Lab Smp Id: SQ5043-6 Client Smp ID: TRIP BLANK
Inj Date : 21-SEP-2023 16:50
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-6
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

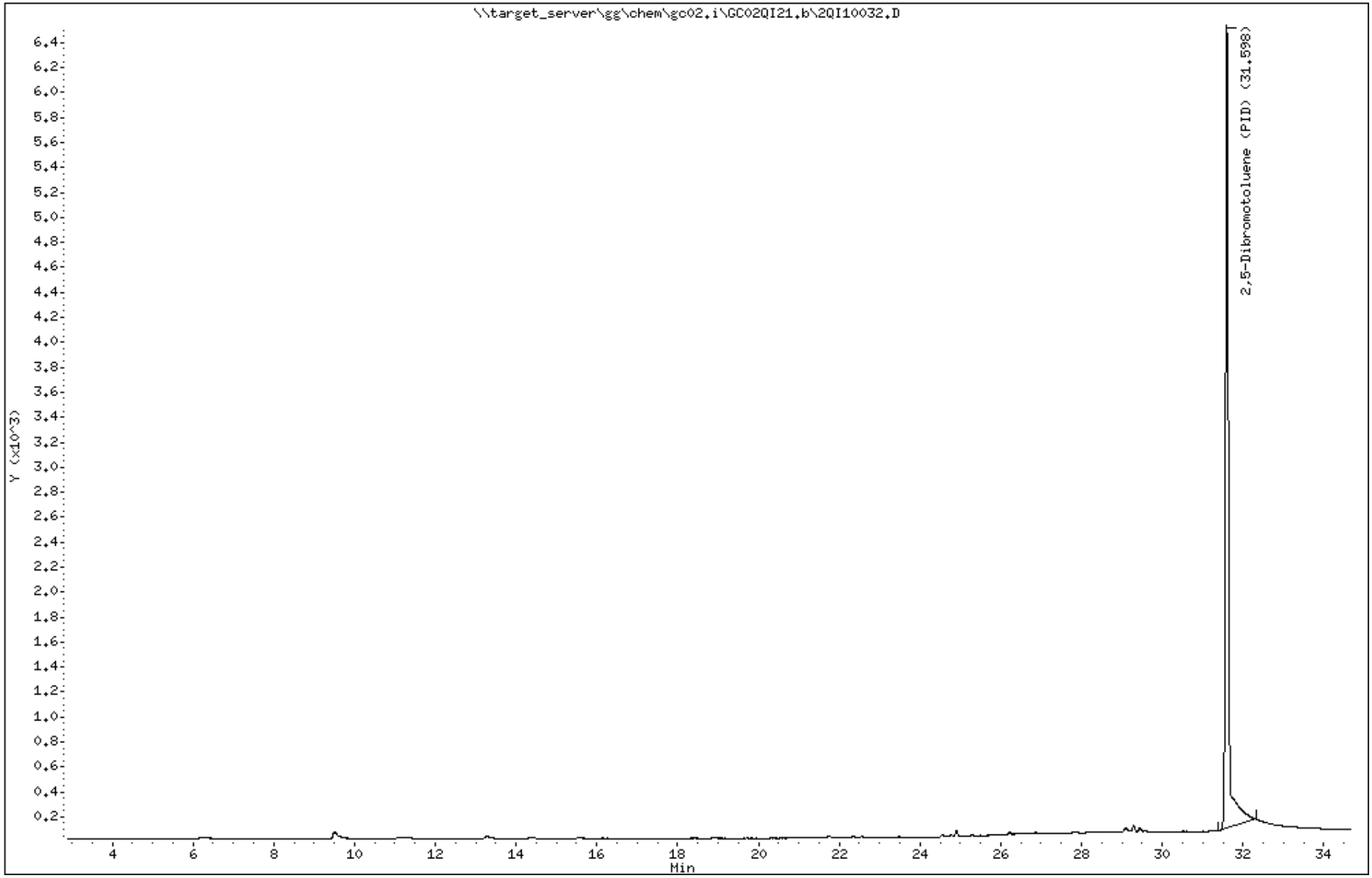
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.597	31.597	0.000	66671	87.2641	87.3	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10032.D
Date : 21-SEP-2023 16:50
Client ID: TRIP BLANK
Sample Info: SQ5043-6
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10032.D
Report Date: 10-Oct-2023 07:22

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10032.D
Lab Smp Id: SQ5043-6 Client Smp ID: TRIP BLANK
Inj Date : 21-SEP-2023 16:50
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-6
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

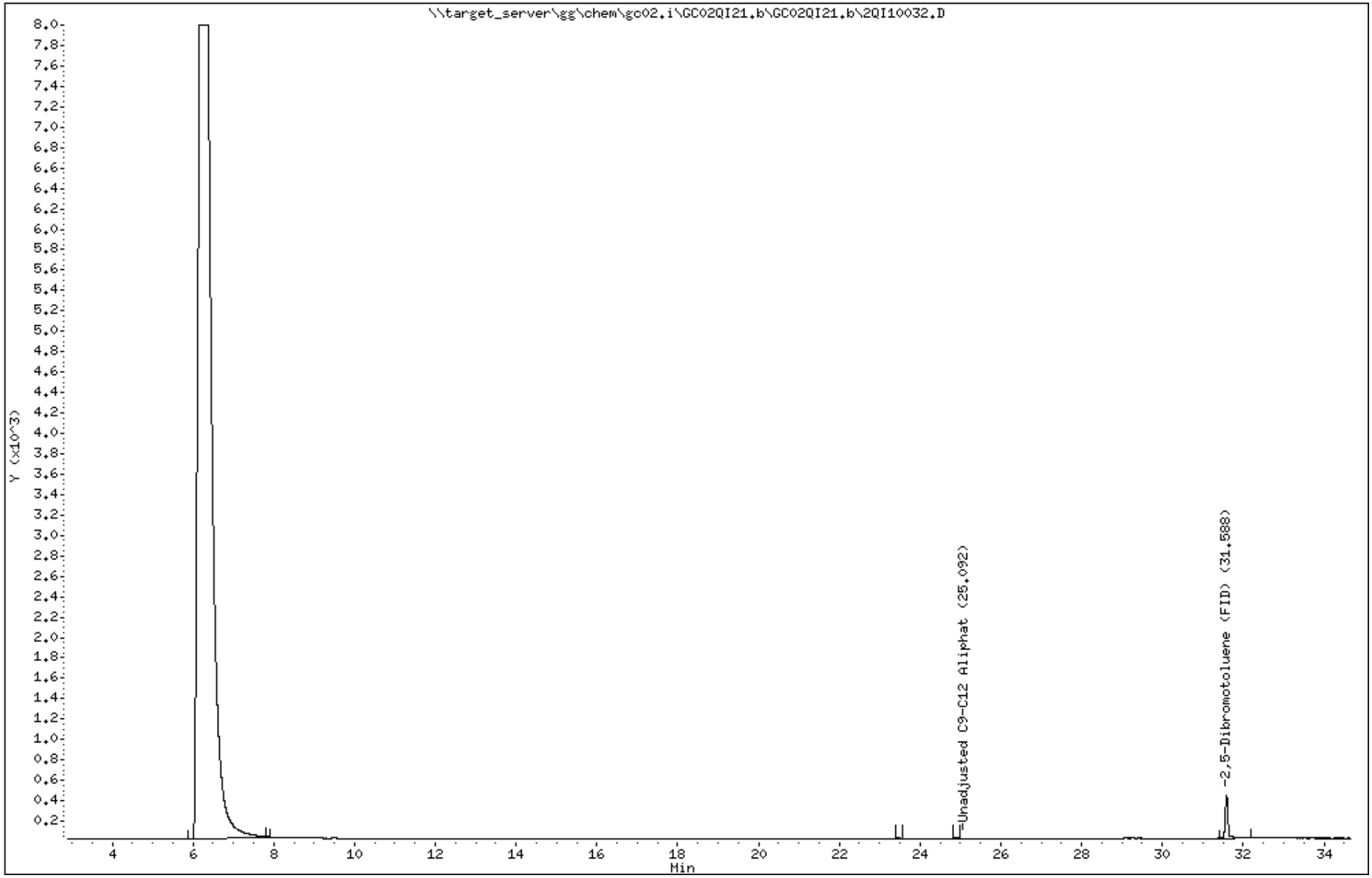
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.588	31.587	0.001	42441	83.9922	84.0(M)	M9

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10032.D
Date : 21-SEP-2023 16:50
Client ID: TRIP BLANK
Sample Info: SQ5043-6
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-7RA
Client ID: BNF-ZMW-10-9-23
Matrix: AQ
Lab File ID: 2QI10059.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		123.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10059.D
Report Date: 10-Oct-2023 07:26

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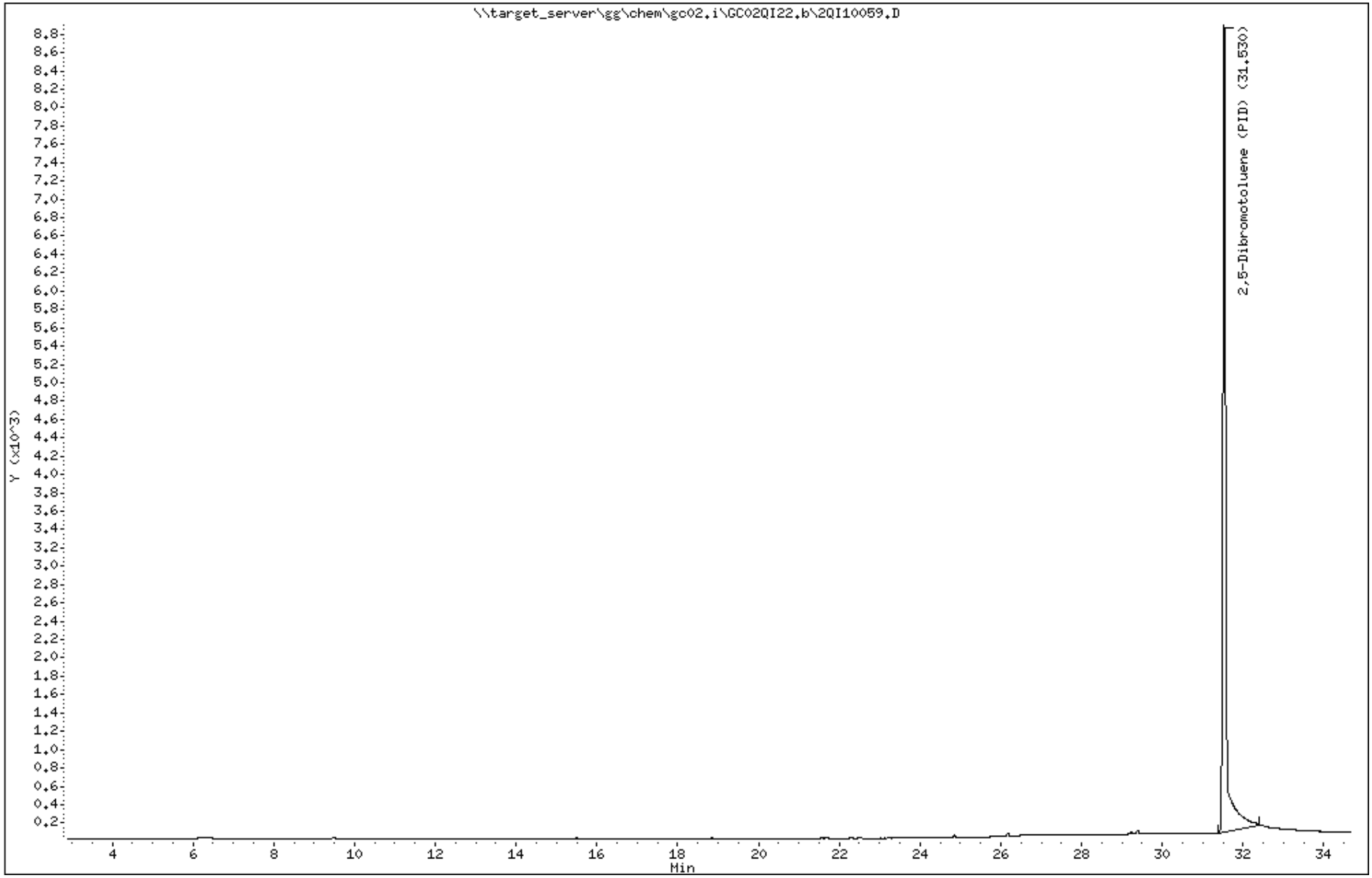
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10059.D
Lab Smp Id: SQ5043-7RA Client Smp ID: BNF-ZMW-10-9-23
Inj Date : 22-SEP-2023 21:07
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-7RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.530	31.597	-0.067	93906	122.911	123	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10059.D
Date : 22-SEP-2023 21:07
Client ID: BNF-ZMW-10-9-23 Instrument: gc02.i
Sample Info: SQ5043-7RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10059.D
Report Date: 10-Oct-2023 07:26

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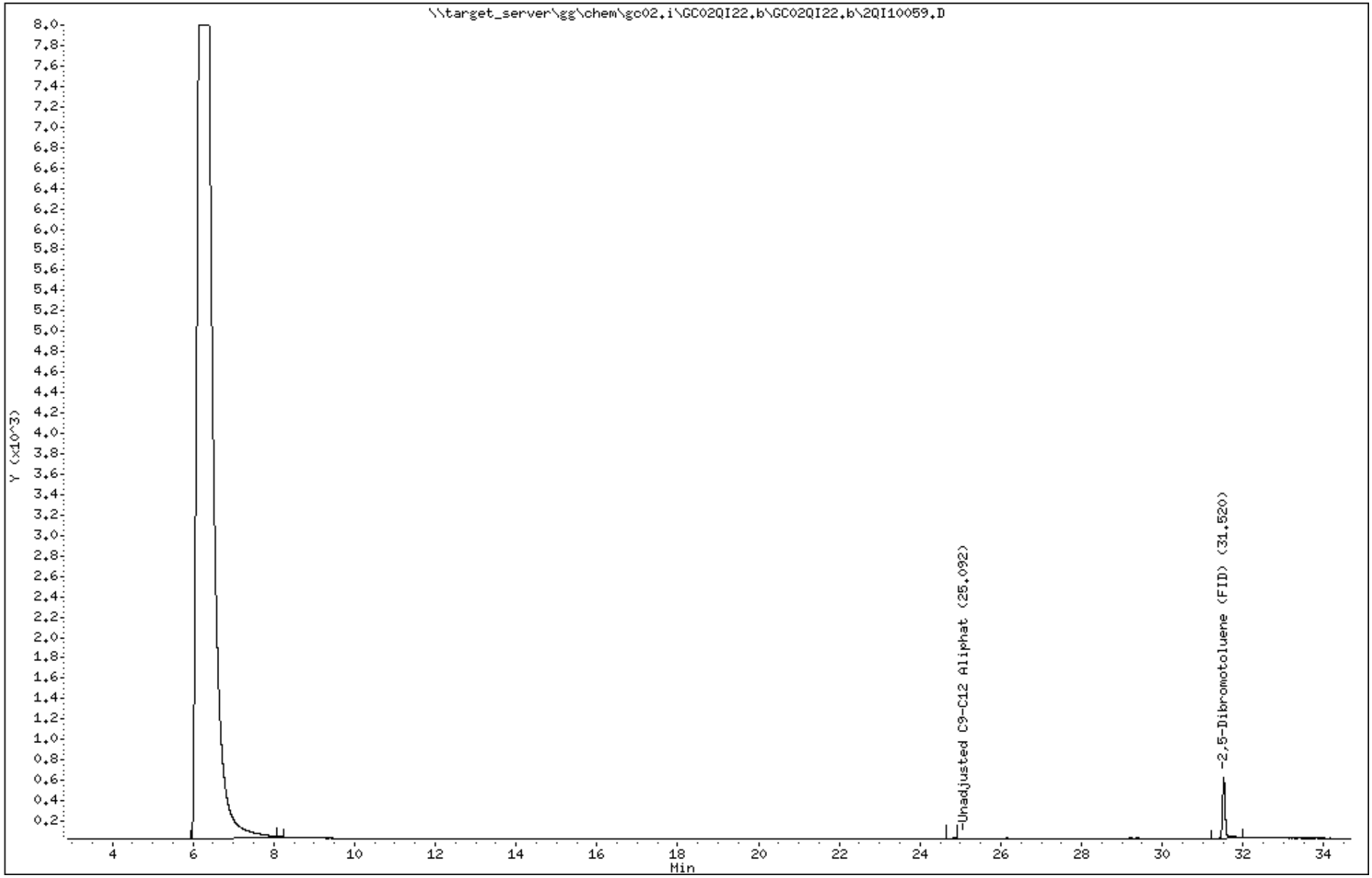
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10059.D
Lab Smp Id: SQ5043-7RA Client Smp ID: BNF-ZMW-10-9-23
Inj Date : 22-SEP-2023 21:07
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-7RA
Misc Info : WG342981,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.520	31.587	-0.067	54973	108.794	109	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10059.D
Date : 22-SEP-2023 21:07
Client ID: BNF-ZMW-10-9-23 Instrument: gc02.i
Sample Info: SQ5043-7RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-8RA
Client ID: BNF-ZMW-12-9-23
Matrix: AQ
Lab File ID: 2QI10062.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		122.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10062.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

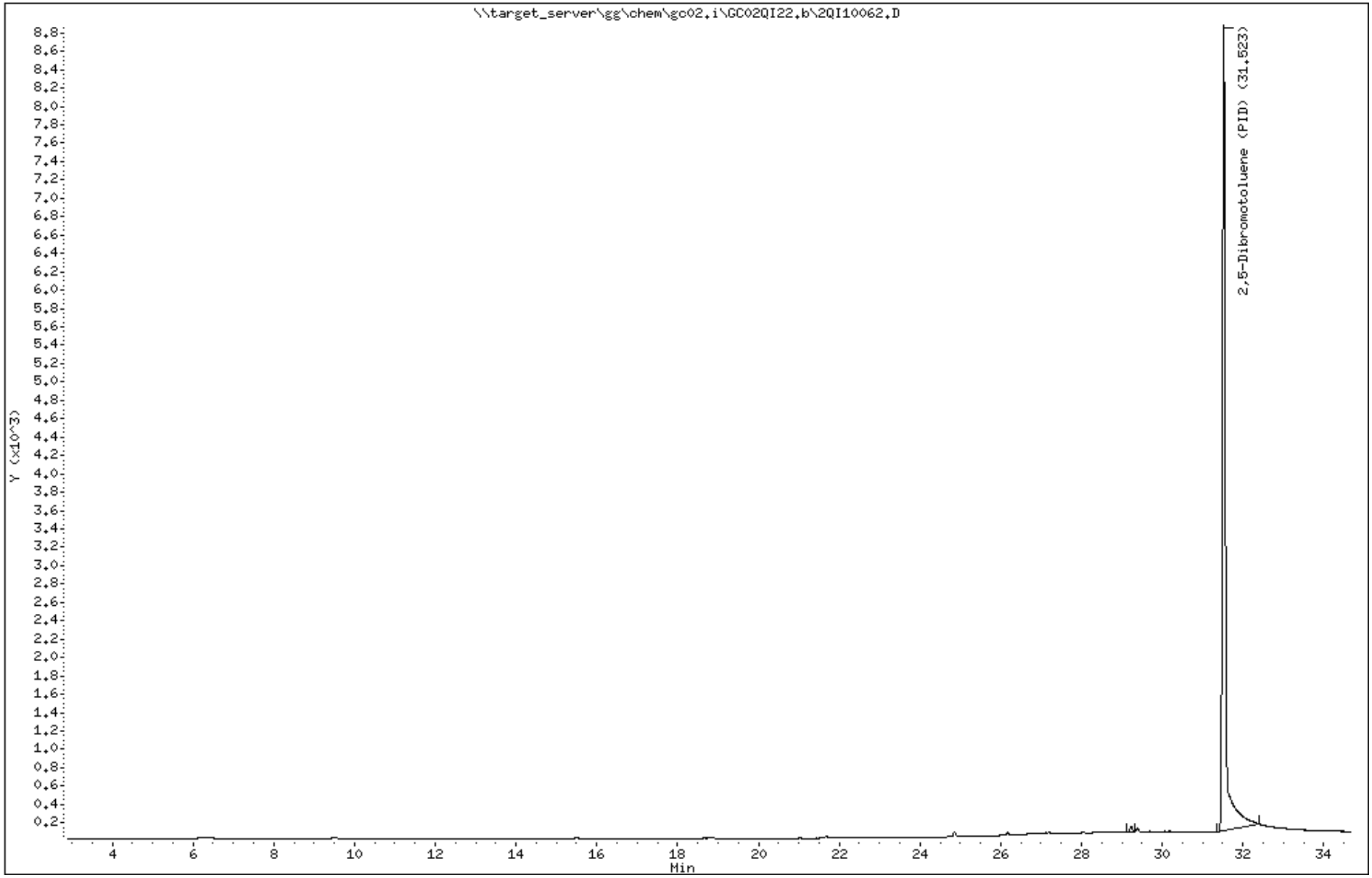
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10062.D
Lab Smp Id: SQ5043-8RA Client Smp ID: BNF-ZMW-12-9-23
Inj Date : 22-SEP-2023 23:13
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-8RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.523	31.597	-0.074	93658	122.587	122	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10062.D
Date : 22-SEP-2023 23:13
Client ID: BNF-ZMW-12-9-23 Instrument: gc02.i
Sample Info: SQ5043-8RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Data File: 2QI10062.D
Report Date: 10-Oct-2023 07:26

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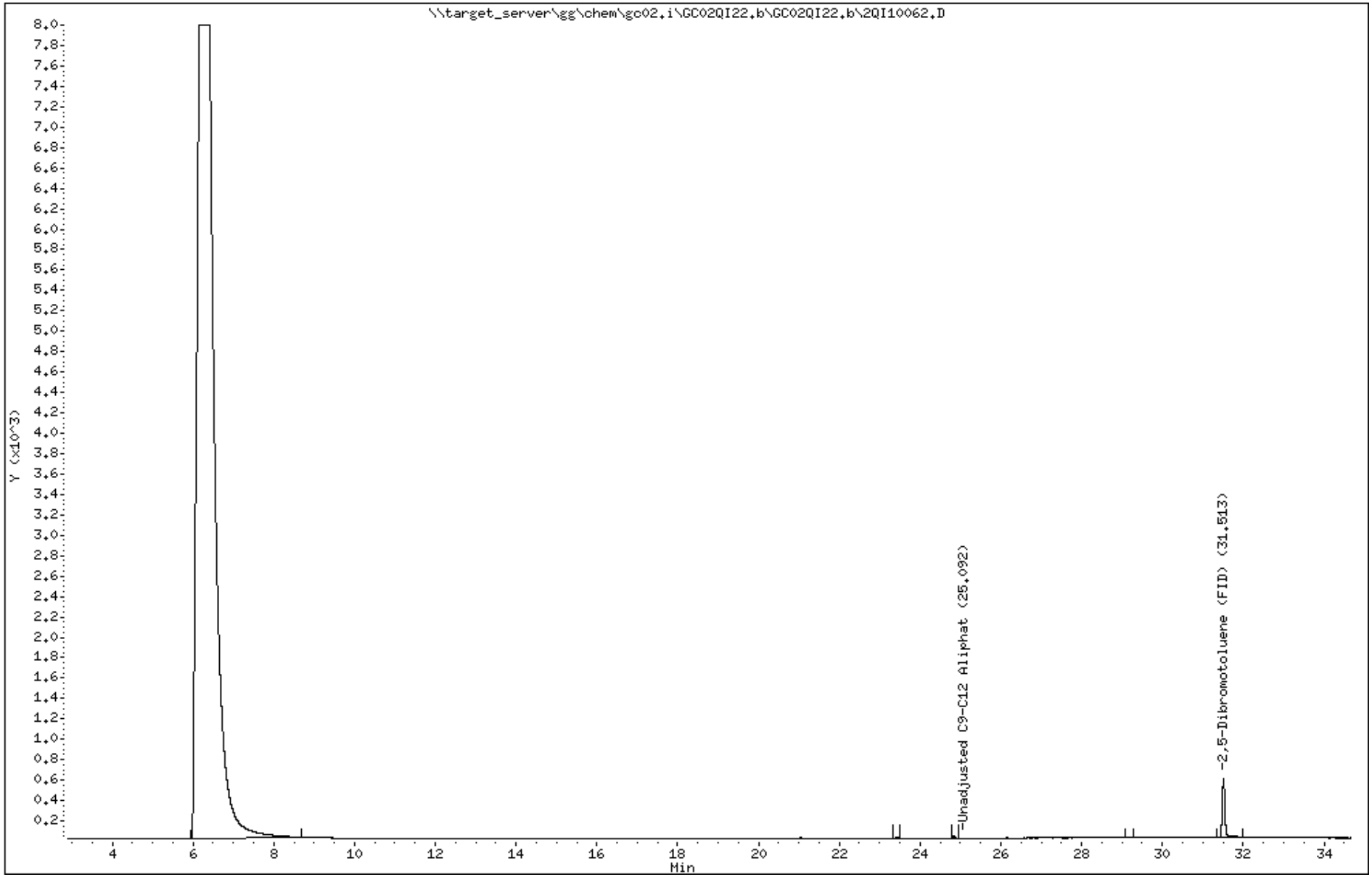
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10062.D
Lab Smp Id: SQ5043-8RA Client Smp ID: BNF-ZMW-12-9-23
Inj Date : 22-SEP-2023 23:13
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-8RA
Misc Info : WG342981,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.512	31.587	-0.075	55259	109.360	109	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10062.D
Date : 22-SEP-2023 23:13
Client ID: BNF-ZMW-12-9-23 Instrument: gc02.i
Sample Info: SQ5043-8RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-9RA2
Client ID: BNF-DUP-9-23
Matrix: AQ
Lab File ID: 2QI10074.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	10.8	%					
2,5-Dibromotoluene (PID)	*	13.9	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10074.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10074.D
Lab Smp Id: SQ5043-9RA2 Client Smp ID: BNF-DUP-9-23
Inj Date : 25-SEP-2023 18:47
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-9RA2
Misc Info : WG343069,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

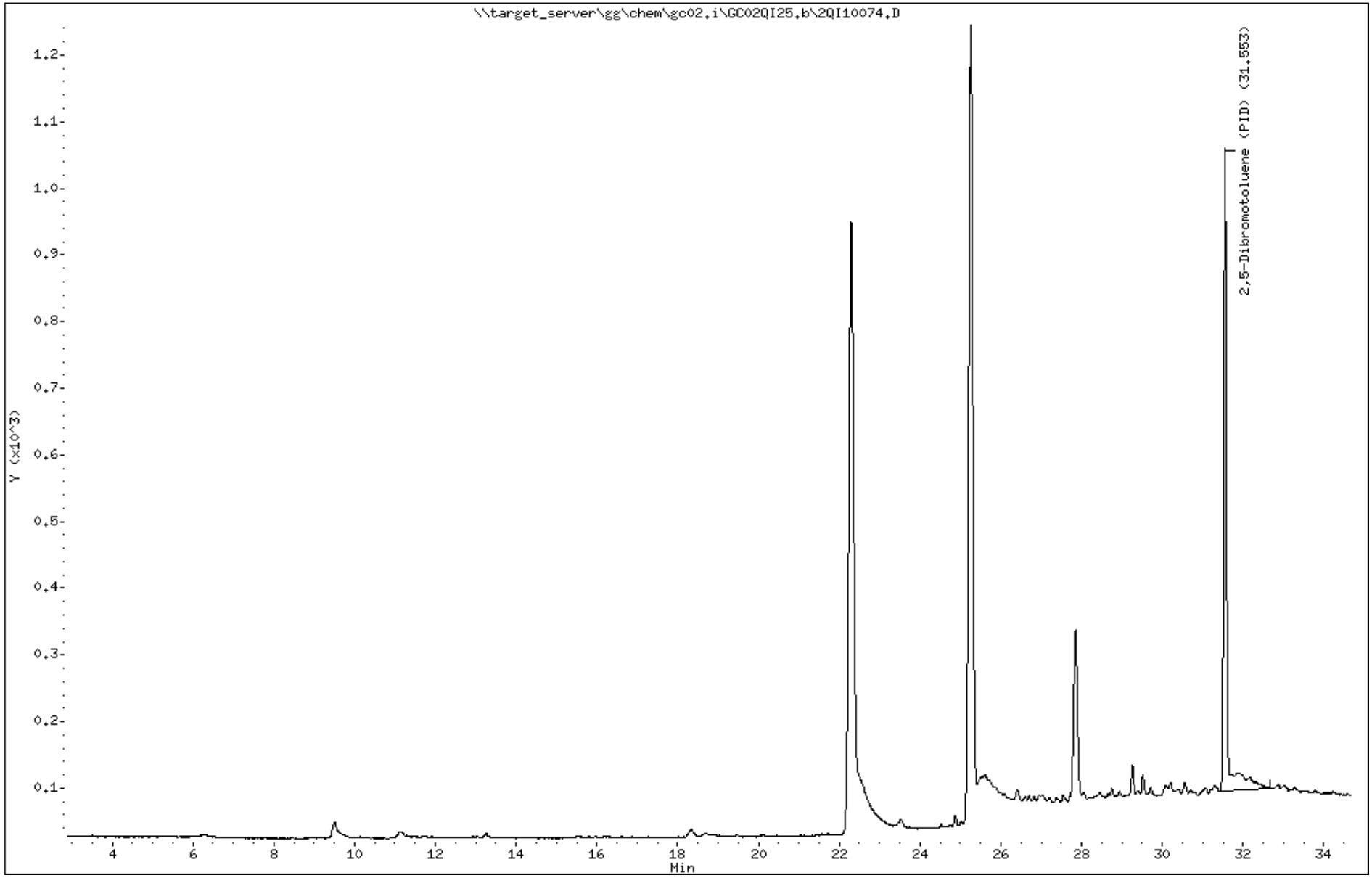
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.552	31.597	-0.045	10606	13.8819	13.9(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10074.D
Date : 25-SEP-2023 18:47
Client ID: BNF-DUP-9-23
Sample Info: SQ5043-9RA2
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10074.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10074.D
Lab Smp Id: SQ5043-9RA2 Client Smp ID: BNF-DUP-9-23
Inj Date : 25-SEP-2023 18:47
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-9RA2
Misc Info : WG343069,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

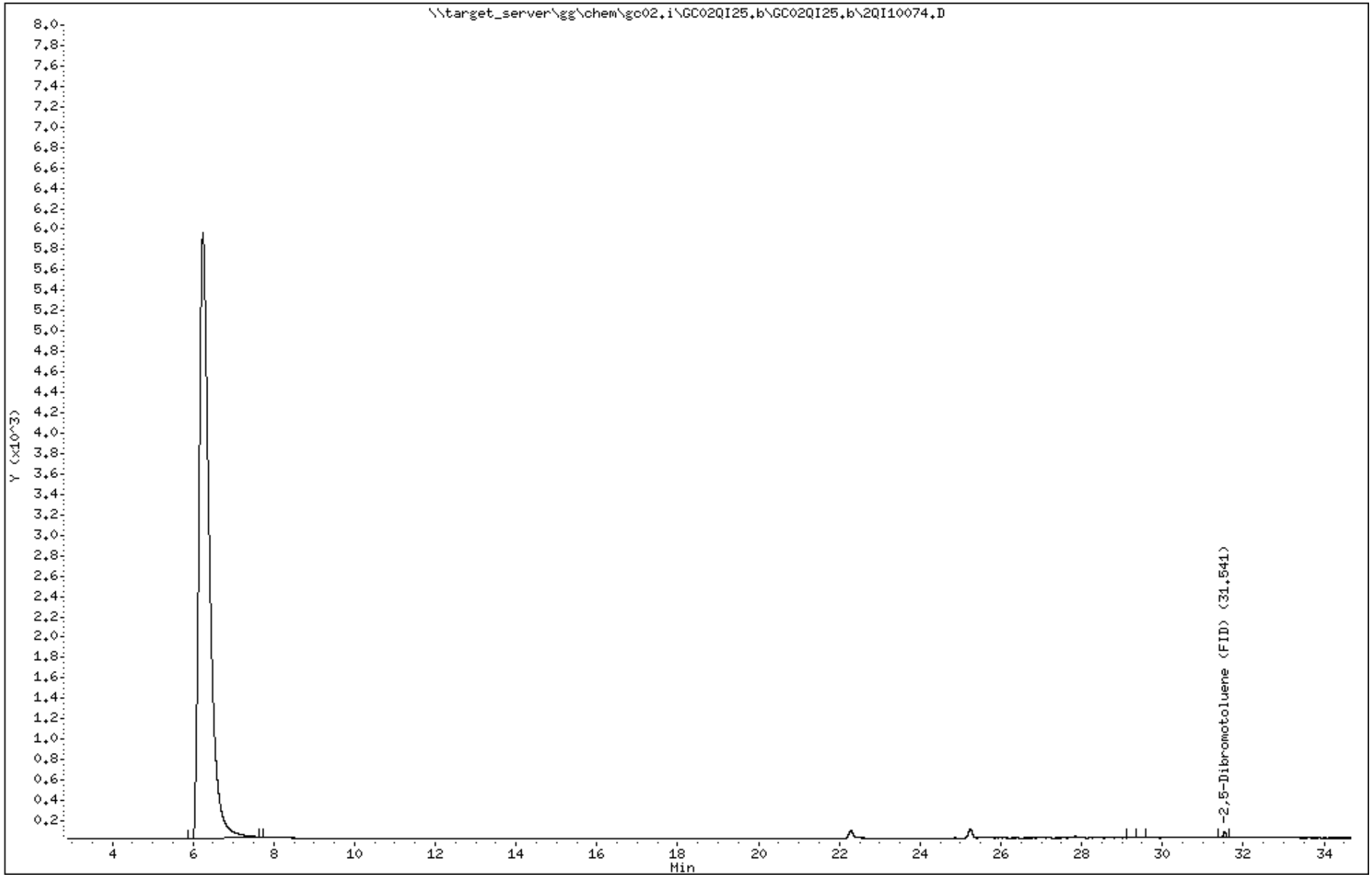
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.540	31.587	-0.047	5469	10.8233	10.8(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10074.D
Date : 25-SEP-2023 18:47
Client ID: BNF-DUP-9-23 Instrument: gc02.i
Sample Info: SQ5043-9RA2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-10RA
Client ID: BNF-EQB-9-23
Matrix: AQ
Lab File ID: 2QI10054.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		74.8	%					
2,5-Dibromotoluene (PID)		89.9	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10054.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10054.D
Lab Smp Id: SQ5043-10RA Client Smp ID: BNF-EQB-9-23
Inj Date : 22-SEP-2023 17:36
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-10RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

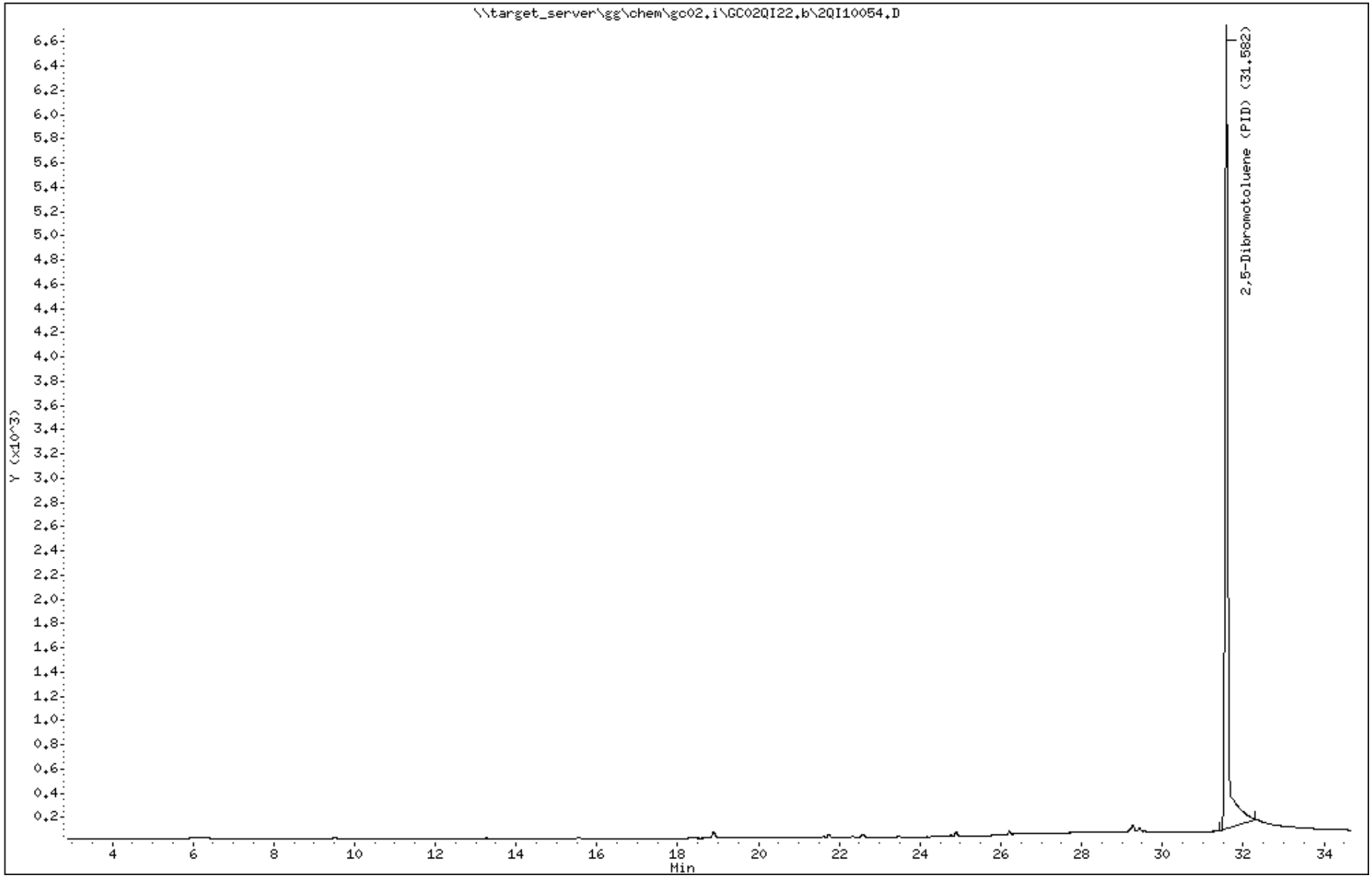
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.582	31.597	-0.015	68688	89.9041	89.9	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10054.D
Date : 22-SEP-2023 17:36
Client ID: BNF-EQB-9-23
Sample Info: SQ5043-10RA
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10054.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

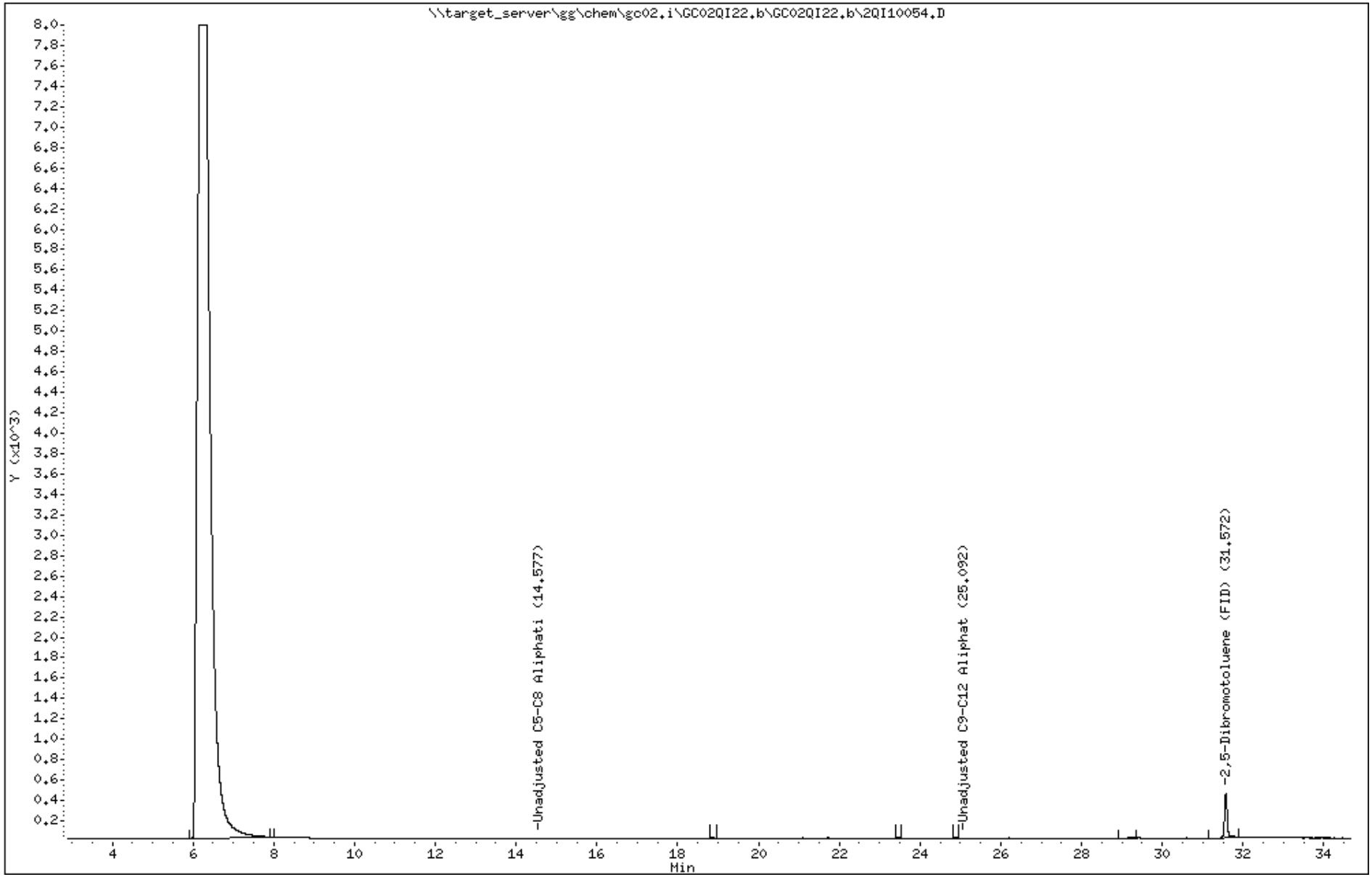
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10054.D
Lab Smp Id: SQ5043-10RA Client Smp ID: BNF-EQB-9-23
Inj Date : 22-SEP-2023 17:36
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-10RA
Misc Info : WG342981,WG342400-4
Comment   : ALIPHATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.571	31.587	-0.016	37778	74.7640	74.8	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10054.D
Date : 22-SEP-2023 17:36
Client ID: BNF-EQB-9-23 Instrument: gc02.i
Sample Info: SQ5043-10RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-11RA
Client ID: BNF-ZMW-11-9-23
Matrix: AQ
Lab File ID: 2QI10063.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		109.	%					
2,5-Dibromotoluene (PID)		121.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10063.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10063.D
Lab Smp Id: SQ5043-11RA Client Smp ID: BNF-ZMW-11-9-23
Inj Date : 22-SEP-2023 23:55
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-11RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

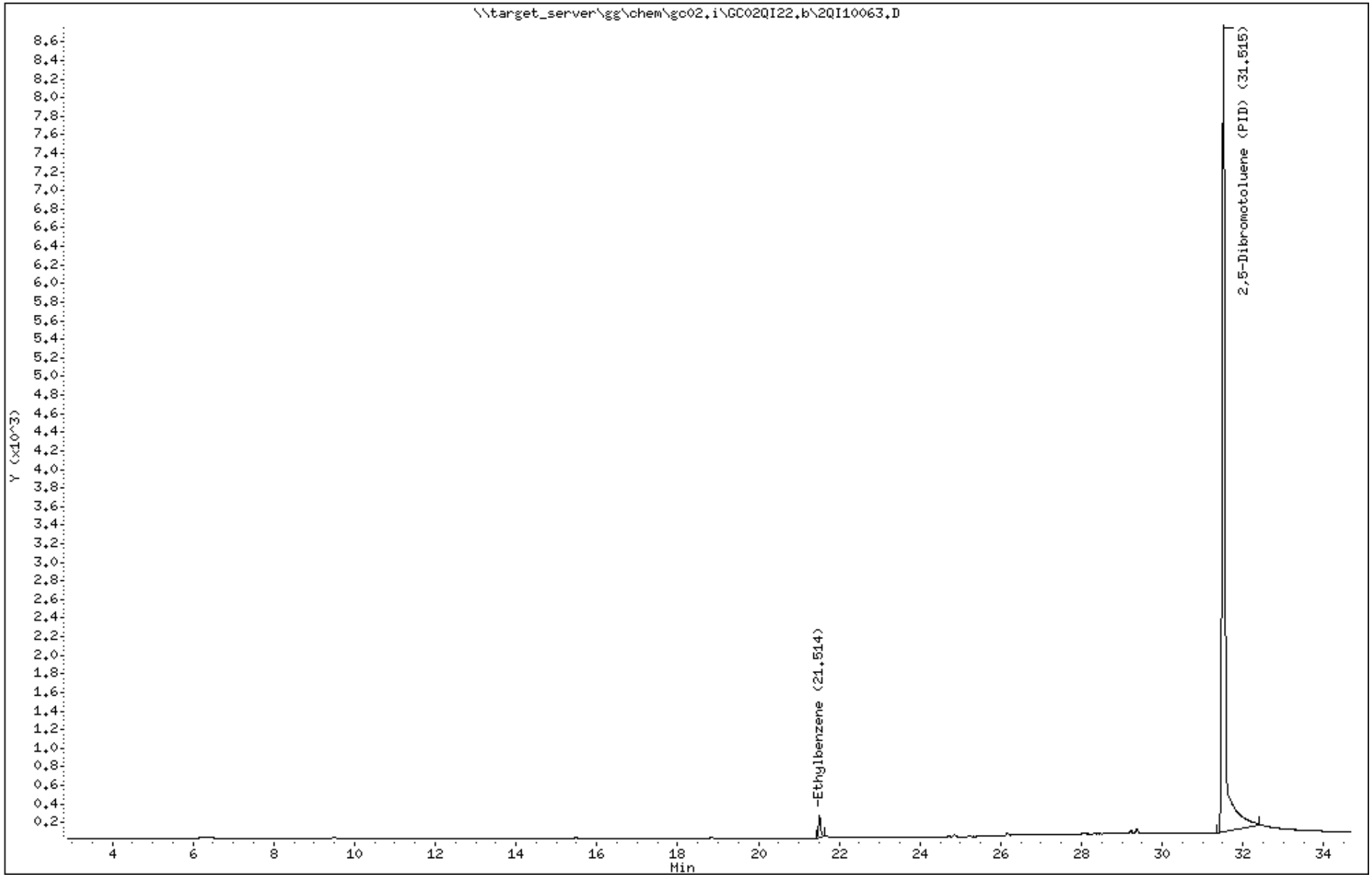
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
5 Ethylbenzene	21.514	21.550	-0.036	1996	2.19512	2.20(a)	
$ 11 2,5-Dibromotoluene (PID)	31.515	31.597	-0.082	92339	120.860	121	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10063.D
Date : 22-SEP-2023 23:55
Client ID: BNF-ZMW-11-9-23
Sample Info: SQ5043-11RA
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10063.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

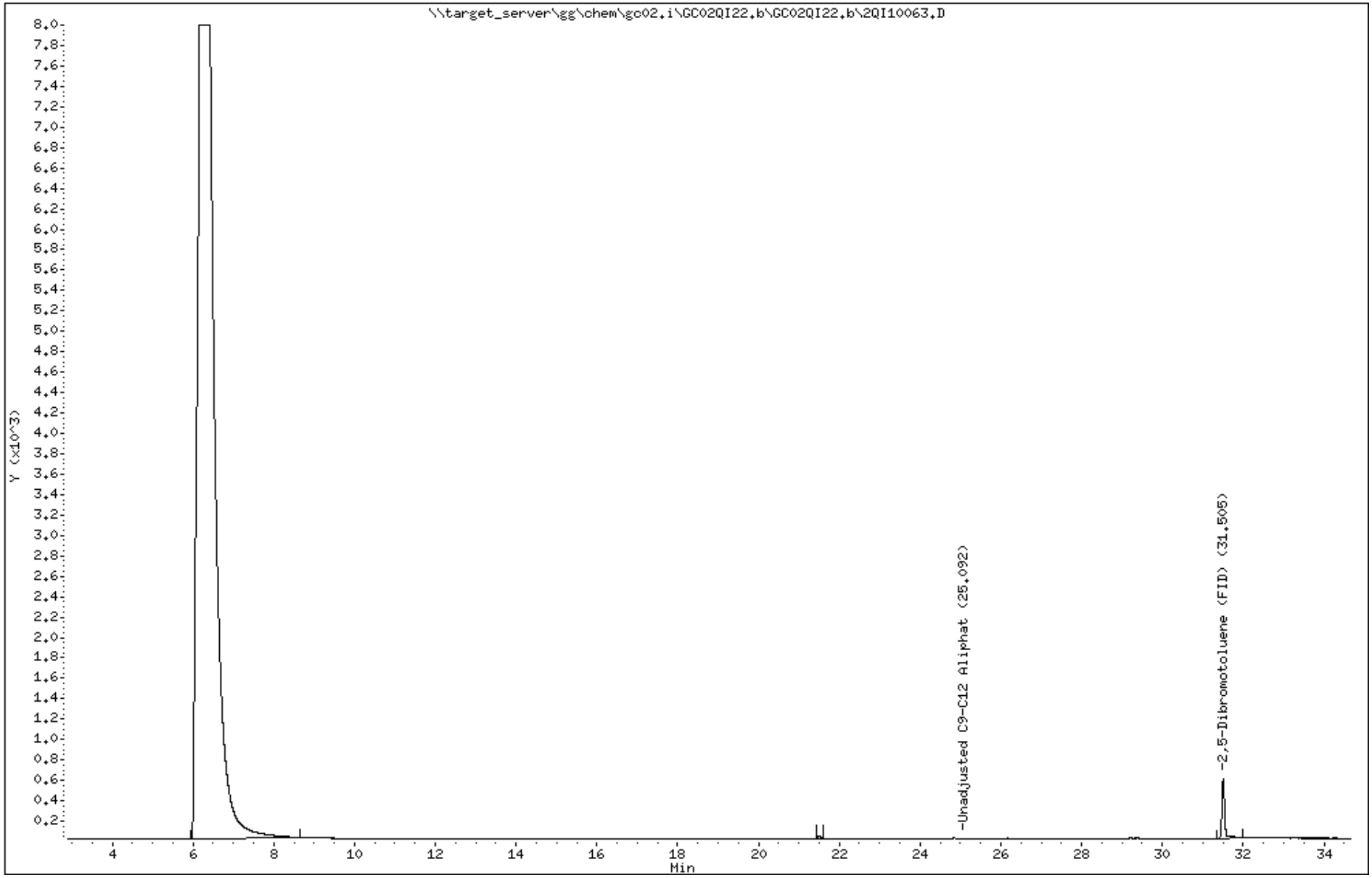
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10063.D
Lab Smp Id: SQ5043-11RA Client Smp ID: BNF-ZMW-11-9-23
Inj Date : 22-SEP-2023 23:55
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-11RA
Misc Info : WG342981,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.505	31.587	-0.082	54974	108.795	109	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10063.D
Date : 22-SEP-2023 23:55
Client ID: BNF-ZMW-11-9-23 Instrument: gc02.i
Sample Info: SQ5043-11RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-12RA2
Client ID: BNF-ZMW-13-9-23
Matrix: AQ
Lab File ID: 2QI10075.D

Sample Date: 08-SEP-23
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	21.9	%					
2,5-Dibromotoluene (PID)	*	28.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10075.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10075.D
Lab Smp Id: SQ5043-12RA2 Client Smp ID: BNF-ZMW-13-9-23
Inj Date : 25-SEP-2023 19:29
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-12RA2
Misc Info : WG343069,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

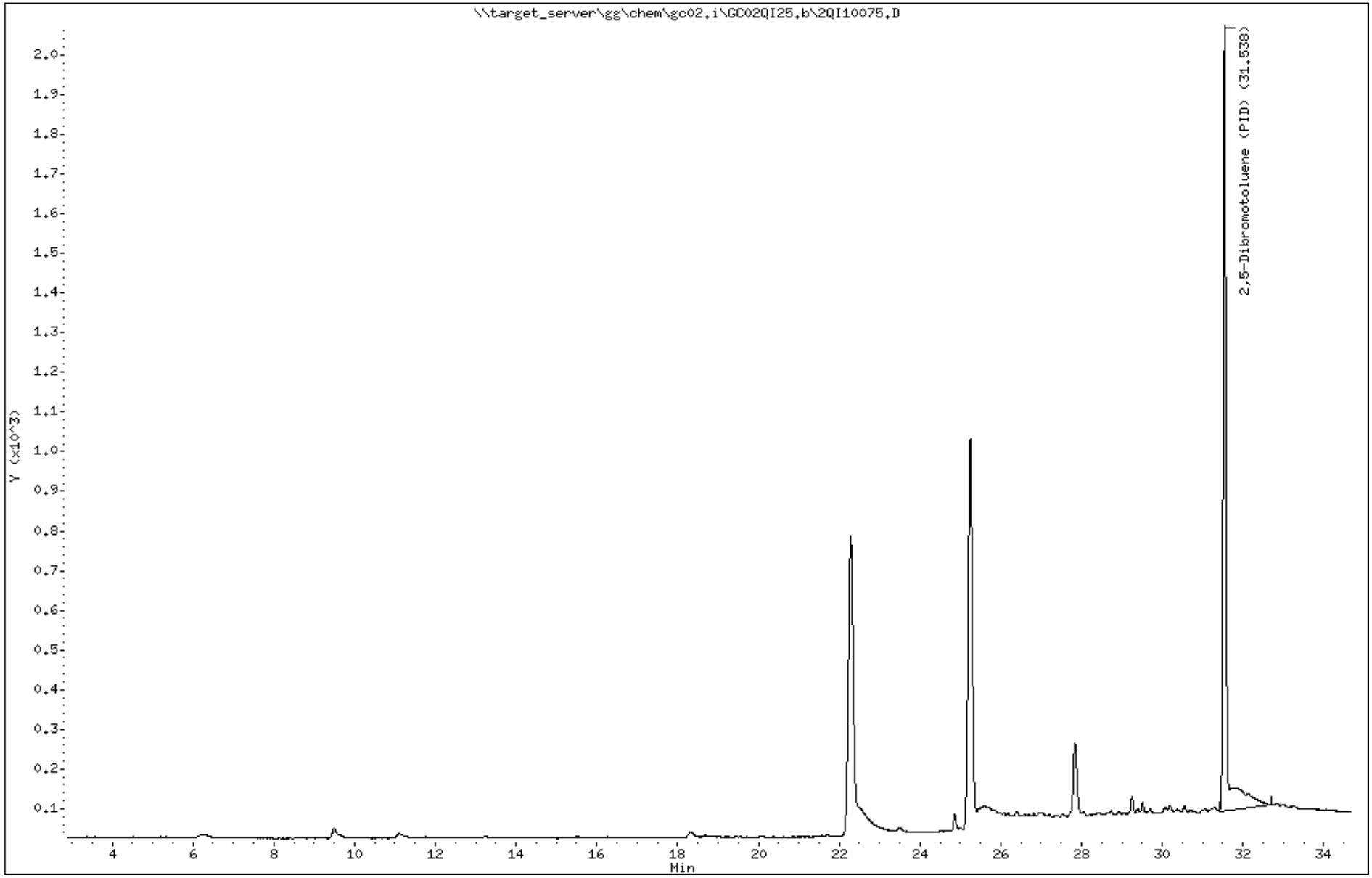
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.538	31.597	-0.059	21670	28.3634	28.4(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10075.D
Date : 25-SEP-2023 19:29
Client ID: BNF-ZMW-13-9-23
Instrument: gc02.i
Sample Info: SQ5043-12RA2
Purge Volume: 0.0
Operator: DL
Column phase: RTX-502.2
Column diameter: 0.53



Data File: 2QI10075.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10075.D
Lab Smp Id: SQ5043-12RA2 Client Smp ID: BNF-ZMW-13-9-23
Inj Date : 25-SEP-2023 19:29
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-12RA2
Misc Info : WG343069,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

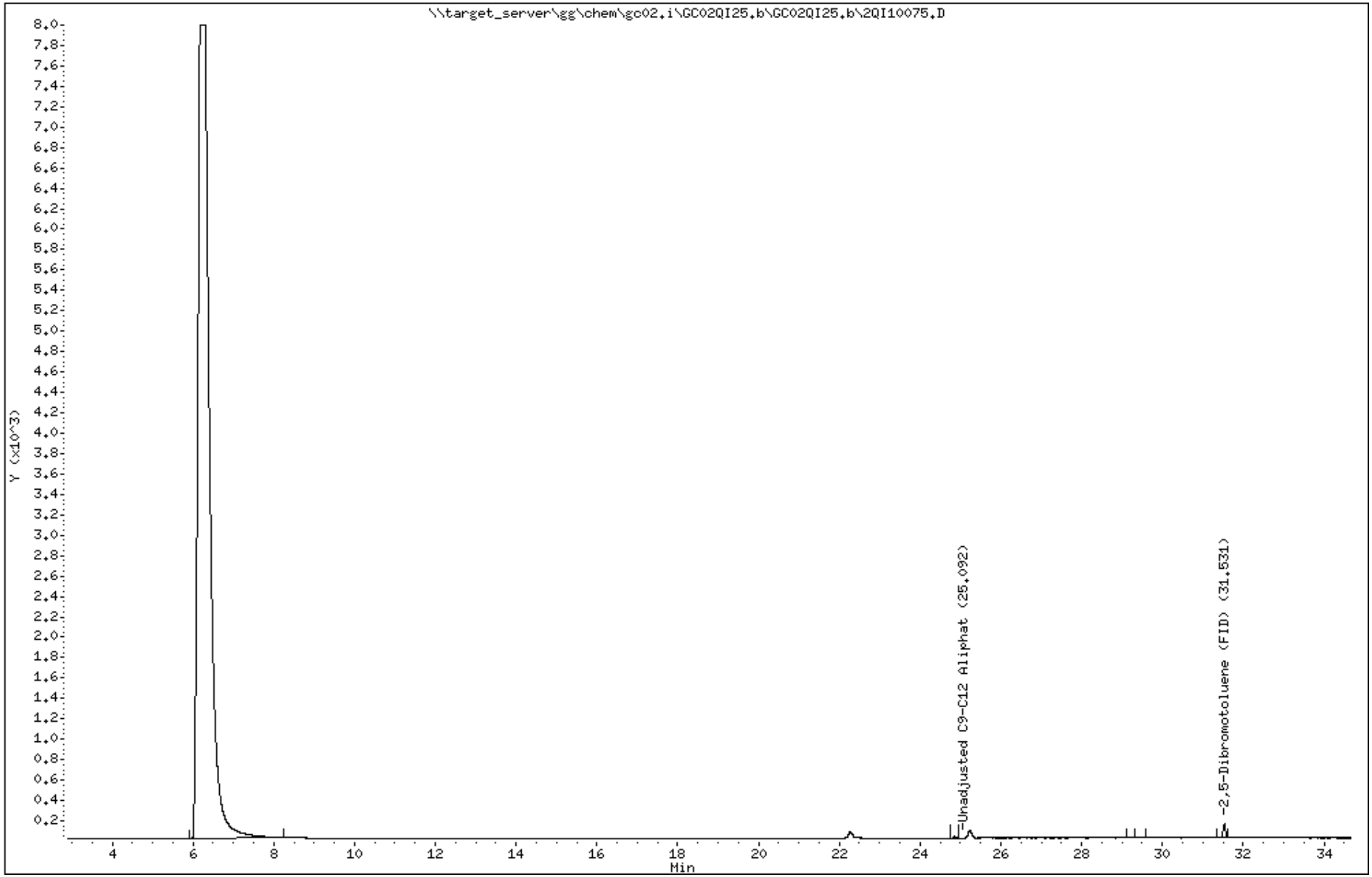
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.531	31.587	-0.056	11088	21.9435	21.9(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10075.D
Date : 25-SEP-2023 19:29
Client ID: BNF-ZMW-13-9-23 Instrument: gc02.i
Sample Info: SQ5043-12RA2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-13
Client ID: BNF-ZMW-14-9-23
Matrix: AQ
Lab File ID: 2QI10046.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)	*	34.9	%					
2,5-Dibromotoluene (PID)	*	47.2	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10046.D
Report Date: 10-Oct-2023 07:21

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10046.D
Lab Smp Id: SQ5043-13 Client Smp ID: BNF-ZMW-14-9-23
Inj Date : 22-SEP-2023 02:40
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-13
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

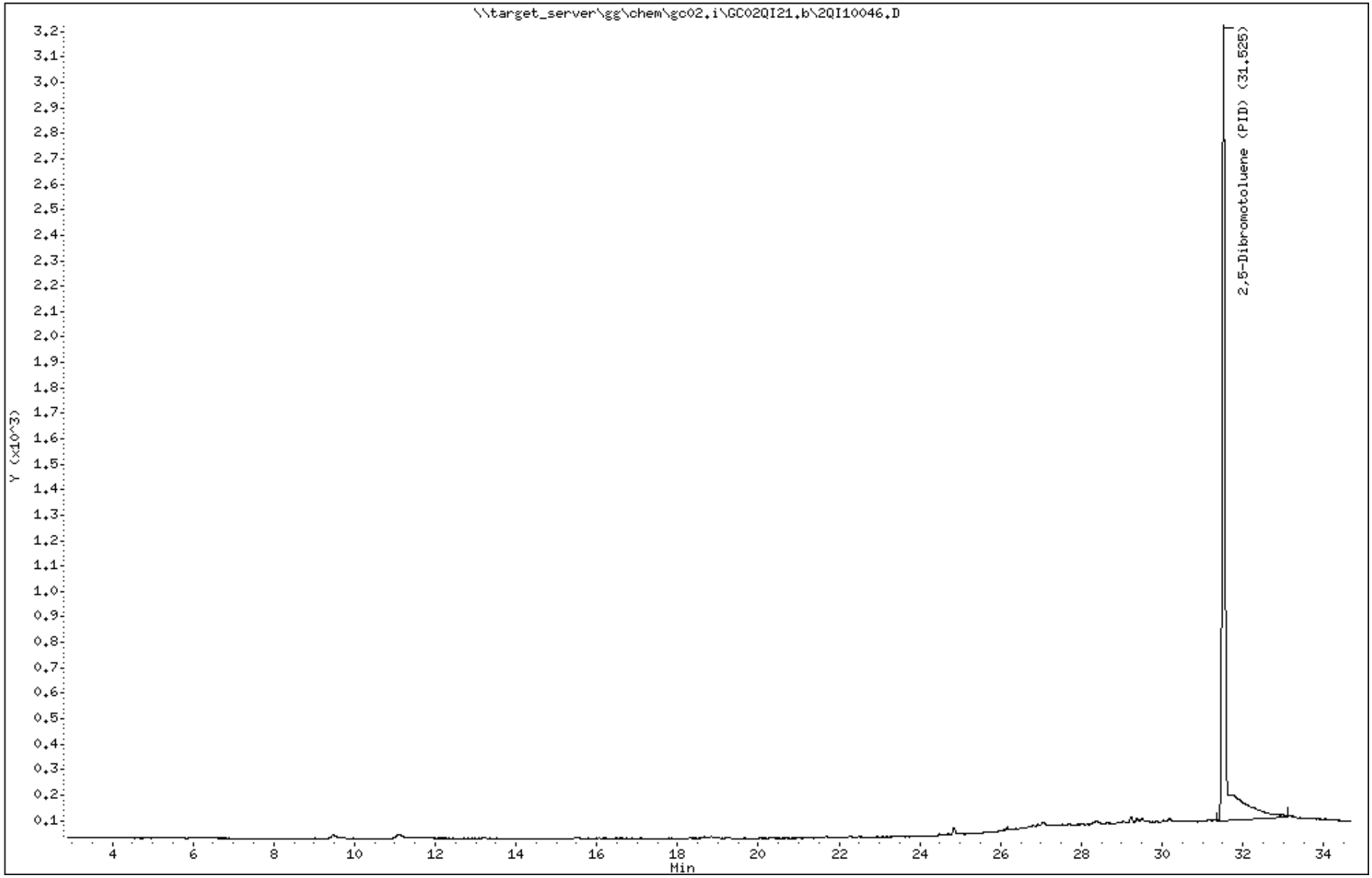
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.525	31.597	-0.072	36057	47.1942	47.2(RM)	M9

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10046.D
Date : 22-SEP-2023 02:40
Client ID: BNF-ZMW-14-9-23
Sample Info: SQ5043-13
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10046.D
Report Date: 10-Oct-2023 07:22

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10046.D
Lab Smp Id: SQ5043-13 Client Smp ID: BNF-ZMW-14-9-23
Inj Date : 22-SEP-2023 02:40
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-13
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

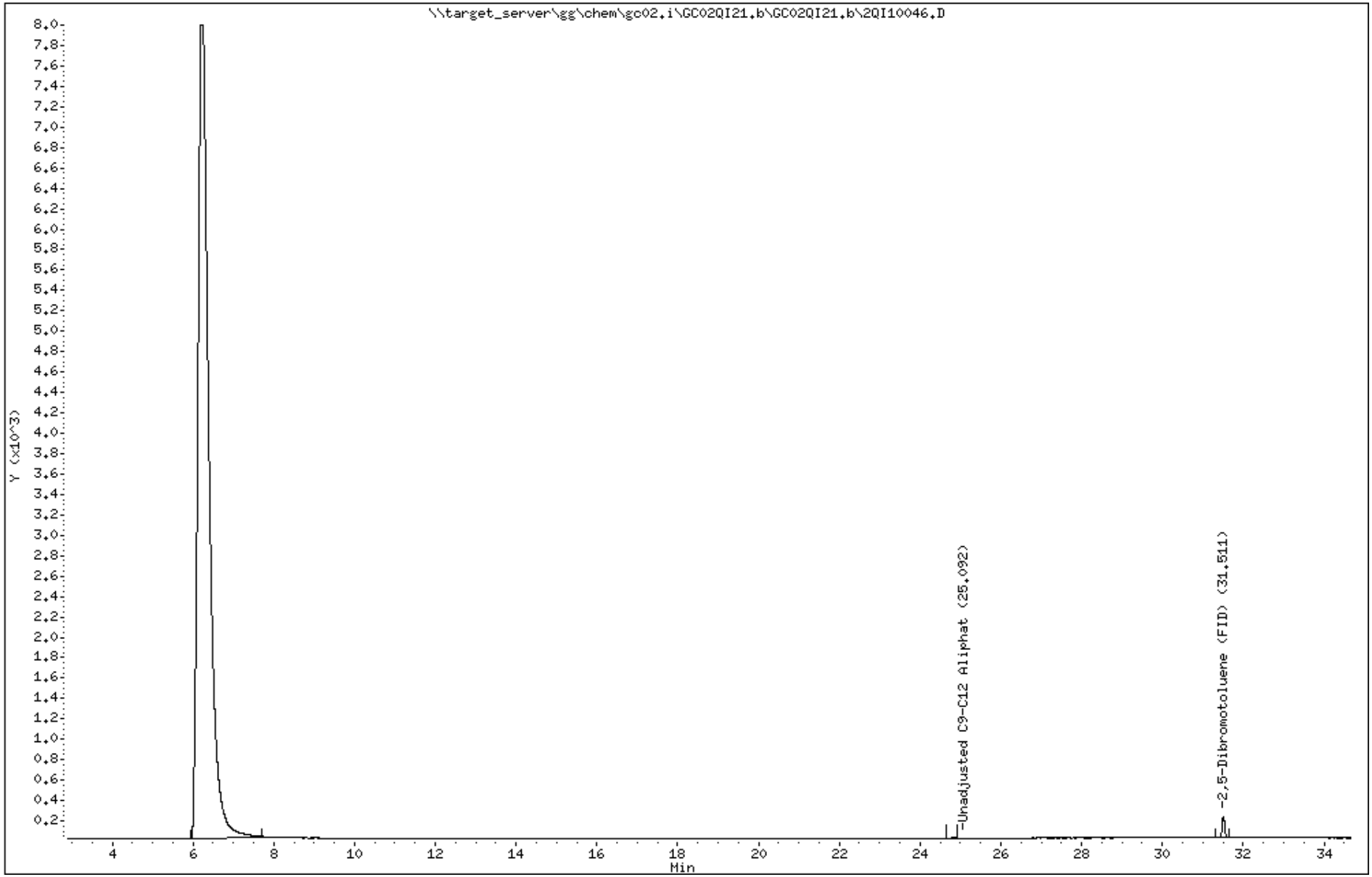
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.510	31.587	-0.077	17619	34.8686	34.9(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10046.D
Date : 22-SEP-2023 02:40
Client ID: BNF-ZMW-14-9-23 Instrument: gc02.i
Sample Info: SQ5043-13
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-13RA
Client ID: BNF-ZMW-14-9-23
Matrix: AQ
Lab File ID: 2QI10064.D

Sample Date: 08-SEP-23
Extract Date: 23-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 23-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		113.	%					
2,5-Dibromotoluene (PID)		124.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10064.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10064.D
Lab Smp Id: SQ5043-13RA Client Smp ID: BNF-ZMW-14-9-23
Inj Date : 23-SEP-2023 00:38
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-13RA
Misc Info : WG342981,WG342400-4
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

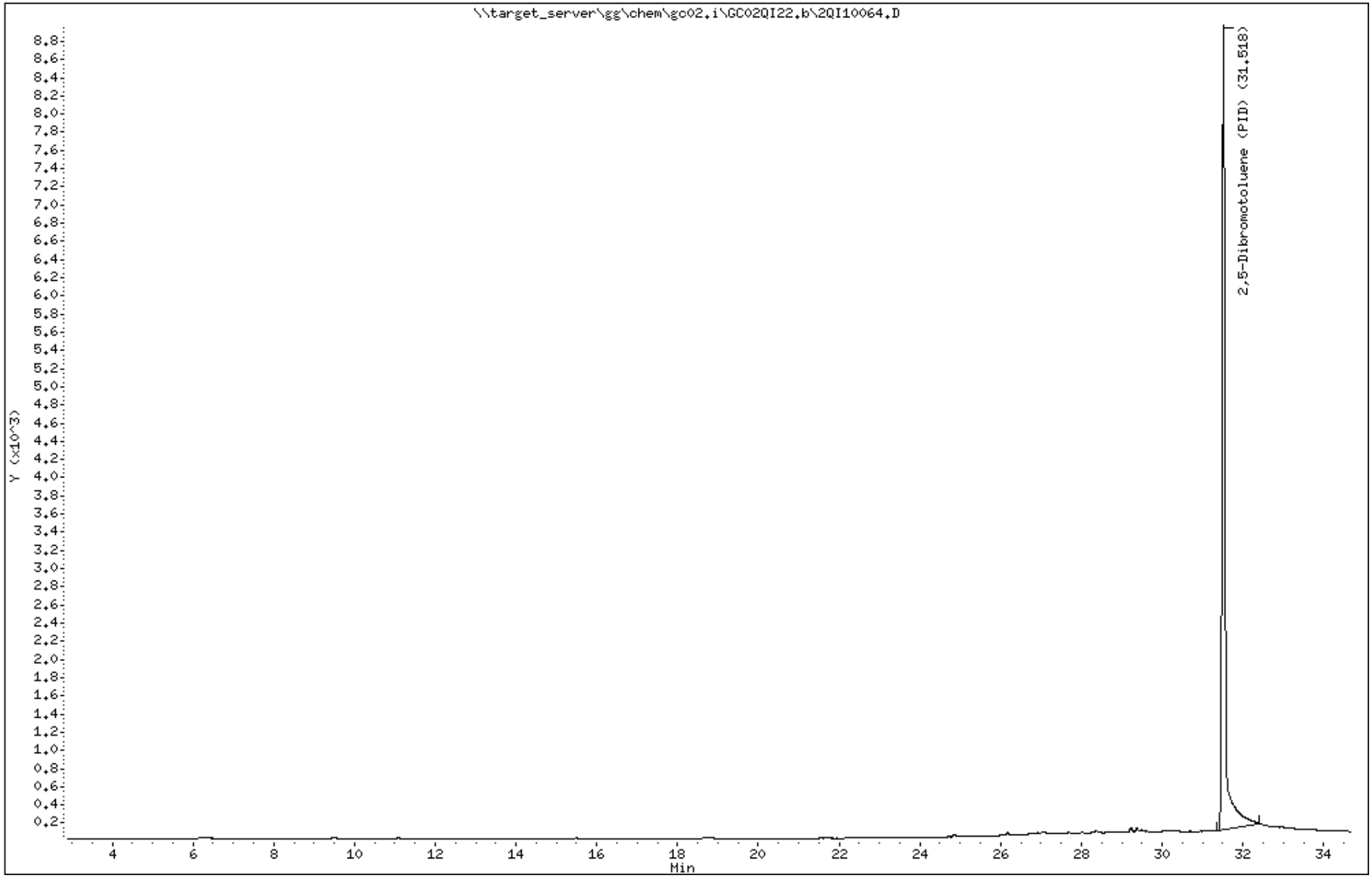
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.518	31.597	-0.079	94364	123.511	124	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10064.D
Date : 23-SEP-2023 00:38
Client ID: BNF-ZMW-14-9-23
Sample Info: SQ5043-13RA
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10064.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

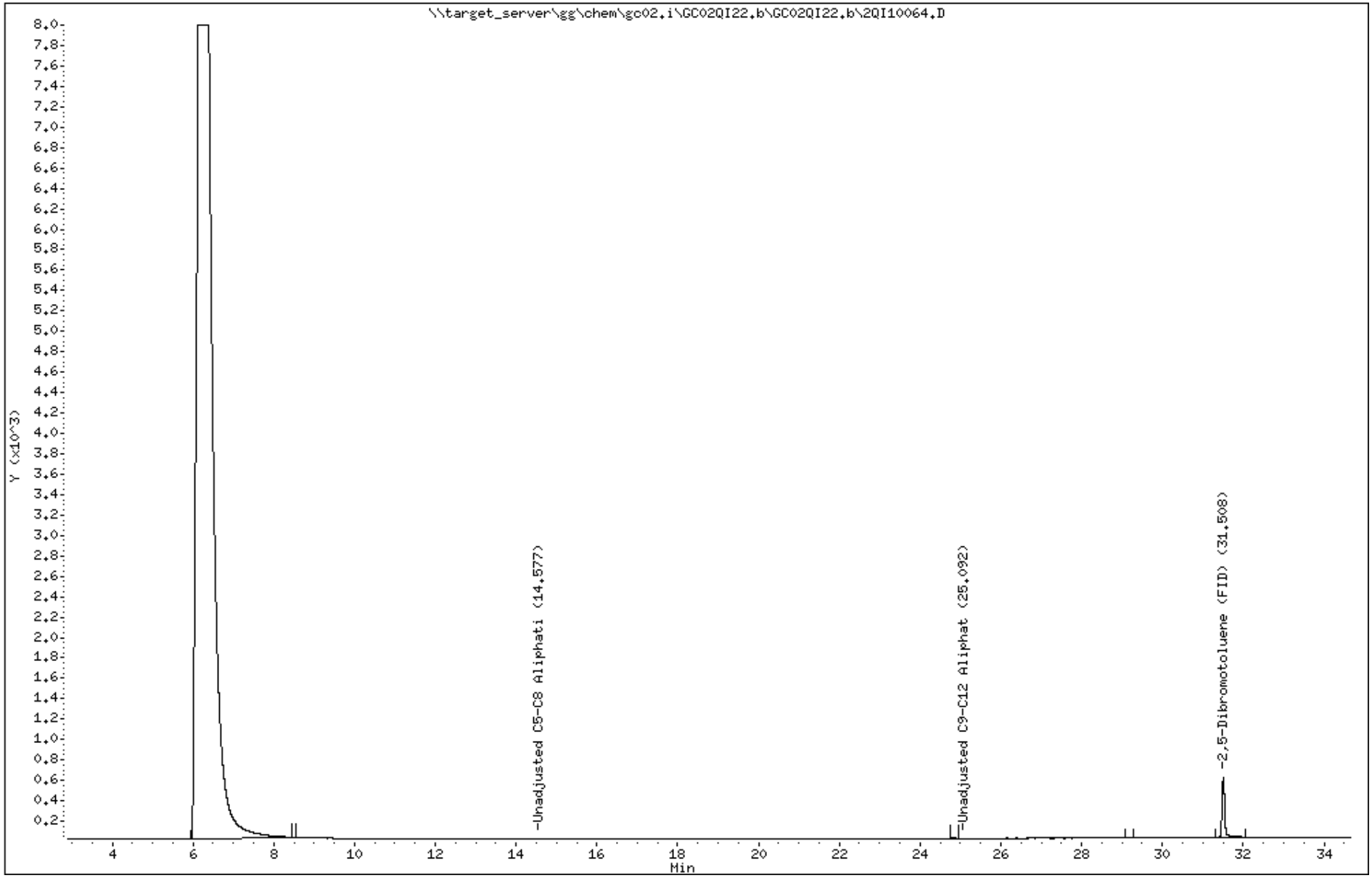
Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10064.D
Lab Smp Id: SQ5043-13RA Client Smp ID: BNF-ZMW-14-9-23
Inj Date : 23-SEP-2023 00:38
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-13RA
Misc Info : WG342981,WG342400-4
Comment   : ALIPHATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.507	31.587	-0.080	57236	113.272	113	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10064.D
Date : 23-SEP-2023 00:38
Client ID: BNF-ZMW-14-9-23 Instrument: gc02.i
Sample Info: SQ5043-13RA
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: SQ5043-14
Client ID: BNF-ZMW-15-9-23
Matrix: AQ
Lab File ID: 2QI10047.D

Sample Date: 08-SEP-23
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		80.9	%					
2,5-Dibromotoluene (PID)		93.5	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10047.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10047.D
Lab Smp Id: SQ5043-14 Client Smp ID: BNF-ZMW-15-9-23
Inj Date : 22-SEP-2023 03:22
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-14
Misc Info : WG342912,WG342400-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

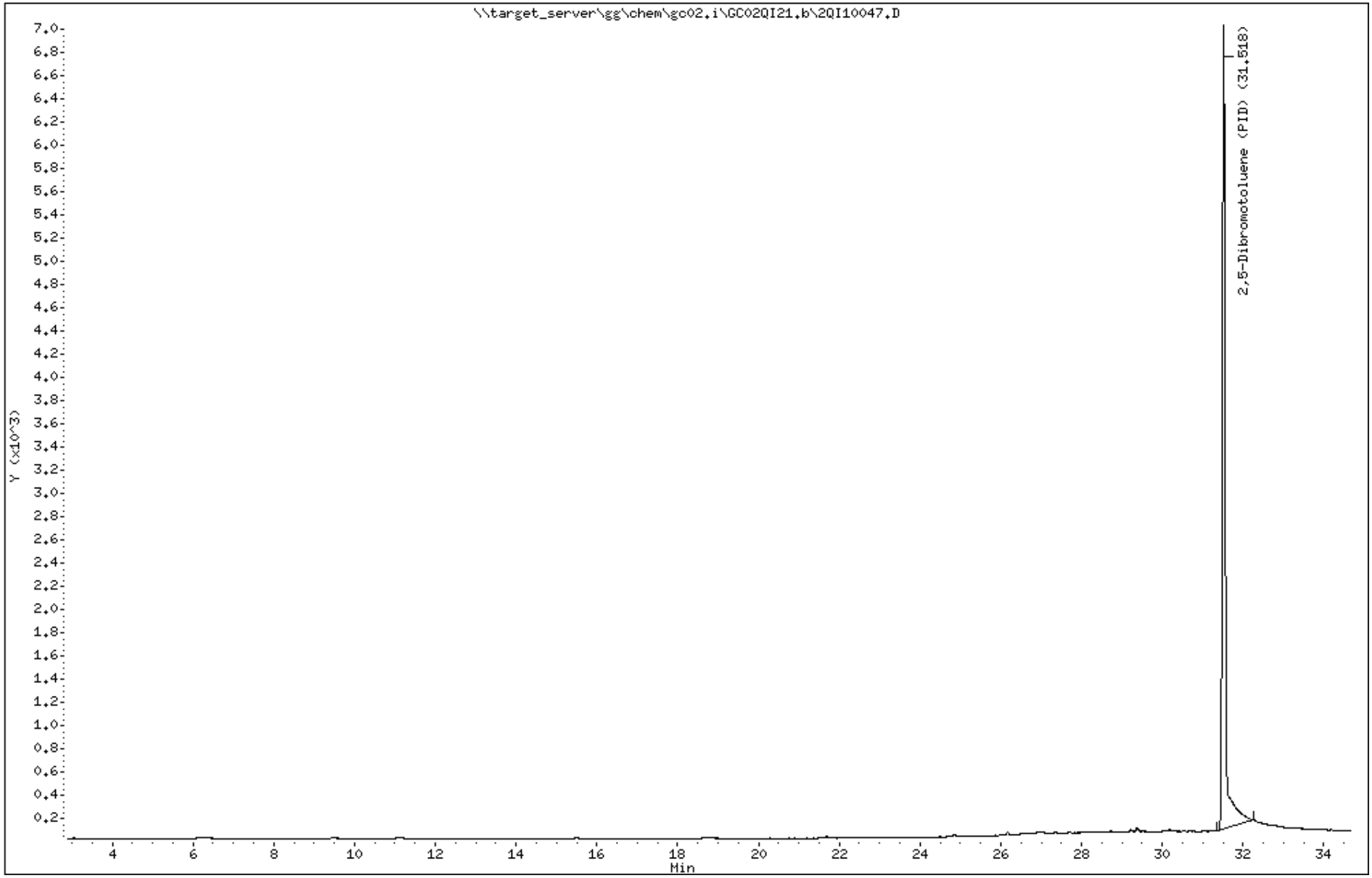
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.518	31.597	-0.079	71462	93.5349	93.5	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10047.D
Date : 22-SEP-2023 03:22
Client ID: BNF-ZMW-15-9-23
Sample Info: SQ5043-14
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10047.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

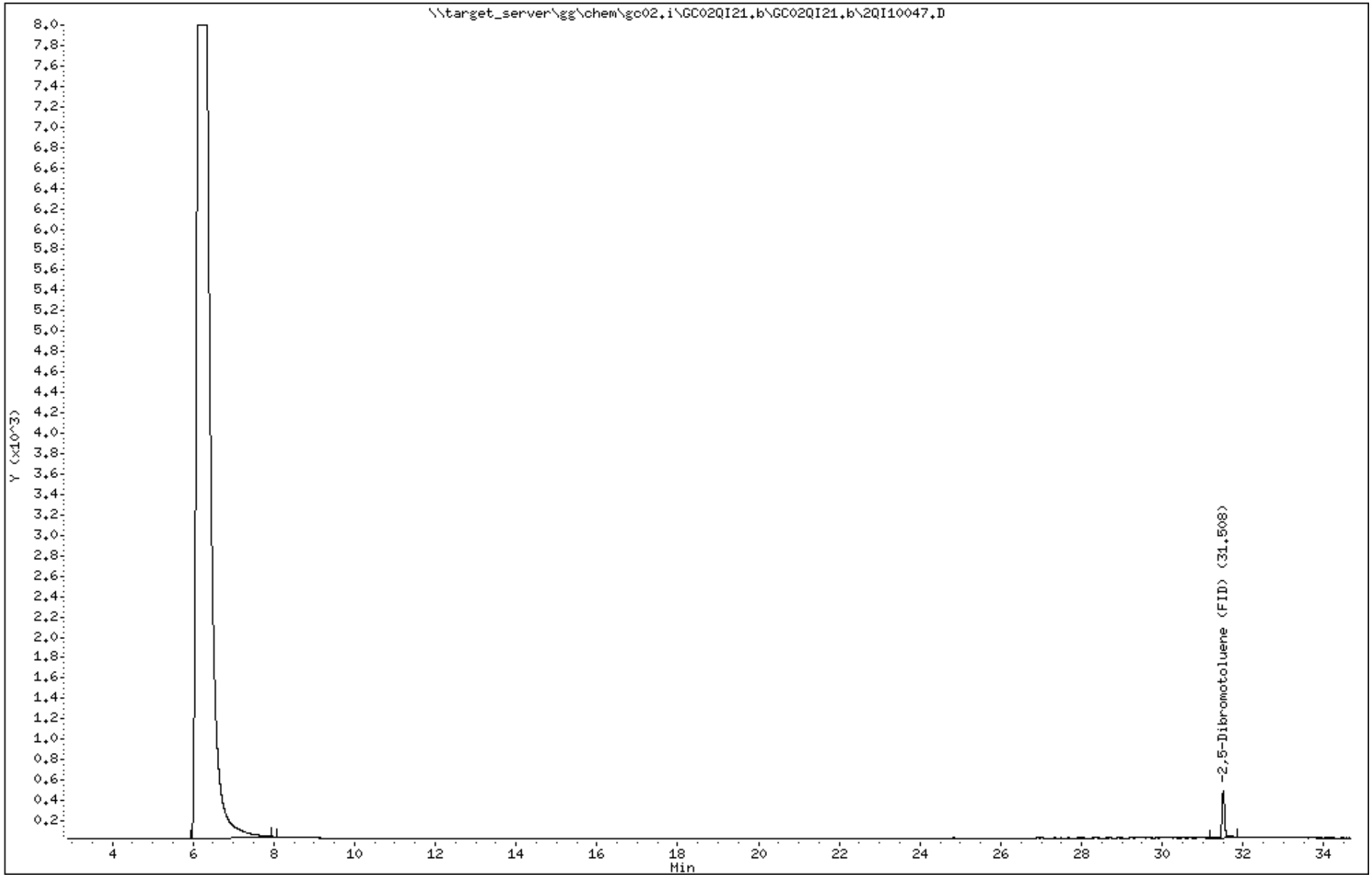
Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10047.D
Lab Smp Id: SQ5043-14 Client Smp ID: BNF-ZMW-15-9-23
Inj Date : 22-SEP-2023 03:22
Operator : DL Inst ID: gc02.i
Smp Info : SQ5043-14
Misc Info : WG342912,WG342400-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.507	31.587	-0.080	40861	80.8654	80.9	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10047.D
Date : 22-SEP-2023 03:22
Client ID: BNF-ZMW-15-9-23 Instrument: gc02.i
Sample Info: SQ5043-14
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** SQ5043
Instrument ID: GC02 **Calibration Date(s):** 08-SEP-23 11:40
Lab File IDs : 2QI10007.D 2QI10008.D 2QI10009.D 08-SEP-23 15:06
2QI10006.D 2QI10010.D 2QI10011.D

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve				%RSD or R^2		
	1.0000	5.0000	10.0000	50.0000	100.0000	300.0000	Type	b	m1	m2	Result	Limit	
C9-C10 Aromatic	967	830	925	1037	1086	770	AVG		936		12.87041	25	O
Methyl tert-butylether	643	650	664	672	675	484	AVG		631		11.59012	25	O
Benzene	1284	1153	1230	1239	1246	873	AVG		1171		12.99251	25	O
Toluene	1077	998	1087	1130	1135	790	AVG		1036		12.58364	25	O
Ethylbenzene	1031	825	912	984	1004	700	AVG		909		13.93204	25	O
m+p-Xylene	1280	1073	1172	1224	1227	847	AVG		1137		13.93579	25	O
o-Xylene	980	914	1008	1056	1063	743	AVG		961		12.47813	25	O
1,2,4-trimethylbenzene	967	830	925	1037	1086	770	AVG		936		12.87041	25	O
Naphthalene	1131	931	965	1148	1264	1053	AVG		1082		11.47660	25	O
2,5-Dibromotoluene (PID)	868	610	669	803	920	714	AVG		764		15.69288	25	

Legend: O = Acceptable
W = Failed %RSD Value
X = Failed R^2 Value
Y = Failed Minimum RF

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Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10012.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: WG342400-7
Level: LOW
Data Type: GC DATA
SpikeList File: ind.spk
Sublist File: IND.sub
Method File: \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Misc Info: WG342400,WG342400-4,SQ4695-1

Client SDG: SDGa01556
Fraction: VPH
Operator: DL
SampleType: INDSOURCE
Quant Type: ESTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
2 Methyl tert-butyle	100	99.3	99.32	80-120
3 Benzene	100	92.4	92.38	80-120
4 Toluene	100	87.1	87.07	80-120
5 Ethylbenzene	100	93.3	93.27	80-120
6 m+p-Xylene	200	185	92.63	80-120
7 o-Xylene	100	102	102.23	80-120
8 1,2,4-trimethylben	100	115	115.18	80-120
10 Naphthalene	100	123	122.83*	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 11 2,5-Dibromotoluene	100	128	127.94	70-130

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ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** SQ5043
Instrument ID: GC02 **Calibration Date(s):** 08-SEP-23 11:40
Lab File IDs : 2QI10007.D 2QI10008.D 2QI10009.D 08-SEP-23 15:06
2QI10006.D 2QI10010.D 2QI10011.D

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve				%RSD or R^2		
	1.0000	5.0000	10.0000	50.0000	100.0000	300.0000	Type	b	m1	m2	Result	Limit	
n-Pentane	1678	1360	1331	1423	1436	1022	AVG		1375		15.4245	25	O
2-Methylpentane	1325	1489	1568	1504	1565	1104	AVG		1426		12.6811	25	O
Methyl tert-butylether	1263	1466	1350	1342	1364	980	AVG		1294		12.9211	25	O
2,2,4-Trimethylpentane	1102	1535	1630	1619	1650	1205	AVG		1457		16.5044	25	O
Benzene	2236	1912	2014	2062	2078	1440	AVG		1957		14.0225	25	O
Toluene	2246	1805	1973	2008	2022	1402	AVG		1909		14.9723	25	O
n-Nonane	1233	1074	1149	1315	1445	1251	AVG		1244		10.3825	25	O
n-Decane	1302	833	875	1165	1553	1352	AVG		1180		23.9020	25	O
Ethylbenzene	1982	1598	1747	1898	1949	1366	AVG		1757		13.6098	25	O
m+p-Xylene	2144	1814	1973	2094	2091	1446	AVG		1927		13.6960	25	O
o-Xylene	2030	1823	2010	2129	2137	1484	AVG		1935		12.8363	25	O
1,2,4-trimethylbenzene	1886	1537	1710	1887	1985	1413	AVG		1736		12.9444	25	O
n-Butylcyclohexane	1461	1141	1402	1660	1673	1350	AVG		1448		13.8580	25	O
Naphthalene	1511	1246	1284	1588	1686	1382	AVG		1450		12.0358	25	O
2,5-Dibromotoluene (FID)	653	397	443	529	572	438	AVG		505		19.1775	25	

Legend: O = Acceptable
W = Failed %RSD Value
X = Failed R^2 Value
Y = Failed Minimum RF

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Data File: 2QI10012.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: WG342400-7
Level: LOW
Data Type: GC DATA
SpikeList File: ind.spk
Sublist File: IND.sub
Method File: \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Misc Info: WG342400,WG342400-4,SQ4695-1

Client SDG: SDGa01556
Fraction: VPH

Operator: DL
SampleType: INDSOURCE
Quant Type: ESTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 n-Pentane	100	90.9	90.94	80-120
6 2-Methylpentane	100	95.2	95.22	80-120
7 Methyl tert-butyle	100	98.5	98.48	80-120
8 2,2,4-Trimethylpen	100	105	105.32	80-120
9 Benzene	100	90.4	90.43	80-120
11 Toluene	100	82.5	82.49	80-120
12 n-Nonane	100	99.2	99.15	80-120
13 n-Decane	100	118	117.59	80-120
14 Ethylbenzene	100	92.5	92.50	80-120
15 m+p-Xylene	200	182	90.93	80-120
16 o-Xylene	100	99.0	99.05	80-120
18 1,2,4-trimethylben	100	112	111.68	80-120
19 n-Butylcyclohexane	100	105	105.03	80-120
20 Naphthalene	100	114	114.09	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 2,5-Dibromotoluene	100	117	117.12	70-130

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10007.D
Report Date: 10-Oct-2023 09:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10007.D
Lab Smp Id: WG342400-1
Inj Date : 08-SEP-2023 12:21
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-1
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 12:21 Cal File: 2QI10007.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

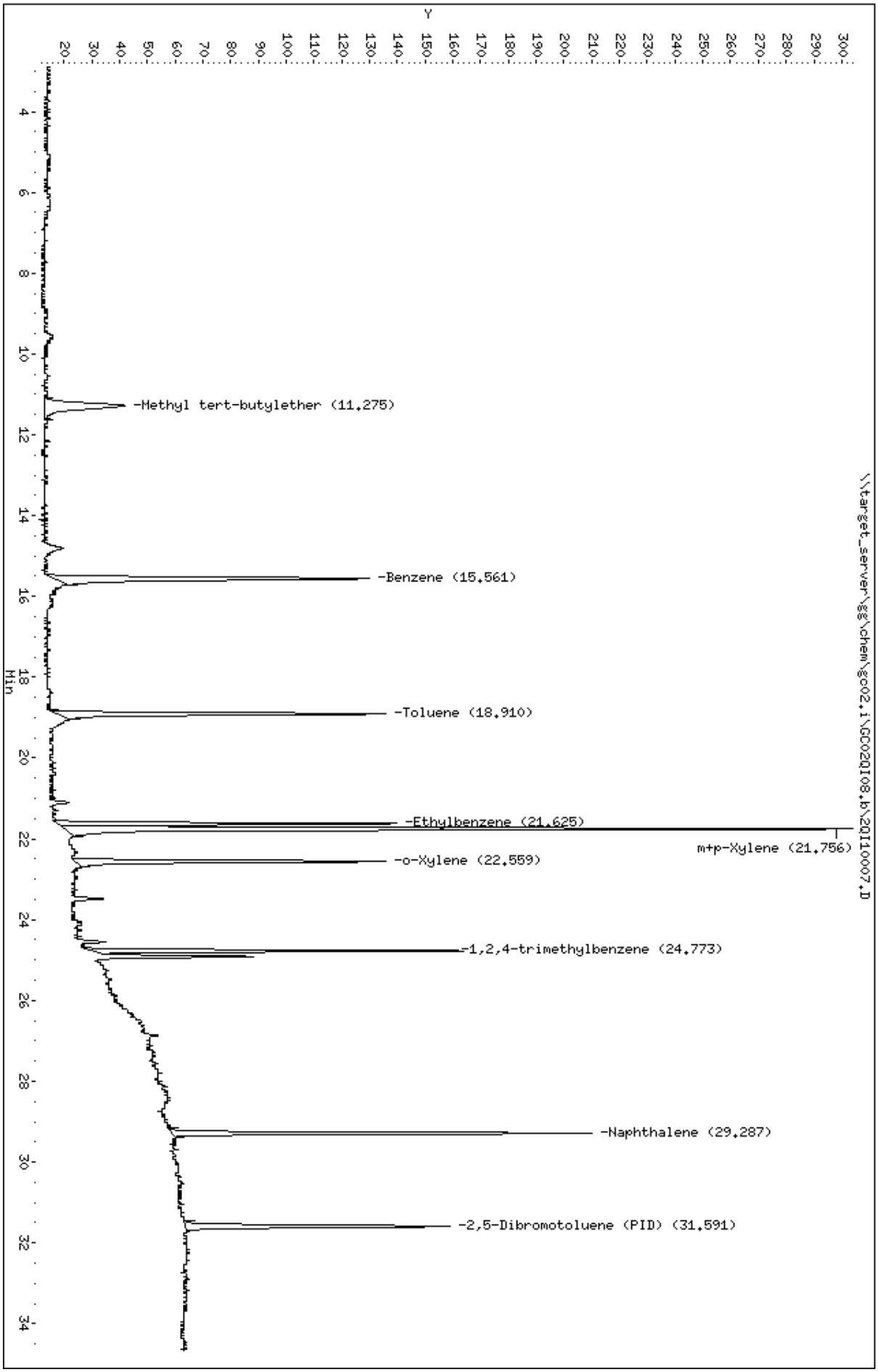
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.274	11.270	0.004	643	1.00000	0.978(M)	M2
	3 Benzene	15.560	15.556	0.004	1284	1.00000	1.05	
	4 Toluene	18.910	18.908	0.002	1077	1.00000	1.00	
	5 Ethylbenzene	21.625	21.624	0.001	1031	1.00000	1.10	
	6 m+p-Xylene	21.755	21.755	0.000	2559	2.00000	2.16	
	7 o-Xylene	22.559	22.557	0.002	980	1.00000	0.990	
	8 1,2,4-trimethylbenzene	24.772	24.772	0.000	967	1.00000	1.03	
	10 Naphthalene	29.286	29.291	-0.005	1131	1.00000	1.08	
M	1 C9-C10 Aromatic				967	1.00000	1.03	
$	11 2,5-Dibromotoluene (PID)	31.591	31.597	-0.006	868	1.00000	1.18	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10007.D
Date : 08-SEP-2023 12:21
Client ID:
Sample Info: WG342400-1
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10007.D
-Methyl tert-butylether (11.275)
-Benzene (15.561)
-Toluene (18.910)
-Ethylbenzene (21.625)
m+p-Xylene (21.756)
-o-Xylene (22.559)
-1,2,4-trimethylbenzene (24.773)
-Naphthalene (29.287)
-2,5-Dibromotoluene (PID) (31.591)
Min
Y

Data File: 2QI10007.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10007.D
Lab Smp Id: WG342400-1
Inj Date : 08-SEP-2023 12:21
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-1
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 12:21 Cal File: 2QI10007.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

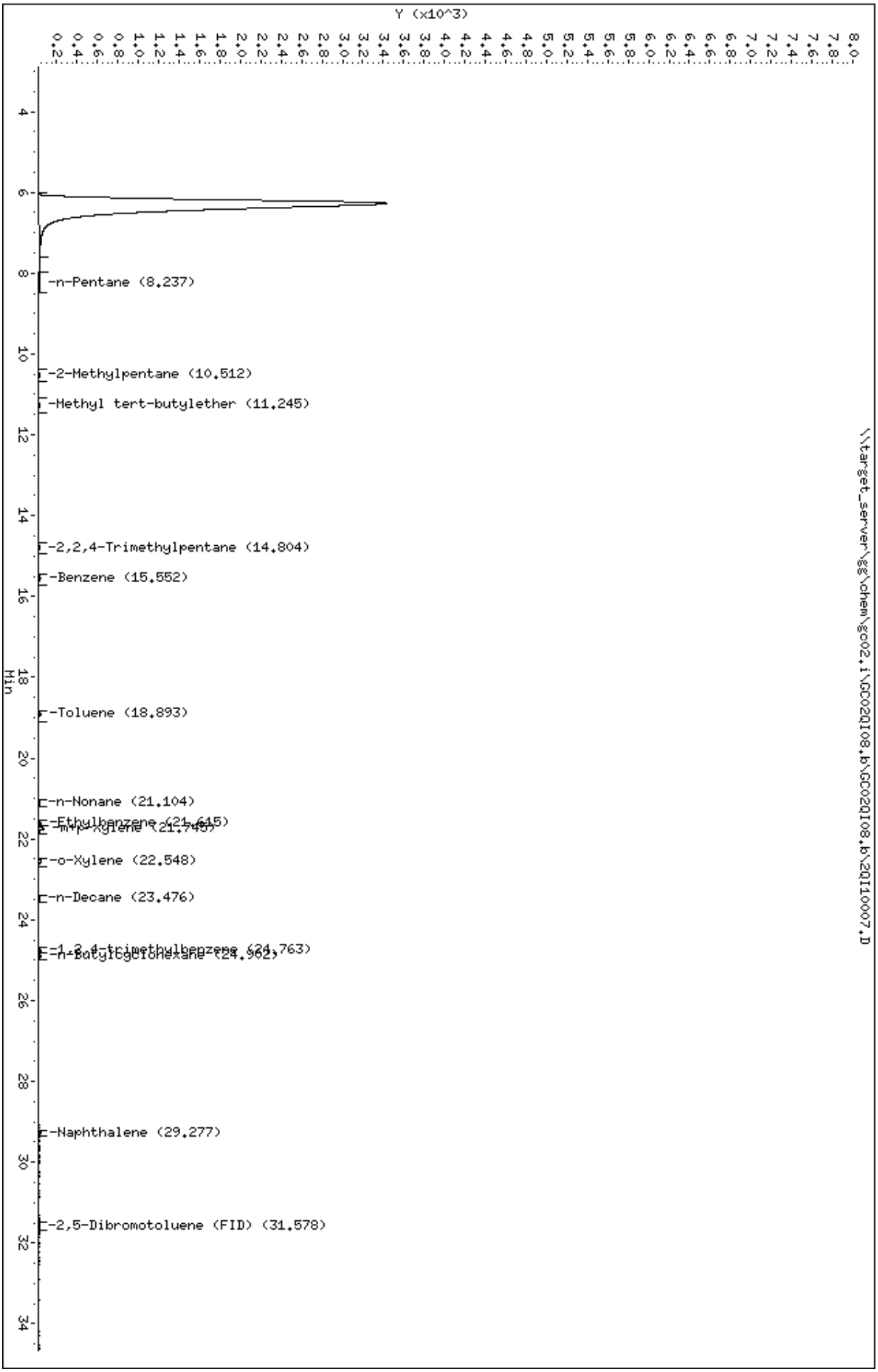
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.236	8.252	-0.016	1678	1.00000	0.918(M)	M6
	6 2-Methylpentane	10.512	10.513	-0.001	1325	1.00000	0.900(M)	M9
	7 Methyl tert-butylether	11.244	11.258	-0.014	1263	1.00000	0.932(M)	M6
	8 2,2,4-Trimethylpentane	14.803	14.793	0.010	1102	1.00000	0.749	
	9 Benzene	15.551	15.545	0.006	2236	1.00000	1.09	
	11 Toluene	18.893	18.898	-0.005	2246	1.00000	1.12(M)	M9
	12 n-Nonane	21.103	21.102	0.001	1233	1.00000	1.03	
	14 Ethylbenzene	21.615	21.614	0.001	1982	1.00000	1.10	
	15 m+p-Xylene	21.744	21.744	0.000	4287	2.00000	2.14	
	16 o-Xylene	22.547	22.546	0.001	2030	1.00000	1.02	
	13 n-Decane	23.476	23.474	0.002	1302	1.00000	1.25	
	18 1,2,4-trimethylbenzene	24.762	24.762	0.000	1886	1.00000	1.07	
	19 n-Butylcyclohexane	24.901	24.902	-0.001	1461	1.00000	1.03	
	20 Naphthalene	29.276	29.280	-0.004	1511	1.00000	1.07	
M	1 C5-C8 Aliphatic				4105	3.00000	2.57	
M	2 C9-C12 Aliphatic				2763	2.00000	2.28	
$	21 2,5-Dibromotoluene (FID)	31.577	31.587	-0.010	653	1.00000	1.29	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10007.D
Date : 08-SEP-2023 12:21
Client ID:
Sample Info: WG342400-1
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10007.D
Y (x10^3)
Min
-n-Pentane (8.237)
-2-Methylpentane (10.512)
-Methyl tert-butylether (11.245)
-2,2,4-Trimethylpentane (14.804)
-Benzene (15.552)
-Toluene (18.893)
-n-Nonane (21.104)
-Ethylbenzene (21.645)
-m+p-Xylene (21.745)
-o-Xylene (22.548)
-n-Decane (23.476)
-1,3,4-trimethylbenzene (24.763)
-n-Butylcyclohexane (24.962)
-Naphthalene (29.277)
-2,5-Dibromotoluene (FID) (31.578)

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10008.D
Report Date: 10-Oct-2023 09:13

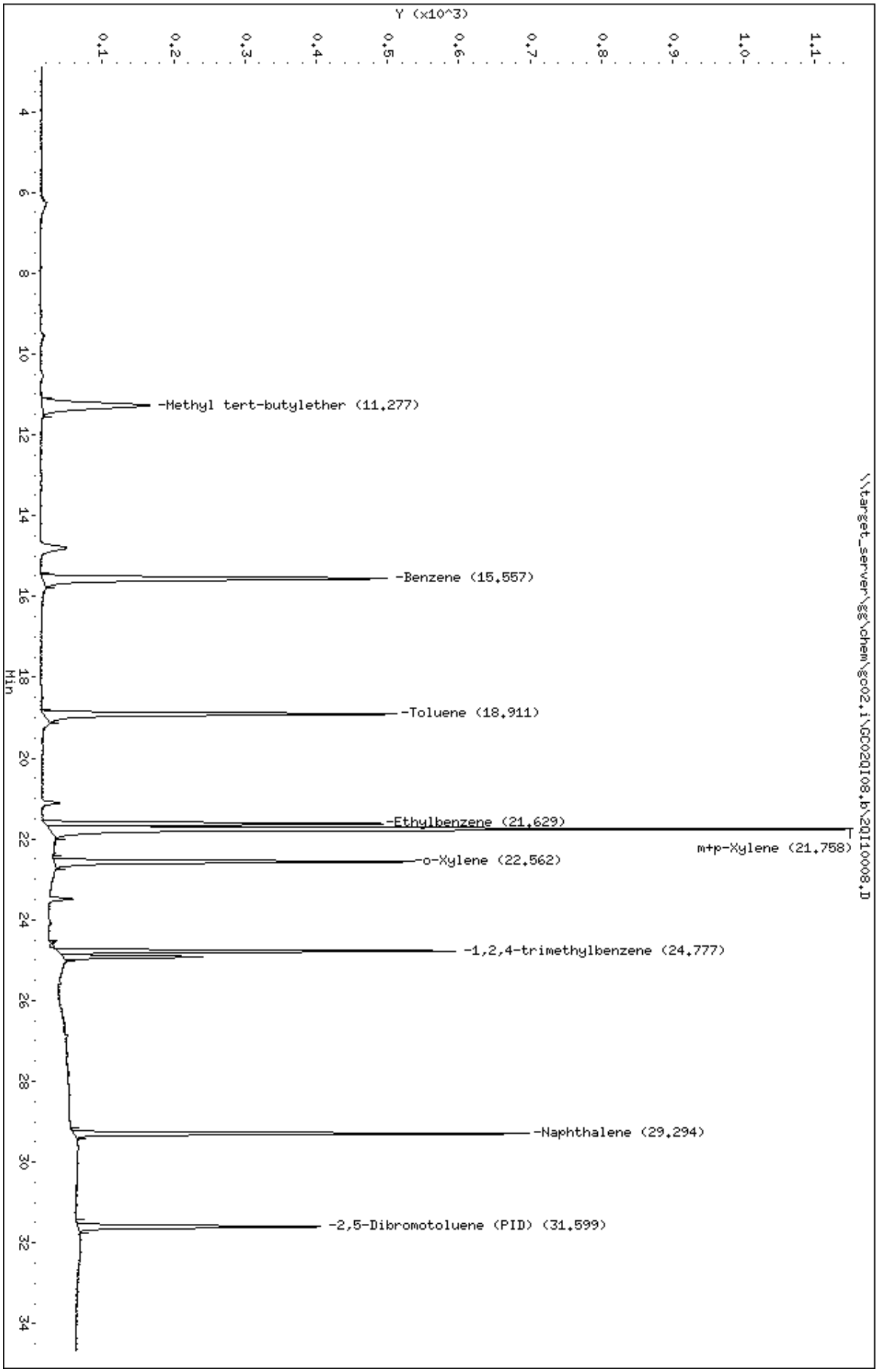
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10008.D
Lab Smp Id: WG342400-2
Inj Date : 08-SEP-2023 13:02
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-2
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 13:02 Cal File: 2QI10008.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.276	11.270	0.006	3252	5.00000	4.92	
	3 Benzene	15.557	15.556	0.001	5763	5.00000	4.70	
	4 Toluene	18.911	18.908	0.003	4988	5.00000	4.67	
	5 Ethylbenzene	21.628	21.624	0.004	4124	5.00000	4.36	
	6 m+p-Xylene	21.758	21.755	0.003	10728	10.0000	9.00	
	7 o-Xylene	22.562	22.557	0.005	4572	5.00000	4.65	
	8 1,2,4-trimethylbenzene	24.777	24.772	0.005	4150	5.00000	4.39	
	10 Naphthalene	29.294	29.291	0.003	4654	5.00000	4.35	
M	1 C9-C10 Aromatic				4150	5.00000	4.39	
$	11 2,5-Dibromotoluene (PID)	31.599	31.597	0.002	3048	5.00000	4.01	


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10008.D
Date : 08-SEP-2023 13:02
Client ID:
Sample Info: WG342400-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10008.D
Y (x10^3)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
4
6
8
10
12
14
16
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20
22
24
26
28
30
32
34
-Methyl tert-butylether (11.277)
-Benzene (15.557)
-Toluene (18.911)
-Ethylbenzene (21.629)
m+p-Xylene (21.758)
-o-Xylene (22.562)
-1,2,4-trimethylbenzene (24.777)
-Naphthalene (29.294)
-2,5-Dibromotoluene (PID) (31.599)

Data File: 2QI10008.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10008.D
Lab Smp Id: WG342400-2
Inj Date : 08-SEP-2023 13:02
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-2
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 13:02 Cal File: 2QI10008.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

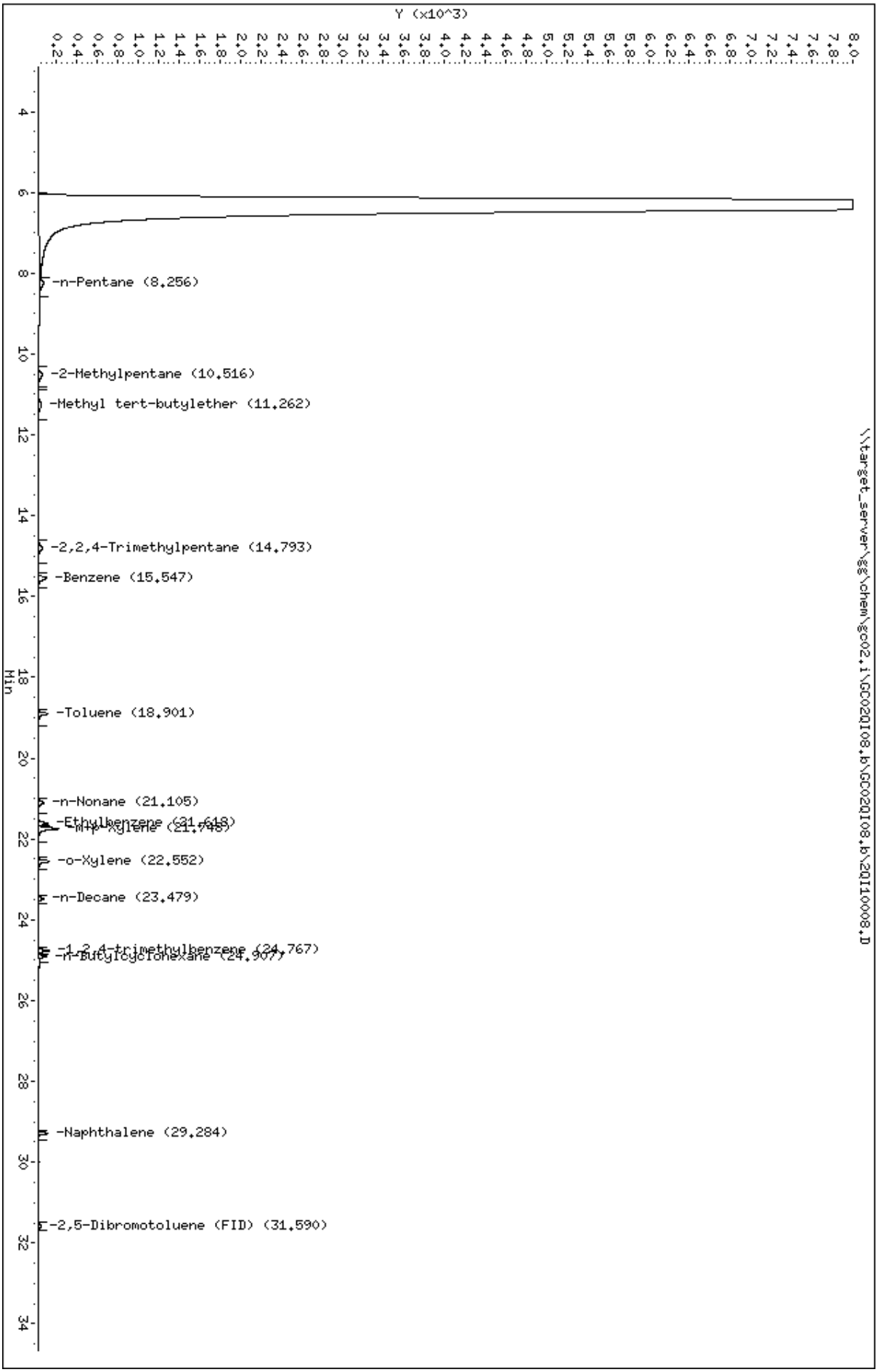
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.256	8.252	0.004	6800	5.00000	4.05(M)	
	6 2-Methylpentane	10.516	10.513	0.003	7447	5.00000	5.06	
	7 Methyl tert-butylether	11.261	11.258	0.003	7332	5.00000	5.41	
	8 2,2,4-Trimethylpentane	14.793	14.793	0.000	7677	5.00000	5.22	
	9 Benzene	15.546	15.545	0.001	9558	5.00000	4.65	
	11 Toluene	18.900	18.898	0.002	9024	5.00000	4.49	
	12 n-Nonane	21.105	21.102	0.003	5370	5.00000	4.50	
	14 Ethylbenzene	21.618	21.614	0.004	7991	5.00000	4.42	
	15 m+p-Xylene	21.747	21.744	0.003	18136	10.0000	9.04	
	16 o-Xylene	22.551	22.546	0.005	9115	5.00000	4.56	
	13 n-Decane	23.478	23.474	0.004	4163	5.00000	3.99	
	18 1,2,4-trimethylbenzene	24.766	24.762	0.004	7684	5.00000	4.38	
	19 n-Butylcyclohexane	24.906	24.902	0.004	5706	5.00000	4.03	
	20 Naphthalene	29.283	29.280	0.003	6231	5.00000	4.43	
M	1 C5-C8 Aliphatic				21924	15.0000	14.3	
M	2 C9-C12 Aliphatic				9869	10.0000	8.02	
$	21 2,5-Dibromotoluene (FID)	31.589	31.587	0.002	1983	5.00000	3.92	

QC Flag Legend

M - Compound response manually integrated.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Date : 08-SEP-2023 13:02
Client ID:
Sample Info: WG342400-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10008.D
Y (x10^3)
Min
-n-Pentane (8.256)
-2-Methylpentane (10.516)
-Methyl tert-butylether (11.262)
-2,2,4-Trimethylpentane (14.793)
-Benzene (15.547)
-Toluene (18.901)
-n-Nonane (21.105)
-Ethylbenzene (21.618)
-m,p-Xylene (21.748)
-o-Xylene (22.552)
-n-Decane (23.479)
-1,2,4-trimethylbenzene (24.767)
-n-Butylcyclohexane (24.907)
-Naphthalene (29.284)
-2,5-Dibromotoluene (FID) (31.590)

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10009.D
Report Date: 10-Oct-2023 09:13

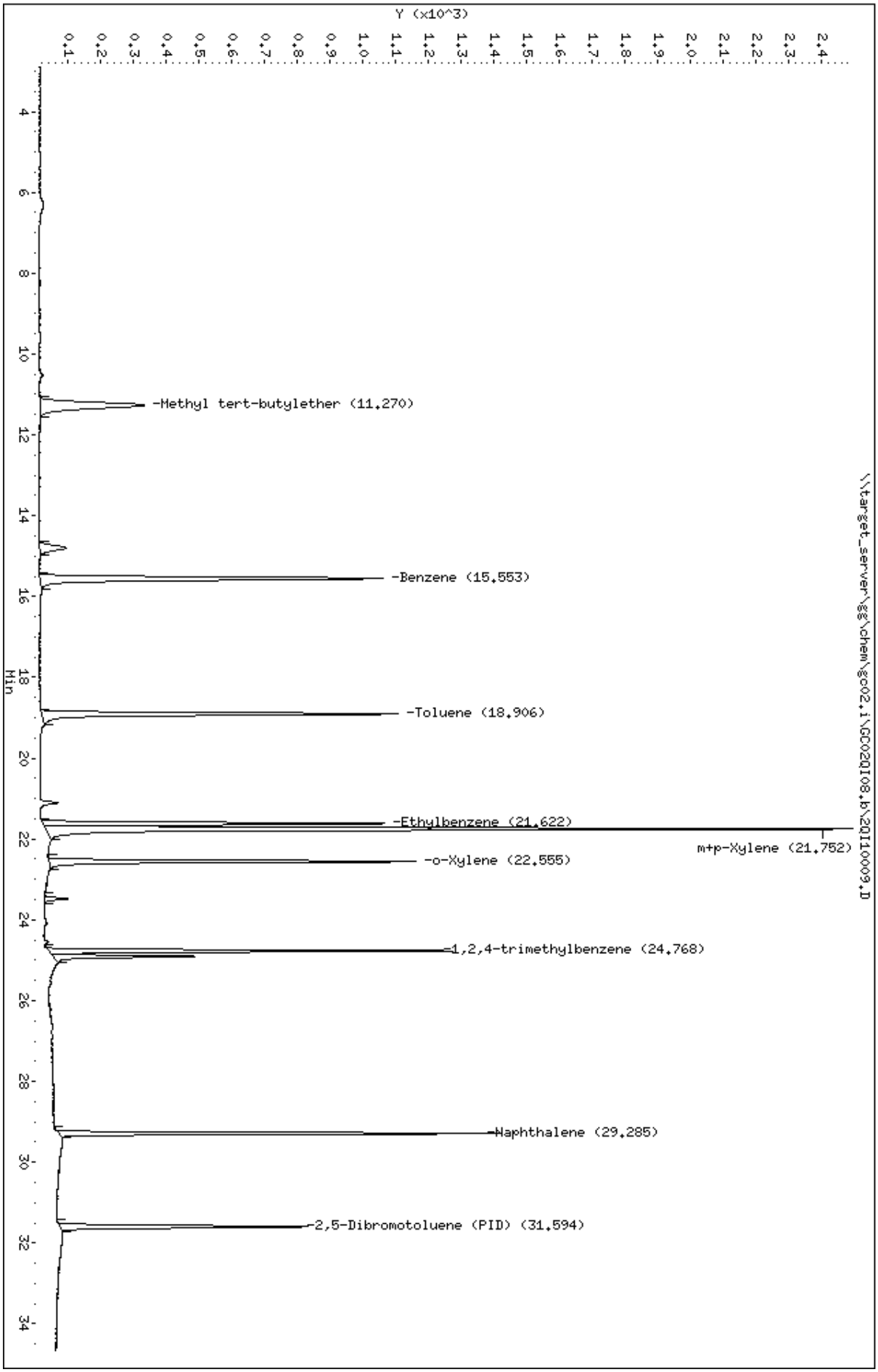
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10009.D
Lab Smp Id: WG342400-3
Inj Date : 08-SEP-2023 13:43
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-3
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 13:43 Cal File: 2QI10009.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.269	11.270	-0.001	6636	10.0000	10.0	
	3 Benzene	15.552	15.556	-0.004	12298	10.0000	10.0	
	4 Toluene	18.905	18.908	-0.003	10874	10.0000	10.1	
	5 Ethylbenzene	21.621	21.624	-0.003	9115	10.0000	9.72	
	6 m+p-Xylene	21.751	21.755	-0.004	23434	20.0000	19.7	
	7 o-Xylene	22.554	22.557	-0.003	10079	10.0000	10.2	
	8 1,2,4-trimethylbenzene	24.768	24.772	-0.004	9246	10.0000	9.84	
	10 Naphthalene	29.285	29.291	-0.006	9653	10.0000	9.25	
M	1 C9-C10 Aromatic				9246	10.0000	9.84	
$	11 2,5-Dibromotoluene (PID)	31.593	31.597	-0.004	6694	10.0000	9.08	


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10009.D
Date : 08-SEP-2023 13:43
Client ID:
Sample Info: WG342400-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10009.D
Y (x10^3)
Min
-Methyl tert-butylether (11.270)
-Benzene (15.553)
-Toluene (18.906)
-Ethylbenzene (21.622)
m+p-Xylene (21.752)
-o-Xylene (22.555)
1,2,4-trimethylbenzene (24.768)
Naphthalene (29.285)
2,5-Dibromotoluene (PID) (31.594)

Data File: 2QI10009.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10009.D
Lab Smp Id: WG342400-3
Inj Date : 08-SEP-2023 13:43
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-3
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 13:43 Cal File: 2QI10009.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

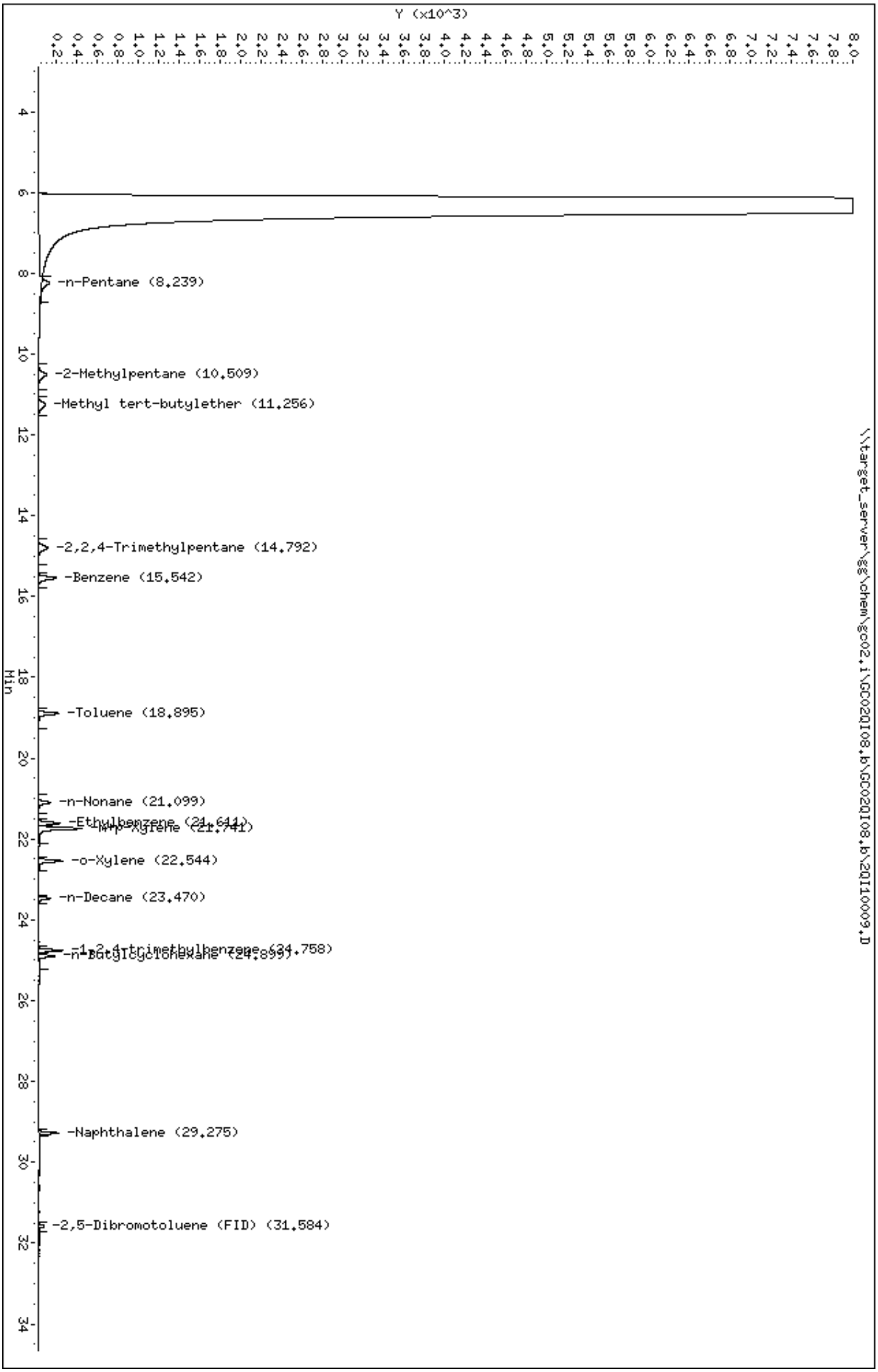
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.239	8.252	-0.013	13314	10.0000	9.19(M)	M9
	6 2-Methylpentane	10.508	10.513	-0.005	15680	10.0000	10.6	
	7 Methyl tert-butylether	11.256	11.258	-0.002	13502	10.0000	9.96	
	8 2,2,4-Trimethylpentane	14.792	14.793	-0.001	16300	10.0000	11.1	
	9 Benzene	15.542	15.545	-0.003	20140	10.0000	9.80	
	11 Toluene	18.895	18.898	-0.003	19733	10.0000	9.83	
	12 n-Nonane	21.098	21.102	-0.004	11494	10.0000	9.64	
	14 Ethylbenzene	21.611	21.614	-0.003	17468	10.0000	9.67	
	15 m+p-Xylene	21.741	21.744	-0.003	39453	20.0000	19.7	
	16 o-Xylene	22.544	22.546	-0.002	20101	10.0000	10.1	
	13 n-Decane	23.470	23.474	-0.004	8749	10.0000	8.39	
	18 1,2,4-trimethylbenzene	24.757	24.762	-0.005	17096	10.0000	9.74	
	19 n-Butylcyclohexane	24.898	24.902	-0.004	14023	10.0000	9.90	
	20 Naphthalene	29.275	29.280	-0.005	12842	10.0000	9.12	
M	1 C5-C8 Aliphatic				45294	30.0000	30.9	
M	2 C9-C12 Aliphatic				22772	20.0000	18.3	
$	21 2,5-Dibromotoluene (FID)	31.583	31.587	-0.004	4433	10.0000	8.77	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10009.D
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Client ID:
Sample Info: WG342400-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^3)
Min
-n-Pentane (8.239)
-2-Methylpentane (10.509)
-Methyl tert-butylether (11.256)
-2,2,4-Trimethylpentane (14.792)
-Benzene (15.542)
-Toluene (18.895)
-n-Nonane (21.099)
-Ethylbenzene (21.641)
-m/p-Xylene (21.741)
-o-Xylene (22.544)
-n-Decane (23.470)
-1,2,4-trimethylbenzene (24.758)
-n-Butylcyclohexane (24.899)
-Naphthalene (29.275)
-2,5-Dibromotoluene (FID) (31.584)

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10006.D
Report Date: 10-Oct-2023 09:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10006.D
Lab Smp Id: WG342400-4
Inj Date : 08-SEP-2023 11:40
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-4
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 11:40 Cal File: 2QI10006.D
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

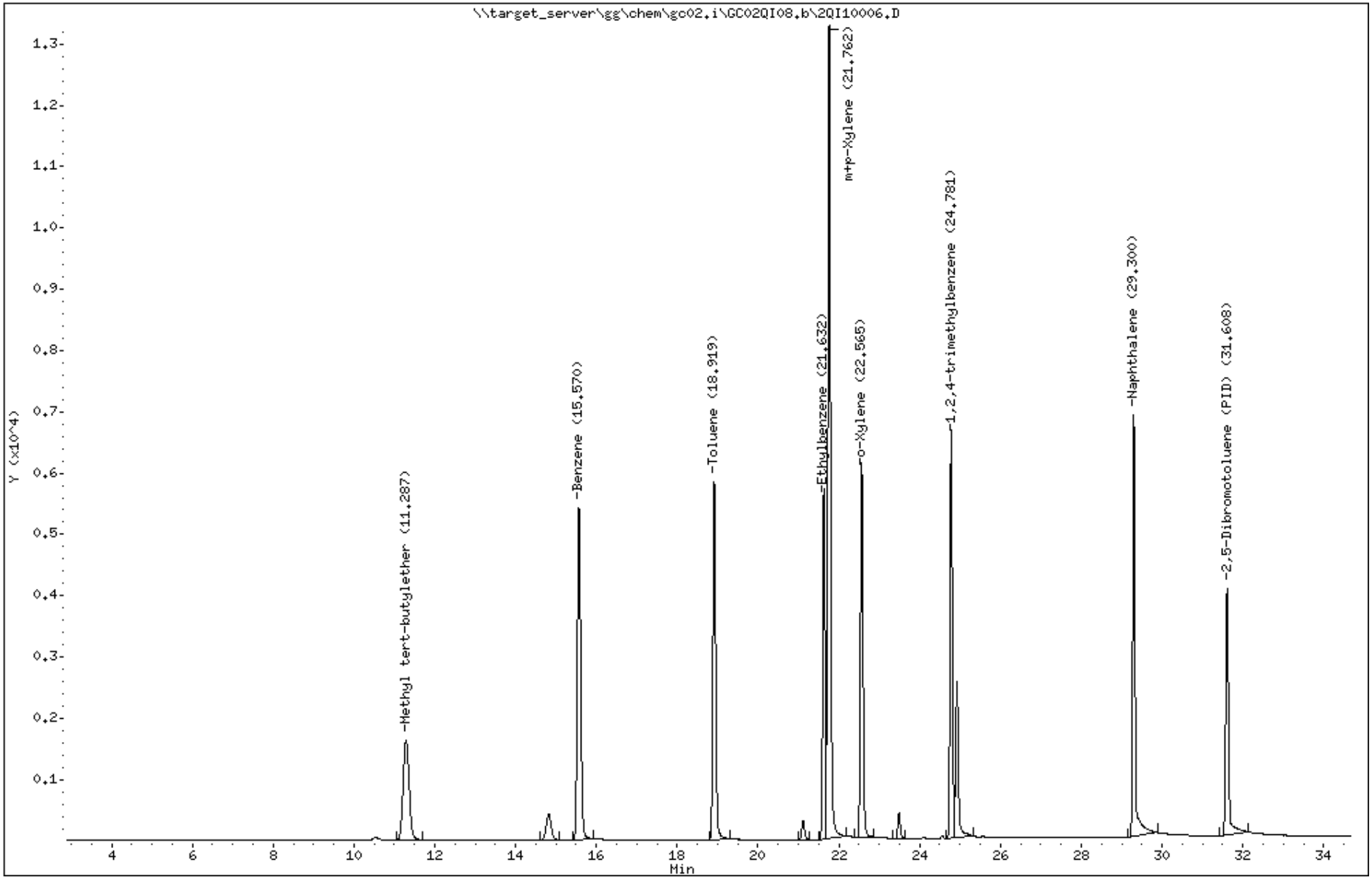
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.286	11.270	0.016	33596	50.0000	50.0	
	3 Benzene	15.569	15.556	0.013	61967	50.0000	50.0	
	4 Toluene	18.919	18.908	0.011	56482	50.0000	50.0	
	5 Ethylbenzene	21.632	21.624	0.008	49211	50.0000	50.0	
	6 m+p-Xylene	21.762	21.755	0.007	122419	100.000	100	
	7 o-Xylene	22.564	22.557	0.007	52794	50.0000	50.0	
	8 1,2,4-trimethylbenzene	24.780	24.772	0.008	51868	50.0000	50.0	
	10 Naphthalene	29.300	29.291	0.009	57385	50.0000	50.0	
M	1 C9-C10 Aromatic				51868	50.0000	50.0	
$	11 2,5-Dibromotoluene (PID)	31.608	31.597	0.011	40165	50.0000	50.0	

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10006.D
Date : 08-SEP-2023 11:40
Client ID:
Sample Info: WG342400-4
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10006.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10006.D
Lab Smp Id: WG342400-4
Inj Date : 08-SEP-2023 11:40
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-4
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 11:40 Cal File: 2QI10006.D
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

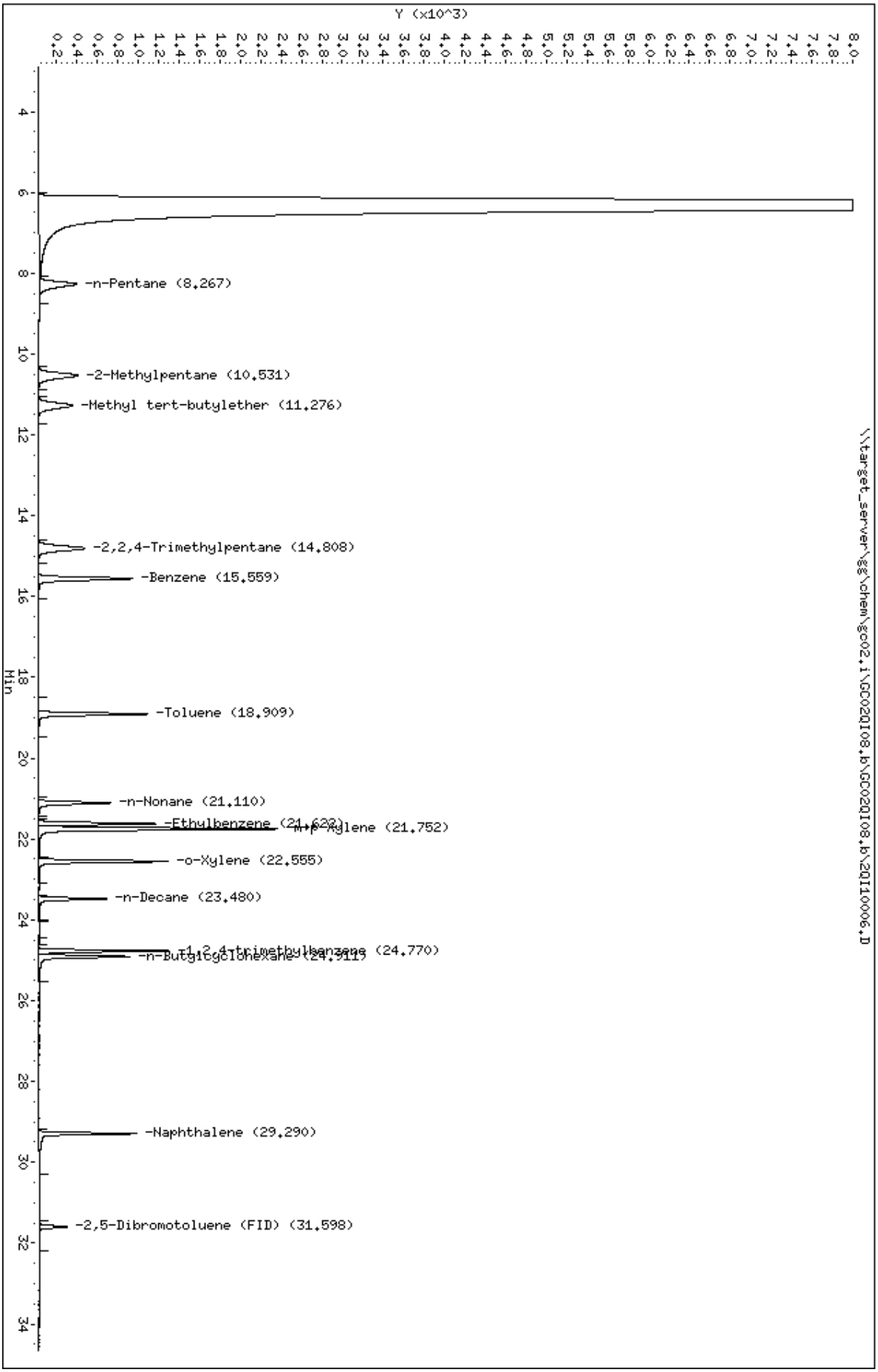
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.267	8.252	0.015	71140	50.0000	49.1(M)	M2
	6 2-Methylpentane	10.531	10.513	0.018	75224	50.0000	51.1	
	7 Methyl tert-butylether	11.275	11.258	0.017	67087	50.0000	49.5	
	8 2,2,4-Trimethylpentane	14.807	14.793	0.014	80959	50.0000	55.0	
	9 Benzene	15.559	15.545	0.014	103075	50.0000	50.1	
	11 Toluene	18.908	18.898	0.010	100381	50.0000	50.0	
	12 n-Nonane	21.109	21.102	0.007	65726	50.0000	55.1	
	14 Ethylbenzene	21.621	21.614	0.007	94890	50.0000	52.5	
	15 m+p-Xylene	21.752	21.744	0.008	209382	100.000	104	
	16 o-Xylene	22.554	22.546	0.008	106427	50.0000	53.3	
	13 n-Decane	23.479	23.474	0.005	58259	50.0000	55.8(M)	M9
	18 1,2,4-trimethylbenzene	24.770	24.762	0.008	94363	50.0000	53.8	
	19 n-Butylcyclohexane	24.910	24.902	0.008	82983	50.0000	58.6	
	20 Naphthalene	29.289	29.280	0.009	79414	50.0000	56.4	
M	1 C5-C8 Aliphatic				227323	150.000	155	
M	2 C9-C12 Aliphatic				141242	100.000	114	
$	21 2,5-Dibromotoluene (FID)	31.597	31.587	0.010	26431	50.0000	52.3	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10006.D
Date : 08-SEP-2023 11:40
Client ID:
Sample Info: WG342400-4
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10010.D
Report Date: 10-Oct-2023 09:13

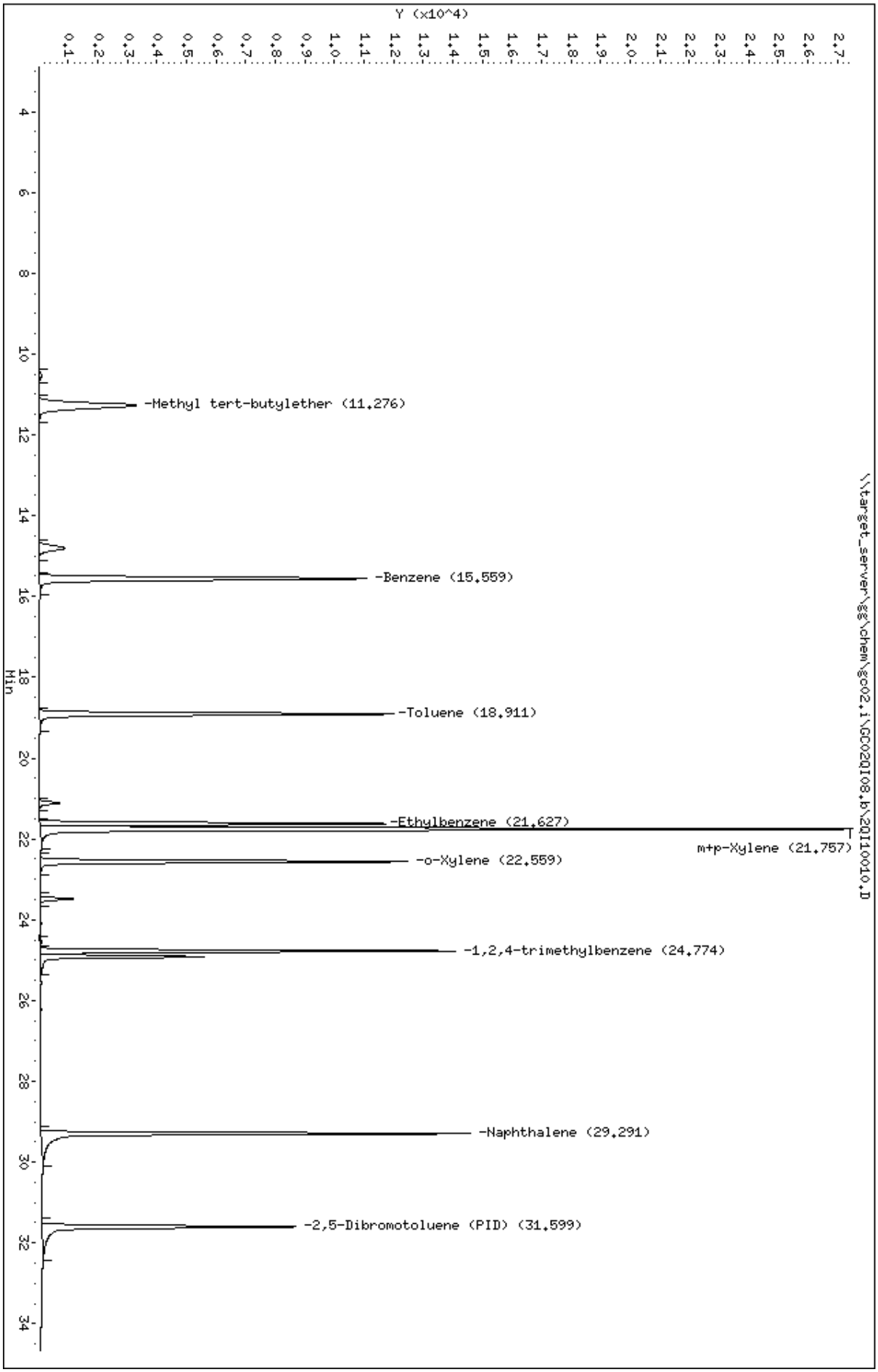
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10010.D
Lab Smp Id: WG342400-5
Inj Date : 08-SEP-2023 14:25
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-5
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 14:25 Cal File: 2QI10010.D
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

					AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
Compounds	RT	EXP RT	DLT RT	RESPONSE			
2 Methyl tert-butylether	11.275	11.270	0.005	67453	100.000	102	
3 Benzene	15.558	15.556	0.002	124612	100.000	101	
4 Toluene	18.910	18.908	0.002	113533	100.000	105	
5 Ethylbenzene	21.626	21.624	0.002	100399	100.000	106	
6 m+p-Xylene	21.757	21.755	0.002	245496	200.000	205	
7 o-Xylene	22.558	22.557	0.001	106330	100.000	106	
8 1,2,4-trimethylbenzene	24.773	24.772	0.001	108569	100.000	112	
10 Naphthalene	29.291	29.291	0.000	126368	100.000	116	
M 1 C9-C10 Aromatic				108569	100.000	112	
$ 11 2,5-Dibromotoluene (PID)	31.599	31.597	0.002	91968	100.000	119	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Date : 08-SEP-2023 14:25
Client ID:
Sample Info: WG342400-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10010.D
Y (x10^4)
Min
-Methyl tert-butylether (11.276)
-Benzene (15.559)
-Toluene (18.911)
-Ethylbenzene (21.627)
m+p-Xylene (21.757)
-o-Xylene (22.559)
-1,2,4-trimethylbenzene (24.774)
-Naphthalene (29.291)
-2,5-Dibromotoluene (PID) (31.599)

Data File: 2QI10010.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10010.D
Lab Smp Id: WG342400-5
Inj Date : 08-SEP-2023 14:25
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-5
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 14:25 Cal File: 2QI10010.D
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

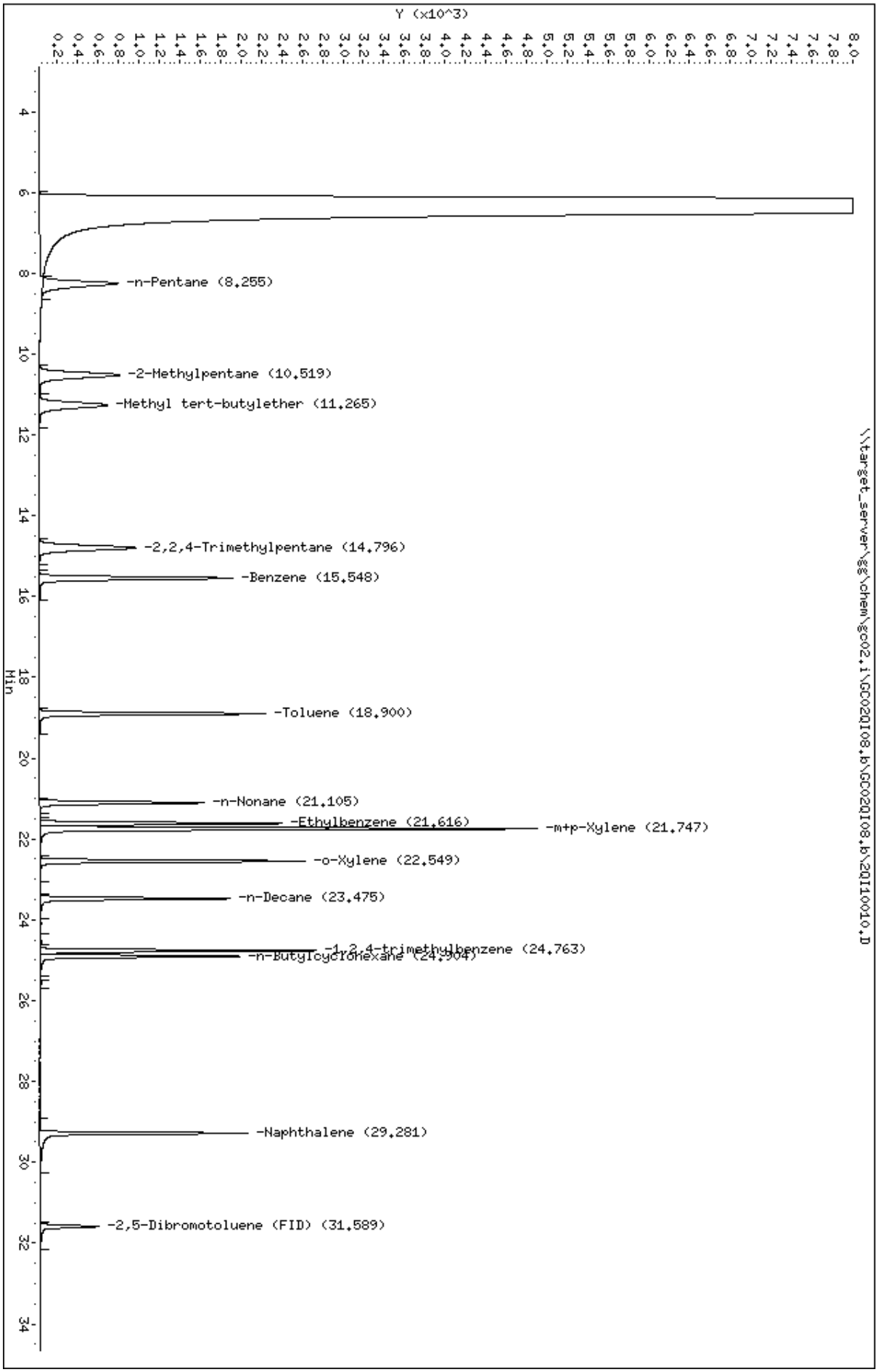
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.255	8.252	0.003	143615	100.000	99.3(M)	M2
	6 2-Methylpentane	10.519	10.513	0.006	156516	100.000	105	
	7 Methyl tert-butylether	11.265	11.258	0.007	136366	100.000	100	
	8 2,2,4-Trimethylpentane	14.796	14.793	0.003	164957	100.000	109	
	9 Benzene	15.547	15.545	0.002	207769	100.000	101	
	11 Toluene	18.899	18.898	0.001	202179	100.000	100	
	12 n-Nonane	21.104	21.102	0.002	144521	100.000	116	
	14 Ethylbenzene	21.616	21.614	0.002	194948	100.000	106	
	15 m+p-Xylene	21.746	21.744	0.002	418263	200.000	207	
	16 o-Xylene	22.548	22.546	0.002	213654	100.000	105	
	13 n-Decane	23.475	23.474	0.001	155306	100.000	136(M)	M2
	18 1,2,4-trimethylbenzene	24.763	24.762	0.001	198541	100.000	110	
	19 n-Butylcyclohexane	24.903	24.902	0.001	167263	100.000	114	
	20 Naphthalene	29.280	29.280	0.000	168606	100.000	115	
M	1 C5-C8 Aliphatic				465088	300.000	314	
M	2 C9-C12 Aliphatic				322569	200.000	250	
$	21 2,5-Dibromotoluene (FID)	31.588	31.587	0.001	57196	100.000	110	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10010.D
Date : 08-SEP-2023 14:25
Client ID:
Sample Info: WG342400-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10010.D
Y (x10^3)
Min
-n-Pentane (8.255)
-2-Methylpentane (10.519)
-Methyl tert-butylether (11.265)
-2,2,4-Trimethylpentane (14.796)
-Benzene (15.548)
-Toluene (18.900)
-n-Nonane (21.105)
-Ethylbenzene (21.616)
-m+p-Xylene (21.747)
-o-Xylene (22.549)
-n-Decane (23.475)
-1,2,4-trimethylbenzene (24.763)
-n-Butylcyclohexane (24.904)
-Naphthalene (29.281)
-2,5-Dibromotoluene (FID) (31.589)

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10011.D
Report Date: 10-Oct-2023 09:13

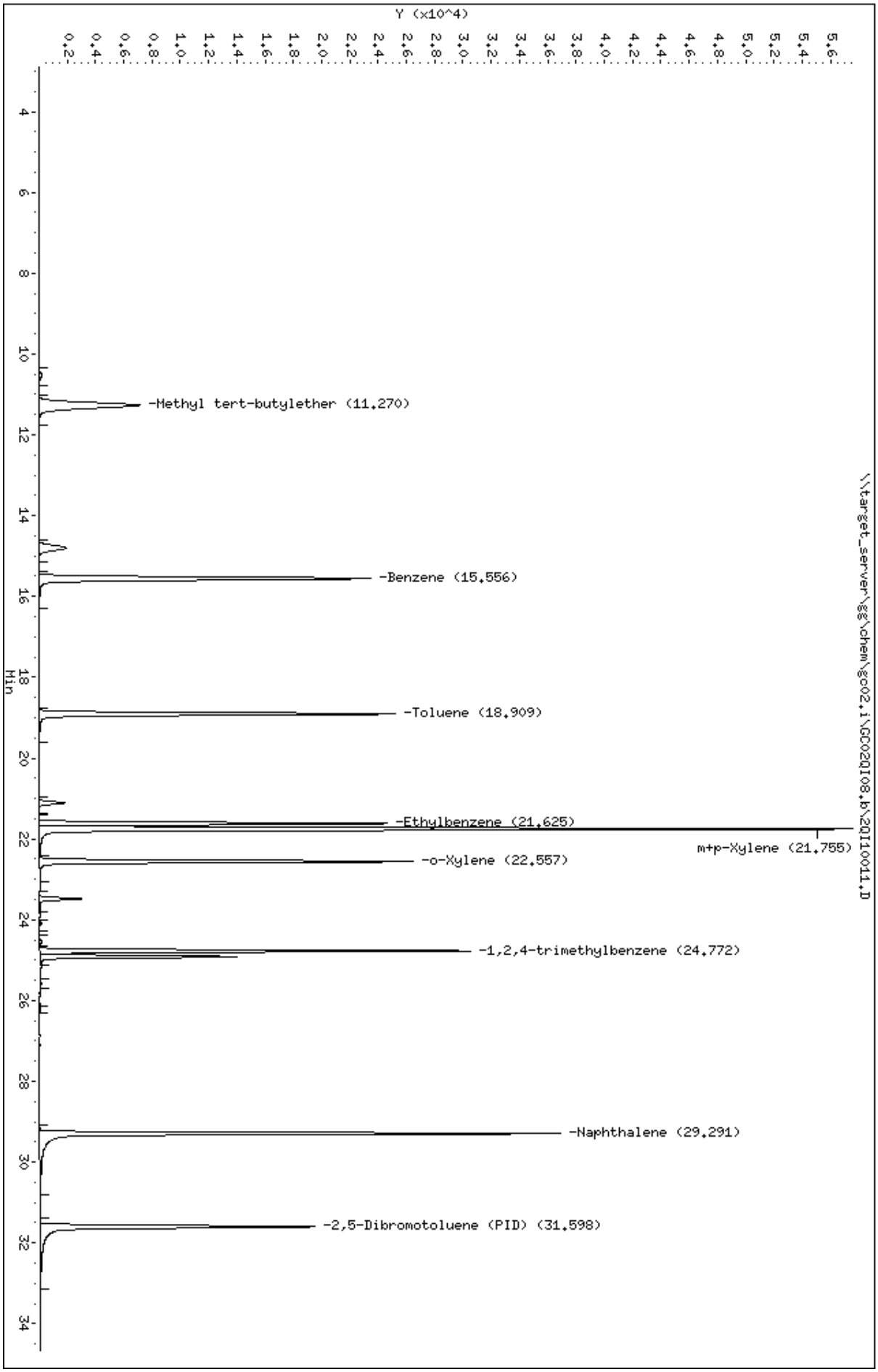
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10011.D
Lab Smp Id: WG342400-6
Inj Date : 08-SEP-2023 15:06
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-6
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.270	11.270	0.000	145198	300.000	230	
	3 Benzene	15.556	15.556	0.000	261892	300.000	224	
	4 Toluene	18.908	18.908	0.000	236968	300.000	229	
	5 Ethylbenzene	21.624	21.624	0.000	210071	300.000	231	
	6 m+p-Xylene	21.755	21.755	0.000	508165	600.000	447	
	7 o-Xylene	22.557	22.557	0.000	222811	300.000	232	
	8 1,2,4-trimethylbenzene	24.772	24.772	0.000	231031	300.000	247	
	10 Naphthalene	29.290	29.291	-0.001	315751	300.000	292	
M	1 C9-C10 Aromatic				231031	300.000	247	
$	11 2,5-Dibromotoluene (PID)	31.597	31.597	0.000	214231	300.000	280	


Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10011.D
Date : 08-SEP-2023 15:06
Client ID:
Sample Info: WG342400-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10011.D
Y (x10^4)
Min
-Methyl tert-butylether (11.270)
-Benzene (15.556)
-Toluene (18.909)
-Ethylbenzene (21.625)
m+p-Xylene (21.755)
-o-Xylene (22.557)
-1,2,4-trimethylbenzene (24.772)
-Naphthalene (29.291)
-2,5-Dibromotoluene (PID) (31.598)

Data File: 2QI10011.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10011.D
Lab Smp Id: WG342400-6
Inj Date : 08-SEP-2023 15:06
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-6
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

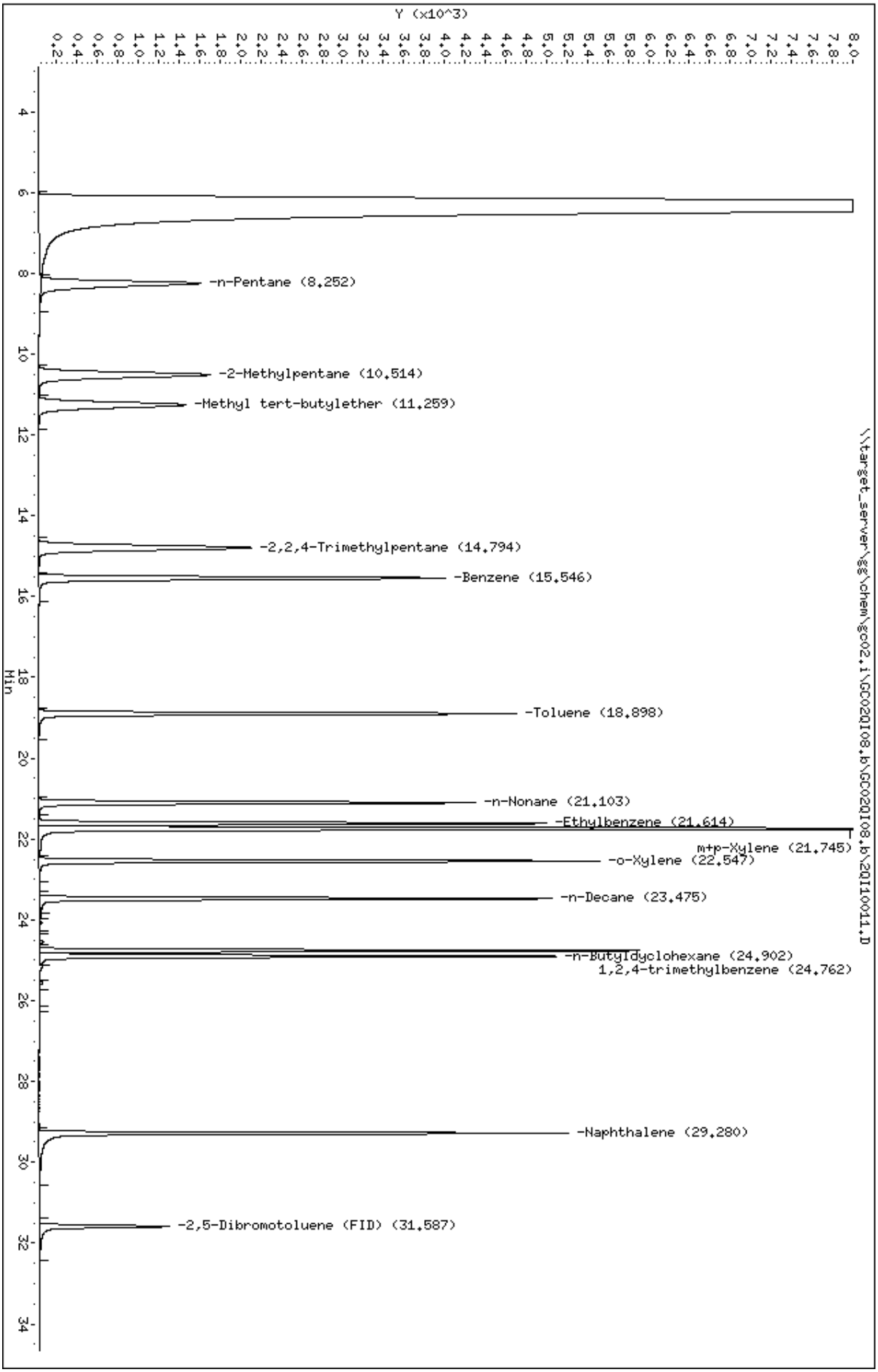
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.252	8.252	0.000	306459	300.000	223(M)	M2
	6 2-Methylpentane	10.513	10.513	0.000	331239	300.000	232	
	7 Methyl tert-butylether	11.258	11.258	0.000	293889	300.000	227	
	8 2,2,4-Trimethylpentane	14.793	14.793	0.000	361457	300.000	248	
	9 Benzene	15.545	15.545	0.000	431855	300.000	221	
	11 Toluene	18.898	18.898	0.000	420456	300.000	220	
	12 n-Nonane	21.102	21.102	0.000	375167	300.000	301	
	14 Ethylbenzene	21.614	21.614	0.000	409761	300.000	233	
	15 m+p-Xylene	21.744	21.744	0.000	867480	600.000	450	
	16 o-Xylene	22.546	22.546	0.000	445231	300.000	230	
	13 n-Decane	23.474	23.474	0.000	405706	300.000	344	
	18 1,2,4-trimethylbenzene	24.762	24.762	0.000	423772	300.000	244	
	19 n-Butylcyclohexane	24.902	24.902	0.000	404965	300.000	280	
	20 Naphthalene	29.280	29.280	0.000	414614	300.000	286	
M	1 C5-C8 Aliphatic				999155	900.000	703	
M	2 C9-C12 Aliphatic				810671	600.000	624	
$	21 2,5-Dibromotoluene (FID)	31.587	31.587	0.000	131490	300.000	260	

QC Flag Legend

M - Compound response manually integrated.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Date : 08-SEP-2023 15:06
Client ID:
Sample Info: WG342400-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10011.D
Y (x10^3)
Min
-n-Pentane (8.252)
-2-Methylpentane (10.514)
-Methyl tert-butylether (11.259)
-2,2,4-Trimethylpentane (14.794)
-Benzene (15.546)
-Toluene (18.898)
-n-Nonane (21.103)
-Ethylbenzene (21.614)
m+p-Xylene (21.745)
-o-Xylene (22.547)
-n-Decane (23.475)
-n-Butylcyclohexane (24.902)
1,2,4-trimethylbenzene (24.762)
-Naphthalene (29.280)
-2,5-Dibromotoluene (FID) (31.587)

Data File: \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10012.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10012.D
Lab Smp Id: WG342400-7
Inj Date : 08-SEP-2023 17:40
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-7
Misc Info : WG342400,WG342400-4,SQ4695-1
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m
Meth Date : 11-Sep-2023 07:17 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: INDSOURCE
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: IND.sub
Target Version: 4.12
Processing Host: V200T3

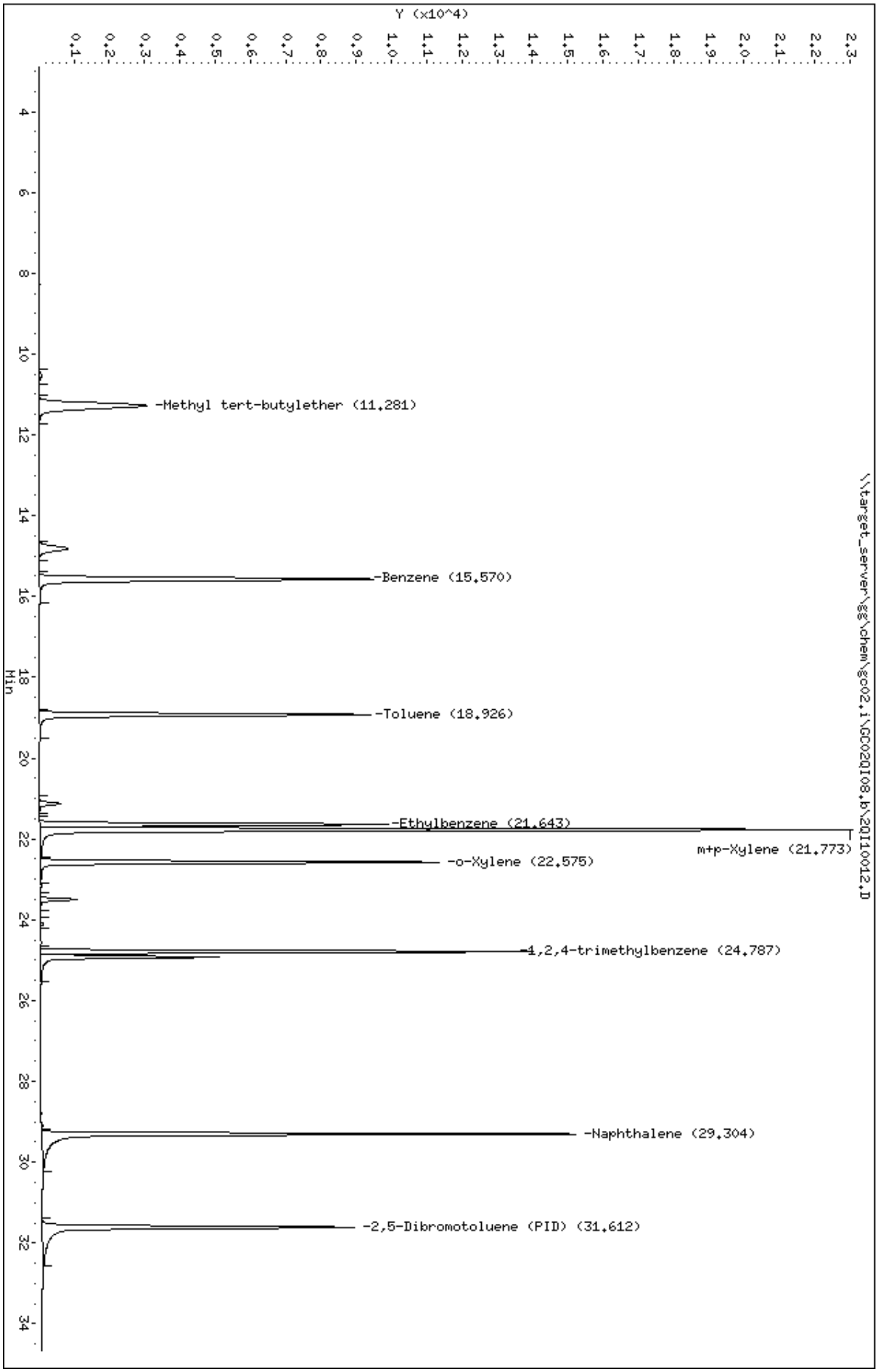
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.280	11.270	0.010	62694	99.3187	99.3	
3 Benzene	15.570	15.556	0.014	108154	92.3757	92.4	
4 Toluene	18.926	18.908	0.018	90214	87.0671	87.1	
5 Ethylbenzene	21.643	21.624	0.019	84810	93.2705	93.3	
6 m+p-Xylene	21.773	21.755	0.018	210669	185.268	185	
7 o-Xylene	22.574	22.557	0.017	98216	102.234	102	
8 1,2,4-trimethylbenzene	24.786	24.772	0.014	107784	115.179	115	
10 Naphthalene	29.304	29.291	0.013	132878	122.827	123(RM)	M2
$ 11 2,5-Dibromotoluene (PID)	31.612	31.597	0.015	97747	127.939	128(M)	M2

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.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Date : 08-SEP-2023 17:40
Client ID:
Sample Info: WG342400-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\2QI10012.D
Y (x10^4)
Min
-Methyl tert-butylether (11.281)
-Benzene (15.570)
-Toluene (18.926)
-Ethylbenzene (21.643)
m+p-Xylene (21.773)
-o-Xylene (22.575)
-1,2,4-trimethylbenzene (24.787)
-Naphthalene (29.304)
-2,5-Dibromotoluene (PID) (31.612)

Data File: 2QI10012.D
Report Date: 10-Oct-2023 09:14

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10012.D
Lab Smp Id: WG342400-7
Inj Date : 08-SEP-2023 17:40
Operator : DL Inst ID: gc02.i
Smp Info : WG342400-7
Misc Info : WG342400,WG342400-4,SQ4695-1
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI08.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 11-Sep-2023 07:23 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: INDSOURCE
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: IND.sub
Target Version: 4.12
Processing Host: V200T3

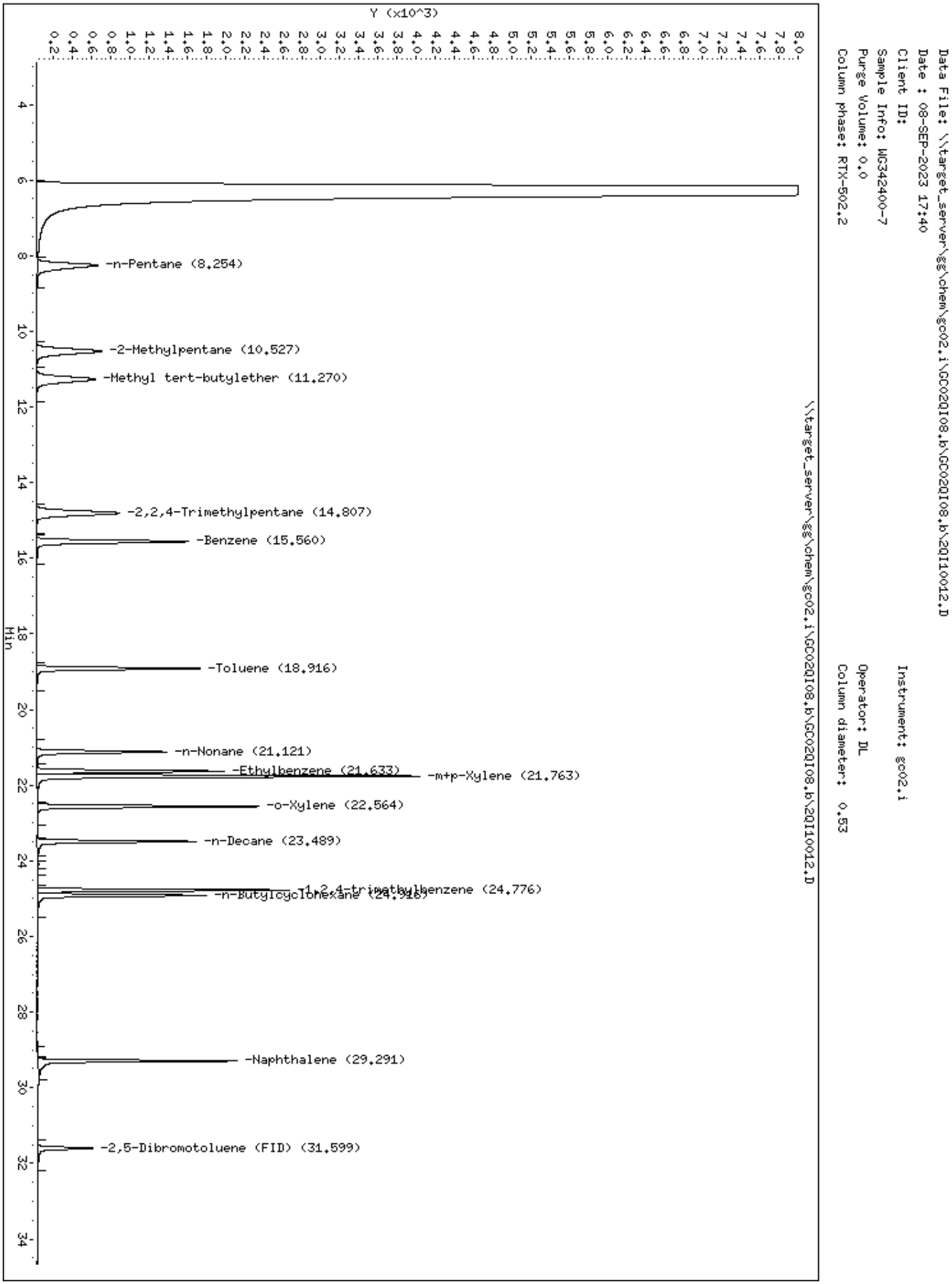
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	5 n-Pentane	8.254	8.252	0.002	125038	90.9381	90.9(M)	M2
	6 2-Methylpentane	10.526	10.513	0.013	135789	95.2218	95.2	
	7 Methyl tert-butylether	11.270	11.258	0.012	127440	98.4773	98.5	
	8 2,2,4-Trimethylpentane	14.806	14.793	0.013	153434	105.320	105	
	9 Benzene	15.559	15.545	0.014	176944	90.4290	90.4	
	11 Toluene	18.916	18.898	0.018	157493	82.4928	82.5	
	12 n-Nonane	21.120	21.102	0.018	123387	99.1500	99.2	
	14 Ethylbenzene	21.632	21.614	0.018	162498	92.5023	92.5	
	15 m+p-Xylene	21.762	21.744	0.018	350406	181.861	182	
	16 o-Xylene	22.564	22.546	0.018	191701	99.0508	99.0	
	13 n-Decane	23.489	23.474	0.015	138761	117.593	118(M)	M2
	18 1,2,4-trimethylbenzene	24.776	24.762	0.014	193913	111.683	112	
	19 n-Butylcyclohexane	24.916	24.902	0.014	152054	105.026	105	
	20 Naphthalene	29.291	29.280	0.011	165382	114.086	114(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.599	31.587	0.012	59180	117.119	117(M)	M2

QC Flag Legend

M - Compound response manually integrated.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Date : 08-SEP-2023 17:40
Client ID:
Sample Info: WG342400-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI08.b\GC02QI08.b\2QI10012.D
Y (x10^3)
Min
-n-Pentane (8.254)
-2-Methylpentane (10.527)
-Methyl tert-butylether (11.270)
-2,2,4-Trimethylpentane (14.807)
-Benzene (15.560)
-Toluene (18.916)
-n-Nonane (21.121)
-Ethylbenzene (21.633)
-m+p-Xylene (21.763)
-o-Xylene (22.564)
-n-Decane (23.489)
-n-Butylcyclohexane (24.916)
-1,2,4-trimethylbenzene (24.776)
-Naphthalene (29.291)
-2,5-Dibromotoluene (FID) (31.599)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342912-6
Analytical Date: 09/21/23 10:34
Lab File ID: 2QI10027.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	772	772	0.100	-17.50092	25.000	Averaged	
Methyl tert-butylether	631	537	537	0.100	-14.85972	25.000	Averaged	
Benzene	1171	924	924	0.100	-21.09194	25.000	Averaged	
Toluene	1036	835	835	0.100	-19.41853	25.000	Averaged	
Ethylbenzene	909	720	720	0.100	-20.79544	25.000	Averaged	
m+p-Xylene	1137	902	902	0.100	-20.68961	25.000	Averaged	
o-Xylene	961	786	786	0.100	-18.21565	25.000	Averaged	
1,2,4-trimethylbenzene	936	772	772	0.100	-17.50092	25.000	Averaged	
Naphthalene	1082	937	937	0.100	-13.42452	25.000	Averaged	
2,5-Dibromotoluene (PID)	764	559	559	0.100	-26.81808	25.000	Averaged	*

*** = Compound out of QC criteria**

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P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10027.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10027.D
Lab Smp Id: WG342912-6
Inj Date : 21-SEP-2023 10:34
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-6
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

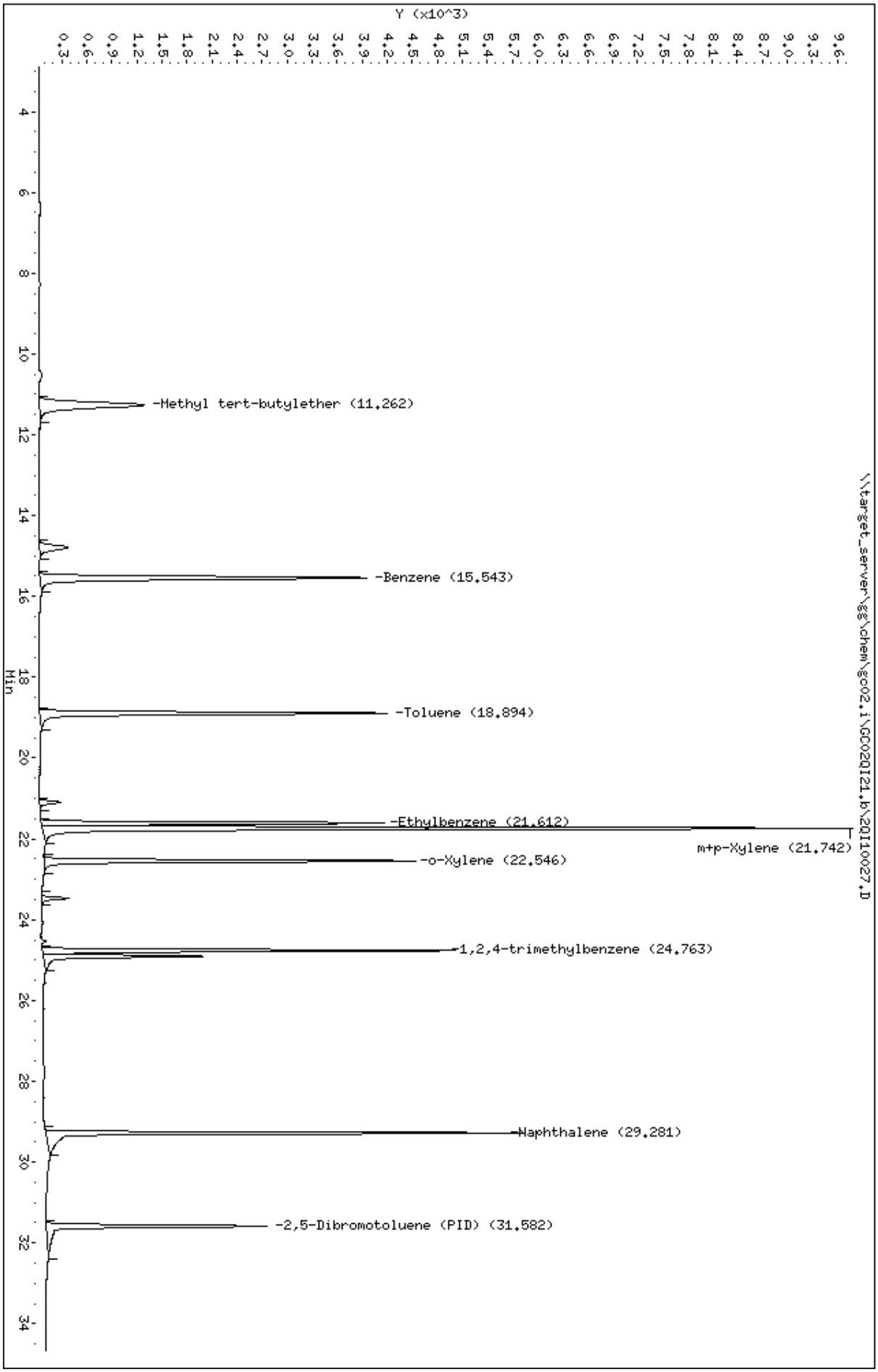
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.262	11.270	-0.008	26872	50.0000	42.6	
	3 Benzene	15.542	15.556	-0.014	46193	50.0000	39.4	
	4 Toluene	18.894	18.908	-0.014	41747	50.0000	40.3	
	5 Ethylbenzene	21.611	21.624	-0.013	36010	50.0000	39.6	
	6 m+p-Xylene	21.741	21.755	-0.014	90184	100.000	79.3	
	7 o-Xylene	22.545	22.557	-0.012	39285	50.0000	40.9	
	8 1,2,4-trimethylbenzene	24.763	24.772	-0.009	38601	50.0000	41.2	
	10 Naphthalene	29.280	29.291	-0.011	46830	50.0000	43.3	
M	1 C9-C10 Aromatic				38601	50.0000	41.2	
$	11 2,5-Dibromotoluene (PID)	31.581	31.597	-0.016	27956	50.0000	36.6(M)	M9

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10027.D
Date : 21-SEP-2023 10:34
Client ID:
Sample Info: WG342912-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10027.D
Y (x10^3)
Min
-Methyl tert-butylether (11.262)
-Benzene (15.543)
-Toluene (18.894)
-Ethylbenzene (21.612)
m+p-Xylene (21.742)
-o-Xylene (22.546)
1,2,4-trimethylbenzene (24.763)
Naphthalene (29.281)
-2,5-Dibromotoluene (PID) (31.582)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342912-6
Analytical Date: 09/21/23 10:34
Lab File ID: 2QI10027.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	1111	1111	0.100	-21.73196	25.000	Averaged	
C9-C12 Aliphatic	1314	1047	1047	0.100	-20.34993	25.000	Averaged	
n-Pentane	1375	1014	1014	0.100	-26.25056	25.000	Averaged	*
2-Methylpentane	1426	1098	1098	0.100	-23.02958	25.000	Averaged	
Methyl tert-butylether	1294	1032	1032	0.100	-20.22595	25.000	Averaged	
2,2,4-Trimethylpentane	1457	1221	1221	0.100	-16.19775	25.000	Averaged	
Benzene	1957	1499	1499	0.100	-23.41665	25.000	Averaged	
Toluene	1909	1451	1451	0.100	-24.01312	25.000	Averaged	
n-Nonane	1244	968	968	0.100	-22.23699	30.000	Averaged	
n-Decane	1180	860	860	0.100	-27.11622	25.000	Averaged	*
Ethylbenzene	1757	1373	1373	0.100	-21.83033	25.000	Averaged	
m+p-Xylene	1927	1508	1508	0.100	-21.74772	25.000	Averaged	
o-Xylene	1935	1549	1549	0.100	-19.94339	25.000	Averaged	
1,2,4-trimethylbenzene	1736	1390	1390	0.100	-19.92277	25.000	Averaged	
n-Butylcyclohexane	1448	1233	1233	0.100	-14.83506	25.000	Averaged	
Naphthalene	1450	1238	1238	0.100	-14.58931	25.000	Averaged	
2,5-Dibromotoluene (FID)	505	389	389	0.100	-23.08281	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: 2QI10027.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10027.D
Lab Smp Id: WG342912-6
Inj Date : 21-SEP-2023 10:34
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-6
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

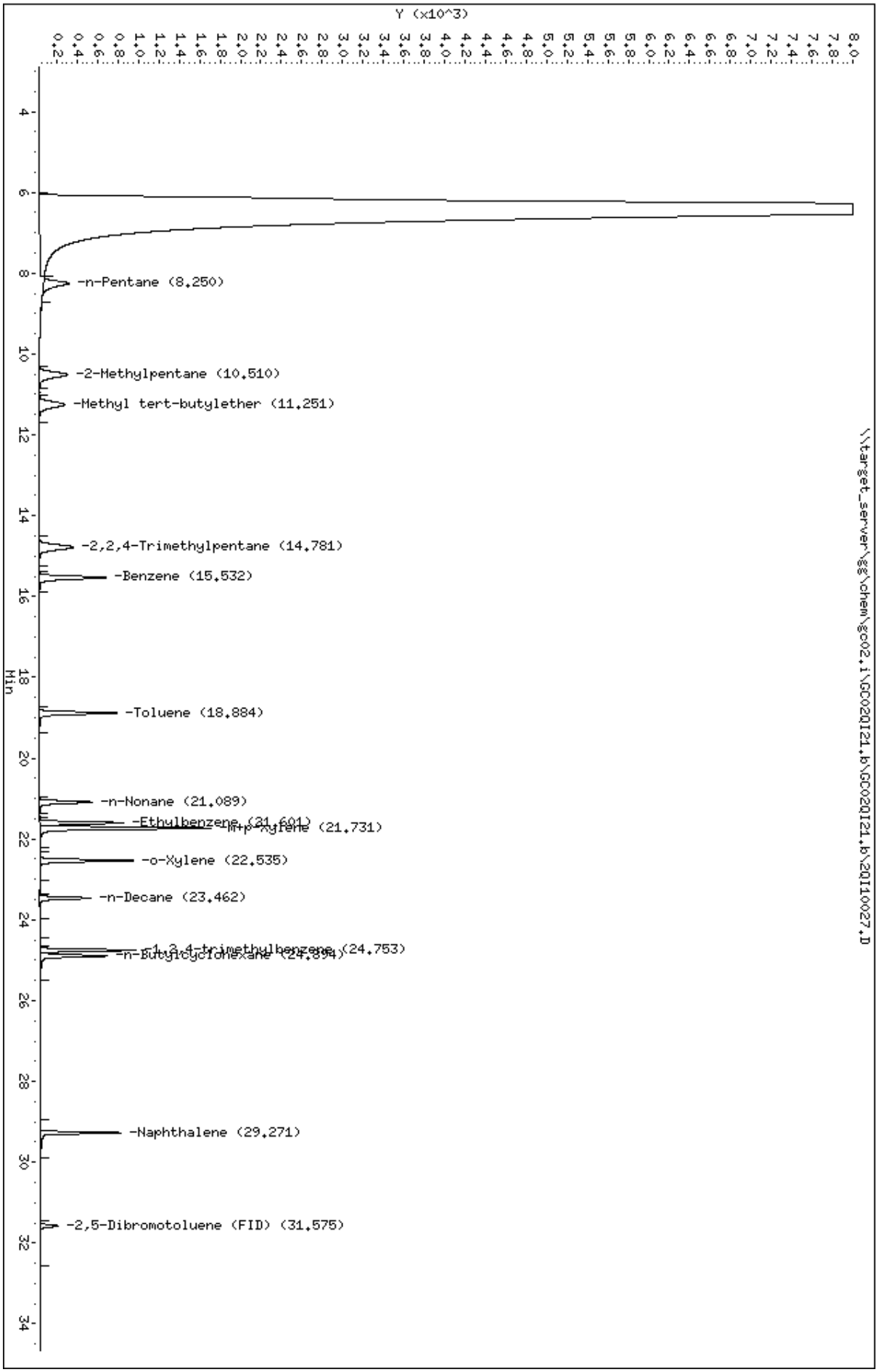
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.250	8.252	-0.002	50702	50.0000	36.9(M)	M2
	6 2-Methylpentane	10.509	10.513	-0.004	54881	50.0000	38.5	
	7 Methyl tert-butylether	11.251	11.258	-0.007	51618	50.0000	39.9	
	8 2,2,4-Trimethylpentane	14.781	14.793	-0.012	61043	50.0000	41.9	
	9 Benzene	15.532	15.545	-0.013	74926	50.0000	38.3	
	11 Toluene	18.883	18.898	-0.015	72536	50.0000	38.0	
	12 n-Nonane	21.089	21.102	-0.013	48386	50.0000	38.9	
	14 Ethylbenzene	21.601	21.614	-0.013	68660	50.0000	39.1	
	15 m+p-Xylene	21.731	21.744	-0.013	150775	100.000	78.2	
	16 o-Xylene	22.535	22.546	-0.011	77470	50.0000	40.0	
	13 n-Decane	23.462	23.474	-0.012	43002	50.0000	36.4(M)	M9
	18 1,2,4-trimethylbenzene	24.752	24.762	-0.010	69518	50.0000	40.0	
	19 n-Butylcyclohexane	24.893	24.902	-0.009	61650	50.0000	42.6	
	20 Naphthalene	29.270	29.280	-0.010	61907	50.0000	42.7	
M	1 C5-C8 Aliphatic				166626	150.000	117	
M	2 C9-C12 Aliphatic				104652	100.000	79.0	
$	21 2,5-Dibromotoluene (FID)	31.574	31.587	-0.013	19433	50.0000	38.4(M)	M9

QC Flag Legend

M - Compound response manually integrated.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Date : 21-SEP-2023 10:34
Client ID:
Sample Info: WG342912-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I21.b\GC020I21.b\2QI10027.D
Y (x10^3)
Min
-n-Pentane (8.250)
-2-Methylpentane (10.510)
-Methyl tert-butylether (11.251)
-2,2,4-Trimethylpentane (14.781)
-Benzene (15.532)
-Toluene (18.884)
-n-Nonane (21.089)
-Ethylbenzene (21.601)
m+p-Xylene (21.731)
-o-Xylene (22.535)
-n-Decane (23.462)
-1,3,4-trimethylbenzene (24.753)
-n-Butylcyclohexane (24.894)
-Naphthalene (29.271)
-2,5-Dibromotoluene (FID) (31.575)

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342912-7
Analytical Date: 09/22/23 04:04
Lab File ID: 2QI10048.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	234	234	0.100	-74.95170	25.000	Averaged	*
Methyl tert-butylether	631	200	200	0.100	-68.33220	25.000	Averaged	*
Benzene	1171	334	334	0.100	-71.45555	25.000	Averaged	*
Toluene	1036	300	300	0.100	-71.01561	25.000	Averaged	*
Ethylbenzene	909	237	237	0.100	-73.95554	25.000	Averaged	*
m+p-Xylene	1137	300	300	0.100	-73.58988	25.000	Averaged	*
o-Xylene	961	260	260	0.100	-72.96963	25.000	Averaged	*
1,2,4-trimethylbenzene	936	234	234	0.100	-74.95170	25.000	Averaged	*
Naphthalene	1082	288	288	0.100	-73.36182	25.000	Averaged	*
2,5-Dibromotoluene (PID)	764	168	168	0.100	-78.03181	25.000	Averaged	*

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10048.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10048.D
Lab Smp Id: WG342912-7
Inj Date : 22-SEP-2023 04:04
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-7
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

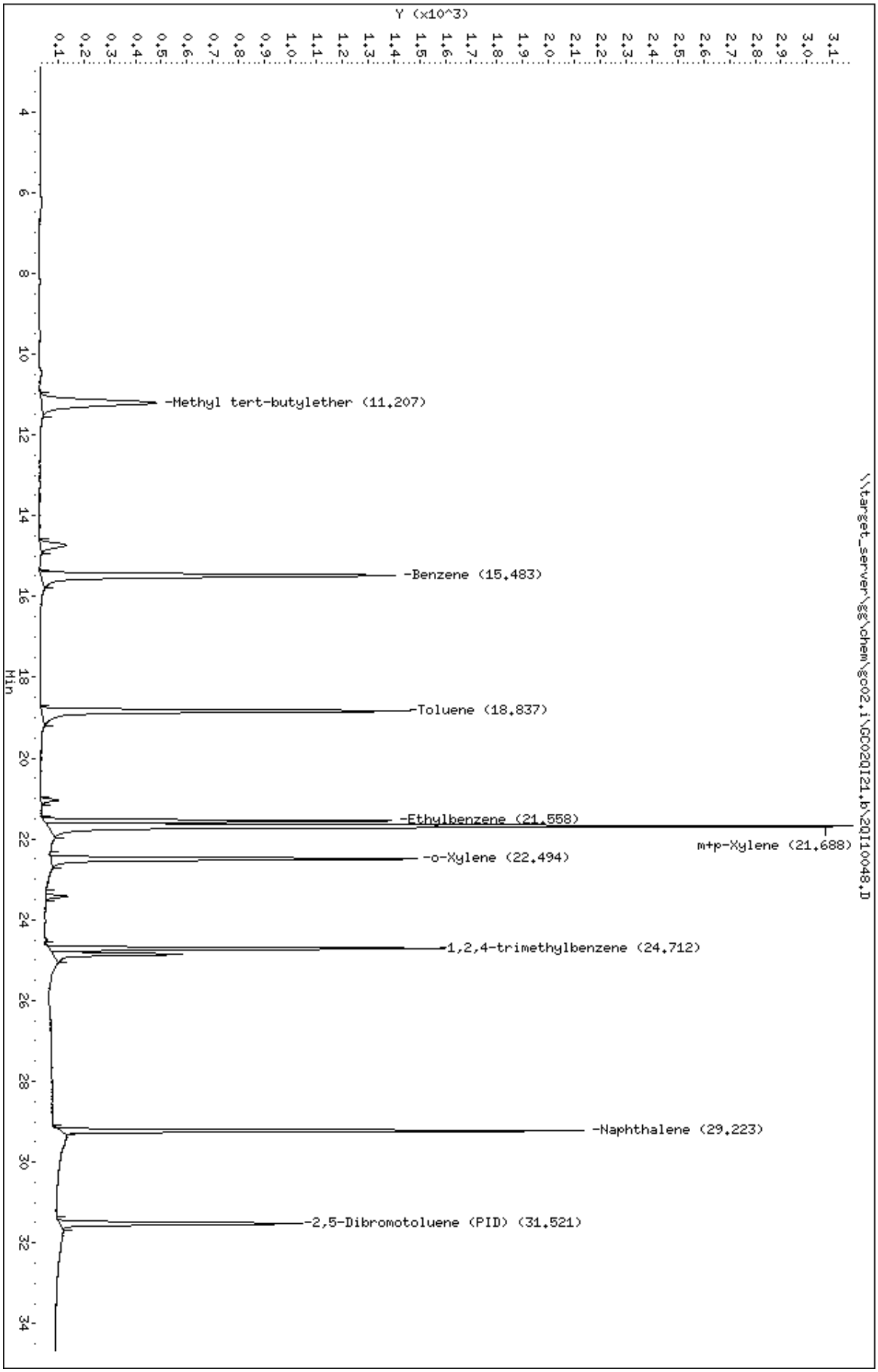
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.207	11.270	-0.063	9995	50.0000	15.8	
	3 Benzene	15.483	15.556	-0.073	16710	50.0000	14.3	
	4 Toluene	18.837	18.908	-0.071	15016	50.0000	14.5	
	5 Ethylbenzene	21.557	21.624	-0.067	11841	50.0000	13.0(M)	M6
	6 m+p-Xylene	21.687	21.755	-0.068	30031	100.000	26.4(M)	M6
	7 o-Xylene	22.493	22.557	-0.064	12984	50.0000	13.5	
	8 1,2,4-trimethylbenzene	24.712	24.772	-0.060	11720	50.0000	12.5	
	10 Naphthalene	29.223	29.291	-0.068	14409	50.0000	13.3	
M	1 C9-C10 Aromatic				11720	50.0000	12.5	
$	11 2,5-Dibromotoluene (PID)	31.520	31.597	-0.077	8392	50.0000	11.0	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10048.D
Date : 22-SEP-2023 04:04
Client ID:
Sample Info: WG342912-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10048.D
Y (x10^3)
Min
-Methyl tert-butylether (11.207)
-Benzene (15.483)
-Toluene (18.837)
-Ethylbenzene (21.558)
m+p-Xylene (21.688)
-o-Xylene (22.494)
-1,2,4-trimethylbenzene (24.712)
-Naphthalene (29.223)
-2,5-Dibromotoluene (PID) (31.521)

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342912-7
Analytical Date: 09/22/23 04:04
Lab File ID: 2QI10048.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	348	348	0.100	-75.45518	25.000	Averaged	*
C9-C12 Aliphatic	1314	271	271	0.100	-79.34770	25.000	Averaged	*
n-Pentane	1375	319	319	0.100	-76.77639	25.000	Averaged	*
2-Methylpentane	1426	353	353	0.100	-75.26697	25.000	Averaged	*
Methyl tert-butylether	1294	391	391	0.100	-69.81080	25.000	Averaged	*
2,2,4-Trimethylpentane	1457	373	373	0.100	-74.39242	25.000	Averaged	*
Benzene	1957	536	536	0.100	-72.62354	25.000	Averaged	*
Toluene	1909	512	512	0.100	-73.20513	25.000	Averaged	*
n-Nonane	1244	254	254	0.100	-79.57809	30.000	Averaged	*
n-Decane	1180	203	203	0.100	-82.75616	25.000	Averaged	*
Ethylbenzene	1757	446	446	0.100	-74.59315	25.000	Averaged	*
m+p-Xylene	1927	495	495	0.100	-74.32297	25.000	Averaged	*
o-Xylene	1935	509	509	0.100	-73.71576	25.000	Averaged	*
1,2,4-trimethylbenzene	1736	425	425	0.100	-75.54879	25.000	Averaged	*
n-Butylcyclohexane	1448	339	339	0.100	-76.56963	25.000	Averaged	*
Naphthalene	1450	383	383	0.100	-73.60432	25.000	Averaged	*
2,5-Dibromotoluene (FID)	505	107	107	0.100	-78.91931	25.000	Averaged	*

*** = Compound out of QC criteria**

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Data File: 2QI10048.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10048.D
Lab Smp Id: WG342912-7
Inj Date : 22-SEP-2023 04:04
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-7
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

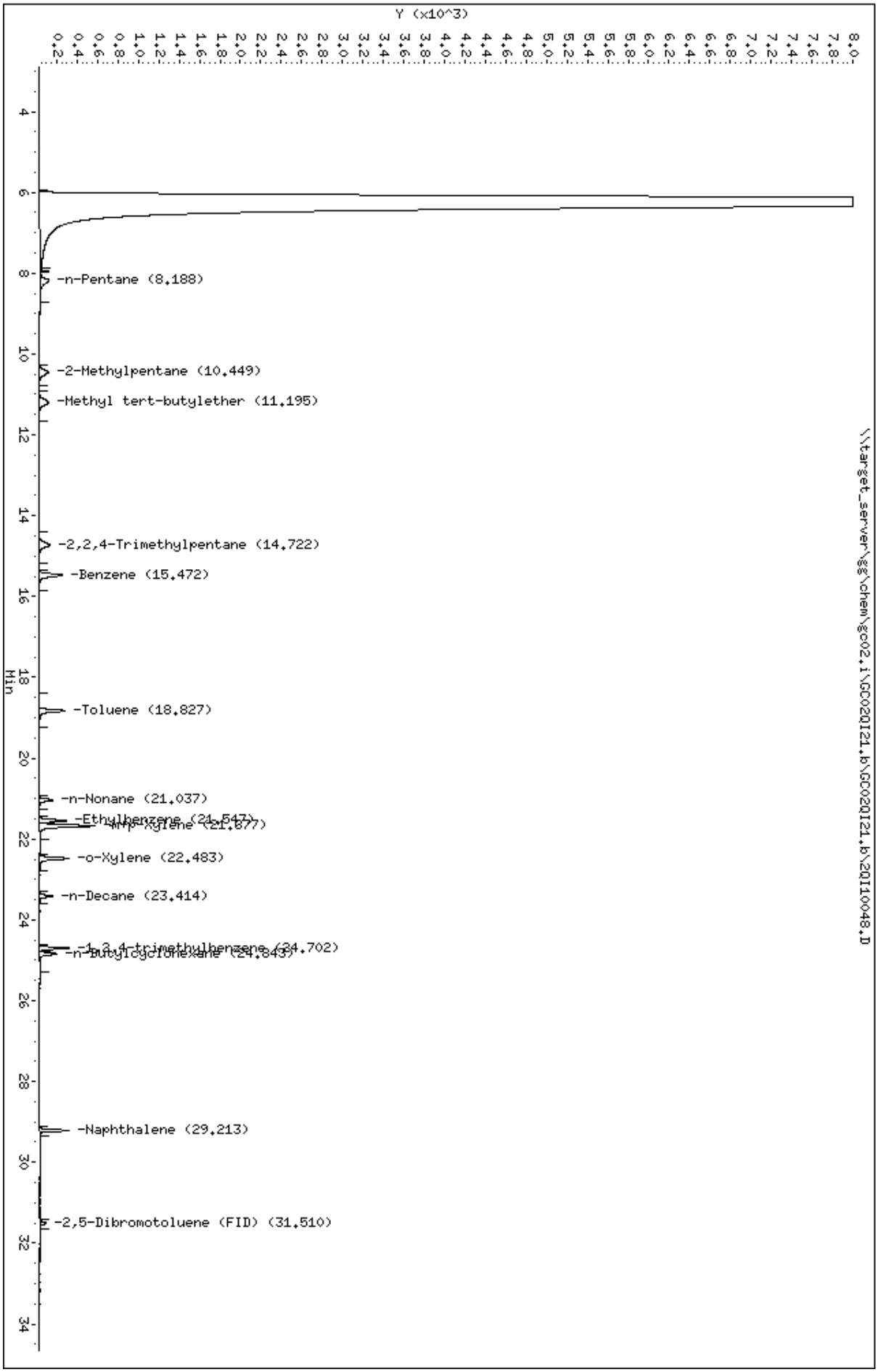
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.187	8.252	-0.065	15966	50.0000	11.6	
	6 2-Methylpentane	10.449	10.513	-0.064	17635	50.0000	12.4	
	7 Methyl tert-butylether	11.195	11.258	-0.063	19534	50.0000	15.1	
	8 2,2,4-Trimethylpentane	14.721	14.793	-0.072	18653	50.0000	12.8	
	9 Benzene	15.472	15.545	-0.073	26784	50.0000	13.7	
	11 Toluene	18.826	18.898	-0.072	25578	50.0000	13.4	
	12 n-Nonane	21.036	21.102	-0.066	12707	50.0000	10.2	
	14 Ethylbenzene	21.547	21.614	-0.067	22316	50.0000	12.7(M)	M6
	15 m+p-Xylene	21.677	21.744	-0.067	49474	100.000	25.7(M)	M6
	16 o-Xylene	22.483	22.546	-0.063	25435	50.0000	13.1	
	13 n-Decane	23.413	23.474	-0.061	10174	50.0000	8.62	
	18 1,2,4-trimethylbenzene	24.701	24.762	-0.061	21227	50.0000	12.2	
	19 n-Butylcyclohexane	24.843	24.902	-0.059	16961	50.0000	11.7	
	20 Naphthalene	29.213	29.280	-0.067	19132	50.0000	13.2	
M	1 C5-C8 Aliphatic				52254	150.000	36.8	
M	2 C9-C12 Aliphatic				27135	100.000	20.3	
$	21 2,5-Dibromotoluene (FID)	31.510	31.587	-0.077	5326	50.0000	10.5	

QC Flag Legend

M - Compound response manually integrated.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Date : 22-SEP-2023 04:04
Client ID:
Sample Info: WG342912-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^3)
Min
-n-Pentane (8.188)
-2-Methylpentane (10.449)
-Methyl tert-butylether (11.195)
-2,2,4-Trimethylpentane (14.722)
-Benzene (15.472)
-Toluene (18.827)
-n-Nonane (21.037)
-Ethylbenzene (21.547)
-m,p-Xylene (21.677)
-o-Xylene (22.483)
-n-Decane (23.414)
-1,3,4-trimethylbenzene (24.702)
-n-Butylcyclohexane (24.843)
-Naphthalene (29.213)
-2,5-Dibromotoluene (FID) (31.510)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342981-6
Analytical Date: 09/22/23 12:22
Lab File ID: 2QI10050.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	1052	1052	0.100	12.43650	25.000	Averaged	
Methyl tert-butylether	631	690	690	0.100	9.30857	25.000	Averaged	
Benzene	1171	1292	1292	0.100	10.33941	25.000	Averaged	
Toluene	1036	1183	1183	0.100	14.19456	25.000	Averaged	
Ethylbenzene	909	1025	1025	0.100	12.68119	25.000	Averaged	
m+p-Xylene	1137	1269	1269	0.100	11.62851	25.000	Averaged	
o-Xylene	961	1092	1092	0.100	13.62165	25.000	Averaged	
1,2,4-trimethylbenzene	936	1052	1052	0.100	12.43522	25.000	Averaged	
Naphthalene	1082	1095	1095	0.100	1.21548	25.000	Averaged	
2,5-Dibromotoluene (PID)	764	705	705	0.100	-7.66922	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10050.D
Report Date: 10-Oct-2023 07:25

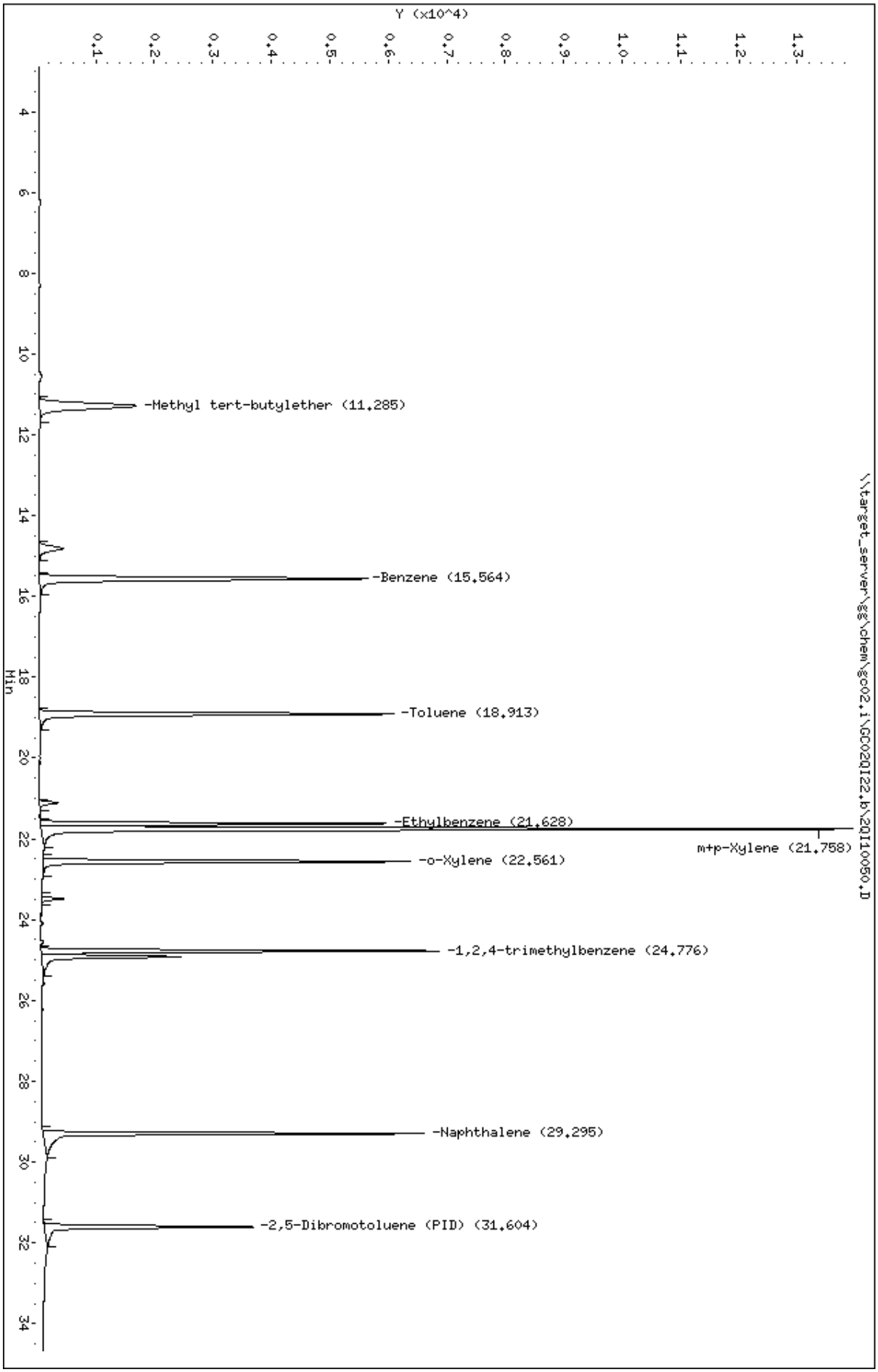
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10050.D
Lab Smp Id: WG342981-6
Inj Date : 22-SEP-2023 12:22
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-6
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.284	11.270	0.014	34500	50.0000	54.6	
	3 Benzene	15.564	15.556	0.008	64593	50.0000	55.2	
	4 Toluene	18.912	18.908	0.004	59161	50.0000	57.1	
	5 Ethylbenzene	21.627	21.550	0.077	51230	50.0000	56.3	
	6 m+p-Xylene	21.757	21.681	0.076	126933	100.000	112	
	7 o-Xylene	22.560	22.557	0.003	54578	50.0000	56.8	
	8 1,2,4-trimethylbenzene	24.776	24.772	0.004	52608	50.0000	56.2	
	10 Naphthalene	29.294	29.291	0.003	54749	50.0000	50.6	
M	1 C9-C10 Aromatic				52608	50.0000	56.2	
$	11 2,5-Dibromotoluene (PID)	31.604	31.597	0.007	35271	50.0000	46.2	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Date : 22-SEP-2023 12:22
Client ID:
Sample Info: WG342981-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^4)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
-Methyl tert-butylether (11.285)
-Benzene (15.564)
-Toluene (18.913)
-Ethylbenzene (21.628)
m+p-Xylene (21.758)
-o-Xylene (22.561)
-1,2,4-trimethylbenzene (24.776)
-Naphthalene (29.295)
-2,5-Dibromotoluene (PID) (31.604)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342981-6
Analytical Date: 09/22/23 12:22
Lab File ID: 2QI10050.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	1311	1311	0.100	-7.61214	25.000	Averaged	
C9-C12 Aliphatic	1314	1230	1230	0.100	-6.37243	25.000	Averaged	
n-Pentane	1375	1179	1179	0.100	-14.22421	25.000	Averaged	
2-Methylpentane	1426	1313	1313	0.100	-7.92329	25.000	Averaged	
Methyl tert-butylether	1294	1339	1339	0.100	3.45992	25.000	Averaged	
2,2,4-Trimethylpentane	1457	1441	1441	0.100	-1.06769	25.000	Averaged	
Benzene	1957	2082	2082	0.100	6.38019	25.000	Averaged	
Toluene	1909	2030	2030	0.100	6.33198	25.000	Averaged	
n-Nonane	1244	1171	1171	0.100	-5.87793	30.000	Averaged	
n-Decane	1180	982	982	0.100	-16.79940	25.000	Averaged	
Ethylbenzene	1757	1927	1927	0.100	9.69483	25.000	Averaged	
m+p-Xylene	1927	2078	2078	0.100	7.85451	25.000	Averaged	
o-Xylene	1935	2113	2113	0.100	9.15786	25.000	Averaged	
1,2,4-trimethylbenzene	1736	1862	1862	0.100	7.25036	25.000	Averaged	
n-Butylcyclohexane	1448	1479	1479	0.100	2.12609	25.000	Averaged	
Naphthalene	1450	1429	1429	0.100	-1.43837	25.000	Averaged	
2,5-Dibromotoluene (FID)	505	419	419	0.100	-17.05071	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: 2QI10050.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10050.D
Lab Smp Id: WG342981-6
Inj Date : 22-SEP-2023 12:22
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-6
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

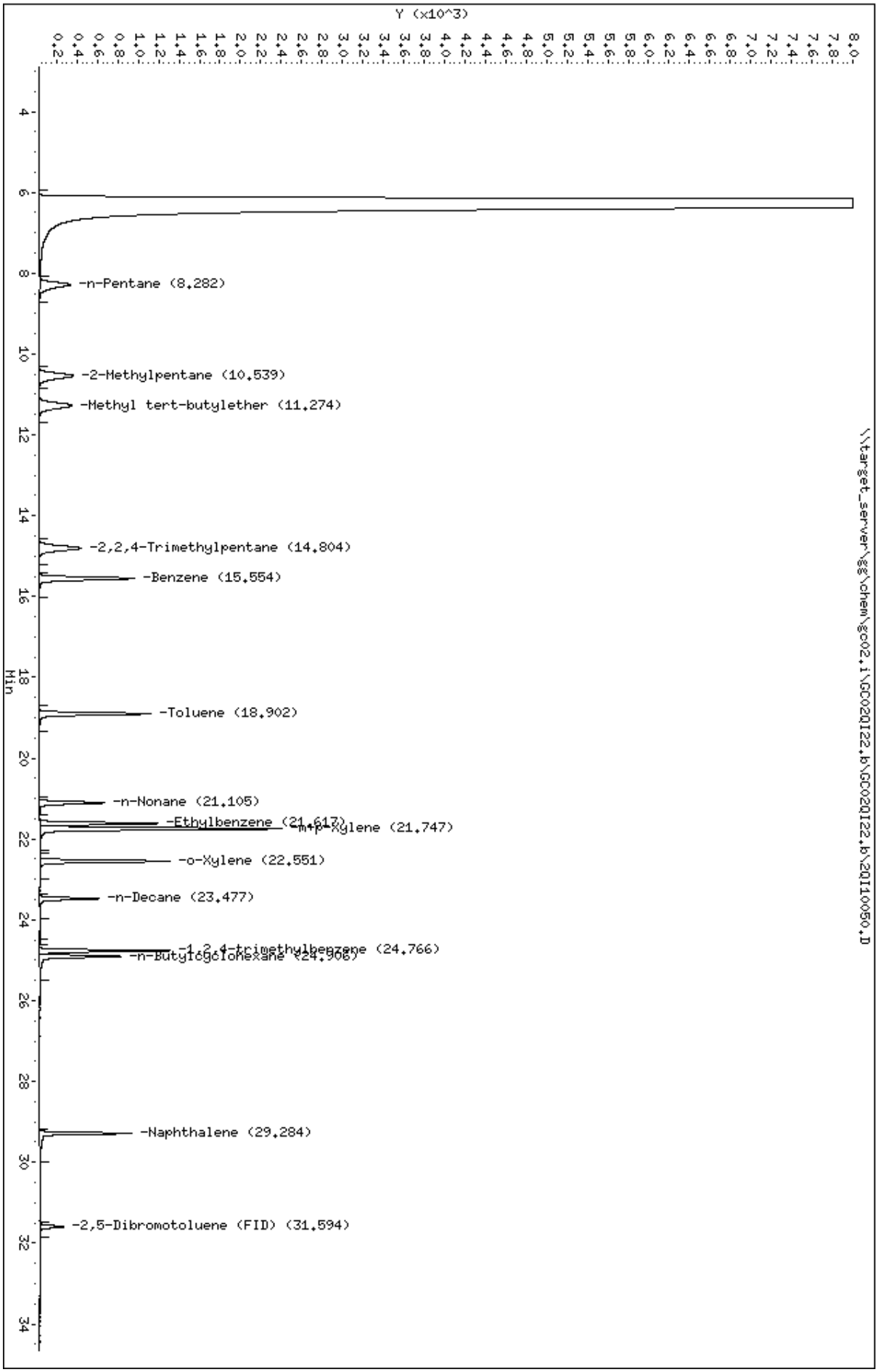
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.281	8.252	0.029	58970	50.0000	42.9(M)	M2
	6 2-Methylpentane	10.538	10.513	0.025	65652	50.0000	46.0	
	7 Methyl tert-butylether	11.273	11.258	0.015	66944	50.0000	51.7	
	8 2,2,4-Trimethylpentane	14.804	14.793	0.011	72064	50.0000	49.5	
	9 Benzene	15.553	15.545	0.008	104078	50.0000	53.2	
	11 Toluene	18.902	18.898	0.004	101503	50.0000	53.2	
	12 n-Nonane	21.104	21.102	0.002	58565	50.0000	47.1	
	14 Ethylbenzene	21.617	21.540	0.077	96350	50.0000	54.8	
	15 m+p-Xylene	21.747	21.670	0.077	207812	100.000	108	
	16 o-Xylene	22.550	22.546	0.004	105631	50.0000	54.6	
	13 n-Decane	23.476	23.474	0.002	49089	50.0000	41.6	
	18 1,2,4-trimethylbenzene	24.765	24.762	0.003	93108	50.0000	53.6	
	19 n-Butylcyclohexane	24.906	24.902	0.004	73928	50.0000	51.1	
	20 Naphthalene	29.284	29.280	0.004	71439	50.0000	49.3	
M	1 C5-C8 Aliphatic				196686	150.000	138	
M	2 C9-C12 Aliphatic				123017	100.000	92.7	
$	21 2,5-Dibromotoluene (FID)	31.593	31.587	0.006	20957	50.0000	41.5	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10050.D
Date : 22-SEP-2023 12:22
Client ID:
Sample Info: WG342981-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10050.D
Y (x10^3)
Min
-n-Pentane (8.282)
-2-Methylpentane (10.539)
-Methyl tert-butylether (11.274)
-2,2,4-Trimethylpentane (14.804)
-Benzene (15.554)
-Toluene (18.902)
-n-Nonane (21.105)
-Ethylbenzene (21.617)
-m+p-Xylene (21.747)
-o-Xylene (22.551)
-n-Decane (23.477)
-1,2,4-trimethylbenzene (24.766)
-n-Butylcyclohexane (24.906)
-Naphthalene (29.284)
-2,5-Dibromotoluene (FID) (31.594)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342981-7
Analytical Date: 09/23/23 02:02
Lab File ID: 2QI10066.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	1100	1100	0.100	17.57738	25.000	Averaged	
Methyl tert-butylether	631	728	728	0.100	15.29044	25.000	Averaged	
Benzene	1171	1289	1289	0.100	10.07806	25.000	Averaged	
Toluene	1036	1163	1163	0.100	12.21414	25.000	Averaged	
Ethylbenzene	909	1012	1012	0.100	11.34828	25.000	Averaged	
m+p-Xylene	1137	1267	1267	0.100	11.41305	25.000	Averaged	
o-Xylene	961	1105	1105	0.100	15.06851	25.000	Averaged	
1,2,4-trimethylbenzene	936	1100	1100	0.100	17.57738	25.000	Averaged	
Naphthalene	1082	1261	1261	0.100	16.60051	25.000	Averaged	
2,5-Dibromotoluene (PID)	764	909	909	0.100	18.95072	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10066.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10066.D
Lab Smp Id: WG342981-7
Inj Date : 23-SEP-2023 02:02
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-7
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

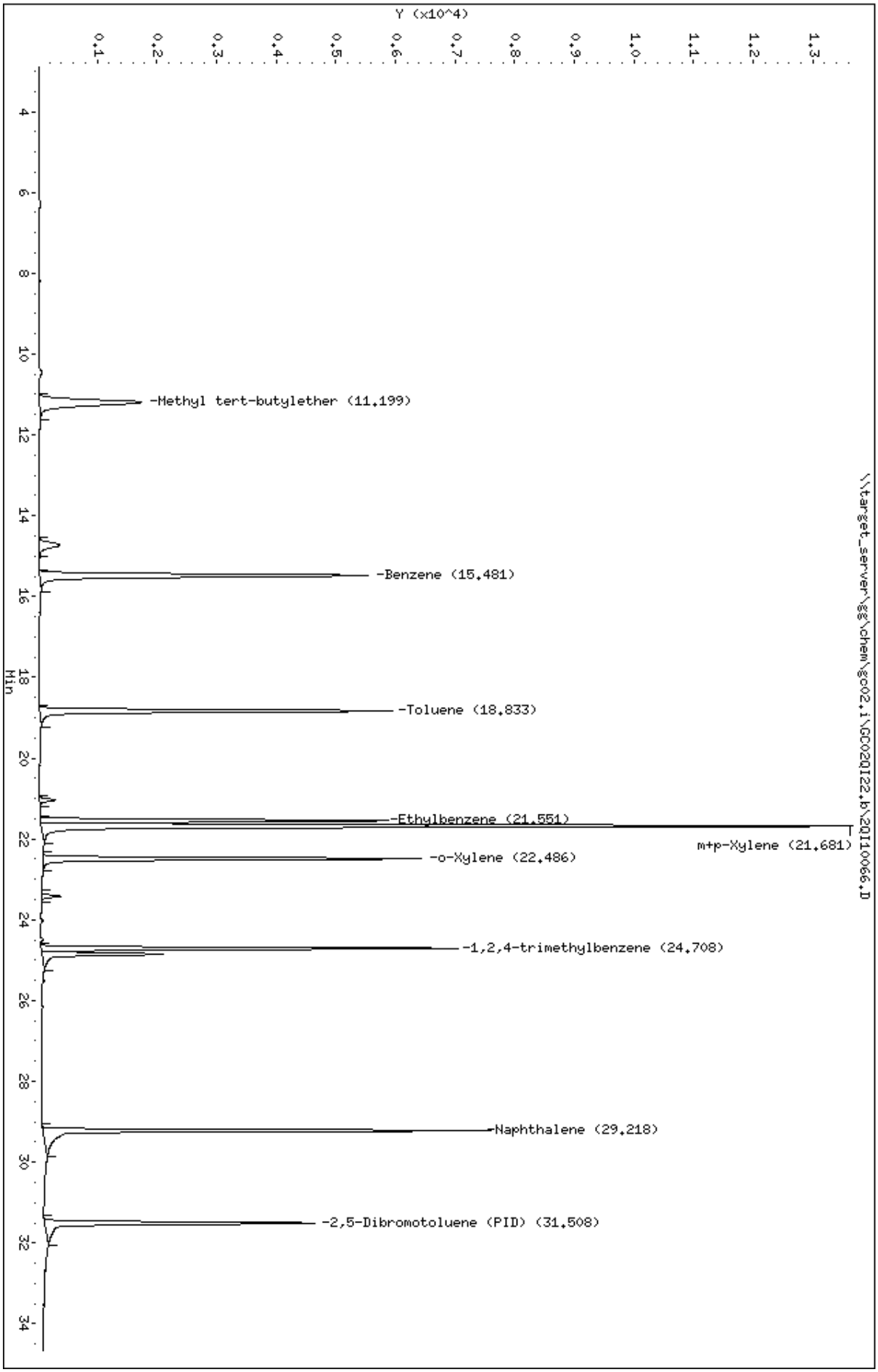
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.199	11.270	-0.071	36388	50.0000	57.6	
3 Benzene	15.480	15.556	-0.076	64440	50.0000	55.0	
4 Toluene	18.832	18.908	-0.076	58135	50.0000	56.1	
5 Ethylbenzene	21.550	21.550	0.000	50624	50.0000	55.7(M)	M6
6 m+p-Xylene	21.681	21.681	0.000	126688	100.000	111(M)	M6
7 o-Xylene	22.486	22.557	-0.071	55273	50.0000	57.5	
8 1,2,4-trimethylbenzene	24.707	24.772	-0.065	55014	50.0000	58.8	
10 Naphthalene	29.217	29.291	-0.074	63071	50.0000	58.3	
M 1 C9-C10 Aromatic				55014	50.0000	58.8	
$ 11 2,5-Dibromotoluene (PID)	31.508	31.597	-0.089	45440	50.0000	59.5	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10066.D
Date : 23-SEP-2023 02:02
Client ID:
Sample Info: WG342981-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10066.D
Y (x10^4)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
-Methyl tert-butylether (11.199)
-Benzene (15.481)
-Toluene (18.833)
-Ethylbenzene (21.551)
m+p-Xylene (21.681)
-o-Xylene (22.486)
-1,2,4-trimethylbenzene (24.708)
-Naphthalene (29.218)
-2,5-Dibromotoluene (PID) (31.508)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG342981-7
Analytical Date: 09/23/23 02:02
Lab File ID: 2QI10066.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	1116	1116	0.100	-21.37427	25.000	Averaged	
C9-C12 Aliphatic	1314	1064	1064	0.100	-19.04542	25.000	Averaged	
n-Pentane	1375	1005	1005	0.100	-26.89057	25.000	Averaged	*
2-Methylpentane	1426	1104	1104	0.100	-22.57517	25.000	Averaged	
Methyl tert-butylether	1294	1419	1419	0.100	9.61243	25.000	Averaged	
2,2,4-Trimethylpentane	1457	1238	1238	0.100	-14.99240	25.000	Averaged	
Benzene	1957	2097	2097	0.100	7.15700	25.000	Averaged	
Toluene	1909	2025	2025	0.100	6.08685	25.000	Averaged	
n-Nonane	1244	964	964	0.100	-22.53431	30.000	Averaged	
n-Decane	1180	843	843	0.100	-28.55687	25.000	Averaged	*
Ethylbenzene	1757	1934	1934	0.100	10.11836	25.000	Averaged	
m+p-Xylene	1927	2108	2108	0.100	9.39231	25.000	Averaged	
o-Xylene	1935	2167	2167	0.100	11.99244	25.000	Averaged	
1,2,4-trimethylbenzene	1736	1977	1977	0.100	13.83803	25.000	Averaged	
n-Butylcyclohexane	1448	1284	1284	0.100	-11.29308	25.000	Averaged	
Naphthalene	1450	1660	1660	0.100	14.52431	25.000	Averaged	
2,5-Dibromotoluene (FID)	505	525	525	0.100	3.97852	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: 2QI10066.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10066.D
Lab Smp Id: WG342981-7
Inj Date : 23-SEP-2023 02:02
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-7
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

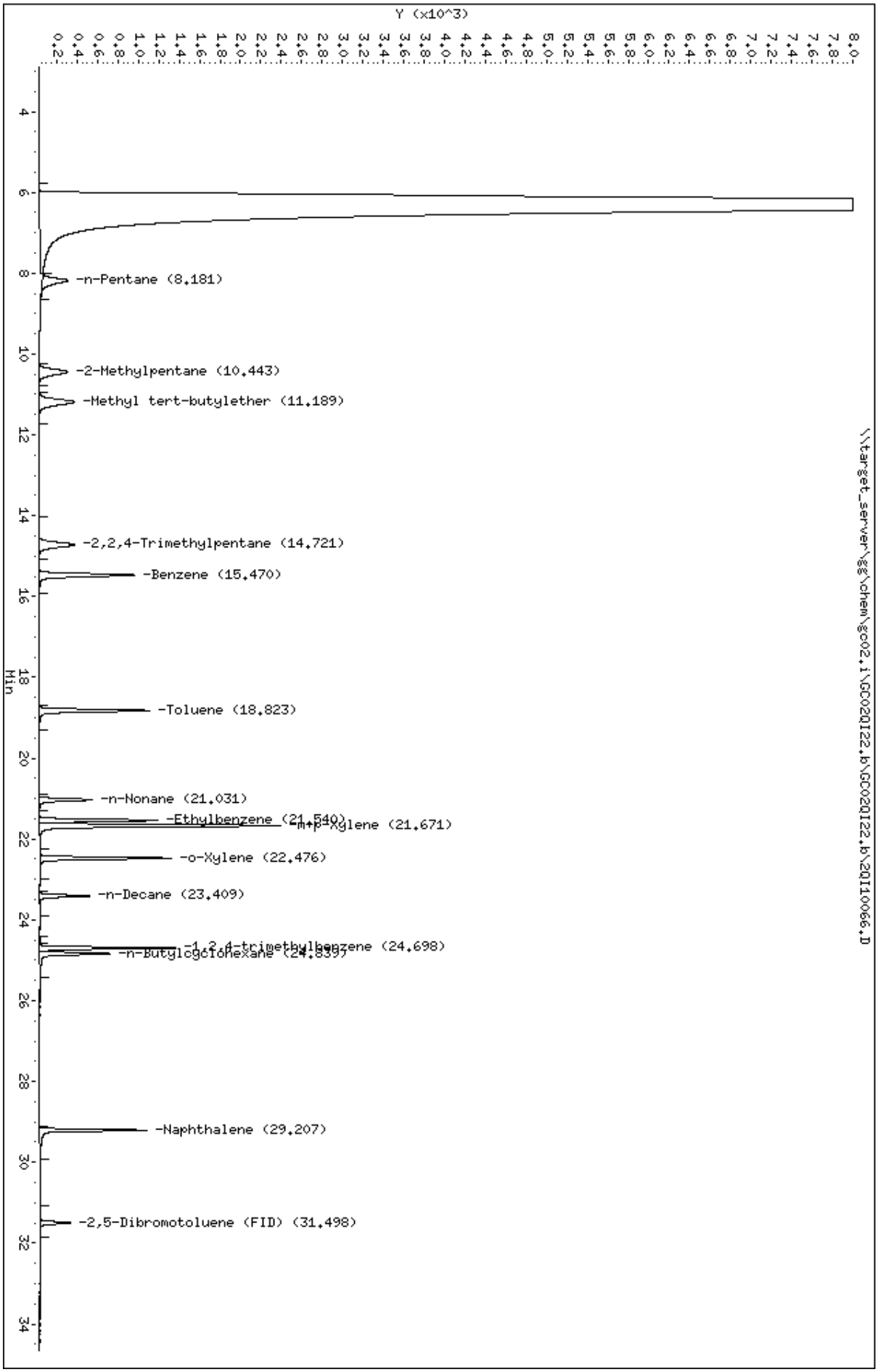
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.180	8.252	-0.072	50262	50.0000	36.6(M)	M2
	6 2-Methylpentane	10.443	10.513	-0.070	55205	50.0000	38.7	
	7 Methyl tert-butylether	11.188	11.258	-0.070	70925	50.0000	54.8	
	8 2,2,4-Trimethylpentane	14.721	14.793	-0.072	61921	50.0000	42.5	
	9 Benzene	15.470	15.545	-0.075	104838	50.0000	53.6	
	11 Toluene	18.822	18.898	-0.076	101269	50.0000	53.0	
	12 n-Nonane	21.030	21.102	-0.072	48201	50.0000	38.7	
	14 Ethylbenzene	21.540	21.540	0.000	96722	50.0000	55.0(M)	M6
	15 m+p-Xylene	21.670	21.670	0.000	210775	100.000	109(M)	M6
	16 o-Xylene	22.476	22.546	-0.070	108374	50.0000	56.0	
	13 n-Decane	23.408	23.474	-0.066	42152	50.0000	35.7	
	18 1,2,4-trimethylbenzene	24.697	24.762	-0.065	98827	50.0000	56.9	
	19 n-Butylcyclohexane	24.838	24.902	-0.064	64214	50.0000	44.4	
	20 Naphthalene	29.207	29.280	-0.073	83009	50.0000	57.3	
M	1 C5-C8 Aliphatic				167388	150.000	118	
M	2 C9-C12 Aliphatic				106366	100.000	80.1	
$	21 2,5-Dibromotoluene (FID)	31.497	31.587	-0.090	26270	50.0000	52.0	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10066.D
Date : 23-SEP-2023 02:02
Client ID:
Sample Info: WG342981-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10066.D
Y (x10^3)
Min
-n-Pentane (8.181)
-2-Methylpentane (10.443)
-Methyl tert-butylether (11.189)
-2,2,4-Trimethylpentane (14.721)
-Benzene (15.470)
-Toluene (18.823)
-n-Nonane (21.031)
-Ethylbenzene (21.540)
-m+p-Xylene (21.671)
-o-Xylene (22.476)
-n-Decane (23.409)
-1,2,4-trimethylbenzene (24.698)
-n-Butylcyclohexane (24.839)
-Naphthalene (29.207)
-2,5-Dibromotoluene (FID) (31.498)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG343069-4
Analytical Date: 09/25/23 10:35
Lab File ID: 2QI10068.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	1068	1068	0.100	14.15278	25.000	Averaged	
Methyl tert-butylether	631	696	696	0.100	10.22739	25.000	Averaged	
Benzene	1171	1287	1287	0.100	9.93115	25.000	Averaged	
Toluene	1036	1173	1173	0.100	13.21015	25.000	Averaged	
Ethylbenzene	909	1016	1016	0.100	11.75299	25.000	Averaged	
m+p-Xylene	1137	1261	1261	0.100	10.88276	25.000	Averaged	
o-Xylene	961	1087	1087	0.100	13.10119	25.000	Averaged	
1,2,4-trimethylbenzene	936	1068	1068	0.100	14.15141	25.000	Averaged	
Naphthalene	1082	1155	1155	0.100	6.80231	25.000	Averaged	
2,5-Dibromotoluene (PID)	764	806	806	0.100	5.47190	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10068.D
Report Date: 10-Oct-2023 07:29

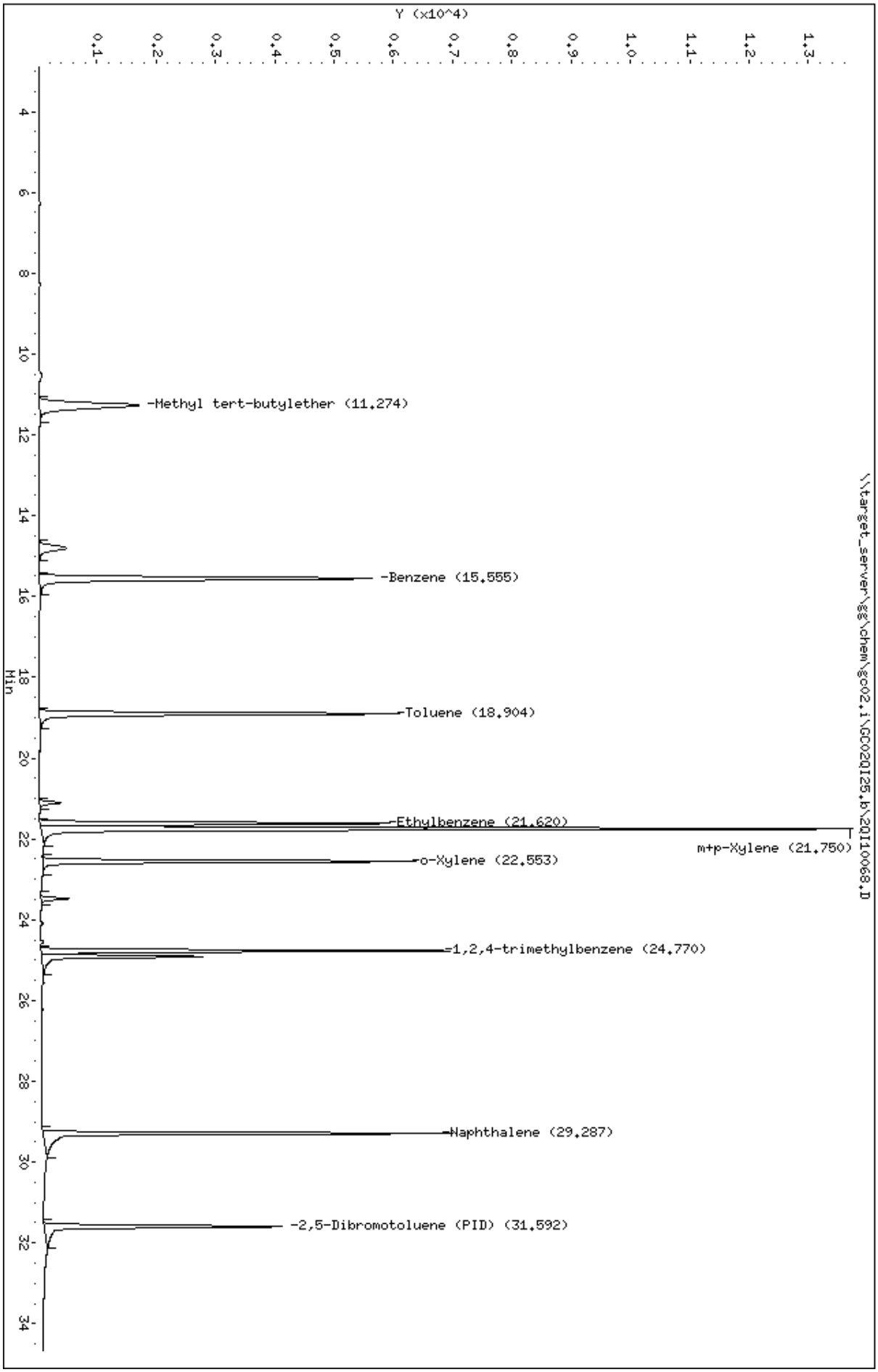
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10068.D
Lab Smp Id: WG343069-4
Inj Date : 25-SEP-2023 10:35
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-4
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.274	11.270	0.004	34790	50.0000	55.1	
	3 Benzene	15.555	15.556	-0.001	64354	50.0000	55.0	
	4 Toluene	18.903	18.908	-0.005	58651	50.0000	56.6	
	5 Ethylbenzene	21.619	21.619	0.000	50808	50.0000	55.9	
	6 m+p-Xylene	21.750	21.750	0.000	126085	100.000	111	
	7 o-Xylene	22.553	22.557	-0.004	54328	50.0000	56.6	
	8 1,2,4-trimethylbenzene	24.769	24.772	-0.003	53411	50.0000	57.1	
	10 Naphthalene	29.287	29.291	-0.004	57771	50.0000	53.4	
M	1 C9-C10 Aromatic				53411	50.0000	57.1	
$	11 2,5-Dibromotoluene (PID)	31.591	31.597	-0.006	40291	50.0000	52.7	


Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10068.D
Date : 25-SEP-2023 10:35
Client ID:
Sample Info: WG343069-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10068.D
Y (x10^4)
Min
-Methyl tert-butylether (11.274)
-Benzene (15.555)
-Toluene (18.904)
-Ethylbenzene (21.620)
m+p-Xylene (21.750)
-o-Xylene (22.553)
-1,2,4-trimethylbenzene (24.770)
-Naphthalene (29.287)
-2,5-Dibromotoluene (PID) (31.592)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG343069-4
Analytical Date: 09/25/23 10:35
Lab File ID: 2QI10068.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	1527	1527	0.100	7.59110	25.000	Averaged	
C9-C12 Aliphatic	1314	1494	1494	0.100	13.74330	25.000	Averaged	
n-Pentane	1375	1370	1370	0.100	-0.37673	25.000	Averaged	
2-Methylpentane	1426	1522	1522	0.100	6.74402	25.000	Averaged	
Methyl tert-butylether	1294	1360	1360	0.100	5.10585	25.000	Averaged	
2,2,4-Trimethylpentane	1457	1689	1689	0.100	15.94042	25.000	Averaged	
Benzene	1957	2132	2132	0.100	8.97433	25.000	Averaged	
Toluene	1909	2074	2074	0.100	8.61255	25.000	Averaged	
n-Nonane	1244	1428	1428	0.100	14.72559	30.000	Averaged	
n-Decane	1180	1267	1267	0.100	7.40875	25.000	Averaged	
Ethylbenzene	1757	1978	1978	0.100	12.61396	25.000	Averaged	
m+p-Xylene	1927	2169	2169	0.100	12.59194	25.000	Averaged	
o-Xylene	1935	2208	2208	0.100	14.07059	25.000	Averaged	
1,2,4-trimethylbenzene	1736	1948	1948	0.100	12.20695	25.000	Averaged	
n-Butylcyclohexane	1448	1722	1722	0.100	18.90628	25.000	Averaged	
Naphthalene	1450	1574	1574	0.100	8.61108	25.000	Averaged	
2,5-Dibromotoluene (FID)	505	503	503	0.100	-0.46639	25.000	Averaged	

*** = Compound out of QC criteria**

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Data File: 2QI10068.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10068.D
Lab Smp Id: WG343069-4
Inj Date : 25-SEP-2023 10:35
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-4
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

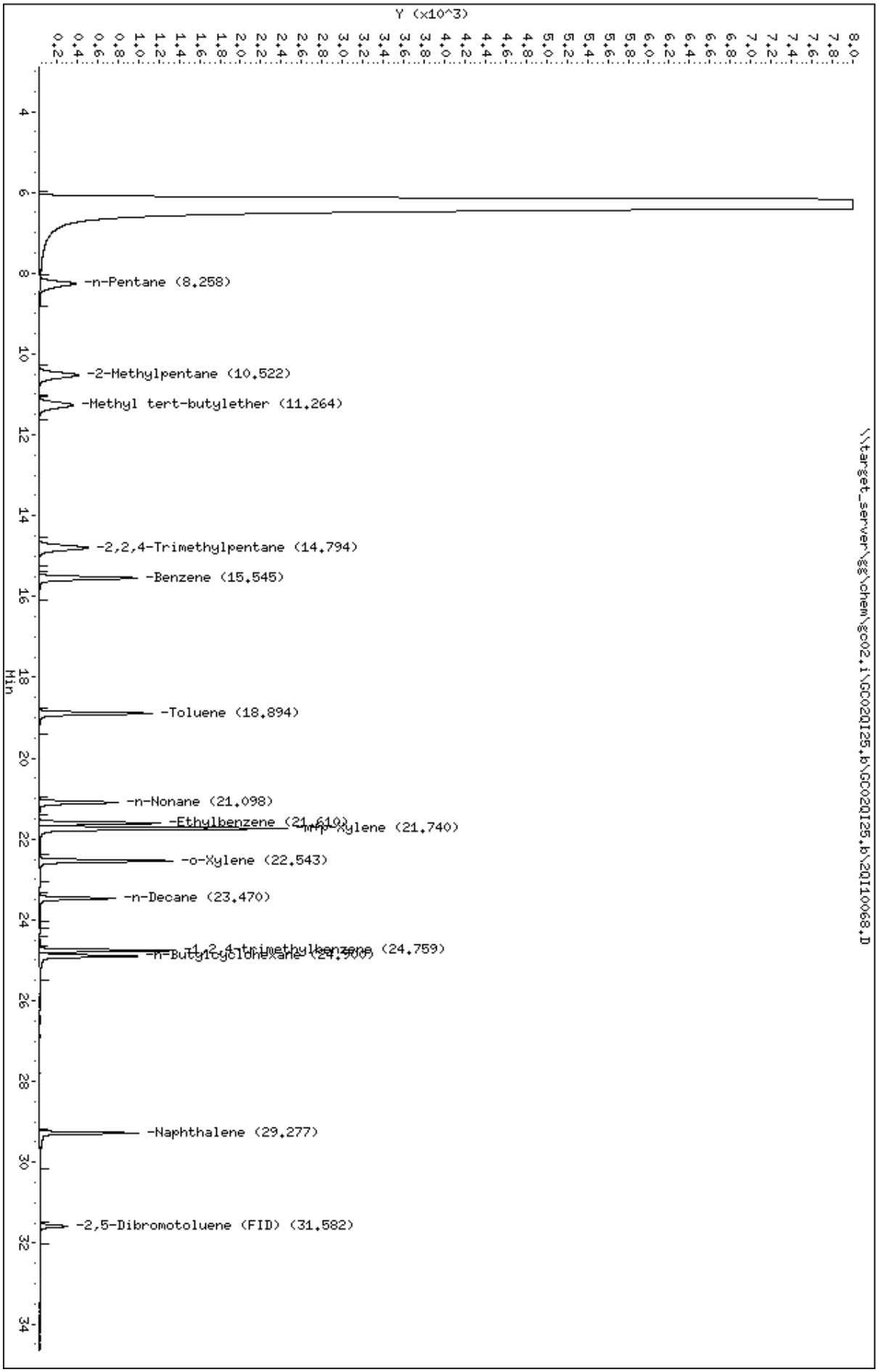
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.258	8.252	0.006	68490	50.0000	49.8(M)	M2
	6 2-Methylpentane	10.522	10.513	0.009	76110	50.0000	53.4	
	7 Methyl tert-butylether	11.263	11.258	0.005	68009	50.0000	52.6	
	8 2,2,4-Trimethylpentane	14.794	14.793	0.001	84453	50.0000	58.0	
	9 Benzene	15.544	15.545	-0.001	106616	50.0000	54.5	
	11 Toluene	18.893	18.898	-0.005	103680	50.0000	54.3	
	12 n-Nonane	21.097	21.102	-0.005	71385	50.0000	57.4	
	14 Ethylbenzene	21.609	21.609	0.000	98914	50.0000	56.3	
	15 m+p-Xylene	21.739	21.739	0.000	216940	100.000	112	
	16 o-Xylene	22.543	22.546	-0.003	110385	50.0000	57.0	
	13 n-Decane	23.470	23.474	-0.004	63372	50.0000	53.7	
	18 1,2,4-trimethylbenzene	24.759	24.762	-0.003	97411	50.0000	56.1	
	19 n-Butylcyclohexane	24.899	24.902	-0.003	86075	50.0000	59.4	
	20 Naphthalene	29.276	29.280	-0.004	78723	50.0000	54.3	
M	1 C5-C8 Aliphatic				229053	150.000	161	
M	2 C9-C12 Aliphatic				149447	100.000	113	
$	21 2,5-Dibromotoluene (FID)	31.581	31.587	-0.006	25147	50.0000	49.8	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10068.D
Date : 25-SEP-2023 10:35
Client ID:
Sample Info: WG343069-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10068.D
Y (x10^3)
Min
-n-Pentane (8.258)
-2-Methylpentane (10.522)
-Methyl tert-butylether (11.264)
-2,2,4-Trimethylpentane (14.794)
-Benzene (15.545)
-Toluene (18.894)
-n-Nonane (21.098)
-Ethylbenzene (21.610)
-mmp-Xylene (21.740)
-o-Xylene (22.543)
-n-Decane (23.470)
-1,2,4-trimethylbenzene (24.759)
-n-Butylcyclohexane (24.900)
-Naphthalene (29.277)
-2,5-Dibromotoluene (FID) (31.582)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG343069-5
Analytical Date: 09/25/23 20:54
Lab File ID: 2QI10077.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: A

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C9-C10 Aromatic	936	168	168	0.100	-82.03558	25.000	Averaged	*
Methyl tert-butylether	631	149	149	0.100	-76.32281	25.000	Averaged	*
Benzene	1171	234	234	0.100	-80.03255	25.000	Averaged	*
Toluene	1036	206	206	0.100	-80.07806	25.000	Averaged	*
Ethylbenzene	909	164	164	0.100	-82.00796	25.000	Averaged	*
m+p-Xylene	1137	211	211	0.100	-81.48627	25.000	Averaged	*
o-Xylene	961	184	184	0.100	-80.81185	25.000	Averaged	*
1,2,4-trimethylbenzene	936	168	168	0.100	-82.03661	25.000	Averaged	*
Naphthalene	1082	237	237	0.100	-78.12412	25.000	Averaged	*
2,5-Dibromotoluene (PID)	764	123	123	0.100	-83.90867	25.000	Averaged	*

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10077.D
Report Date: 10-Oct-2023 07:29

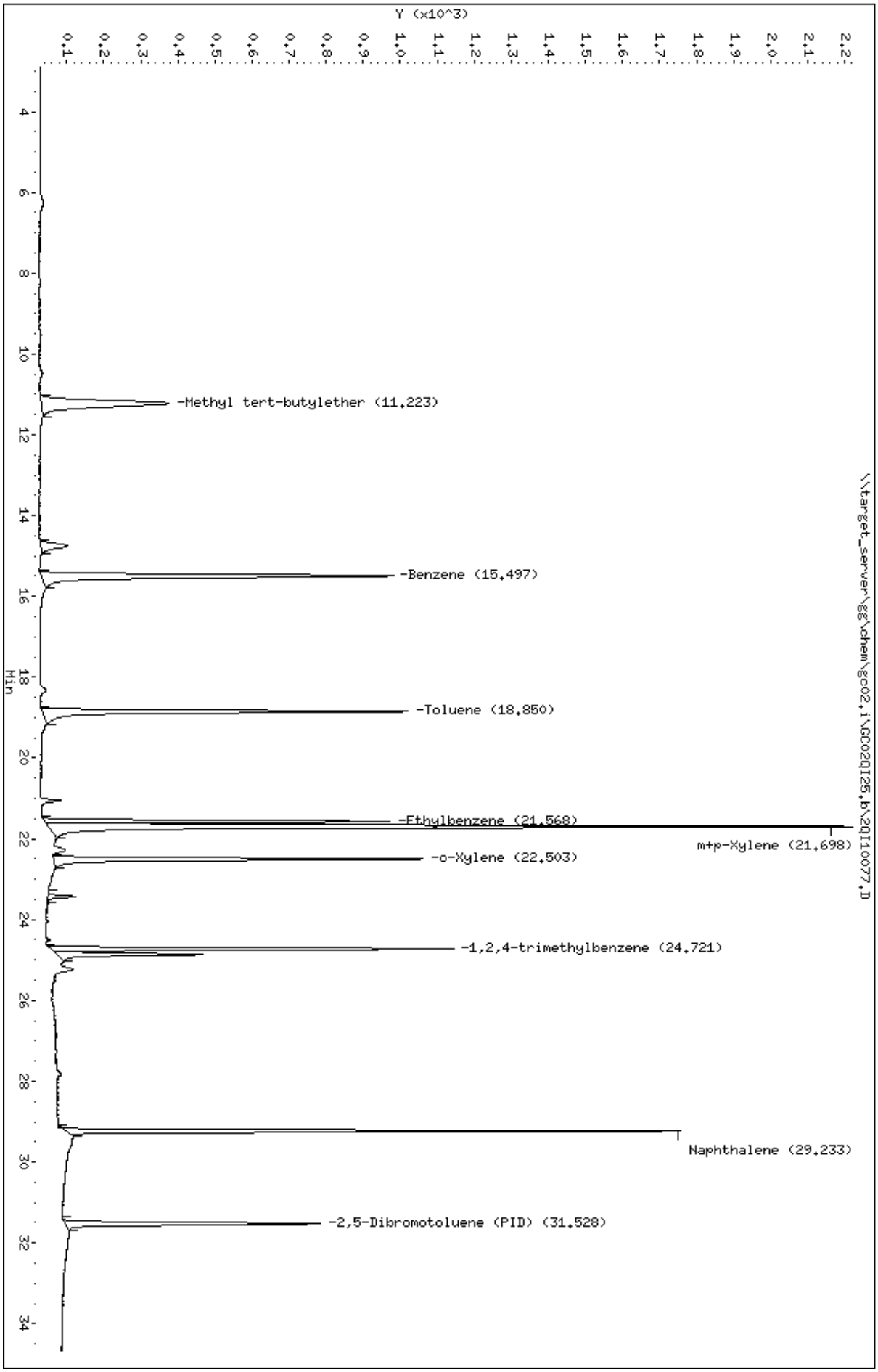
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10077.D
Lab Smp Id: WG343069-5
Inj Date : 25-SEP-2023 20:54
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-5
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.222	11.270	-0.048	7473	50.0000	11.8	
	3 Benzene	15.497	15.556	-0.059	11689	50.0000	9.98	
	4 Toluene	18.850	18.908	-0.058	10321	50.0000	9.96	
	5 Ethylbenzene	21.567	21.619	-0.052	8180	50.0000	9.00	
	6 m+p-Xylene	21.697	21.750	-0.053	21052	100.000	18.5	
	7 o-Xylene	22.503	22.557	-0.054	9217	50.0000	9.59	
	8 1,2,4-trimethylbenzene	24.720	24.772	-0.052	8405	50.0000	8.98	
	10 Naphthalene	29.232	29.291	-0.059	11833	50.0000	10.9	
M	1 C9-C10 Aromatic				8405	50.0000	8.98	
$	11 2,5-Dibromotoluene (PID)	31.527	31.597	-0.070	6147	50.0000	8.04	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Date : 25-SEP-2023 20:54
Client ID:
Sample Info: WG343069-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10077.D
Y (x10^3)
Min
-Methyl tert-butylether (11.223)
-Benzene (15.497)
-Toluene (18.850)
-Ethylbenzene (21.568)
m+p-Xylene (21.698)
-o-Xylene (22.503)
-1,2,4-trimethylbenzene (24.721)
Naphthalene (29.233)
-2,5-Dibromotoluene (PID) (31.528)

Form 7
Calibration Verification Summary

Lab Name: Katahdin Analytical Services
SDG: SQ5043
Lab ID: WG343069-5
Analytical Date: 09/25/23 20:54
Lab File ID: 2QI10077.D
Instrument ID: GC02
Initial Calibration Date(s): 09/08/23 11:40 09/08/23 15:06
Column ID: B

Compound	RRF/Amount	RF50	CCAL RRF50	Min RF	%D/ %Drift	Max %D/ %Drift	Curve Type	Qual
C5-C8 Aliphatic	1419	253	253	0.100	-82.20907	25.000	Averaged	*
C9-C12 Aliphatic	1314	207	207	0.100	-84.24839	25.000	Averaged	*
n-Pentane	1375	230	230	0.100	-83.28121	25.000	Averaged	*
2-Methylpentane	1426	258	258	0.100	-81.92603	25.000	Averaged	*
Methyl tert-butylether	1294	303	303	0.100	-76.57841	25.000	Averaged	*
2,2,4-Trimethylpentane	1457	270	270	0.100	-81.47490	25.000	Averaged	*
Benzene	1957	370	370	0.100	-81.07954	25.000	Averaged	*
Toluene	1909	354	354	0.100	-81.44745	25.000	Averaged	*
n-Nonane	1244	206	206	0.100	-83.46254	30.000	Averaged	*
n-Decane	1180	176	176	0.100	-85.08664	25.000	Averaged	*
Ethylbenzene	1757	306	306	0.100	-82.56040	25.000	Averaged	*
m+p-Xylene	1927	343	343	0.100	-82.19777	25.000	Averaged	*
o-Xylene	1935	360	360	0.100	-81.40107	25.000	Averaged	*
1,2,4-trimethylbenzene	1736	299	299	0.100	-82.77576	25.000	Averaged	*
n-Butylcyclohexane	1448	238	238	0.100	-83.56517	25.000	Averaged	*
Naphthalene	1450	314	314	0.100	-78.33380	25.000	Averaged	*
2,5-Dibromotoluene (FID)	505	80.08000	80.08000	0.100	-84.15188	25.000	Averaged	*

*** = Compound out of QC criteria**

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Data File: 2QI10077.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10077.D
Lab Smp Id: WG343069-5
Inj Date : 25-SEP-2023 20:54
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-5
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

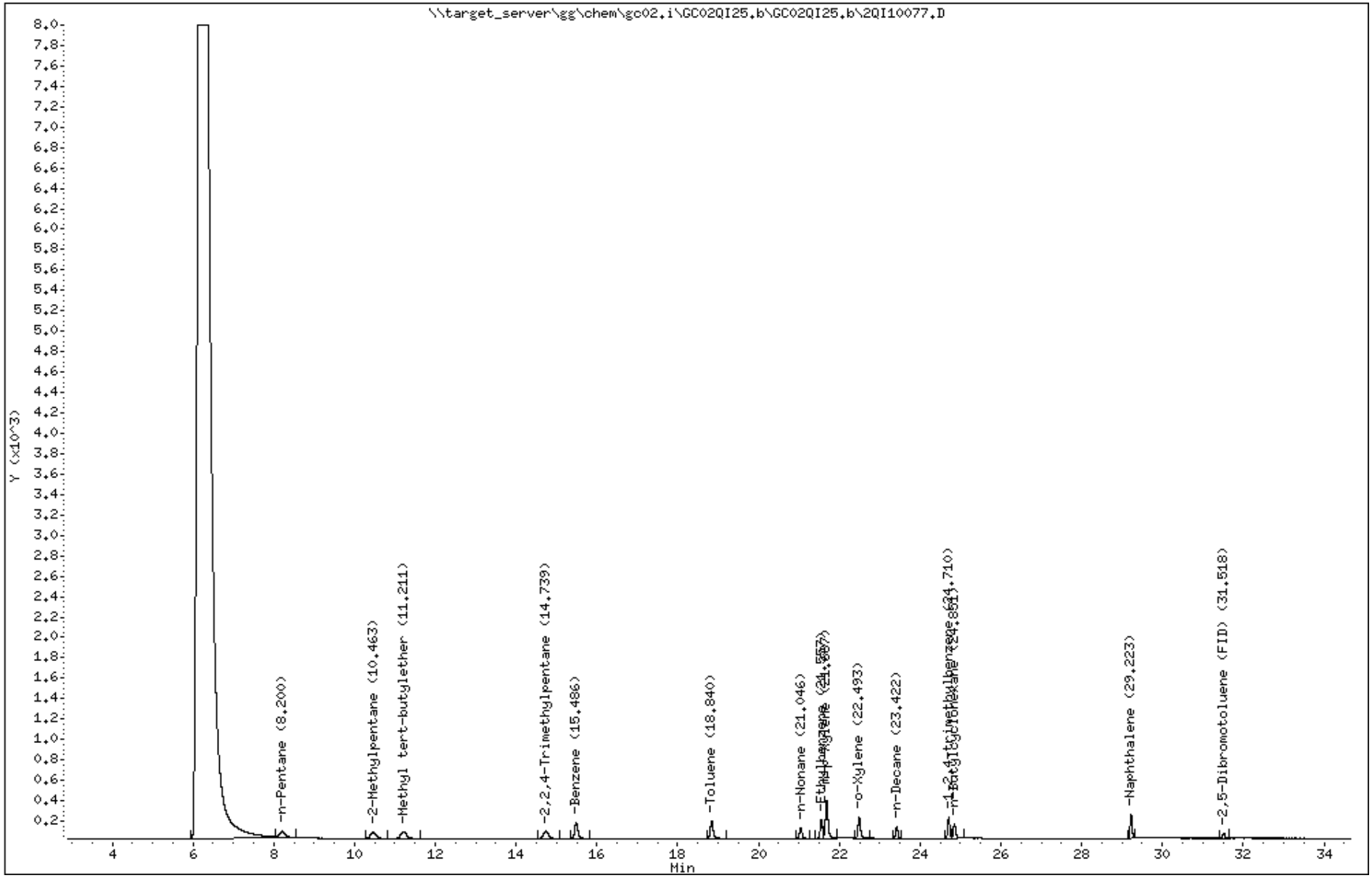
	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	5 n-Pentane	8.199	8.252	-0.053	11494	50.0000	8.36(M)	M2
	6 2-Methylpentane	10.462	10.513	-0.051	12887	50.0000	9.04	
	7 Methyl tert-butylether	11.210	11.258	-0.048	15155	50.0000	11.7	
	8 2,2,4-Trimethylpentane	14.739	14.793	-0.054	13494	50.0000	9.26	
	9 Benzene	15.486	15.545	-0.059	18511	50.0000	9.46	
	11 Toluene	18.839	18.898	-0.059	17710	50.0000	9.28	
	12 n-Nonane	21.046	21.102	-0.056	10290	50.0000	8.27	
	14 Ethylbenzene	21.557	21.609	-0.052	15318	50.0000	8.72	
	15 m+p-Xylene	21.687	21.739	-0.052	34301	100.000	17.8	
	16 o-Xylene	22.492	22.546	-0.054	17998	50.0000	9.30	
	13 n-Decane	23.422	23.474	-0.052	8799	50.0000	7.46	
	18 1,2,4-trimethylbenzene	24.710	24.762	-0.052	14953	50.0000	8.61	
	19 n-Butylcyclohexane	24.851	24.902	-0.051	11897	50.0000	8.22	
	20 Naphthalene	29.222	29.280	-0.058	15704	50.0000	10.8	
M	1 C5-C8 Aliphatic				37875	150.000	26.6	
M	2 C9-C12 Aliphatic				20696	100.000	15.7	
$	21 2,5-Dibromotoluene (FID)	31.517	31.587	-0.070	4004	50.0000	7.92	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10077.D
Date : 25-SEP-2023 20:54
Client ID:
Sample Info: WG343069-5
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: WG342912-1
Client ID: Method Blank
Matrix: AQ
Lab File ID: 2QI10028.D

Sample Date: N/A
Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912

Report Date: 10-OCT-23
Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		97.9	%					
2,5-Dibromotoluene (PID)		109.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10028.D
Report Date: 10-Oct-2023 07:21

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10028.D
Lab Smp Id: WG342912-1 Client Smp ID: WG342912-Blank
Inj Date : 21-SEP-2023 11:56
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-1
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

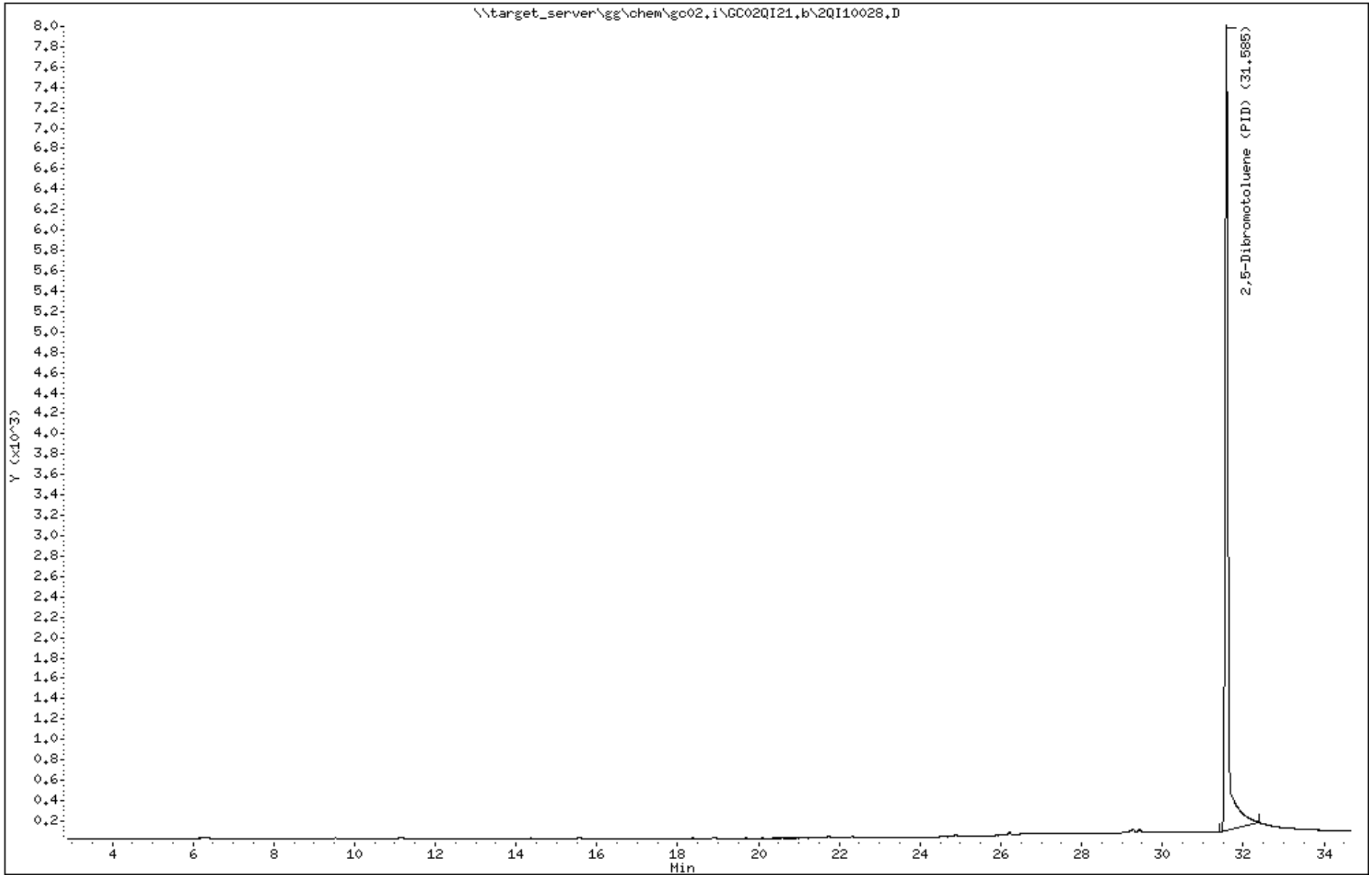
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.585	31.597	-0.012	83649	109.486	109	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10028.D
Date : 21-SEP-2023 11:56
Client ID: WG342912-Blank
Sample Info: WG342912-1
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10028.D
Report Date: 10-Oct-2023 07:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10028.D
Lab Smp Id: WG342912-1 Client Smp ID: WG342912-Blank
Inj Date : 21-SEP-2023 11:56
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-1
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

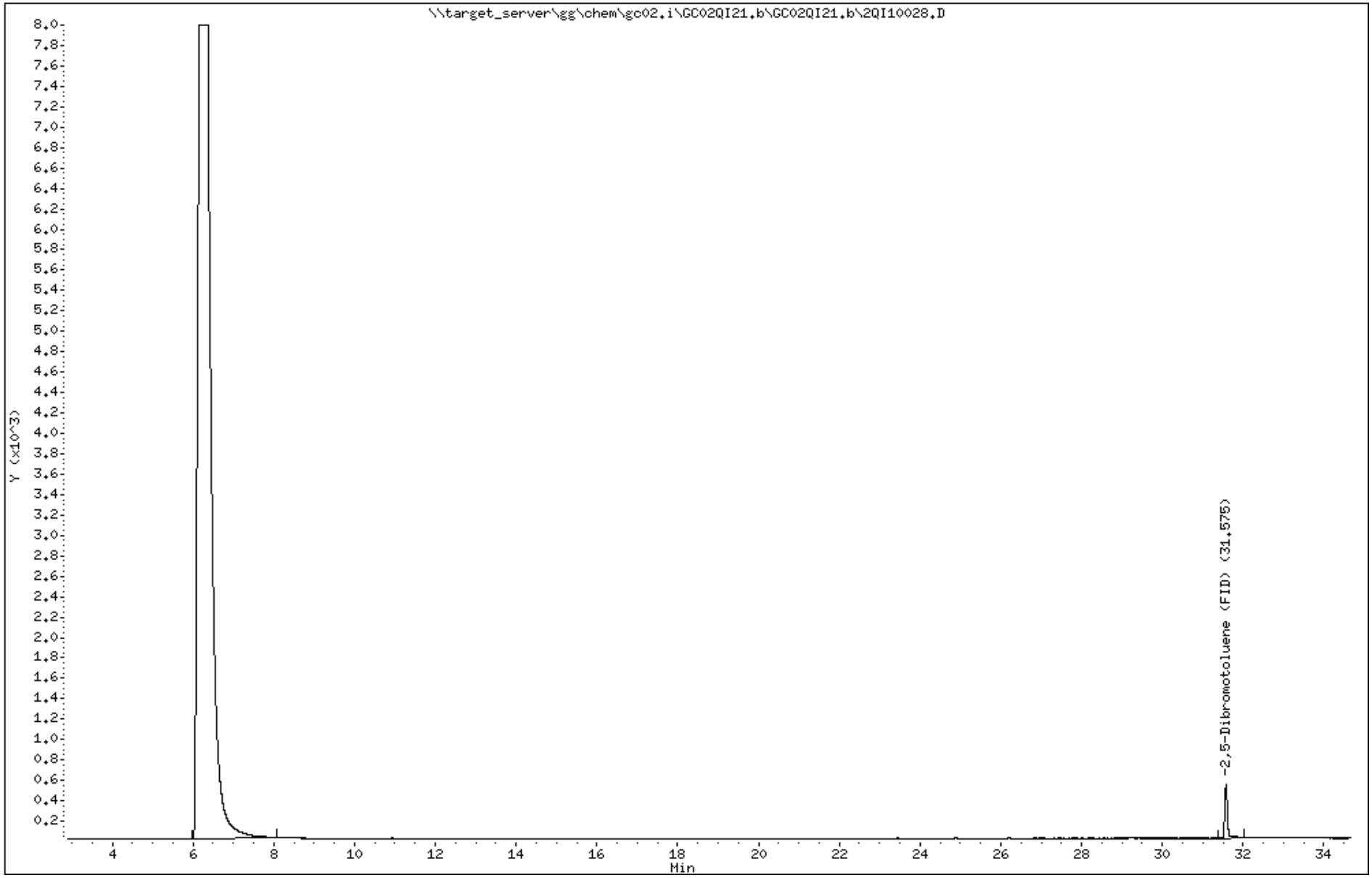
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.575	31.587	-0.012	49477	97.9167	97.9	

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10028.D
Date : 21-SEP-2023 11:56
Client ID: WG342912-Blank
Sample Info: WG342912-1
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: WG342981-1
Client ID: Method Blank
Matrix: AQ
Lab File ID: 2QI10051.D

Sample Date: N/A
Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981

Report Date: 10-OCT-23
Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		93.4	%					
2,5-Dibromotoluene (PID)		105.	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10051.D
Report Date: 10-Oct-2023 07:25

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10051.D
Lab Smp Id: WG342981-1 Client Smp ID: WG342981-Blank
Inj Date : 22-SEP-2023 14:56
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-1
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH.sub
Target Version: 4.12
Processing Host: V200T3

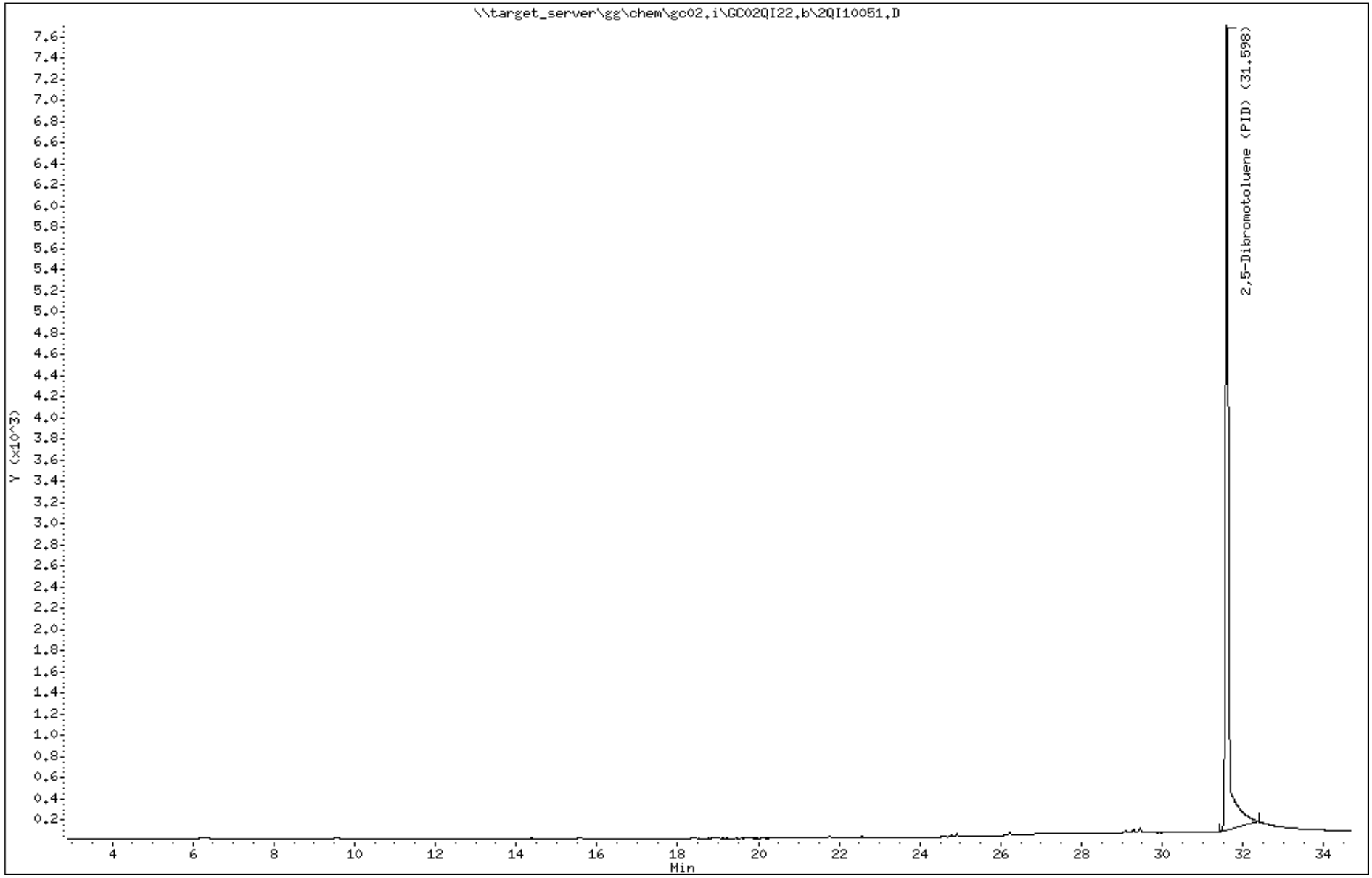
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.598	31.597	0.001	80402	105.236	105	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10051.D
Date : 22-SEP-2023 14:56
Client ID: WG342981-Blank
Sample Info: WG342981-1
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10051.D
Report Date: 10-Oct-2023 07:26

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10051.D
Lab Smp Id: WG342981-1 Client Smp ID: WG342981-Blank
Inj Date : 22-SEP-2023 14:56
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-1
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH.sub
Target Version: 4.12
Processing Host: V200T3

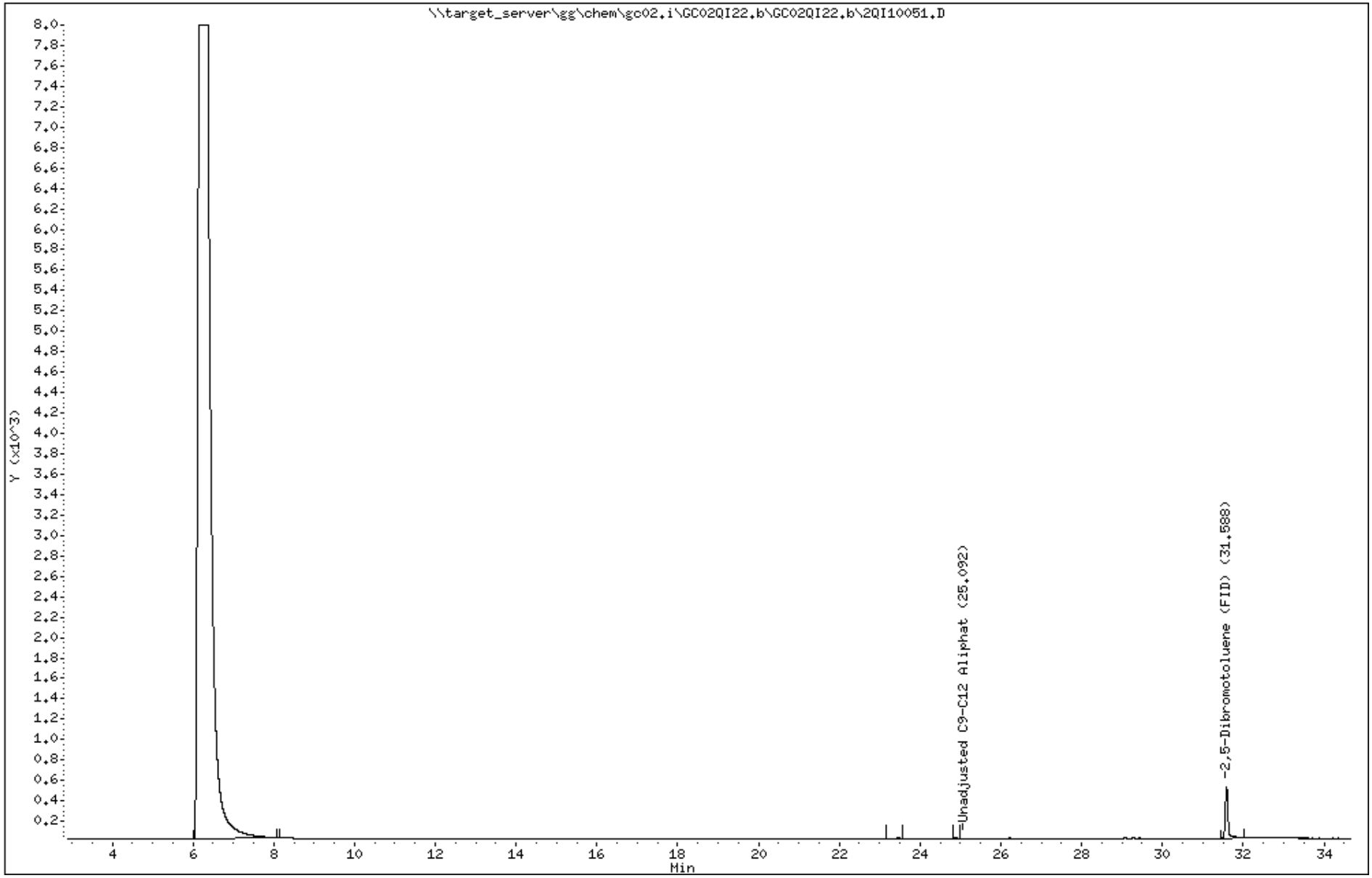
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.587	31.587	0.000	47198	93.4065	93.4	

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10051.D
Date : 22-SEP-2023 14:56
Client ID: WG342981-Blank
Sample Info: WG342981-1
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



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ANALYTICAL SERVICES

Report of Analytical Results

SDG: SQ5043
Lab ID: WG343069-1RA
Client ID: Method Blank
Matrix: AQ
Lab File ID: 2QI10072.D

Sample Date: N/A
Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069

Report Date: 10-OCT-23
Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
% Solids: N/A

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Unadjusted C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
Unadjusted C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
2,5-Dibromotoluene (FID)		71.4	%					
2,5-Dibromotoluene (PID)		71.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10072.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10072.D
Lab Smp Id: WG343069-1RA Client Smp ID: WG343069-Blank
Inj Date : 25-SEP-2023 16:52
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-1RA
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

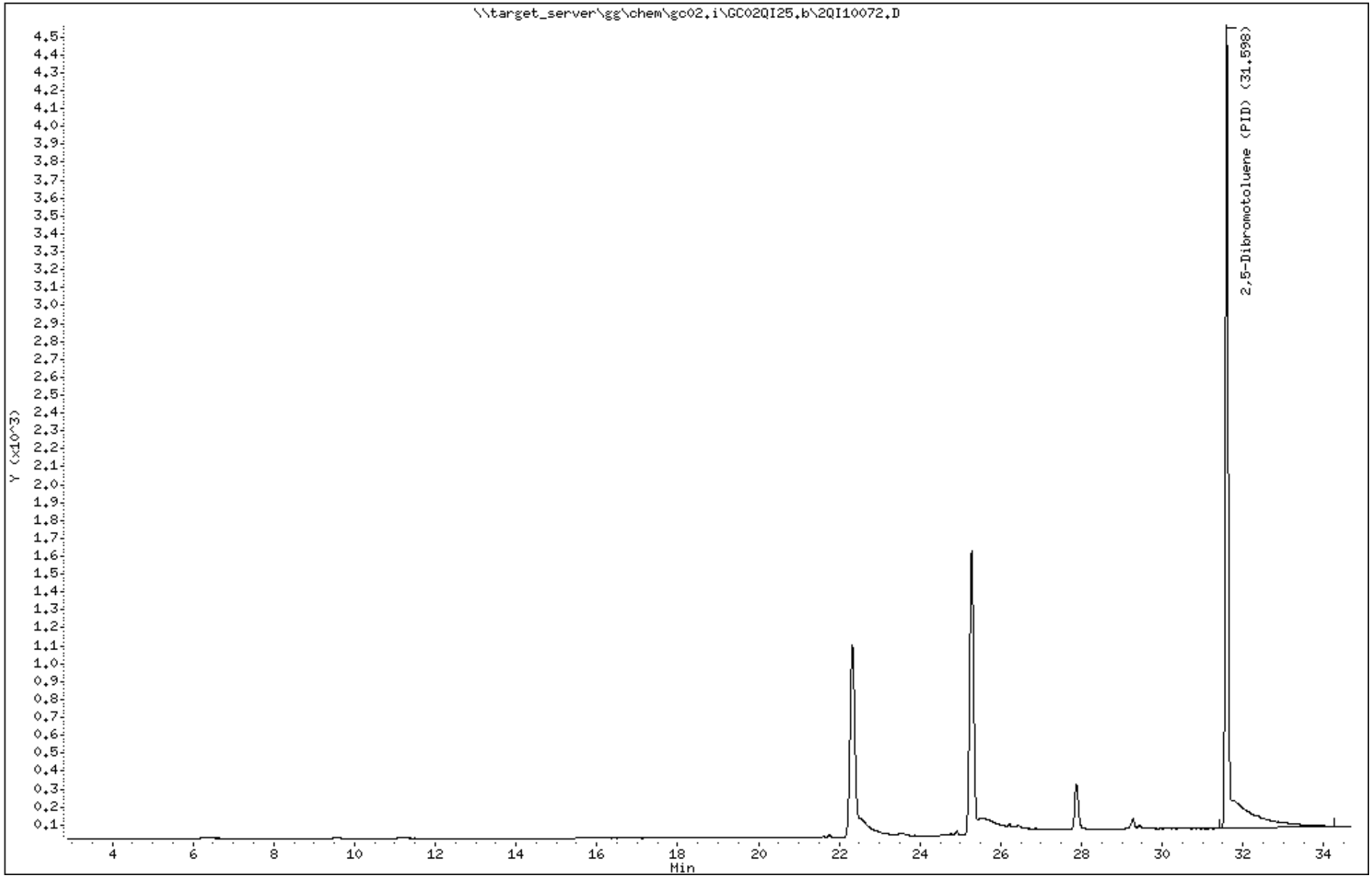
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.597	31.597	0.000	54552	71.4018	71.4(M)	M9

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10072.D
Date : 25-SEP-2023 16:52
Client ID: WG343069-Blank
Sample Info: WG343069-1RA
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: 2QI10072.D
Report Date: 10-Oct-2023 07:29

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Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10072.D
Lab Smp Id: WG343069-1RA Client Smp ID: WG343069-Blank
Inj Date : 25-SEP-2023 16:52
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-1RA
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment   : ALIPHATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

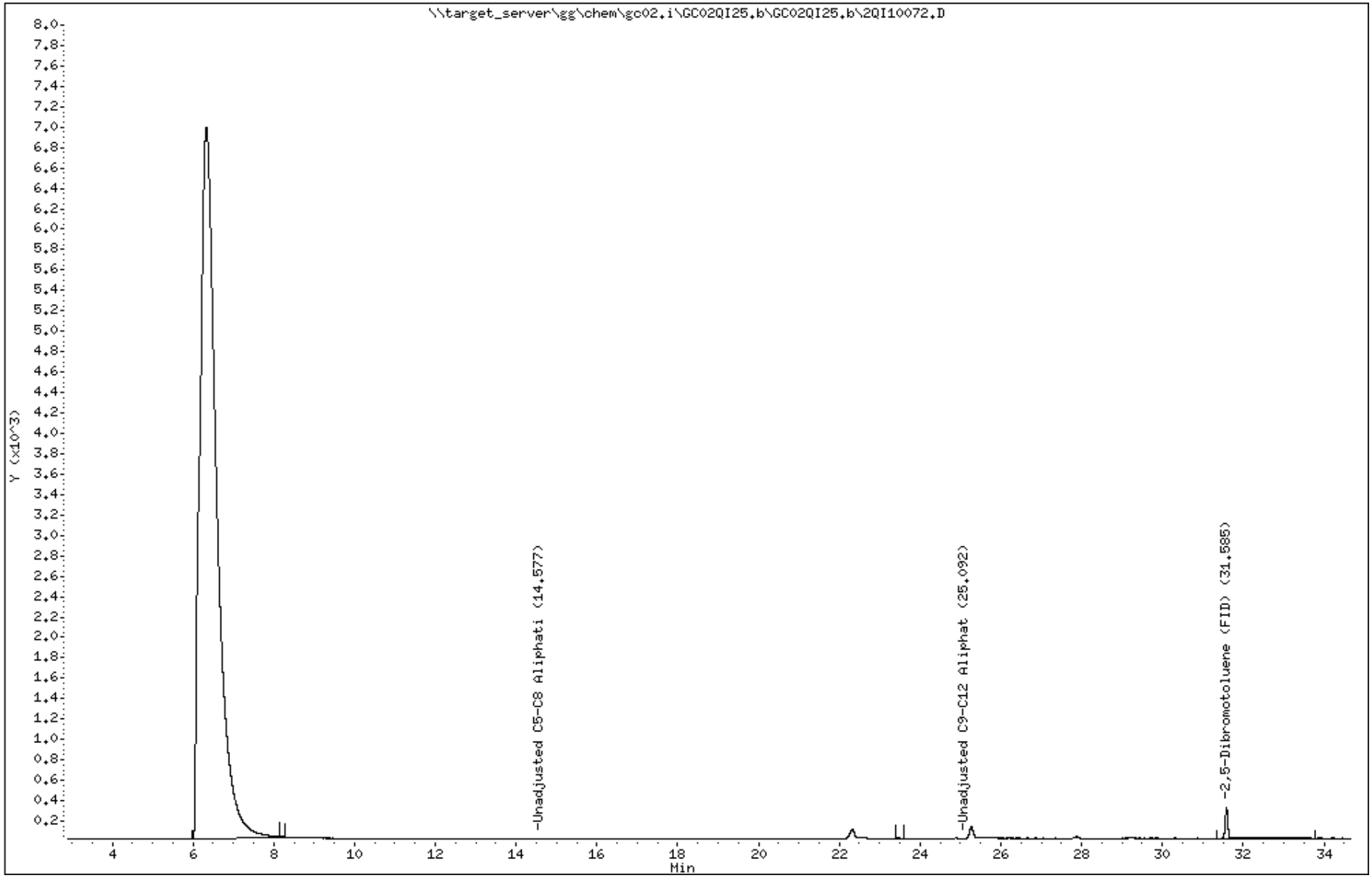
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.584	31.587	-0.003	36092	71.4273	71.4(M)	M9

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10072.D
Date : 25-SEP-2023 16:52
Client ID: WG343069-Blank
Sample Info: WG343069-1RA
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



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ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG342912-2RA
LCSD ID: WG342912-3
SDG: SQ5043
LCS File ID: 2QI10031.D

Extract Date: 21-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342912
LCSD File ID: 2QI10030.D

Analysis Date: 21-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
Report Date: 10-OCT-23

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Unadjusted C5-C8 Aliphatics	300.	200.	* 66.7	232.	77.3	ug/L	15	25	70-130
Unadjusted C9-C12 Aliphatics	200.	151.	75.5	185.	92.5	ug/L	20	25	70-130
C9-C10 Aromatics	100.	74.8	74.8	90.9	90.9	ug/L	19	25	70-130
2,5-Dibromotoluene (FID)			74.7		73.7				70-130
2,5-Dibromotoluene (PID)			77.5		83.7				70-130

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Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10031.D
Report Date: 10-Oct-2023 07:21

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10031.D
Lab Smp Id: WG342912-2RA Client Smp ID: WG342912-LCS
Inj Date : 21-SEP-2023 14:22
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-2RA
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment   : AROMATIC
Method   : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

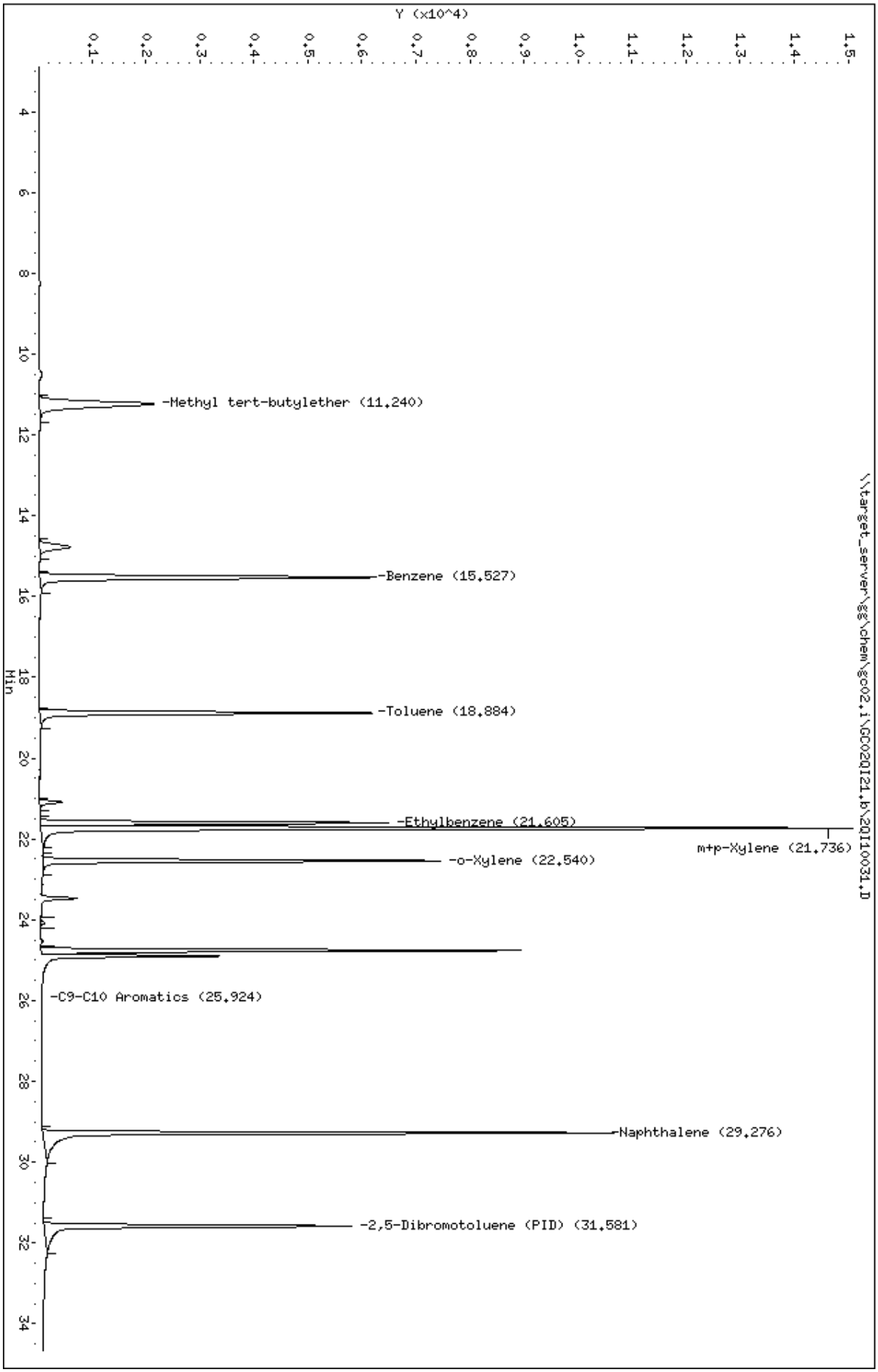
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.240	11.270	-0.030	44402	70.3409	70.3	
	3 Benzene	15.527	15.556	-0.029	71424	61.0042	61.0(R)	
	4 Toluene	18.883	18.908	-0.025	59704	57.6213	57.6(R)	
	5 Ethylbenzene	21.604	21.624	-0.020	55643	61.1938	61.2(R)	
	6 m+p-Xylene	21.735	21.755	-0.020	137375	120.812	121(R)	
	7 o-Xylene	22.540	22.557	-0.017	63792	66.4018	66.4(R)	
S	9 C9-C10 Aromatics	22.657	-29.191		70005	74.8083	74.8(aM)	M3
	10 Naphthalene	29.275	29.291	-0.016	91897	84.9458	84.9	
$	11 2,5-Dibromotoluene (PID)	31.580	31.597	-0.017	59232	77.5274	77.5	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I21.b\20I10031.D
Date : 21-SEP-2023 14:22
Client ID: WG342912-LCS
Sample Info: WG342912-2RA
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I21.b\20I10031.D
Y (x10^4)
Min
-Methyl tert-butylether (11.240)
-Benzene (15.527)
-Toluene (18.884)
-Ethylbenzene (21.605)
m+p-Xylene (21.736)
-o-Xylene (22.540)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.276)
-2,5-Dibromotoluene (PID) (31.581)

Data File: 2QI10031.D
Report Date: 10-Oct-2023 07:22

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10031.D
Lab Smp Id: WG342912-2RA Client Smp ID: WG342912-LCS
Inj Date : 21-SEP-2023 14:22
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-2RA
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

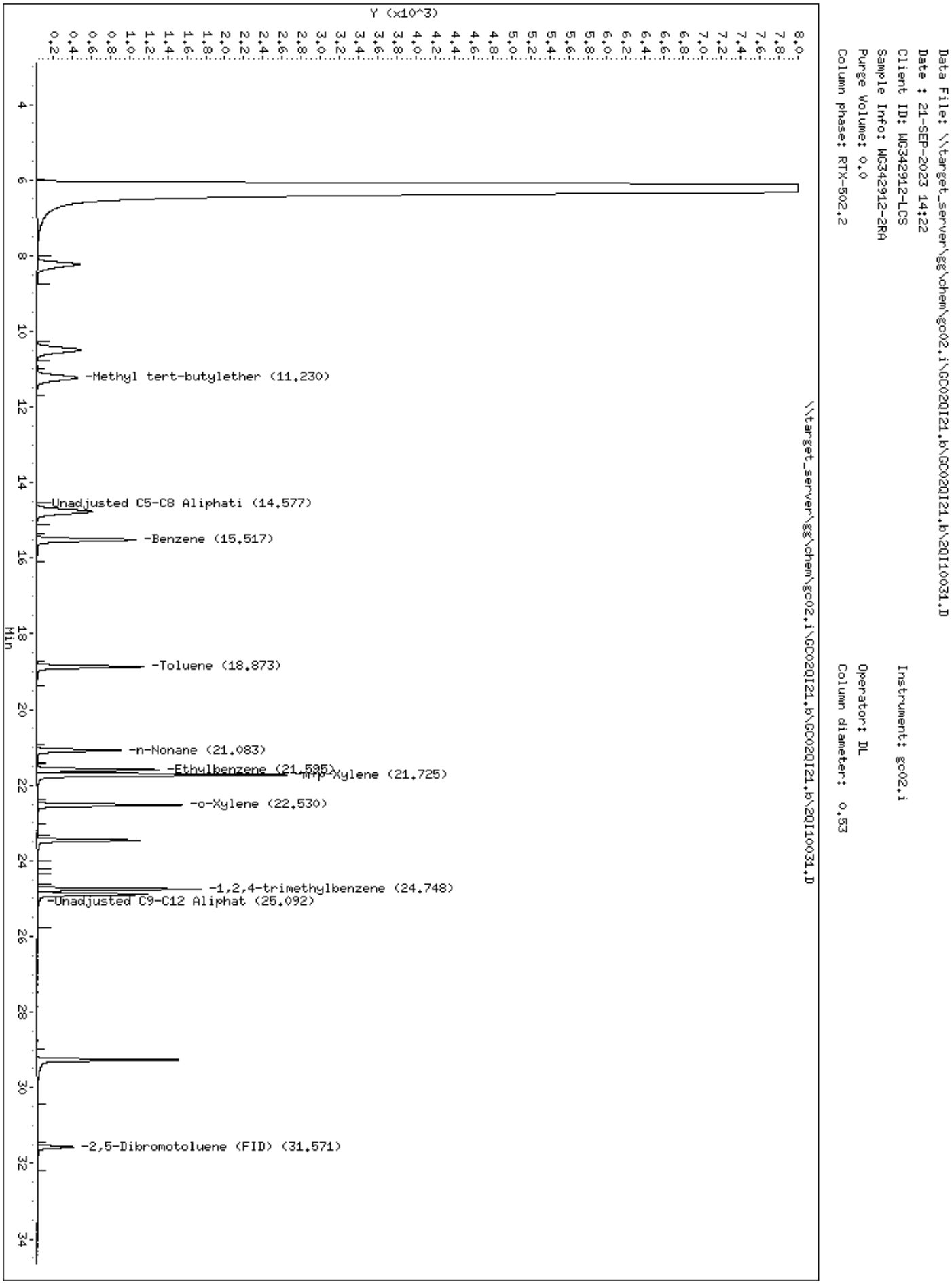
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

			RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7	Methyl tert-butylether	11.229	11.258	-0.029	87491	67.6073	67.6	
	9	Benzene	15.517	15.545	-0.028	117582	60.0914	60.1	
	11	Toluene	18.873	18.898	-0.025	104373	54.6693	54.7	
	12	n-Nonane	21.082	21.102	-0.020	80795	64.9244	64.9	
	14	Ethylbenzene	21.594	21.614	-0.020	106593	60.6783	60.7	
	15	m+p-Xylene	21.725	21.744	-0.019	231732	120.269	120	
	16	o-Xylene	22.530	22.546	-0.016	127187	65.7168	65.7	
	18	1,2,4-trimethylbenzene	24.748	24.762	-0.014	125864	72.4909	72.5	
S	10	Unadjusted C5-C8 Aliphatics	8.151	-21.003		283544	199.780	200(R)	
S	17	Unadjusted C9-C12 Aliphatics	21.004	-29.180		198806	151.310	151	
$	21	2,5-Dibromotoluene (FID)	31.570	31.587	-0.017	37742	74.6928	74.7	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gc02.i\GC020I21.b\GC020I21.b\2QI10031.D
Date : 21-SEP-2023 14:22
Client ID: WG342912-LCS
Sample Info: WG342912-2RA
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I21.b\GC020I21.b\2QI10031.D
Y (x10^3)
Min
-Methyl tert-butylether (11.230)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.517)
-Toluene (18.873)
-n-Nonane (21.083)
-Ethylbenzene (21.595)
-m+p-Xylene (21.725)
-o-Xylene (22.530)
-1,2,4-trimethylbenzene (24.748)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.571)

Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10030.D
Report Date: 10-Oct-2023 07:21

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\2QI10030.D
Lab Smp Id: WG342912-3 Client Smp ID: WG342912-LCSD
Inj Date : 21-SEP-2023 13:17
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-3
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m
Meth Date : 22-Sep-2023 09:12 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

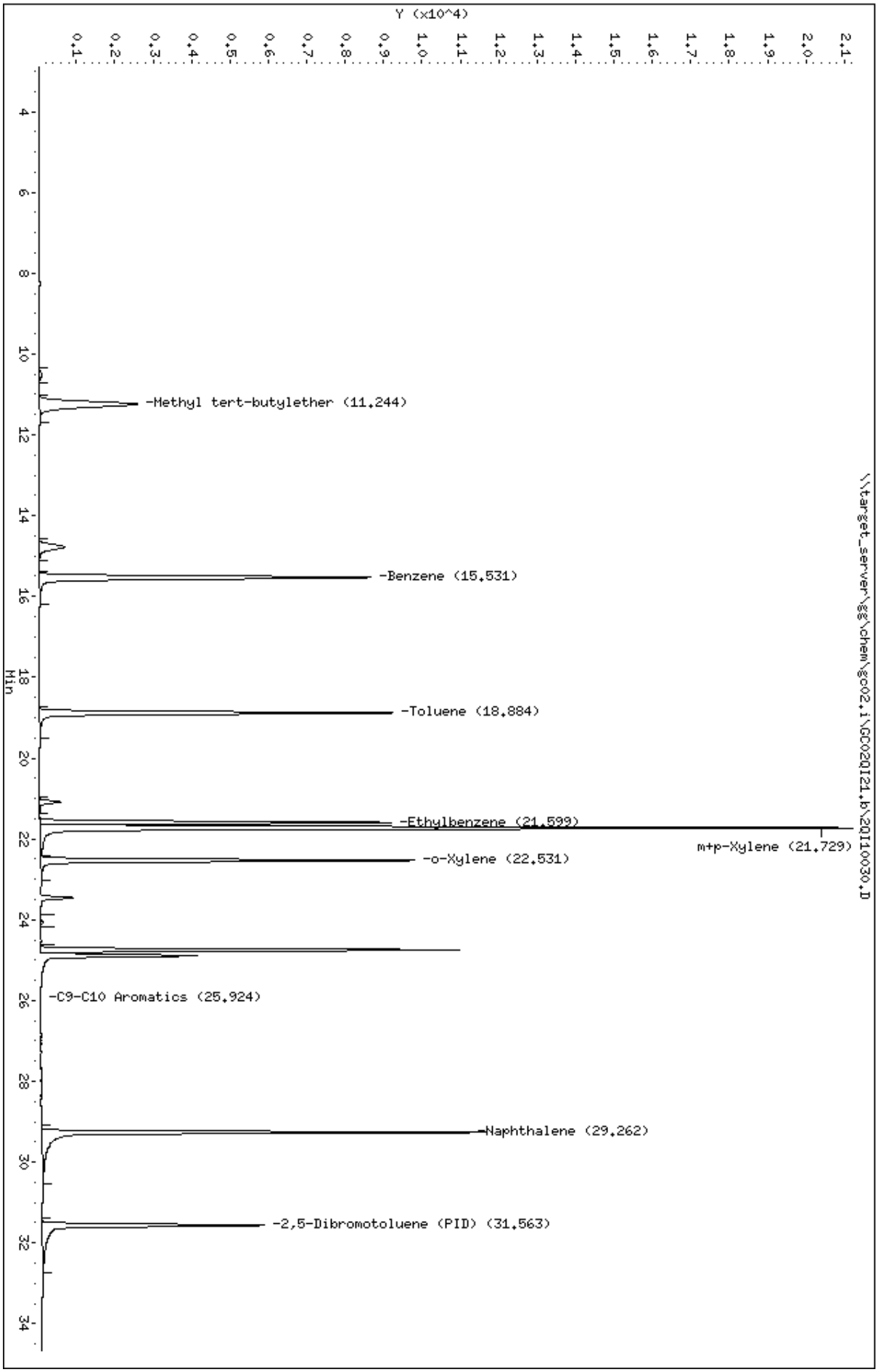
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	Compounds	RT	EXP RT	DLT RT	RESPONSE			
	2 Methyl tert-butylether	11.244	11.270	-0.026	53064	84.0630	84.1	
	3 Benzene	15.530	15.556	-0.026	99294	84.8083	84.8	
	4 Toluene	18.883	18.908	-0.025	89503	86.3809	86.4	
	5 Ethylbenzene	21.598	21.624	-0.026	78767	86.6246	86.6	
	6 m+p-Xylene	21.728	21.755	-0.027	194223	170.805	171	
	7 o-Xylene	22.531	22.557	-0.026	84753	88.2203	88.2	
S	9 C9-C10 Aromatics	22.657	-29.191		85047	90.8824	90.9(aM)	M3
	10 Naphthalene	29.261	29.291	-0.030	105296	97.3313	97.3	
$	11 2,5-Dibromotoluene (PID)	31.563	31.597	-0.034	63936	83.6843	83.7	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I21.b\20I10030.D
Date : 21-SEP-2023 13:17
Client ID: WG342912-LCSD
Sample Info: WG342912-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I21.b\20I10030.D
Y (x10^4)
Min
-Methyl tert-butylether (11.244)
-Benzene (15.531)
-Toluene (18.884)
-Ethylbenzene (21.599)
m+p-Xylene (21.729)
-o-Xylene (22.531)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.262)
-2,5-Dibromotoluene (PID) (31.563)

Data File: 2QI10030.D
Report Date: 10-Oct-2023 07:22

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Data file : \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10030.D
Lab Smp Id: WG342912-3 Client Smp ID: WG342912-LCSD
Inj Date : 21-SEP-2023 13:17
Operator : DL Inst ID: gc02.i
Smp Info : WG342912-3
Misc Info : WG342912,WG342400-4,SQ5043-6
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI21.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 22-Sep-2023 09:18 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

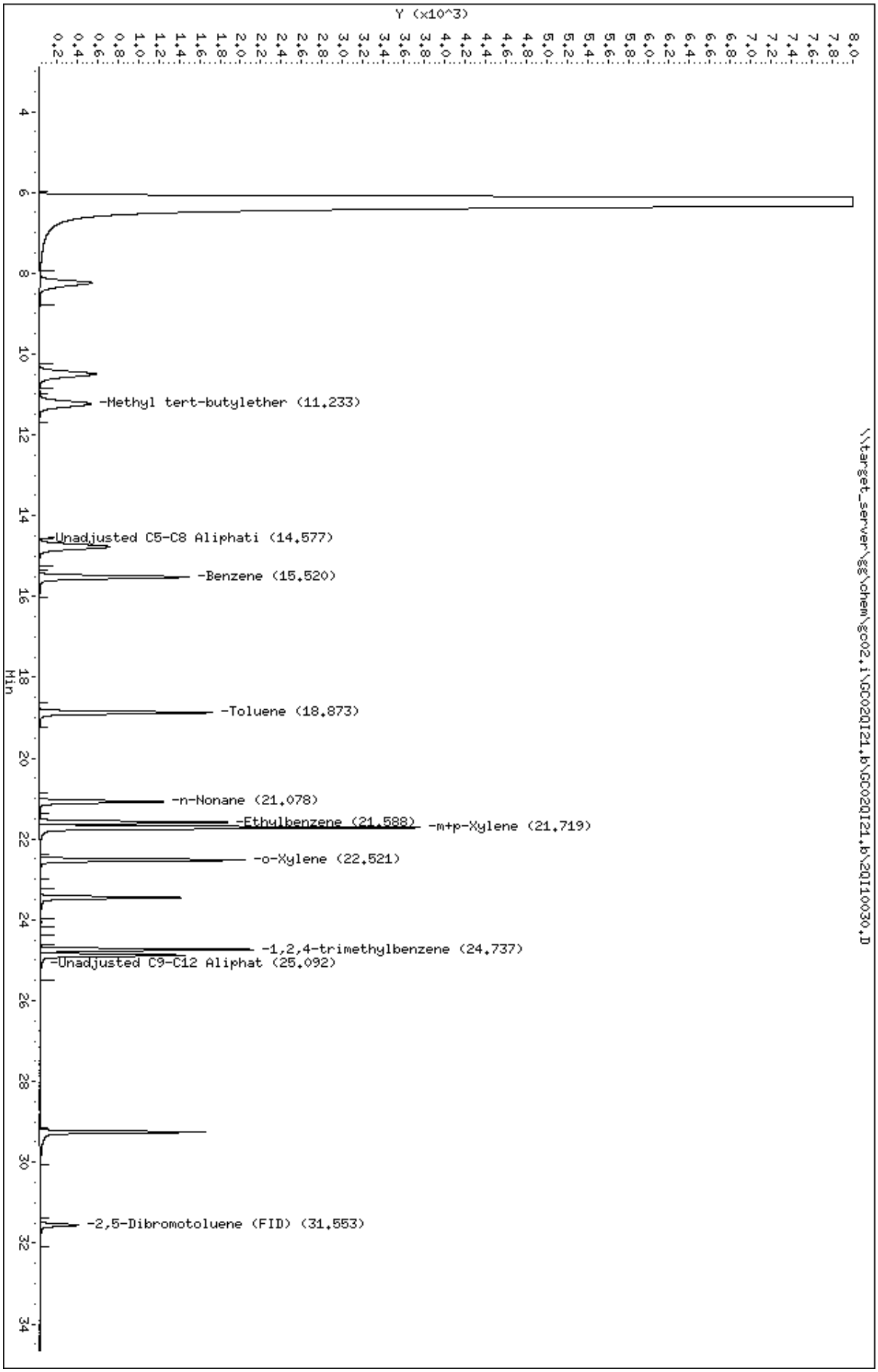
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.233	11.258	-0.025	103670	80.1094	80.1	
	9 Benzene	15.519	15.545	-0.026	162708	83.1535	83.2	
	11 Toluene	18.873	18.898	-0.025	155143	81.2619	81.3	
	12 n-Nonane	21.077	21.102	-0.025	110793	89.0299	89.0	
	14 Ethylbenzene	21.588	21.614	-0.026	153194	87.2060	87.2	
	15 m+p-Xylene	21.718	21.744	-0.026	325366	168.865	169	
	16 o-Xylene	22.521	22.546	-0.025	166652	86.1081	86.1	
	18 1,2,4-trimethylbenzene	24.736	24.762	-0.026	153178	88.2223	88.2	
S	10 Unadjusted C5-C8 Aliphatics	8.151	-21.003		329935	232.466	232(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.004	-29.180		243498	185.325	185(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.553	31.587	-0.034	37262	73.7428	73.7	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10030.D
Date : 21-SEP-2023 13:17
Client ID: WG342912-LCSD
Sample Info: WG342912-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI21.b\GC02QI21.b\2QI10030.D
Y (x10^3)
Min
-Methyl tert-butylether (11.233)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.520)
-Toluene (18.873)
-n-Nonane (21.078)
-Ethylbenzene (21.588)
-m+p-Xylene (21.719)
-o-Xylene (22.521)
-1,2,4-trimethylbenzene (24.737)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.553)

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ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG342981-2
LCSD ID: WG342981-3
SDG: SQ5043
LCS File ID: 2QI10052.D

Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981
LCSD File ID: 2QI10053.D

Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
Report Date: 10-OCT-23

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Unadjusted C5-C8 Aliphatics	300.	288.	96.0	264.	88.0	ug/L	9	25	70-130
Unadjusted C9-C12 Aliphatics	200.	229.	114.	221.	110.	ug/L	4	25	70-130
C9-C10 Aromatics	100.	123.	123.	128.	128.	ug/L	4	25	70-130
2,5-Dibromotoluene (FID)			116.		121.				70-130
2,5-Dibromotoluene (PID)			128.		* 134.				70-130

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Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10052.D
Report Date: 10-Oct-2023 07:26

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10052.D
Lab Smp Id: WG342981-2 Client Smp ID: WG342981-LCS
Inj Date : 22-SEP-2023 15:37
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-2
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

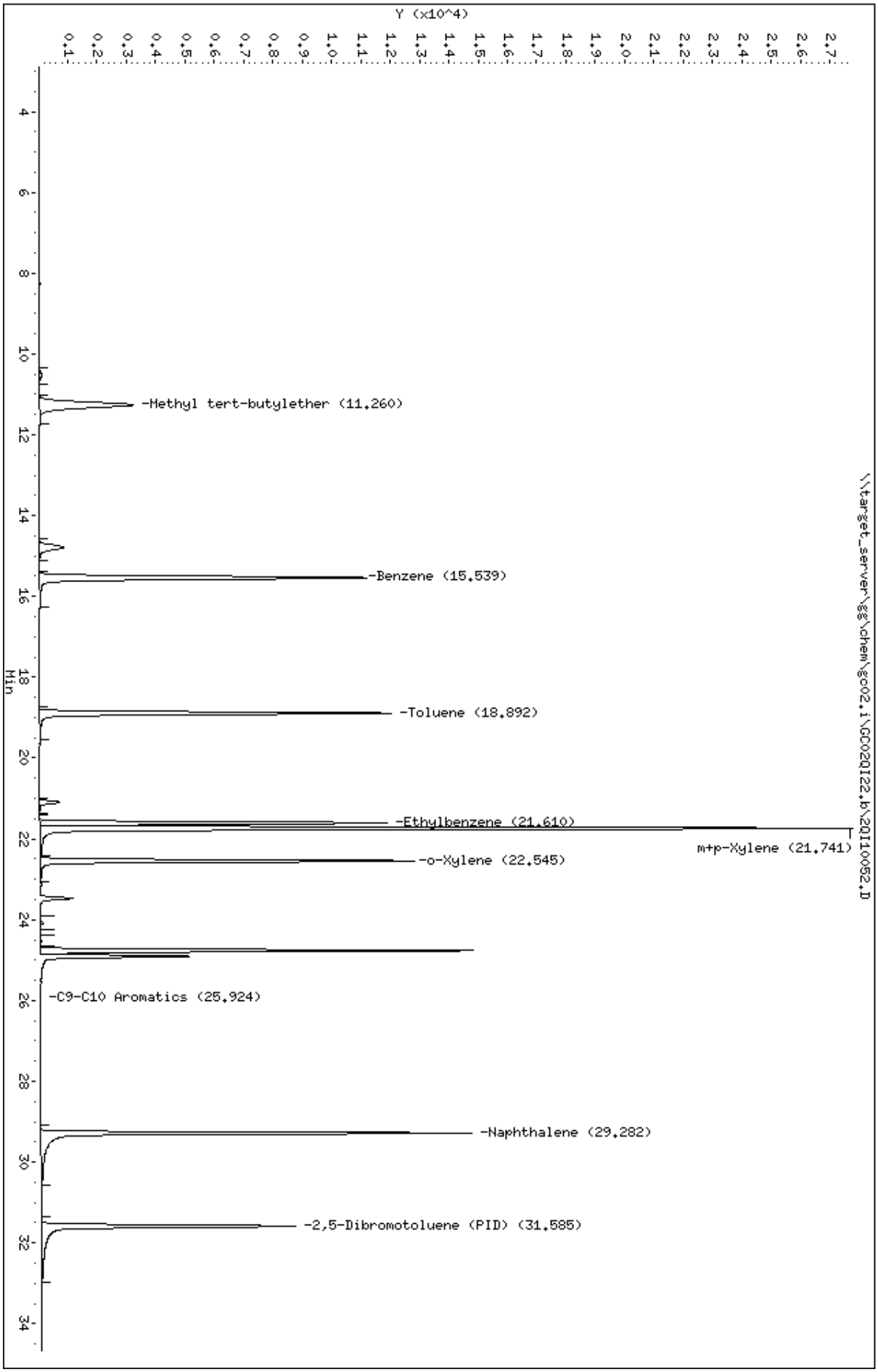
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.259	11.270	-0.011	66880	105.950	106	
	3 Benzene	15.538	15.556	-0.018	127681	109.054	109	
	4 Toluene	18.891	18.908	-0.017	115294	111.272	111	
	5 Ethylbenzene	21.610	21.550	0.060	102739	112.988	113	
	6 m+p-Xylene	21.740	21.681	0.059	251894	221.523	222	
	7 o-Xylene	22.544	22.557	-0.013	110817	115.351	115	
S	9 C9-C10 Aromatics	22.657	-29.191		115519	123.445	123(M)	M3
	10 Naphthalene	29.281	29.291	-0.010	131528	121.579	122	
$	11 2,5-Dibromotoluene (PID)	31.584	31.597	-0.013	98198	128.529	128	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I22.b\20I10052.D
Date : 22-SEP-2023 15:37
Client ID: WG342981-LCS
Sample Info: WG342981-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I22.b\20I10052.D
Y (x10^4)
Min
-Methyl tert-butylether (11.260)
-Benzene (15.539)
-Toluene (18.892)
-Ethylbenzene (21.610)
m+p-Xylene (21.741)
-o-Xylene (22.545)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.282)
-2,5-Dibromotoluene (PID) (31.585)

Data File: 2QI10052.D
Report Date: 10-Oct-2023 07:26

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10052.D
Lab Smp Id: WG342981-2 Client Smp ID: WG342981-LCS
Inj Date : 22-SEP-2023 15:37
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-2
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

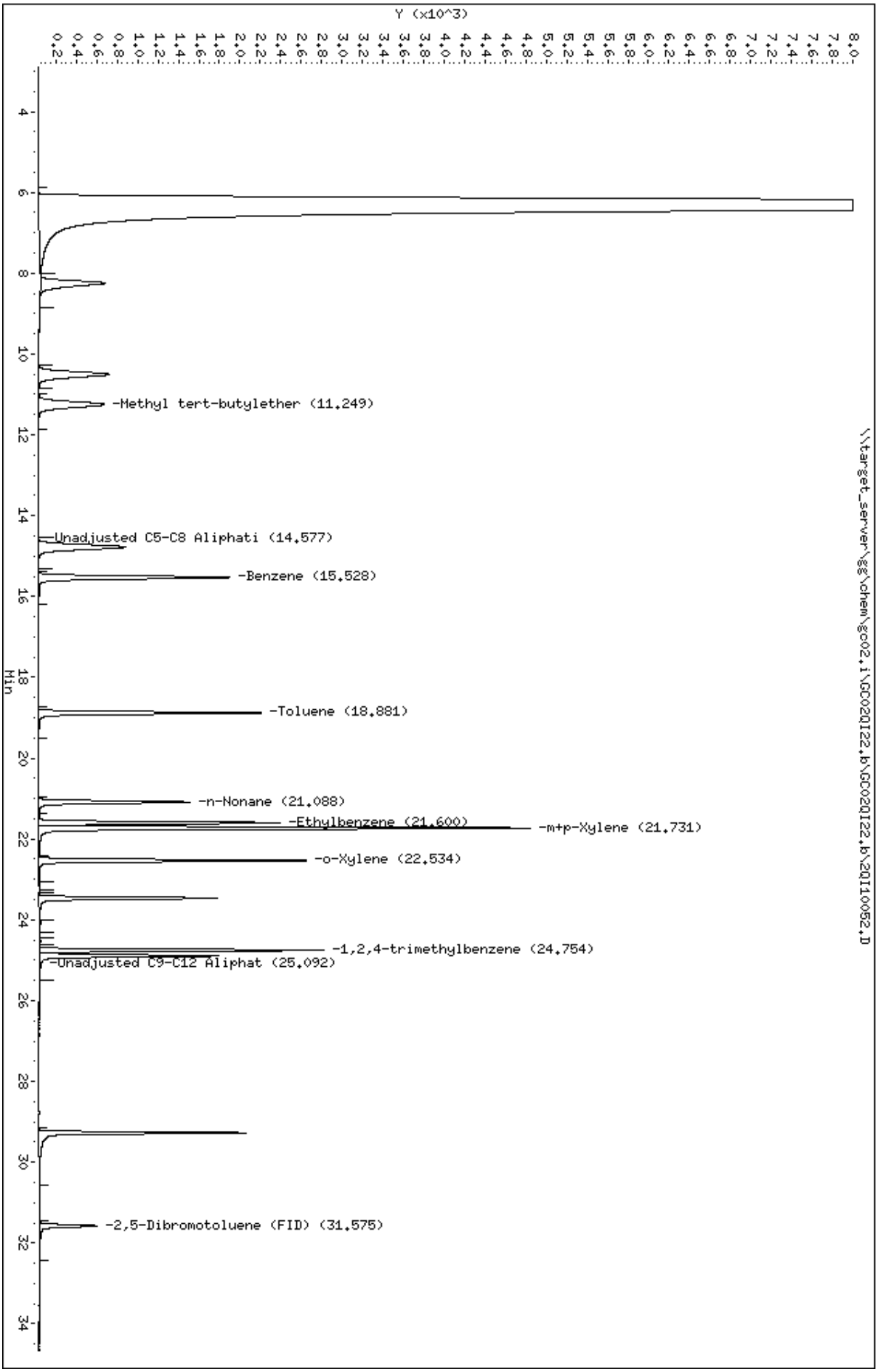
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.249	11.258	-0.009	131362	101.508	102	
	9 Benzene	15.528	15.545	-0.017	206865	105.720	106	
	11 Toluene	18.881	18.898	-0.017	199186	104.331	104	
	12 n-Nonane	21.088	21.102	-0.014	133908	107.604	108	
	14 Ethylbenzene	21.599	21.540	0.059	196272	111.728	112	
	15 m+p-Xylene	21.730	21.670	0.060	417359	216.609	217	
	16 o-Xylene	22.534	22.546	-0.012	216004	111.608	112	
	18 1,2,4-trimethylbenzene	24.753	24.762	-0.009	204597	117.837	118	
S	10 Unadjusted C5-C8 Aliphatics	8.151	-21.003		408507	287.827	288(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.004	-29.180		301157	229.209	229(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.574	31.587	-0.013	58781	116.330	116	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10052.D
Date : 22-SEP-2023 15:37
Client ID: WG342981-LCS
Sample Info: WG342981-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10052.D
Y (x10^3)
Min
-Methyl tert-butylether (11.249)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.528)
-Toluene (18.881)
-n-Nonane (21.088)
-Ethylbenzene (21.600)
-m+p-Xylene (21.731)
-o-Xylene (22.534)
-1,2,4-trimethylbenzene (24.754)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.575)

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10053.D
Report Date: 10-Oct-2023 07:26

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10053.D
Lab Smp Id: WG342981-3 Client Smp ID: WG342981-LCSD
Inj Date : 22-SEP-2023 16:18
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-3
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

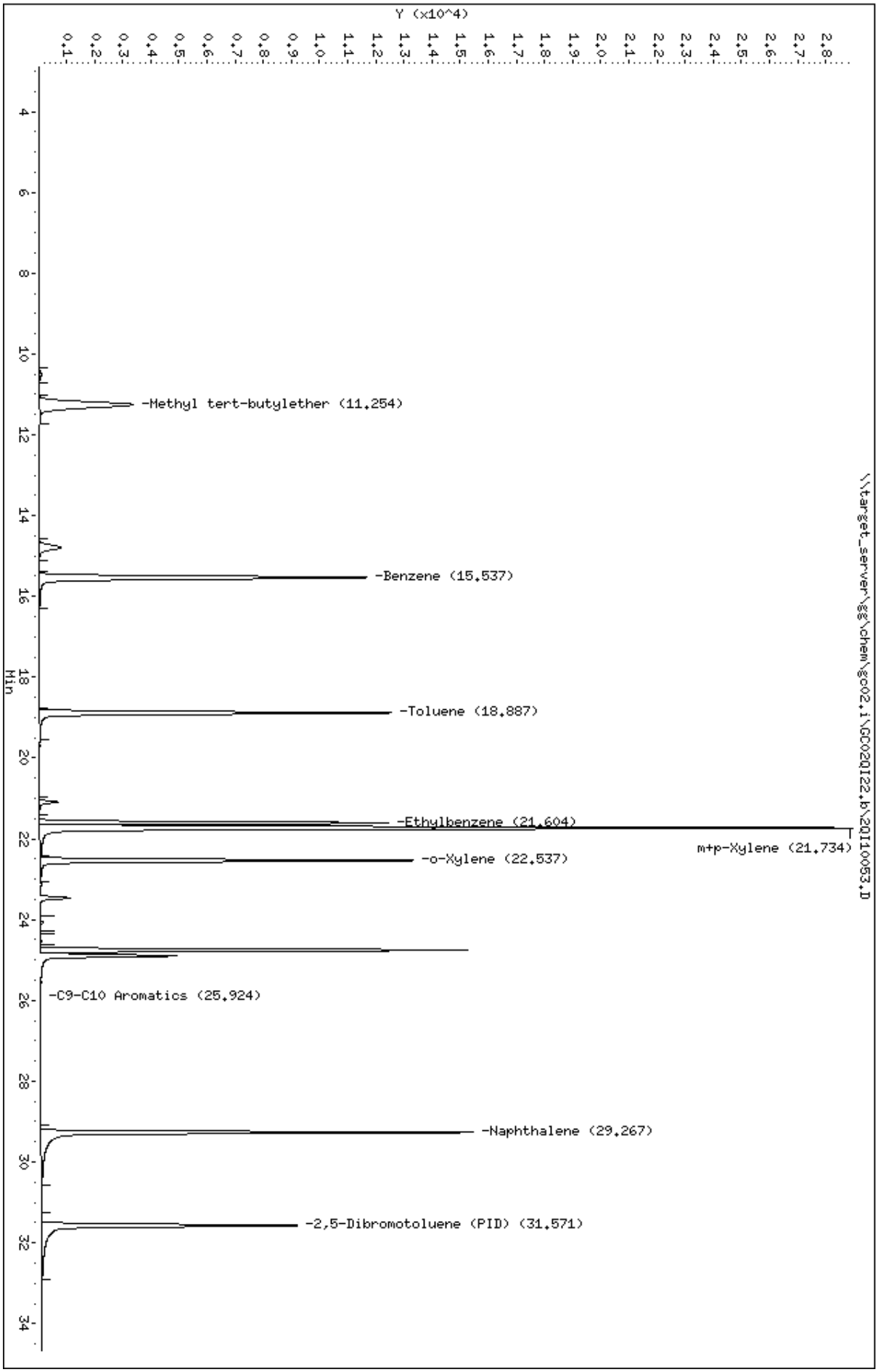
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.254	11.270	-0.016	69505	110.109	110	
	3 Benzene	15.536	15.556	-0.020	133605	114.114	114	
	4 Toluene	18.887	18.908	-0.021	120272	116.077	116	
	5 Ethylbenzene	21.603	21.550	0.053	107085	117.768	118	
	6 m+p-Xylene	21.734	21.681	0.053	261993	230.404	230	
	7 o-Xylene	22.537	22.557	-0.020	115208	119.921	120	
S	9 C9-C10 Aromatics	22.657	29.191		120175	128.421	128(M)	M3
	10 Naphthalene	29.267	29.291	-0.024	137404	127.011	127	
$	11 2,5-Dibromotoluene (PID)	31.571	31.597	-0.026	102614	134.309	134(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10053.D
Date : 22-SEP-2023 16:18
Client ID: WG342981-LCSD
Sample Info: WG342981-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10053.D
Y (x10^4)
Min
-Methyl tert-butylether (11.254)
-Benzene (15.537)
-Toluene (18.887)
-Ethylbenzene (21.604)
m+p-Xylene (21.734)
-o-Xylene (22.537)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.267)
-2,5-Dibromotoluene (PID) (31.571)

Data File: 2QI10053.D
Report Date: 10-Oct-2023 07:26

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Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10053.D
Lab Smp Id: WG342981-3 Client Smp ID: WG342981-LCSD
Inj Date : 22-SEP-2023 16:18
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-3
Misc Info : WG342981,WG342400-4,SQ5043-3
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

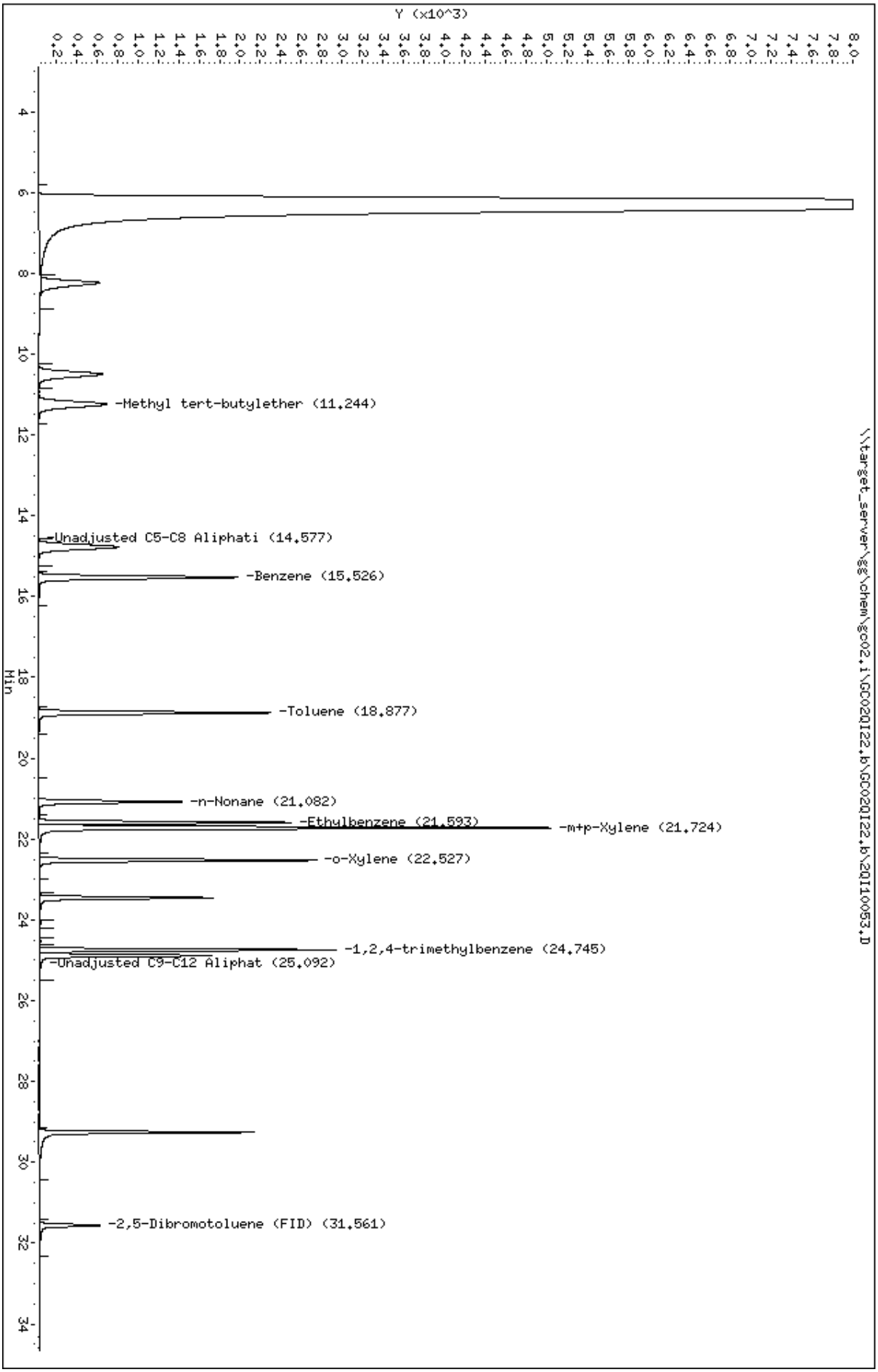
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

			RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7	Methyl tert-butylether	11.243	11.258	-0.015	137006	105.869	106	
	9	Benzene	15.526	15.545	-0.019	215999	110.388	110	
	11	Toluene	18.876	18.898	-0.022	207155	108.505	108	
	12	n-Nonane	21.082	21.102	-0.020	126268	101.465	101	
	14	Ethylbenzene	21.593	21.540	0.053	203547	115.870	116	
	15	m+p-Xylene	21.723	21.670	0.053	432158	224.290	224	
	16	o-Xylene	22.527	22.546	-0.019	222848	115.144	115	
	18	1,2,4-trimethylbenzene	24.744	24.762	-0.018	212944	122.644	123	
S	10	Unadjusted C5-C8 Aliphatics	8.151	-21.003		374702	264.008	264(M)	M2
S	17	Unadjusted C9-C12 Aliphatics	21.004	-29.180		290905	221.406	221(M)	M2
$	21	2,5-Dibromotoluene (FID)	31.561	31.587	-0.026	60988	120.697	121	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10053.D
Date : 22-SEP-2023 16:18
Client ID: WG342981-LCSD
Sample Info: WG342981-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I22.b\GC020I22.b\2QI10053.D
Y (x10^3)
Min
-Methyl tert-butylether (11.244)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.526)
-Toluene (18.877)
-n-Nonane (21.082)
-Ethylbenzene (21.593)
-m+p-Xylene (21.724)
-o-Xylene (22.527)
-1,2,4-trimethylbenzene (24.745)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.561)

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LCS/LCSD Recovery Report

LCS ID: WG343069-2
LCSD ID: WG343069-3
SDG: SQ5043
LCS File ID: 2QI10070.D

Extract Date: 25-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG343069
LCSD File ID: 2QI10071.D

Analysis Date: 25-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
Report Date: 10-OCT-23

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Unadjusted C5-C8 Aliphatics	300.	303.	101.	295.	98.3	ug/L	3	25	70-130
Unadjusted C9-C12 Aliphatics	200.	246.	123.	252.	126.	ug/L	2	25	70-130
C9-C10 Aromatics	100.	122.	122.	122.	122.	ug/L	0	25	70-130
2,5-Dibromotoluene (FID)			106.		118.				70-130
2,5-Dibromotoluene (PID)			115.		126.				70-130

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Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10070.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10070.D
Lab Smp Id: WG343069-2 Client Smp ID: WG343069-LCS
Inj Date : 25-SEP-2023 15:01
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-2
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

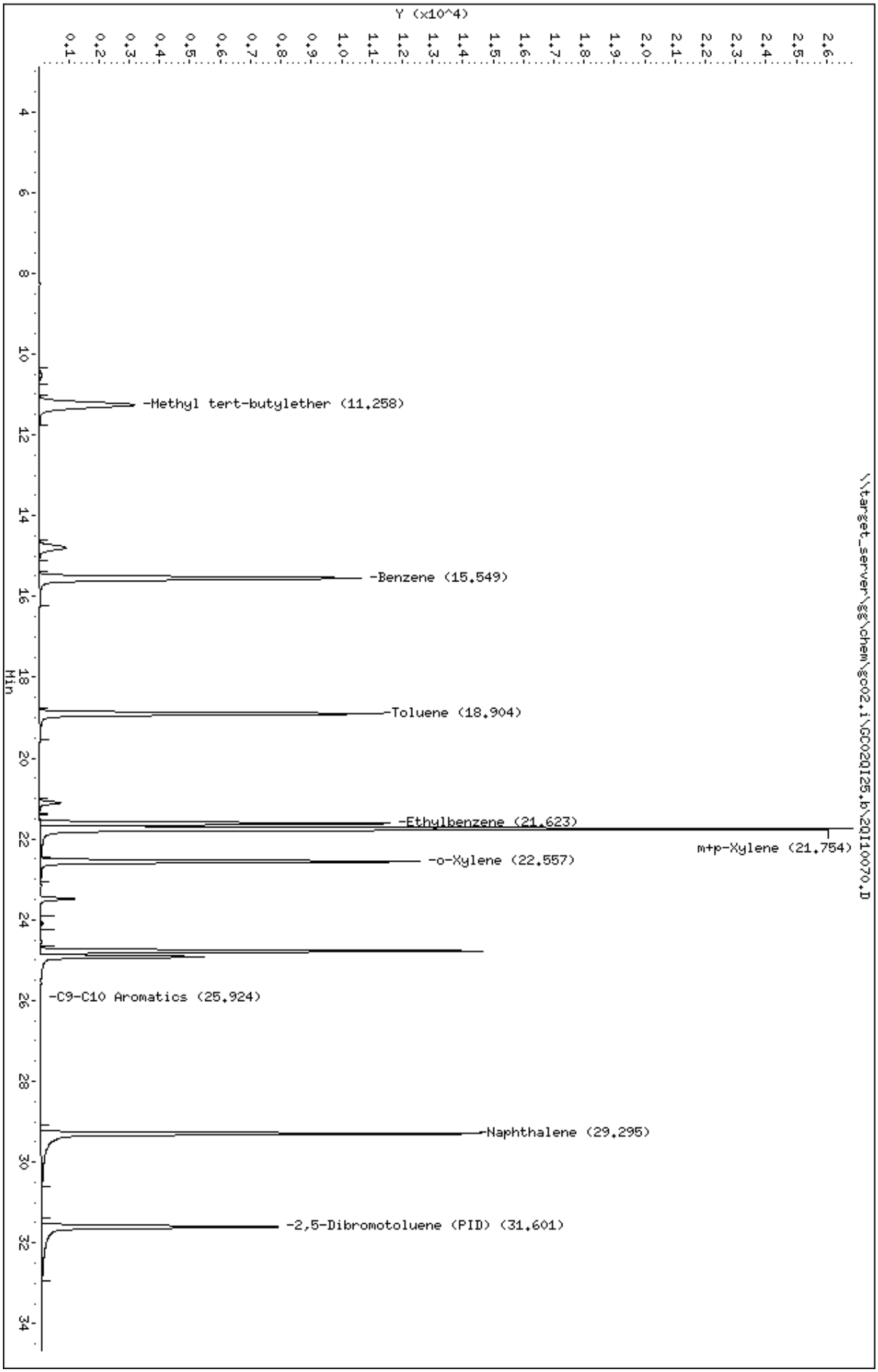
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.258	11.270	-0.012	66000	104.556	104	
	3 Benzene	15.549	15.556	-0.007	122356	104.506	104	
	4 Toluene	18.904	18.908	-0.004	109182	105.373	105	
	5 Ethylbenzene	21.623	21.619	0.004	99095	108.981	109	
	6 m+p-Xylene	21.754	21.750	0.004	243848	214.447	214	
	7 o-Xylene	22.557	22.557	0.000	108023	112.442	112	
S	9 C9-C10 Aromatics	22.657	29.191		114258	122.098	122(M)	M3
	10 Naphthalene	29.295	29.291	0.004	130835	120.939	121	
$	11 2,5-Dibromotoluene (PID)	31.601	31.597	0.004	88025	115.214	115	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10070.D
Date : 25-SEP-2023 15:01
Client ID: WG343069-LCS
Sample Info: WG343069-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10070.D
Y (x10^4)
Min
-Methyl tert-butylether (11.258)
-Benzene (15.549)
-Toluene (18.904)
-Ethylbenzene (21.623)
m+p-Xylene (21.754)
-o-Xylene (22.557)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.295)
-2,5-Dibromotoluene (PID) (31.601)

Data File: 2QI10070.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10070.D
Lab Smp Id: WG343069-2 Client Smp ID: WG343069-LCS
Inj Date : 25-SEP-2023 15:01
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-2
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

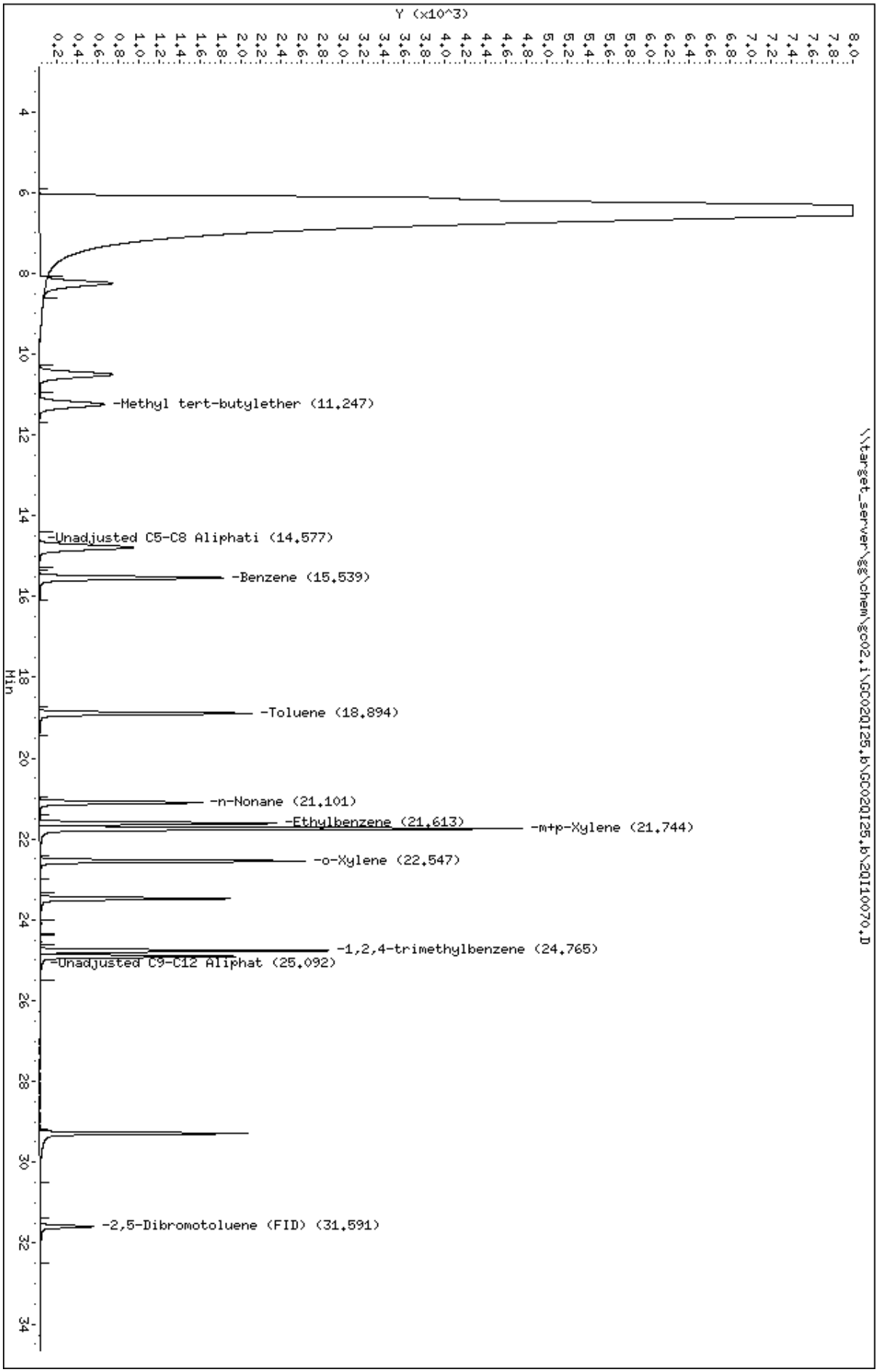
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

		Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7	Methyl tert-butylether	11.246	11.258	-0.012	131505	101.618	102	
	9	Benzene	15.538	15.545	-0.007	200705	102.572	102	
	11	Toluene	18.893	18.898	-0.005	191693	100.406	100	
	12	n-Nonane	21.100	21.102	-0.002	143973	115.692	116	
	14	Ethylbenzene	21.613	21.609	0.004	192554	109.612	110	
	15	m+p-Xylene	21.743	21.739	0.004	410448	213.023	213	
	16	o-Xylene	22.547	22.546	0.001	213184	110.151	110	
	18	1,2,4-trimethylbenzene	24.765	24.762	0.003	206633	119.009	119	
S	10	Unadjusted C5-C8 Aliphatics	8.151	21.003		429481	302.605	303(M)	M2
S	17	Unadjusted C9-C12 Aliphatics	21.004	29.180		323576	246.272	246(M)	M2
$	21	2,5-Dibromotoluene (FID)	31.591	31.587	0.004	53380	105.641	106	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I25.b\GC020I25.b\2QI10070.D
Date : 25-SEP-2023 15:01
Client ID: WG343069-LCS
Sample Info: WG343069-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I25.b\GC020I25.b\2QI10070.D
Y (x10^3)
Min
-Methyl tert-butylether (11.247)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.539)
-Toluene (18.894)
-n-Nonane (21.101)
-Ethylbenzene (21.613)
-m+p-Xylene (21.744)
-o-Xylene (22.547)
-1,2,4-trimethylbenzene (24.765)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.591)

Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10071.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10071.D
Lab Smp Id: WG343069-3 Client Smp ID: WG343069-LCSD
Inj Date : 25-SEP-2023 15:42
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-3
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m
Meth Date : 26-Sep-2023 09:22 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

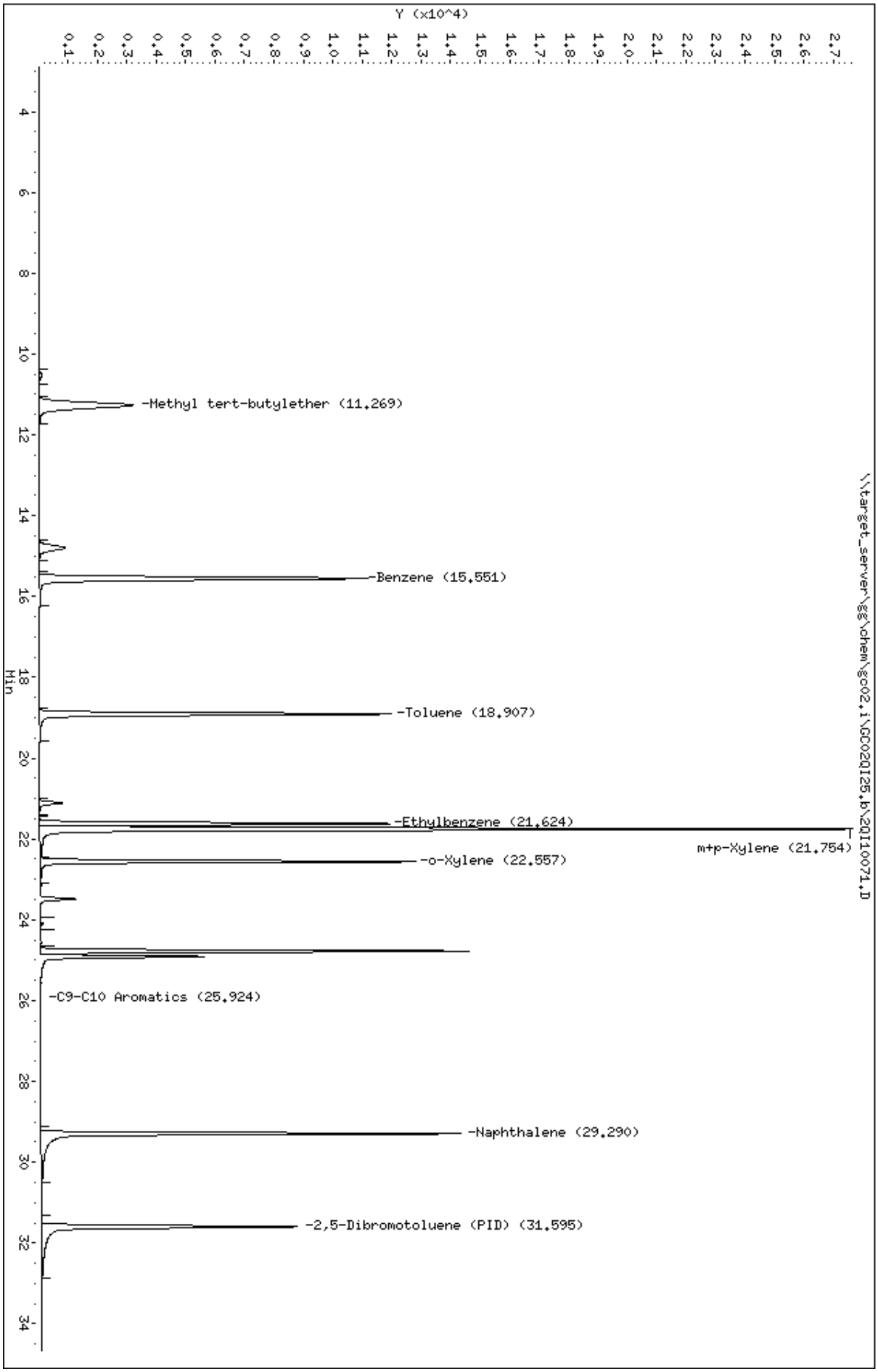
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.269	11.270	-0.001	65676	104.043	104	
	3 Benzene	15.551	15.556	-0.005	127459	108.864	109	
	4 Toluene	18.906	18.908	-0.002	115062	111.048	111	
	5 Ethylbenzene	21.623	21.619	0.004	102402	112.617	113	
	6 m+p-Xylene	21.754	21.750	0.004	250617	220.400	220	
	7 o-Xylene	22.557	22.557	0.000	110245	114.755	115	
S	9 C9-C10 Aromatics	22.657	-29.191		114252	122.091	122(M)	M3
	10 Naphthalene	29.289	29.291	-0.002	128076	118.388	118	
$	11 2,5-Dibromotoluene (PID)	31.594	31.597	-0.003	96334	126.089	126	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10071.D
Date : 25-SEP-2023 15:42
Client ID: WG343069-LCSD
Sample Info: WG343069-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI25.b\2QI10071.D
Y (x10^4)
Min
-Methyl tert-butylether (11.269)
-Benzene (15.551)
-Toluene (18.907)
-Ethylbenzene (21.624)
m+p-Xylene (21.754)
-o-Xylene (22.557)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.290)
-2,5-Dibromotoluene (PID) (31.595)

Data File: 2QI10071.D
Report Date: 10-Oct-2023 07:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI25.b\GC02QI25.b\2QI10071.D
Lab Smp Id: WG343069-3 Client Smp ID: WG343069-LCSD
Inj Date : 25-SEP-2023 15:42
Operator : DL Inst ID: gc02.i
Smp Info : WG343069-3
Misc Info : WG343069,WG342400-4,SQ5043-5
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI25.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 26-Sep-2023 09:26 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

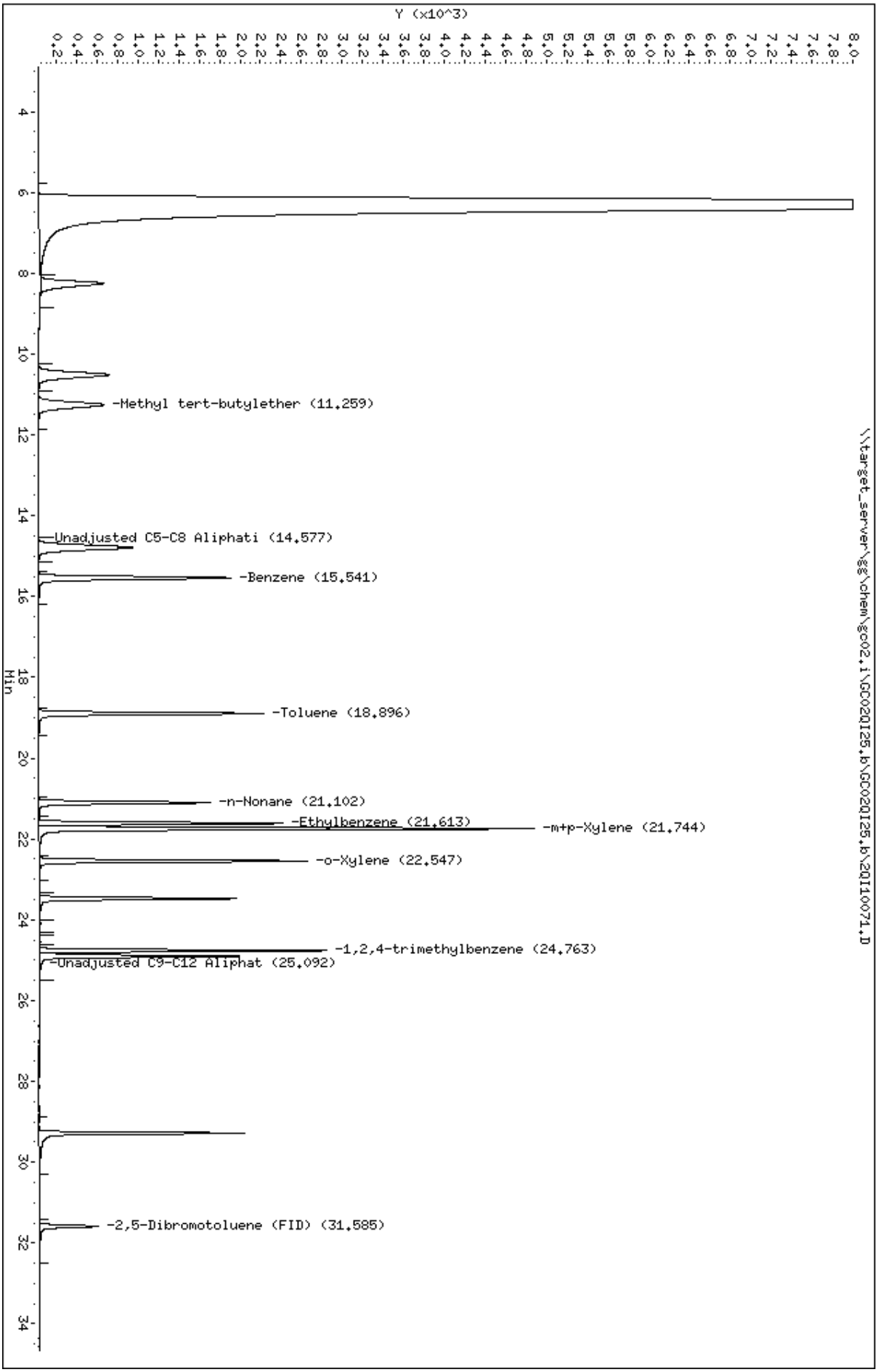
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.258	11.258	0.000	132246	102.191	102	
	9 Benzene	15.540	15.545	-0.005	209036	106.830	107	
	11 Toluene	18.896	18.898	-0.002	200852	105.204	105	
	12 n-Nonane	21.101	21.102	-0.001	150913	121.269	121	
	14 Ethylbenzene	21.613	21.609	0.004	197559	112.461	112	
	15 m+p-Xylene	21.743	21.739	0.004	419557	217.750	218	
	16 o-Xylene	22.546	22.546	0.000	216165	111.691	112	
	18 1,2,4-trimethylbenzene	24.762	24.762	0.000	205725	118.486	118	
S	10 Unadjusted C5-C8 Aliphatics	8.151	-21.003		418828	295.099	295(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.004	-29.180		330899	251.845	252(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.584	31.587	-0.003	59598	117.947	118	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC020I25.b\GC020I25.b\2QI10071.D
Date : 25-SEP-2023 15:42
Client ID: WG343069-LCSD
Sample Info: WG343069-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC020I25.b\GC020I25.b\2QI10071.D
Y (x10^3)
Min
-Methyl tert-butylether (11.259)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.541)
-Toluene (18.896)
-n-Nonane (21.102)
-Ethylbenzene (21.613)
-m+p-Xylene (21.744)
-o-Xylene (22.547)
-1,2,4-trimethylbenzene (24.763)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.585)

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG342981-4
MSD ID: WG342981-5
Sample ID: SQ5043-7RA
Client ID: BNF-ZMW-10-9-23
SDG: SQ5043
MS File ID: 2QI10060.D

Extract Date: 22-SEP-23
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG342981
Report Date: 10-OCT-23
MSD File ID: 2QI10061.D

Analysis Date: 22-SEP-23
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: N/A
Sample File ID: 2QI10059.D

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Unadjusted C5-C8 Aliphatics	300	300	ug/L	U75	380	370	125.	123.	2	50	70-130
Unadjusted C9-C12 Aliphatics	200	200	ug/L	U75	260	260	128.	128.	0	50	70-130
C9-C10 Aromatics	100	100	ug/L	U75	130	130	126.	127.	1	50	70-130
2,5-Dibromotoluene (FID)							117.	120.			70-130
2,5-Dibromotoluene (PID)							* 132.	* 132.			70-130

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10060.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10060.D
Lab Smp Id: WG342981-4 Client Smp ID: BNF-ZMW-10-9-23MS
Inj Date : 22-SEP-2023 21:49
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-4
Misc Info : WG342981,WG342400-4,SQ5043-7
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

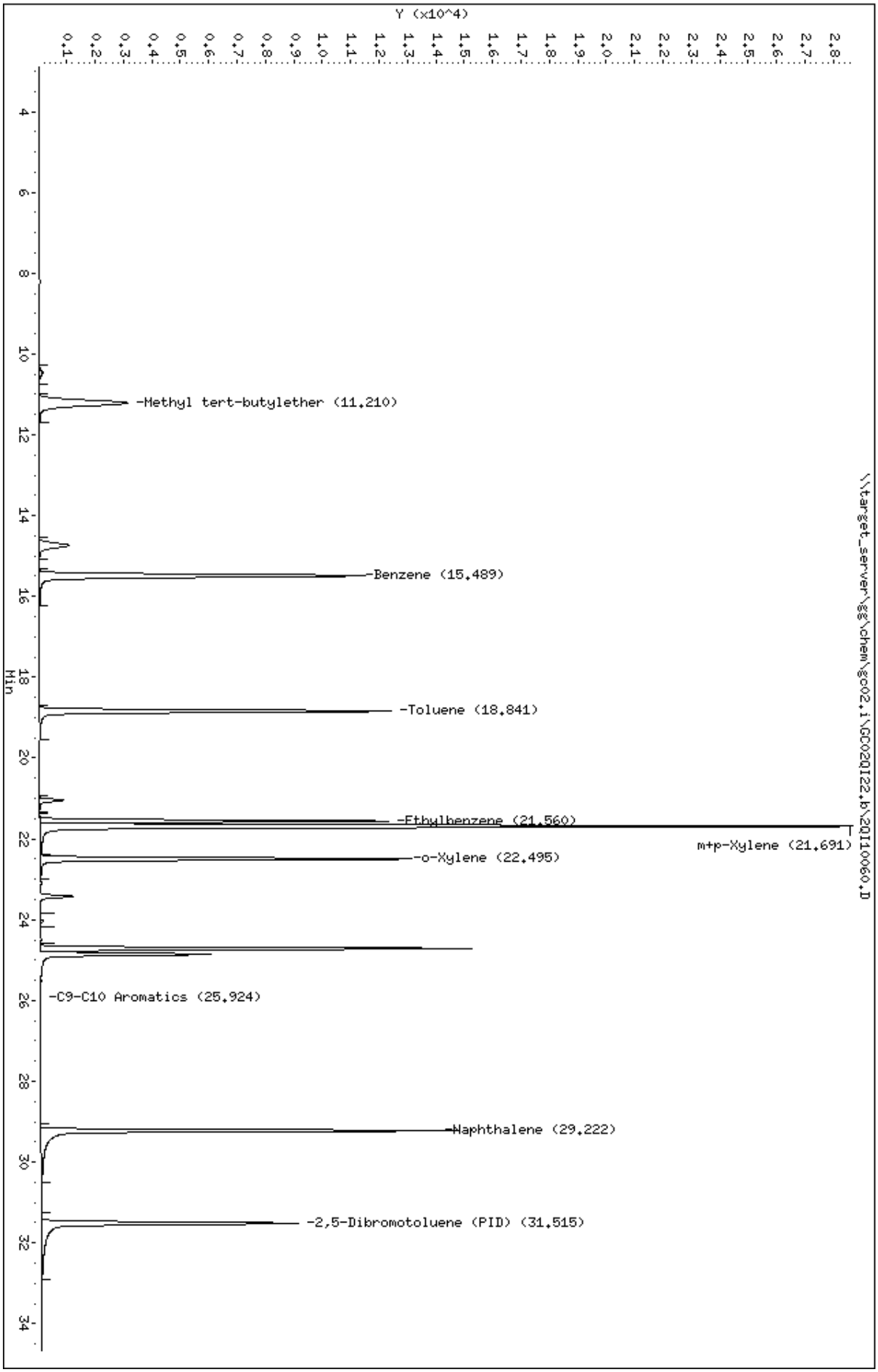
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.210	11.270	-0.060	65371	103.560	104	
	3 Benzene	15.489	15.556	-0.067	132184	112.900	113	
	4 Toluene	18.841	18.908	-0.067	119167	115.010	115	
	5 Ethylbenzene	21.560	21.550	0.010	106622	117.258	117	
	6 m+p-Xylene	21.690	21.681	0.009	260472	229.067	229	
	7 o-Xylene	22.495	22.557	-0.062	113374	118.012	118	
S	9 C9-C10 Aromatics	22.657	-29.191		118273	126.388	126(M)	M3
	10 Naphthalene	29.222	29.291	-0.069	130348	120.488	120	
$	11 2,5-Dibromotoluene (PID)	31.515	31.597	-0.082	101024	132.228	132(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10060.D
Date : 22-SEP-2023 21:49
Client ID: BNF-2MW-10-9-23MS
Sample Info: WG342981-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10060.D
Y (x10^4)
Min
-Methyl tert-butylether (11.210)
-Benzene (15.489)
-Toluene (18.841)
-Ethylbenzene (21.560)
m+p-Xylene (21.691)
-o-Xylene (22.495)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.222)
-2,5-Dibromotoluene (PID) (31.515)

Data File: 2QI10060.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10060.D
Lab Smp Id: WG342981-4 Client Smp ID: BNF-ZMW-10-9-23MS
Inj Date : 22-SEP-2023 21:49
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-4
Misc Info : WG342981,WG342400-4,SQ5043-7
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

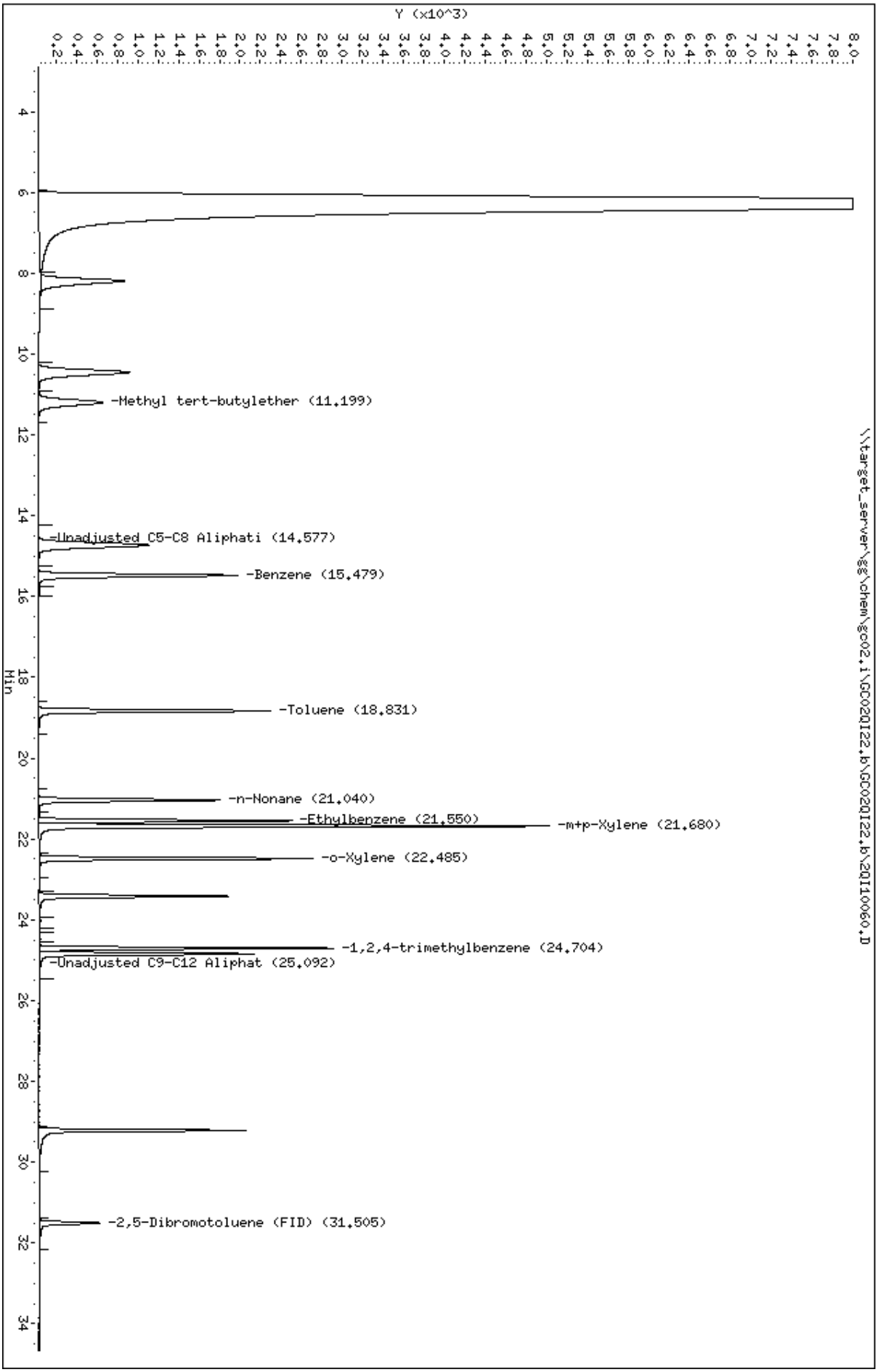
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.199	11.258	-0.059	130294	100.683	101	
	9 Benzene	15.478	15.545	-0.067	214146	109.441	109	
	11 Toluene	18.830	18.898	-0.068	207363	108.614	109	
	12 n-Nonane	21.039	21.102	-0.063	160880	129.278	129	
	14 Ethylbenzene	21.549	21.540	0.009	205603	117.040	117	
	15 m+p-Xylene	21.680	21.670	0.010	433573	225.025	225	
	16 o-Xylene	22.484	22.546	-0.062	221373	114.382	114	
	18 1,2,4-trimethylbenzene	24.703	24.762	-0.059	211318	121.708	122	
S	10 Unadjusted C5-C8 Aliphatics	8.151	-21.003		532566	375.236	375(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.004	-29.180		336912	256.422	256(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.504	31.587	-0.083	59365	117.485	117	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10060.D
Date : 22-SEP-2023 21:49
Client ID: BNF-2MW-10-9-23MS
Sample Info: WG342981-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10060.D
Y (x10^3)
Min
-Methyl tert-butylether (11.199)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.479)
-Toluene (18.831)
-n-Nonane (21.040)
-Ethylbenzene (21.550)
-m+p-Xylene (21.680)
-o-Xylene (22.485)
-1,2,4-trimethylbenzene (24.704)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.505)

Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10061.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10061.D
Lab Smp Id: WG342981-5 Client Smp ID: BNF-ZMW-10-9-23MSD
Inj Date : 22-SEP-2023 22:31
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-5
Misc Info : WG342981,WG342400-4,SQ5043-7
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m
Meth Date : 25-Sep-2023 08:59 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

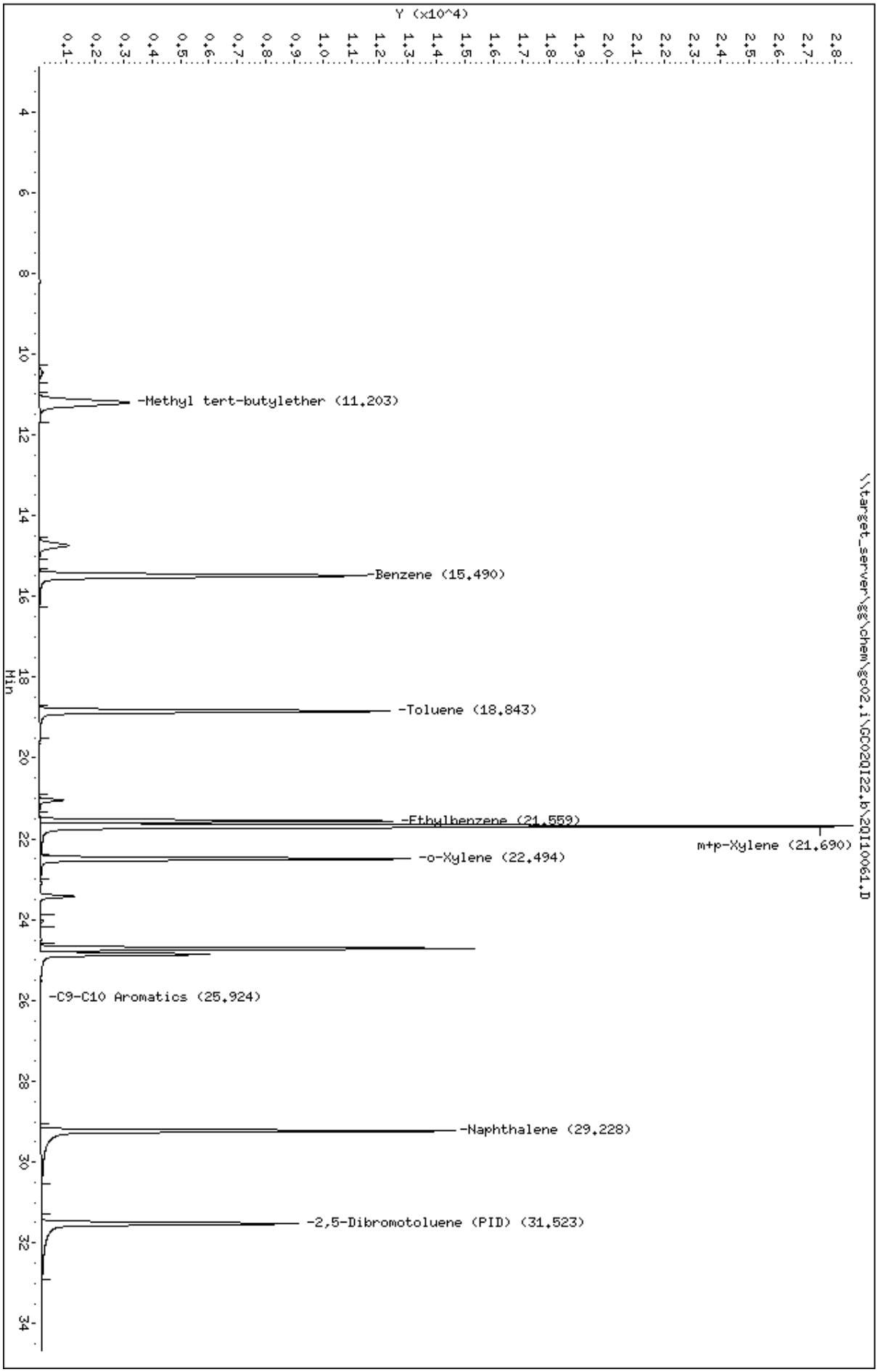
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.203	11.270	-0.067	66022	104.591	104	
	3 Benzene	15.489	15.556	-0.067	132876	113.491	113	
	4 Toluene	18.842	18.908	-0.066	118856	114.710	115	
	5 Ethylbenzene	21.558	21.550	0.008	106490	117.113	117(M)	M6
	6 m+p-Xylene	21.689	21.681	0.008	260037	228.684	229(M)	M6
	7 o-Xylene	22.494	22.557	-0.063	113551	118.196	118	
S	9 C9-C10 Aromatics	22.657	-29.191		119065	127.234	127(M)	M3
	10 Naphthalene	29.228	29.291	-0.063	131435	121.493	121	
$	11 2,5-Dibromotoluene (PID)	31.523	31.597	-0.074	100747	131.865	132(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10061.D
Date : 22-SEP-2023 22:31
Client ID: BNF-2MW-10-9-23MSD
Sample Info: WG342981-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\2QI10061.D
Y (x10^4)
Min
-Methyl tert-butylether (11.203)
-Benzene (15.490)
-Toluene (18.843)
-Ethylbenzene (21.559)
m+p-Xylene (21.690)
-o-Xylene (22.494)
-C9-C10 Aromatics (25.924)
-Naphthalene (29.228)
-2,5-Dibromotoluene (PID) (31.523)

Data File: 2QI10061.D
Report Date: 10-Oct-2023 07:26

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10061.D
Lab Smp Id: WG342981-5 Client Smp ID: BNF-ZMW-10-9-23MSD
Inj Date : 22-SEP-2023 22:31
Operator : DL Inst ID: gc02.i
Smp Info : WG342981-5
Misc Info : WG342981,WG342400-4,SQ5043-7
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02QI22.b\VPHPIDA28.m\VPHFIDA28.m
Meth Date : 25-Sep-2023 09:01 dlewry Quant Type: ESTD
Cal Date : 08-SEP-2023 15:06 Cal File: 2QI10011.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

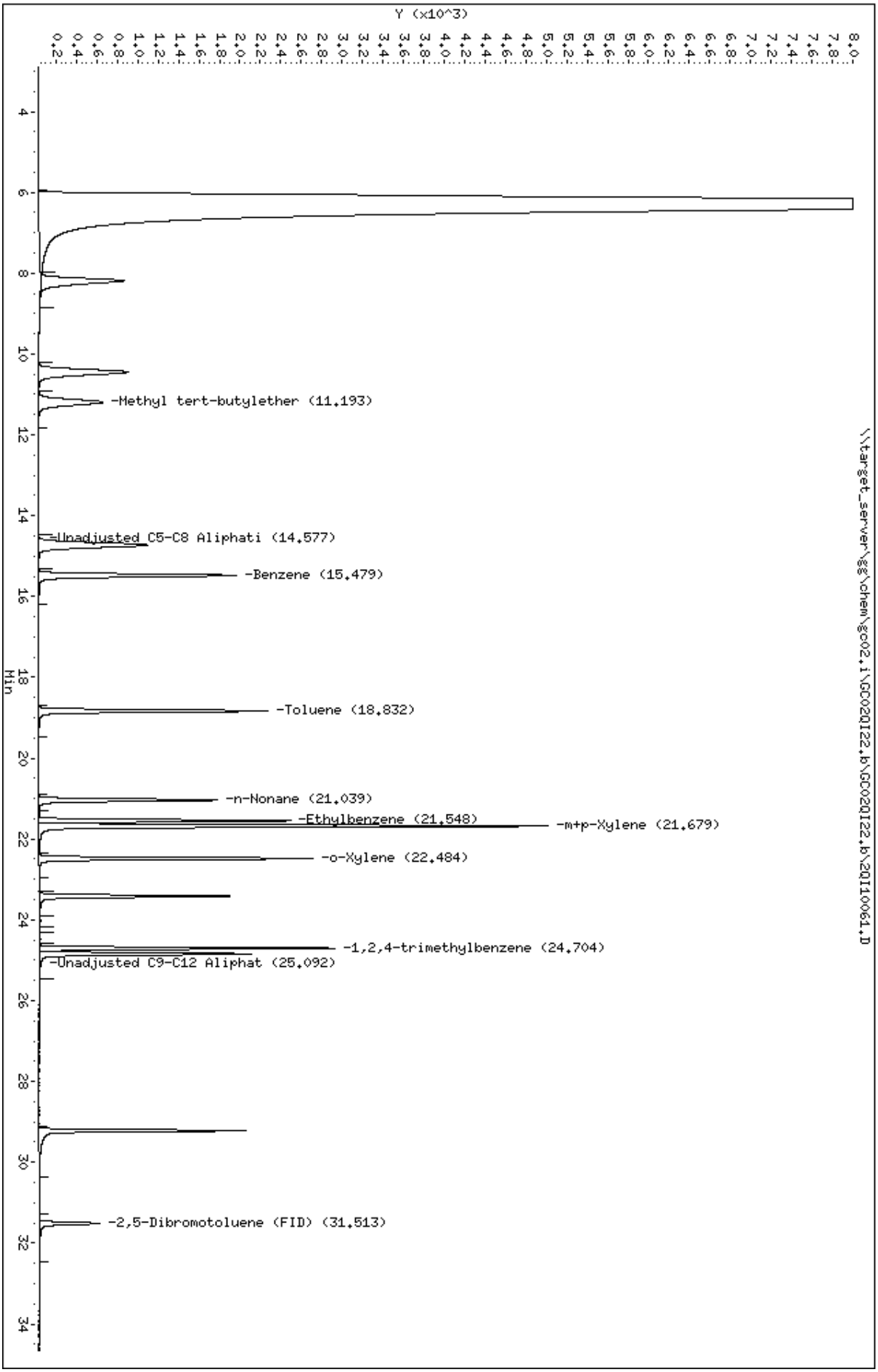
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.193	11.258	-0.065	131372	101.516	102	
	9 Benzene	15.478	15.545	-0.067	216109	110.445	110	
	11 Toluene	18.832	18.898	-0.066	206064	107.934	108	
	12 n-Nonane	21.038	21.102	-0.064	158421	127.302	127	
	14 Ethylbenzene	21.548	21.540	0.008	204493	116.408	116(M)	M6
	15 m+p-Xylene	21.679	21.670	0.009	433795	225.140	225(M)	M6
	16 o-Xylene	22.483	22.546	-0.063	221063	114.222	114	
	18 1,2,4-trimethylbenzene	24.704	24.762	-0.058	211847	122.012	122	
S	10 Unadjusted C5-C8 Aliphatics	8.151	-21.003		523563	368.893	369(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.004	-29.180		336663	256.232	256(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.513	31.587	-0.074	60887	120.498	120	

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10061.D
Date : 22-SEP-2023 22:31
Client ID: BNF-2MW-10-9-23MSD
Sample Info: WG342981-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02QI22.b\GC02QI22.b\2QI10061.D
Y (x10^3)
Min
-Methyl tert-butylether (11.193)
-Unadjusted C5-C8 Aliphati (14.577)
-Benzene (15.479)
-Toluene (18.832)
-n-Nonane (21.039)
-Ethylbenzene (21.548)
-m+p-Xylene (21.679)
-o-Xylene (22.484)
-1,2,4-trimethylbenzene (24.704)
-Unadjusted C9-C12 Aliphat (25.092)
-2,5-Dibromotoluene (FID) (31.513)

Logbooks and Supporting Documents

Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
18 DL 8/21/23										
8/27/23	DL	WG341387-2RA	50uL	6.	2QH10036	1	N	VPHPIDFIDA27	—	ant
		VPH AQ LOQ	50uL	7	37		Y			
		SQ4169-1RAE	5mL	8	38		N		L2	SS↓
		CV50	50uL	9	39		Y		—	WG-341387-5 6↓PID 3↓FID
8/28/23	DL	Rinse	5mL	1	2QH10040	1	N	VPHPIDFIDA27	—	
		CV50	50uL	2	41		Y			WG-341819-4
		WG341819-1	200uL	3	42		Y			
		-2		4	43		Y			
		-3		5	44		Y			
		SQ3683-1DL2A	20uL	6	45	10	N			NoSS
		-1DLA	40uL	7	46	5	Y			
		-1A	20uL	8	47	1	Y			Ranges overload
		CV50	50uL	9	48		Y			WG-341819-5
9/7/23	DL	Rinse	5mL	1	2QH10001	1	N	VPHPIDFIDA27	—	
		CV50	50uL	2	2		N			missing peaks
				3	3		N			
				4	4		N			FID↓ new Recon
9/8/23	DL	Rinse	5mL	1	2QH10005	1	N	VPHPIDFIDA27	—	
		ICal 50	50uL	2	6		Y			WG342400-4
		1	10uL	3	7		Y			-1
		5	50uL	4	8		Y			-2
		10	100uL	5	9		Y			-3
		100		6	2QH10010		Y			DL 9/8/23 -5
		300	60uL	7	11		Y			~~MAP↑PID~~ -6
		IND	50uL	8	12		Y			MAP↑PID -7
		WG-342400-8	5mL	9	13		Y			
		-9	50uL	10	14		Y			C5-C8, SSFID↓
		-10		11	15		Y			
		SQ4594-1A	5mL	12	16		Y		L2	

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4854	GCV GCV 4865
2	VPH Surr. mix	100 ug/ml	GCV 4858	GCV 4866
3	VPH LCS mix	100 ug/ml	GCV 4862	GCV
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7	VPH Cal	5 ug/mL	GCV 4855	GCV 4867
8	VPH cal	25 ug/mL	GCV 4868	

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH 10↑#
6212004

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Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
9/8/23	DL	SQ4695-1D	5mL	13	2QJ10017	1	Y	VPHPIDFIDA28	<2	C9-C10, C9-C12 [illegible]
↓	↓	CV 50	50uL	14	↓ 18	↓	Y	↓	—	WG342400-11
9/11/23	DL	Rinse	5mL	1	2QJ10019	1	N	VPHPIDFIDA28	—	
		CV50	50uL	2	20		Y			WG342455-4
		WG342455-1	5mL	3	21		Y			
		-2	50uL	4	22		Y			
		-3	↓	5	23		Y		↓	
		SQ4840-2A	5mL	6	24		Y		<2	
↓	↓	CV 50	50uL	7	↓ 25	↓	Y	↓	—	WG342455-5 all↓
9/21/23	DL	Rinse	5mL	1	2QJ10026	1	N	VPHPIDFIDA28	—	
		CV50	50uL	2	27		Y			Ranges OK N-P↓N-P↓FID SS↓FID
		WG342912-1	5mL	3	28		Y			WG342912-6
		-2	50uL	4	29		N			all↓
		-3		5	30		Y			
		-2RA	↓	6	31		Y		↓	C5-C8↓
		SQ5043-6A	5mL	7	32		Y		<2	
		-10A		8	33		N			SS↓FID
		-1A		9	34		Y			
		-2A		10	35		Y			
		-3A		11	36		N			SS↓
		-4A		12	37		Y			
		-5A		13	38		Y			SS↓
		-7A		14	39		N			↓
		WG342912-4		15	40		N			MS SQ5043-7B all↓
		-5	↓	16	41		N			MSD ↓ -7C ↓
↓		SQ5043-8A		17	42		N			SS↓
9/22/23		-9A		18	43		N			Bad Run
		-11A		19	44		N			SS↓
↓	↓	-12A	↓	20	↓ 45	↓	N	↓	↓	Bad Run

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4865	GCV
2	VPH Surr. mix	100 ug/ml	GCV 4866	GCV
3	VPH LCS mix	100 ug/ml	GCV 4862	GCV 4869
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7				
8				

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH 10A #
6272004
6303005

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Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
9/22/23	DL	SQ5043-13A	5mL	21	2QI10046	1	Y	VPHPIDFIDA28	<2	SS↓
↓	↓	↓ -14A	↓	22	47	↓	Y	↓	<2	
↓	↓	CV 50	50uL	23	48	↓	Y	↓	—	WG342912-7 all↓
9/22/23	DL	Rinse	5mL	1	2QI10049	1	N	VPHPIDFIDA28	—	
↓	↓	CV 50	50uL	2	50	↓	Y	↓	↓	WG-342981-6
↓	↓	WG342981-1	5mL	3	51	↓	Y	↓	↓	
↓	↓	-2	50uL	4	52	↓	Y	↓	↓	
↓	↓	↓ -3	↓	5	53	↓	Y	↓	↓	SS↑PID
↓	↓	SQ5043-10RAB	5mL	6	54	↓	Y	↓	<2	
↓	↓	-3RAB	↓	7	55	↓	Y	↓	↓	
↓	↓	-5RAB	↓	8	56	↓	N	↓	↓	Bad Run
↓	↓	-9RAB	↓	9	57	↓	N	↓	↓	↓
↓	↓	-12RAB	↓	10	58	↓	N	↓	↓	↓
↓	↓	↓ -7RAD	↓	11	59	↓	Y	↓	↓	
↓	↓	WG342981-4	↓	12	60	↓	Y	↓	↓	MS SQ5043-7E SS↑PID
↓	↓	↓ -5	↓	13	61	↓	Y	↓	↓	MSD↓ -7F ↓ ~~E9-C24~~ DL 9/25/23
↓	↓	SQ5043-8RAB	↓	14	62	↓	Y	↓	↓	SS↑ DL 9/25/23
↓	↓	↓ -11RAB	↓	15	63	↓	Y	↓	↓	
9/23/23	↓	↓ -13RAB	↓	16	64	↓	Y	↓	↓	
↓	↓	SQ4911-8B	↓	17	65	↓	Y	↓	↓	
↓	↓	CV 50	50uL	18	66	↓	Y	↓	—	WG-342981-7 N-P N-D↓
9/25/23	DL	Rinse	5mL	1	2QI10067	1	N	VPHPIDFIDA28	—	
↓	↓	CV 50	50uL	2	68	↓	Y	↓	↓	WG-343069-4
↓	↓	WG343069-1	5mL	3	69	↓	N	↓	↓	SS↓ 200uL anti foam added
↓	↓	-2	50uL	4	70	↓	Y	↓	↓	
↓	↓	-3	↓	5	71	↓	Y	↓	↓	
↓	↓	↓ -1RA	5mL	6	72	↓	Y	↓	↓	200uL anti foam added
↓	↓	SQ5043-5RAL	↓	7	73	↓	Y	↓	<2	400uL anti foam added SS↓
↓	↓	↓ -9RAL	↓	8	74	↓	Y	↓	↓	↓ ↓

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4865	GCV
2	VPH Surr. mix	100 ug/ml	GCV 4866	GCV
3	VPH LCS mix	100 ug/ml	GCV 4869	GCV
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7				
8				

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH lot #
6303005

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Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
9/25/23	DL	SQ5043-12RA&C	5mL	9	2QI10075	1	Y	VPHPIDFID[illegible]	L2	400uL anti foam added ss↓
↓	↓	SQ4922-1A	↓	10	76	↓	Y	↓	↓	↓ 4 story↓
↓	↓	CV50	50uL	11	77	↓	Y	↓	—	WG343069-5 ak↓
9/26/23	DL	Rinse	5mL	1	2QI10078	1	N	VPHPIDFID[illegible]	—	
↓	↓	CV50	50uL	2	79	↓	N	↓	↓	Several↓
↓	↓	CV50	↓	3	80	↓	N	↓	↓	↓
↓	↓	CV50	↓	4	81	↓	Y	↓	↓	WG343130-6
↓	↓	WG343130-1	200uL	5	82	↓	Y	↓	↓	
↓	↓	-2	↓	6	83	↓	N	↓	↓	Bad Run
↓	↓	-3	↓	7	84	↓	N	↓	↓	↓
↓	↓	-2RA	↓	8	85	↓	Y	↓	↓	
↓	↓	-3RA	↓	9	86	↓	Y	↓	↓	C9-C12↑
↓	↓	VPH SL LOD	↓	10	87	↓	Y	↓	↓	
↓	↓	↓ LOQ	↓	11	88	↓	Y	↓	↓	
↓	↓	SQ5070-1A	↓	12	89	↓	Y	↓	↓	
↓	↓	WG343130-4	↓	13	90	↓	Y	↓	↓	MS SQ5070-1B ak↑
9/27/23	↓	↓ -5	↓	14	91	↓	Y	↓	↓	MSD -1C several↑
↓	↓	SQ5070-2A	↓	15	92	↓	Y	↓	↓	
↓	↓	CV50	50uL	16	93	↓	Y	↓	↓	WG343130-7

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4865	GCV
2	VPH Surr. mix	100 ug/ml	GCV 4866	GCV
3	VPH LCS mix	100 ug/ml	GCV	GCV
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7	VPH LOD/LOQ	250 ug/mL	GCV 4870	
8				

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH 10+77
6303005

GC-013 – Revision 3 – 11/15/2016

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Tracey Tapley	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-149216-54041.1
Client Contact: Ms. Kellie Arstino	Phone: 912 652 6007	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: NC	Page: Page 1 of 2
Company: Sure-BioChem Laboratories LLC	PWSID:			Job #:
Address: 1000 Atlantic Ave	Due Date Requested:			
City: Camden	TAT Requested (days): Standard			
State, Zip: NJ, 08104	Compliance Project: Δ Yes Δ No			
Phone: 888-398-7247(Tel)	PO #: Purchase Order not required			
Email: karstino@surebiochem.com	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

680-240122 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	MAEPH_DOD - (MOD) MA EPH DOD	8270E_SIM - 1-Methylnaphthalene	MAVPH - (MOD) MA VPH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	A		
BNF-ZMW-9R-9-23	9/8/23	1550	G	Water	N	N	2	2		4	petroFix staining
BNF-ZMW-10-9-23	9/8/23	1125	G	Water	N	Y	2	2	3	7	
BNF-ZMW-12-9-23	9/8/23	1415	G	Water	N	N	2	2	3	7	petroFix staining
BNF-DUP-9-23	9/8/23	1600	G	Water	N	N	2		3	5	
BNF-EQB-9-23	9/8/23		G	Water	N	N	2	2	3	7	
BNF-ZMW-10-9-23MS /MSD	9/8/23	1125	G	Water	N	Y	2	2	3	7	
~~BNF-ZMW-10-9-23MSD~~				Water							
BNF-ZMW-11-9-23	9/8/23	1300	G	Water	N	N	2		3	5	
BNF-ZMW-13-9-23	9/8/23	1632	G	Water	N	N	2		3	5	organic staining
BNF-ZMW-14-9-23	9/8/23	1343	G	Water	N	N	2		3	5	
BNF-ZMW-15-9-23	9/8/23	1021	G	Water	N	N	2		3	5	

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Jesse Coursey	9-11-23/9:50	USACE		9/11/23 0950	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.3/1.4 1.9/2.0 3.1/3.2 3.4/3.5

Ver: 06/08/2021

10/11/2023

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Tracey Tapley	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-149216-54041.2
Client Contact: Ms. Kellie Arstino	Phone: 912 652 6007	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: NC	Page: Page 2 of 2
Company: Sure-BioChem Laboratories LLC	PWSID:			Job #:
Address: 1000 Atlantic Ave	Due Date Requested:			
City: Camden	TAT Requested (days): Standard			
State, Zip: NJ, 08104	Compliance Project: Δ Yes Δ No			
Phone: 888-398-7247(Tel)	PO #: Purchase Order not required			
Email: karstino@surebiochem.com	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	MAEPH_DOD - (MOD) MA EPH DOD	8270E_SIM - 1-Methylnaphthalene	MAVPH - (MOD) MA VPH	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	A		
BNF-ZMW-17-9-23	9/8/23	1215	G	Water	N	N	2		3	5	
BNF-TW-1-9-23	9/8/23	1730	G	Water	N	N	2		3	5	
BNF-TW-2-9-23	9/8/23	1755	G	Water	N	N	2		3	5	
BNF-TW-3-9-23	9/8/23	1820	G	Water	N	N	2		3	5	
BNF-TW-4-9-23	9/8/23	1850	G	Water	N	N	2		3	5	
trip blank	—	—	—	Water	—	—			2	2	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: JESSE COURSEY	Date/Time: 9-11-23/9:50	Company: USACE	Received by:	Date/Time: 9/11/23 0950	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.3/1.4 1.9/2.0 3.1/3.2 3.4/3.5

Ver: 06/08/2021
10/11/2023

SQ5043

COC received via email

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-750282.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 2 of 2
Company: Katahdin Analytical Services		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 600 Technology Way, ,	Due Date Requested: 9/25/2023			
City: Scarborough	TAT Requested (days):			
State, Zip: ME, 04074				
Phone:	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68026223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	SUB (General Subcontract Method)	Special Instructions/Note:
BNF-ZMW-17-9-23 (680-240122-10)	9/8/23	12:15 Eastern		Water	X	
BNF-TW-1-9-23 (680-240122-11)	9/8/23	12:30 Eastern		Water	X	
BNF-TW-2-9-23 (680-240122-12)	9/8/23	17:55 Eastern		Water	X	
BNF-TW-3-9-23 (680-240122-13)	9/8/23	18:20 Eastern		Water	X	
BNF-TW-4-9-23 (680-240122-14)	9/8/23	18:50 Eastern		Water	X	
Trip Blank (680-240122-15)	9/8/23	Eastern		Water	X	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Kristi Sears	Date/Time: 9/20/23 *(8) 1036	Company: ELLET	Received by:	Date/Time: 9/20/23 940	Company: KAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

*(8) Samples were shipped on 9/19/23 but did not have COC at time of shipment KMS 9/23

COC received via email

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-750282.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 1 of 2
Company: Katahdin Analytical Services		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 600 Technology Way, ,	Due Date Requested: 9/25/2023			
City: Scarborough	TAT Requested (days):			
State, Zip: ME, 04074				
Phone:	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (General Subcontract Method)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BNF-ZMW-10-9-23 (680-240122-2)	9/8/23	11:25 Eastern		Water			X	3	
BNF-ZMW-10-9-23MS (680-240122-2MS)	9/8/23	11:25 Eastern	MS	Water			X	3	
BNF-ZMW-12-9-23 (680-240122-3)	9/8/23	14:15 Eastern		Water			X	3	
BNF-DUP-9-23 (680-240122-4)	9/8/23	16:00 Eastern		Water			X	3	
BNF-EQB-9-23 (680-240122-5)	9/8/23	Eastern		Water			X	3	
BNF-ZMW-11-9-23 (680-240122-6)	9/8/23	13:00 Eastern		Water			X	3	
BNF-ZMW-13-9-23 (680-240122-7)	9/8/23	16:32 Eastern		Water			X	3	
BNF-ZMW-14-9-23 (680-240122-8)	9/8/23	13:43 Eastern		Water			X	3	
BNF-ZMW-15-9-23 (680-240122-9)	9/8/23	10:21 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

SQ5043

paperwork received in sample shipment

Kristin Sears

From: Jerry Lanier
Sent: Monday, September 18, 2023 2:54 PM
To: Michele Hamilton
Cc: Lancaster - EPH/Misc GC (4032) Contacts; Bridget Kovacs; Kathrine Muramatsu; Richard Karam; Mark Makowiecki; Megan Moeller; Lancaster - SubContracting; Lancaster - Sample Entry
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Michele,

Please take VPH samples for Job 680-240122 to custody for mailout today to Katahdin labs.

Katahdin Analytical Services
A Small Business Enterprise
DoD ELAP Accredited
600 Technology Way
Scarborough, Maine 04074

I have not heard on the other two jobs yet.

Thanks

Jerry Lanier

Phone: 912-250-0281

E-mail: **Jerry.Lanier@ET.EurofinsUS.com**

From: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Sent: Monday, September 18, 2023 12:11 PM
To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Job 680-239983 – MAVPH water holding time expires 9/20
Job 680-240122– MAVPH water holding time expires 9/22
Job 680-239801– MAVPH solid holding time expires 9/28

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC

Kristi Sears 9/19/23 1513 ELLET

2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

From: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Sent: Monday, September 18, 2023 12:02 PM
To: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

OK, Thanks Michele. I am checking to see where we can divert these.

Can you let me know when HT is up for both jobs?

Jerry Lanier

Phone: 912-250-0281

E-mail: **Jerry.Lanier@ET.EurofinsUS.com**

From: Michele Hamilton <Michele.Hamilton@et.eurofinsus.com>
Sent: Monday, September 18, 2023 10:49 AM
To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: RE: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

We will not be able to analyze job 680-239983 either to meet the hold.

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

From: Michele Hamilton
Sent: Monday, September 18, 2023 10:30 AM

To: Jerry Lanier <Jerry.Lanier@et.eurofinsus.com>
Cc: Lancaster - EPH/Misc GC (4032) Contacts <Lancaster-EPH/MiscGC?4032?Contacts@et.eurofinsus.com>; Bridget Kovacs <Bridget.Kovacs@et.eurofinsus.com>; Kathrine Muramatsu <Kathrine.Muramatsu@et.eurofinsus.com>; Richard Karam <Richard.Karam@et.eurofinsus.com>; Mark Makowiecki <Mark.Makowiecki@et.eurofinsus.com>; Megan Moeller <Megan.Moeller@et.eurofinsus.com>; Lancaster - SubContracting <lancastersubcontract@et.eurofinsus.com>
Subject: Sure-BioChem Laboratories LLC Sure-BioChem Laboratories LLC 680-240122 , 680-239801 MAVPH

Due to sample backlog, we will not be able to analyze job 680-24012 to meet the holds. It will be a struggle to analyze job 680-239801 to meet that hold also.

Jerry, can you please try to find a lab to send these jobs? Thanks

Miche'le D. Hamilton
GC SVOA Manager

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster, Pa. 17601

Phone= 717 556-9345
Michele.Hamilton@ET.EurofinsUS.com

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Eurofins	KAS PM: HHM	Sampled By: Client
Project:	KIMS Entry By: JCB	Delivered By: FedEx
KAS Work Order#: SQ5043	KIMS Review By: HHM	Received By: MLV
	Labeled By: DB	
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 9/20/23 940

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		/			
2. Chain of Custody present in cooler?		/			Email
3. Chain of Custody signed by client?		/			
4. Chain of Custody matches samples?	/				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	/				Temp (°C): 1.9 — Thermometer ID: IR-1
Samples received at <6 °C w/o freezing?	/				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	/				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	/				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				/	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?	/				
Soil/Sediment: Received in airtight container?				/	
Received in methanol?				/	
Methanol covering soil?				/	
D.I. Water - Received within 48 hour HT?				/	
7. Trip Blank present in cooler?	/				
8. Proper sample containers and volume?	/			x DB	
9. Samples within hold time upon receipt?	/			x DB	
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				/	
Sulfide - >9				/	
Cyanide – pH >12				/	
11. Bottleware Prepped on:					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-749495.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 9/20/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	MAEPH_Calc/ MA EPH (Calc)	MAEPH_DOD/3510C_14d (MOD) MA EPH DOD	MAVPH/5030C (MOD) MA VPH	MAVPH_Calc/ MA VPH (Calc)	PRE_SCREEN	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BNF-ZMW-9R-9-23 (680-240122-1)	9/8/23	15:50 Eastern		Water			X	X				2	
BNF-ZMW-10-9-23 (680-240122-2)	9/8/23	11:25 Eastern		Water			X	X	X	X	X	5	This is DOD Work
BNF-ZMW-10-9-23MS (680-240122-2MS)	9/8/23	11:25 Eastern	MS	Water			X	X	X	X		5	This is DOD Work
BNF-ZMW-10-9-23MSD (680-240122-2MSD)	9/8/23	11:25 Eastern	MSD	Water			X	X	X	X		5	This is DOD Work
BNF-ZMW-12-9-23 (680-240122-3)	9/8/23	14:15 Eastern		Water			X	X	X	X	X	5	This is DOD Work
BNF-DUP-9-23 (680-240122-4)	9/8/23	16:00 Eastern		Water			X	X	X	X	X	5	This is DOD Work
BNF-EQB-9-23 (680-240122-5)	9/8/23	Eastern		Water			X	X	X	X	X	5	This is DOD Work
BNF-ZMW-11-9-23 (680-240122-6)	9/8/23	13:00 Eastern		Water			X	X	X	X	X	5	This is DOD Work
BNF-ZMW-13-9-23 (680-240122-7)	9/8/23	16:32 Eastern		Water			X	X	X	X	X	5	This is DOD Work

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
TH	09-12-23				
	10:00				
				9/18/23 09:58	ELET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: RAW: 3.8, 3.0, 2.6, 2.9, 2.6 COV: 3.7, 3.9, 2.5, 2.8, 2.3

Ver: 06/08/2021

10/11/2023

Eurofins Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-749495.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jerry.Lanier@et.eurofinsus.com	State of Origin: North Carolina	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): Dept. of Defense ELAP - A2LA; DoD ELAP - A2LA; State - ...		Job #: 680-240122-1
Address: 2425 New Holland Pike,	Due Date Requested: 9/20/2023			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: Buxton NF	Project #: 68028223			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	MAEPH_Calc/ MA EPH (Calc)	MAEPH_DOD/3510C_14d (MOD) MA EPH DOD	MAVPH/5030C (MOD) MA VPH	MAVPH_Calc/ MA VPH (Calc)	PRE_SCREEN	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
BNF-ZMW-14-9-23 (680-240122-8)	9/8/23	13:43 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-ZMW-15-9-23 (680-240122-9)	9/8/23	10:21 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-ZMW-17-9-23 (680-240122-10)	9/8/23	12:15 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-TW-1-9-23 (680-240122-11)	9/8/23	12:30 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-TW-2-9-23 (680-240122-12)	9/8/23	17:55 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-TW-3-9-23 (680-240122-13)	9/8/23	18:20 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
BNF-TW-4-9-23 (680-240122-14)	9/8/23	18:50 Eastern		Water			X	X	X	X	X	5	, This is DOD Work
Trip Blank (680-240122-15)	9/8/23	Eastern		Water					X	X	X	2	This is DOD Work

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: IH	Date/Time: 9-12-23	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time: 10:26	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 9/13/23 09:58	Company: ELET
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: RAW: 3.8, 3.0, 2.6, 2.9, 2.6 COR: 3.7, 2.9, 2.5, 2.8, 2.5		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Sure-BioChem Laboratories LLC

Job Number: 680-240122-1

Login Number: 240122

List Source: Eurofins Savannah

List Number: 1

Creator: Johnson, Corey M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Sure-BioChem Laboratories LLC

Job Number: 680-240122-1

Login Number: 240122
List Number: 2
Creator: McBeth, Jessica

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 09/13/23 01:51 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	False	Headspace greater than 6mm in diameter in some but not all containers

Report of Analysis

USACE
100 W Oglethorpe Ave
Savannah, GA 31401
Attention: Tracey Tapley

Project Name: Buxton NF FUDS

Lot Number:**YJ13025**

Date Completed:11/21/2023

Kathy Smith

11/21/2023 9:59 AM
Approved and released by:
Project Manager II: **Kathy E. Smith**

The electronic signature above is the equivalent of a handwritten signature.
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106 Vantage Point Drive West Columbia, SC 29172
Tel: 803-791-9700 Fax: 803-791-9111 www.pacelabs.com

Case Narrative
USACE
Lot Number: YJ13025

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Additionally, the DoD QSM version 5.4 has been followed for these samples. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs, the DoD QSM, or policies are qualified on the results page or discussed below.

Pace is a DoD/DOE accredited laboratory; however, the following analyses are currently not listed on our DoD/DOE scope of accreditation: Drinking Water: pH EPA 150.1, Turbidity EPA 180.1, Metals EPA 200.7 & 200.8, Mercury EPA 245.1, Anions EPA 300.0, Cyanide EPA 335.4, Nitrates EPA 353.2, Orthophosphate & Phosphorus EPA 365.1, EDB/DBCP EPA 504.1, HPC SIMPLATE, Color SM 2120 B-2011, Alkalinity SM 2320 B-2011, Specific Conductance SM 2510 B-2011, Residue-filterable (TDS) SM 2540 C, Calcium Hardness (CaCO2) SM 3500-Ca B-2011, TRC SM 4500 Cl G-2011, pH SM 4500 H=B-2011, E.Coli, Total Coliform. Non-Potable Water: Metals EPA 200.7, Strontium EPA 200.8, Chlorate EPA 300.0, Cyanide EPA 335.4, Phenolics EPA 420.4, 2-Methyl-4,6-Dinitrophenol EPA 625.1, Propane RSK-175, Specific Conductance SM 2510 B-2011, Salinity SM2520 B, Residue- total SM 2540 B, Sulfite SM 4500 SO32- B-2011, Amenable Cyanide SM 4500-CN- G-2011, BOD & CBOD SM 5210 B, MBAS SM 5540 C-2011, Boron & Titanium SW-846 6010D, Boron, Molybdenum, & Titanium SW-846 6020B, Alcohols & Glycols SW-846 8015C, Pentachlorophenol SW-846 8151A, Ethyl Acetate, Hexane, & n-Hexane SW-846 8260D, SVOC 1,4-Dioxane, 4-Dimethyl aminoazobenzene, 1,4-Naphthoquinone, 3,5-Dinitroaniline, PETN SW-846 8270E, Amenable Cyanide SW-846 9012B. Solid and Chemical Materials: Boron & Titanium SW-846 6010D, Molybdenum SW-846 6020B, Ethylene Glycol SW-846 8015B, Pentachlorophenol SW-846 8151A, Chloroprene SW-846 8260B, SVOC 1,4-Dioxane, 1,3,5-Trinitrobenzene, 1,4- Naphthoquinone, 1,4-Phenylenediamine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3-Methylcholanthrene, 4-Aminobiphenyl, 4-Dimethyl aminoazobenzene, 4-Nitroquinoline-1-oxide, 7,12-Dimethylbenzo(a)anthracene, Chlorobenzilate, Diallate, Ethyl methanesulfonate, Isodrin, Isosafrole, Methyl methanesulfonate, n-Nitrosomethylethylamine, n-Nitrosomorpholine, n-Nitrosopiperidine, Piperonyl butoxide, Pronamide, Safrole, 3,5- Dinitroaniline, PETN SW-846 8270E, Oil & Grease SW-846 9071B.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18. Where applicable, all soil sample results (including LOQ and DL if requested) are corrected for dry weight unless flagged with a "W" qualifier.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Dilutions greater than 5X impact the surrogate recoveries, thus negating their usefulness concerning quality control. The sample results are reported and no corrective action is required.

MAVPH
Surrogate recovery for the following sample was outside control limits: YJ13025-001. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Surrogate recovery for the following sample was outside the upper control limit: YJ13025-002. This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Semivolatiles
The MS/MSD associated with sample YJ13025-001 had compounds recovered outside of the acceptance limits. The LCS was recovered within the required acceptance limits; therefore, this demonstrates a matrix effect and data quality is not impacted.

Volatiles
Surrogate recovery for the following sample was outside the upper control limit: YJ13025-003. This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The LCS associated with batch 88492 had Benzene recovered below the acceptance limits. This demonstrates a low bias on analytical results. Results for this compound in the samples associated with this batch should be considered estimated.

Manual Integration Summary

USACE

Lot Number: YJ13025

Project Name: Buxton NF FUDS

Project Number:

Where applicable, analytes for which manual integration occurred have been flagged with the following:

Qualifier	Technical Justification	Qualifier	Technical Justification	Qualifier	Technical Justification
M-01	Split peak	M-07	Low fit	M-13	Error
M-02	Peak tailing	M-08	Peak not found	M-14	Baseline
M-03	Incorrect auto integration	M-09	Analyte not Identified by the Data System	M-15	Other
M-04	Poor chromatography	M-10	Analyte misidentified by the Data System	M-16	Retention time shift
M-05	Manually assigned peak	M-11	Invalid integration	M-17	Shouldering
M-06	Wrong isomer	M-12	Wrong peak		

A summary of instances where manual integration occurred is included below:

Method	Sample	Run Number	Parameter	Qualifier
MADEP-EPH-04	YJ13025-001	1	C11 - C22 Aromatics	M-03
MADEP-EPH-04	YJ13025-001	1	2-Bromonaphthalene (fractionation 2)	M-03
MADEP-EPH-04	YJ13025-001	1	2-Fluorobiphenyl (fractionation 1)	M-03
MADEP-EPH-04	YJ13025-001	1	o - Terphenyl (aromatic)	M-03
MADEP-EPH-04	YJ13025-001	1	C19 - C36 Aliphatics	M-03
MADEP-EPH-04	YJ13025-001	1	1-Chloro-octadecane (aliphatic)	M-03
MADEP-VPH-18-2.1	YJ13025-001	1	2,5-Dibromotoluene (FID)	M-03
MADEP-VPH-18-2.1	YJ13025-001	1	2,5-Dibromotoluene (PID)	M-03
MADEP-VPH-18-2.1	YJ13025-002	1	2,5-Dibromotoluene (PID)	M-03
MADEP-VPH-18-2.1	YQ88052-002	1	C9 - C10 Aromatics	M-03
MADEP-VPH-18-2.1	YQ88052-003	1	C9 - C10 Aromatics	M-03

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Sample Summary

USACE

Lot Number: YJ13025

Project Name: Buxton NF FUDS

Project Number:

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	BNF-TP1-3'	Solid	10/12/2023 1312	10/13/2023
002	BNF-TP4-3-5'	Solid	10/12/2023 1400	10/13/2023
003	BNF-Trip Blank	Aqueous	10/12/2023	10/13/2023

(3 samples)

Detection Summary

USACE

Lot Number: YJ13025

Project Name: Buxton NF FUDS

Project Number:

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	BNF-TP1-3'	Solid	Phenanthrene	8270E	550	QS	ug/kg	7
001	BNF-TP1-3'	Solid	C11 - C22 Aromatics	MADEP-EPH-	690	M-03	mg/kg	8
001	BNF-TP1-3'	Solid	C19 - C36 Aliphatics	MADEP-EPH-	190	M-03	mg/kg	9
001	BNF-TP1-3'	Solid	C9 - C18 Aliphatics	MADEP-EPH-	910		mg/kg	9
001	BNF-TP1-3'	Solid	C9 - C12 Aliphatics	MADEP-VPH-	78	Q	mg/kg	10
001	BNF-TP1-3'	Solid	C9 - C10 Aromatics	MADEP-VPH-	84	Q	mg/kg	11
002	BNF-TP4-3-5'	Solid	C9 - C10 Aromatics	MADEP-VPH-	0.77	J	mg/kg	17

(7 detections)

Volatile Organic Compounds by GC/MS

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5035	8260D	1	10/23/2023 1443	AMR2		88154

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzene	71-43-2	8260D	3.8	U	4.7	3.8	1.9	ug/kg	1
Ethylbenzene	100-41-4	8260D	3.8	U	4.7	3.8	1.9	ug/kg	1
Isopropylbenzene	98-82-8	8260D	3.8	U	4.7	3.8	1.9	ug/kg	1
Toluene	108-88-3	8260D	3.8	U	4.7	3.8	1.9	ug/kg	1
Xylenes (total)	1330-20-7	8260D	7.6	U	9.5	7.6	3.8	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	79-119
Dibromofluoromethane		95	78-119
1,2-Dichloroethane-d4		89	71-136
Toluene-d8		115	85-116

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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Semivolatile Organic Compounds by GC/MS

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3546	8270E	50	11/04/2023 0102	DJC	10/19/2023 1611	87923

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Acenaphthene	83-32-9	8270E	120	UQS	160	120	48	ug/kg	1
Acenaphthylene	208-96-8	8270E	120	UQS	160	120	55	ug/kg	1
Anthracene	120-12-7	8270E	120	UQS	160	120	29	ug/kg	1
Fluorene	86-73-7	8270E	120	UQS	160	120	33	ug/kg	1
1-Methylnaphthalene	90-12-0	8270E	120	UQS	160	120	56	ug/kg	1
2-Methylnaphthalene	91-57-6	8270E	120	UQ	160	120	57	ug/kg	1
Naphthalene	91-20-3	8270E	120	UQS	160	120	56	ug/kg	1
Phenanthrene	85-01-8	8270E	550	QS	160	120	41	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl	N	148	44-115
Nitrobenzene-d5		68	37-122
Terphenyl-d14		100	54-127

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP EPH (aromatics)

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	MADEP-EPH-	MADEP-EPH-04	1	10/21/2023 1644	MEZ	10/18/2023 0954	87726

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C11 - C22 Aromatics		MADEP-EPH-04	690	M-03	12	12	12	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Bromonaphthalene (fractionation 2)	M-03	63	40-140
2-Fluorobiphenyl (fractionation 1)	M-03	109	40-140
o - Terphenyl (aromatic)	M-03	77	40-140

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP EPH (aliphatics)

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	MADEP-EPH-	MADEP-EPH-04	5	10/21/2023 1556	MEZ	10/18/2023 0954	87725

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C19 - C36 Aliphatics		MADEP-EPH-04	190	M-03	58	58	58	mg/kg	1
C9 - C18 Aliphatics		MADEP-EPH-04	910		58	58	58	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1-Chloro-octadecane (aliphatic)	M-03	50	40-140

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP VPH (aliphatics)

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	VPH	MADEP-VPH-18-2.1	1	10/20/2023 1744	JWG		88051

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C5 - C8 Aliphatics		MADEP-VPH-18-	2.0	UQ	4.9	2.0	0.99	mg/kg	1
C9 - C12 Aliphatics		MADEP-VPH-18-	78	Q	4.9	2.0	0.99	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,5-Dibromotoluene (FID)	M-	423	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP VPH (aromatics)

Client: USACE		Laboratory ID: YJ13025-001
Description: BNF-TP1-3'		Matrix: Solid
Date Sampled: 10/12/2023 1312	Project Name: Buxton NF FUDS	% Solids: 85.3 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	VPH	MADEP-VPH-18-2.1	1	10/20/2023 1744	JWG		88052

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C9 - C10 Aromatics		MADEP-VPH-18-	84	Q	1.6	1.3	0.66	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,5-Dibromotoluene (PID)	M-	181	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5035	8260D	1	10/23/2023 1506	AMR2		88154

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzene	71-43-2	8260D	4.0	U	5.0	4.0	2.0	ug/kg	1
Ethylbenzene	100-41-4	8260D	4.0	U	5.0	4.0	2.0	ug/kg	1
Isopropylbenzene	98-82-8	8260D	4.0	U	5.0	4.0	2.0	ug/kg	1
Toluene	108-88-3	8260D	4.0	U	5.0	4.0	2.0	ug/kg	1
Xylenes (total)	1330-20-7	8260D	8.0	U	10	8.0	4.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		110	79-119
Dibromofluoromethane		90	78-119
1,2-Dichloroethane-d4		84	71-136
Toluene-d8		108	85-116

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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Semivolatile Organic Compounds by GC/MS

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3546	8270E	1	11/02/2023 1824	DJC	10/19/2023 1611	87923

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Acenaphthene	83-32-9	8270E	2.4	U	3.3	2.4	1.0	ug/kg	1
Acenaphthylene	208-96-8	8270E	2.4	U	3.3	2.4	1.1	ug/kg	1
Anthracene	120-12-7	8270E	2.4	U	3.3	2.4	0.62	ug/kg	1
Fluorene	86-73-7	8270E	2.4	U	3.3	2.4	0.69	ug/kg	1
1-Methylnaphthalene	90-12-0	8270E	2.4	U	3.3	2.4	1.2	ug/kg	1
2-Methylnaphthalene	91-57-6	8270E	2.4	U	3.3	2.4	1.2	ug/kg	1
Naphthalene	91-20-3	8270E	2.4	U	3.3	2.4	1.2	ug/kg	1
Phenanthrene	85-01-8	8270E	2.4	U	3.3	2.4	0.87	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		67	44-115
Nitrobenzene-d5		67	37-122
Terphenyl-d14		103	54-127

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP EPH (aromatics)

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	MADEP-EPH-	MADEP-EPH-04	1	10/21/2023 1654	MEZ	10/18/2023 0954	87726

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C11 - C22 Aromatics		MADEP-EPH-04	12	UQ	12	12	12	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Bromonaphthalene (fractionation 2)	N	35	40-140
2-Fluorobiphenyl (fractionation 1)		91	40-140
o - Terphenyl (aromatic)		86	40-140

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP EPH (aliphatics)

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	MADEP-EPH-	MADEP-EPH-04	1	10/21/2023 1606	MEZ	10/18/2023 0954	87725

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C19 - C36 Aliphatics		MADEP-EPH-04	12	U	12	12	12	mg/kg	1
C9 - C18 Aliphatics		MADEP-EPH-04	12	U	12	12	12	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1-Chloro-octadecane (aliphatic)		65	40-140

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP VPH (aliphatics)

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	VPH	MADEP-VPH-18-2.1	1	10/20/2023 1813	JWG		88051

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C5 - C8 Aliphatics		MADEP-VPH-18-	2.0	UQ	5.1	2.0	1.0	mg/kg	1
C9 - C12 Aliphatics		MADEP-VPH-18-	2.0	UQ	5.1	2.0	1.0	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,5-Dibromotoluene (FID)	N	168	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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MADEP VPH (aromatics)

Client: USACE		Laboratory ID: YJ13025-002
Description: BNF-TP4-3-5'		Matrix: Solid
Date Sampled: 10/12/2023 1400	Project Name: Buxton NF FUDS	% Solids: 81.2 10/17/2023 2358
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	VPH	MADEP-VPH-18-2.1	1	10/20/2023 1813	JWG		88052

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
C9 - C10 Aromatics		MADEP-VPH-18-	0.77	J	1.7	1.4	0.68	mg/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2,5-Dibromotoluene (PID)	M-03	117	70-130

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Client: USACE		Laboratory ID: YJ13025-003
Description: BNF-Trip Blank		Matrix: Aqueous
Date Sampled: 10/12/2023	Project Name: Buxton NF FUDS	
Date Received: 10/13/2023	Project Number:	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	10/26/2023 1256	CCO		88492

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	LOD	DL	Units	Run
Benzene	71-43-2	8260D	0.80	UQL	1.0	0.80	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	0.80	UQ	1.0	0.80	0.40	ug/L	1
Isopropylbenzene	98-82-8	8260D	0.80	UQ	1.0	0.80	0.40	ug/L	1
Toluene	108-88-3	8260D	0.80	UQ	1.0	0.80	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	0.80	UQ	1.0	0.80	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	N	121	81-118
Bromofluorobenzene		108	85-114
Toluene-d8		103	89-112
Dibromofluoromethane		95	80-119

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
U = Not detected at or above the LOD	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis	LOD = Limit of Detection		S = MS/MSD failure

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QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: YQ88154-001
Batch: 88154
Analytical Method: 8260D

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
Benzene	4.0	U	1	5.0	4.0	2.0	ug/kg	10/23/2023 1144
Ethylbenzene	4.0	U	1	5.0	4.0	2.0	ug/kg	10/23/2023 1144
Isopropylbenzene	4.0	U	1	5.0	4.0	2.0	ug/kg	10/23/2023 1144
Toluene	4.0	U	1	5.0	4.0	2.0	ug/kg	10/23/2023 1144
Xylenes (total)	8.0	U	1	10	8.0	4.0	ug/kg	10/23/2023 1144

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	79-119
Dibromofluoromethane		88	78-119
1,2-Dichloroethane-d4		88	71-136
Toluene-d8		111	85-116

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: YQ88154-002
Batch: 88154
Analytical Method: 8260D

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Benzene	50	51		1	101	77-121	10/23/2023 0953
Ethylbenzene	50	56		1	111	76-122	10/23/2023 0953
Isopropylbenzene	50	57		1	114	68-134	10/23/2023 0953
Toluene	50	53		1	107	77-121	10/23/2023 0953
Xylenes (total)	100	110		1	109	78-124	10/23/2023 0953

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		116	79-119
Dibromofluoromethane		95	78-119
1,2-Dichloroethane-d4		95	71-136
Toluene-d8		110	85-116

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: YQ88154-003
Batch: 88154
Analytical Method: 8260D

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Benzene	50	50		1	100	1.5	77-121	20	10/23/2023 1015
Ethylbenzene	50	54		1	109	2.6	76-122	20	10/23/2023 1015
Isopropylbenzene	50	55		1	110	3.5	68-134	20	10/23/2023 1015
Toluene	50	53		1	106	1.2	77-121	20	10/23/2023 1015
Xylenes (total)	100	110		1	108	1.7	78-124	20	10/23/2023 1015

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	79-119
Dibromofluoromethane		93	78-119
1,2-Dichloroethane-d4		95	71-136
Toluene-d8		109	85-116

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: YQ88492-001
Batch: 88492
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
Benzene	0.80	U	1	1.0	0.80	0.40	ug/L	10/26/2023 1102
Ethylbenzene	0.80	U	1	1.0	0.80	0.40	ug/L	10/26/2023 1102
Isopropylbenzene	0.80	U	1	1.0	0.80	0.40	ug/L	10/26/2023 1102
Toluene	0.80	U	1	1.0	0.80	0.40	ug/L	10/26/2023 1102
Xylenes (total)	0.80	U	1	1.0	0.80	0.40	ug/L	10/26/2023 1102

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		117	81-118
Bromofluorobenzene	N	119	85-114
Toluene-d8		110	89-112
Dibromofluoromethane		93	80-119

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: YQ88492-002
Batch: 88492
Analytical Method: 8260D

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Benzene	50	39	N	1	78	79-120	10/26/2023 0952
Ethylbenzene	50	52		1	105	79-121	10/26/2023 0952
Isopropylbenzene	50	54		1	107	72-131	10/26/2023 0952
Toluene	50	48		1	95	80-121	10/26/2023 0952
Xylenes (total)	100	100		1	103	79-121	10/26/2023 0952

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		92	81-118
Bromofluorobenzene		102	85-114
Toluene-d8		89	89-112
Dibromofluoromethane	N	76	80-119

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: YQ87923-001
Batch: 87923
Analytical Method: 8270E

Matrix: Solid
Prep Method: 3546
Prep Date: 10/19/2023 1611

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
Acenaphthene	2.0	U	1	2.7	2.0	0.83	ug/kg	11/02/2023 1219
Acenaphthylene	2.0	U	1	2.7	2.0	0.95	ug/kg	11/02/2023 1219
Anthracene	2.0	U	1	2.7	2.0	0.51	ug/kg	11/02/2023 1219
Fluorene	2.0	U	1	2.7	2.0	0.57	ug/kg	11/02/2023 1219
1-Methylnaphthalene	2.0	U	1	2.7	2.0	0.98	ug/kg	11/02/2023 1219
2-Methylnaphthalene	2.0	U	1	2.7	2.0	0.99	ug/kg	11/02/2023 1219
Naphthalene	2.0	U	1	2.7	2.0	0.97	ug/kg	11/02/2023 1219
Phenanthrene	2.0	U	1	2.7	2.0	0.72	ug/kg	11/02/2023 1219

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		72	44-115
Nitrobenzene-d5		73	37-122
Terphenyl-d14		110	54-127

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: YQ87923-002
Batch: 87923
Analytical Method: 8270E

Matrix: Solid
Prep Method: 3546
Prep Date: 10/19/2023 1611

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acenaphthene	130	94		1	71	40-123	11/02/2023 1243
Acenaphthylene	130	110		1	83	32-132	11/02/2023 1243
Anthracene	130	110		1	82	47-123	11/02/2023 1243
Fluorene	130	95		1	71	43-125	11/02/2023 1243
1-Methylnaphthalene	130	95		1	71	40-119	11/02/2023 1243
2-Methylnaphthalene	130	89		1	67	38-122	11/02/2023 1243
Naphthalene	130	90		1	68	35-123	11/02/2023 1243
Phenanthrene	130	100		1	78	50-121	11/02/2023 1243

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		64	44-115
Nitrobenzene-d5		68	37-122
Terphenyl-d14		100	54-127

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MS

Sample ID: YJ13025-001MS
Batch: 87923
Analytical Method: 8270E

Matrix: Solid
Prep Method: 3546
Prep Date: 10/19/2023 1611

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acenaphthene	ND	160	460	N	50	293	40-123	11/04/2023 0215
Acenaphthylene	ND	160	290	N	50	187	32-132	11/04/2023 0215
Anthracene	ND	160	770	N	50	496	47-123	11/04/2023 0215
Fluorene	ND	160	450	N	50	291	43-125	11/04/2023 0215
1-Methylnaphthalene	ND	160	270	N	50	173	40-119	11/04/2023 0215
2-Methylnaphthalene	ND	160	160		50	104	38-122	11/04/2023 0215
Naphthalene	ND	160	210	N	50	133	35-123	11/04/2023 0215
Phenanthrene	550	160	840	N	50	185	50-121	11/04/2023 0215

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		112	44-115
Nitrobenzene-d5		83	37-122
Terphenyl-d14		120	54-127

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MSD

Sample ID: YJ13025-001MD
Batch: 87923
Analytical Method: 8270E

Matrix: Solid
Prep Method: 3546
Prep Date: 10/19/2023 1611

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Acenaphthene	ND	160	430	N	50	276	6.2	40-123	20	11/04/2023 0239
Acenaphthylene	ND	160	290	N	50	186	0.69	32-132	20	11/04/2023 0239
Anthracene	ND	160	810	N	50	517	4.1	47-123	20	11/04/2023 0239
Fluorene	ND	160	390	N	50	250	15	43-125	20	11/04/2023 0239
1-Methylnaphthalene	ND	160	250	N	50	157	9.3	40-119	20	11/04/2023 0239
2-Methylnaphthalene	ND	160	170		50	106	1.7	38-122	20	11/04/2023 0239
Naphthalene	ND	160	190		50	122	8.2	35-123	20	11/04/2023 0239
Phenanthrene	550	160	720		50	112	15	50-121	20	11/04/2023 0239

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl	N	188	44-115
Nitrobenzene-d5	N	30	37-122
Terphenyl-d14	N	144	54-127

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aliphatics) - MB

Sample ID: YQ87725-001
Batch: 87725
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
C19 - C36 Aliphatics	10	U	1	10	10	10	mg/kg	10/21/2023 1527
C9 - C18 Aliphatics	10	U	1	10	10	10	mg/kg	10/21/2023 1527

Surrogate	Q	% Rec	Acceptance Limit
1-Chloro-octadecane (aliphatic)		68	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aliphatics) - LCS

Sample ID: YQ87725-002
Batch: 87725
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
C19 - C36 Aliphatics	40	25		1	62	40-140	10/21/2023 1537
C9 - C18 Aliphatics	30	12		1	41	40-140	10/21/2023 1537

Surrogate	Q	% Rec	Acceptance Limit
1-Chloro-octadecane (aliphatic)		65	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aliphatics) - LCSD

Sample ID: YQ87725-003
Batch: 87725
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
C19 - C36 Aliphatics	40	24		1	61	0.91	40-140	25	10/21/2023 1546
C9 - C18 Aliphatics	30	12		1	41	0.034	40-140	25	10/21/2023 1546

Surrogate	Q	% Rec	Acceptance Limit
1-Chloro-octadecane (aliphatic)		68	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aromatics) - MB

Sample ID: YQ87726-001
Batch: 87726
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
C11 - C22 Aromatics	10	U	1	10	10	10	mg/kg	10/24/2023 1653

Surrogate	Q	% Rec	Acceptance Limit
2-Bromonaphthalene (fractionation 2)		40	40-140
2-Fluorobiphenyl (fractionation 1)		96	40-140
o - Terphenyl (aromatic)		92	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aromatics) - LCS

Sample ID: YQ87726-002
Batch: 87726
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
C11 - C22 Aromatics	85	85		1	100	40-140	10/21/2023 1625

Surrogate	Q	% Rec	Acceptance Limit
2-Bromonaphthalene (fractionation 2)		68	40-140
2-Fluorobiphenyl (fractionation 1)		91	40-140
o - Terphenyl (aromatic)		80	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP EPH (aromatics) - LCSD

Sample ID: YQ87726-003
Batch: 87726
Analytical Method: MADEP-EPH-04

Matrix: Solid
Prep Method: MADEP-EPH-04
Prep Date: 10/18/2023 0954

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
C11 - C22 Aromatics	85	78		1	92	8.6	40-140	25	10/21/2023 1635

Surrogate	Q	% Rec	Acceptance Limit
2-Bromonaphthalene (fractionation 2)		64	40-140
2-Fluorobiphenyl (fractionation 1)		81	40-140
o - Terphenyl (aromatic)		70	40-140

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP VPH (aliphatics) - MB

Sample ID: YQ88051-001
Batch: 88051
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
C5 - C8 Aliphatics	1.5	U	1	3.8	1.5	0.75	mg/kg	10/20/2023 1548
C9 - C12 Aliphatics	1.5	U	1	3.8	1.5	0.75	mg/kg	10/20/2023 1548

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (FID)		104	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP VPH (aliphatics) - LCS

Sample ID: YQ88051-002
Batch: 88051
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
C5 - C8 Aliphatics	7.5	7.8		1	103	70-130	10/20/2023 1451
C9 - C12 Aliphatics	8.8	9.3		1	106	70-130	10/20/2023 1451

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (FID)		90	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP VPH (aliphatics) - LCSD

Sample ID: YQ88051-003
Batch: 88051
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
C5 - C8 Aliphatics	7.5	7.6		1	102	1.8	70-130	25	10/20/2023 1520
C9 - C12 Aliphatics	8.8	9.2		1	106	0.54	70-130	25	10/20/2023 1520

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (FID)		101	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP VPH (aromatics) - MB

Sample ID: YQ88052-001
Batch: 88052
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Result	Q	Dil	LOQ	LOD	DL	Units	Analysis Date
C9 - C10 Aromatics	1.0	U	1	1.3	1.0	0.50	mg/kg	10/20/2023 1548

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (PID)		92	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

MADEP VPH (aromatics) - LCS

Sample ID: YQ88052-002
Batch: 88052
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	%Rec Limit	Analysis Date
C9 - C10 Aromatics	1.3	1.4	M-03	1	108	70-130	10/20/2023 1451

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (PID)		81	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

MADEP VPH (aromatics) - LCSD

Sample ID: YQ88052-003
Batch: 88052
Analytical Method: MADEP-VPH-18-2.1

Matrix: Solid
Prep Method: VPH

Parameter	Spike Amount (mg/kg)	Result (mg/kg)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
C9 - C10 Aromatics	1.3	1.3	M-03	1	107	1.0	70-130	25	10/20/2023 1520

Surrogate	Q	% Rec	Acceptance Limit
2,5-Dibromotoluene (PID)		92	70-130

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

U = Not detected at or above the LOD
J = Estimated result < LOQ and ≥ DL
* = RSD is out of criteria

N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Pace Analytical®

PACE ANALYTICAL SERVICES, LLC
106 Vantage Point Drive • West Columbia, SC 29172
Telephone No. 803-791-9700 Fax No. 803-791-9111
www.pacelabs.com

Number 150911

Client: USACE	Report to Contact: Tracey Tapley	Telephone No. / E-mail: 912-652-6007	Quote No. 26716
Address: 100 W. Oglethorpe Ave	Sampler's Signature: X [signature]	Analysis (Attach list if more space is needed)	Page 1 of 1
City: Savannah; State: GA; Zip Code: 31401	Printed Name: Jeff Grablewski		YJ13025
Project Name: Buxton NF FUDS			

Sample ID / Description (Containers for each sample may be combined on one line.)	Project No. / P.O. No.	Collection Date(s)	Collection Time (Military)	Grab / Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No of Containers by Preservative Type: Unpres.	HCSO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	VOC Soil	SVOC	EPH	VPH	VOC Water					Remarks / Cooler I.D.
BNF-TP1-3'		10/12/23	1312	G		X		6					1		X	X	X	X						2 MeOH
BNF-TP4-3.5'		10/12/23	1400	G		X		6					1		X	X	X	X						2 MeOH
BNF-Trip Blank					X						2								X					

Turn Around Time Required (Prior lab approval required for expedited TAT.)	Sample Disposal	Possible Hazard Identification	QC Requirements (Specify)
☐ Standard ☐ Rush (Specify)	☐ Return to Client X Disposal by Lab	☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown	

	Date	Time		Date	Time
1. Relinquished by: [signature]	10/12/23	1700	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by: FedEx	10/13/23	1000	4. Laboratory received by: [signature]	10/13/23	1000

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack Receipt Temp. 1 °C
Temp Blank ☑ Y ☐ N

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: ME003N2-01

DC#_Title: ENV-FRM-WCOL-0286 v02_Samples Receipt Checklist (SRC)
Effective Date: 8/2/2022

Sample Receipt Checklist (SRC)

Client: USACE Cooler Inspected by/date: BRS2/ 10/13/23 Lot #: YJ13025

Means of receipt: [ ] Pace [ ] Client [ ] UPS [✓] FedEx [ ] Other: _____

[ ] Yes	[✓] No		1. Were custody seals present on the cooler?
[ ] Yes	[ ] No	[✓] NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: 23-1877
1.7/1.7 °C NA/NA °C NA/NA °C NA/NA °C
Method: [✓] Temperature Blank [ ] Against Bottles IR Gun ID: 8 IR Gun Correction Factor: 0 °C
Method of coolant: [✓] Wet Ice [ ] Ice Packs [ ] Dry Ice [ ] None

[✓] Yes	[ ] No	[ ] NA	3. Were all coolers received at or below 6.0°C? If no, was Project Manager notified? PM was Notified by: phone / email / face-to-face (circle one).
[✓] Yes	[ ] No	[ ] NA	4. Is the commercial courier's packing slip attached to this form?
[✓] Yes	[ ] No		5. Were proper custody procedures (relinquished/received) followed?
[✓] Yes	[ ] No		6. Were sample IDs listed on the COC and all sample containers?
[✓] Yes	[✓] No	BRS2 10/13/23	7. Was collection date & time listed on the COC and all sample containers?
[✓] Yes	[ ] No		8. Did all container label information (ID, date, time) agree with the COC?
[✓] Yes	[ ] No		9. Were tests to be performed listed on the COC?
[✓] Yes	[ ] No		10. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? _____
[✓] Yes	[ ] No		11. Was adequate sample volume available?
[✓] Yes	[ ] No		12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
[✓] Yes	[ ] No		13. Were all samples containers accounted for? (No missing/excess)
[ ] Yes	[✓] No	[ ] NA	14. Were VOA, 8015C and RSK-175 samples free of bubbles >"pea-size" (¼"or 6mm in diameter) in any of the VOA vials?
[ ] Yes	[ ] No	[✓] NA	15. Were all DRO/metals/nutrient samples received at a pH of < 2?
[ ] Yes	[ ] No	[✓] NA	16. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
[ ] Yes	[ ] No	[✓] NA	17. Were all applicable NH_3/TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
[ ] Yes	[✓] No	[ ] NA	18. Was the quote number listed on the container label? If yes, Quote # _____

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA. □
Time of preservation NA. If more than one preservative is needed, please note in the comments below.

Sample(s) 3(2) were received with bubbles >6 mm in diameter.

Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Unique ID: NA.

Comments: Soil jars for sample 1 – no date/time
Trip blanks not labeled

Qualtrak ID: 56360 Pace® Analytical Services, LLC Page 1 of 1

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tracey Tapley
U.S. Army Corps of Engineers
100 West Oglethorpe Ave
Savannah GA 31401

Generated 1/9/2024 12:41 PM

JOB DESCRIPTION

Buxton Fuel fingerprinting

JOB NUMBER

410-155700-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

my EOL

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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Authorized for release by
Nicole Brown, Project Manager
Nicole.Brown@et.eurofinsus.com
717 471-3265

Eurofins Lancaster Laboratories Environment Testing, LLC

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
410-155700-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/22/2023 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): SB-ZMW-11-3.5 (410-155700-1). The container labels list a collection time of 09:40, while the COC lists 09:45.

Diesel Range Organics
Method 8015D_TPH: The GC fingerprint for sample SS-SBoundaryPeat (410-155700-2) does not resemble any of our petroleum reference standards. Total TPH was detected at 510 mg/kg. The detection is due to many large individual peaks eluting late in the C8-C40 normal hydrocarbon range. The identification of these peaks is beyond the scope of this analysis. Since no petroleum could be identified in the sample, the target analytes in the analysis have been marked as non-detect.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Client Sample ID: SB-ZMW-11-3.5 — Lab Sample ID: 410-155700-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
coal tar oil (1C)	5200		340		140	mg/Kg	25	☼	8015D TPH	Total/NA

Client Sample ID: SS-SBoundaryPeat — Lab Sample ID: 410-155700-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Client Sample ID: SB-ZMW-11-3.5

Lab Sample ID: 410-155700-1
Date Collected: 12/20/23 09:45
Matrix: Solid
Date Received: 12/22/23 10:50

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**11.7**		1.0		1.0	%		12/27/23 13:29	1

Client Sample ID: SB-ZMW-11-3.5

Lab Sample ID: 410-155700-1
Date Collected: 12/20/23 09:45
Matrix: Solid
Date Received: 12/22/23 10:50
Percent Solids: 88.3

Method: SW846 8015D TPH - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Fuel Oil #4 (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
#2 Diesel Fuel (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
Kerosene (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
Mineral Spirits (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
Motor Oil (>C24-C36) (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
Fuel Oil #6 (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25
coal tar oil (1C)	**5200**		340		140	mg/Kg	☼	01/03/24 23:33	25
Gasoline (1C)	ND		340		140	mg/Kg	☼	01/03/24 23:33	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr) (1C)	*333*	*S1+*	*52 - 124*	*12/29/23 07:36*	*01/03/24 23:33*	*25*
Chlorobenzene (Surr) (1C)	*121*		*10 - 143*	*12/29/23 07:36*	*01/03/24 23:33*	*25*

Client Sample ID: SS-SBoundaryPeat

Lab Sample ID: 410-155700-2
Date Collected: 12/20/23 10:30
Matrix: Solid
Date Received: 12/22/23 10:50

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**9.1**		1.0		1.0	%		12/27/23 13:29	1

Client Sample ID: SS-SBoundaryPeat

Lab Sample ID: 410-155700-2
Date Collected: 12/20/23 10:30
Matrix: Solid
Date Received: 12/22/23 10:50
Percent Solids: 90.9

Method: SW846 8015D TPH - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Fuel Oil #4 (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
#2 Diesel Fuel (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
Kerosene (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
Mineral Spirits (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
Motor Oil (>C24-C36) (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
Fuel Oil #6 (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
coal tar oil (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1
Gasoline (1C)	ND	cn	13		5.5	mg/Kg	☼	01/04/24 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr) (1C)	*111*	*cn*	*52 - 124*	*12/29/23 07:36*	*01/04/24 00:21*	*1*
Chlorobenzene (Surr) (1C)	*55*	*cn*	*10 - 143*	*12/29/23 07:36*	*01/04/24 00:21*	*1*

Default Detection Limits

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Method: 8015D TPH - Diesel Range Organics (DRO) (GC)

Prep: 3546

Analyte	LOQ	DL	Units
#2 Diesel Fuel (1C)	12	5.0	mg/Kg
coal tar oil (1C)	12	5.0	mg/Kg
Fuel Oil #4 (1C)	12	5.0	mg/Kg
Fuel Oil #6 (1C)	12	5.0	mg/Kg
Gasoline (1C)	12	5.0	mg/Kg
Kerosene (1C)	12	5.0	mg/Kg
Mineral Spirits (1C)	12	5.0	mg/Kg
Motor Oil (>C24-C36) (1C)	12	5.0	mg/Kg

General Chemistry

Analyte	LOQ	DL	Units
Percent Moisture	1.0	1.0	%

Surrogate Summary

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Method: 8015D TPH - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**OTP1 (52-124)**	**CBNZ1 (10-143)**						
410-155700-1	SB-ZMW-11-3.5	333 S1+	121						
410-155700-2	SS-SBoundaryPeat	111 cn	55 cn						
LCS 410-458714/2-A	Lab Control Sample	109	84						
MB 410-458714/1-A	Method Blank	106	80						

Surrogate Legend

OTP = o- terphenyl (Surr)

CBNZ = Chlorobenzene (Surr)

QC Sample Results

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Method: 8015D TPH - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 410-458714/1-A
Matrix: Solid
Analysis Batch: 459936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 458714

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Fuel Oil #4 (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
#2 Diesel Fuel (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
Kerosene (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
Mineral Spirits (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
Motor Oil (>C24-C36) (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
Fuel Oil #6 (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
coal tar oil (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1
Gasoline (1C)	ND		12		5.0	mg/Kg		01/03/24 21:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o- terphenyl (Surr) (1C)	*106*		*52 - 124*	*12/29/23 07:36*	*01/03/24 21:56*	*1*
Chlorobenzene (Surr) (1C)	*80*		*10 - 143*	*12/29/23 07:36*	*01/03/24 21:56*	*1*

Lab Sample ID: LCS 410-458714/2-A
Matrix: Solid
Analysis Batch: 459936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 458714

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
#2 Diesel Fuel (1C)			133	126		mg/Kg		95	62 - 117		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o- terphenyl (Surr) (1C)	*109*		*52 - 124*
Chlorobenzene (Surr) (1C)	*84*		*10 - 143*

QC Association Summary

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

GC Semi VOA

Prep Batch: 458714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-155700-1	SB-ZMW-11-3.5	Total/NA	Solid	3546	
410-155700-2	SS-SBoundaryPeat	Total/NA	Solid	3546	
MB 410-458714/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-458714/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 459936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-155700-1	SB-ZMW-11-3.5	Total/NA	Solid	8015D TPH	458714
410-155700-2	SS-SBoundaryPeat	Total/NA	Solid	8015D TPH	458714
MB 410-458714/1-A	Method Blank	Total/NA	Solid	8015D TPH	458714
LCS 410-458714/2-A	Lab Control Sample	Total/NA	Solid	8015D TPH	458714

General Chemistry

Analysis Batch: 457904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-155700-1	SB-ZMW-11-3.5	Total/NA	Solid	Moisture	
410-155700-2	SS-SBoundaryPeat	Total/NA	Solid	Moisture	

Lab Chronicle

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Client Sample ID: SB-ZMW-11-3.5
Lab Sample ID: 410-155700-1

Date Collected: 12/20/23 09:45
Date Received: 12/22/23 10:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	457904	X4C8	ELLE	12/27/23 13:29

Client Sample ID: SB-ZMW-11-3.5
Lab Sample ID: 410-155700-1

Date Collected: 12/20/23 09:45
Date Received: 12/22/23 10:50
Matrix: Solid
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			458714	PQ6J	ELLE	12/29/23 07:36
Total/NA	Analysis	8015D TPH		25	459936	UHEW	ELLE	01/03/24 23:33

Client Sample ID: SS-SBoundaryPeat
Lab Sample ID: 410-155700-2

Date Collected: 12/20/23 10:30
Date Received: 12/22/23 10:50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	457904	X4C8	ELLE	12/27/23 13:29

Client Sample ID: SS-SBoundaryPeat
Lab Sample ID: 410-155700-2

Date Collected: 12/20/23 10:30
Date Received: 12/22/23 10:50
Matrix: Solid
Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			458714	PQ6J	ELLE	12/29/23 07:36
Total/NA	Analysis	8015D TPH		1	459936	UHEW	ELLE	01/04/24 00:21

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: U.S. Army Corps of Engineers
Job ID: 410-155700-1
Project/Site: Buxton Fuel fingerprinting

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015D TPH	3546	Solid	#2 Diesel Fuel (1C)
8015D TPH	3546	Solid	coal tar oil (1C)
8015D TPH	3546	Solid	Fuel Oil #4 (1C)
8015D TPH	3546	Solid	Fuel Oil #6 (1C)
8015D TPH	3546	Solid	Gasoline (1C)
8015D TPH	3546	Solid	Kerosene (1C)
8015D TPH	3546	Solid	Mineral Spirits (1C)
8015D TPH	3546	Solid	Motor Oil (>C24-C36) (1C)
Moisture		Solid	Percent Moisture

Method Summary

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Method	Method Description	Protocol	Laboratory
8015D TPH	Diesel Range Organics (DRO) (GC)	SW846	ELLE
Moisture	Percent Moisture	EPA	ELLE
3546	Microwave Extraction	SW846	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: U.S. Army Corps of Engineers
Project/Site: Buxton Fuel fingerprinting

Job ID: 410-155700-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-155700-1	SB-ZMW-11-3.5	Solid	12/20/23 09:45	12/22/23 10:50
410-155700-2	SS-SBoundaryPeat	Solid	12/20/23 10:30	12/22/23 10:50

Eurofins Lancaster Laboratories Environment Testing, LLC

DIESEL RANGE ORGANICS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A Analysis Batch Number: 290776

Lab Sample ID: IC 410-290776/11 Client Sample ID:

Date Analyzed: 08/30/22 01:40 Lab File ID: ABTPH_22241001.0011.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Diesel Fuel 2-FID	16.13	Baseline Smoothing	UHEW	08/30/22 16:26
C8-C40	18.81	Baseline Smoothing	UHEW	08/30/22 16:26

DIESEL RANGE ORGANICS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A Analysis Batch Number: 459936

Lab Sample ID: CCV 410-459936/5 Client Sample ID:

Date Analyzed: 01/03/24 21:07 Lab File ID: ABTPH_22241088.0005.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexadecane	14.49	Baseline Smoothing	UHEW	01/04/24 13:02
n-Octadecane	17.11	Baseline Smoothing	UHEW	01/04/24 13:02
C8-C40	18.73	Baseline Smoothing	UHEW	01/04/24 13:02
icosane	19.50	Baseline Smoothing	UHEW	01/04/24 13:02
n-Docosane	21.69	Baseline Smoothing	UHEW	01/04/24 13:02
C12-C40	22.10	Baseline Smoothing	UHEW	01/04/24 13:02
n-Tetracosane	23.71	Baseline Smoothing	UHEW	01/04/24 13:02
n-Hexacosane	25.59	Baseline Smoothing	UHEW	01/04/24 13:02
n-Octacosane	27.33	Baseline Smoothing	UHEW	01/04/24 13:02
Triacontane	28.96	Baseline Smoothing	UHEW	01/04/24 13:02

Lab Sample ID: MB 410-458714/1-A Client Sample ID:

Date Analyzed: 01/03/24 21:56 Lab File ID: ABTPH_22241088.0006.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
coal tar oil	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Fuel Oil #4	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Fuel Oil #6	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Gasoline	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Kerosene	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Mineral Spirits	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
Motor Oil (>C24-C36)	18.74	Baseline Smoothing	UHEW	01/04/24 14:11
#2 Diesel Fuel	20.28	Baseline Smoothing	UHEW	01/04/24 14:11

DIESEL RANGE ORGANICS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A Analysis Batch Number: 459936

Lab Sample ID: LCS 410-458714/2-A Client Sample ID:

Date Analyzed: 01/03/24 22:44 Lab File ID: ABTPH_22241088.0007.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
#2 Diesel Fuel	20.25	Baseline Smoothing	UHEW	01/04/24 14:11

Lab Sample ID: 410-155700-1 Client Sample ID: SB-ZMW-11-3.5

Date Analyzed: 01/03/24 23:33 Lab File ID: ABTPH_22241088.0008.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
coal tar oil	18.74	Assign Peak	UHEW	01/04/24 14:12
Fuel Oil #4	18.74	Assign Peak	UHEW	01/04/24 14:12
Fuel Oil #6	18.74	Assign Peak	UHEW	01/04/24 14:12
Gasoline	18.74	Assign Peak	UHEW	01/04/24 14:12
Kerosene	18.74	Assign Peak	UHEW	01/04/24 14:12
Mineral Spirits	18.74	Assign Peak	UHEW	01/04/24 14:12
Motor Oil (>C24-C36)	18.74	Assign Peak	UHEW	01/04/24 14:12
#2 Diesel Fuel	20.28	Assign Peak	UHEW	01/04/24 14:12

Lab Sample ID: 410-155700-2 Client Sample ID: SS-SBoundaryPeat

Date Analyzed: 01/04/24 00:21 Lab File ID: ABTPH_22241088.0009.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
coal tar oil	18.72	Assign Peak	UHEW	01/04/24 14:12
Fuel Oil #4	18.72	Assign Peak	UHEW	01/04/24 14:12
Fuel Oil #6	18.72	Assign Peak	UHEW	01/04/24 14:12
Gasoline	18.72	Assign Peak	UHEW	01/04/24 14:12
Kerosene	18.72	Assign Peak	UHEW	01/04/24 14:12
Mineral Spirits	18.72	Assign Peak	UHEW	01/04/24 14:12
Motor Oil (>C24-C36)	18.72	Assign Peak	UHEW	01/04/24 14:12
#2 Diesel Fuel	20.29	Assign Peak	UHEW	01/04/24 14:12

DIESEL RANGE ORGANICS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A Analysis Batch Number: 459936

Lab Sample ID: CCV 410-459936/13 Client Sample ID:

Date Analyzed: 01/04/24 03:35 Lab File ID: ABTPH_22241088.0013.d GC Column: ZB-5 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dodecane	8.32	Baseline Smoothing	UHEW	01/04/24 13:04
n-Tetradecane	11.58	Baseline Smoothing	UHEW	01/04/24 13:04
Hexadecane	14.49	Baseline Smoothing	UHEW	01/04/24 13:04
n-Octadecane	17.11	Baseline Smoothing	UHEW	01/04/24 13:04
C8-C40	18.73	Baseline Smoothing	UHEW	01/04/24 13:04
icosane	19.50	Baseline Smoothing	UHEW	01/04/24 13:04
n-Docosane	21.70	Baseline Smoothing	UHEW	01/04/24 13:04
C12-C40	22.10	Baseline Smoothing	UHEW	01/04/24 13:04
n-Tetracosane	23.72	Baseline Smoothing	UHEW	01/04/24 13:04
n-Hexacosane	25.59	Baseline Smoothing	UHEW	01/04/24 13:04
n-Octacosane	27.34	Baseline Smoothing	UHEW	01/04/24 13:04
Triacontane	28.97	Baseline Smoothing	UHEW	01/04/24 13:04

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
EPH_1FUL1_00006	12/10/22	06/09/22	MeCl2, Lot 219045	10 mL			C8-C40	72.0145 ppm
					EPH_2FUELCRV_00005	0.0144 mL	Diesel Fuel 2-FID	72.0145 ppm
.EPH_2FUELCRV_00005	10/31/28		Restek, Lot A0176616		(Purchased Reagent)		Diesel Fuel 2-FID	50010.1 ug/mL
EPH_1FUL2_00006	12/10/22	06/09/22	MeCl2, Lot 219045	10 mL			C8-C40	400.081 ppm
					EPH_2FUELCRV_00005	0.08 mL	Diesel Fuel 2-FID	400.081 ppm
.EPH_2FUELCRV_00005	10/31/28		Restek, Lot A0176616		(Purchased Reagent)		Diesel Fuel 2-FID	50010.1 ug/mL
EPH_1FUL3_00007	01/07/23	07/06/22	mecl2, Lot 219045	50 mL			C8-C40	800.162 ppm
					EPH_2FUELCRV_00005	0.8 mL	Diesel Fuel 2-FID	800.162 ppm
.EPH_2FUELCRV_00005	10/31/28		Restek, Lot A0176616		(Purchased Reagent)		Diesel Fuel 2-FID	50010.1 ug/mL
EPH_1FUL4_00006	12/10/22	06/09/22	MeCl2, Lot 219045	10 mL			C8-C40	1600.32 ppm
					EPH_2FUELCRV_00005	0.32 mL	Diesel Fuel 2-FID	1600.32 ppm
.EPH_2FUELCRV_00005	10/31/28		Restek, Lot A0176616		(Purchased Reagent)		Diesel Fuel 2-FID	50010.1 ug/mL
EPH_1FUL5_00007	12/10/22	06/09/22	MeCl2, Lot 219045	10 mL			C8-C40	3500.71 ppm
					EPH_2FUELCRV_00005	0.7 mL	Diesel Fuel 2-FID	3500.71 ppm
.EPH_2FUELCRV_00005	10/31/28		Restek, Lot A0176616		(Purchased Reagent)		Diesel Fuel 2-FID	50010.1 ug/mL
EPH_TPH_1_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_TPH_5_00002	1 mL	o- terphenyl (Surr)	4.00024 ppm
							C12-C40	60.2352 ppm
							C38	4.028 ppm
							C40	3.9984 ppm
							C8-C40	72.2712 ppm
							Dodecane	4.02 ppm
							Dotriacontane	4.004 ppm
							Hexadecane	4.0256 ppm
							icosane	4.008 ppm
							n-Decane	4.016 ppm
							n-Docosane	4.012 ppm
							n-Hexacosane	4.04 ppm
							n-Hexatriacontane	4.02 ppm
							n-Nonane	4 ppm
							n-Octacosane	4.024 ppm
							n-Octadecane	3.9968 ppm
							n-Octane	4.02 ppm
							n-Tetracosane	4.008 ppm
							n-Tetradecane	4.024 ppm
							Tetratriacontane	4.024 ppm
							Triacontane	4.0024 ppm
							Chlorobenzene (Surr)	4.0374 ppm
.EPH_TPH_5_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_OTERPSS_00005	0.04 mL	o- terphenyl (Surr)	40.0024 ppm
					EPH_TRPHCRV_00011	0.8 mL	C12-C40	602.352 ppm
							C38	40.28 ppm
							C40	39.984 ppm
							C8-C40	722.712 ppm
							Dodecane	40.2 ppm
							Dotriacontane	40.04 ppm

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	40.256 ppm
							icosane	40.08 ppm
							n-Decane	40.16 ppm
							n-Docosane	40.12 ppm
							n-Hexacosane	40.4 ppm
							n-Hexatriacontane	40.2 ppm
							n-Nonane	40 ppm
							n-Octacosane	40.24 ppm
							n-Octadecane	39.968 ppm
							n-Octane	40.2 ppm
							n-Tetracosane	40.08 ppm
							n-Tetradecane	40.24 ppm
							Tetratriacontane	40.24 ppm
							Triacontane	40.024 ppm
					GCS_CHLBSURR_00002	0.04 mL	Chlorobenzene (Surr)	40.374 ppm
..EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
..EPH_TRPHCRV_00011	08/31/28		Restek, Lot A0174814		(Purchased Reagent)		C12-C40	7529.4 ug/mL
							C38	503.5 ug/mL
							C40	499.8 ug/mL
							C8-C40	9033.9 ug/mL
							Dodecane	502.5 ug/mL
							Dotriacontane	500.5 ug/mL
							Hexadecane	503.2 ug/mL
							icosane	501 ug/mL
							n-Decane	502 ug/mL
							n-Docosane	501.5 ug/mL
							n-Hexacosane	505 ug/mL
							n-Hexatriacontane	502.5 ug/mL
							n-Nonane	500 ug/mL
							n-Octacosane	503 ug/mL
							n-Octadecane	499.6 ug/mL
							n-Octane	502.5 ug/mL
							n-Tetracosane	501 ug/mL
							n-Tetradecane	503 ug/mL
							Tetratriacontane	503 ug/mL
							Triacontane	500.3 ug/mL
..GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
EPH_TPH_2_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_OTERPSS_00005	0.008 mL	o- terphenyl (Surr)	8.00048 ppm
					EPH_TRPHCRV_00008	0.16 mL	C12-C40	120.47 ppm
							C38	8.056 ppm
							C40	7.9968 ppm
							C8-C40	144.542 ppm
							Dodecane	8.04 ppm
							Dotriacontane	8.008 ppm
							Hexadecane	8.0512 ppm
							icosane	8.016 ppm

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Decane	8.032 ppm
							n-Docosane	8.024 ppm
							n-Hexacosane	8.08 ppm
							n-Hexatriacontane	8.04 ppm
							n-Nonane	8 ppm
							n-Octacosane	8.048 ppm
							n-Octadecane	7.9936 ppm
							n-Octane	8.04 ppm
							n-Tetracosane	8.016 ppm
							n-Tetradecane	8.048 ppm
							Tetratriacontane	8.048 ppm
							Triacontane	8.0048 ppm
					GCS_CHLBSURR_00002	0.008 mL	Chlorobenzene (Surr)	8.0748 ppm
.EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
.EPH_TRPHCRV_00008	08/31/28		Restek, Lot A0174814		(Purchased Reagent)		C12-C40	7529.4 ug/mL
							C38	503.5 ug/mL
							C40	499.8 ug/mL
							C8-C40	9033.9 ug/mL
							Dodecane	502.5 ug/mL
							Dotriacontane	500.5 ug/mL
							Hexadecane	503.2 ug/mL
							icosane	501 ug/mL
							n-Decane	502 ug/mL
							n-Docosane	501.5 ug/mL
							n-Hexacosane	505 ug/mL
							n-Hexatriacontane	502.5 ug/mL
							n-Nonane	500 ug/mL
							n-Octacosane	503 ug/mL
							n-Octadecane	499.6 ug/mL
							n-Octane	502.5 ug/mL
							n-Tetracosane	501 ug/mL
							n-Tetradecane	503 ug/mL
							Tetratriacontane	503 ug/mL
							Triacontane	500.3 ug/mL
.GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
EPH_TPH_3_00009	01/31/23	08/25/22	MeCl2, Lot 219045	50 mL	EPH_OTERPSS_00005	0.08 mL	o- terphenyl (Surr)	16.001 ppm
					EPH_TRPHCRV_00008	1.6 mL	C12-C40	240.941 ppm
							C38	16.112 ppm
							C40	15.9936 ppm
							C8-C40	289.085 ppm
							Dodecane	16.08 ppm
							Dotriacontane	16.016 ppm
							Hexadecane	16.1024 ppm
							icosane	16.032 ppm
							n-Decane	16.064 ppm
							n-Docosane	16.048 ppm

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Hexacosane	16.16 ppm
							n-Hexatriacontane	16.08 ppm
							n-Nonane	16 ppm
							n-Octacosane	16.096 ppm
							n-Octadecane	15.9872 ppm
							n-Octane	16.08 ppm
							n-Tetracosane	16.032 ppm
							n-Tetradecane	16.096 ppm
							Tetratriacontane	16.096 ppm
							Triacontane	16.0096 ppm
					GCS_CHLBSURR_00002	0.08 mL	Chlorobenzene (Surr)	16.1496 ppm
.EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
.EPH_TRPHCRV_00008	08/31/28		Restek, Lot A0174814		(Purchased Reagent)		C12-C40	7529.4 ug/mL
							C38	503.5 ug/mL
							C40	499.8 ug/mL
							C8-C40	9033.9 ug/mL
							Dodecane	502.5 ug/mL
							Dotriacontane	500.5 ug/mL
							Hexadecane	503.2 ug/mL
							icosane	501 ug/mL
							n-Decane	502 ug/mL
							n-Docosane	501.5 ug/mL
							n-Hexacosane	505 ug/mL
							n-Hexatriacontane	502.5 ug/mL
							n-Nonane	500 ug/mL
							n-Octacosane	503 ug/mL
							n-Octadecane	499.6 ug/mL
							n-Octane	502.5 ug/mL
							n-Tetracosane	501 ug/mL
							n-Tetradecane	503 ug/mL
							Tetratriacontane	503 ug/mL
							Triacontane	500.3 ug/mL
.GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
EPH_TPH_3_00023	06/09/24	12/08/23	MeCl2, Lot 63223	50 mL	EPH_CHLBSURR_00001	0.08 mL	Chlorobenzene (Surr)	16.0504 ppm
					EPH_OTERPSS_00007	0.08 mL	o- terphenyl (Surr)	16.012 ppm
					EPH_TRPHCRV_00018	1.6 mL	C8-C40	289.36 ppm
.EPH_CHLBSURR_00001	03/31/25		Restek, Lot A0183299		(Purchased Reagent)		Chlorobenzene (Surr)	10031.5 ug/mL
.EPH_OTERPSS_00007	12/31/26		Restek, Lot A0197729		(Purchased Reagent)		o- terphenyl (Surr)	10007.5 ug/mL
.EPH_TRPHCRV_00018	01/31/30		Restek, Lot A0192726		(Purchased Reagent)		C8-C40	9042.5 ug/mL
EPH_TPH_4_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_OTERPSS_00005	0.032 mL	o- terphenyl (Surr)	32.0019 ppm
					EPH_TRPHCRV_00011	0.64 mL	C12-C40	481.882 ppm
							C38	32.224 ppm
							C40	31.9872 ppm
							C8-C40	578.17 ppm
							Dodecane	32.16 ppm
							Dotriacontane	32.032 ppm

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	32.2048 ppm
							icosane	32.064 ppm
							n-Decane	32.128 ppm
							n-Docosane	32.096 ppm
							n-Hexacosane	32.32 ppm
							n-Hexatriacontane	32.16 ppm
							n-Nonane	32 ppm
							n-Octacosane	32.192 ppm
							n-Octadecane	31.9744 ppm
							n-Octane	32.16 ppm
							n-Tetracosane	32.064 ppm
							n-Tetradecane	32.192 ppm
							Tetratriacontane	32.192 ppm
							Triacontane	32.0192 ppm
					GCS_CHLBSURR_00002	0.032 mL	Chlorobenzene (Surr)	32.2992 ppm
.EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
.EPH_TRPHCRV_00011	08/31/28		Restek, Lot A0174814		(Purchased Reagent)		C12-C40	7529.4 ug/mL
							C38	503.5 ug/mL
							C40	499.8 ug/mL
							C8-C40	9033.9 ug/mL
							Dodecane	502.5 ug/mL
							Dotriacontane	500.5 ug/mL
							Hexadecane	503.2 ug/mL
							icosane	501 ug/mL
							n-Decane	502 ug/mL
							n-Docosane	501.5 ug/mL
							n-Hexacosane	505 ug/mL
							n-Hexatriacontane	502.5 ug/mL
							n-Nonane	500 ug/mL
							n-Octacosane	503 ug/mL
							n-Octadecane	499.6 ug/mL
							n-Octane	502.5 ug/mL
							n-Tetracosane	501 ug/mL
							n-Tetradecane	503 ug/mL
							Tetratriacontane	503 ug/mL
							Triacontane	500.3 ug/mL
.GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
EPH_TPH_5_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_OTERPSS_00005	0.04 mL	o- terphenyl (Surr)	40.0024 ppm
					EPH_TRPHCRV_00011	0.8 mL	C12-C40	602.352 ppm
							C38	40.28 ppm
							C40	39.984 ppm
							C8-C40	722.712 ppm
							Dodecane	40.2 ppm
							Dotriacontane	40.04 ppm
							Hexadecane	40.256 ppm
							icosane	40.08 ppm

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Decane	40.16 ppm
							n-Docosane	40.12 ppm
							n-Hexacosane	40.4 ppm
							n-Hexatriacontane	40.2 ppm
							n-Nonane	40 ppm
							n-Octacosane	40.24 ppm
							n-Octadecane	39.968 ppm
							n-Octane	40.2 ppm
							n-Tetracosane	40.08 ppm
							n-Tetradecane	40.24 ppm
							Tetratriacontane	40.24 ppm
							Triacontane	40.024 ppm
					GCS_CHLBSURR_00002	0.04 mL	Chlorobenzene (Surr)	40.374 ppm
.EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
.EPH_TRPHCRV_00011	08/31/28		Restek, Lot A0174814		(Purchased Reagent)		C12-C40	7529.4 ug/mL
							C38	503.5 ug/mL
							C40	499.8 ug/mL
							C8-C40	9033.9 ug/mL
							Dodecane	502.5 ug/mL
							Dotriacontane	500.5 ug/mL
							Hexadecane	503.2 ug/mL
							icosane	501 ug/mL
							n-Decane	502 ug/mL
							n-Docosane	501.5 ug/mL
							n-Hexacosane	505 ug/mL
							n-Hexatriacontane	502.5 ug/mL
							n-Nonane	500 ug/mL
							n-Octacosane	503 ug/mL
							n-Octadecane	499.6 ug/mL
							n-Octane	502.5 ug/mL
							n-Tetracosane	501 ug/mL
							n-Tetradecane	503 ug/mL
							Tetratriacontane	503 ug/mL
							Triacontane	500.3 ug/mL
.GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
EPH_TPHC_00002	01/31/23	08/25/22	MeCl2, Lot 219045	10 mL	EPH_OTERPSS_00005	0.016 mL	o- terphenyl (Surr)	16.001 ppm
					GCS_CHLBSURR_00002	0.016 mL	Chlorobenzene (Surr)	16.1496 ppm
.EPH_OTERPSS_00005	05/31/25		Restek, Lot A0177896		(Purchased Reagent)		o- terphenyl (Surr)	10000.6 ug/mL
.GCS_CHLBSURR_00002	01/31/23		Restek, Lot A0157160		(Purchased Reagent)		Chlorobenzene (Surr)	10093.5 ug/mL
OP_TPH_SS_00054	01/12/24	12/11/23	ACETONE, Lot 63174	500 mL	OP_CHLBEN_STK_00006	3 mL	Chlorobenzene (Surr)	60189 ppb
					OP_O-TERP_STK_00024	3 mL	o- terphenyl (Surr)	60286.2 ppb
.OP_CHLBEN_STK_00006	03/31/25		Restek, Lot A0183299		(Purchased Reagent)		Chlorobenzene (Surr)	10031.5 ug/mL
.OP_O-TERP_STK_00024	03/31/27		Restek, Lot A0201243		(Purchased Reagent)		o- terphenyl (Surr)	10047.7 ug/mL
OP_TPHWS_MS_00074	01/12/24	12/11/23	ACETONE, Lot 63174	50 mL	OP_DIESEL_2_00031	4 mL	#2 Diesel Fuel	4000610 ppb
							C10-C24	4000610 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							C10-C25	4000610 ppb
							C10-C28	4000610 ppb
							C10-C32	4000610 ppb
							C12-C24	4000610 ppb
							C13-C22	4000610 ppb
							C28-C35	4000610 ppb
							C28-C40	4000610 ppb
							C8-C40	4000610 ppb
							Diesel	4000610 ppb
							TEH - Diesel (C10-C24)	4000610 ppb
.OP_DIESEL_2_00031	07/31/30	Restek, Lot A0199237			(Purchased Reagent)		#2 Diesel Fuel	50007.6 ug/mL
							C10-C24	50007.6 ug/mL
							C10-C25	50007.6 ug/mL
							C10-C28	50007.6 ug/mL
							C10-C32	50007.6 ug/mL
							C12-C24	50007.6 ug/mL
							C13-C22	50007.6 ug/mL
							C28-C35	50007.6 ug/mL
							C28-C40	50007.6 ug/mL
							C8-C40	50007.6 ug/mL
							Diesel	50007.6 ug/mL
							TEH - Diesel (C10-C24)	50007.6 ug/mL

Reagent

EPH_2FUELCRV_00005

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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.

2185915
ID: EPH_2FUELCRV_00005
Exp: 10/31/28 Prpd: UHEW
#2 Fuel Oil Calibration S

Catalog No. : 31259 **Lot No.:** A0176616

Description : Diesel Fuel #2 Composite Standard

Diesel Fuel #2 Composite Standard 50,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2028 **Storage:** 25°C nominal

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diesel Fuel #2 Composite	50,010.1 µg/mL	+/- 290.7478 µg/mL	Gravimetric
	CAS # 68334-30-5.A (Lot A0160886)		+/- 1,488.9579 µg/mL	Unstressed
	Purity ---%		+/- 1,588.0248 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

EPH_CHLBSURR_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

410-3431758

Catalog No. : 558353 **Lot No.:** A0183299

Description : Custom Chlorobenzene Standard

Custom Chlorobenzene Standard 10,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2025 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Chlorobenzene **CAS #** 108-90-7 **Purity** 99% (Lot SHBL8110)	10,031.5 µg/mL	+/- 58.7366	µg/mL	Gravimetric
			+/- 562.4992	µg/mL	Unstressed
			+/- 575.6590	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

01-Aug-2020 rev.

Reagent

EPH_OTERPSS_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

2185961
ID: EPH_OTERPSS_00005
Exp: 05/31/25 Prpd: UHEW
o-Terphenyl Surrogate sto

Catalog No. : 31097 **Lot No.:** A0177896

Description : o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2025 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	o-Terphenyl		10,000.6 µg/mL	+/- 58.1413	µg/mL	Gravimetric
	CAS # 84-15-1	(Lot MKCH4487)		+/- 450.4326	µg/mL	Unstressed
	Purity 99%			+/- 499.8107	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

EPH_OTERPSS_00007

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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.

4578344
ID: EPH_OTERPSS_00007
Exp: 12/31/26 Prpd: UHEW
o-Terphenyl Surrogate sto

Catalog No. : 31097 **Lot No.:** A0197729

Description : o-Terphenyl Standard

o-Terphenyl Standard 10,000 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2026 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	o-Terphenyl	84-15-1	MKCH4487	99%	10,007.5 µg/mL	+/- 450.7438

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

EPH_TRPHCRV_00008

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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

410-1882410

Catalog No. : 554128 **Lot No.:** A0174814

Description : Custom Florida TRPH Standard

Custom Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2028 **Storage:** 25°C nominal

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	n-Octane (C8)		502.5 µg/mL	+/- 2.9847	µg/mL	Gravimetric
	CAS # 111-65-9	(Lot SHBM4827)		+/- 12.4844	µg/mL	Unstressed
	Purity 99%			+/- 14.9646	µg/mL	Stressed
2	n-Nonane (C9)		500.0 µg/mL	+/- 2.9698	µg/mL	Gravimetric
	CAS # 111-84-2	(Lot SHBK7143)		+/- 12.4222	µg/mL	Unstressed
	Purity 99%			+/- 14.8901	µg/mL	Stressed
3	n-Decane (C10)		502.0 µg/mL	+/- 2.9817	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ9898)		+/- 12.4719	µg/mL	Unstressed
	Purity 99%			+/- 14.9497	µg/mL	Stressed
4	n-Dodecane (C12)		502.5 µg/mL	+/- 2.9847	µg/mL	Gravimetric
	CAS # 112-40-3	(Lot SHBK0925)		+/- 12.4844	µg/mL	Unstressed
	Purity 99%			+/- 14.9646	µg/mL	Stressed
5	n-Tetradecane (C14)		503.0 µg/mL	+/- 2.9877	µg/mL	Gravimetric
	CAS # 629-59-4	(Lot STBJ7343)		+/- 12.4968	µg/mL	Unstressed
	Purity 99%			+/- 14.9795	µg/mL	Stressed
6	n-Hexadecane (C16)		503.2 µg/mL	+/- 2.9890	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBM4146)		+/- 12.5025	µg/mL	Unstressed
	Purity 98%			+/- 14.9863	µg/mL	Stressed
7	n-Octadecane (C18)		499.6 µg/mL	+/- 2.9672	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot VZKOJ)		+/- 12.4111	µg/mL	Unstressed
	Purity 97%			+/- 14.8767	µg/mL	Stressed

8	n-Eicosane (C20) **CAS #** 112-95-8 **Purity** 99%	(Lot MKCF7888)	501.0	µg/mL	+/- +/- +/-	2.9758 12.4471 14.9199	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	n-Docosane (C22) **CAS #** 629-97-0 **Purity** 99%	(Lot MKCL8918)	501.5	µg/mL	+/- +/- +/-	2.9788 12.4595 14.9348	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	n-Tetracosane (C24) **CAS #** 646-31-1 **Purity** 99%	(Lot MKCJ8741)	501.0	µg/mL	+/- +/- +/-	2.9758 12.4471 14.9199	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	n-Hexacosane (C26) **CAS #** 630-01-3 **Purity** 99%	(Lot MKCD4540)	505.0	µg/mL	+/- +/- +/-	2.9995 12.5465 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	n-Octacosane (C28) **CAS #** 630-02-4 **Purity** 99%	(Lot BCCB6836)	503.0	µg/mL	+/- +/- +/-	2.9877 12.4968 14.9795	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Triacontane (C30) **CAS #** 638-68-6 **Purity** 98%	(Lot MKCJ4572)	500.3	µg/mL	+/- +/- +/-	2.9716 12.4294 14.8988	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Dotriacontane (C32) **CAS #** 544-85-4 **Purity** 99%	(Lot BCBW0661)	500.5	µg/mL	+/- +/- +/-	2.9728 12.4347 14.9050	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	n-Tetratriacontane (C34) **CAS #** 14167-59-0 **Purity** 99%	(Lot OML4N)	503.0	µg/mL	+/- +/- +/-	2.9877 12.4968 14.9795	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	n-Hexatriacontane (C36) **CAS #** 630-06-8 **Purity** 99%	(Lot MKCK2834)	502.5	µg/mL	+/- +/- +/-	2.9847 12.4844 14.9646	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	n-Octatriacontane (C38) **CAS #** 7194-85-6 **Purity** 99%	(Lot 0000074006)	503.5	µg/mL	+/- +/- +/-	2.9906 12.5092 14.9944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	n-Tetracontane (C40) **CAS #** 4181-95-7 **Purity** 98%	(Lot 4LJYN)	499.8	µg/mL	+/- +/- +/-	2.9687 12.4173 14.8842	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

EPH_TRPHCRV_00011

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2258769
ID: EPH_TRPHCRV_00011
Exp: 08/31/28 Prpd: UHEW
Custom TRPH Calibration S

410-2258769

Catalog No. : 554128 **Lot No.:** A0174814

Description : Custom Florida TRPH Standard

Custom Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2028 **Storage:** 25°C nominal

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	n-Octane (C8) **CAS #** 111-65-9 **Purity** 99%	(Lot SHBM4827)	502.5 µg/mL	+/- 2.9847 +/- 12.4844 +/- 14.9646	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	n-Nonane (C9) **CAS #** 111-84-2 **Purity** 99%	(Lot SHBK7143)	500.0 µg/mL	+/- 2.9698 +/- 12.4222 +/- 14.8901	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBJ9898)	502.0 µg/mL	+/- 2.9817 +/- 12.4719 +/- 14.9497	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	n-Dodecane (C12) **CAS #** 112-40-3 **Purity** 99%	(Lot SHBK0925)	502.5 µg/mL	+/- 2.9847 +/- 12.4844 +/- 14.9646	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	n-Tetradecane (C14) **CAS #** 629-59-4 **Purity** 99%	(Lot STBJ7343)	503.0 µg/mL	+/- 2.9877 +/- 12.4968 +/- 14.9795	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 98%	(Lot SHBM4146)	503.2 µg/mL	+/- 2.9890 +/- 12.5025 +/- 14.9863	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	n-Octadecane (C18) **CAS #** 593-45-3 **Purity** 97%	(Lot VZKOJ)	499.6 µg/mL	+/- 2.9672 +/- 12.4111 +/- 14.8767	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	n-Eicosane (C20) **CAS #** 112-95-8 **Purity** 99%	(Lot MKCF7888)	501.0	µg/mL	+/-	2.9758	µg/mL	Gravimetric
					+/-	12.4471	µg/mL	Unstressed
					+/-	14.9199	µg/mL	Stressed
9	n-Docosane (C22) **CAS #** 629-97-0 **Purity** 99%	(Lot MKCL8918)	501.5	µg/mL	+/-	2.9788	µg/mL	Gravimetric
					+/-	12.4595	µg/mL	Unstressed
					+/-	14.9348	µg/mL	Stressed
10	n-Tetracosane (C24) **CAS #** 646-31-1 **Purity** 99%	(Lot MKCJ8741)	501.0	µg/mL	+/-	2.9758	µg/mL	Gravimetric
					+/-	12.4471	µg/mL	Unstressed
					+/-	14.9199	µg/mL	Stressed
11	n-Hexacosane (C26) **CAS #** 630-01-3 **Purity** 99%	(Lot MKCD4540)	505.0	µg/mL	+/-	2.9995	µg/mL	Gravimetric
					+/-	12.5465	µg/mL	Unstressed
					+/-	15.0390	µg/mL	Stressed
12	n-Octacosane (C28) **CAS #** 630-02-4 **Purity** 99%	(Lot BCCB6836)	503.0	µg/mL	+/-	2.9877	µg/mL	Gravimetric
					+/-	12.4968	µg/mL	Unstressed
					+/-	14.9795	µg/mL	Stressed
13	n-Triacontane (C30) **CAS #** 638-68-6 **Purity** 98%	(Lot MKCJ4572)	500.3	µg/mL	+/-	2.9716	µg/mL	Gravimetric
					+/-	12.4294	µg/mL	Unstressed
					+/-	14.8988	µg/mL	Stressed
14	n-Dotriacontane (C32) **CAS #** 544-85-4 **Purity** 99%	(Lot BCBW0661)	500.5	µg/mL	+/-	2.9728	µg/mL	Gravimetric
					+/-	12.4347	µg/mL	Unstressed
					+/-	14.9050	µg/mL	Stressed
15	n-Tetratriacontane (C34) **CAS #** 14167-59-0 **Purity** 99%	(Lot OML4N)	503.0	µg/mL	+/-	2.9877	µg/mL	Gravimetric
					+/-	12.4968	µg/mL	Unstressed
					+/-	14.9795	µg/mL	Stressed
16	n-Hexatriacontane (C36) **CAS #** 630-06-8 **Purity** 99%	(Lot MKCK2834)	502.5	µg/mL	+/-	2.9847	µg/mL	Gravimetric
					+/-	12.4844	µg/mL	Unstressed
					+/-	14.9646	µg/mL	Stressed
17	n-Octatriacontane (C38) **CAS #** 7194-85-6 **Purity** 99%	(Lot 0000074006)	503.5	µg/mL	+/-	2.9906	µg/mL	Gravimetric
					+/-	12.5092	µg/mL	Unstressed
					+/-	14.9944	µg/mL	Stressed
18	n-Tetracontane (C40) **CAS #** 4181-95-7 **Purity** 98%	(Lot 4LJYN)	499.8	µg/mL	+/-	2.9687	µg/mL	Gravimetric
					+/-	12.4173	µg/mL	Unstressed
					+/-	14.8842	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

EPH_TRPHCRV_00018

110 Benner Circle
Bellefonte, PA 16823-8812
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Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

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chromatographic plus

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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. : 554128 **Lot No.:** A0192726

Description : Custom Florida TRPH Standard

Custom Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2030 **Storage:** 25°C nominal

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	n-Octane (C8)	111-65-9	SHBN3807	99%	503.0 µg/mL	+/- 12.9943
2	n-Nonane (C9)	111-84-2	SHBN5361	99%	503.3 µg/mL	+/- 13.0029
3	n-Decane (C10)	124-18-5	SHBP4427	99%	501.7 µg/mL	+/- 12.9599
4	n-Dodecane (C12)	112-40-3	SHBP7054	99%	502.0 µg/mL	+/- 12.9685
5	n-Tetradecane (C14)	629-59-4	STBK2282	99%	501.0 µg/mL	+/- 12.9426
6	n-Hexadecane (C16)	544-76-3	SHBM4146	98%	501.8 µg/mL	+/- 12.9623
7	n-Octadecane (C18)	593-45-3	UE5NG	98%	503.1 µg/mL	+/- 12.9960
8	n-Eicosane (C20)	112-95-8	MKCN8767	97%	501.2 µg/mL	+/- 12.9469
9	n-Docosane (C22)	629-97-0	MKCL8918	99%	502.3 µg/mL	+/- 12.9771
10	n-Tetracosane (C24)	646-31-1	MKCN2863	99%	500.3 µg/mL	+/- 12.9254
11	n-Hexacosane (C26)	630-01-3	MKCD4540	99%	504.7 µg/mL	+/- 13.0374
12	n-Octacosane (C28)	630-02-4	BCCG0084	99%	500.0 µg/mL	+/- 12.9168
13	n-Triacontane (C30)	638-68-6	MKCQ9436	97%	503.1 µg/mL	+/- 12.9971
14	n-Dotriacontane (C32)	544-85-4	BCBW0661	99%	501.7 µg/mL	+/- 12.9599
15	n-Tetratriacontane (C34)	14167-59-0	OML4N	99%	504.0 µg/mL	+/- 13.0201
16	n-Hexatriacontane (C36)	630-06-8	Z27H018	99%	502.3 µg/mL	+/- 12.9771
17	n-Octatriacontane (C38)	7194-85-6	0000145137	96%	503.0 µg/mL	+/- 12.9953

18	n-Tetracontane (C40)	4181-95-7	BSBME	99%	504.0	µg/mL	+/- 13.0201

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

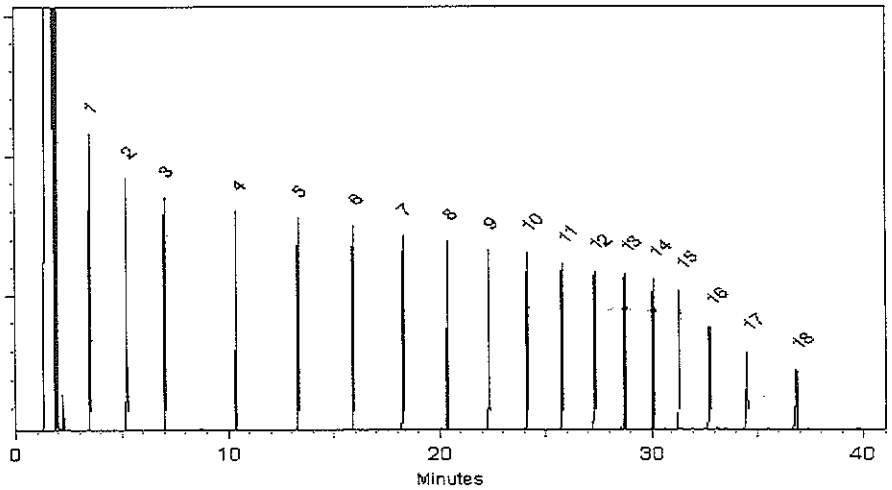
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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.

Morgan Croighead - Mix Technician

Date Mixed: 16-Dec-2022 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 20-Dec-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCS_CHLBSURR_00002

GCS-CHLBSURR-000002

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

410-228855

Catalog No. : 558353 **Lot No.:** A0157160

Description : Custom Chlorobenzene Standard

Custom Chlorobenzene Standard 10,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2023 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Chlorobenzene	10,093.5 µg/mL	+/- 59.0997 µg/mL	Gravimetric
	CAS # 108-90-7 (Lot SHBJ0839)		+/- 565.9757 µg/mL	Unstressed
	Purity 99%		+/- 579.2168 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

OP_CHLBEN_STK_00006

OP-CHLBEN-STK-0006

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Certificate of Analysis

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. : 558353 **Lot No.:** A0183299

Description : Custom Chlorobenzene Standard

Custom Chlorobenzene Standard 10,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2025 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Chlorobenzene **CAS #** 108-90-7 (Lot SHBL8110) **Purity** 99%	10,031.5 µg/mL	+/- 58.7366 µg/mL +/- 562.4992 µg/mL +/- 575.6590 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

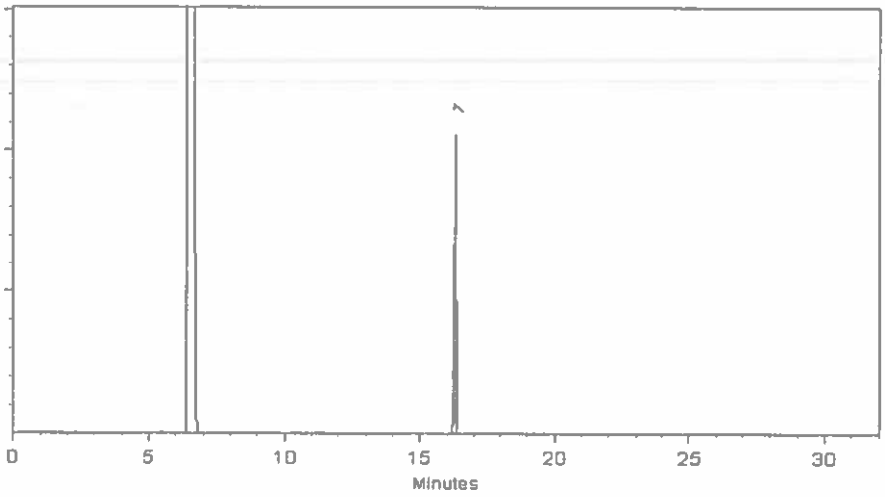
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



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.

Whitney Bennett - Operation Tech I

Date Mixed: 25-Mar-2022 **Balance:** 1128360905

Date Passed: 30-Mar-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Method 8015D DRO DOD

Diesel Range Organics (DRO) (GC) by Method 8015D DOD

FORM II
DIESEL RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): ZB-5 ID:

Client Sample ID	Lab Sample ID	CBNZ1 #	OTP1 #
SB-ZMW-11-3.5	410-155700-1	121	333 S1+
SS-SBoundaryPeat	410-155700-2	55 cn	111 cn
	MB 410-458714/1-A	80	106
	LCS 410-458714/2-A	84	109

	QC LIMITS
CBNZ = Chlorobenzene (Surr)	10-143
OTP = o- terphenyl (Surr)	52-124

Column to be used to flag recovery values

FORM II 8015D TPH

FORM III
DIESEL RANGE ORGANICS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: ABTPH_22241088.0007.d

Lab ID: LCS 410-458714/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/Kg)	LCS CONCENTRATION (mg/Kg)	LCS % REC	QC LIMITS REC	#
#2 Diesel Fuel	133	126	95	62-117	

Column to be used to flag recovery and RPD values

FORM III 8015D TPH

FORM IV
DIESEL RANGE ORGANICS METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Lab Sample ID: MB 410-458714/1-A

Matrix: Solid Date Extracted: 12/29/2023 07:36

Lab File ID:(1) ABTPH_22241088.0006.d Lab File ID:(2)

Date Analyzed:(1) 01/03/2024 21:56 Date Analyzed:(2)

Instrument ID:(1) 10254-A Instrument ID:(2)

GC Column:(1) ZB-5 ID: GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 410-458714/2-A	01/03/2024 22:44	
SB-ZMW-11-3.5	410-155700-1	01/03/2024 23:33	
SS-SBoundaryPeat	410-155700-2	01/04/2024 00:21	

FORM VIII
DIESEL RANGE ORGANICS ANALYTICAL SEQUENCE

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1

SDG No.:

Sample No.: ICRT 410-290776/8 Date Analyzed: 08/29/2022 23:14

Instrument ID: 10254-A GC Column: ZB-5 ID:

Lab File ID (Standard): ABTPH_22241001.0008 Heated Purge: (Y/N) N

Calibration ID: 41949

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				CBNZ	OTP	
				RT #	RT #	
INITIAL CALIBRATION SURROGATE				2.18	18.24	
UPPER LIMIT				2.28	18.34	
LOWER LIMIT				2.08	18.14	
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
ICRT 410-290776/8		08/29/2022 23:14	ABTPH_22241001.0008.d	2.18	18.24	
ICV 410-290776/30		08/30/2022 16:59	ABTPH_22241001.0030.d	2.17	18.24	

CBNZ = Chlorobenzene (Surr)
OTP = o- terphenyl (Surr)

CBNZ RT Limit = ± 0.1 minutes of surrogate RT
OTP RT Limit = ± 0.1 minutes of surrogate RT

Column used to flag values outside QC limits

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Client Sample ID: SB-ZMW-11-3.5
Lab Sample ID: 410-155700-1

Matrix: Solid
Lab File ID: ABTPH_22241088.0008.d

Analysis Method: 8015D TPH
Date Collected: 12/20/2023 09:45

Extraction Method: 3546
Date Extracted: 12/29/2023 07:36

Sample wt/vol: 30.31(g)
Date Analyzed: 01/03/2024 23:33

Con. Extract Vol.: 5(mL)
Dilution Factor: 25

Injection Volume: 1(uL)
GC Column: ZB-5 ID:

% Moisture: 11.7 % Solids: 88.3
GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 459936
Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
68476-31-3	Fuel Oil #4	ND		340	140
68334-30-5	#2 Diesel Fuel	ND		340	140
8008-20-6	Kerosene	ND		340	140
64475-85-0	Mineral Spirits	ND		340	140
STL00299	Motor Oil (>C24-C36)	ND		340	140
68553-00-4	Fuel Oil #6	ND		340	140
8001-58-9	coal tar oil	5200		340	140
STL00228	Gasoline	ND		340	140

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o- terphenyl (Surr)	333	S1+	52-124
108-90-7	Chlorobenzene (Surr)	121		10-143

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Lims ID:	410-155700-A-1-A				
Client ID:	SB-ZMW-11-3.5				
Sample Type:	Client				
Inject. Date:	03-Jan-2024 23:33:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Sample Info:	410-155700-A-1-A				
Misc. Info.:	410-0103280-008				
Operator ID:		Instrument ID:	10254-A		
Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1615				

First Level Reviewer: UHEW Date: 04-Jan-2024 13:03:31

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
$ 2 Chlorobenzene (Surr)					
2.123	2.123	0.000	46555213	0.5835	
$ 13 o- terphenyl (Surr)					
18.097	18.137	-0.040	197191540	1.61	
A 19 Motor Oil					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 18 Fuel Oil #4					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 23 Fuel Oil #6					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 16 Creosote					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 15 Mineral Spirits					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 21 Kerosene					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 20 Gasoline					M
18.735	(1.513-35.930)		123028922712	1118.3	M
A 17 #2 Diesel Fuel					M
20.284	(4.643-35.930)		122954200092	1117.6	M

QC Flag Legend

Processing Flags

Review Flags

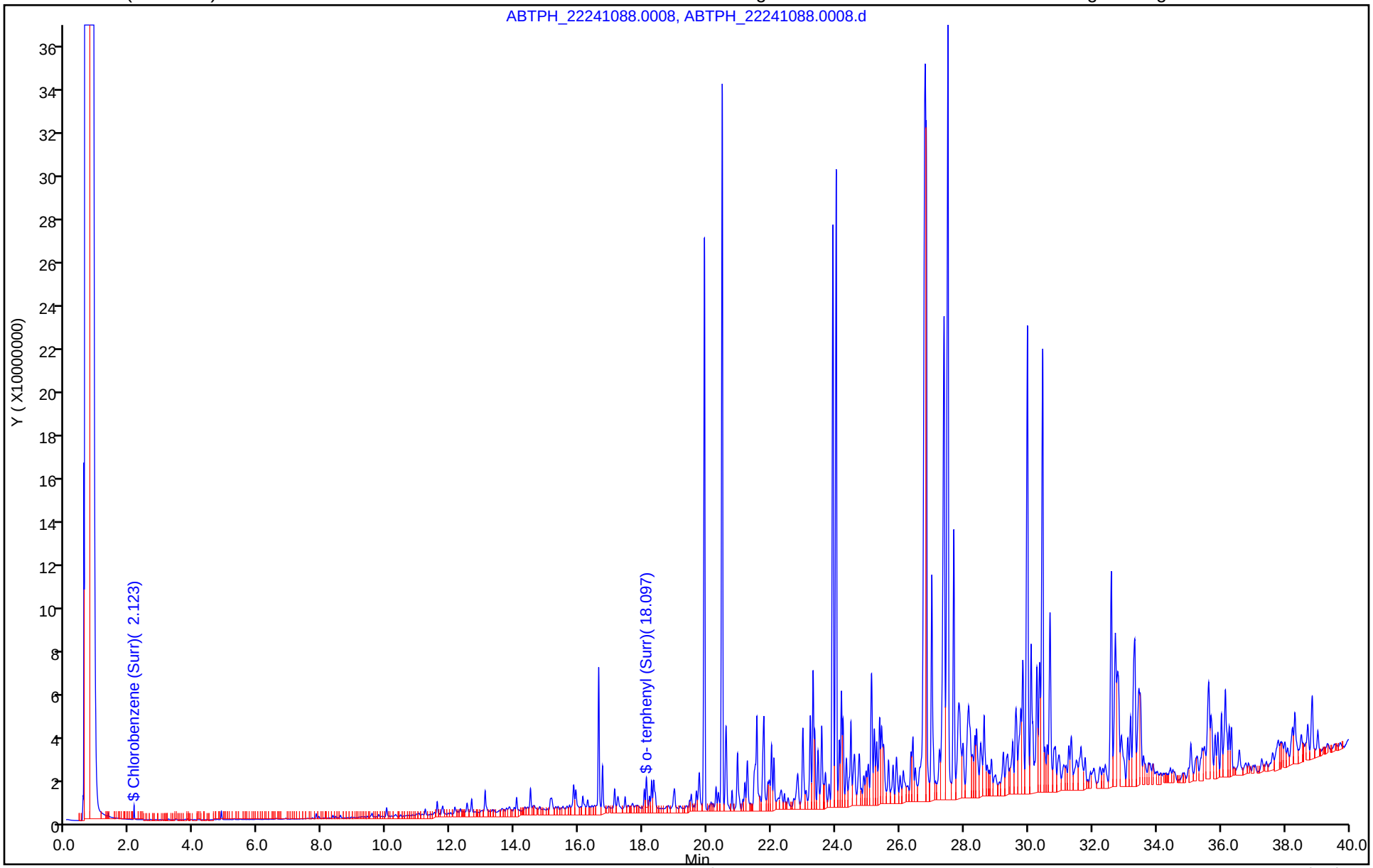
M - Manually Integrated

Report Date: 04-Jan-2024 14:14:02 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1	Worklist Smp#:	8
Client ID:	SB-ZMW-11-3.5				
Injection Vol:	1.0 ul	Dil. Factor:	25.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Lancaster Laboratories Environment Testing, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Lims ID:	410-155700-A-1-A				
Client ID:	SB-ZMW-11-3.5				
Sample Type:	Client				
Inject. Date:	03-Jan-2024 23:33:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Sample Info:	410-155700-A-1-A				
Misc. Info.:	410-0103280-008				
Operator ID:		Instrument ID:	10254-A		

Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m		
Limit Group:	GCSV - 8015C_D DRO		
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00
Integrator:	Genie		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d		

Column 1 :	ZB-5 (0.00 mm)	Det: ABTPH_19123049B.012
Process Host:	CTX1615	

First Level Reviewer: UHEW Date: 04-Jan-2024 13:03:31

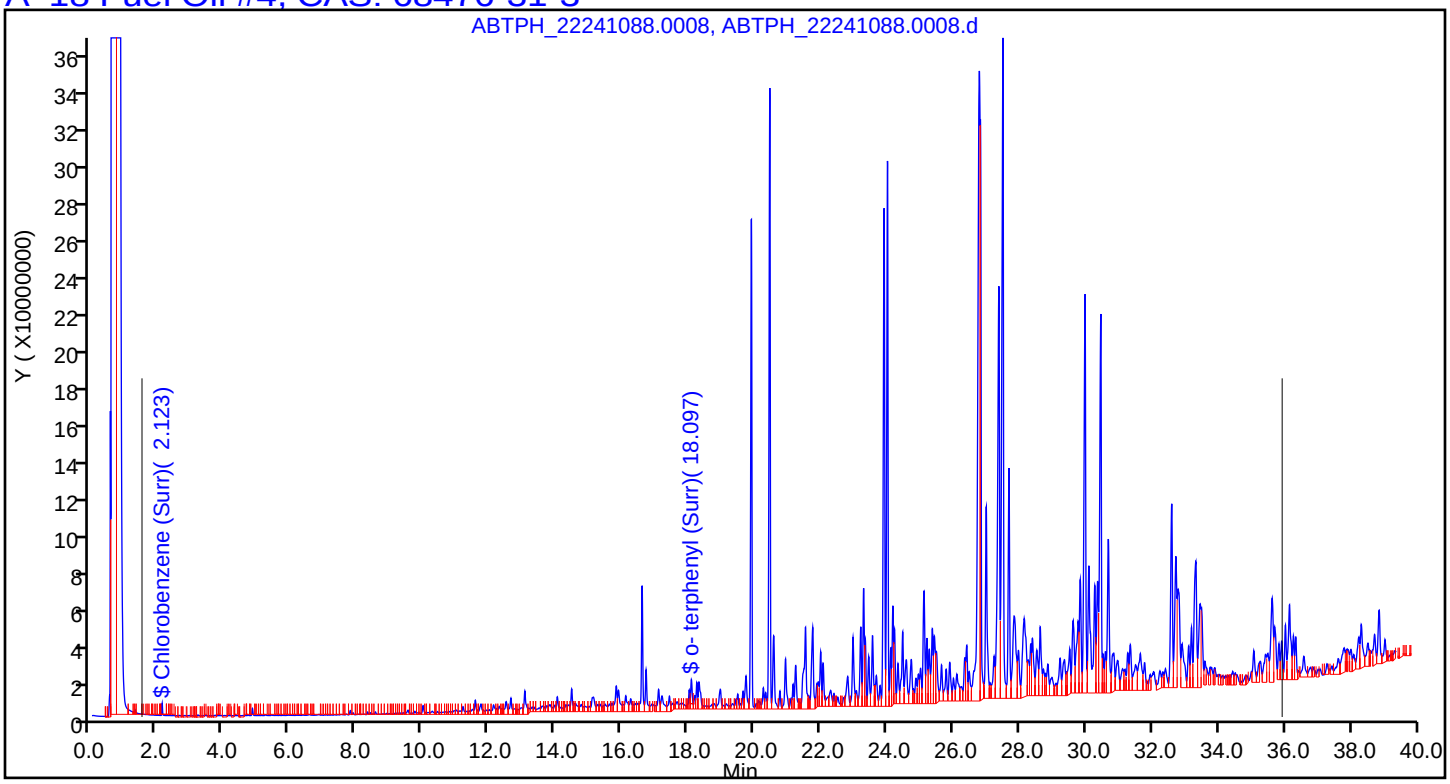
Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Chlorobenzene (Surr)	12.0	0.5835	121.17
$ 13 o- terphenyl (Surr)	12.1	1.61	333.31

Report Date: 04-Jan-2024 14:14:02 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, CAS: 68476-31-3

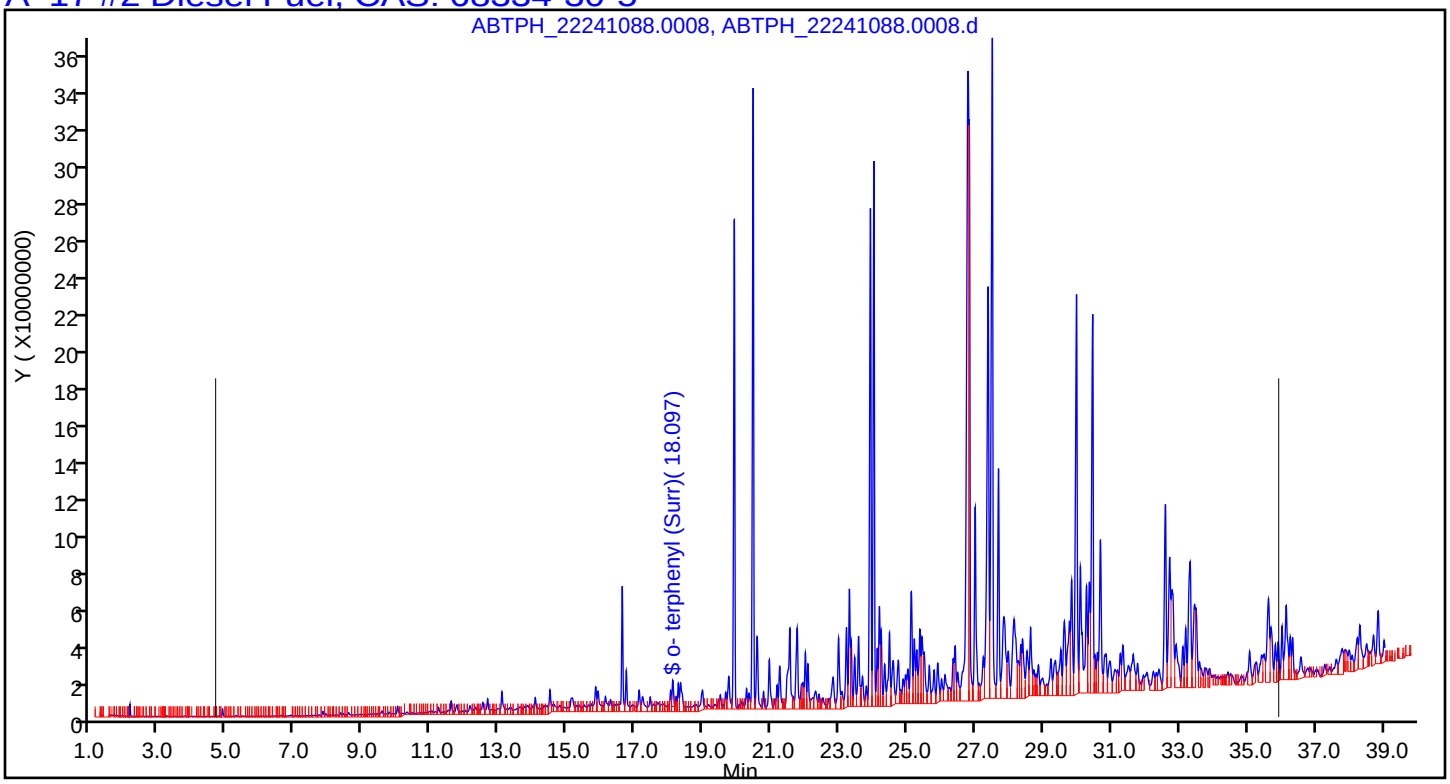


Report Date: 04-Jan-2024 14:14:03 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_17 #2 Diesel Fuel, CAS: 68334-30-5

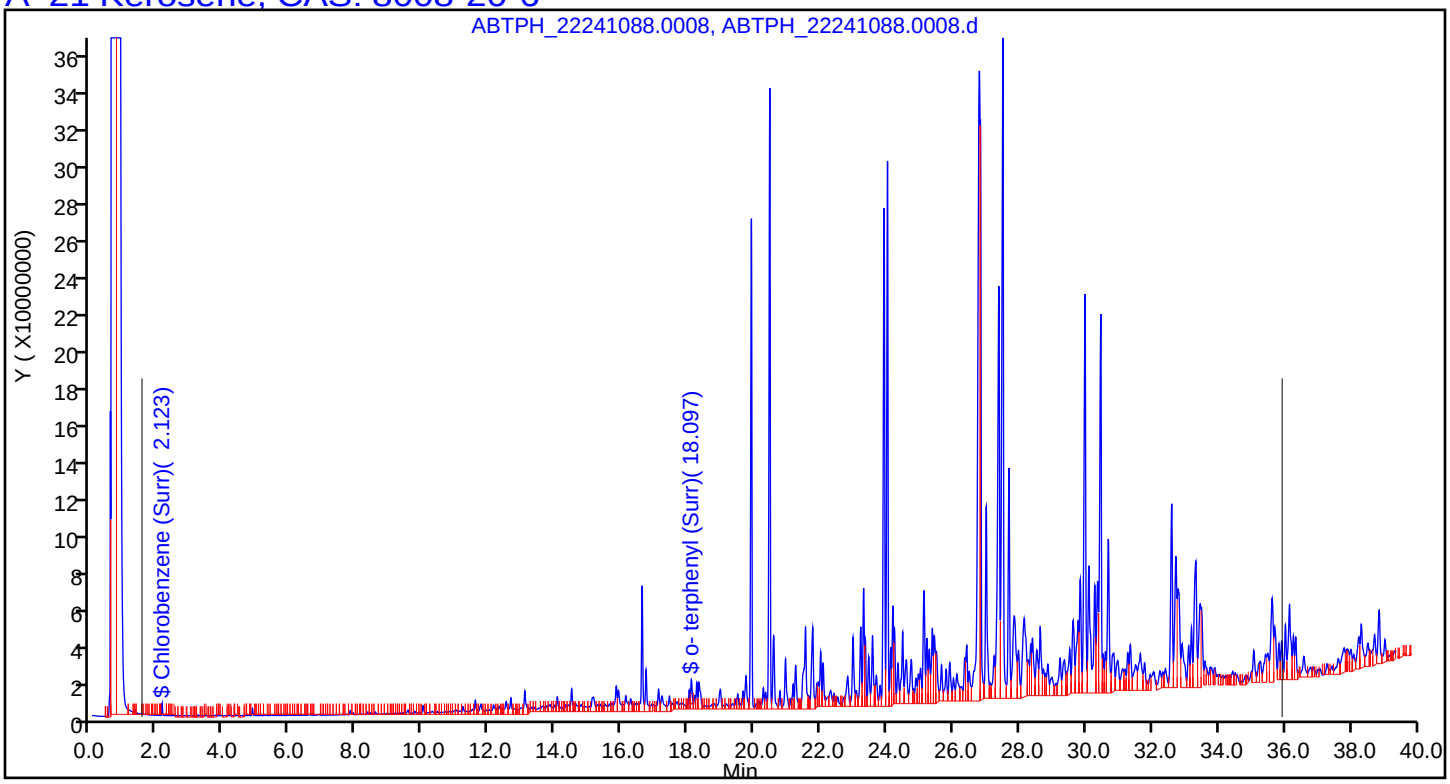


Report Date: 04-Jan-2024 14:14:03 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, CAS: 8008-20-6

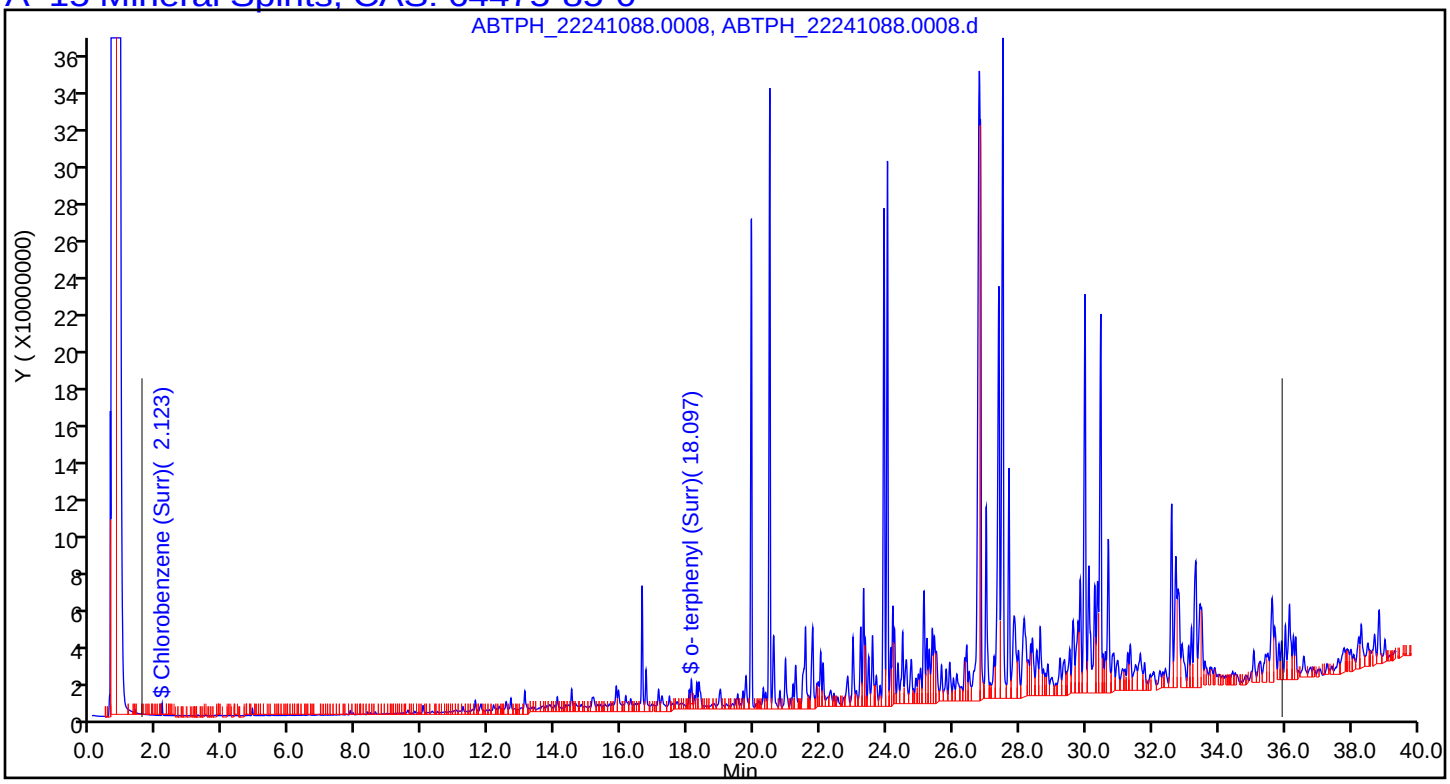


Report Date: 04-Jan-2024 14:14:03 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, CAS: 64475-85-0

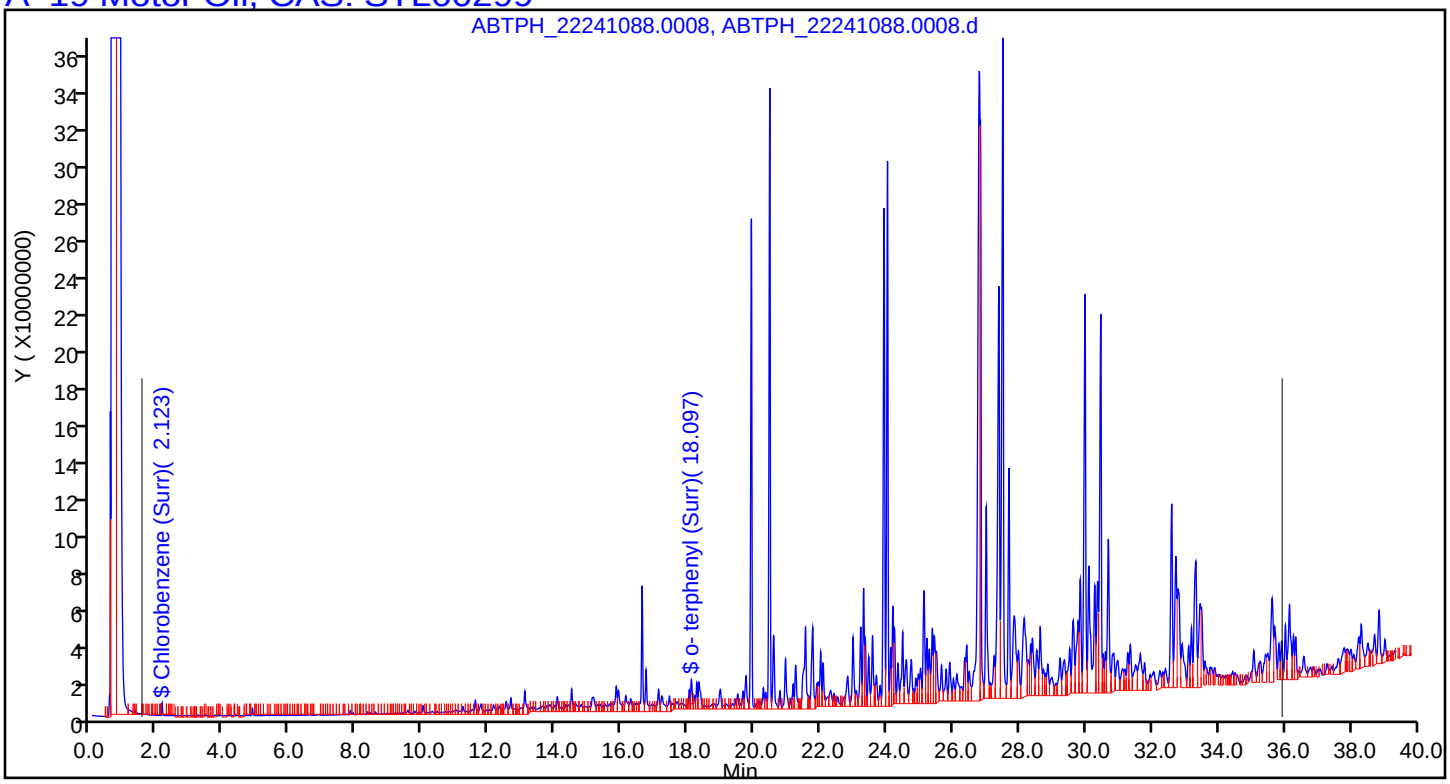


Report Date: 04-Jan-2024 14:14:02 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, CAS: STL00299

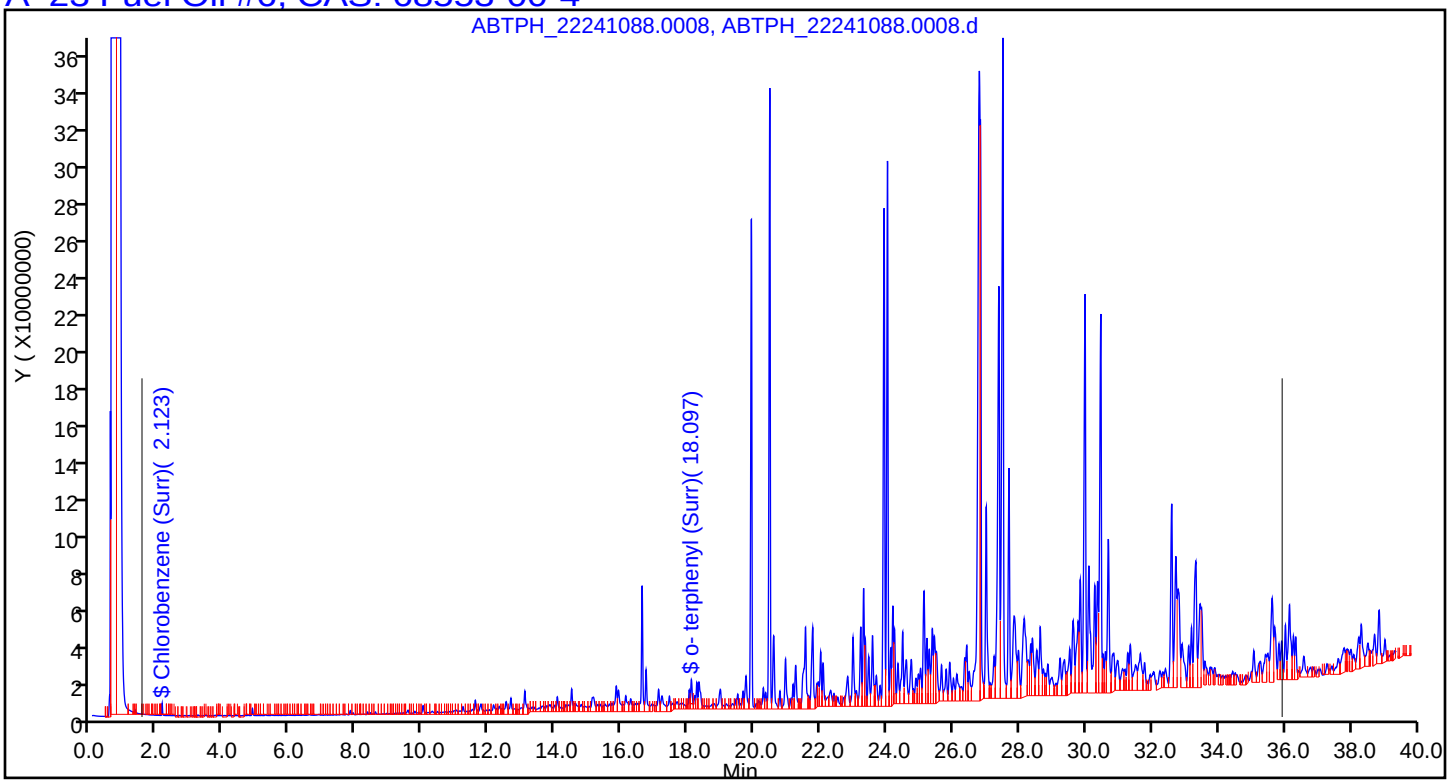


Report Date: 04-Jan-2024 14:14:02 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, CAS: 68553-00-4

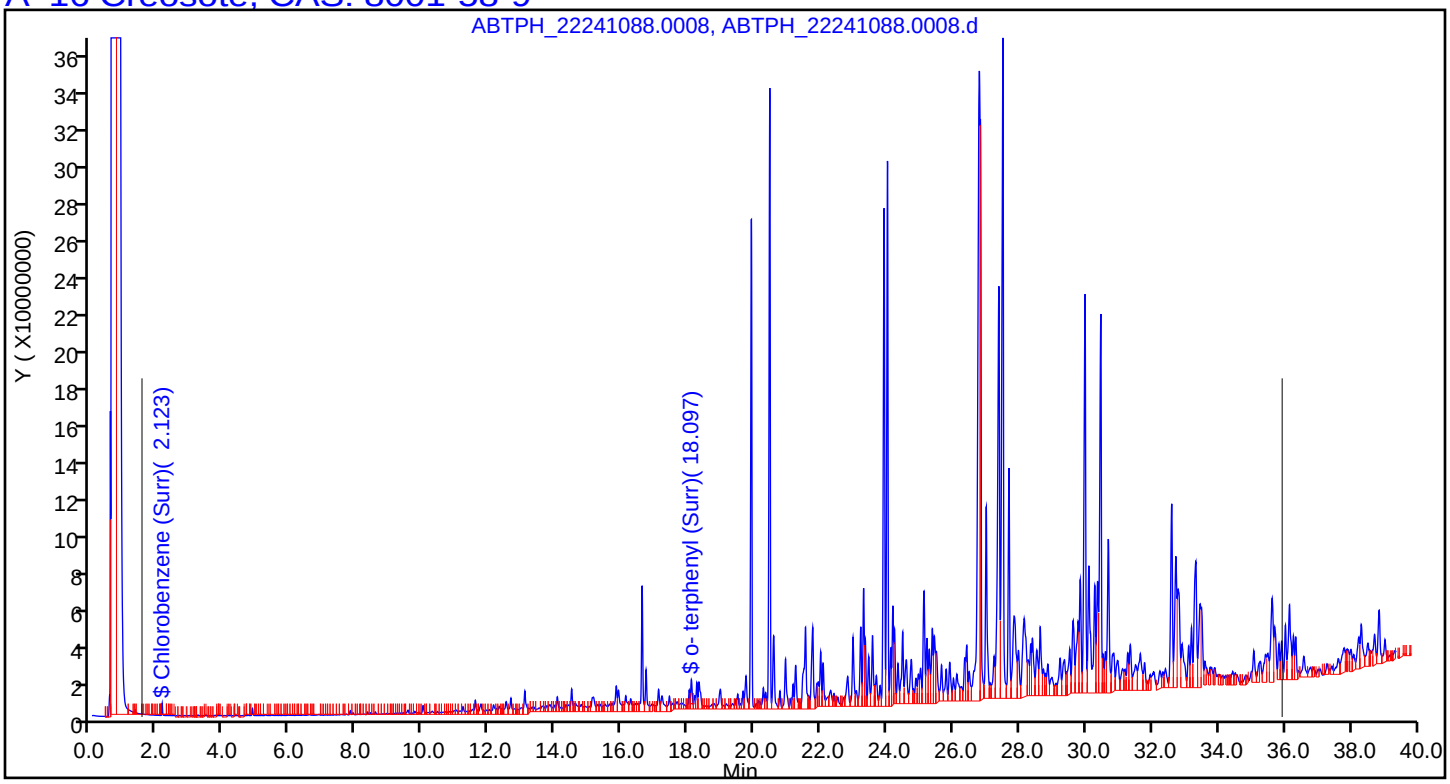


Report Date: 04-Jan-2024 14:14:02 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, CAS: 8001-58-9

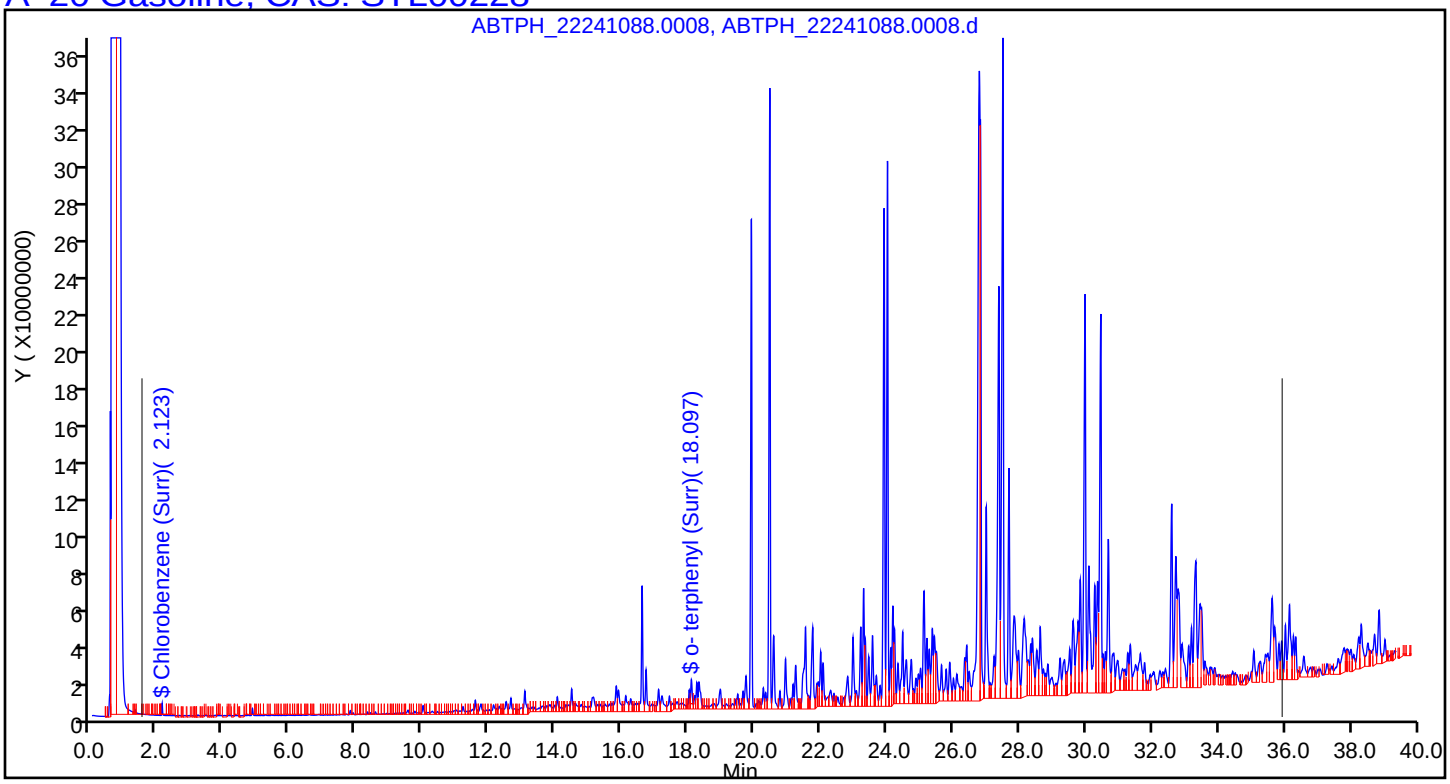


Report Date: 04-Jan-2024 14:14:03 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, CAS: STL00228



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

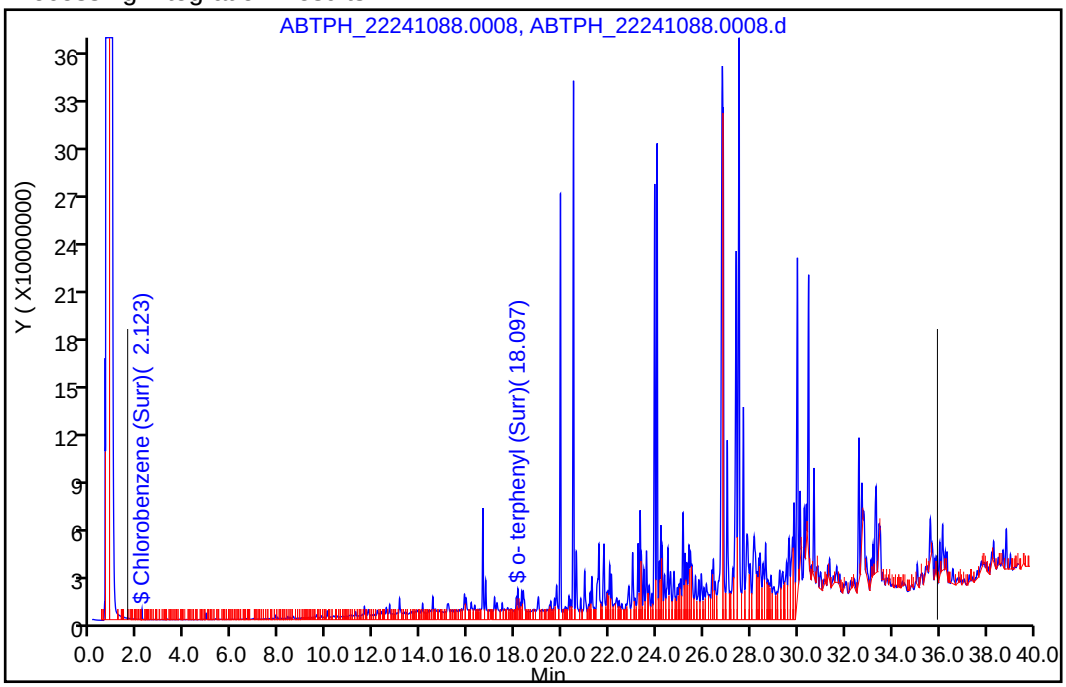
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, RT: 18.722, CAS: 68476-31-3

Signal: 1

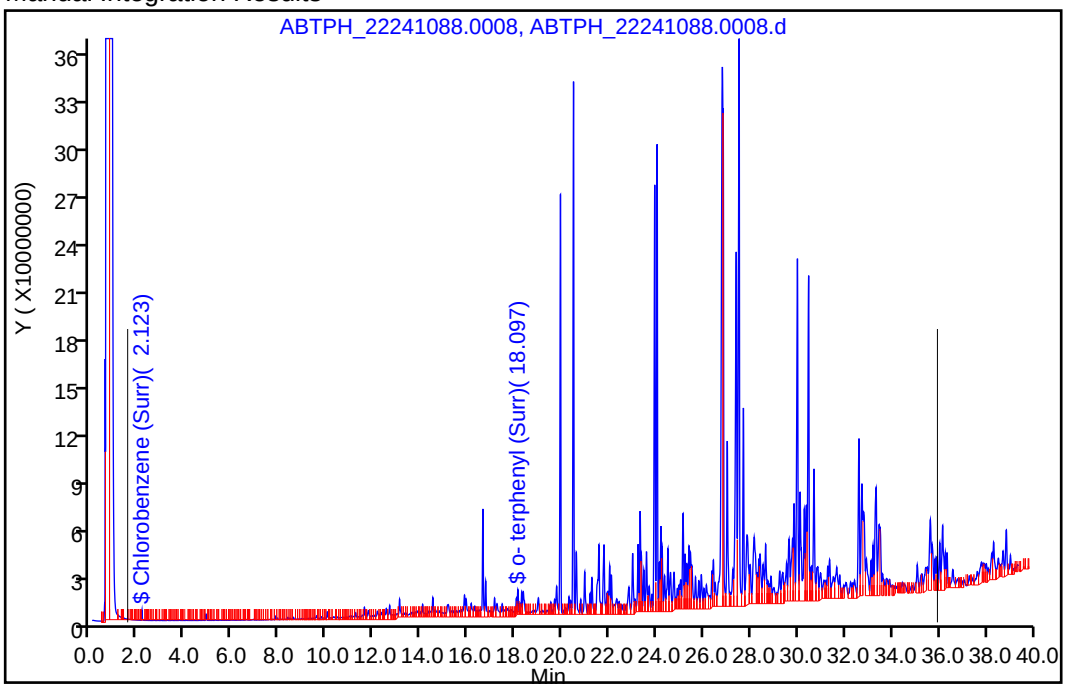
Processing Integration Results

RT: 18.73
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.73
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

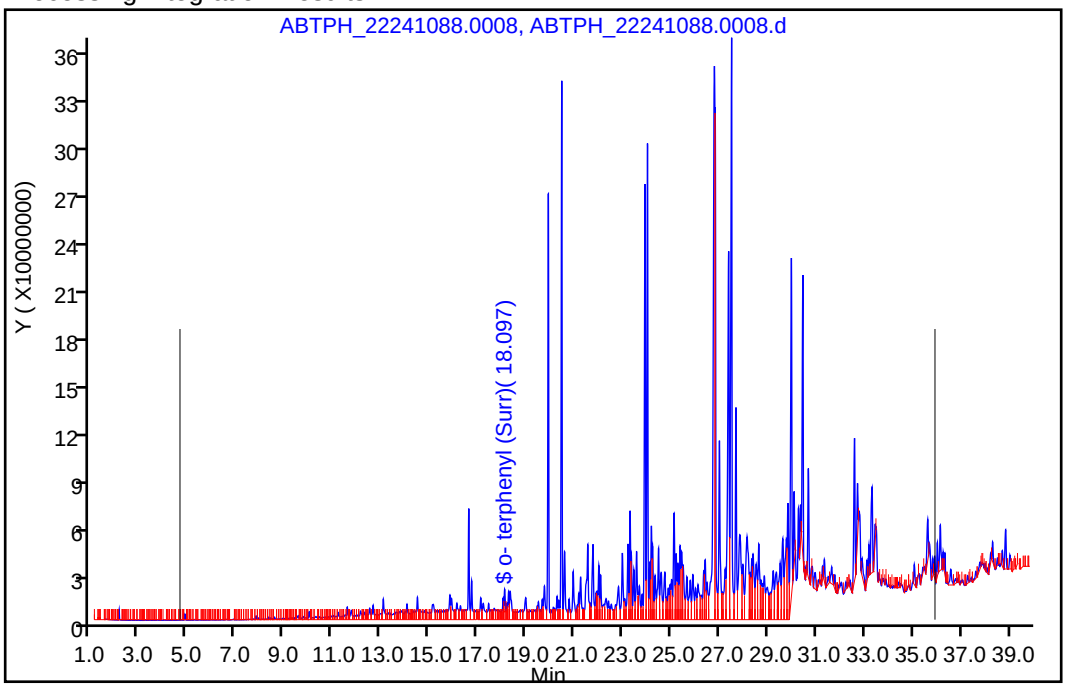
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, RT: 20.284, CAS: 68334-30-5

Signal: 1

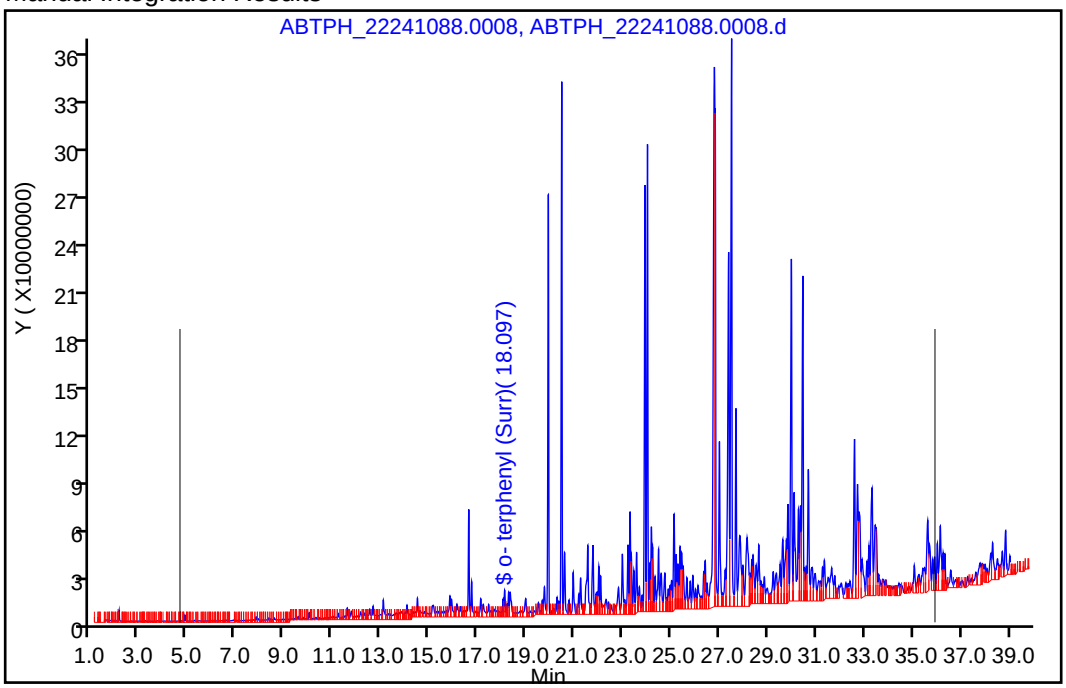
Processing Integration Results

RT: 20.28
Response: 131651734361
Amount: 1196.6808



Manual Integration Results

RT: 20.28
Response: 122954200092
Amount: 1117.6225



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

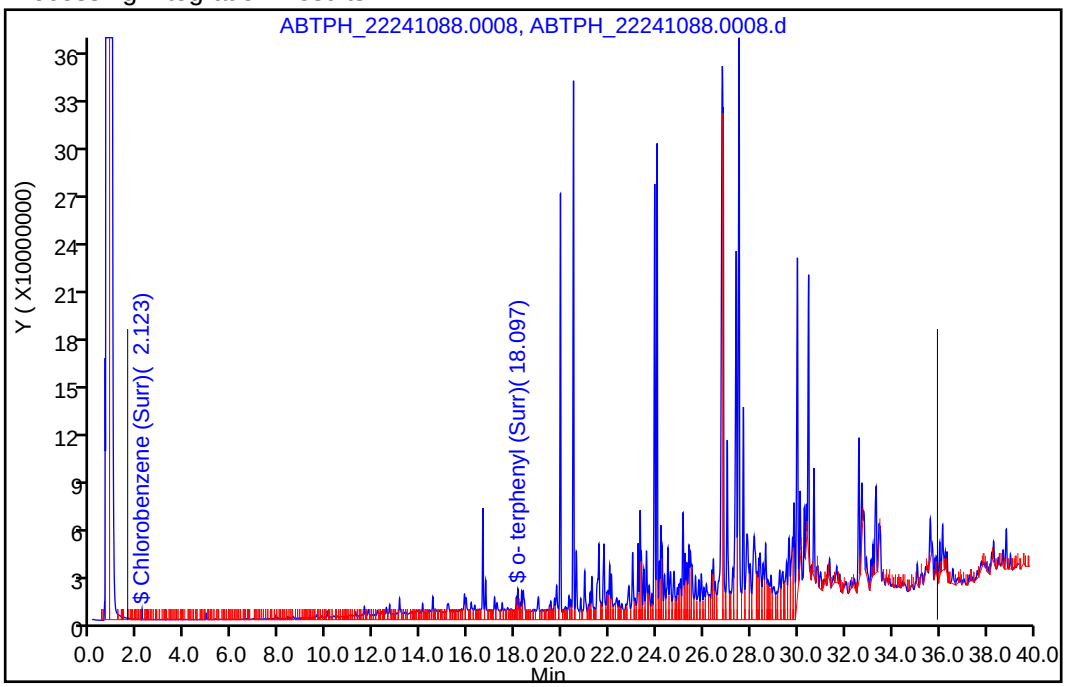
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, RT: 18.722, CAS: 8008-20-6

Signal: 1

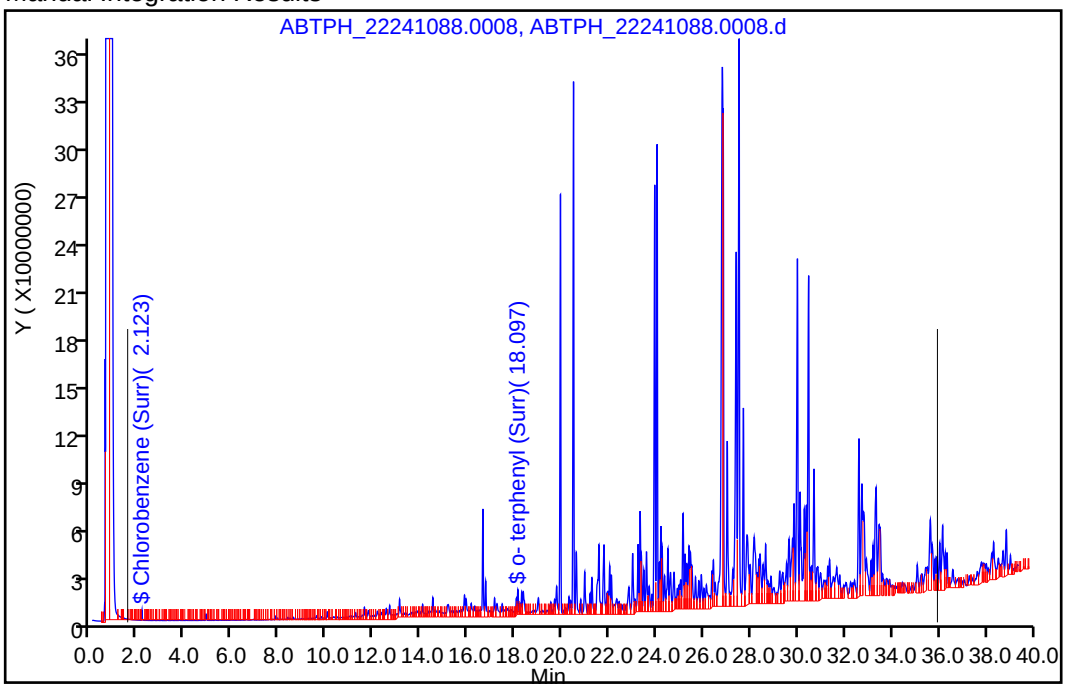
Processing Integration Results

RT: 18.74
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.74
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

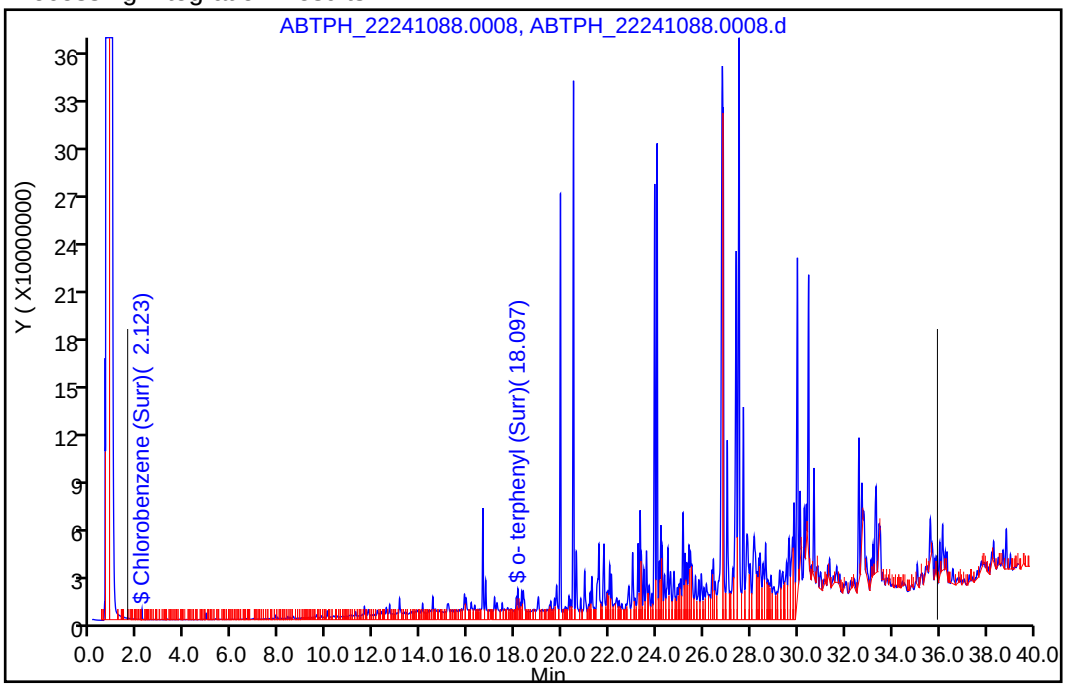
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, RT: 18.722, CAS: 64475-85-0

Signal: 1

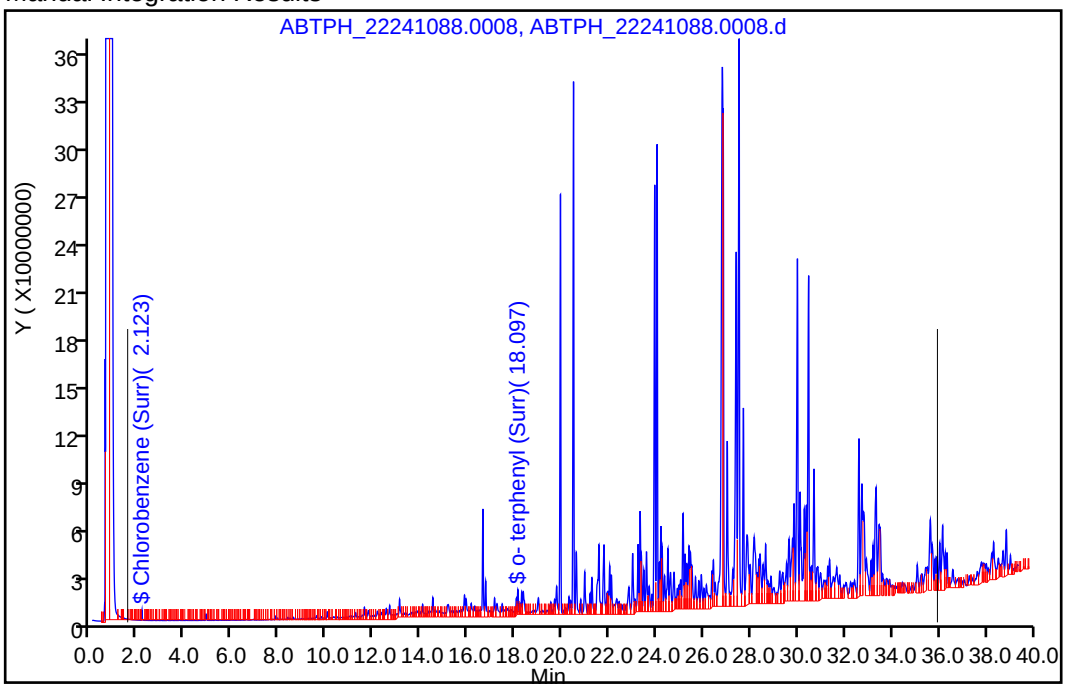
Processing Integration Results

RT: 18.73
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.73
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

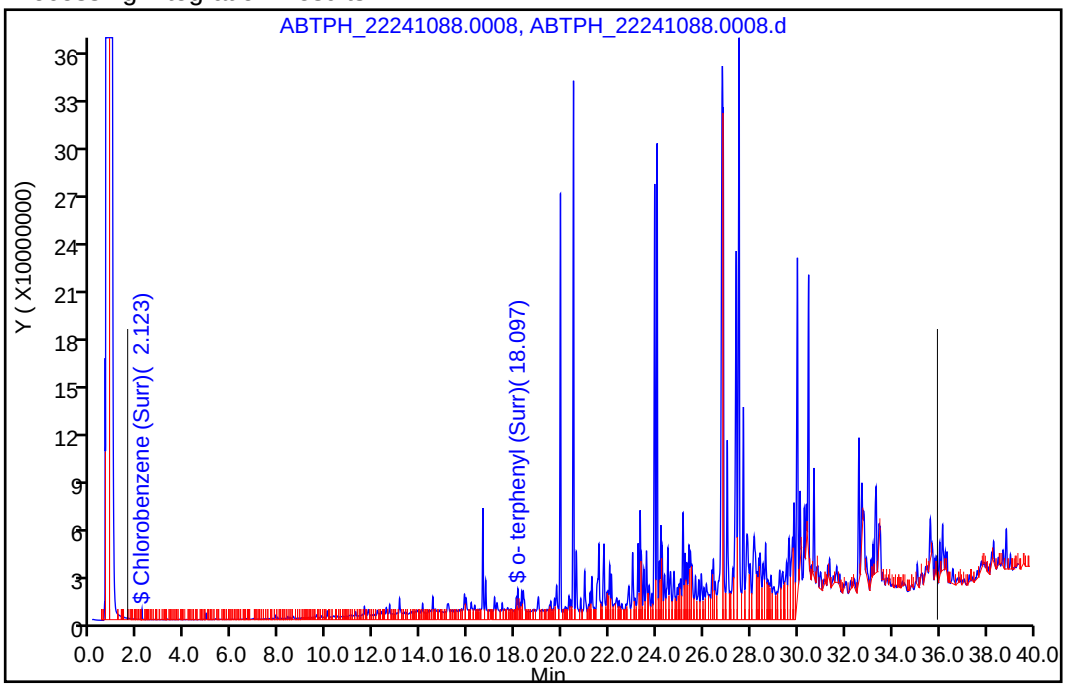
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, RT: 18.722, CAS: STL00299

Signal: 1

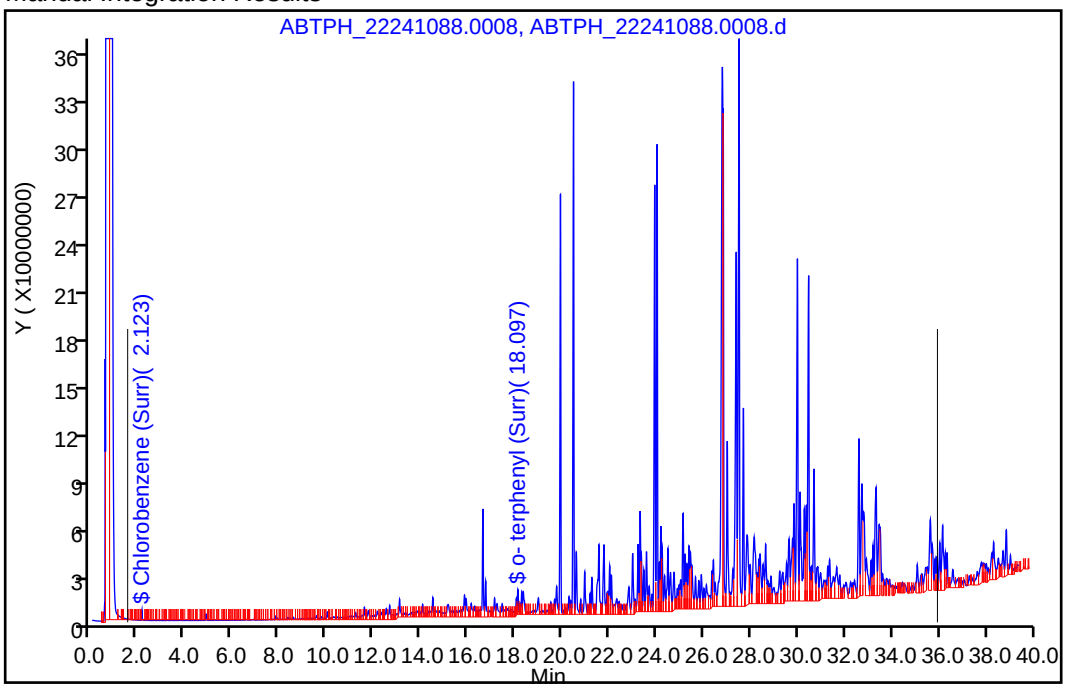
Processing Integration Results

RT: 18.73
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.73
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

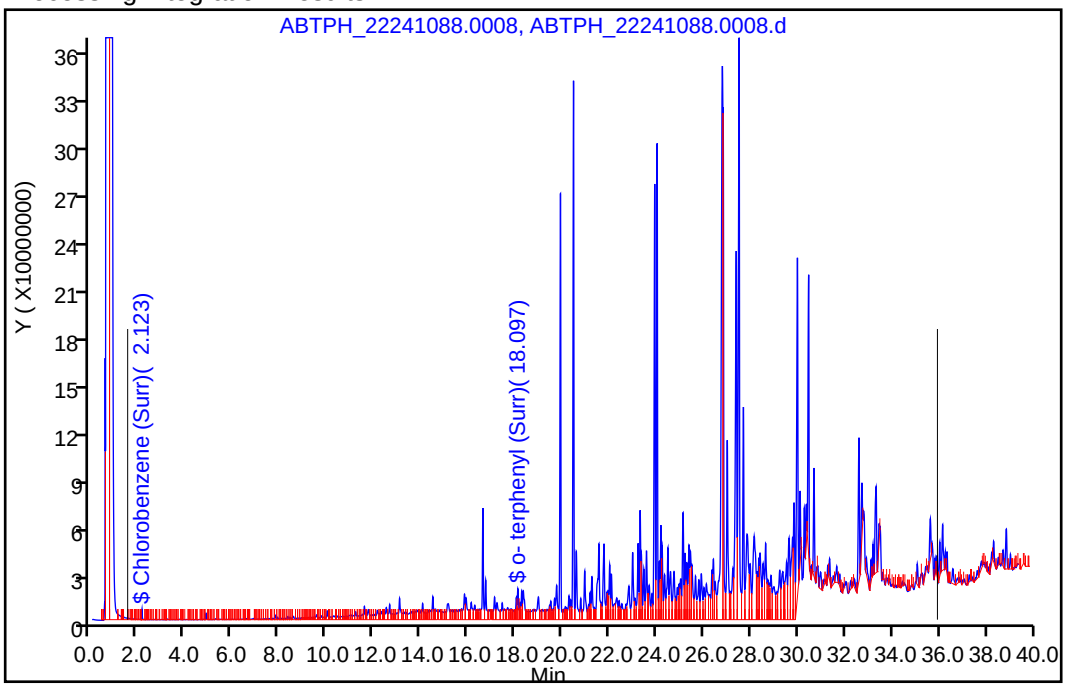
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, RT: 18.722, CAS: 68553-00-4

Signal: 1

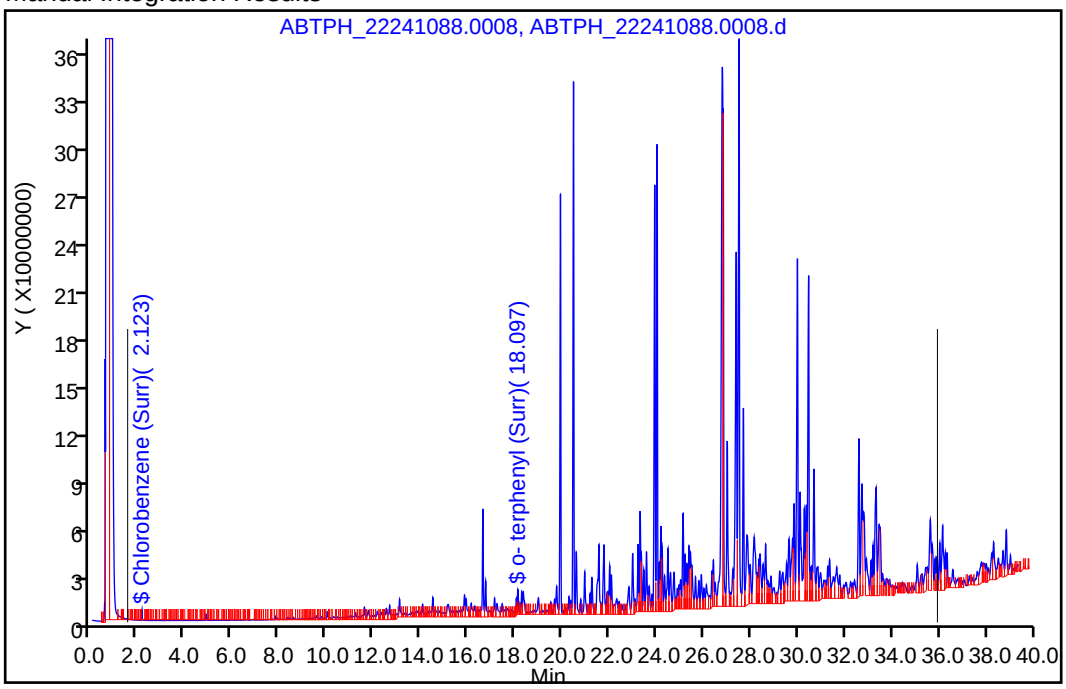
Processing Integration Results

RT: 18.73
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.73
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

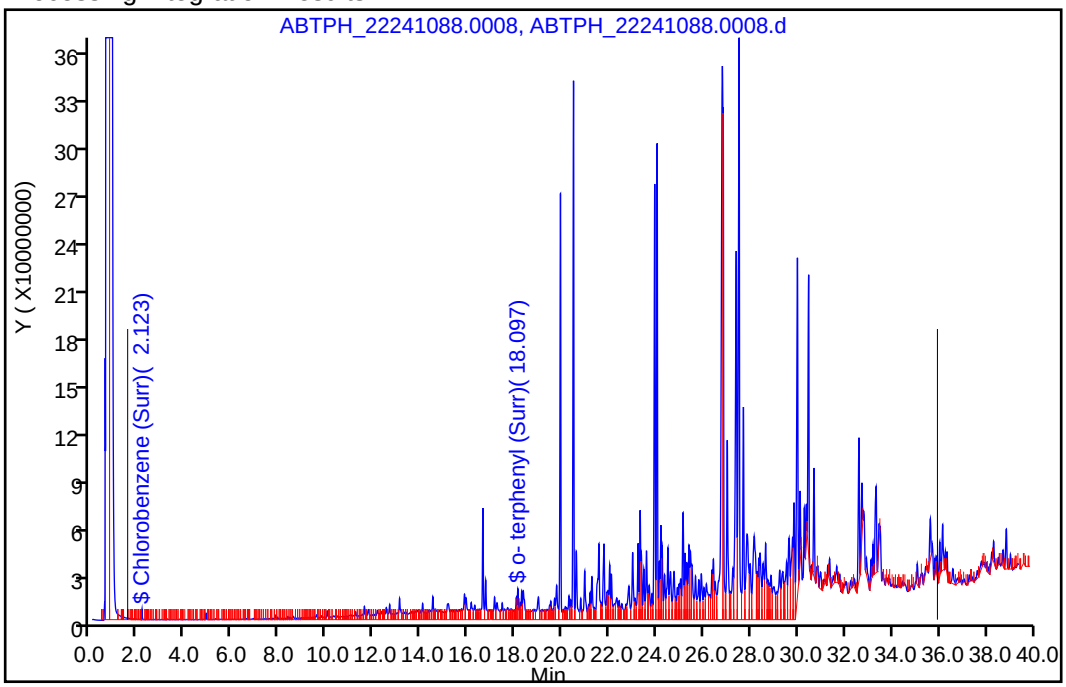
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, RT: 18.722, CAS: 8001-58-9

Signal: 1

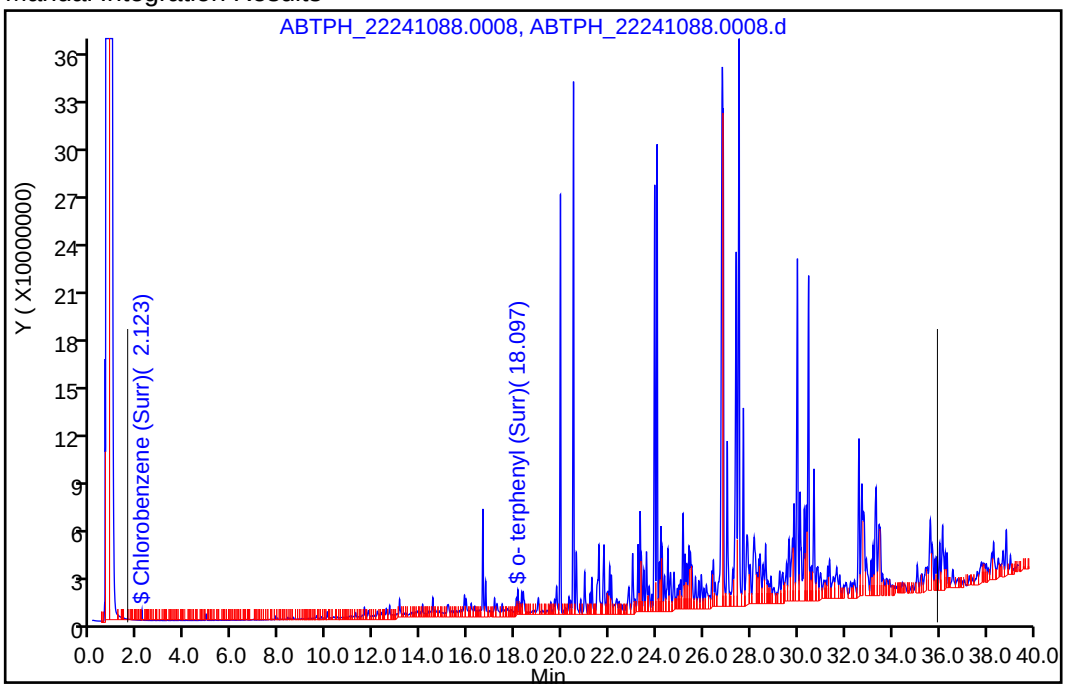
Processing Integration Results

RT: 18.73
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.73
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

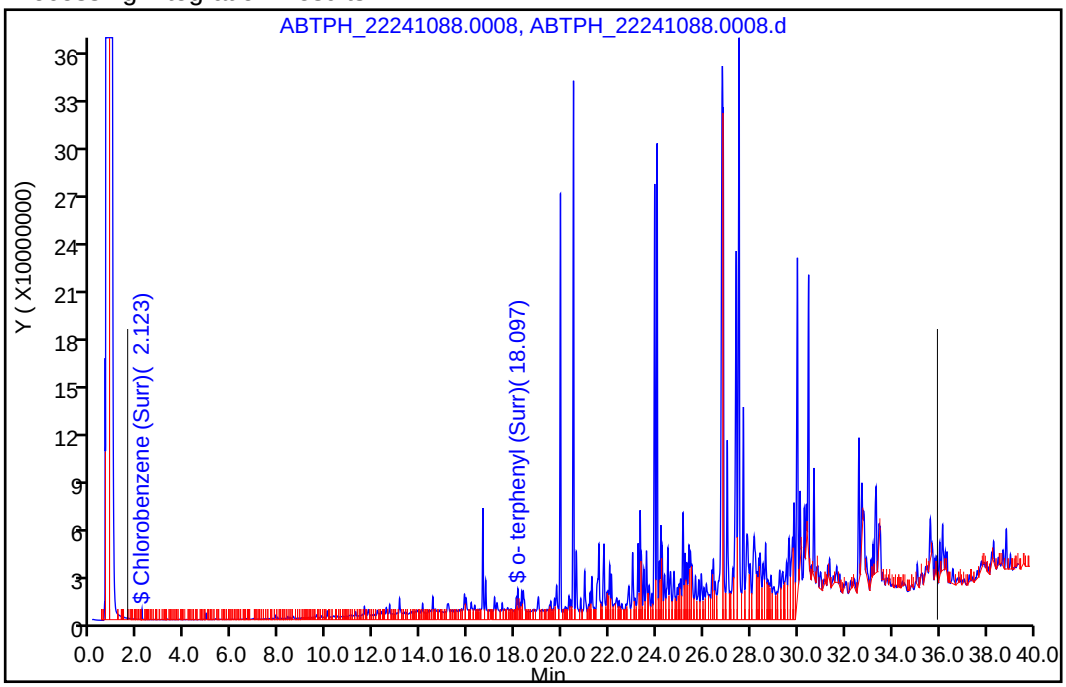
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0008.d				
Injection Date:	03-Jan-2024 23:33:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-1-A	Lab Sample ID:	410-155700-1		
Client ID:	SB-ZMW-11-3.5				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, RT: 18.722, CAS: STL00228

Signal: 1

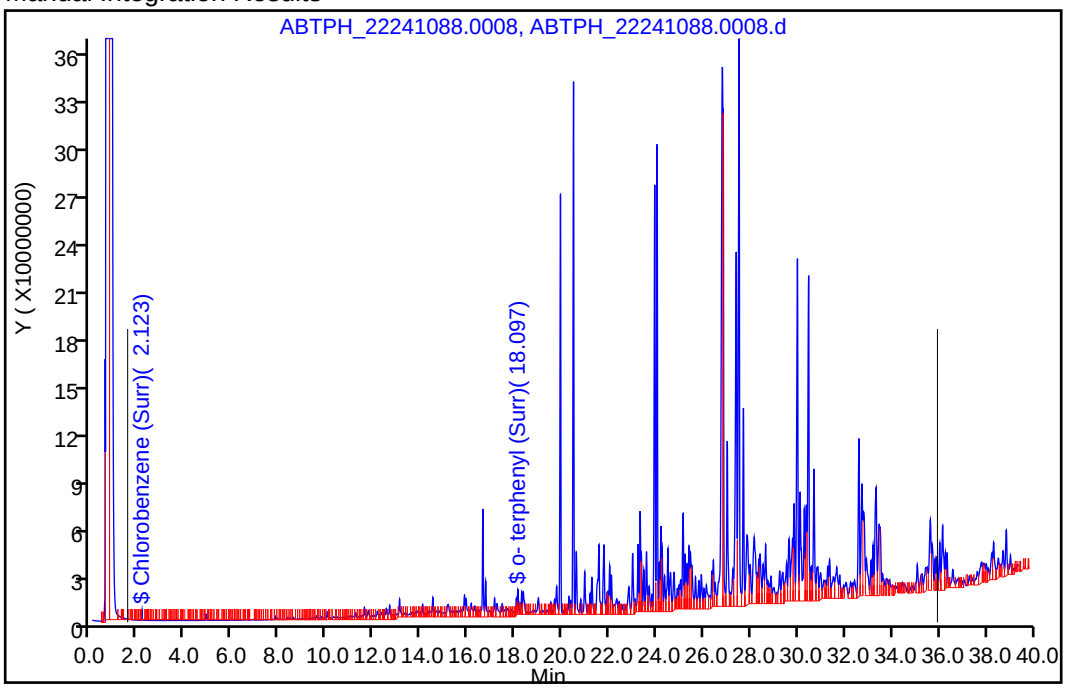
Processing Integration Results

RT: 18.74
Response: 131726456981
Amount: 1197.3601



Manual Integration Results

RT: 18.74
Response: 123028922712
Amount: 1118.3017



Reviewer: UHEW, 04-Jan-2024 14:12:10 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Client Sample ID: SS-SBoundaryPeat
Lab Sample ID: 410-155700-2

Matrix: Solid
Lab File ID: ABTPH_22241088.0009.d

Analysis Method: 8015D TPH
Date Collected: 12/20/2023 10:30

Extraction Method: 3546
Date Extracted: 12/29/2023 07:36

Sample wt/vol: 30.06(g)
Date Analyzed: 01/04/2024 00:21

Con. Extract Vol.: 5(mL)
Dilution Factor: 1

Injection Volume: 1(uL)
GC Column: ZB-5 ID:

% Moisture: 9.1 % Solids: 90.9
GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 459936
Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
68476-31-3	Fuel Oil #4	ND	cn	13	5.5
68334-30-5	#2 Diesel Fuel	ND	cn	13	5.5
8008-20-6	Kerosene	ND	cn	13	5.5
64475-85-0	Mineral Spirits	ND	cn	13	5.5
STL00299	Motor Oil (>C24-C36)	ND	cn	13	5.5
68553-00-4	Fuel Oil #6	ND	cn	13	5.5
8001-58-9	coal tar oil	ND	cn	13	5.5
STL00228	Gasoline	ND	cn	13	5.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o- terphenyl (Surr)	111	cn	52-124
108-90-7	Chlorobenzene (Surr)	55	cn	10-143

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Lims ID:	410-155700-A-2-A				
Client ID:	SS-SBoundaryPeat				
Sample Type:	Client				
Inject. Date:	04-Jan-2024 00:21:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	410-155700-A-2-A				
Misc. Info.:	410-0103280-009				
Operator ID:		Instrument ID:	10254-A		
Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1615				

First Level Reviewer: UHEW Date: 04-Jan-2024 13:04:22

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
$ 2 Chlorobenzene (Surr)					
2.123	2.123	0.000	525183863	6.58	
$ 13 o- terphenyl (Surr)					
18.117	18.137	-0.020	1638808020	13.4	
A 19 Motor Oil					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 18 Fuel Oil #4					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 23 Fuel Oil #6					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 16 Creosote					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 15 Mineral Spirits					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 21 Kerosene					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 20 Gasoline					M
18.722	(1.513-35.930)		306886047779	2789.5	M
A 17 #2 Diesel Fuel					M
20.287	(4.643-35.930)		303009636221	2754.3	M

QC Flag Legend

Processing Flags

Review Flags

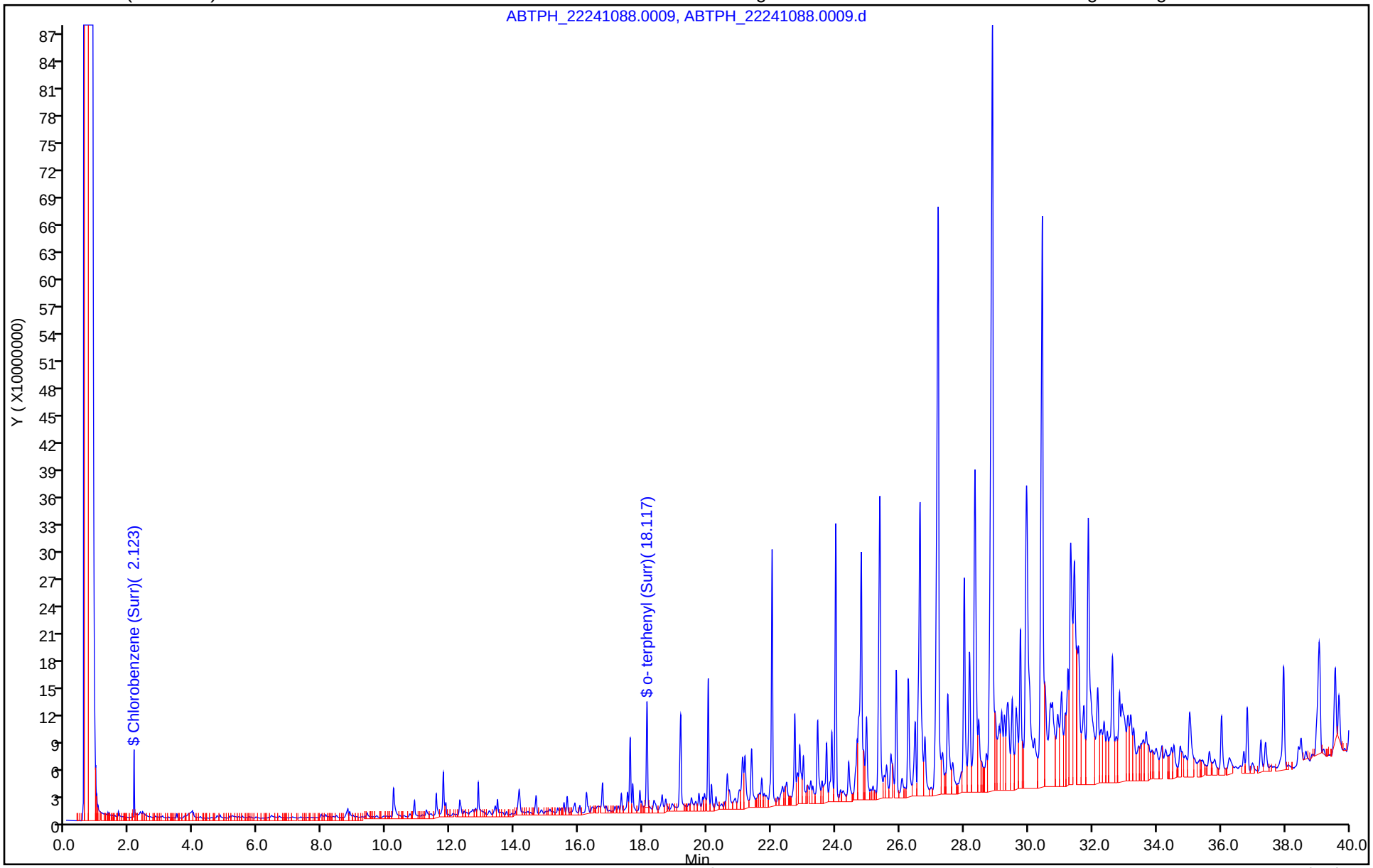
M - Manually Integrated

Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2	Worklist Smp#:	9
Client ID:	SS-SBoundaryPeat				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Lancaster Laboratories Environment Testing, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Lims ID:	410-155700-A-2-A				
Client ID:	SS-SBoundaryPeat				
Sample Type:	Client				
Inject. Date:	04-Jan-2024 00:21:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	410-155700-A-2-A				
Misc. Info.:	410-0103280-009				
Operator ID:		Instrument ID:	10254-A		
Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1615				

First Level Reviewer: UHEW Date: 04-Jan-2024 13:04:22

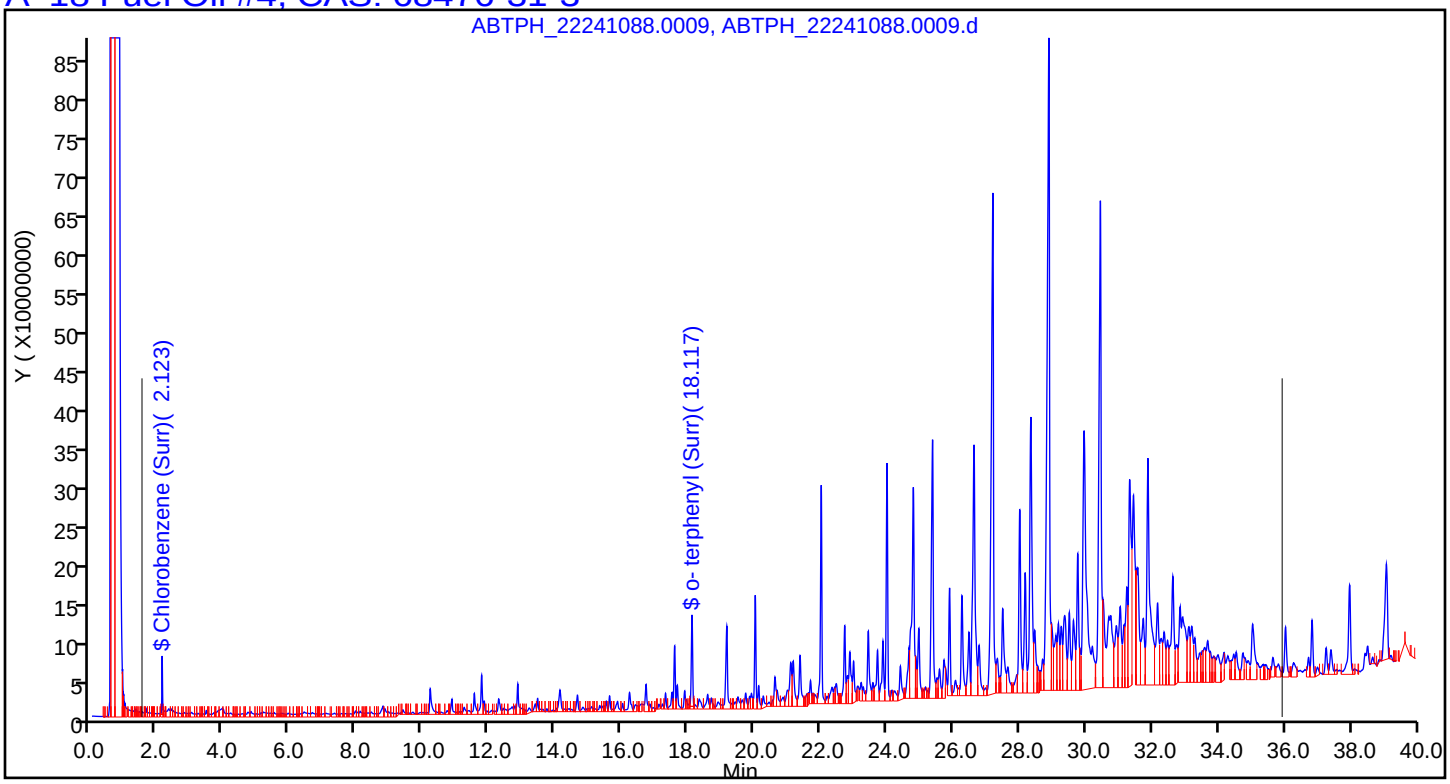
Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Chlorobenzene (Surr)	12.0	6.58	54.68
$ 13 o- terphenyl (Surr)	12.1	13.4	110.80

Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, CAS: 68476-31-3

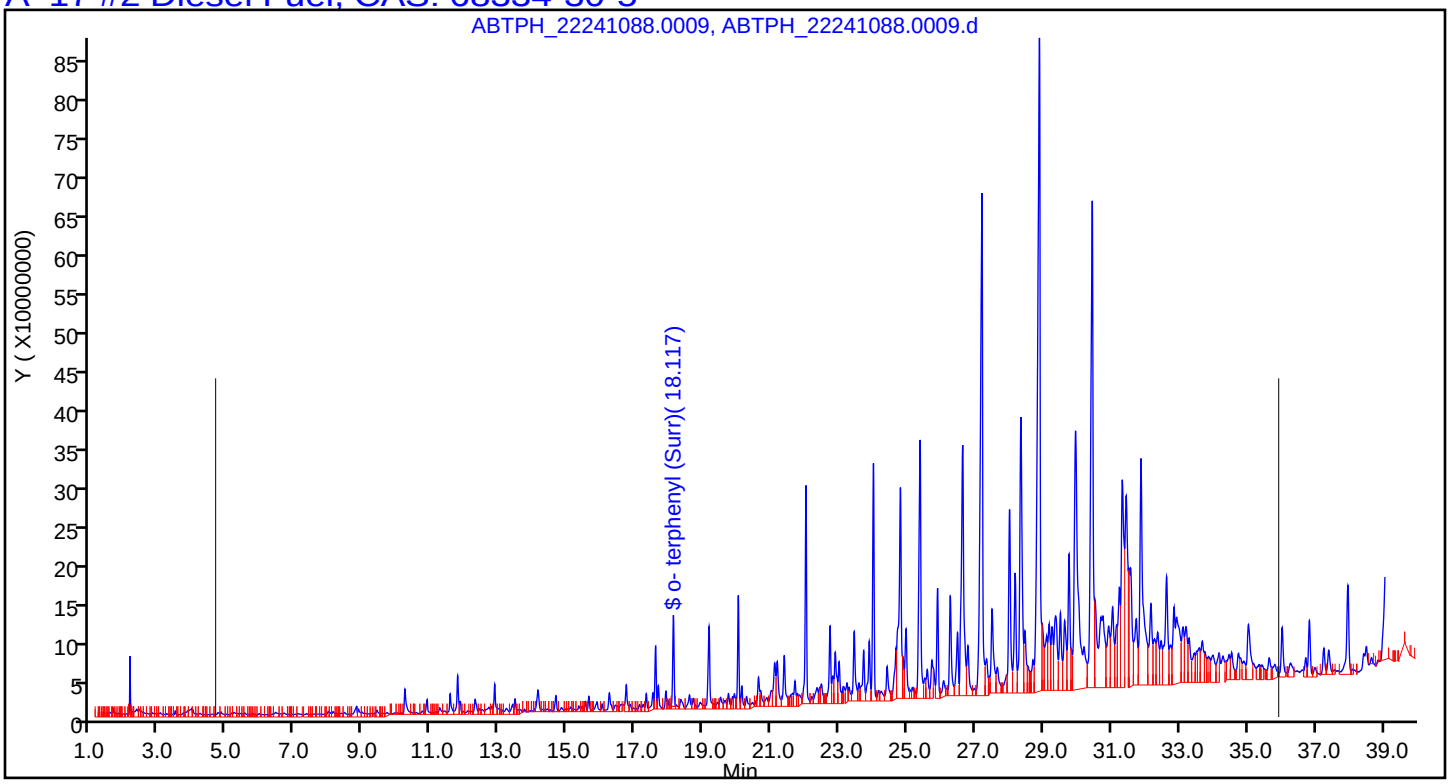


Report Date: 04-Jan-2024 14:15:14 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, CAS: 68334-30-5

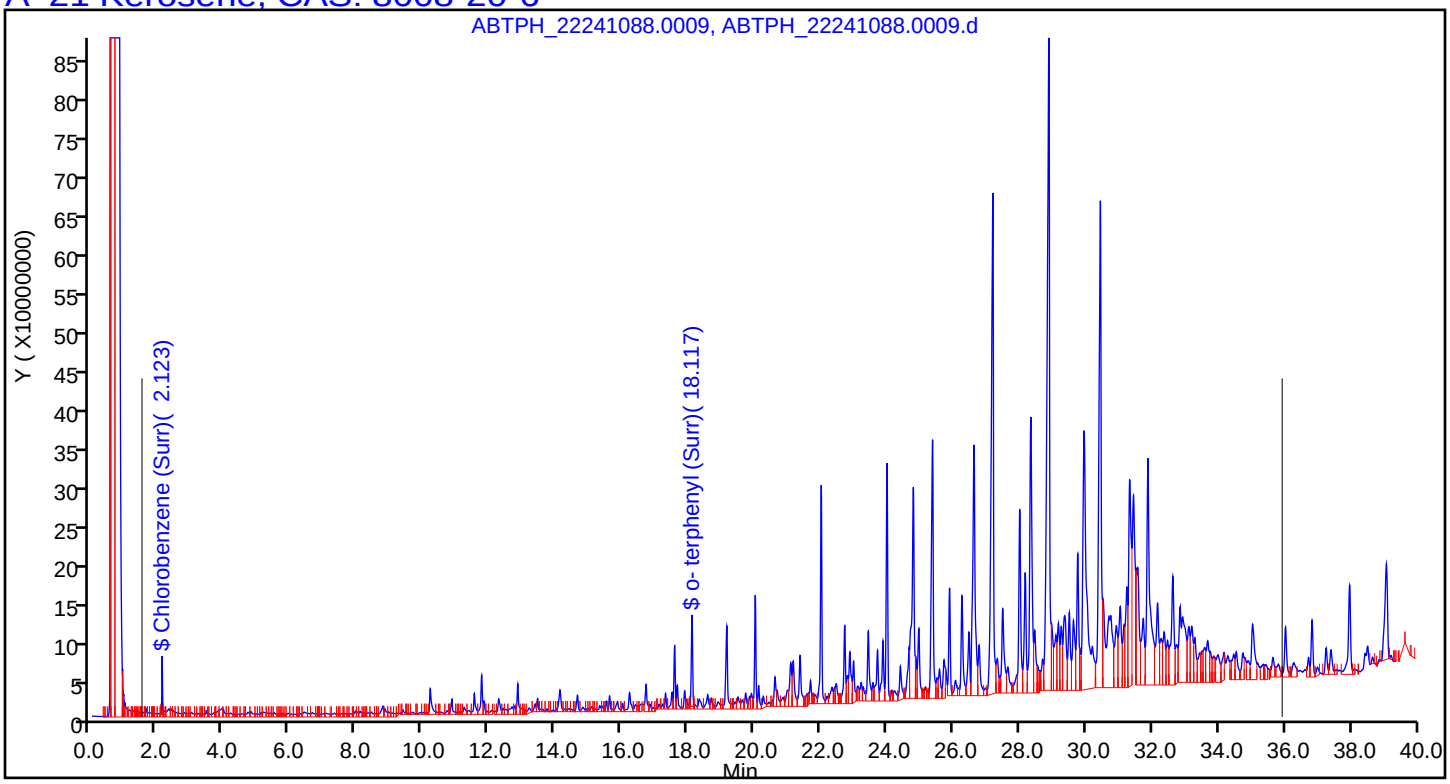


Report Date: 04-Jan-2024 14:15:14 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, CAS: 8008-20-6

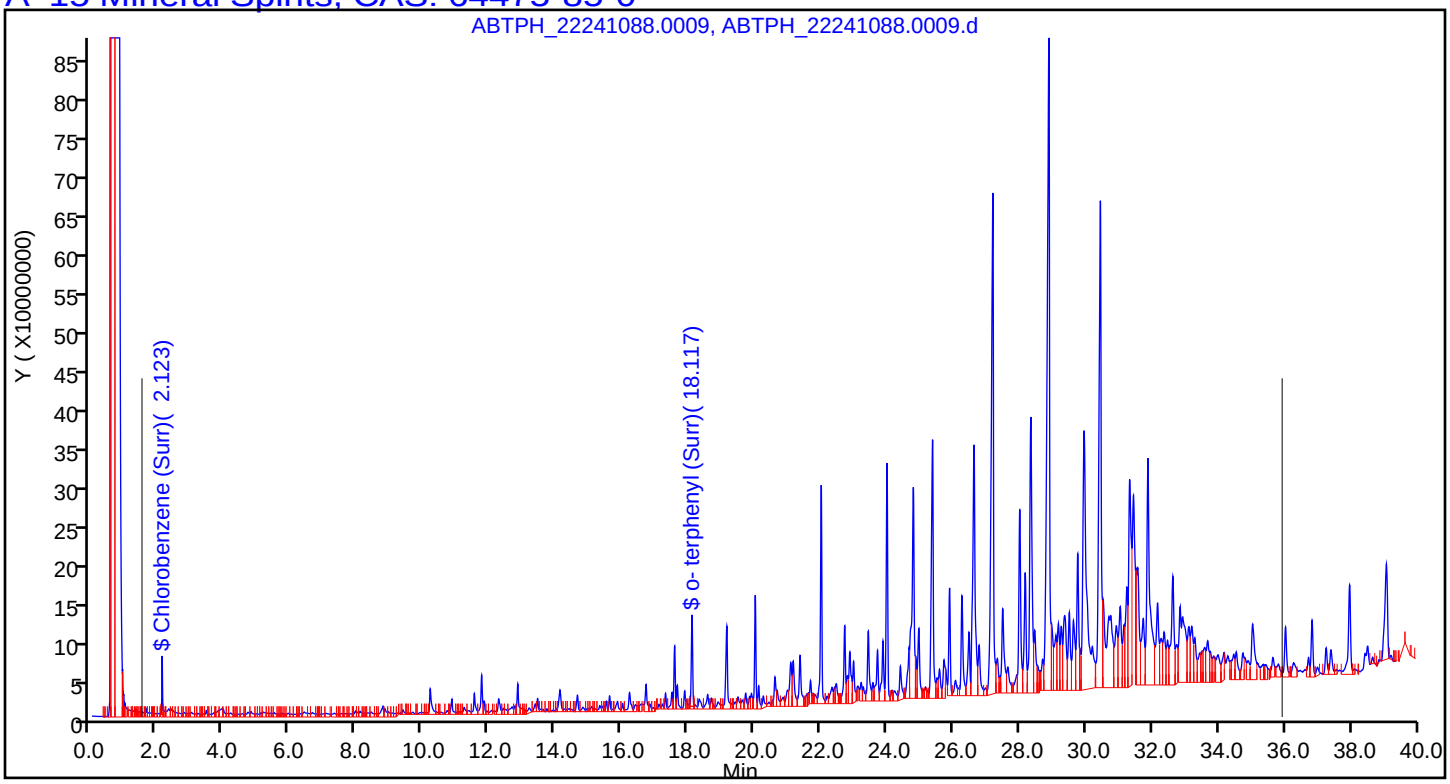


Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, CAS: 64475-85-0

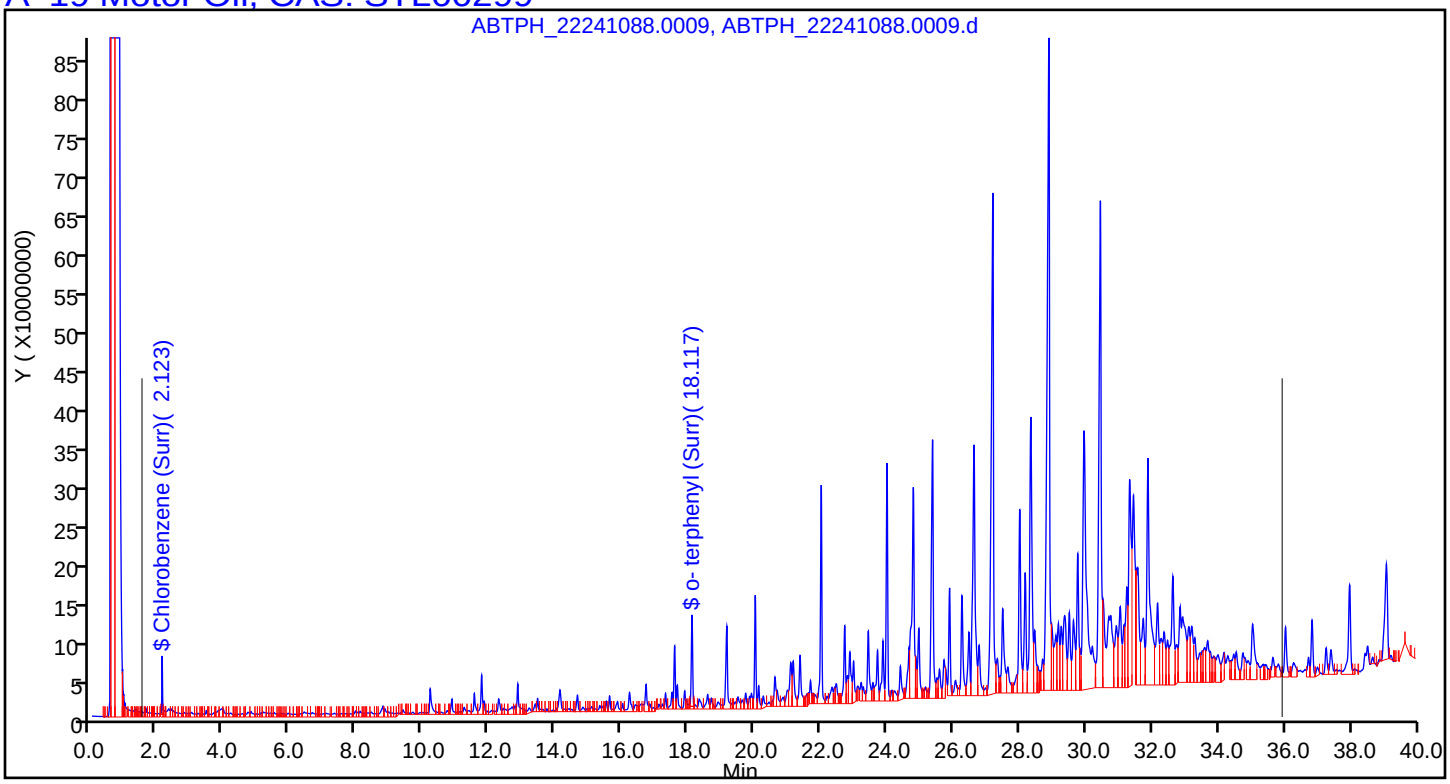


Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, CAS: STL00299

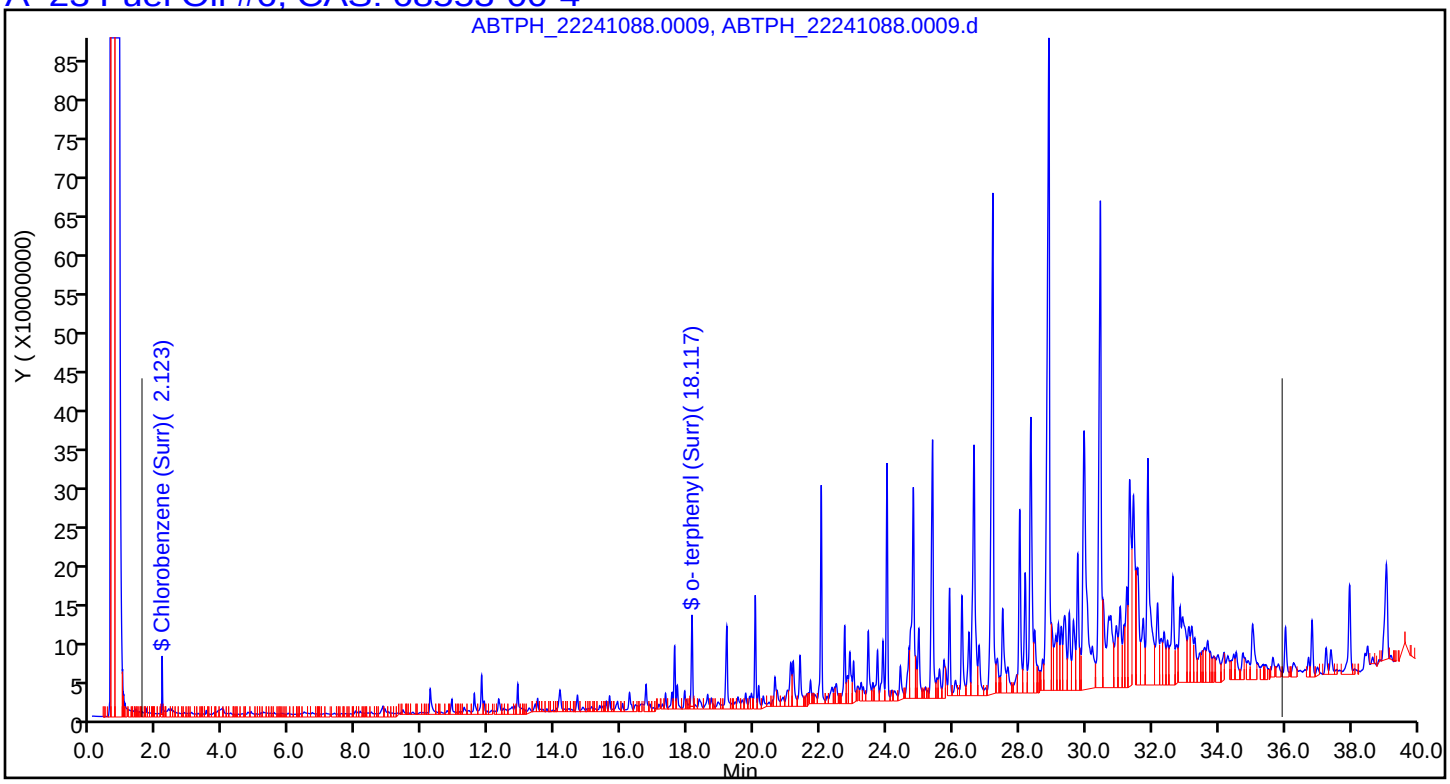


Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, CAS: 68553-00-4

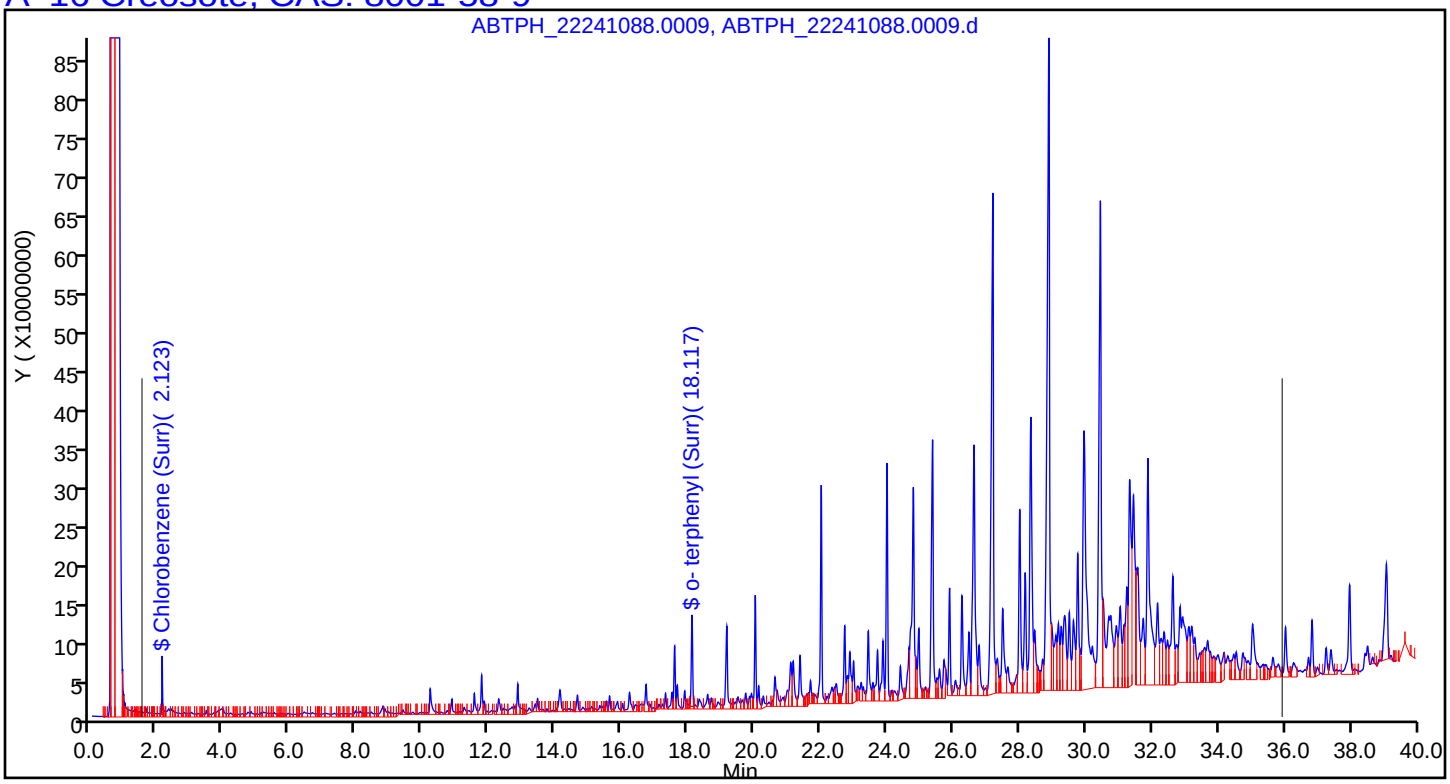


Report Date: 04-Jan-2024 14:15:13 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, CAS: 8001-58-9



Report Date: 04-Jan-2024 14:15:14 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

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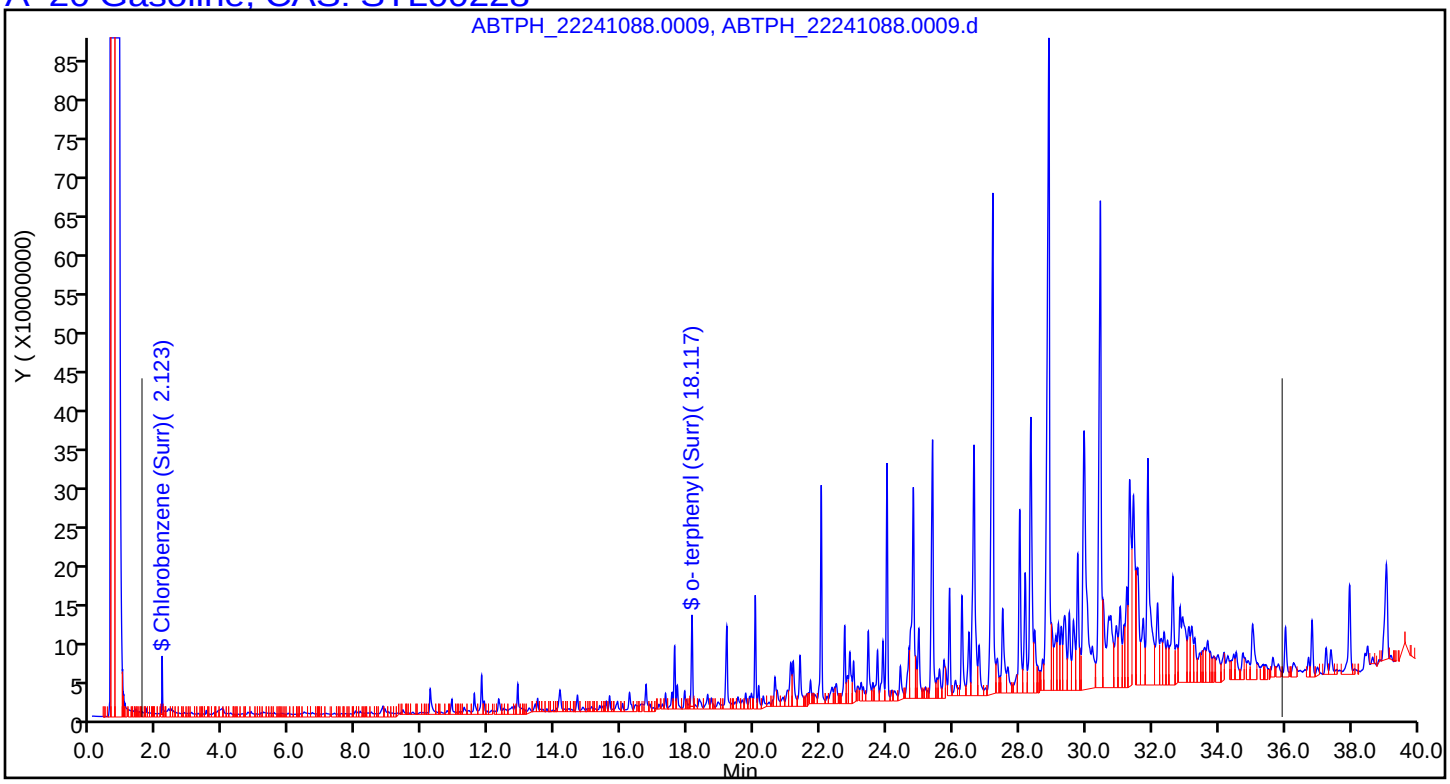
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, CAS: STL00228



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

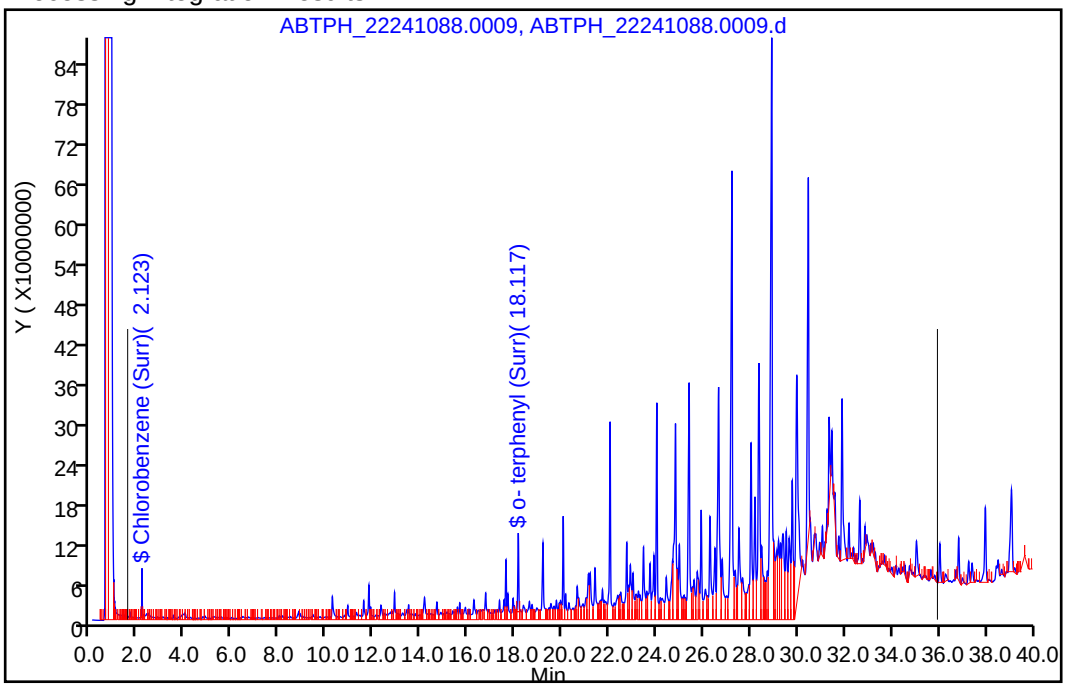
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, RT: 18.722, CAS: 68476-31-3

Signal: 1

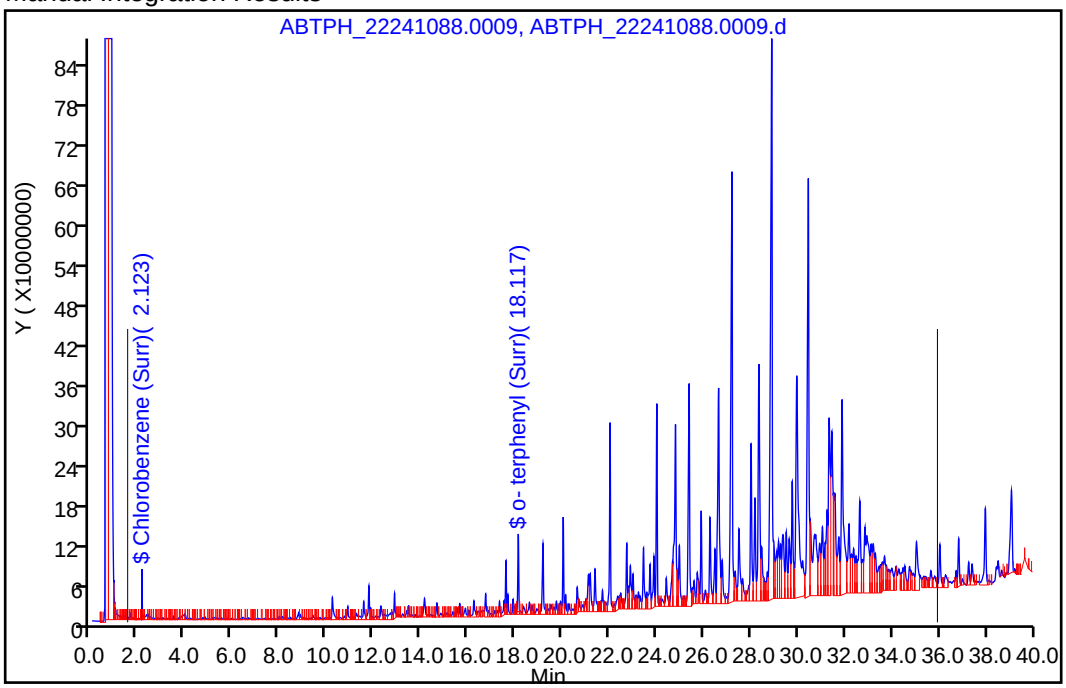
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

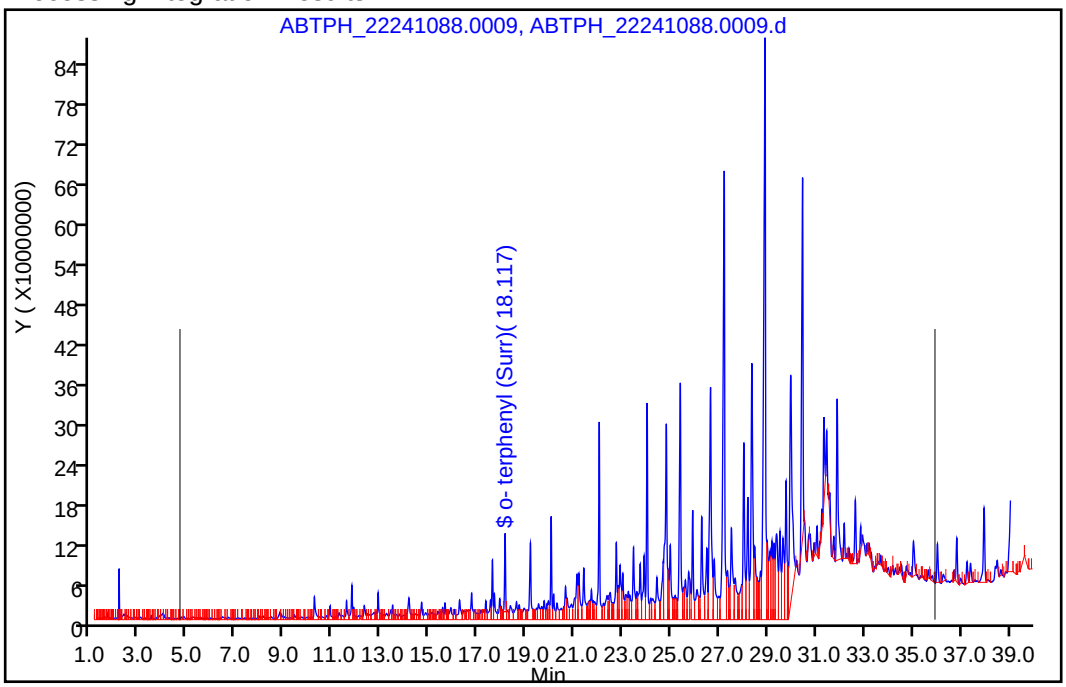
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, RT: 20.284, CAS: 68334-30-5

Signal: 1

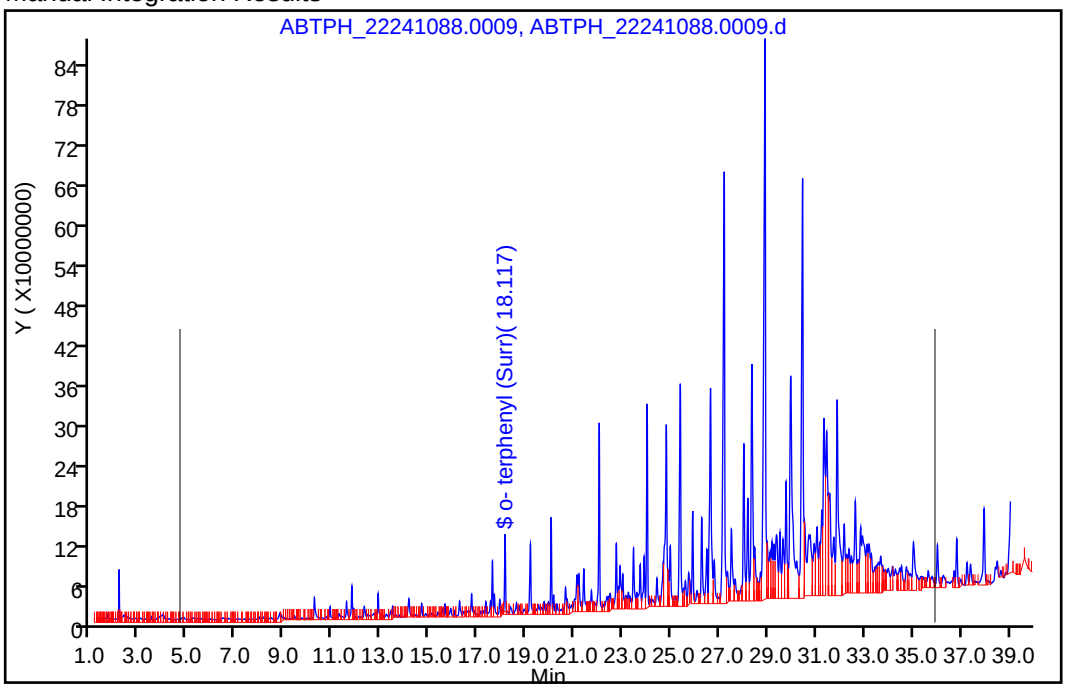
Processing Integration Results

RT: 20.29
Response: 308006543897
Amount: 2799.7013



Manual Integration Results

RT: 20.29
Response: 303009636221
Amount: 2754.2807



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

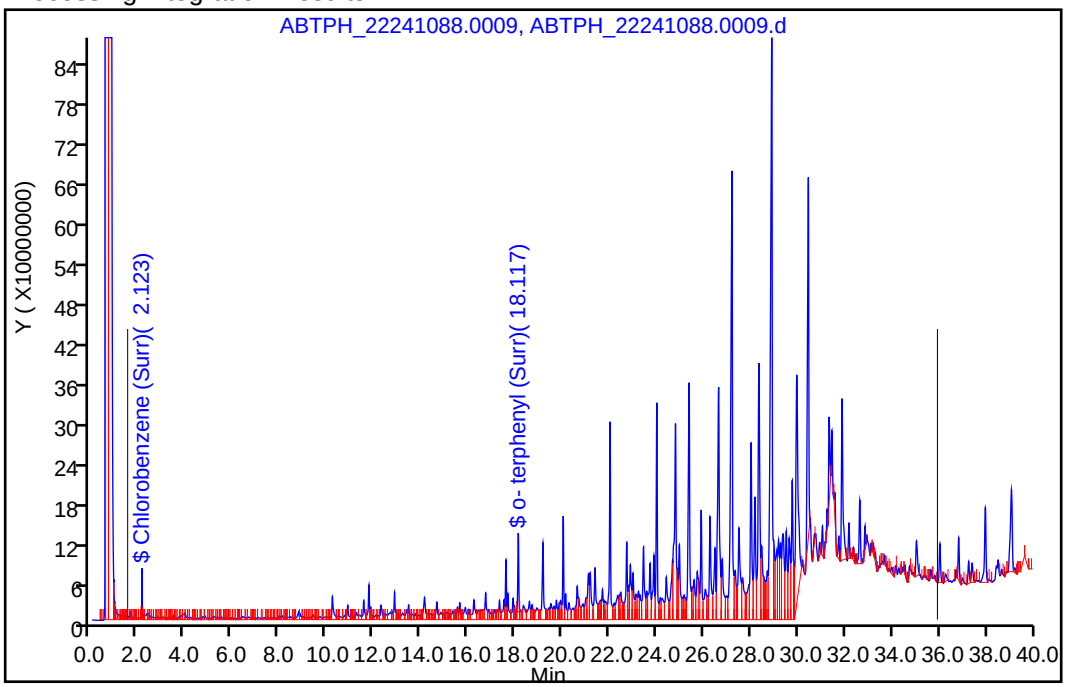
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, RT: 18.722, CAS: 8008-20-6

Signal: 1

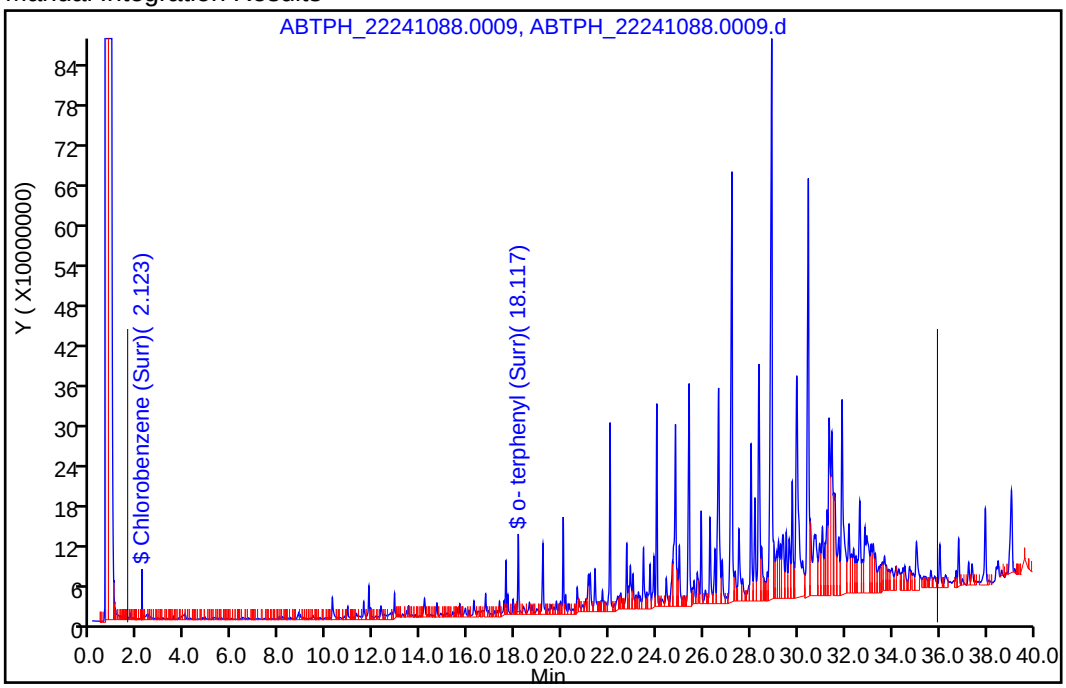
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

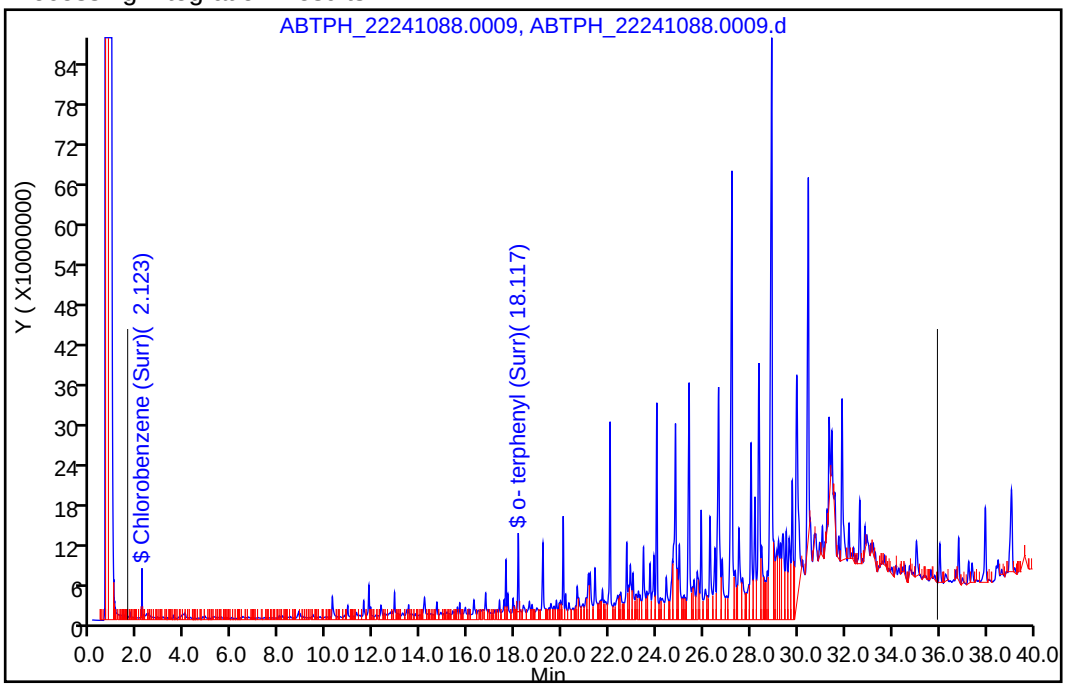
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, RT: 18.722, CAS: 64475-85-0

Signal: 1

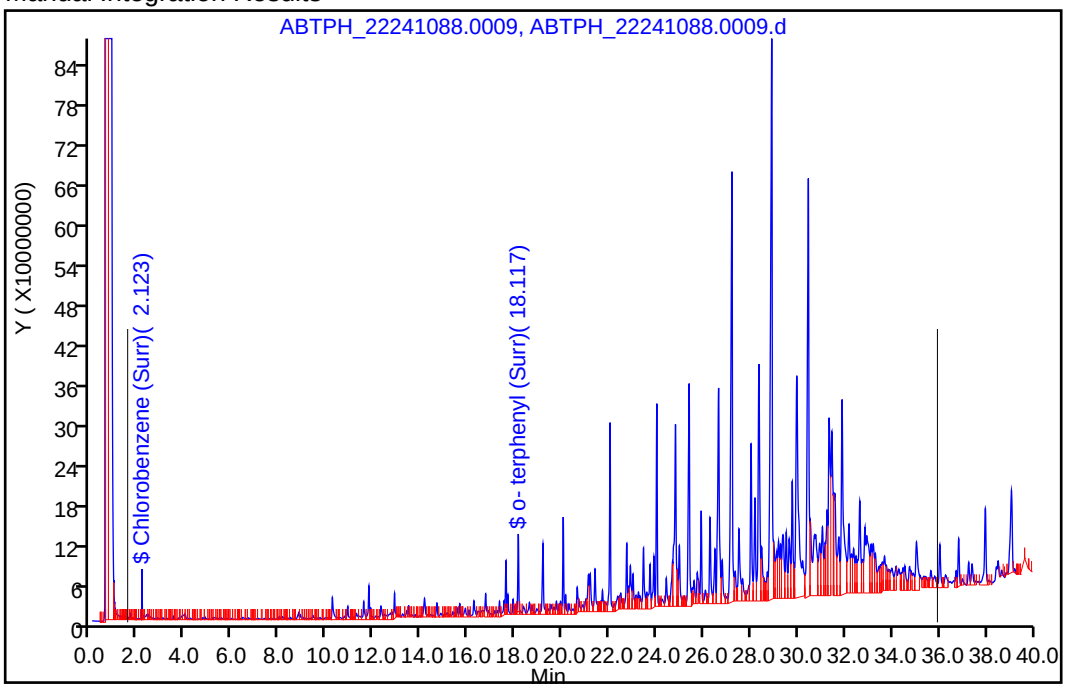
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

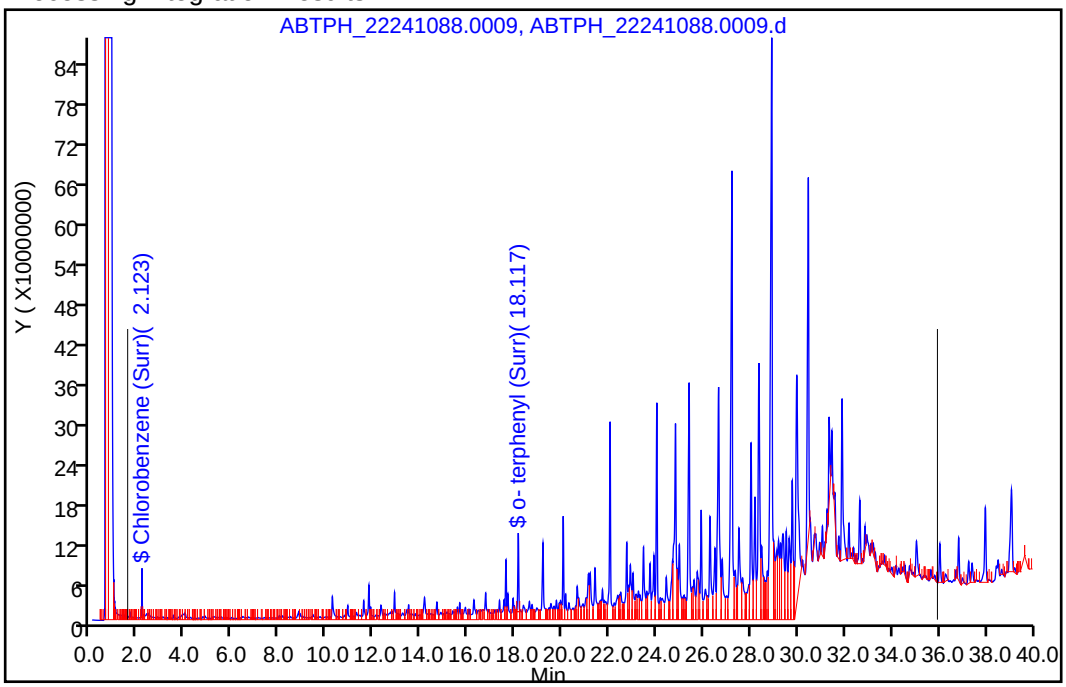
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, RT: 18.722, CAS: STL00299

Signal: 1

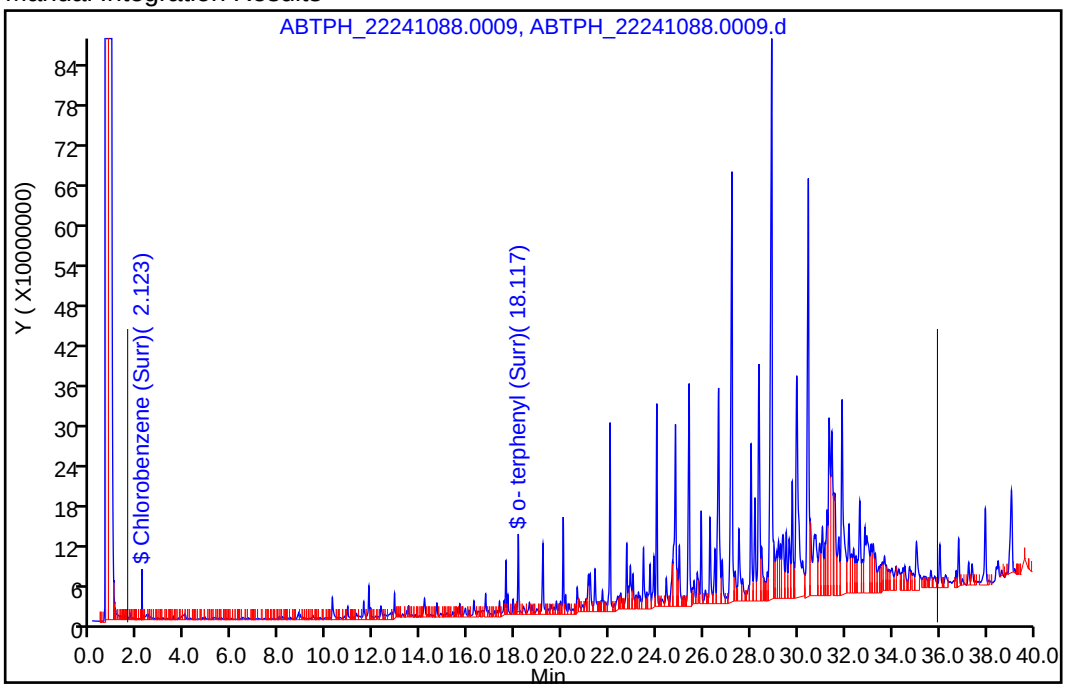
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

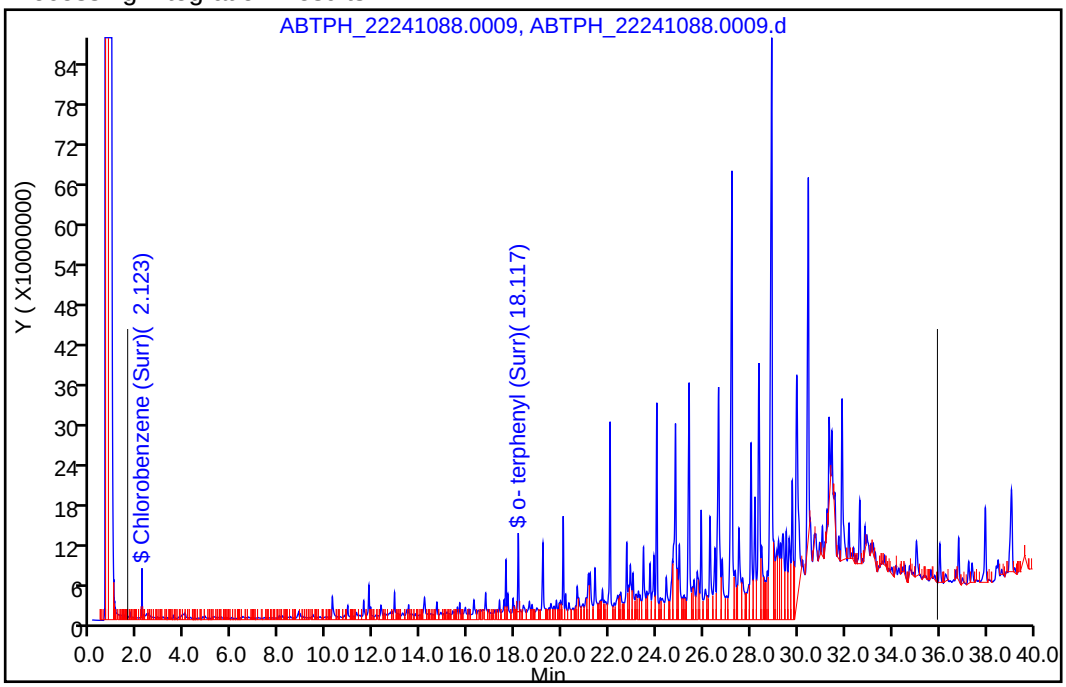
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, RT: 18.722, CAS: 68553-00-4

Signal: 1

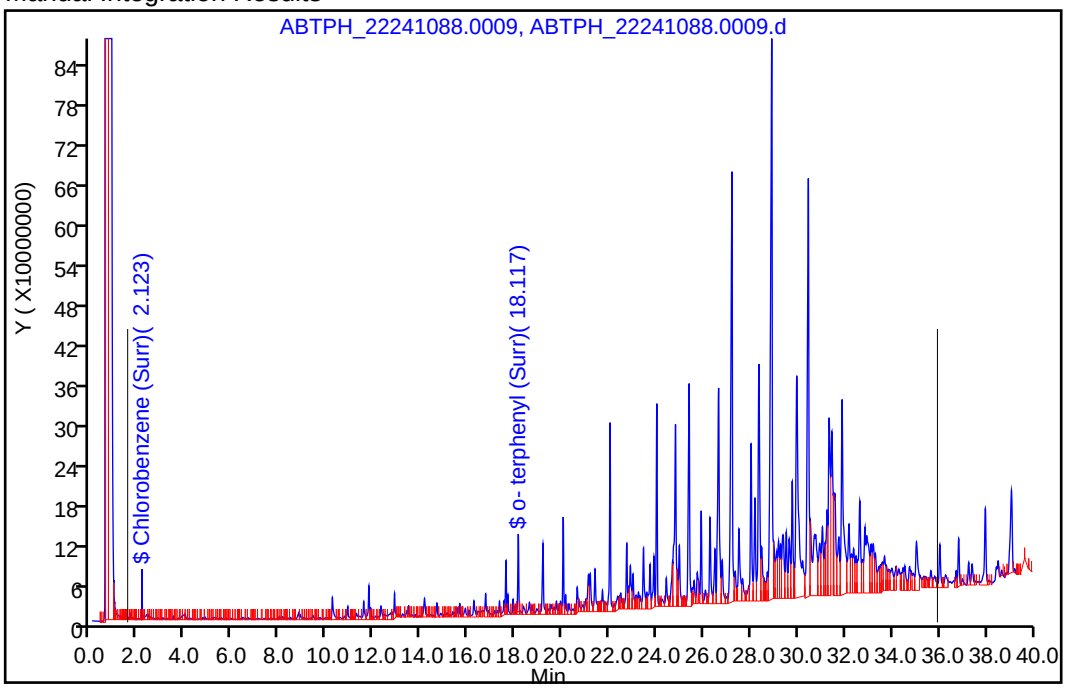
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

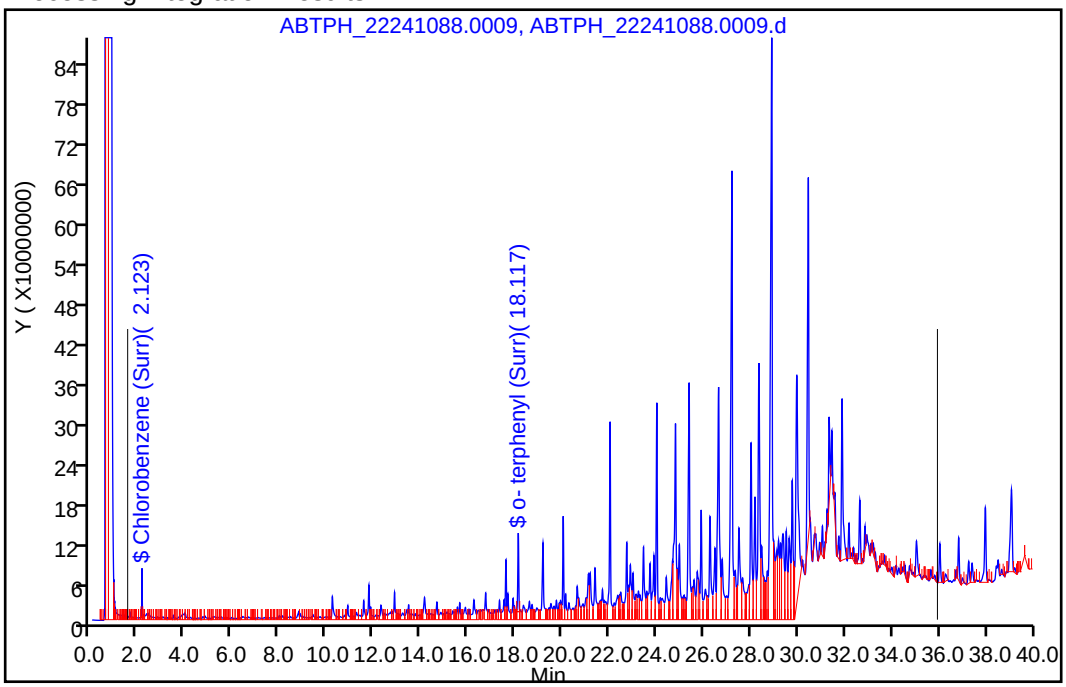
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, RT: 18.722, CAS: 8001-58-9

Signal: 1

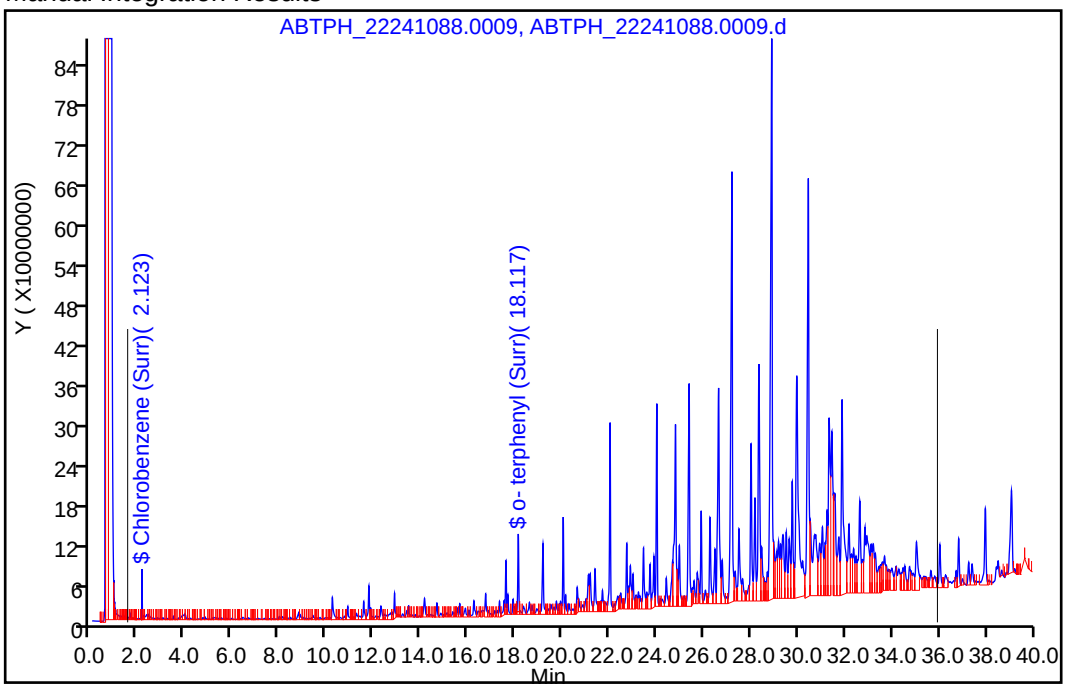
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

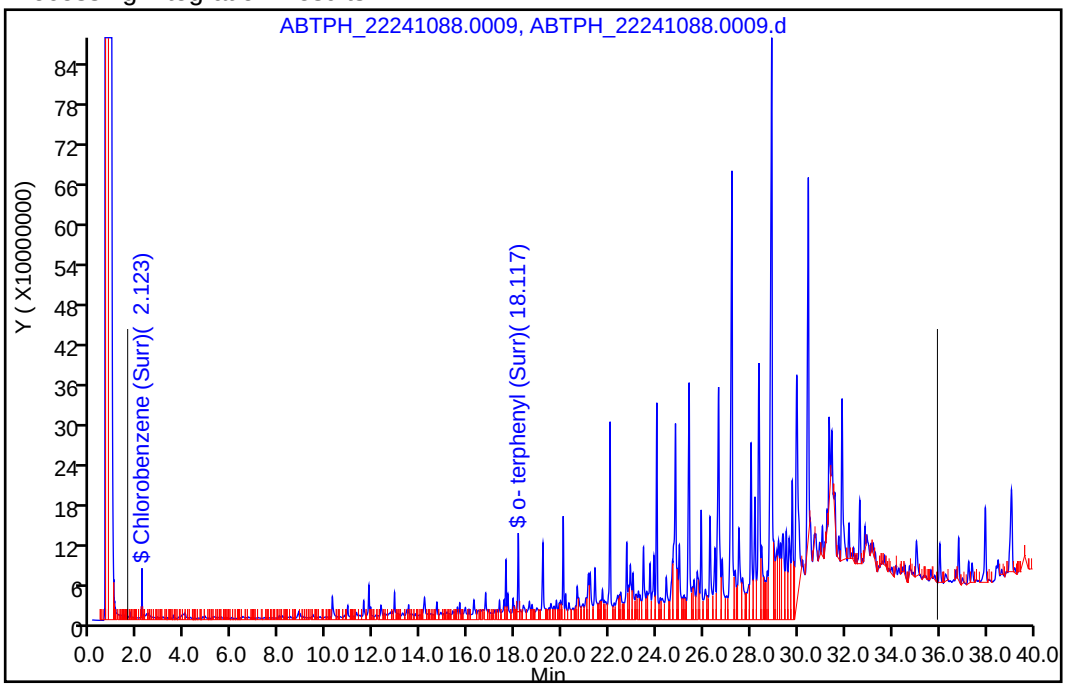
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0009.d				
Injection Date:	04-Jan-2024 00:21:00	Instrument ID:	10254-A		
Lims ID:	410-155700-A-2-A	Lab Sample ID:	410-155700-2		
Client ID:	SS-SBoundaryPeat				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, RT: 18.722, CAS: STL00228

Signal: 1

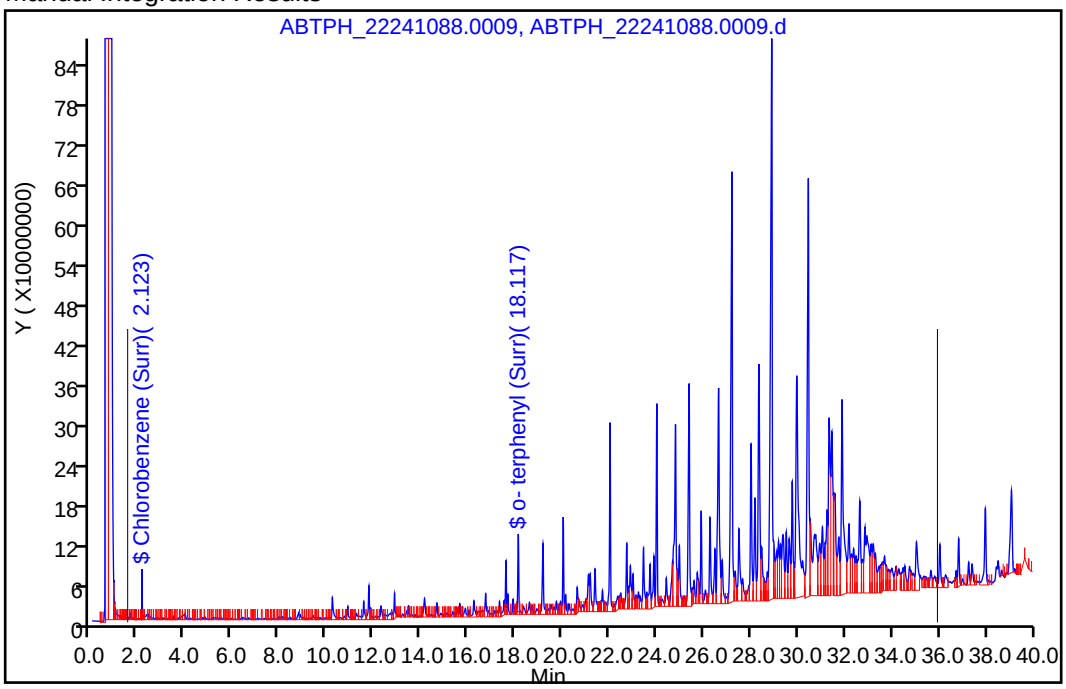
Processing Integration Results

RT: 18.72
Response: 311882955455
Amount: 2834.9369



Manual Integration Results

RT: 18.72
Response: 306886047779
Amount: 2789.5163



Reviewer: UHEW, 04-Jan-2024 14:12:56 -05:00:00 (UTC)

Audit Action: Manually Integrated Audit Reason: Assign Peak

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2022 21:37 Calibration End Date: 08/30/2022 00:51 Calibration ID: 41949

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/6	ABTPH_22241001.0006.d
Level 2	IC 410-290776/7	ABTPH_22241001.0007.d
Level 3	ICRT 410-290776/8	ABTPH_22241001.0008.d
Level 4	IC 410-290776/9	ABTPH_22241001.0009.d
Level 5	IC 410-290776/10	ABTPH_22241001.0010.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT WINDOW	AVG RT
n-Octane	1.639	1.631	1.640	1.640	1.632						1.590 - 1.690	1.636
n-Nonane	3.015	3.007	3.016	3.017	3.010						2.966 - 3.066	3.013
n-Decane	4.798	4.792	4.802	4.804	4.798						4.752 - 4.852	4.799
Dodecane	8.418	8.413	8.424	8.427	8.423						8.374 - 8.474	8.421
n-Tetradecane	11.679	11.674	11.685	11.689	11.684						11.635 - 11.735	11.682
Hexadecane	14.592	14.587	14.598	14.603	14.598						14.548 - 14.648	14.596
n-Octadecane	17.221	17.217	17.229	17.233	17.230						17.179 - 17.279	17.226
C8-C40	18.808	18.808	18.808	18.808	18.808						1.540 - 36.076	18.808
icosane	19.614	19.609	19.621	19.627	19.622						19.571 - 19.671	19.619
n-Docosane	21.808	21.806	21.815	21.820	21.818						21.765 - 21.865	21.813
C12-C40	22.200	22.190	22.200	22.200	22.200						8.324 - 36.076	22.198
n-Tetracosane	23.829	23.828	23.839	23.844	23.842						23.789 - 23.889	23.836
n-Hexacosane	25.708	25.704	25.714	25.720	25.719						25.664 - 25.764	25.713
n-Octacosane	27.455	27.451	27.462	27.467	27.467						27.412 - 27.512	27.460
Triacontane	29.089	29.085	29.097	29.103	29.100						29.047 - 29.147	29.095
Dotriacontane	30.624	30.621	30.631	30.636	30.634						30.581 - 30.681	30.629
Tetratriacontane	32.072	32.067	32.078	32.084	32.083						32.028 - 32.128	32.077
n-Hexatriacontane	33.438	33.436	33.446	33.454	33.451						33.396 - 33.496	33.445
n-Octatriacontane	34.737	34.730	34.743	34.749	34.747						34.693 - 34.793	34.741
n-Tetracontane	35.967	35.964	35.976	35.982	35.979						35.926 - 36.026	35.974
Chlorobenzene (Surr)	2.181	2.173	2.182	2.181	2.173						2.132 - 2.232	2.178
o- terphenyl (Surr)	18.234	18.230	18.243	18.248	18.245						18.193 - 18.293	18.240

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2022 21:37 Calibration End Date: 08/30/2022 00:51 Calibration ID: 41949

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/6	ABTPH_22241001.0006.d
Level 2	IC 410-290776/7	ABTPH_22241001.0007.d
Level 3	ICRT 410-290776/8	ABTPH_22241001.0008.d
Level 4	IC 410-290776/9	ABTPH_22241001.0009.d
Level 5	IC 410-290776/10	ABTPH_22241001.0010.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2	LVL 3	LVL 4		B	M1	M2								
n-Octane	100335459 104380398	99059132	97203187	101979035	Ave		100591442				2.7		20.0			
n-Nonane	103264147 105159100	100891869	99085618	103213304	Ave		102322807				2.3		20.0			
n-Decane	105809878 107835833	103516969	102076379	106634561	Ave		105174724				2.2		20.0			
Dodecane	107801060 109435258	105252668	104450959	107839642	Ave		106955917				1.9		20.0			
n-Tetradecane	109266765 111050067	106787838	105577489	109295329	Ave		108395498				2.0		20.0			
Hexadecane	113186644 114725876	110613566	109608426	113242262	Ave		112275355				1.9		20.0			
n-Octadecane	114138219 116617583	112613183	111039691	114493486	Ave		113780432				1.8		20.0			
C8-C40	118276306 115055038	112919273	110875569	113286350	Ave		110957809				5.7		20.0			
icosane	113252254 114755557	110912639	110128239	113405238	Ave		112490786				1.7		20.0			
n-Docosane	114335175 116077663	111944791	110830959	113696108	Ave		113376940				1.8		20.0			
C12-C40	119017385 116604902	114158025	112562186	114798277	Ave		115428155				2.1		20.0			
n-Tetracosane	115420670 116542555	113076005	112358866	114772536	Ave		114434126				1.5		20.0			
n-Hexacosane	117241631 116912389	113738762	112816382	115371149	Ave		115216063				1.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2022 21:37 Calibration End Date: 08/30/2022 00:51 Calibration ID: 41949

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2	LVL 3	LVL 4		B	M1	M2								
n-Octacosane	117164727 117868872	115321092	113600133	115888901	Ave		115968745				1.4		20.0			
Triacontane	119974194 117825724	115830555	114177862	116180038	Ave		116797674				1.9		20.0			
Dotriacontane	115813488 116726929	113445090	112615125	115021127	Ave		114724352				1.5		20.0			
Tetratriacontane	117140240 118254300	114557893	113705736	116002327	Ave		115932099				1.6		20.0			
n-Hexatriacontane	114309492 116409388	111924837	112664523	114387145	Ave		113939077				1.5		20.0			
n-Octatriacontane	111297690 112954870	107407306	109141646	111361472	Ave		110432597				2.0		20.0			
n-Tetracontane	114286607 116028564	108701293	112095739	113967285	Ave		113015898				2.5		20.0			
Chlorobenzene (Surr)	82731892 84837821	67529227	81241519	82612379	Ave		79790567. 5				8.7		20.0			
o- terphenyl (Surr)	124997805 125293605	112882434	126014115	124152524	Ave		122668097				4.5		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2022 21:37 Calibration End Date: 08/30/2022 00:51 Calibration ID: 41949

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/6	ABTPH_22241001.0006.d
Level 2	IC 410-290776/7	ABTPH_22241001.0007.d
Level 3	ICRT 410-290776/8	ABTPH_22241001.0008.d
Level 4	IC 410-290776/9	ABTPH_22241001.0009.d
Level 5	IC 410-290776/10	ABTPH_22241001.0010.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
n-Octane	Ave	403348545	796435421	1563027243	3279645752	4196092004	4.02	8.04	16.1	32.2	40.2
n-Nonane	Ave	413056588	807134951	1585369886	3302825718	4206363996	4.00	8.00	16.0	32.0	40.0
n-Decane	Ave	424932471	831448298	1639754953	3425955172	4330687043	4.02	8.03	16.1	32.1	40.2
Dodecane	Ave	433360262	846231449	1679571419	3468122874	4399297382	4.02	8.04	16.1	32.2	40.2
n-Tetradecane	Ave	439689463	859428524	1699375261	3518435218	4468654698	4.02	8.05	16.1	32.2	40.2
Hexadecane	Ave	455644155	890571941	1764958711	3646944401	4618404883	4.03	8.05	16.1	32.2	40.3
n-Octadecane	Ave	456187632	900184740	1775213747	3660860513	4660971544	4.00	7.99	16.0	32.0	40.0
C8-C40	Ave	8547970556	16321622686	32052441723	65498723679	83151656755	72.3	145	289	578	723
icosane	Ave	453915034	889075718	1765575929	3636225551	4599402729	4.01	8.02	16.0	32.1	40.1
n-Docosane	Ave	458712724	898245006	1778615238	3649190285	4657035859	4.01	8.02	16.0	32.1	40.1
C12-C40	Ave	7169035990	13752662913	27120823086	55319177262	70237195752	60.2	120	241	482	602
n-Tetracosane	Ave	462606044	906417258	1801337344	3680066601	4671025607	4.01	8.02	16.0	32.1	40.1
n-Hexacosane	Ave	473656191	919009200	1823112741	3728795526	4723260511	4.04	8.08	16.2	32.3	40.4
n-Octacosane	Ave	471470863	928104151	1828507746	3730695500	4743043404	4.02	8.05	16.1	32.2	40.2
Triacontane	Ave	480184713	927200423	1827941902	3719991871	4715856771	4.00	8.00	16.0	32.0	40.0
Dotriacontane	Ave	463717205	908468277	1803643843	3684356747	4673746232	4.00	8.01	16.0	32.0	40.0
Tetratriacontane	Ave	471372326	921961920	1830207529	3734346921	4758553012	4.02	8.05	16.1	32.2	40.2
n-Hexatriacontane	Ave	459524156	899875692	1811645533	3678690593	4679657415	4.02	8.04	16.1	32.2	40.2
n-Octatriacontane	Ave	448307096	865273259	1758490204	3588512077	4549822169	4.03	8.06	16.1	32.2	40.3
n-Tetracontane	Ave	456963571	869262500	1792814406	3645494345	4639286089	4.00	8.00	16.0	32.0	40.0
Chlorobenzene (Surr)	Ave	334021739	545285005	1312018032	2668313755	3425242175	4.04	8.07	16.1	32.3	40.4
o- terphenyl (Surr)	Ave	500021219	903113656	2016346812	3973119152	5012044890	4.00	8.00	16.0	32.0	40.0

Curve Type Legend:
Ave = Average

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0006.d
Lims ID: IC TPH1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Aug-2022 21:37:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC TPH1
Misc. Info.: 410-0065078-006
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:40:24 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

First Level Reviewer: UHEW Date: 30-Aug-2022 16:25:18

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.639	1.640	-0.001	403348545	4.02	4.01	
$ 2 Chlorobenzene (Surr)						
2.181	2.182	-0.001	334021739	4.04	4.19	
3 n-Nonane						
3.015	3.016	-0.001	413056588	4.00	4.04	
4 n-Decane						
4.798	4.802	-0.004	424932471	4.02	4.04	
5 Dodecane						
8.418	8.424	-0.006	433360262	4.02	4.05	
7 n-Tetradecane						
11.679	11.685	-0.006	439689463	4.02	4.06	
8 Hexadecane						
14.592	14.598	-0.006	455644155	4.03	4.06	
12 n-Octadecane						
17.221	17.229	-0.008	456187632	4.00	4.01	
$ 13 o- terphenyl (Surr)						
18.234	18.243	-0.009	500021219	4.00	4.08	
A 22 C8-C40						
18.808	(1.540-36.076)		8547970556	72.3	77.9	
24 icosane						
19.614	19.621	-0.007	453915034	4.01	4.04	
25 n-Docosane						
21.808	21.815	-0.007	458712724	4.01	4.05	
A 26 C12-C40						
22.200	(8.324-36.076)		7169035990	60.2	62.1	
27 n-Tetracosane						
23.829	23.839	-0.010	462606044	4.01	4.04	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						
25.708	25.714	-0.006	473656191	4.04	4.11	
30 n-Octacosane						
27.455	27.462	-0.007	471470863	4.02	4.07	
31 Triacontane						
29.089	29.097	-0.008	480184713	4.00	4.11	
33 Dotriacontane						
30.624	30.631	-0.007	463717205	4.00	4.04	
34 Tetratriacontane						
32.072	32.078	-0.006	471372326	4.02	4.07	
35 n-Hexatriacontane						
33.438	33.446	-0.008	459524156	4.02	4.03	
36 C38						
34.737	34.743	-0.007	448307096	4.03	4.06	
37 C40						
35.967	35.976	-0.009	456963571	4.00	4.04	

Reagents:

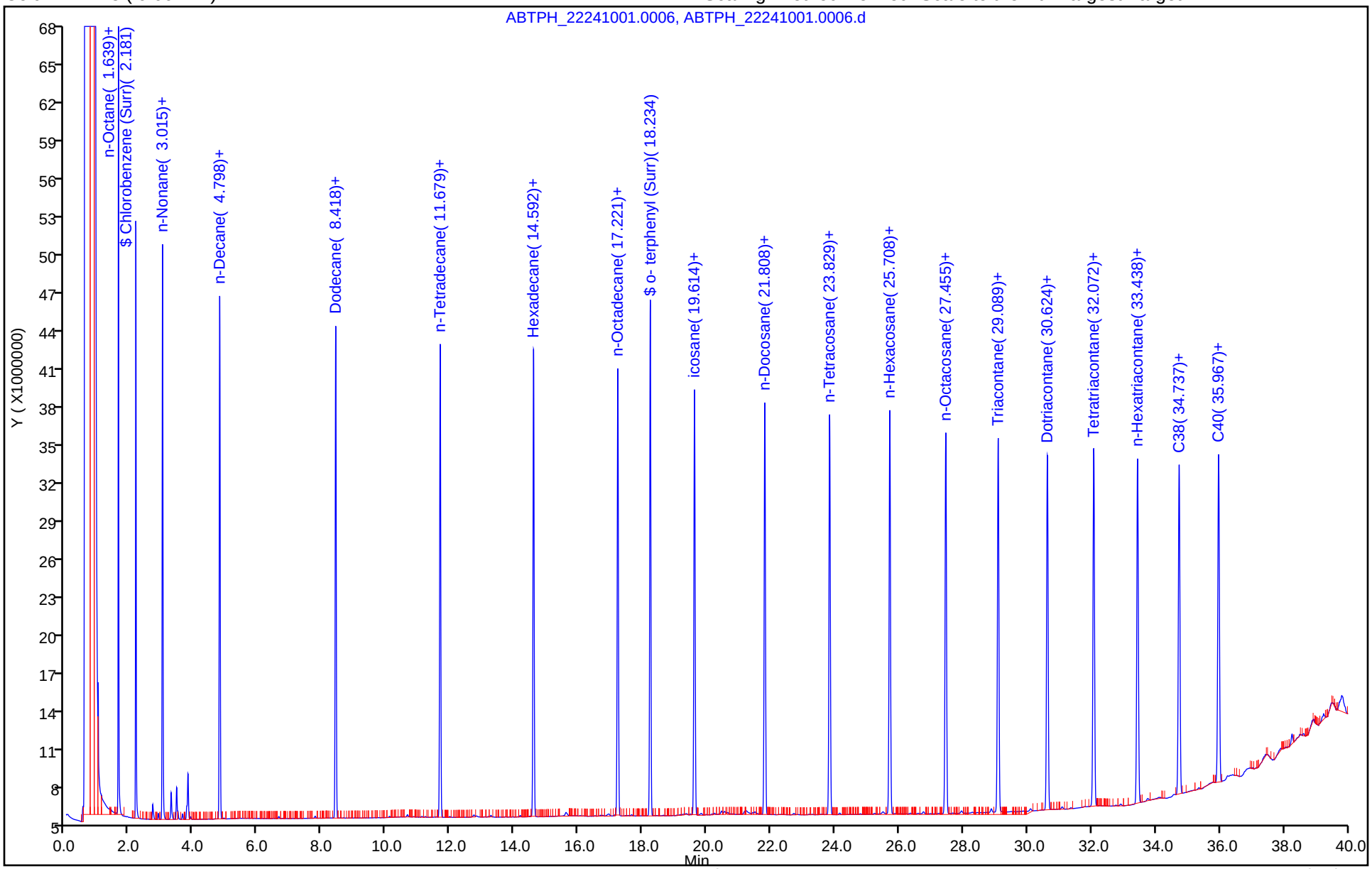
EPH_TPH_1_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:40:27 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0006.d				
Injection Date:	29-Aug-2022 21:37:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC TPH1			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

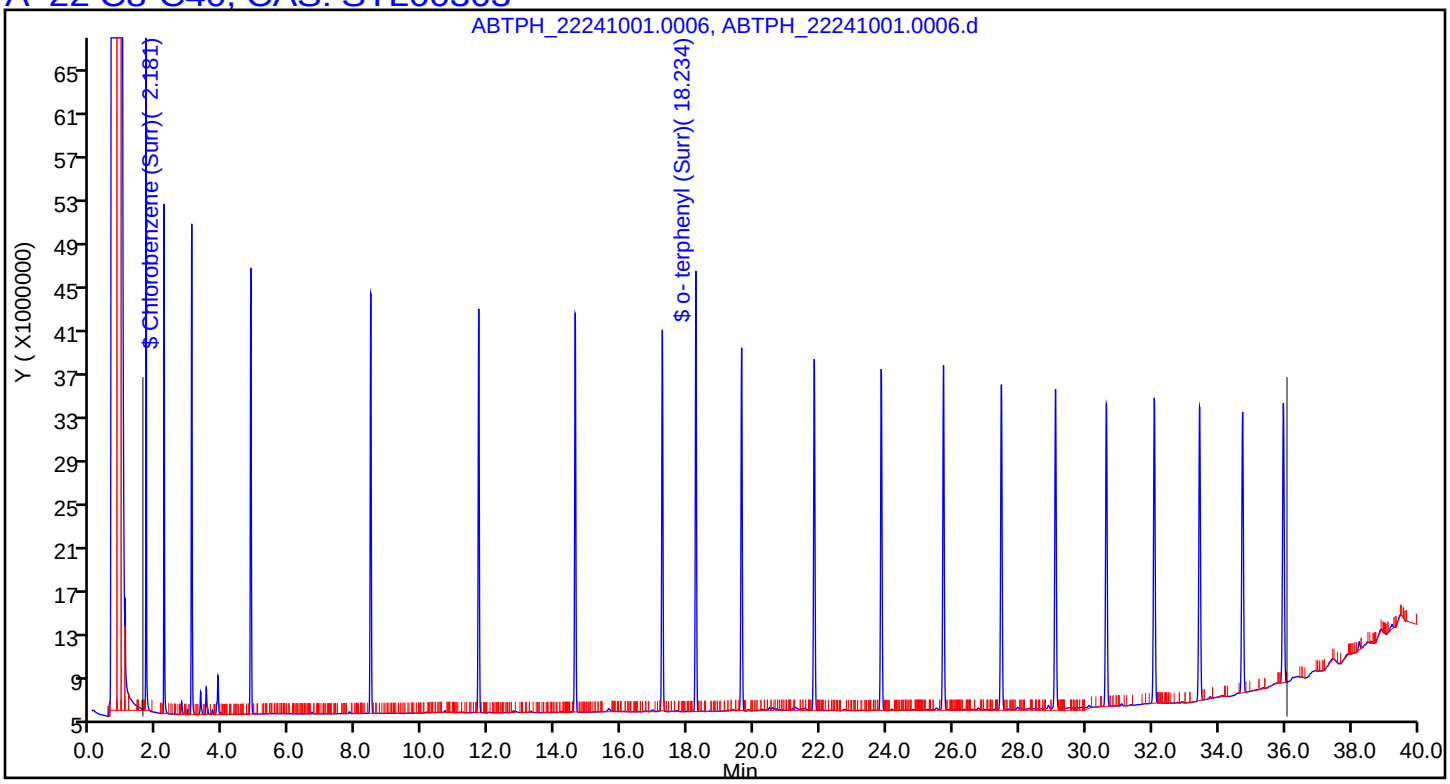


Report Date: 06-Sep-2022 14:40:27 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0006.d				
Injection Date:	29-Aug-2022 21:37:00	Instrument ID:	10254-A		
Lims ID:	IC TPH1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303

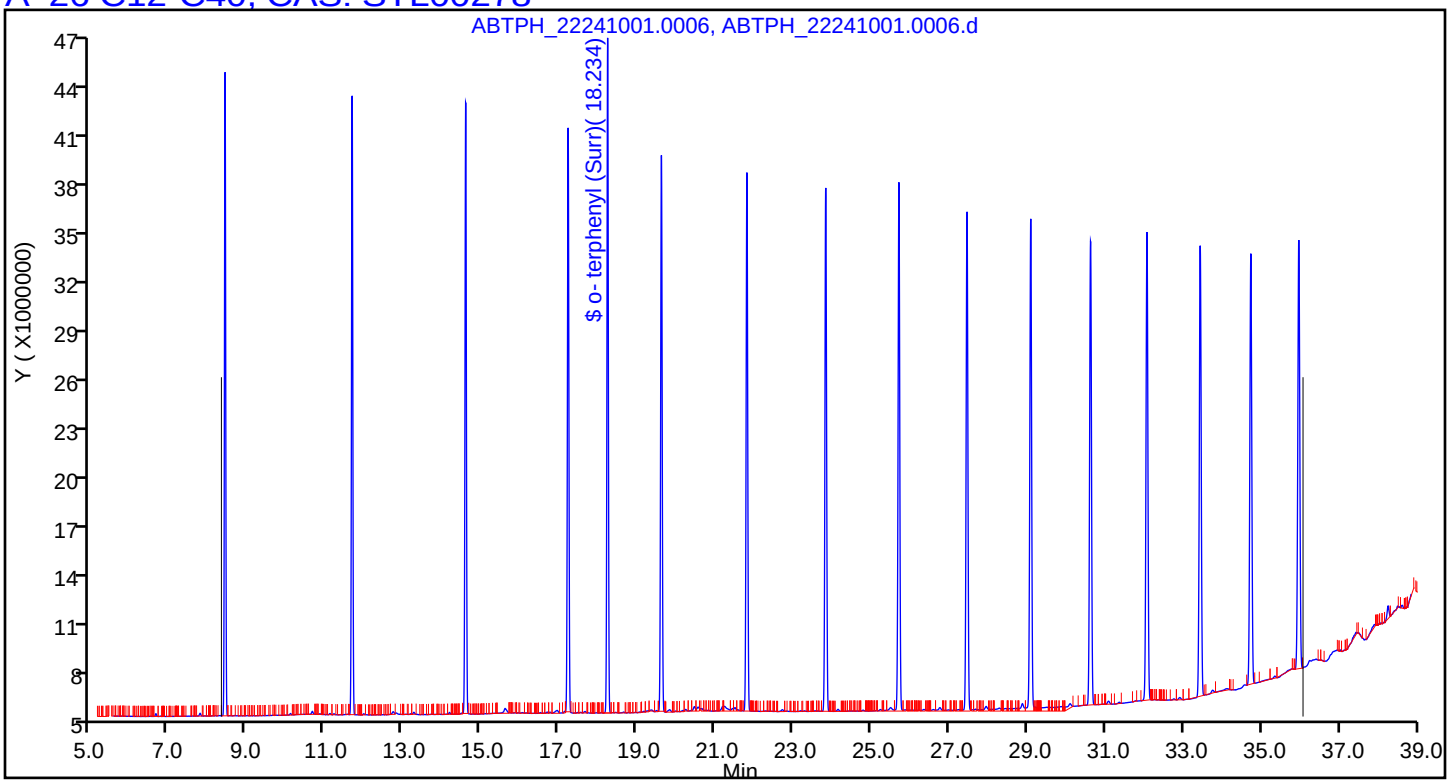


Report Date: 06-Sep-2022 14:40:27 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0006.d				
Injection Date:	29-Aug-2022 21:37:00	Instrument ID:	10254-A		
Lims ID:	IC TPH1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0007.d
Lims ID: IC TPH2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Aug-2022 22:26:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC TPH2
Misc. Info.: 410-0065078-007
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:40:29 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.631	1.640	-0.009	796435421	8.04	7.92	
$ 2 Chlorobenzene (Surr)						
2.173	2.182	-0.009	545285005	8.07	6.83	
3 n-Nonane						
3.007	3.016	-0.009	807134951	8.00	7.89	
4 n-Decane						
4.792	4.802	-0.010	831448298	8.03	7.91	
5 Dodecane						
8.413	8.424	-0.011	846231449	8.04	7.91	
7 n-Tetradecane						
11.674	11.685	-0.011	859428524	8.05	7.93	
8 Hexadecane						
14.587	14.598	-0.011	890571941	8.05	7.93	
12 n-Octadecane						
17.217	17.229	-0.012	900184740	7.99	7.91	
$ 13 o- terphenyl (Surr)						
18.230	18.243	-0.013	903113656	8.00	7.36	
A 22 C8-C40						
18.808	(1.540-36.076)		16321622686	144.5	146.5	
24 icosane						
19.609	19.621	-0.012	889075718	8.02	7.90	
25 n-Docosane						
21.806	21.815	-0.009	898245006	8.02	7.92	
A 26 C12-C40						
22.190	(8.324-36.076)		13752662913	120.5	119.1	
27 n-Tetracosane						
23.828	23.839	-0.011	906417258	8.02	7.92	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						
25.704	25.714	-0.010	919009200	8.08	7.98	
30 n-Octacosane						
27.451	27.462	-0.011	928104151	8.05	8.00	
31 Triacontane						
29.085	29.097	-0.012	927200423	8.00	7.94	
33 Dotriacontane						
30.621	30.631	-0.010	908468277	8.01	7.92	
34 Tetratriacontane						
32.067	32.078	-0.011	921961920	8.05	7.95	
35 n-Hexatriacontane						
33.436	33.446	-0.010	899875692	8.04	7.90	
36 C38						
34.730	34.743	-0.013	865273259	8.06	7.84	
37 C40						
35.964	35.976	-0.012	869262500	8.00	7.69	

Reagents:

EPH_TPH_2_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:40:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0007.d

Injection Date: 29-Aug-2022 22:26:00 Instrument ID: 10254-A Operator ID:

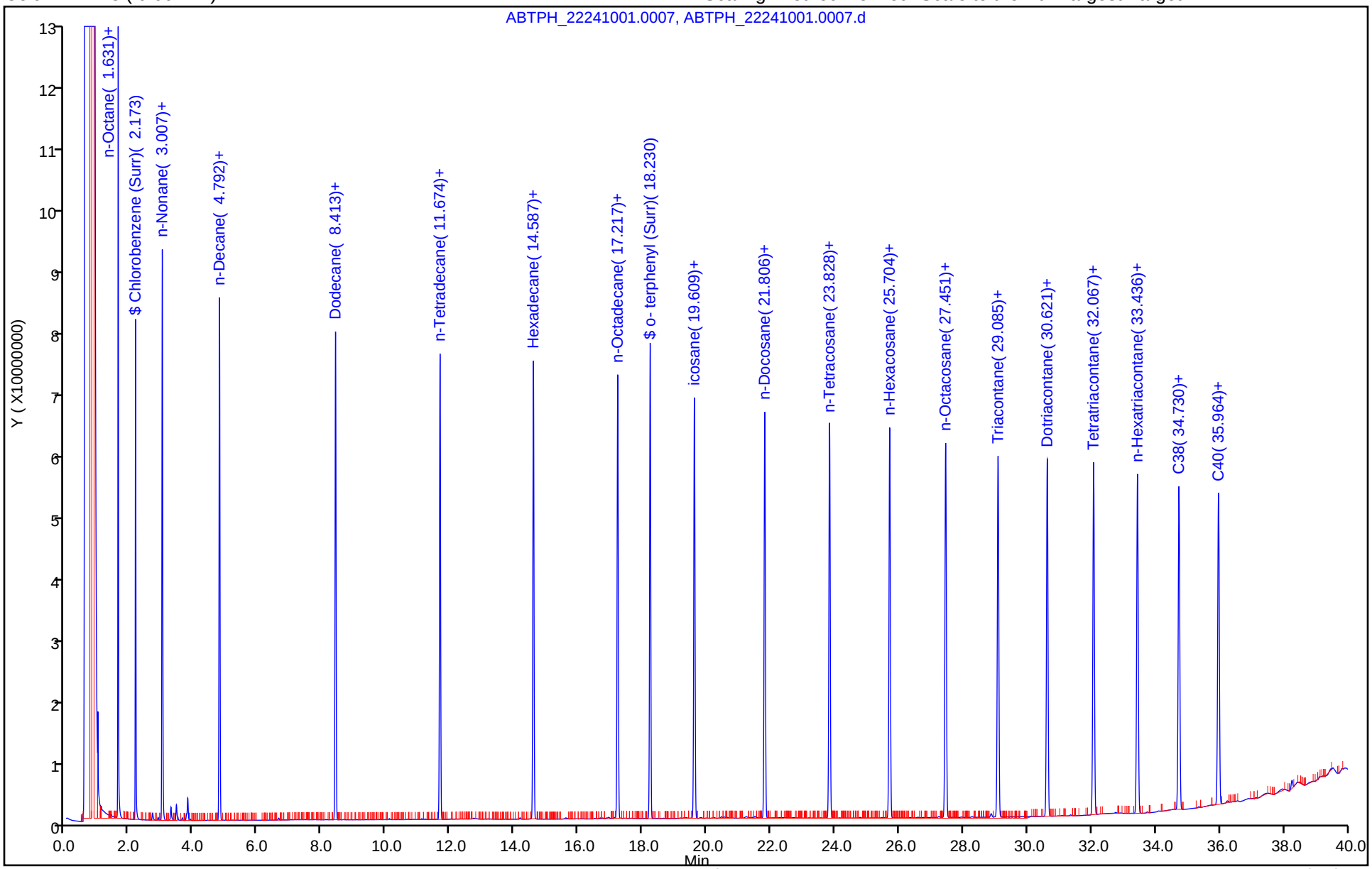
Lims ID: IC TPH2 Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Fuels_10254A Limit Group: GCSV - 8015C_D DRO

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

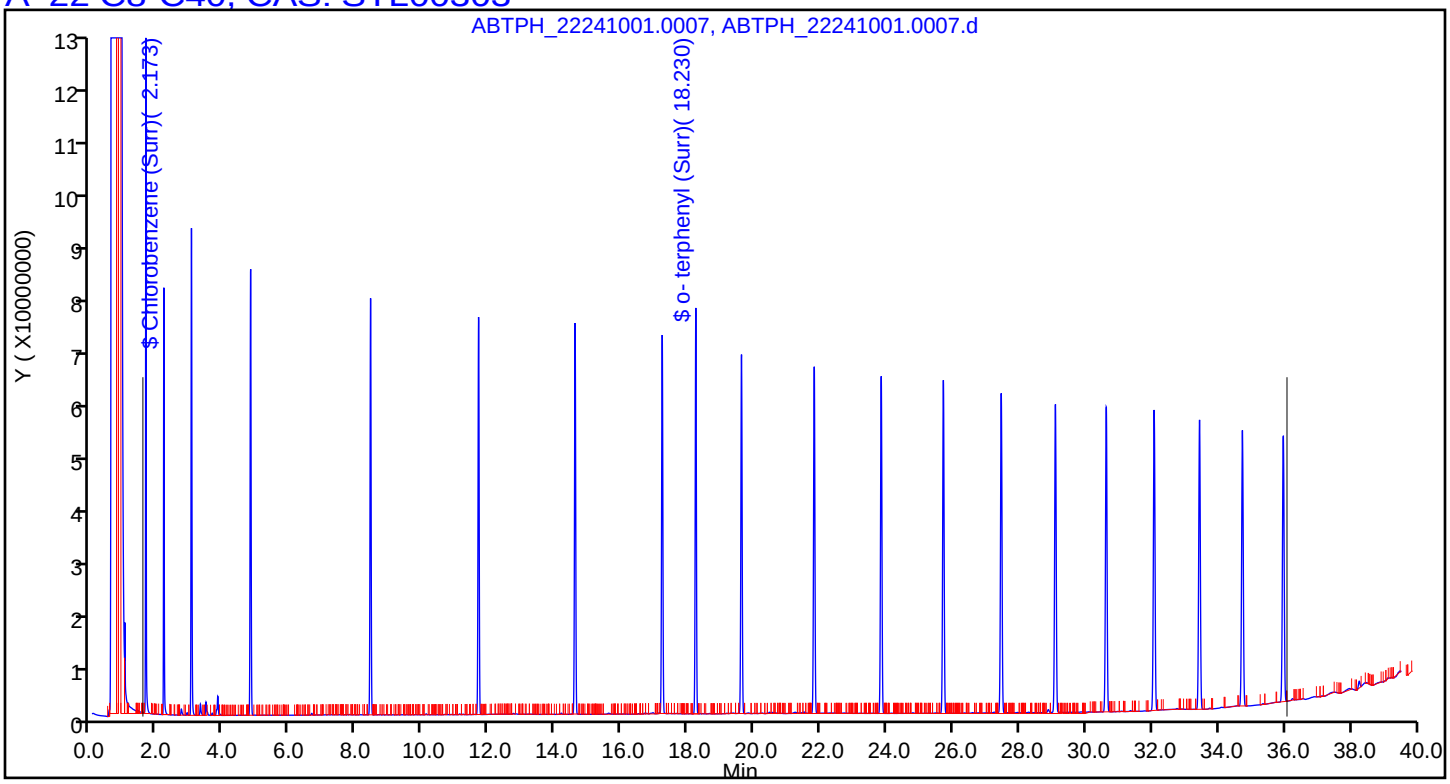


Report Date: 06-Sep-2022 14:40:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0007.d				
Injection Date:	29-Aug-2022 22:26:00	Instrument ID:	10254-A		
Lims ID:	IC TPH2				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303

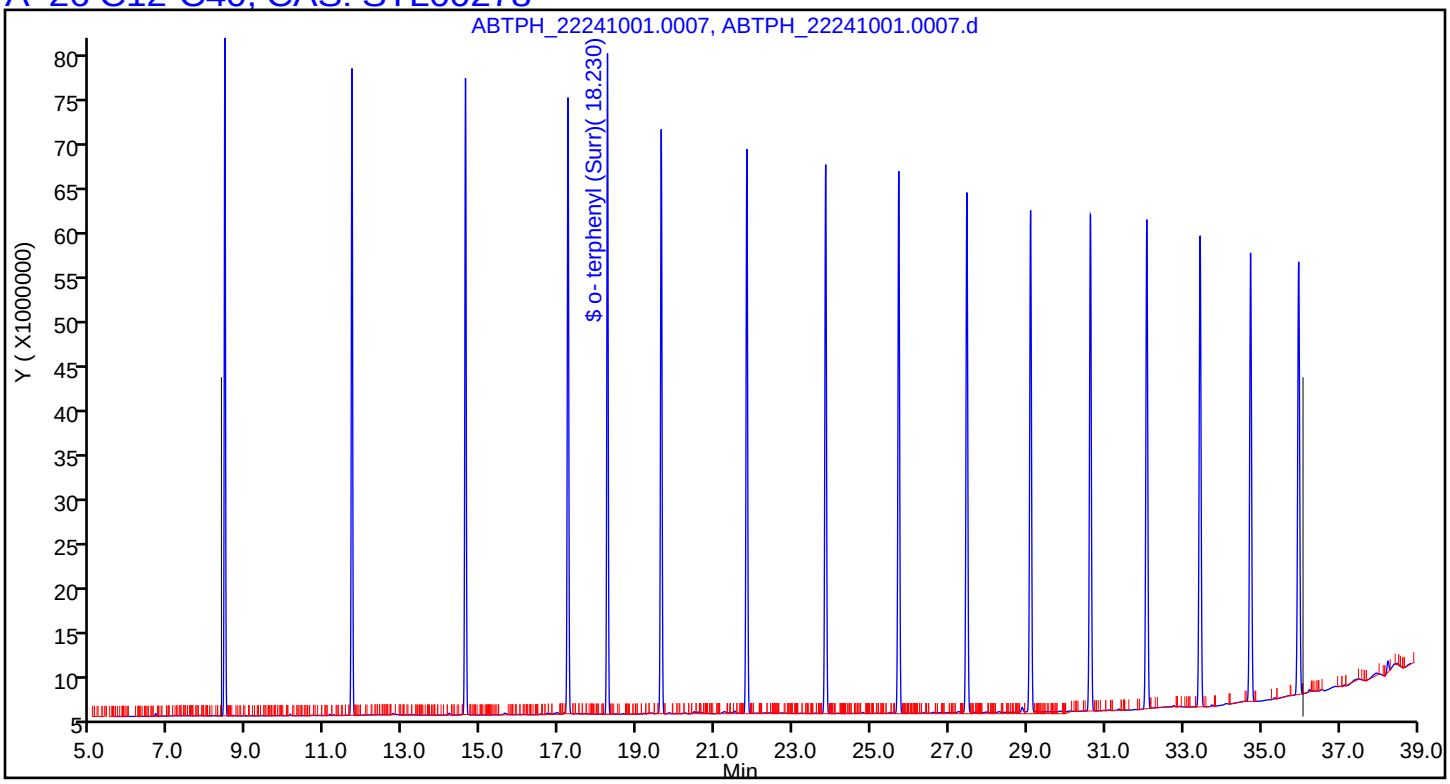


Report Date: 06-Sep-2022 14:40:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0007.d				
Injection Date:	29-Aug-2022 22:26:00	Instrument ID:	10254-A		
Lims ID:	IC TPH2				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0008.d
Lims ID: ICRT TPH3
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 29-Aug-2022 23:14:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICRT TPH3
Misc. Info.: 410-0065078-008
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:40:35 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

First Level Reviewer: UHEW Date: 30-Aug-2022 16:25:00

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.640	1.640	0.000	1563027243	16.1	15.5	
$ 2 Chlorobenzene (Surr)						
2.182	2.182	0.000	1312018032	16.1	16.4	
3 n-Nonane						
3.016	3.016	0.000	1585369886	16.0	15.5	
4 n-Decane						
4.802	4.802	0.000	1639754953	16.1	15.6	
5 Dodecane						
8.424	8.424	0.000	1679571419	16.1	15.7	
7 n-Tetradecane						
11.685	11.685	0.000	1699375261	16.1	15.7	
8 Hexadecane						
14.598	14.598	0.000	1764958711	16.1	15.7	
12 n-Octadecane						
17.229	17.229	0.000	1775213747	16.0	15.6	
$ 13 o- terphenyl (Surr)						
18.243	18.243	0.000	2016346812	16.0	16.4	
A 22 C8-C40						
18.808	(1.540-36.076)		32052441723	289.1	288.5	
24 icosane						
19.621	19.621	0.000	1765575929	16.0	15.7	
25 n-Docosane						
21.815	21.815	0.000	1778615238	16.0	15.7	
A 26 C12-C40						
22.200	(8.324-36.076)		27120823086	240.9	235.0	
27 n-Tetracosane						
23.839	23.839	0.000	1801337344	16.0	15.7	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						
25.714	25.714	0.000	1823112741	16.2	15.8	
30 n-Octacosane						
27.462	27.462	0.000	1828507746	16.1	15.8	
31 Triacontane						
29.097	29.097	0.000	1827941902	16.0	15.7	
33 Dotriacontane						
30.631	30.631	0.000	1803643843	16.0	15.7	
34 Tetratriacontane						
32.078	32.078	0.000	1830207529	16.1	15.8	
35 n-Hexatriacontane						
33.446	33.446	0.000	1811645533	16.1	15.9	
36 C38						
34.743	34.743	0.000	1758490204	16.1	15.9	
37 C40						
35.976	35.976	0.000	1792814406	16.0	15.9	

Reagents:

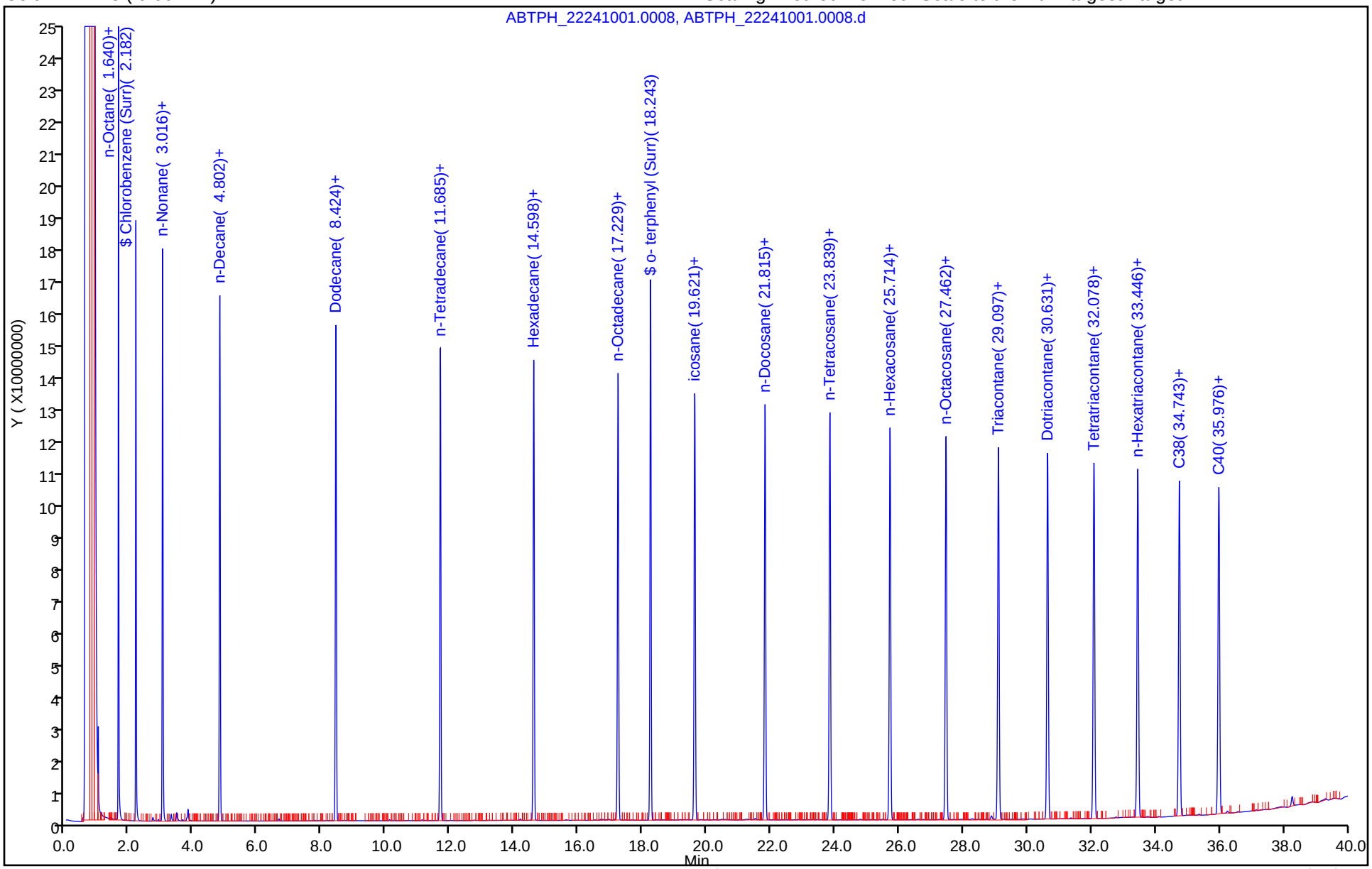
EPH_TPH_3_00009 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:40:39 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0008.d				
Injection Date:	29-Aug-2022 23:14:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	ICRT TPH3			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

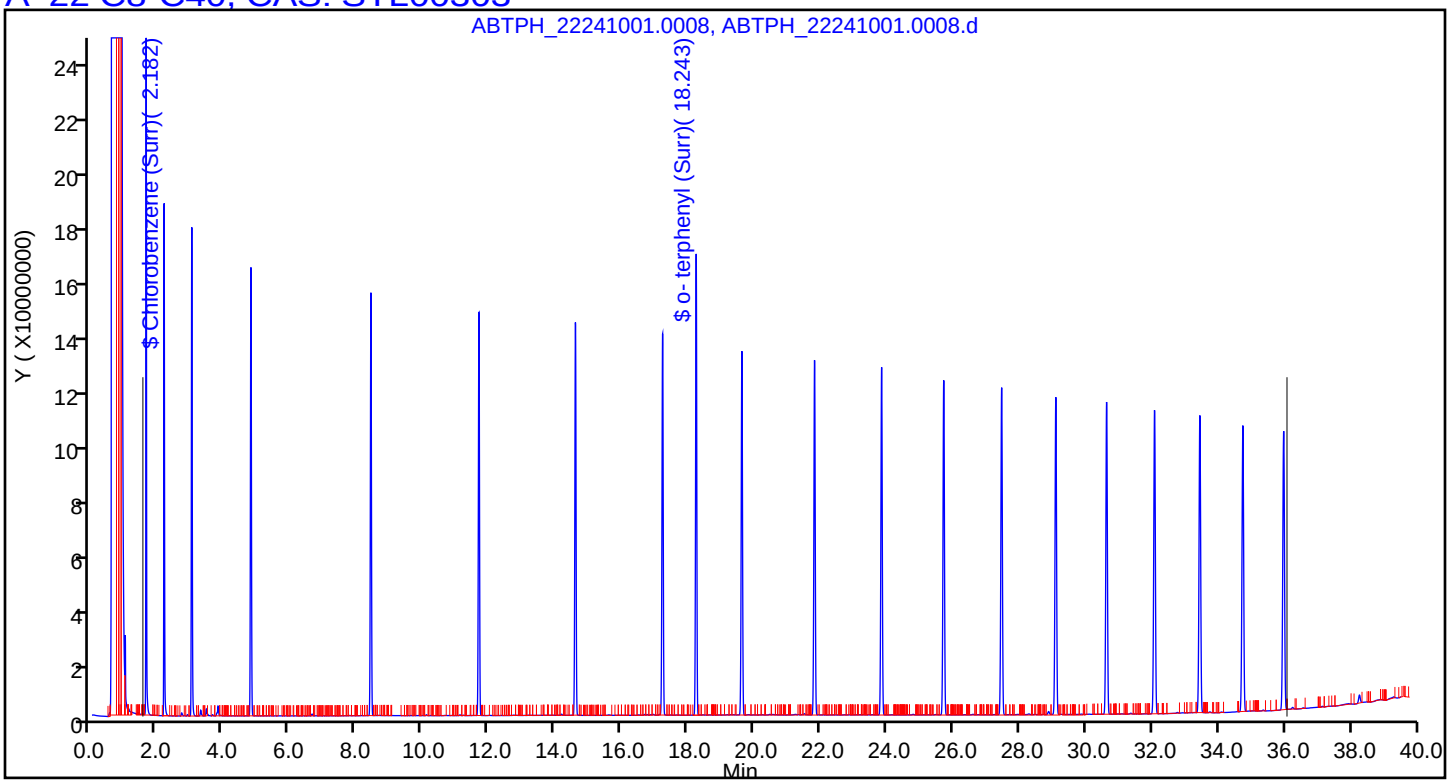


Report Date: 06-Sep-2022 14:40:39 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0008.d				
Injection Date:	29-Aug-2022 23:14:00	Instrument ID:	10254-A		
Lims ID:	ICRT TPH3				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303

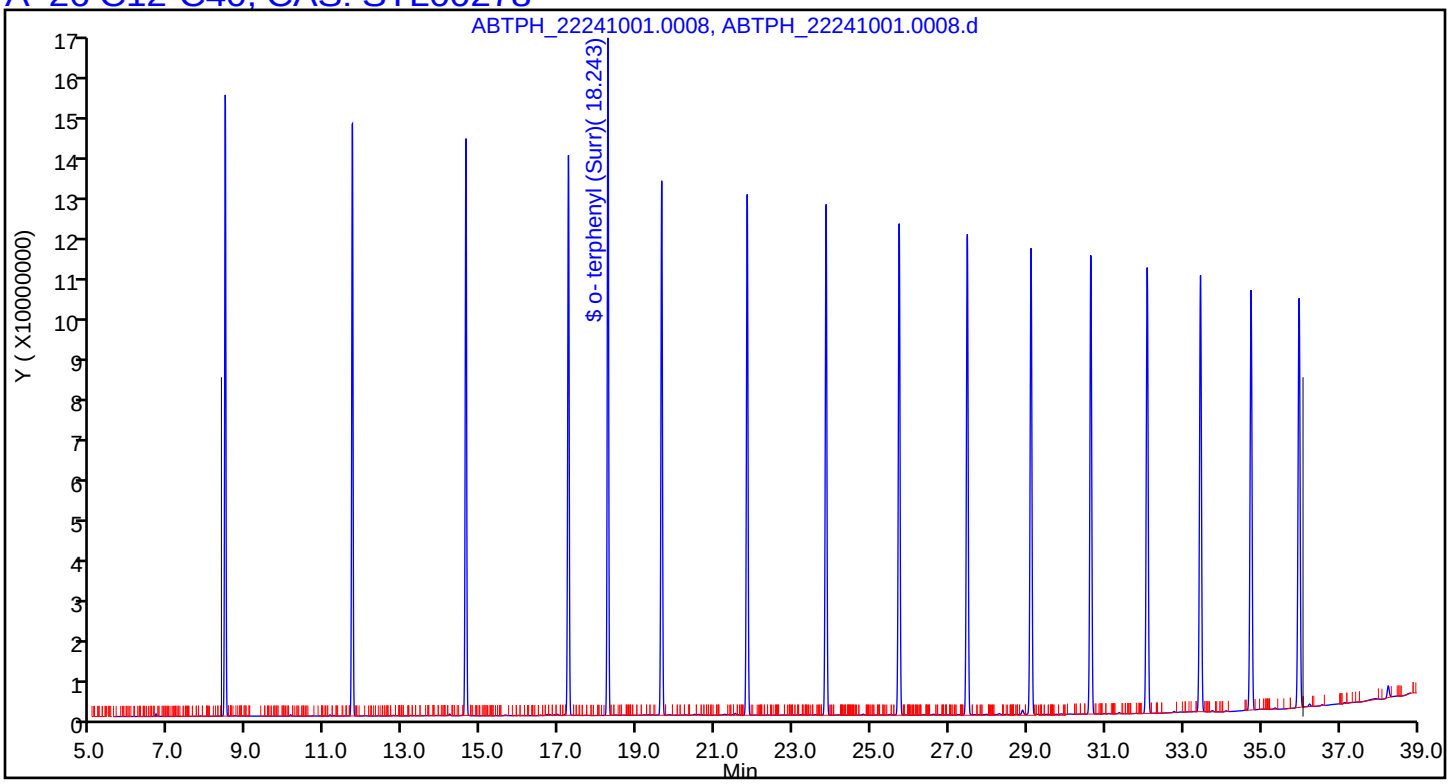


Report Date: 06-Sep-2022 14:40:39 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0008.d				
Injection Date:	29-Aug-2022 23:14:00	Instrument ID:	10254-A		
Lims ID:	ICRT TPH3				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0009.d
Lims ID: IC TPH4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Aug-2022 00:03:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC TPH4
Misc. Info.: 410-0065078-009
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:40:41 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.640	1.640	0.000	3279645752	32.2	32.6	
$ 2 Chlorobenzene (Surr)						
2.181	2.182	-0.001	2668313755	32.3	33.4	
3 n-Nonane						
3.017	3.016	0.001	3302825718	32.0	32.3	
4 n-Decane						
4.804	4.802	0.002	3425955172	32.1	32.6	
5 Dodecane						
8.427	8.424	0.003	3468122874	32.2	32.4	
7 n-Tetradecane						
11.689	11.685	0.004	3518435218	32.2	32.5	
8 Hexadecane						
14.603	14.598	0.005	3646944401	32.2	32.5	
12 n-Octadecane						
17.233	17.229	0.004	3660860513	32.0	32.2	
$ 13 o- terphenyl (Surr)						
18.248	18.243	0.005	3973119152	32.0	32.4	
A 22 C8-C40						
18.808	(1.540-36.076)		65498723679	578.2	590.3	
24 icosane						
19.627	19.621	0.006	3636225551	32.1	32.3	
25 n-Docosane						
21.820	21.815	0.005	3649190285	32.1	32.2	
A 26 C12-C40						
22.200	(8.324-36.076)		55319177262	481.9	479.3	
27 n-Tetracosane						
23.844	23.839	0.005	3680066601	32.1	32.2	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						
25.720	25.714	0.006	3728795526	32.3	32.4	
30 n-Octacosane						
27.467	27.462	0.005	3730695500	32.2	32.2	
31 Triacontane						
29.103	29.097	0.006	3719991871	32.0	31.8	
33 Dotriacontane						
30.636	30.631	0.005	3684356747	32.0	32.1	
34 Tetratriacontane						
32.084	32.078	0.006	3734346921	32.2	32.2	
35 n-Hexatriacontane						
33.454	33.446	0.008	3678690593	32.2	32.3	
36 C38						
34.749	34.743	0.006	3588512077	32.2	32.5	
37 C40						
35.982	35.976	0.006	3645494345	32.0	32.3	

Reagents:

EPH_TPH_4_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:40:45 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0009.d

Injection Date: 30-Aug-2022 00:03:00 Instrument ID: 10254-A Operator ID:

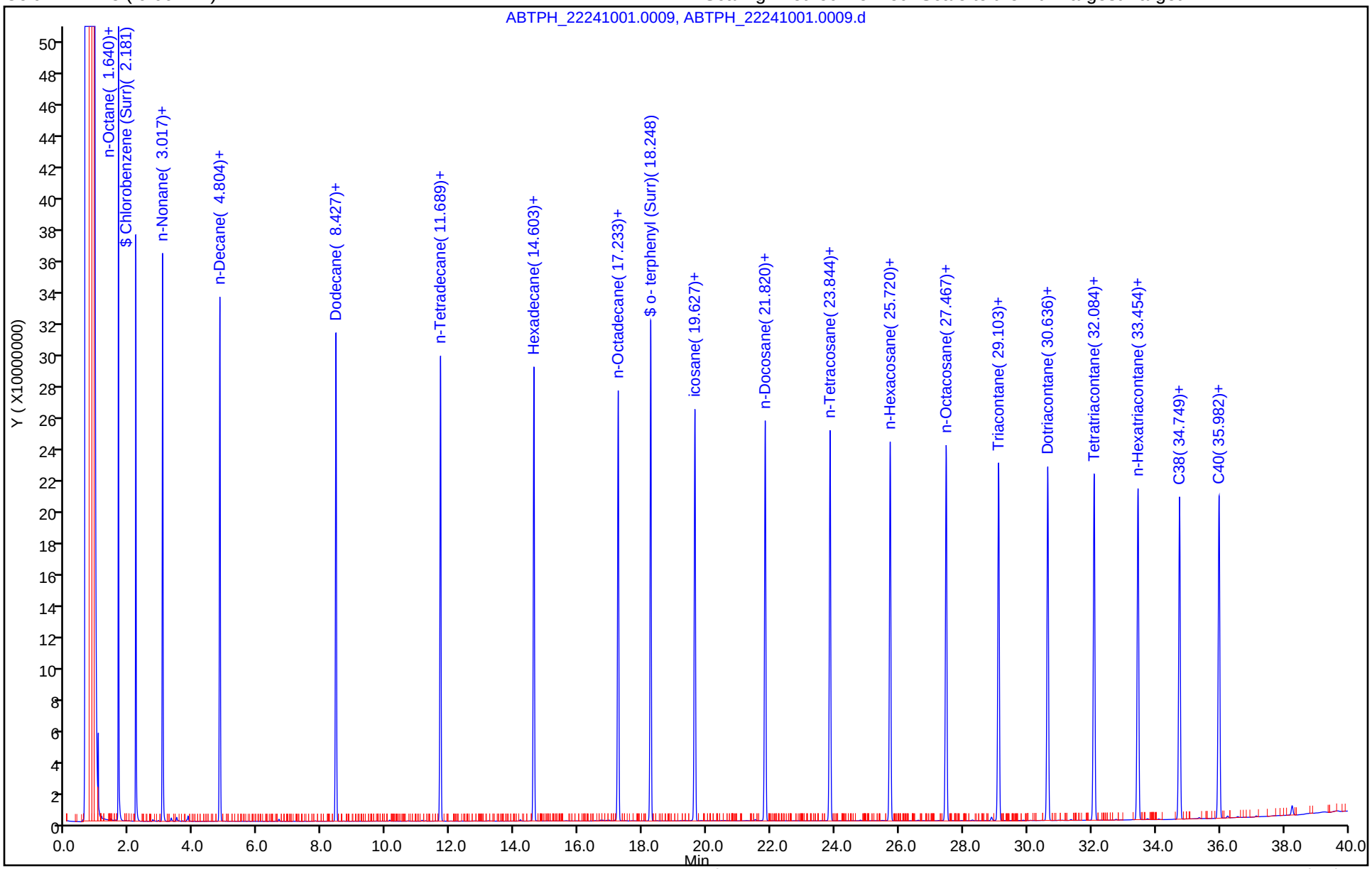
Lims ID: IC TPH4 Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Fuels_10254A Limit Group: GCSV - 8015C_D DRO

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

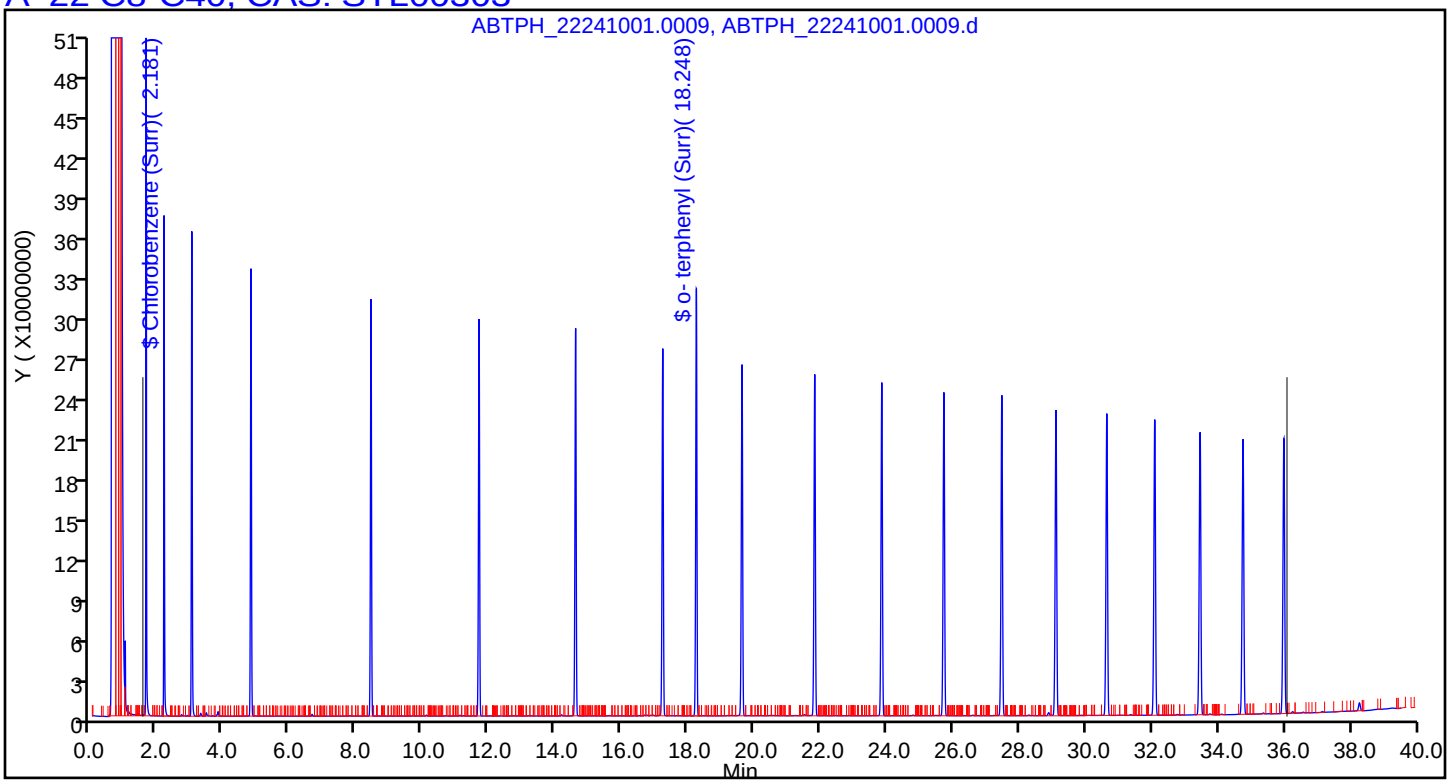


Report Date: 06-Sep-2022 14:40:45 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0009.d				
Injection Date:	30-Aug-2022 00:03:00	Instrument ID:	10254-A		
Lims ID:	IC TPH4				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303

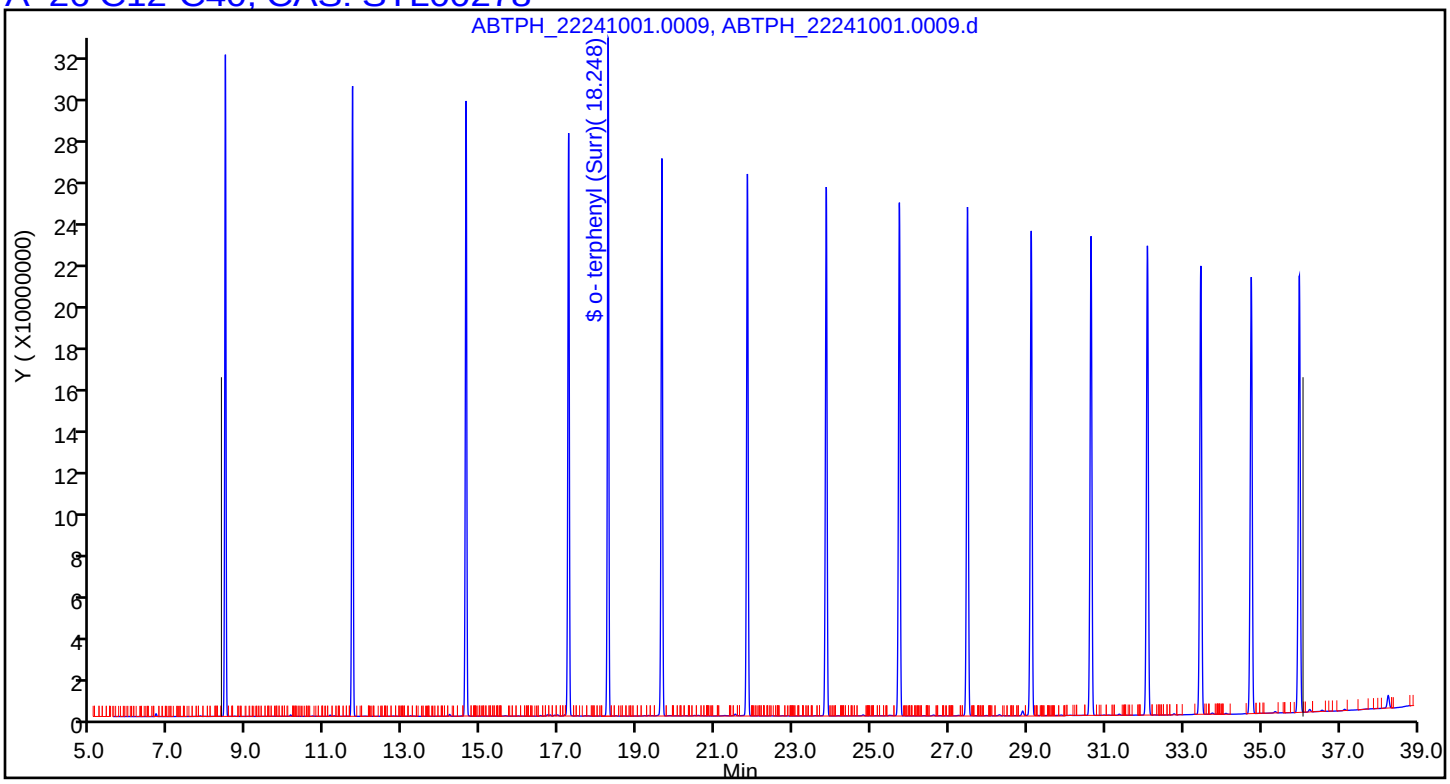


Report Date: 06-Sep-2022 14:40:45 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0009.d				
Injection Date:	30-Aug-2022 00:03:00	Instrument ID:	10254-A		
Lims ID:	IC TPH4				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0010.d
Lims ID: IC TPH5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Aug-2022 00:51:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC TPH5
Misc. Info.: 410-0065078-010
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:40:47 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

First Level Reviewer: UHEW Date: 30-Aug-2022 16:25:52

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 n-Octane						
	1.632	1.640	-0.008	4196092004	40.2	41.7	
$	2 Chlorobenzene (Surr)						
	2.173	2.182	-0.009	3425242175	40.4	42.9	
	3 n-Nonane						
	3.010	3.016	-0.006	4206363996	40.0	41.1	
	4 n-Decane						
	4.798	4.802	-0.004	4330687043	40.2	41.2	
	5 Dodecane						
	8.423	8.424	-0.001	4399297382	40.2	41.1	
	7 n-Tetradecane						
	11.684	11.685	-0.001	4468654698	40.2	41.2	
	8 Hexadecane						
	14.598	14.598	0.000	4618404883	40.3	41.1	
	12 n-Octadecane						
	17.230	17.229	0.001	4660971544	40.0	41.0	
$	13 o- terphenyl (Surr)						
	18.245	18.243	0.002	5012044890	40.0	40.9	
A	22 C8-C40						
	18.808	(1.540-36.076)		83151656755	722.7	749.4	
	24 icosane						
	19.622	19.621	0.001	4599402729	40.1	40.9	
	25 n-Docosane						
	21.818	21.815	0.003	4657035859	40.1	41.1	
A	26 C12-C40						
	22.200	(8.324-36.076)		70237195752	602.4	608.5	
	27 n-Tetracosane						
	23.842	23.839	0.003	4671025607	40.1	40.8	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						
25.719	25.714	0.005	4723260511	40.4	41.0	
30 n-Octacosane						
27.467	27.462	0.005	4743043404	40.2	40.9	
31 Triacontane						
29.100	29.097	0.003	4715856771	40.0	40.4	
33 Dotriacontane						
30.634	30.631	0.003	4673746232	40.0	40.7	
34 Tetratriacontane						
32.083	32.078	0.005	4758553012	40.2	41.0	
35 n-Hexatriacontane						
33.451	33.446	0.005	4679657415	40.2	41.1	
36 C38						
34.747	34.743	0.004	4549822169	40.3	41.2	
37 C40						
35.979	35.976	0.003	4639286089	40.0	41.0	

Reagents:

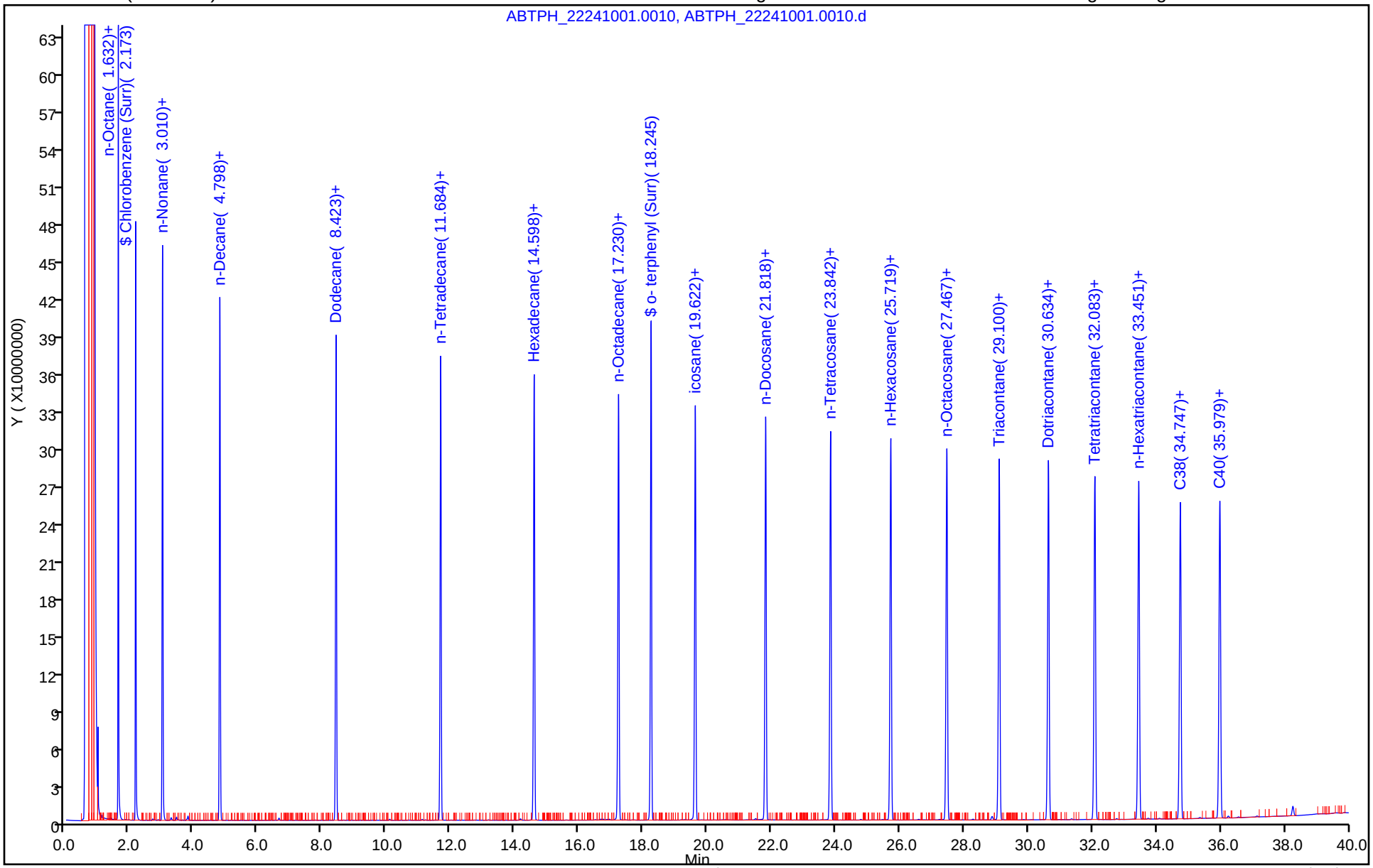
EPH_TPH_5_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:40:51 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0010.d				
Injection Date:	30-Aug-2022 00:51:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC TPH5			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

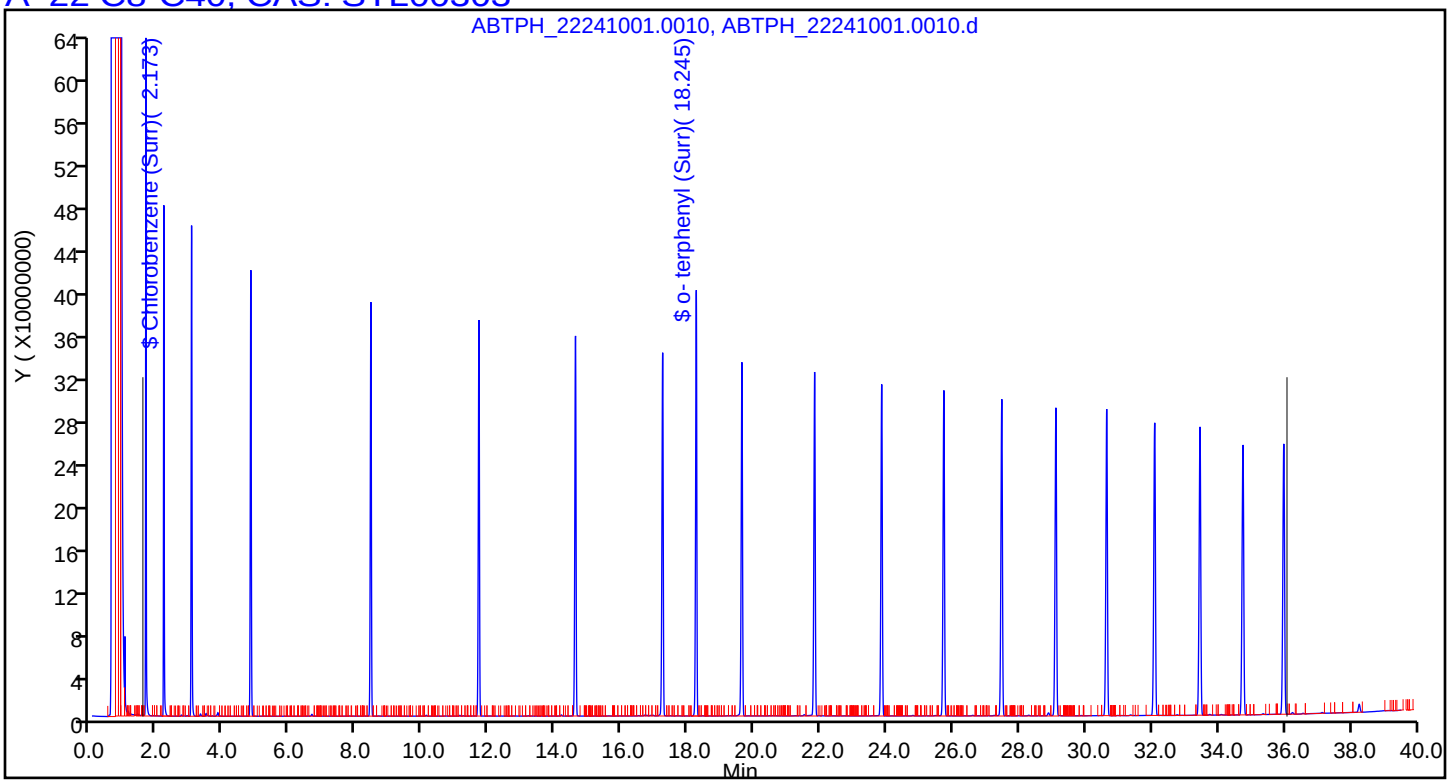


Report Date: 06-Sep-2022 14:40:51 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0010.d				
Injection Date:	30-Aug-2022 00:51:00	Instrument ID:	10254-A		
Lims ID:	IC TPH5				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303

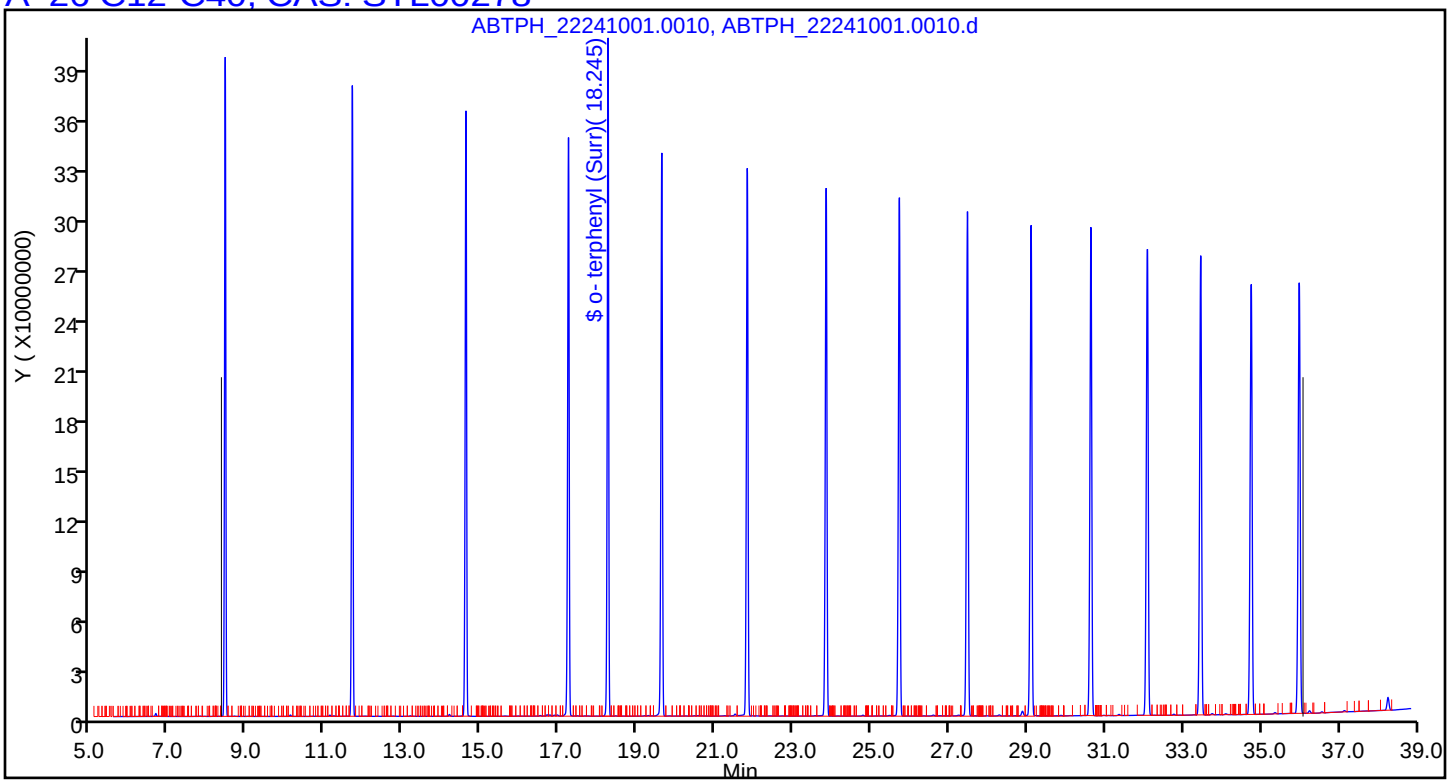


Report Date: 06-Sep-2022 14:40:51 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0010.d				
Injection Date:	30-Aug-2022 00:51:00	Instrument ID:	10254-A		
Lims ID:	IC TPH5				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Calibration / n-Octane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

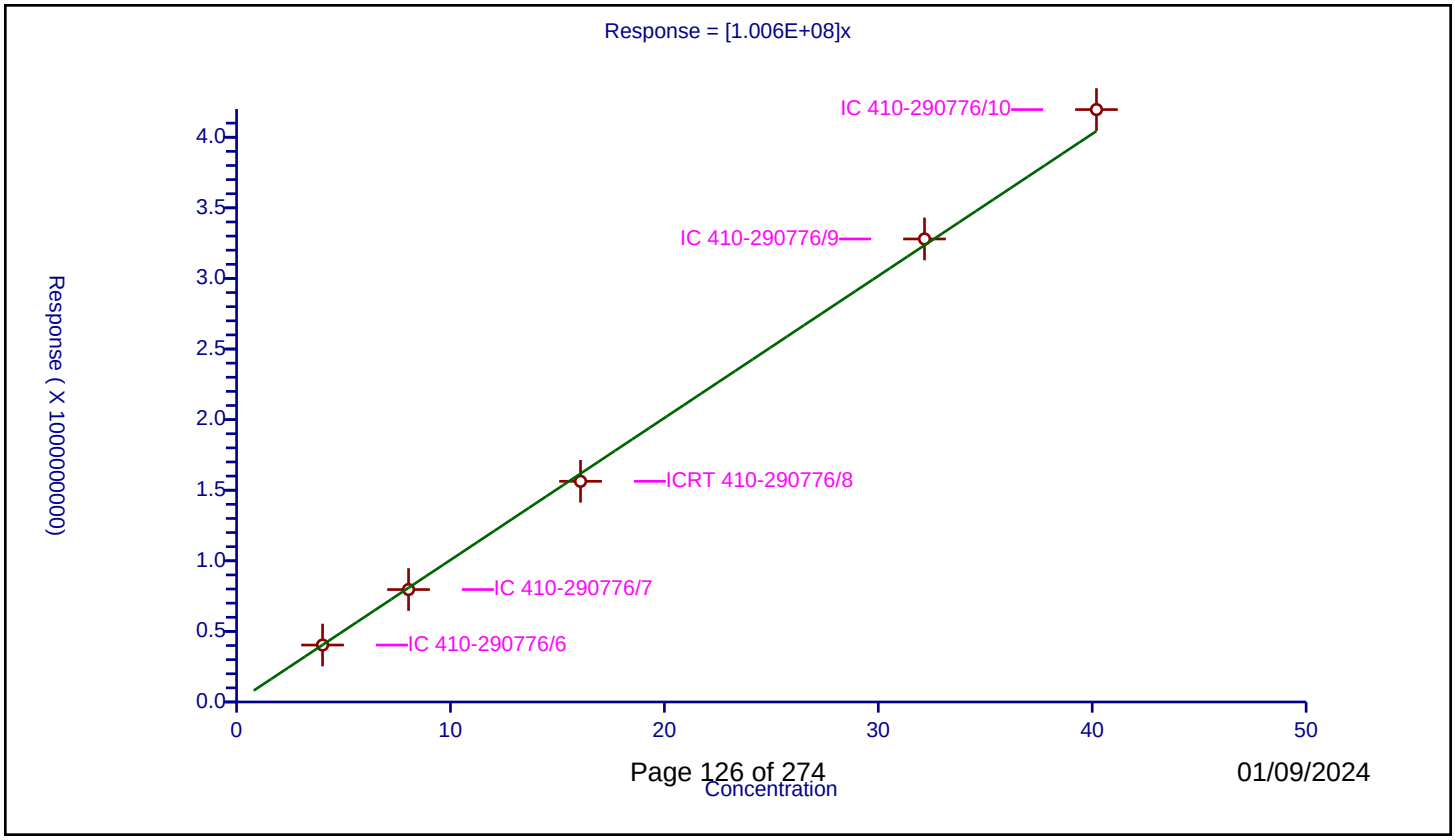
Curve Coefficients

Intercept:	0
Slope:	1.006E+08

Error Coefficients

Standard Error:	84100000
Relative Standard Error:	2.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.02	403348545.0			100335458.955224	Y
2	IC 410-290776/7	8.04	796435421.0			99059131.965174	Y
3	ICRT 410-290776/8	16.08	1563027243.0			97203186.753731	Y
4	IC 410-290776/9	32.16	3279645752.0			101979034.577114	Y
5	IC 410-290776/10	40.2	4196092004.0			104380398.109453	Y



Calibration / Chlorobenzene (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

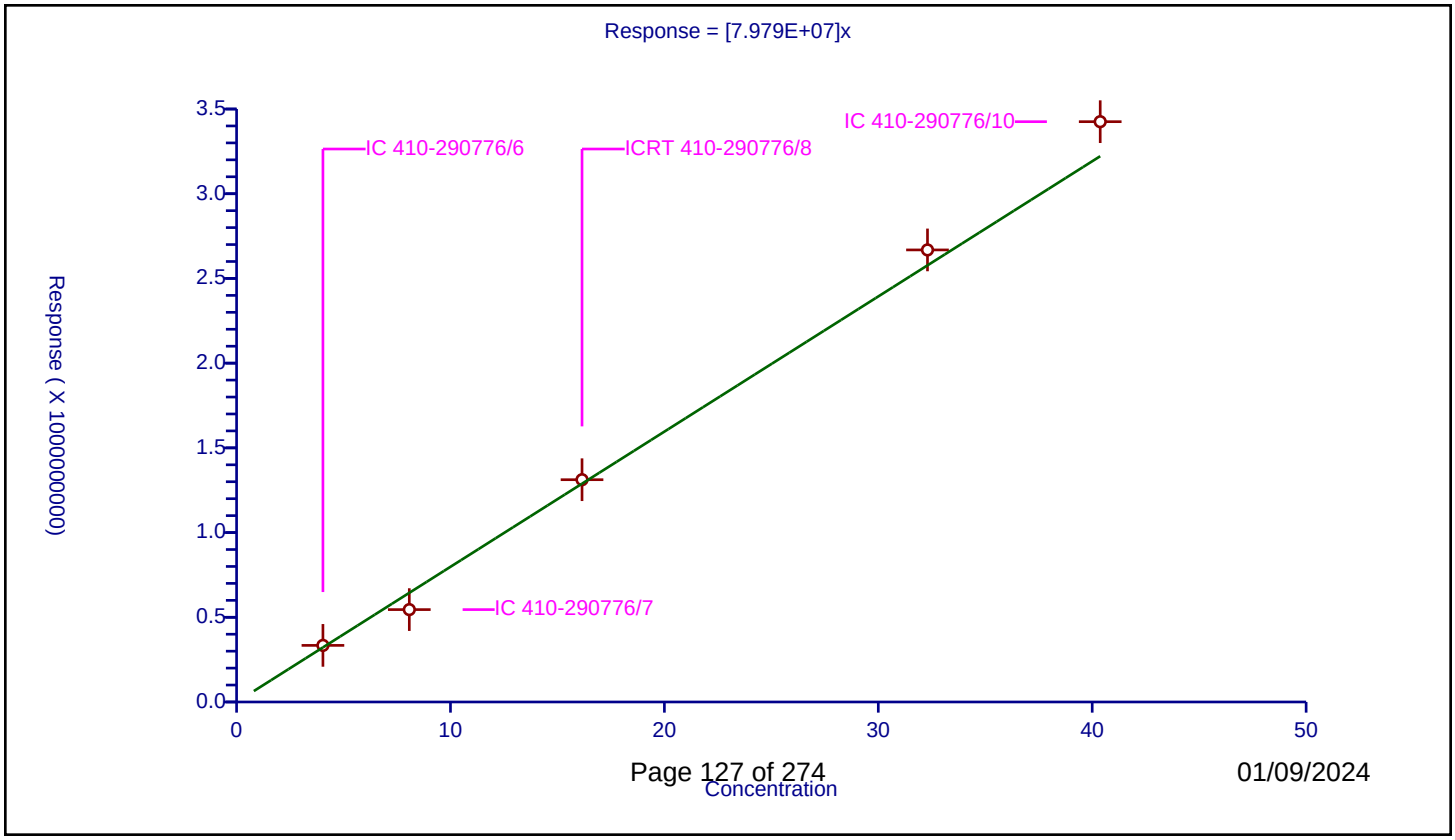
Curve Coefficients

Intercept:	0
Slope:	7.979E+07

Error Coefficients

Standard Error:	123000000
Relative Standard Error:	8.7
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.0374	334021739.0			82731891.563878	Y
2	IC 410-290776/7	8.0748	545285005.0			67529227.349284	Y
3	ICRT 410-290776/8	16.1496	1312018032.0			81241518.799227	Y
4	IC 410-290776/9	32.2992	2668313755.0			82612379.099173	Y
5	IC 410-290776/10	40.374	3425242175.0			84837820.750978	Y



Calibration / n-Nonane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

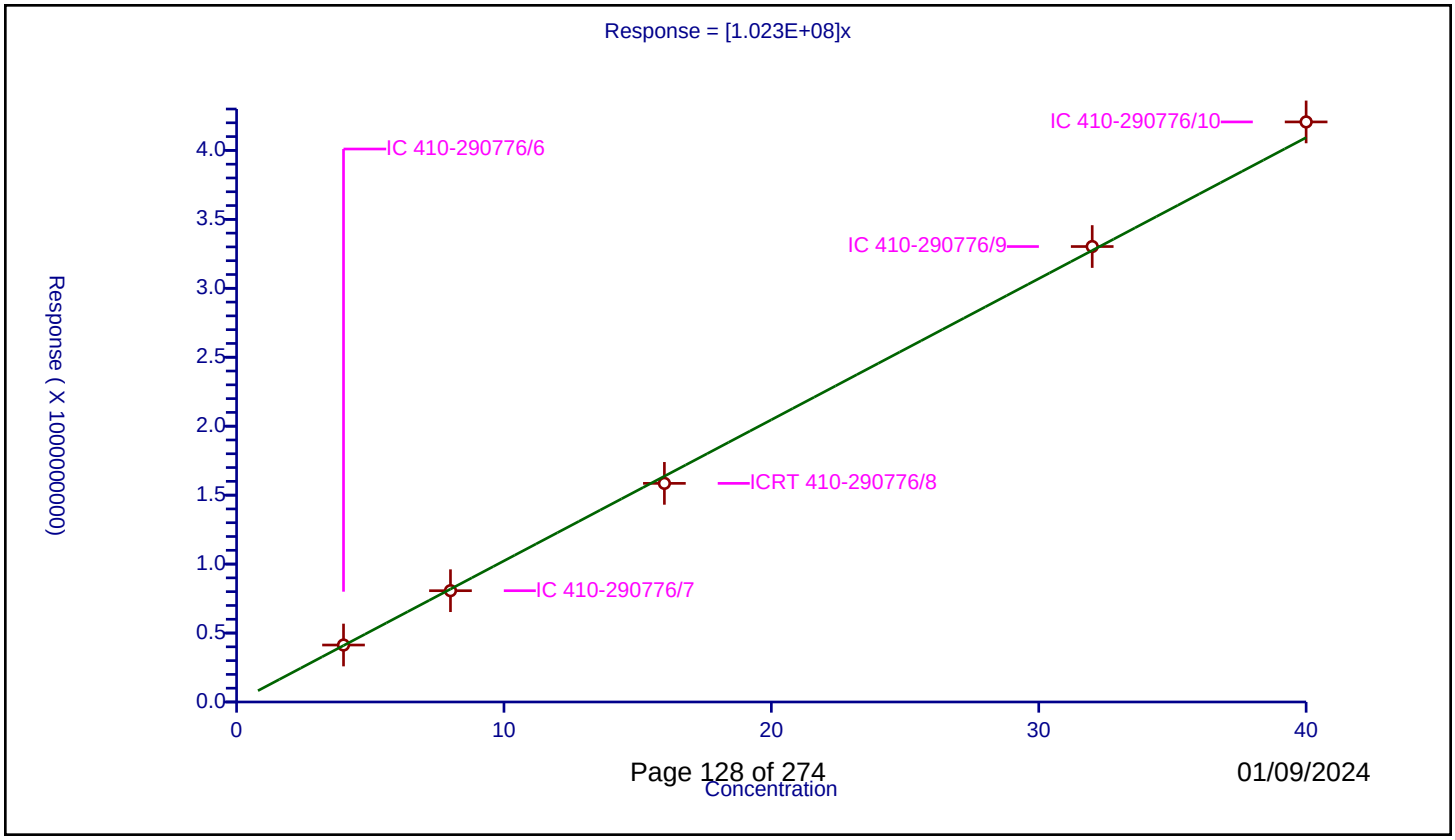
Curve Coefficients

Intercept:	0
Slope:	1.023E+08

Error Coefficients

Standard Error:	64200000
Relative Standard Error:	2.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.0	413056588.0			103264147.0	Y
2	IC 410-290776/7	8.0	807134951.0			100891868.875	Y
3	ICRT 410-290776/8	16.0	1585369886.0			99085617.875	Y
4	IC 410-290776/9	32.0	3302825718.0			103213303.6875	Y
5	IC 410-290776/10	40.0	4206363996.0			105159099.9	Y



Calibration / n-Decane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

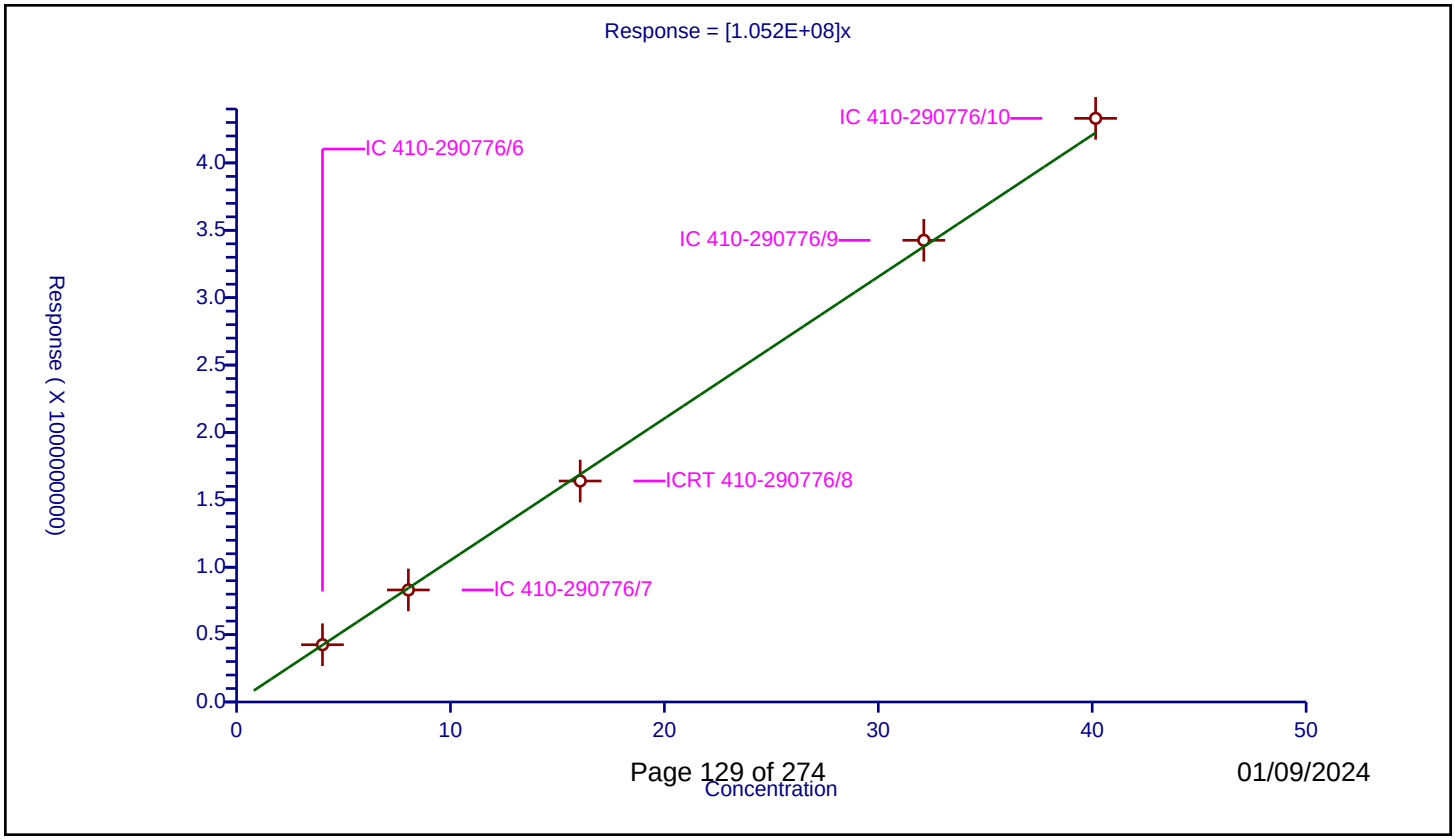
Curve Coefficients

Intercept:	0
Slope:	1.052E+08

Error Coefficients

Standard Error:	63800000
Relative Standard Error:	2.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.016	424932471.0			105809878.237052	Y
2	IC 410-290776/7	8.032	831448298.0			103516969.37251	Y
3	ICRT 410-290776/8	16.064	1639754953.0			102076379.046315	Y
4	IC 410-290776/9	32.128	3425955172.0			106634560.881474	Y
5	IC 410-290776/10	40.16	4330687043.0			107835832.744024	Y



Calibration / Dodecane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

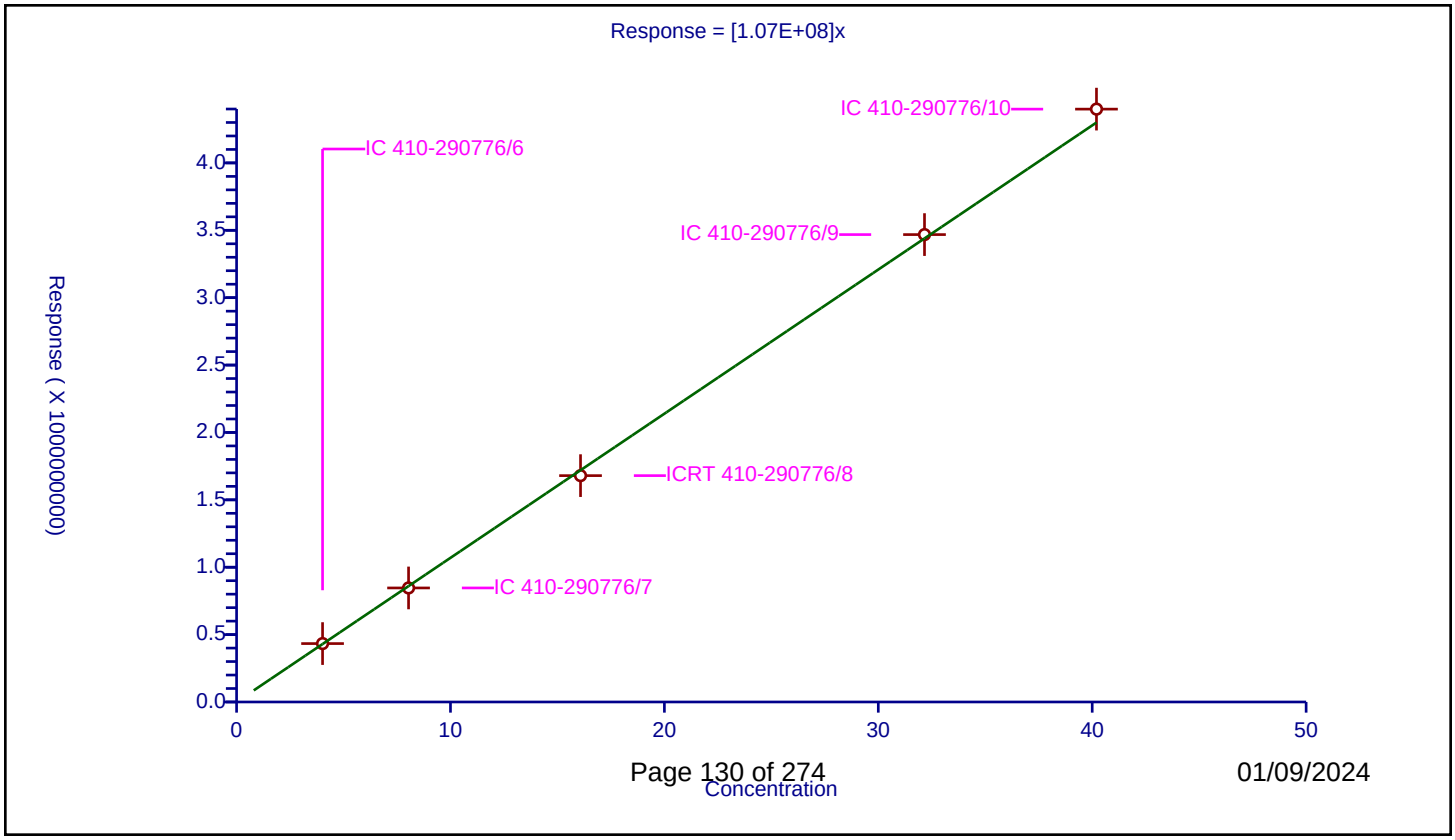
Curve Coefficients

Intercept:	0
Slope:	1.07E+08

Error Coefficients

Standard Error:	56000000
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.02	433360262.0			107801060.199005	Y
2	IC 410-290776/7	8.04	846231449.0			105252667.78607	Y
3	ICRT 410-290776/8	16.08	1679571419.0			104450958.893035	Y
4	IC 410-290776/9	32.16	3468122874.0			107839641.604478	Y
5	IC 410-290776/10	40.2	4399297382.0			109435258.258706	Y



Calibration / n-Tetradecane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

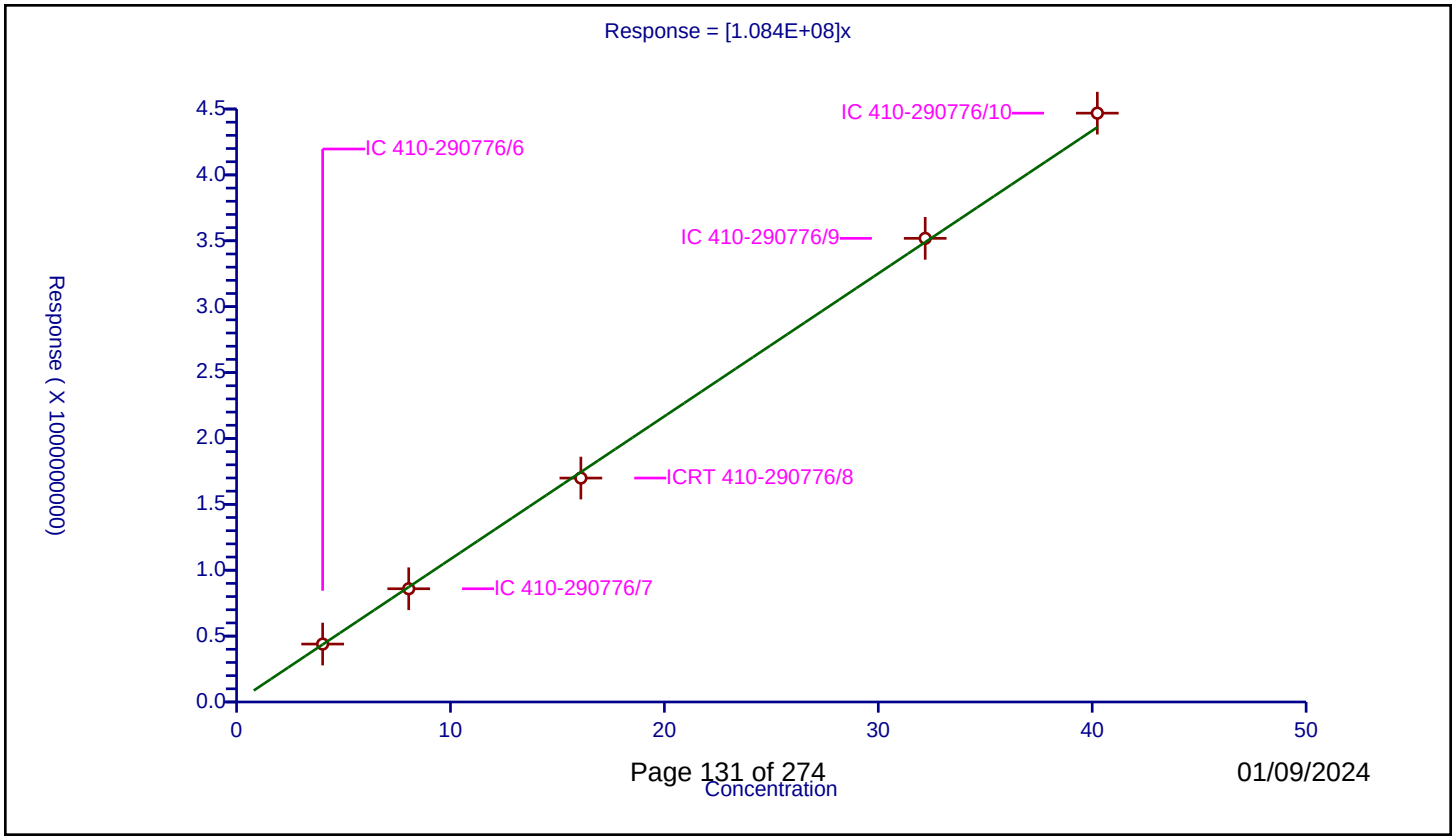
Curve Coefficients

Intercept:	0
Slope:	1.084E+08

Error Coefficients

Standard Error:	60200000
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.024	439689463.0			109266765.159046	Y
2	IC 410-290776/7	8.048	859428524.0			106787838.469185	Y
3	ICRT 410-290776/8	16.096	1699375261.0			105577488.879225	Y
4	IC 410-290776/9	32.192	3518435218.0			109295328.590954	Y
5	IC 410-290776/10	40.24	4468654698.0			111050067.047714	Y



01/09/2024

Calibration / Hexadecane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

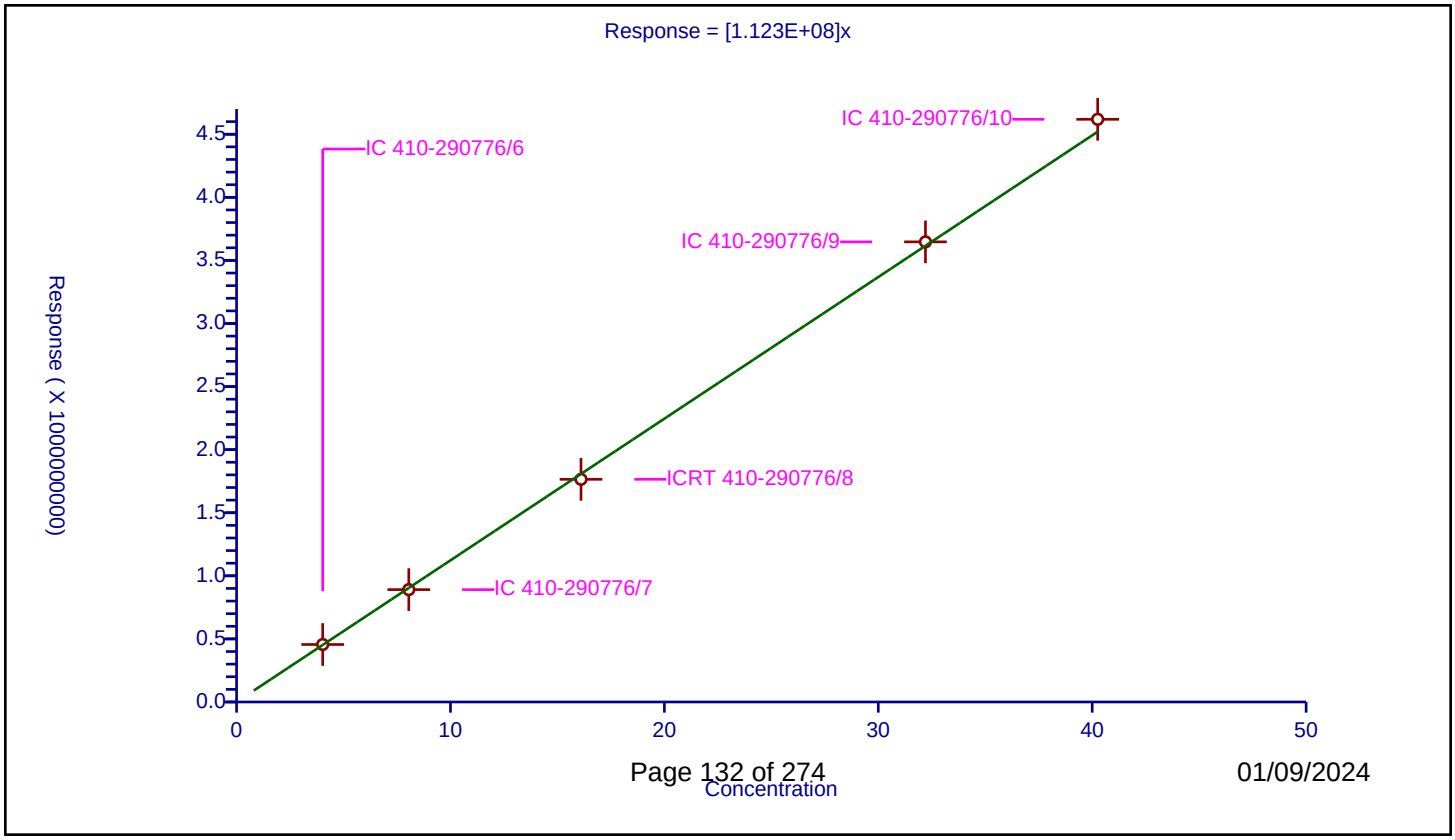
Curve Coefficients

Intercept:	0
Slope:	1.123E+08

Error Coefficients

Standard Error:	56400000
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.0256	455644155.0			113186644.226948	Y
2	IC 410-290776/7	8.0512	890571941.0			110613565.803855	Y
3	ICRT 410-290776/8	16.1024	1764958711.0			109608425.514209	Y
4	IC 410-290776/9	32.2048	3646944401.0			113242262.054104	Y
5	IC 410-290776/10	40.256	4618404883.0			114725876.46562	Y



Calibration / n-Octadecane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

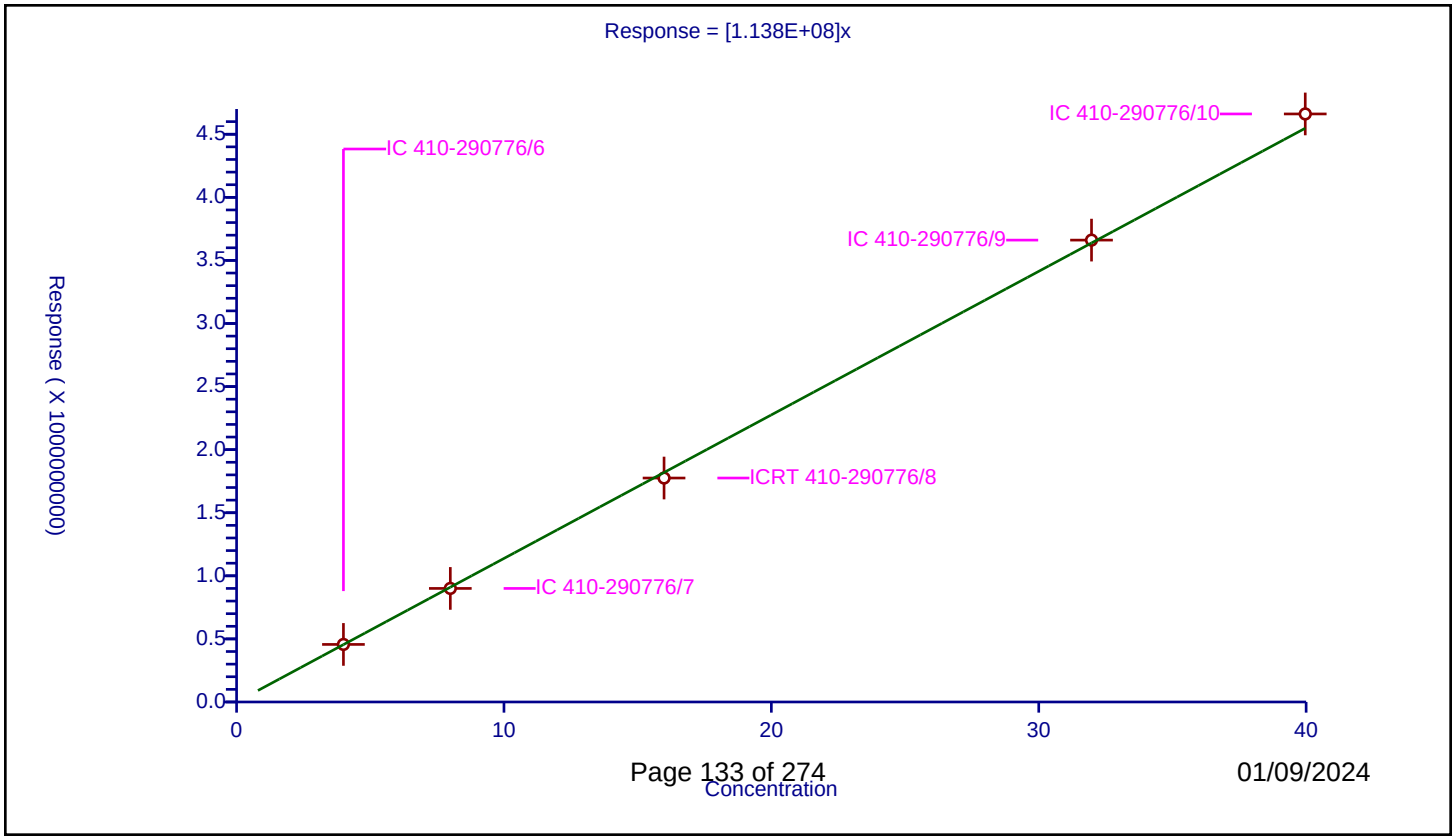
Curve Coefficients

Intercept:	0
Slope:	1.138E+08

Error Coefficients

Standard Error:	62000000
Relative Standard Error:	1.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	3.9968	456187632.0			114138218.57486	Y
2	IC 410-290776/7	7.9936	900184740.0			112613183.046437	Y
3	ICRT 410-290776/8	15.9872	1775213747.0			111039690.940252	Y
4	IC 410-290776/9	31.9744	3660860513.0			114493485.819906	Y
5	IC 410-290776/10	39.968	4660971544.0			116617582.666133	Y



Calibration / o- terphenyl (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

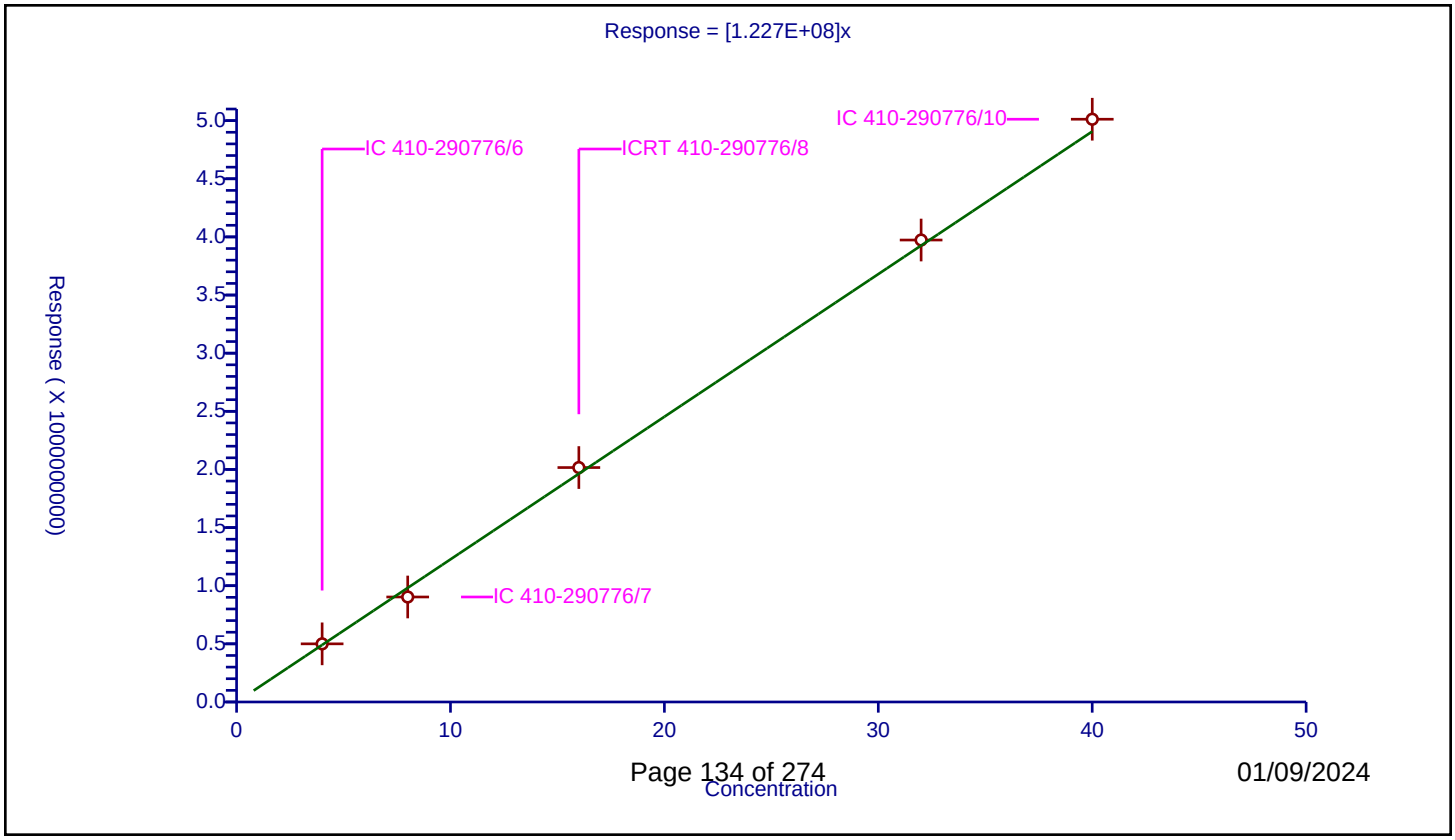
Curve Coefficients

Intercept:	0
Slope:	1.227E+08

Error Coefficients

Standard Error:	74800000
Relative Standard Error:	4.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.00024	500021219.0			124997804.881707	Y
2	IC 410-290776/7	8.00048	903113656.0			112882434.053957	Y
3	ICRT 410-290776/8	16.00096	2016346812.0			126014114.903106	Y
4	IC 410-290776/9	32.00192	3973119152.0			124152524.348539	Y
5	IC 410-290776/10	40.0024	5012044890.0			125293604.633722	Y



Calibration / C8-C40

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

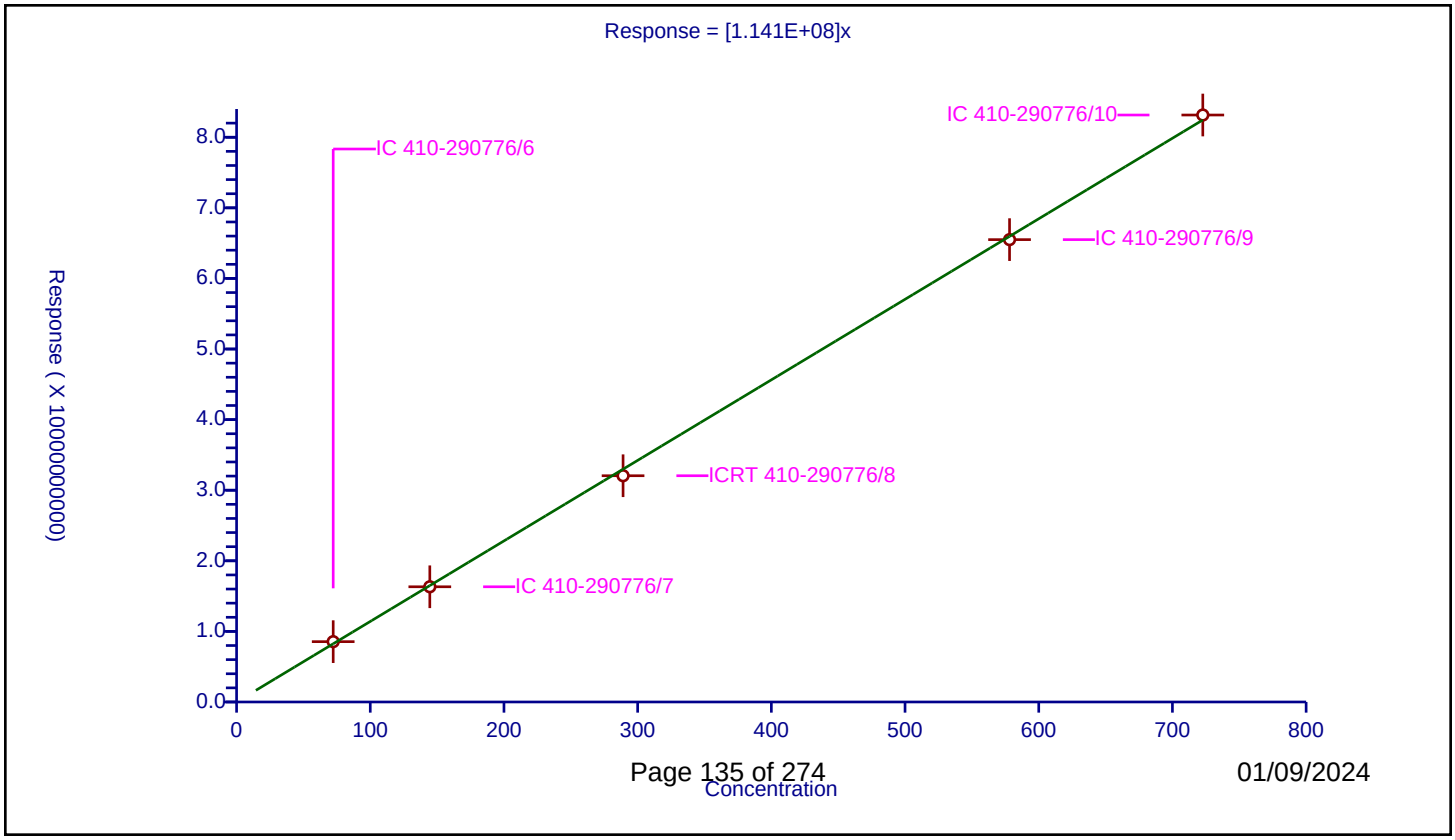
Curve Coefficients

Intercept:	0
Slope:	1.141E+08

Error Coefficients

Standard Error:	649000000
Relative Standard Error:	2.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	72.2712	8547970556.0			118276305.859042	Y
2	IC 410-290776/7	144.5424	16321622686.0			112919272.725512	Y
3	ICRT 410-290776/8	289.0848	32052441723.0			110875569.116744	Y
4	IC 410-290776/9	578.1696	65498723679.0			113286350.024284	Y
5	IC 410-290776/10	722.712	83151656755.0			115055038.182568	Y



Calibration / icosane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

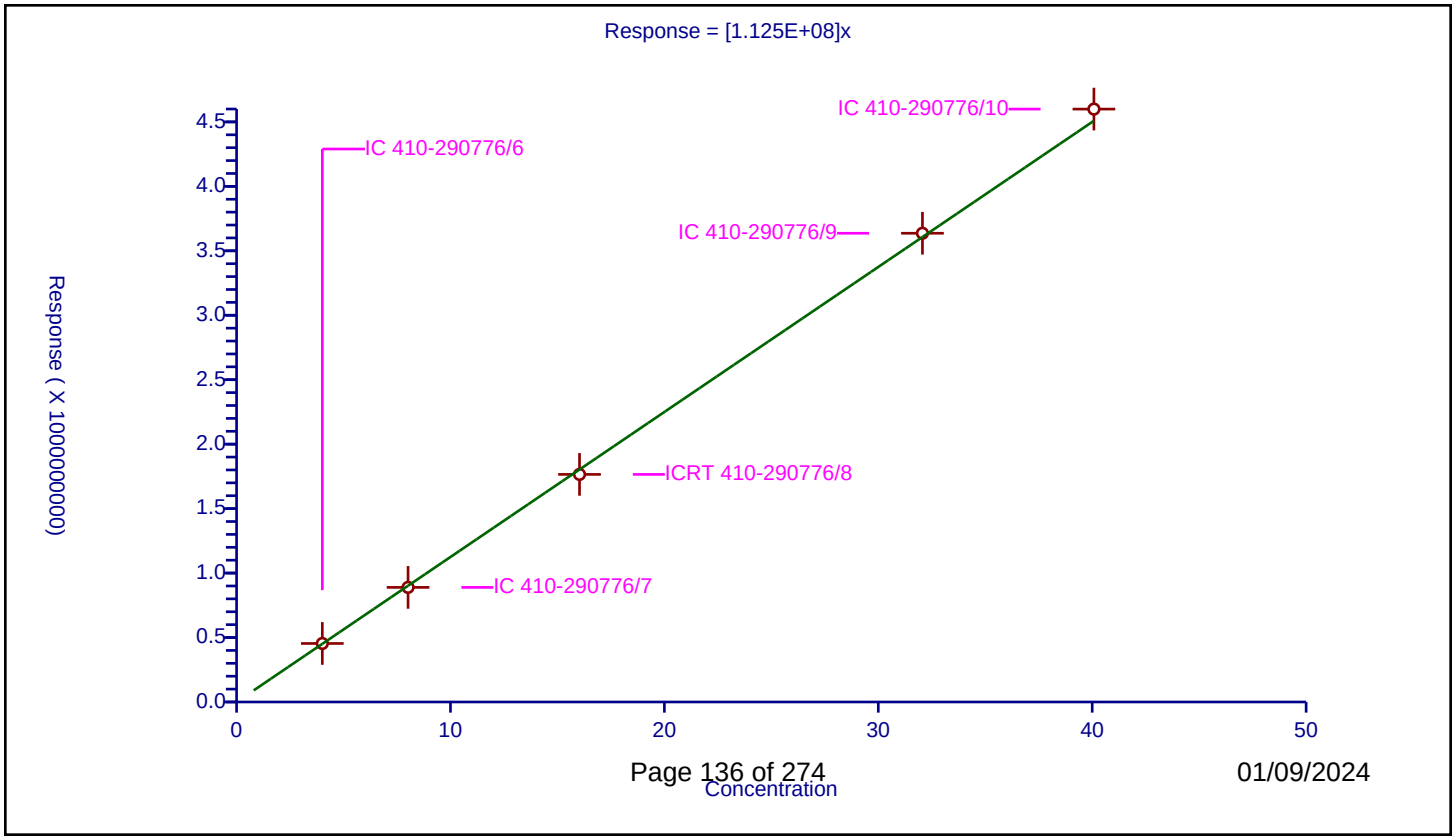
Curve Coefficients

Intercept:	0
Slope:	1.125E+08

Error Coefficients

Standard Error:	51700000
Relative Standard Error:	1.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.008	453915034.0			113252253.992016	Y
2	IC 410-290776/7	8.016	889075718.0			110912639.471058	Y
3	ICRT 410-290776/8	16.032	1765575929.0			110128239.084331	Y
4	IC 410-290776/9	32.064	3636225551.0			113405237.992764	Y
5	IC 410-290776/10	40.08	4599402729.0			114755557.110778	Y



Calibration / n-Docosane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

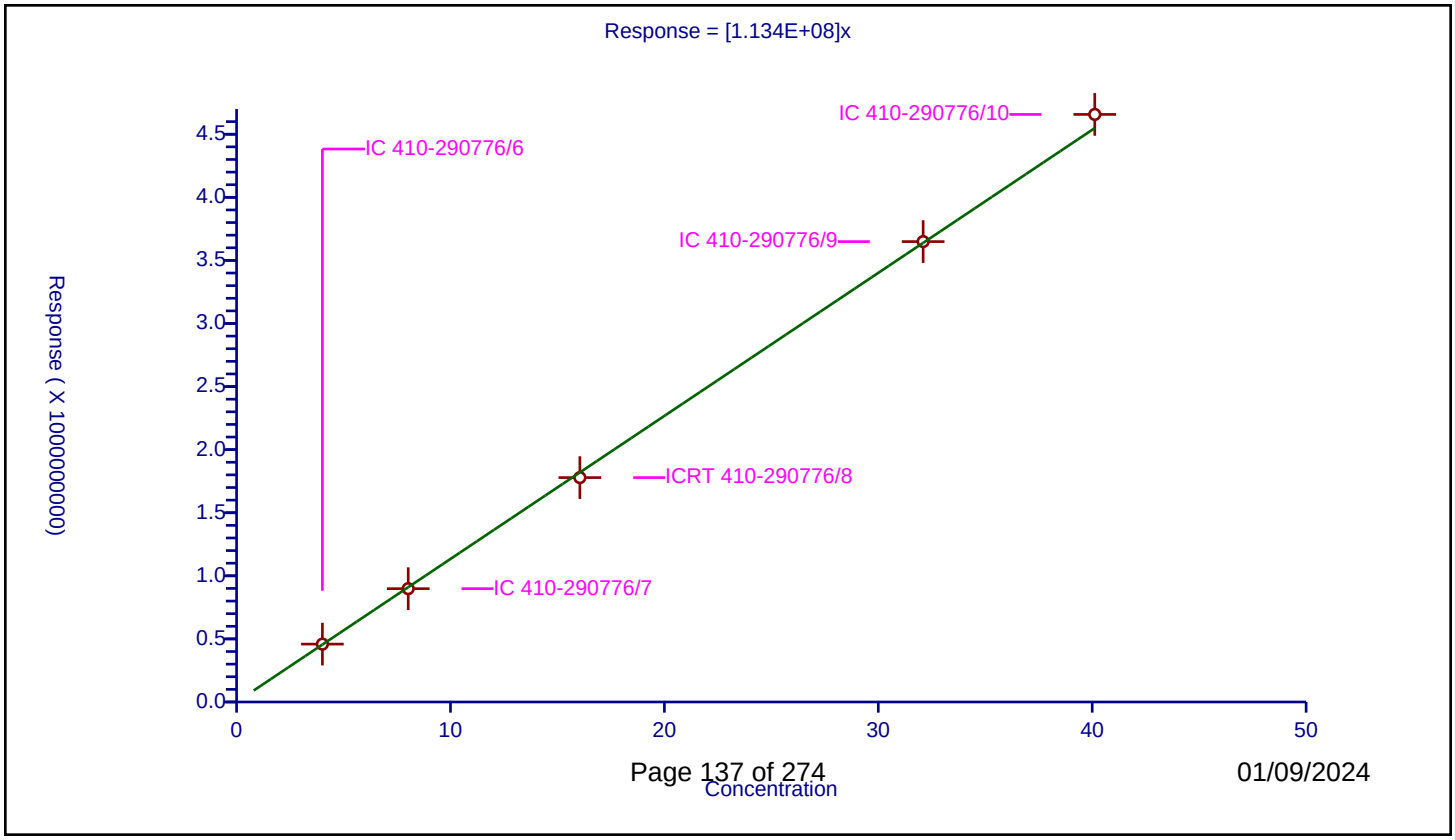
Curve Coefficients

Intercept:	0
Slope:	1.134E+08

Error Coefficients

Standard Error:	58400000
Relative Standard Error:	1.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.012	458712724.0			114335175.473579	Y
2	IC 410-290776/7	8.024	898245006.0			111944791.375872	Y
3	ICRT 410-290776/8	16.048	1778615238.0			110830959.49651	Y
4	IC 410-290776/9	32.096	3649190285.0			113696108.082004	Y
5	IC 410-290776/10	40.12	4657035859.0			116077663.484546	Y



Calibration / C12-C40

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

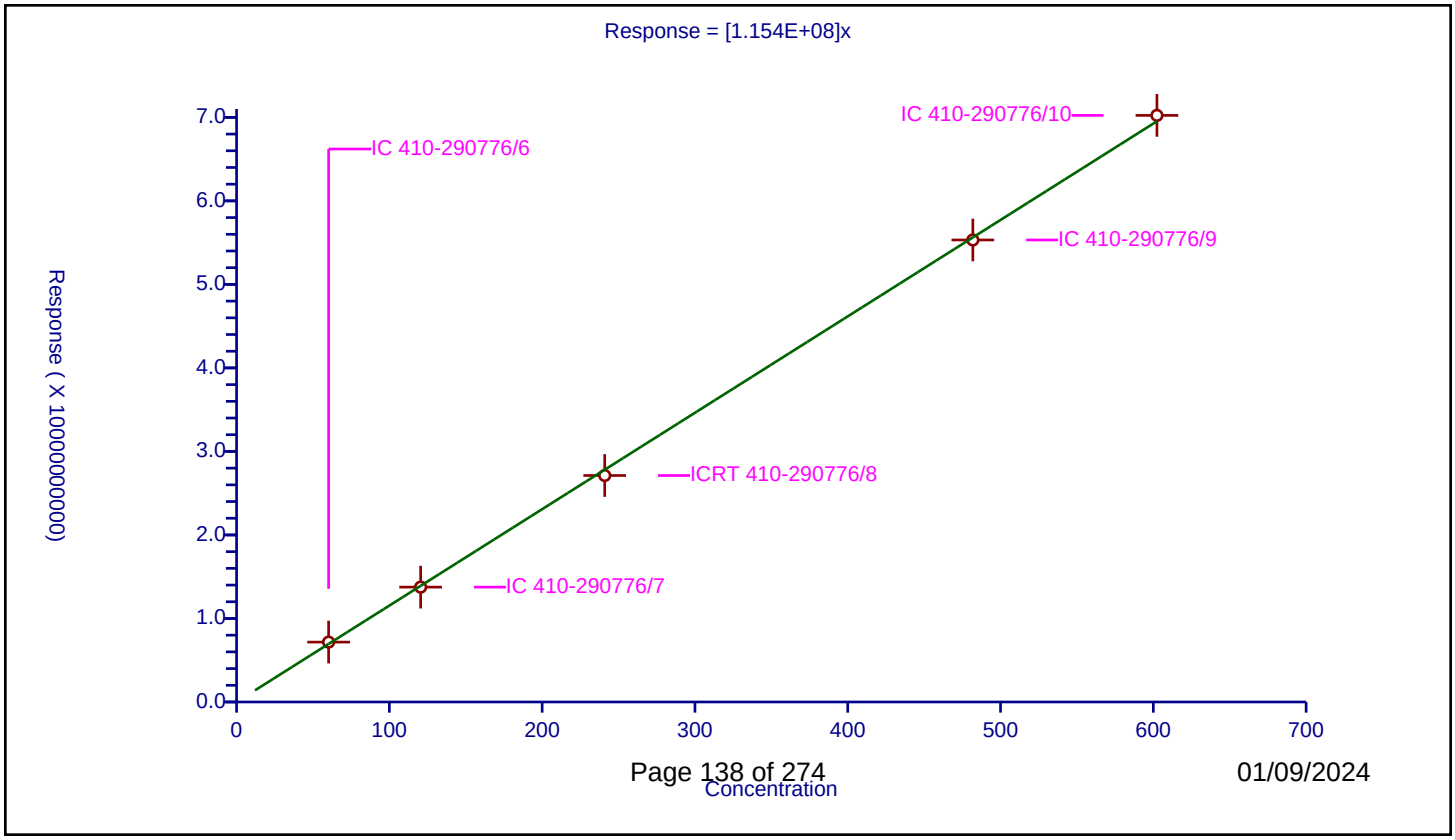
Curve Coefficients

Intercept:	0
Slope:	1.154E+08

Error Coefficients

Standard Error:	534000000
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	60.2352	7169035990.0			119017385.017398	Y
2	IC 410-290776/7	120.4704	13752662913.0			114158024.817715	Y
3	ICRT 410-290776/8	240.9408	27120823086.0			112562185.756833	Y
4	IC 410-290776/9	481.8816	55319177262.0			114798276.717766	Y
5	IC 410-290776/10	602.352	70237195752.0			116604901.705315	Y



Calibration / n-Tetracosane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

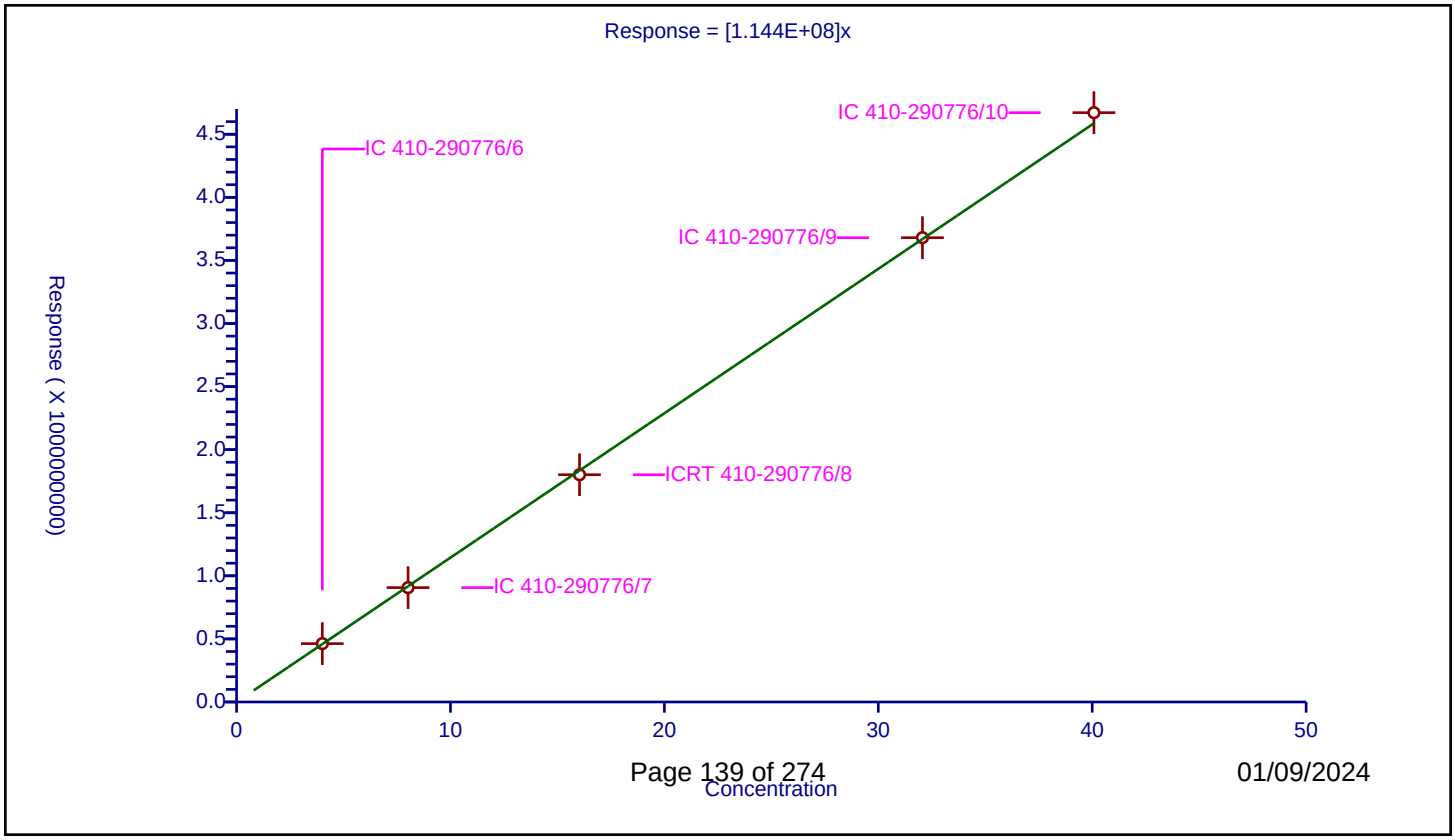
Curve Coefficients

Intercept:	0
Slope:	1.144E+08

Error Coefficients

Standard Error:	46100000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.008	462606044.0			115420669.660679	Y
2	IC 410-290776/7	8.016	906417258.0			113076005.239521	Y
3	ICRT 410-290776/8	16.032	1801337344.0			112358866.267465	Y
4	IC 410-290776/9	32.064	3680066601.0			114772536.208832	Y
5	IC 410-290776/10	40.08	4671025607.0			116542555.06487	Y



Calibration / n-Hexacosane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

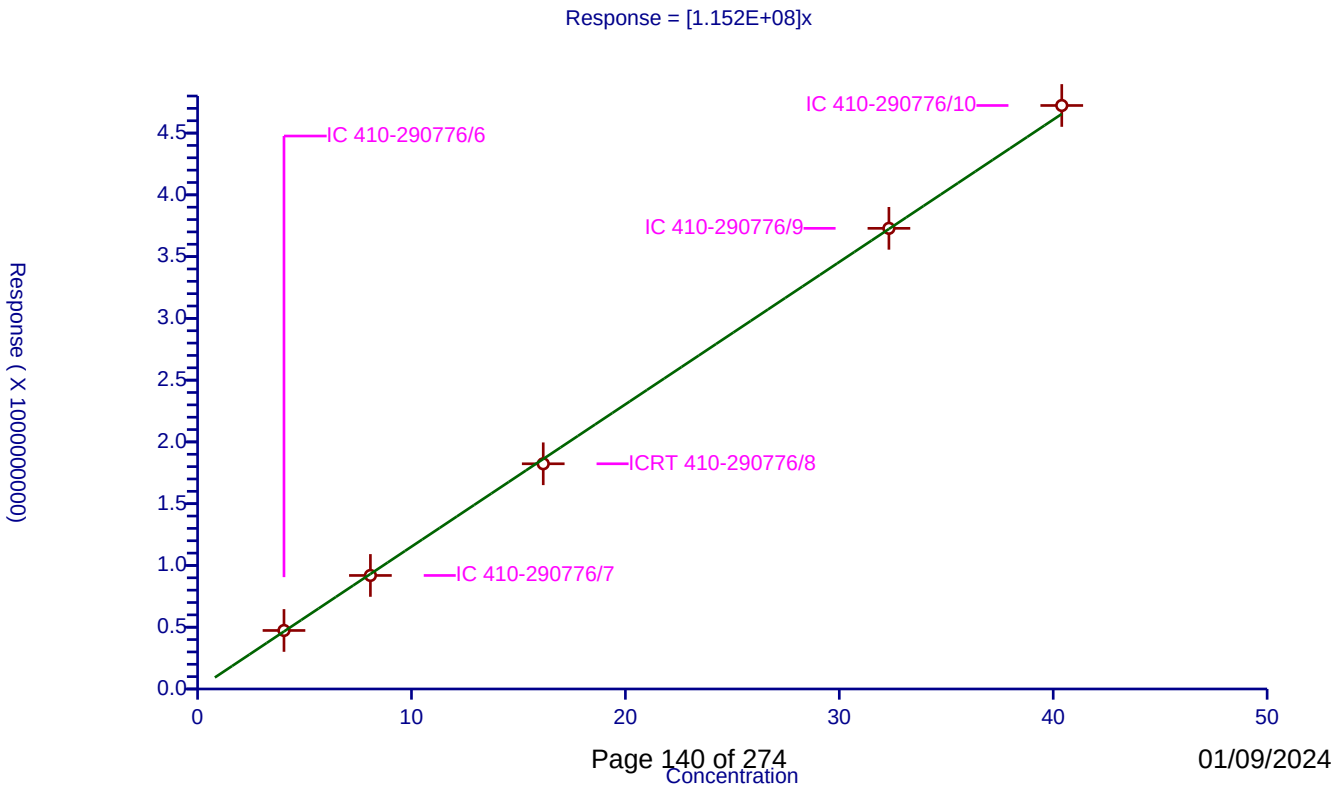
Curve Coefficients

Intercept:	0
Slope:	1.152E+08

Error Coefficients

Standard Error:	40100000
Relative Standard Error:	1.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.04	473656191.0			117241631.435644	Y
2	IC 410-290776/7	8.08	919009200.0			113738762.376238	Y
3	ICRT 410-290776/8	16.16	1823112741.0			112816382.487624	Y
4	IC 410-290776/9	32.32	3728795526.0			115371148.700495	Y
5	IC 410-290776/10	40.4	4723260511.0			116912388.886139	Y



Calibration / n-Octacosane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

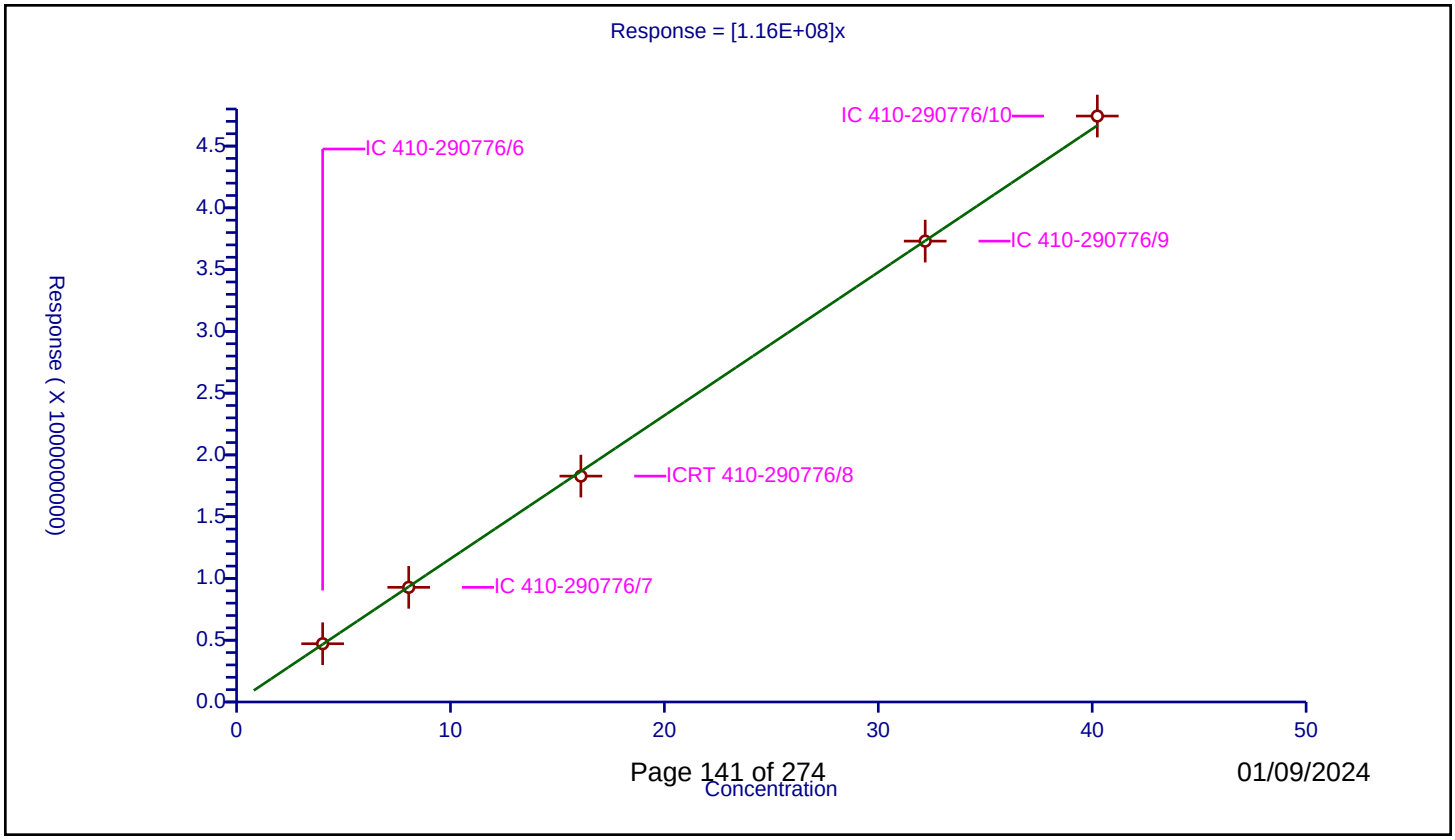
Curve Coefficients

Intercept:	0
Slope:	1.16E+08

Error Coefficients

Standard Error:	42900000
Relative Standard Error:	1.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.024	471470863.0			117164727.385686	Y
2	IC 410-290776/7	8.048	928104151.0			115321092.321074	Y
3	ICRT 410-290776/8	16.096	1828507746.0			113600133.32505	Y
4	IC 410-290776/9	32.192	3730695500.0			115888900.969185	Y
5	IC 410-290776/10	40.24	4743043404.0			117868871.868787	Y



Calibration / Triacontane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

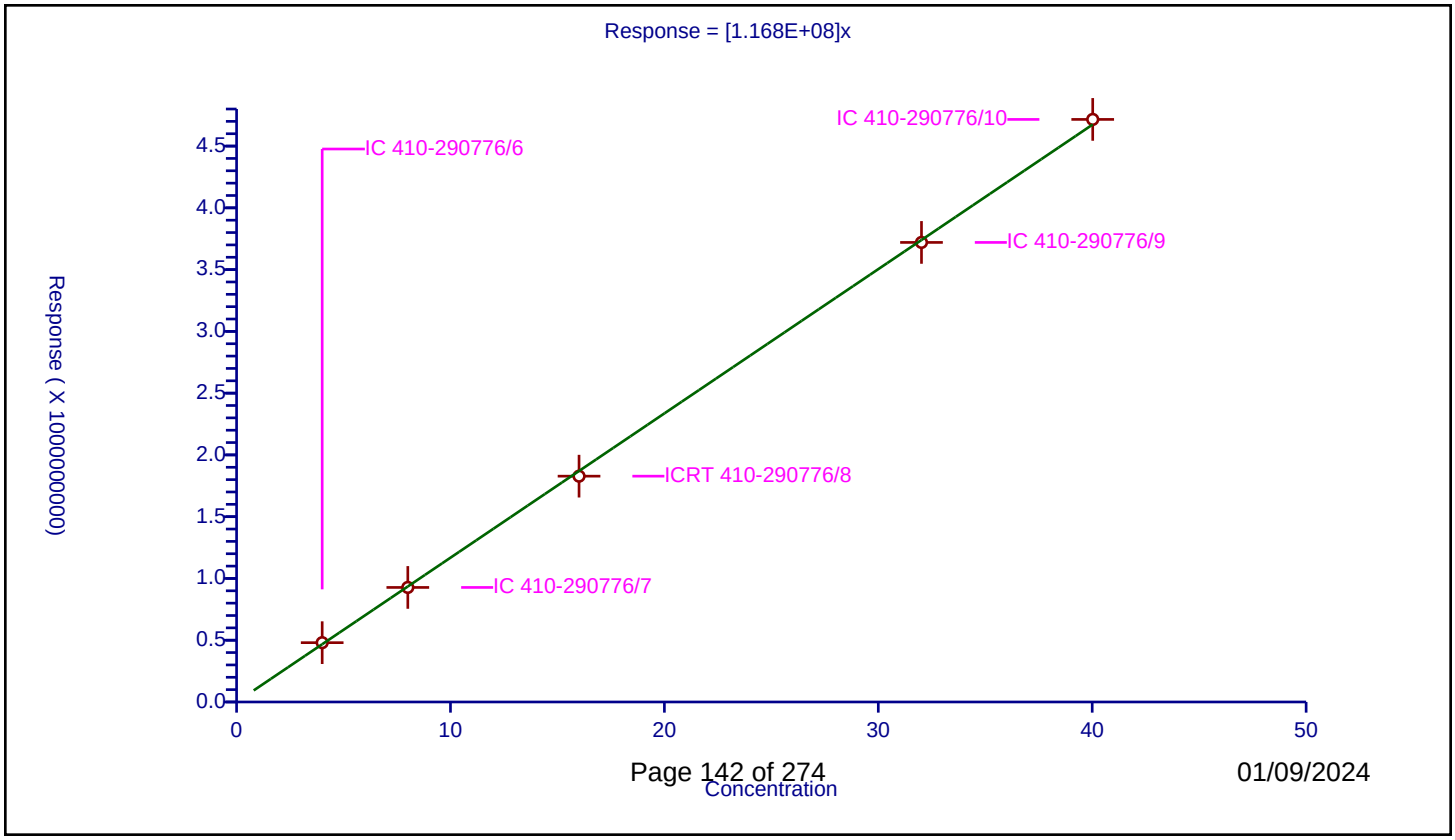
Curve Coefficients

Intercept:	0
Slope:	1.168E+08

Error Coefficients

Standard Error:	31900000
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.0024	480184713.0			119974193.73376	Y
2	IC 410-290776/7	8.0048	927200423.0			115830554.542275	Y
3	ICRT 410-290776/8	16.0096	1827941902.0			114177862.157705	Y
4	IC 410-290776/9	32.0192	3719991871.0			116180037.945982	Y
5	IC 410-290776/10	40.024	4715856771.0			117825723.840696	Y



Calibration / Dotriacontane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

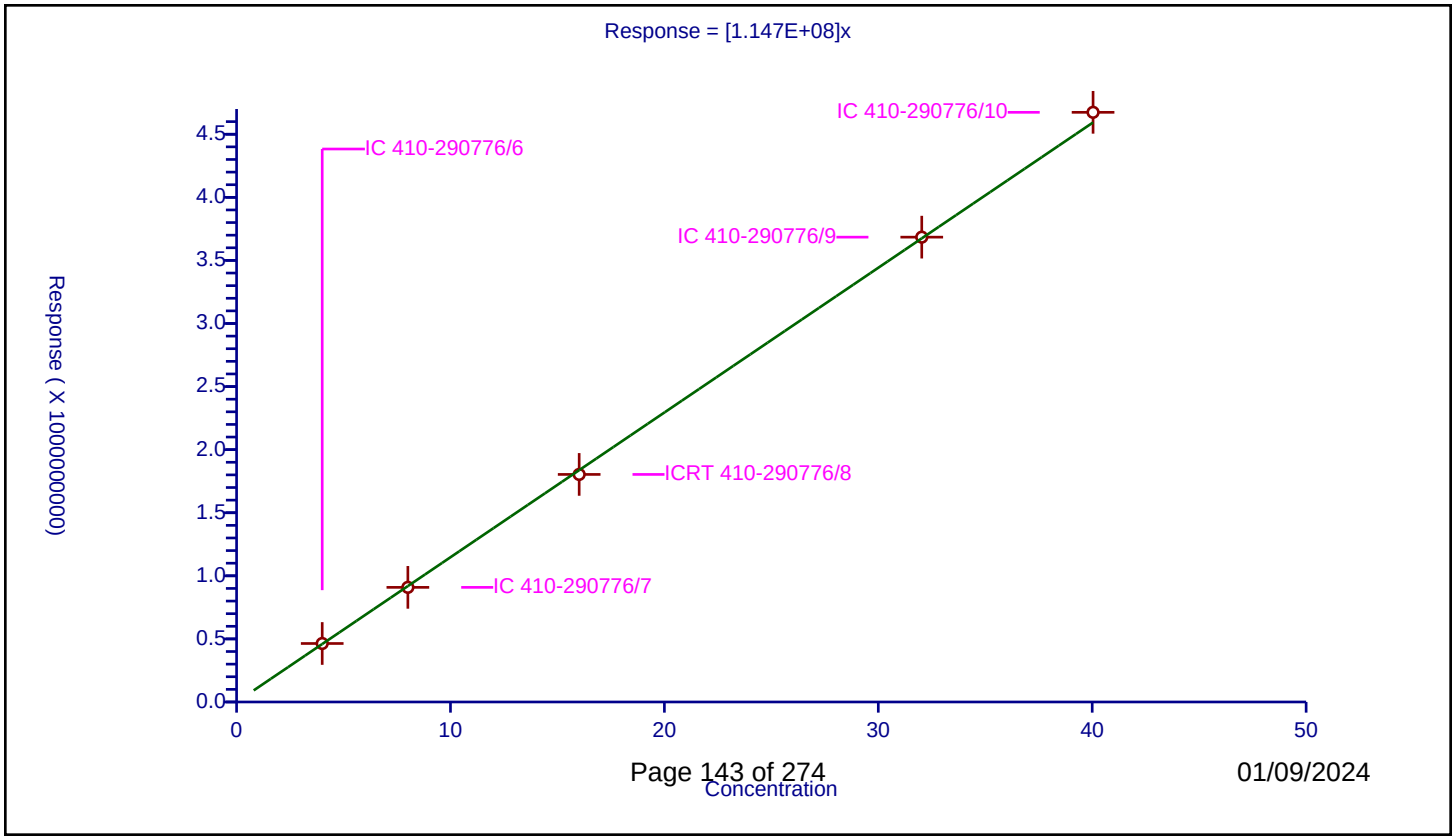
Curve Coefficients

Intercept:	0
Slope:	1.147E+08

Error Coefficients

Standard Error:	44100000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.004	463717205.0			115813487.762238	Y
2	IC 410-290776/7	8.008	908468277.0			113445089.535465	Y
3	ICRT 410-290776/8	16.016	1803643843.0			112615125.062438	Y
4	IC 410-290776/9	32.032	3684356747.0			115021127.216533	Y
5	IC 410-290776/10	40.04	4673746232.0			116726928.871129	Y



Calibration / Tetratriacontane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

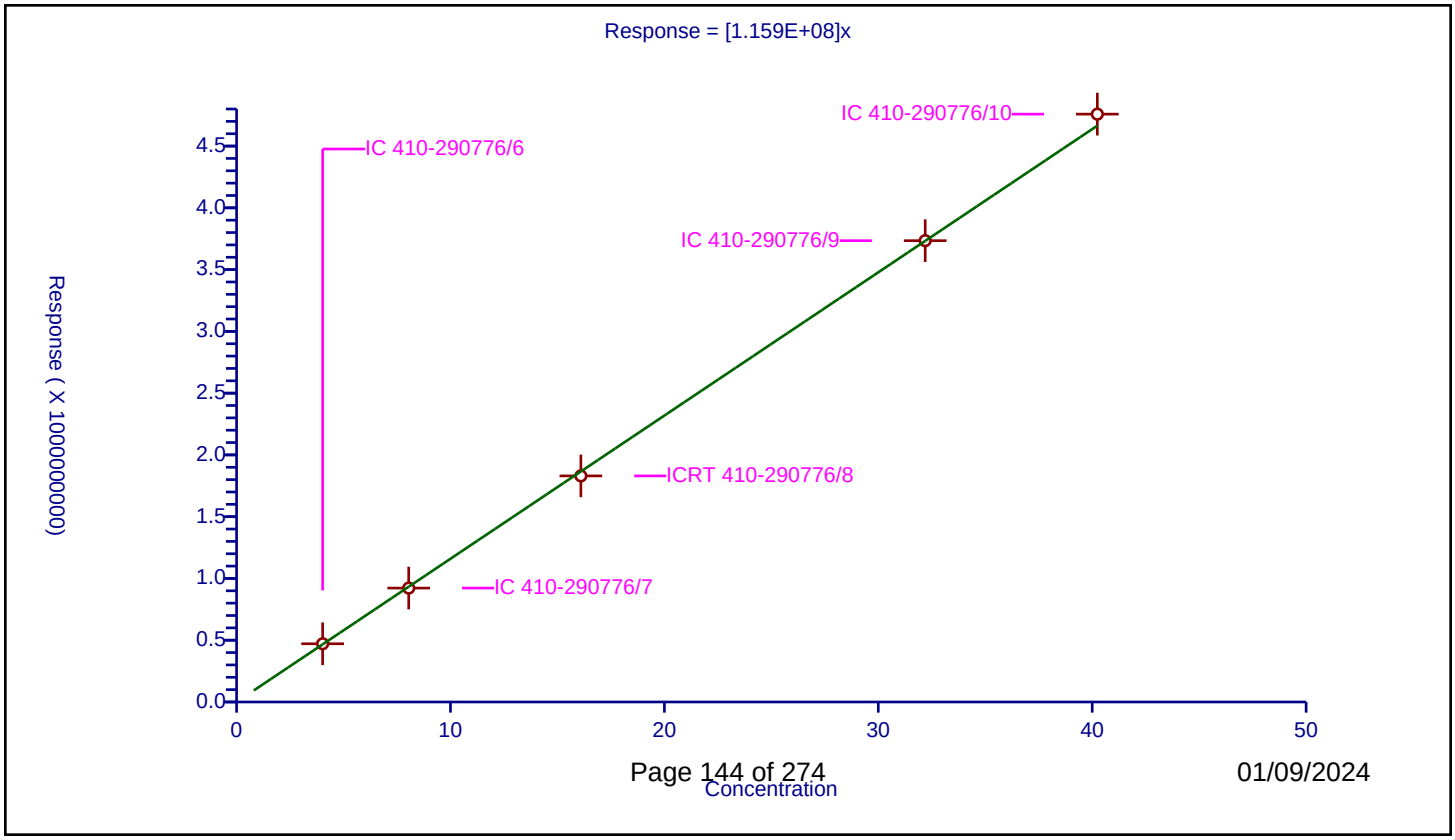
Curve Coefficients

Intercept:	0
Slope:	1.159E+08

Error Coefficients

Standard Error:	50400000
Relative Standard Error:	1.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.024	471372326.0			117140240.059642	Y
2	IC 410-290776/7	8.048	921961920.0			114557892.644135	Y
3	ICRT 410-290776/8	16.096	1830207529.0			113705736.145626	Y
4	IC 410-290776/9	32.192	3734346921.0			116002327.317346	Y
5	IC 410-290776/10	40.24	4758553012.0			118254299.502982	Y



Calibration / n-Hexatriacontane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

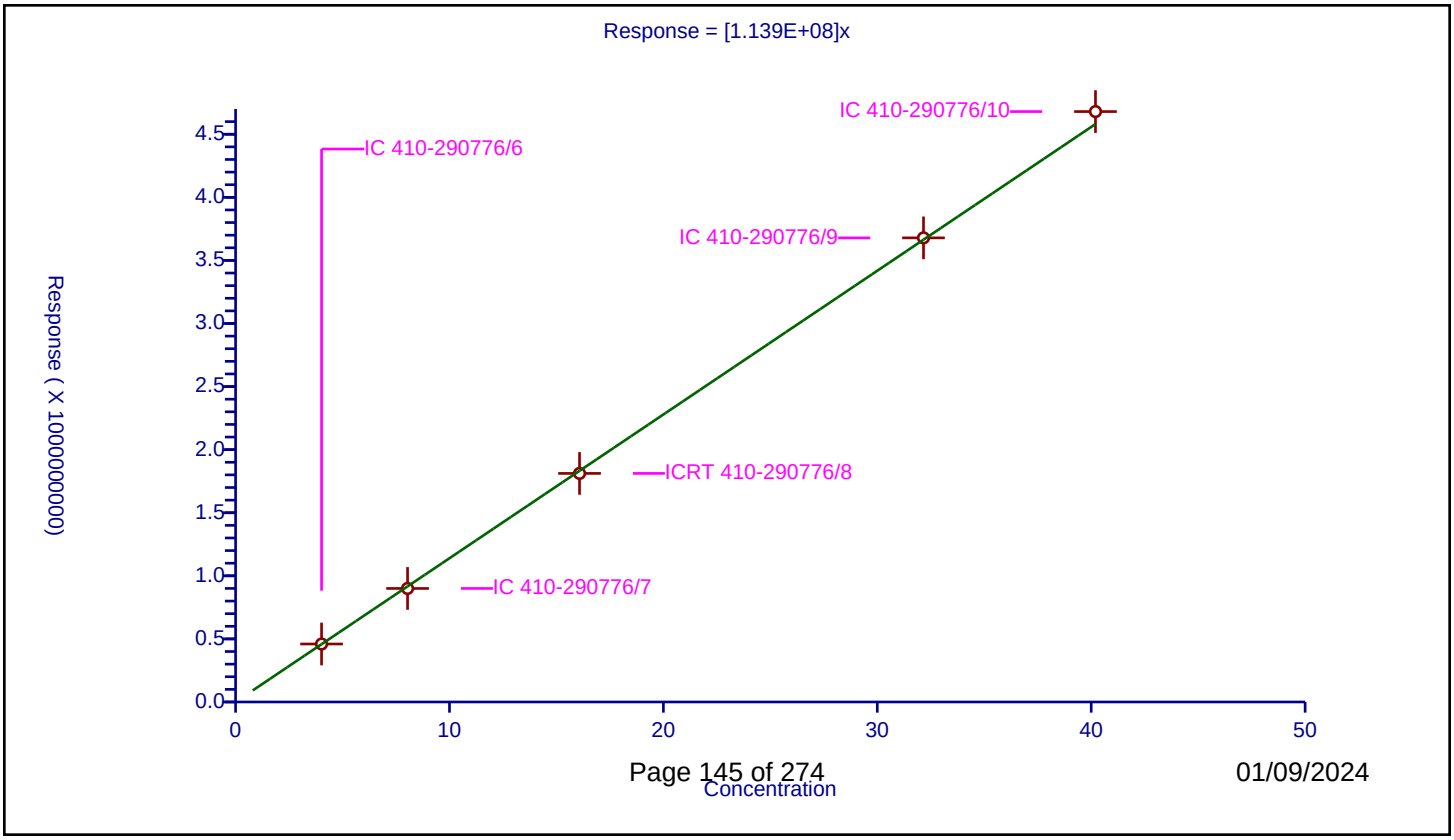
Curve Coefficients

Intercept:	0
Slope:	1.139E+08

Error Coefficients

Standard Error:	51900000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.02	459524156.0			114309491.542289	Y
2	IC 410-290776/7	8.04	899875692.0			111924837.313433	Y
3	ICRT 410-290776/8	16.08	1811645533.0			112664523.196517	Y
4	IC 410-290776/9	32.16	3678690593.0			114387145.304726	Y
5	IC 410-290776/10	40.2	4679657415.0			116409388.432836	Y



Calibration / C38

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

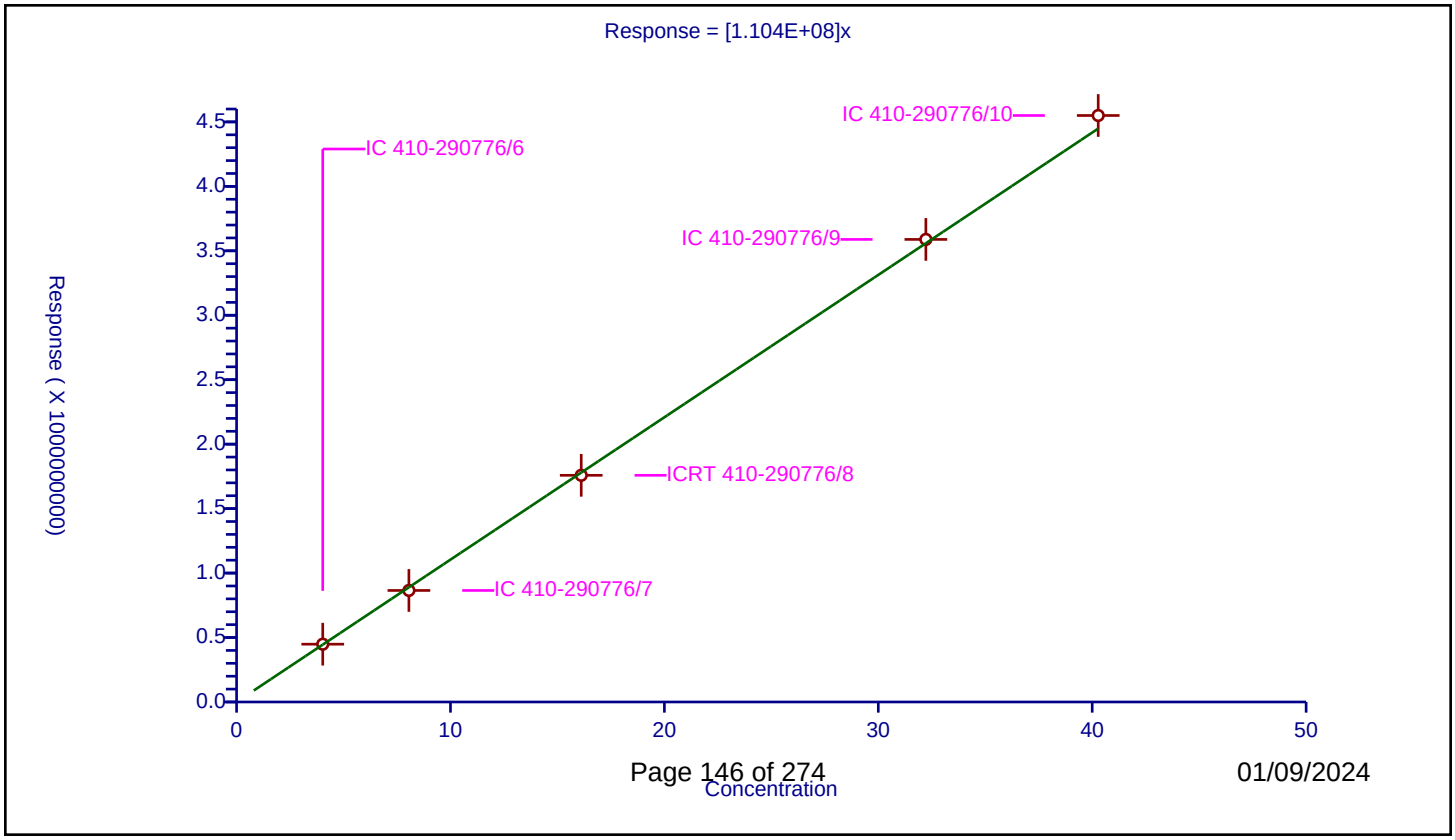
Curve Coefficients

Intercept:	0
Slope:	1.104E+08

Error Coefficients

Standard Error:	55400000
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	4.028	448307096.0			111297690.168818	Y
2	IC 410-290776/7	8.056	865273259.0			107407306.23138	Y
3	ICRT 410-290776/8	16.112	1758490204.0			109141646.226415	Y
4	IC 410-290776/9	32.224	3588512077.0			111361472.101539	Y
5	IC 410-290776/10	40.28	4549822169.0			112954870.134062	Y



Calibration / C40

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

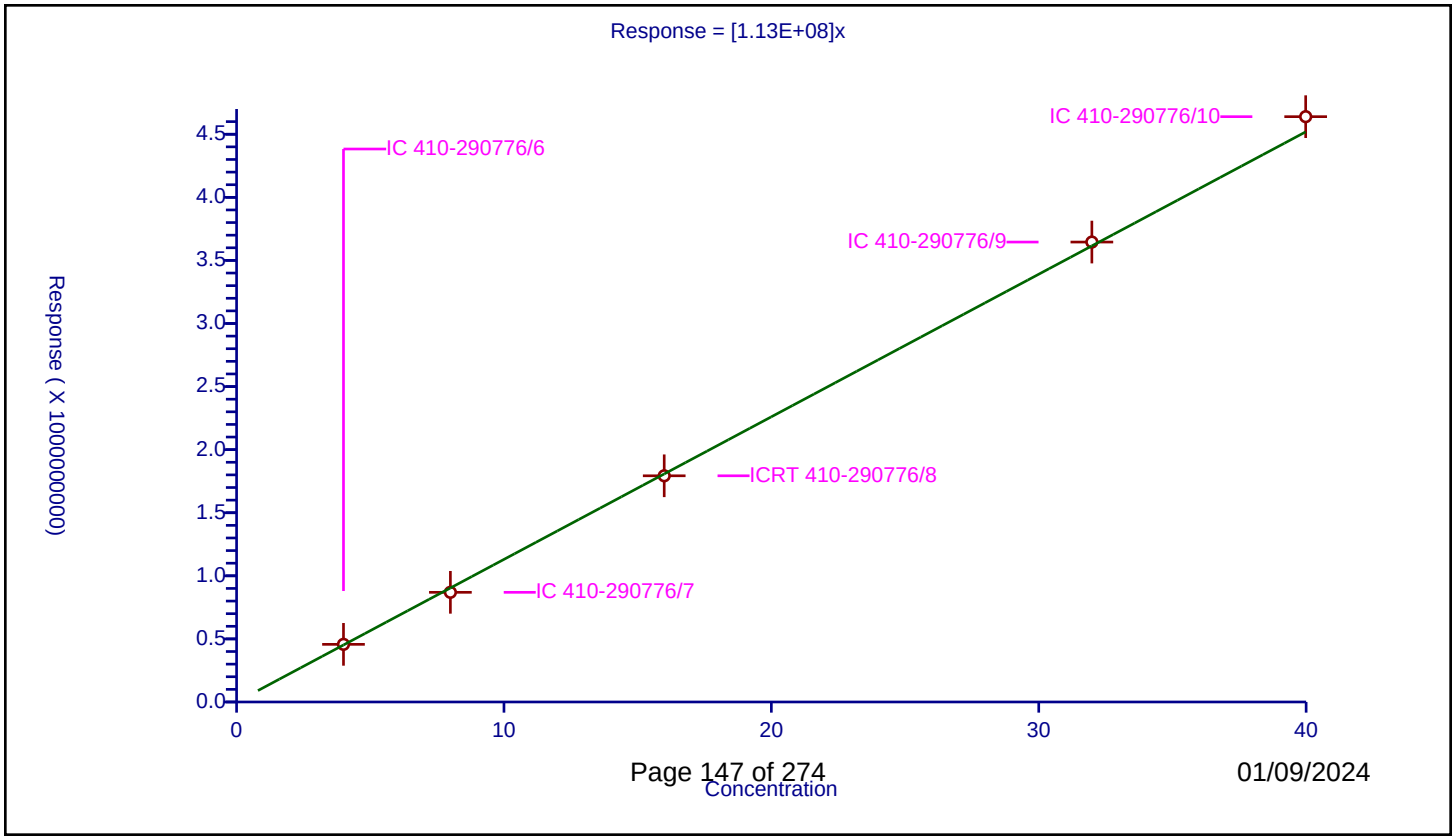
Curve Coefficients

Intercept:	0
Slope:	1.13E+08

Error Coefficients

Standard Error:	64900000
Relative Standard Error:	2.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/6	3.9984	456963571.0			114286607.392957	Y
2	IC 410-290776/7	7.9968	869262500.0			108701293.017207	Y
3	ICRT 410-290776/8	15.9936	1792814406.0			112095738.670468	Y
4	IC 410-290776/9	31.9872	3645494345.0			113967285.195328	Y
5	IC 410-290776/10	39.984	4639286089.0			116028563.65046	Y



FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/30/2022 01:40 Calibration End Date: 08/30/2022 04:53 Calibration ID: 41954

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/11	ABTPH_22241001.0011.d
Level 2	IC 410-290776/12	ABTPH_22241001.0012.d
Level 3	IC 410-290776/13	ABTPH_22241001.0013.d
Level 4	IC 410-290776/14	ABTPH_22241001.0014.d
Level 5	IC 410-290776/15	ABTPH_22241001.0015.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT WINDOW	AVG RT
Diesel Fuel 2-FID	16.126	16.132	16.132	16.132	16.132						4.702 - 27.562	16.131
C8-C40	18.808	18.808	18.808	18.808	18.808						1.540 - 36.076	18.808

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-155700-1 Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A GC Column: ZB-5 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/30/2022 01:40 Calibration End Date: 08/30/2022 04:53 Calibration ID: 41954

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/11	ABTPH_22241001.0011.d
Level 2	IC 410-290776/12	ABTPH_22241001.0012.d
Level 3	IC 410-290776/13	ABTPH_22241001.0013.d
Level 4	IC 410-290776/14	ABTPH_22241001.0014.d
Level 5	IC 410-290776/15	ABTPH_22241001.0015.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2	LVL 3	LVL 4		B	M1	M2								
Diesel Fuel 2-FID	110582551 102979411	98960438	98331122	101300677	Ave		102430840				4.8		20.0			
C8-C40	120000554 110336356	105764274	105365046	108604136	Ave		110014073				5.4		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
DIESEL RANGE ORGANICS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1
Analy Batch No.: 290776

SDG No.:

Instrument ID: 10254-A
GC Column: ZB-5
ID:
Heated Purge: (Y/N) N

Calibration Start Date: 08/30/2022 01:40
Calibration End Date: 08/30/2022 04:53
Calibration ID: 41954

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-290776/11	ABTPH_22241001.0011.d
Level 2	IC 410-290776/12	ABTPH_22241001.0012.d
Level 3	IC 410-290776/13	ABTPH_22241001.0013.d
Level 4	IC 410-290776/14	ABTPH_22241001.0014.d
Level 5	IC 410-290776/15	ABTPH_22241001.0015.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Diesel Fuel 2-FID	Ave	7963552011	39592171035	78680788002	162113823485	360500745580	72.0	400	800	1600	3501
C8-C40	Ave	8641785194	42314255228	84309063403	173801718033	386255254941	72.0	400	800	1600	3501

Curve Type Legend:
Ave = Average

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Lims ID:	IC FUL1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	30-Aug-2022 01:40:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC FUL1				
Misc. Info.:	410-0065078-011				
Operator ID:		Instrument ID:	10254-A		
Sublist:	chrom-Fuels_10254A*sub7				
Method:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	06-Sep-2022 14:40:53	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1638				

First Level Reviewer: UHEW Date: 30-Aug-2022 16:26:14

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 9 Diesel						M
16.128	(8.324-23.939)		6470496104	NC	NC	M
A 11 Diesel Fuel 2-FID						M
16.126	(4.702-27.562)		7963552011	72.0	77.7	M
A 22 C8-C40						M
18.808	(1.540-36.076)		8641785194	72.0	78.6	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

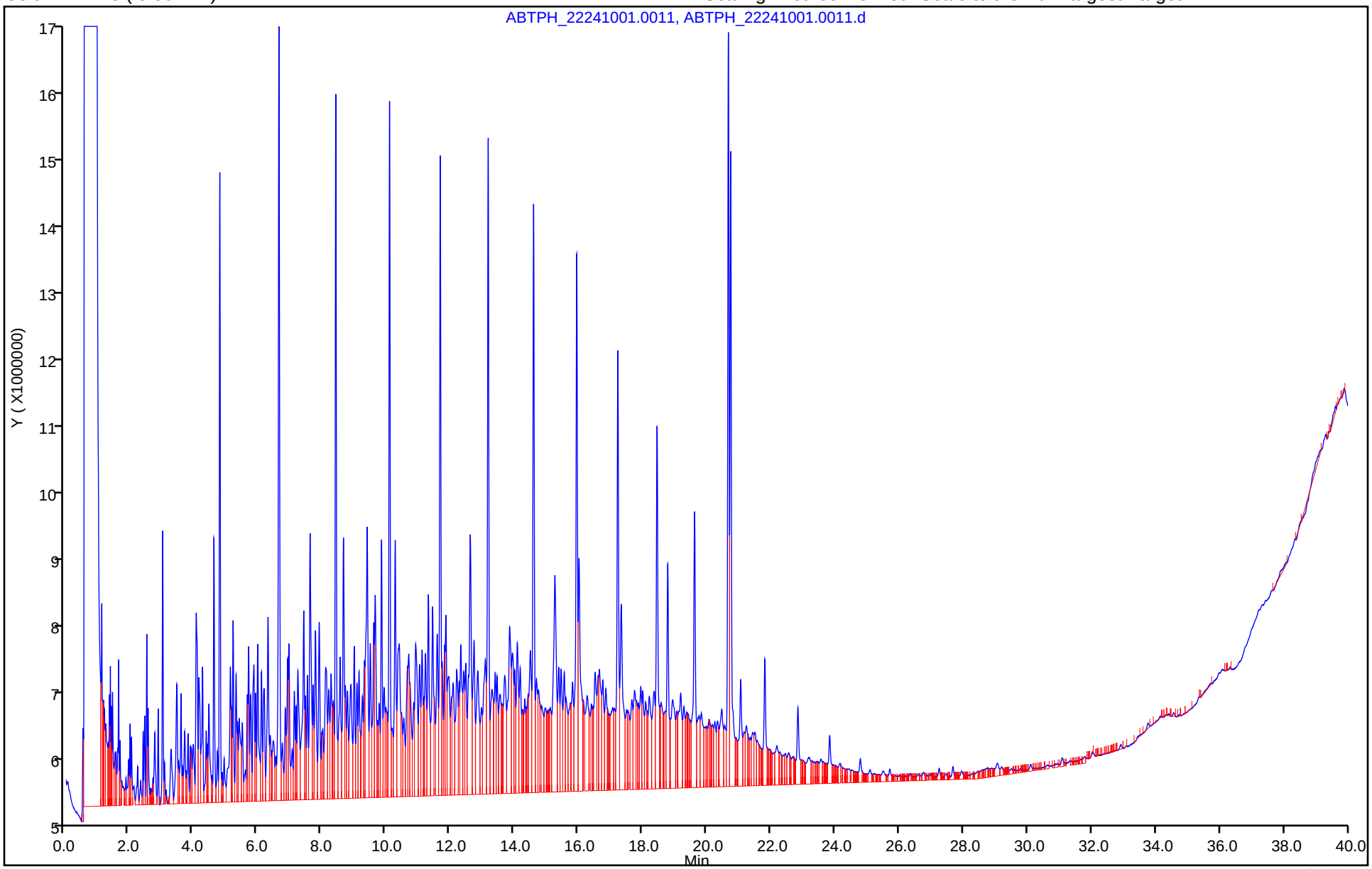
EPH_1FUL1_00006 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:41:00 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Injection Date:	30-Aug-2022 01:40:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC FUL1			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

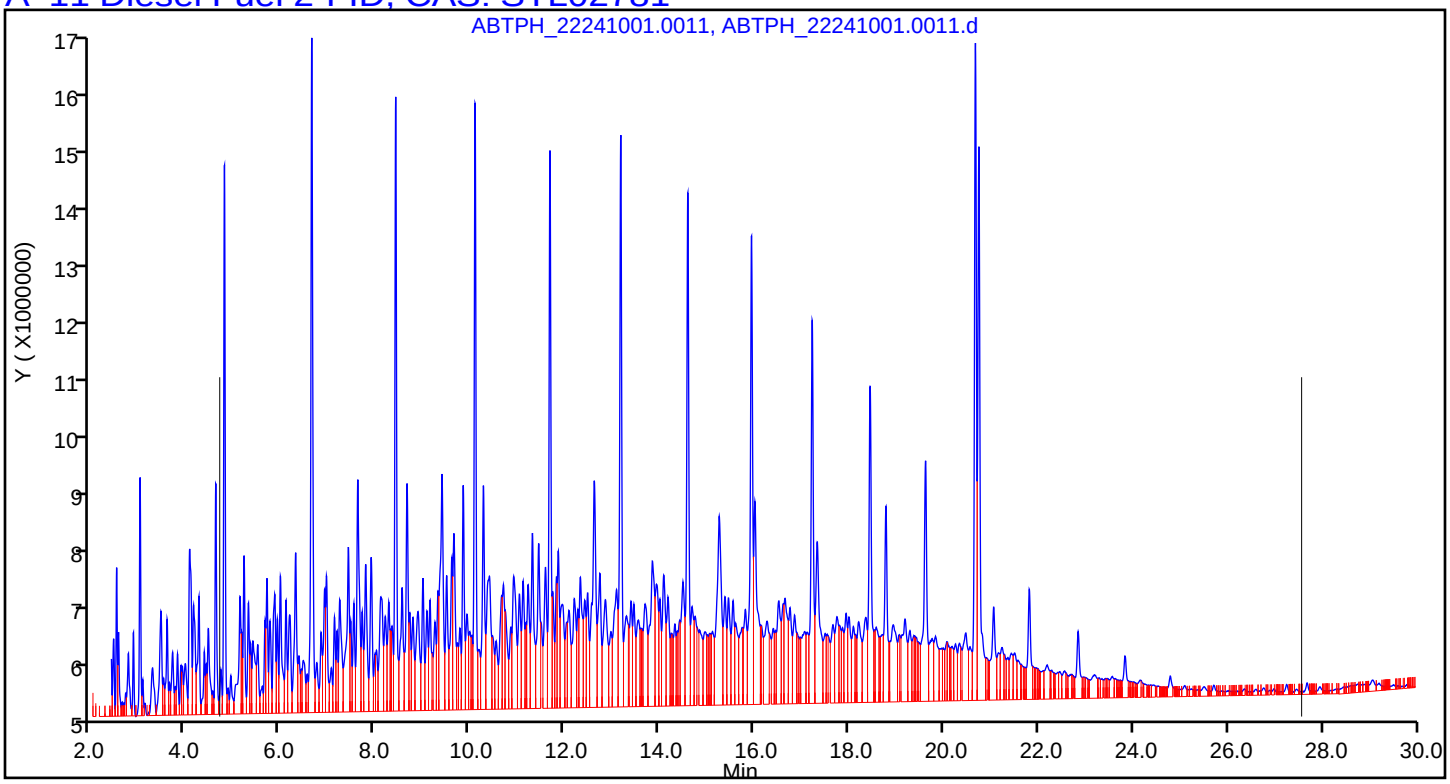


Report Date: 06-Sep-2022 14:41:00 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Injection Date:	30-Aug-2022 01:40:00	Instrument ID:	10254-A		
Lims ID:	IC FUL1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 11 Diesel Fuel 2-FID, CAS: STL02781

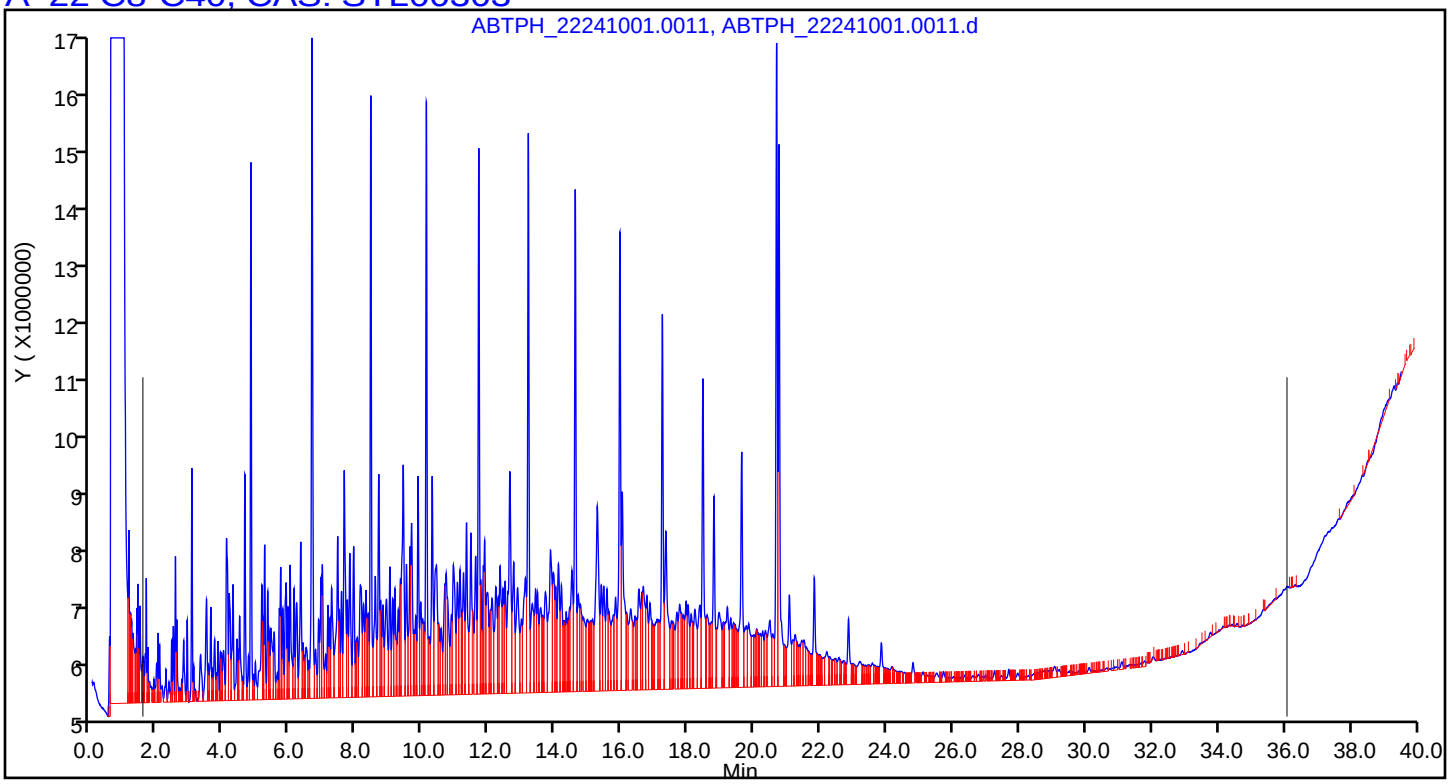


Report Date: 06-Sep-2022 14:41:00 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Injection Date:	30-Aug-2022 01:40:00	Instrument ID:	10254-A		
Lims ID:	IC FUL1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

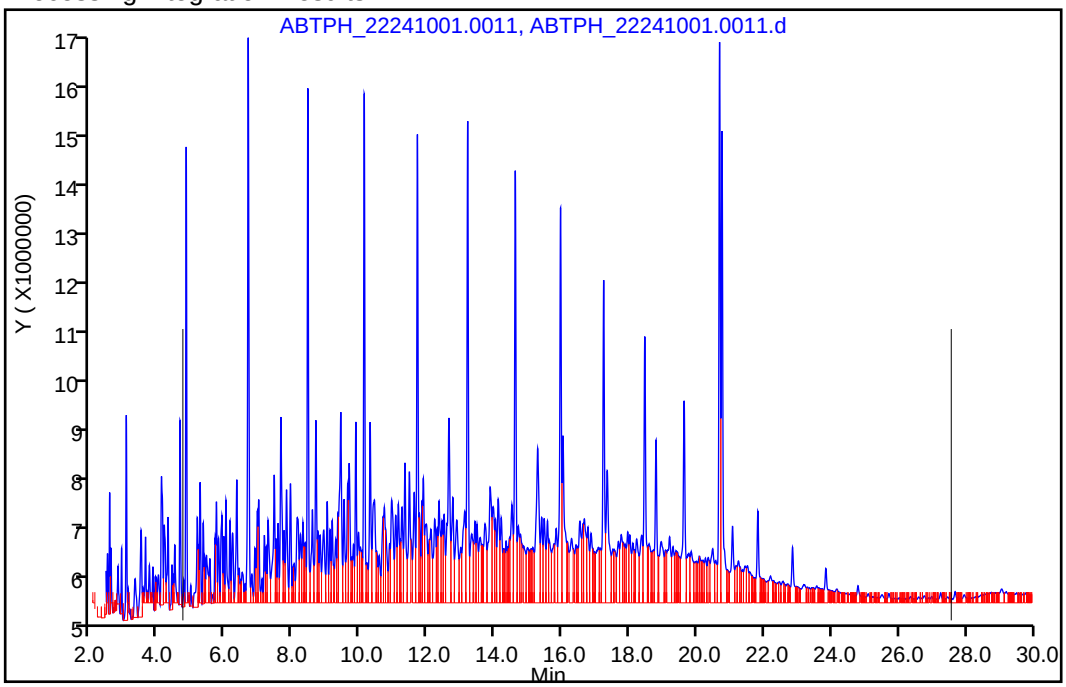
Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Injection Date:	30-Aug-2022 01:40:00	Instrument ID:	10254-A		
Lims ID:	IC FUL1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 11 Diesel Fuel 2-FID, RT: 16.132, CAS: STL02781

Signal: 1

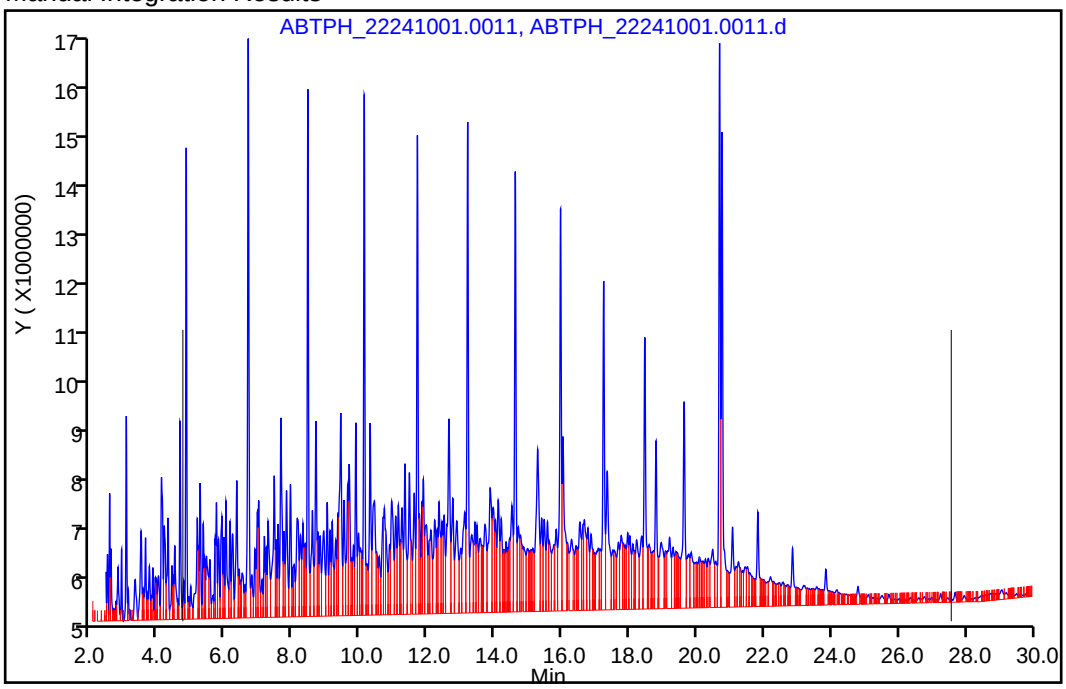
Processing Integration Results

RT: 16.13
Response: 6858679644
Amount: 69.026933



Manual Integration Results

RT: 16.13
Response: 7963552011
Amount: 77.745648



Reviewer: UHEW, 30-Aug-2022 16:26:08

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

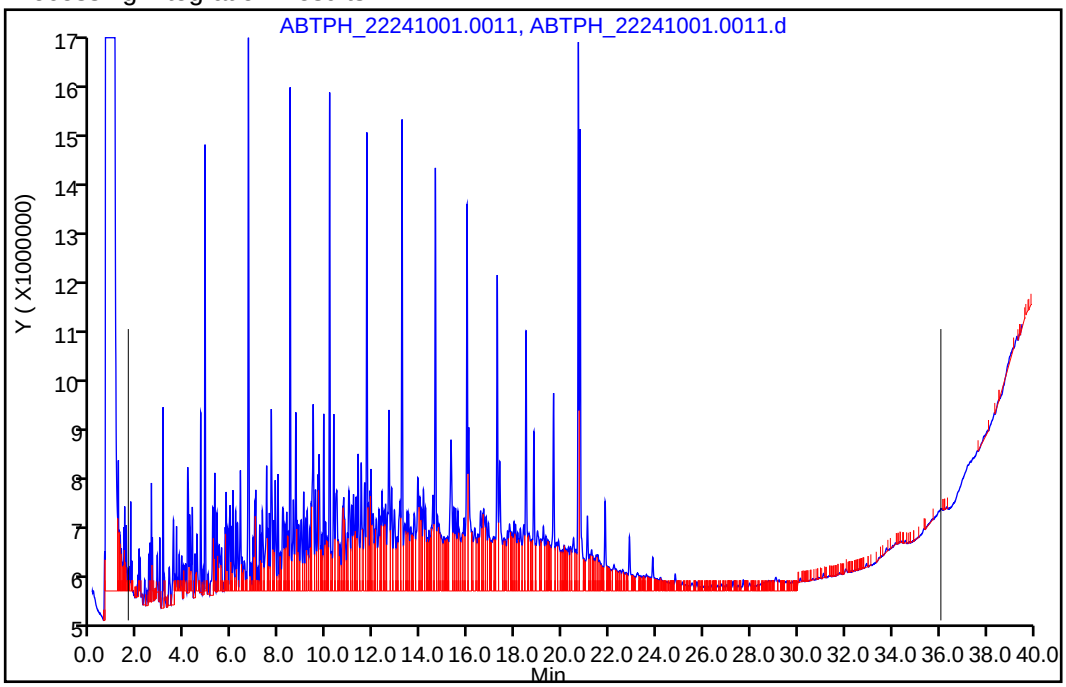
Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0011.d				
Injection Date:	30-Aug-2022 01:40:00	Instrument ID:	10254-A		
Lims ID:	IC FUL1				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, RT: 18.808, CAS: STL00303

Signal: 1

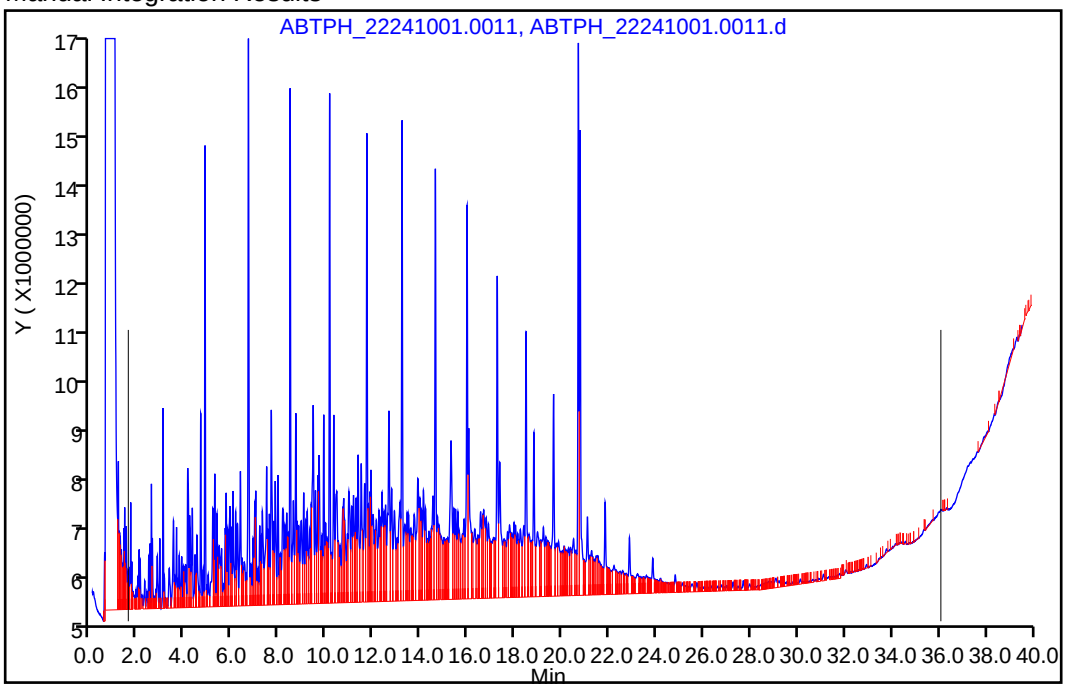
Processing Integration Results

RT: 18.81
Response: 7363561188
Amount: 67.860663



Manual Integration Results

RT: 18.81
Response: 8641785194
Amount: 78.551634



Reviewer: UHEW, 30-Aug-2022 16:26:08

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0012.d				
Lims ID:	IC FUL2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	30-Aug-2022 02:28:00	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC FUL2				
Misc. Info.:	410-0065078-012				
Operator ID:		Instrument ID:	10254-A		
Sublist:	chrom-Fuels_10254A*sub7				
Method:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	06-Sep-2022 14:41:03	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)			Det: ABTPH_19123049B.012	
Process Host:	CTX1638				

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 9 Diesel						
16.138	(8.324-23.939)		32115741553	NC	NC	
A 11 Diesel Fuel 2-FID						
16.132	(4.702-27.562)		39592171035	400.1	386.5	
A 22 C8-C40						
18.808	(1.540-36.076)		42314255228	400.1	384.6	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

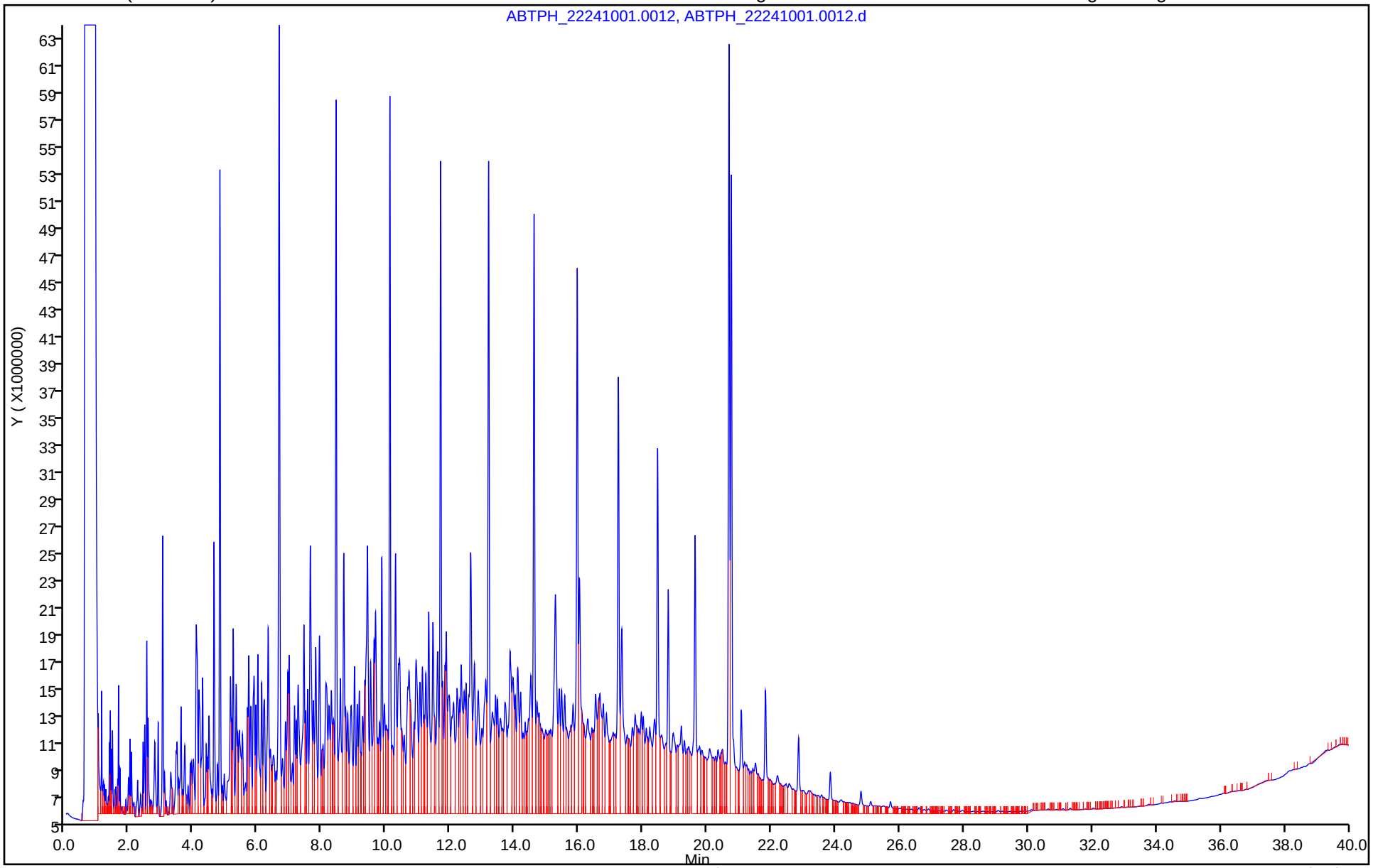
EPH_1FUL2_00006 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:41:08 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0012.d				
Injection Date:	30-Aug-2022 02:28:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC FUL2			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

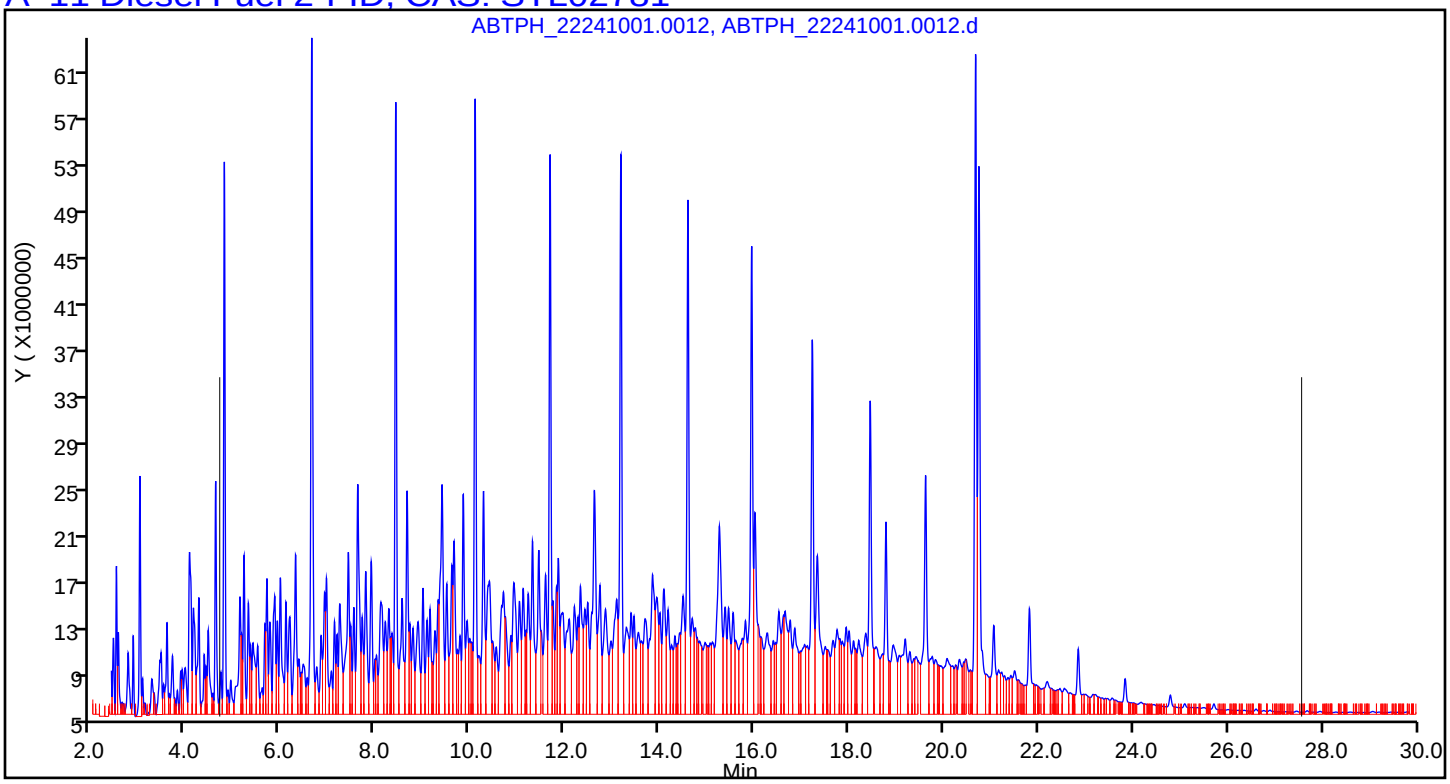


Report Date: 06-Sep-2022 14:41:08 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0012.d				
Injection Date:	30-Aug-2022 02:28:00	Instrument ID:	10254-A		
Lims ID:	IC FUL2				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_11 Diesel Fuel 2-FID, CAS: STL02781

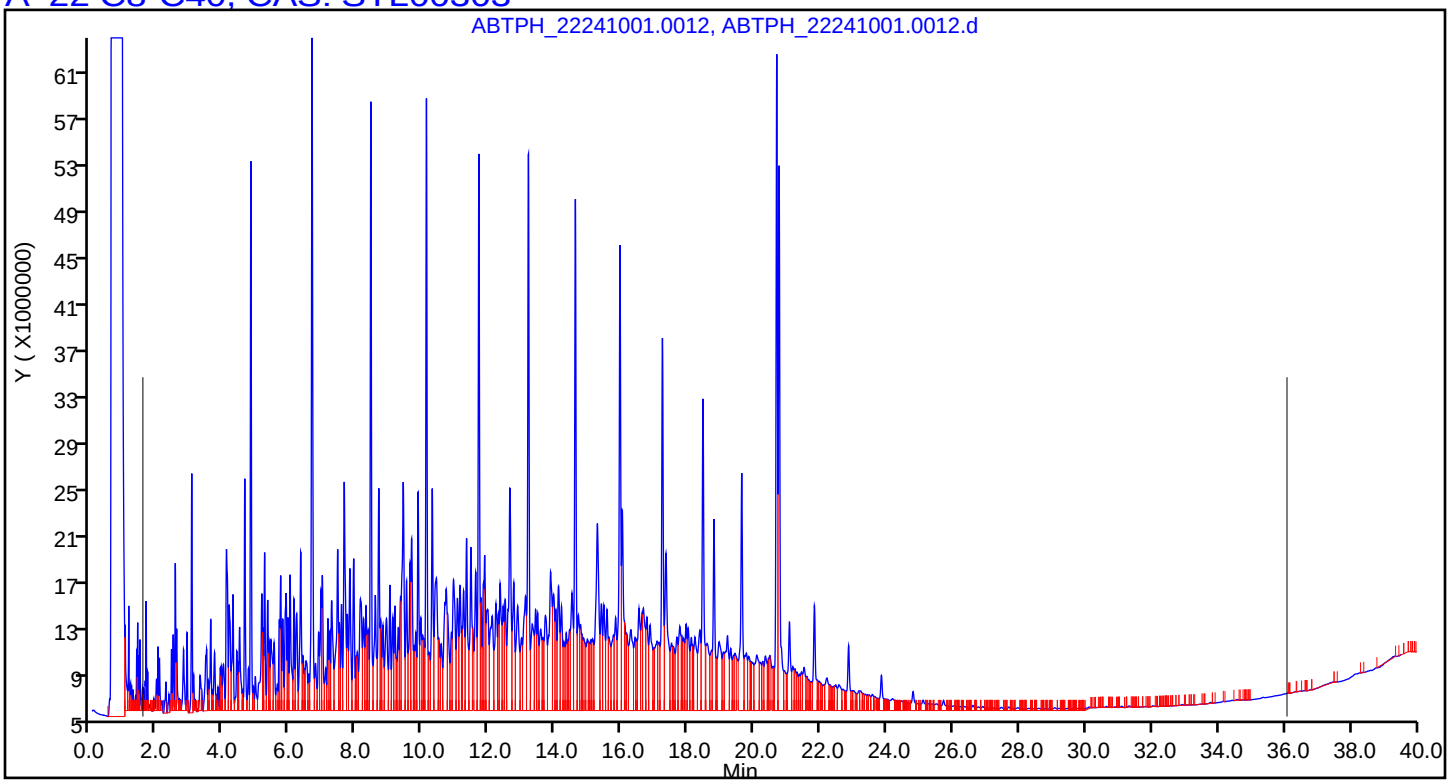


Report Date: 06-Sep-2022 14:41:09 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0012.d				
Injection Date:	30-Aug-2022 02:28:00	Instrument ID:	10254-A		
Lims ID:	IC FUL2				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0013.d				
Lims ID:	IC FUL3				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	30-Aug-2022 03:17:00	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC FUL3				
Misc. Info.:	410-0065078-013				
Operator ID:		Instrument ID:	10254-A		
Sublist:	chrom-Fuels_10254A*sub7				
Method:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	06-Sep-2022 14:41:11	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)			Det: ABTPH_19123049B.012	
Process Host:	CTX1638				

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 9 Diesel						
16.131	(8.324-23.939)		63622082944	NC	NC	
A 11 Diesel Fuel 2-FID						
16.132	(4.702-27.562)		78680788002	800.2	768.1	
A 22 C8-C40						
18.808	(1.540-36.076)		84309063403	800.2	766.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

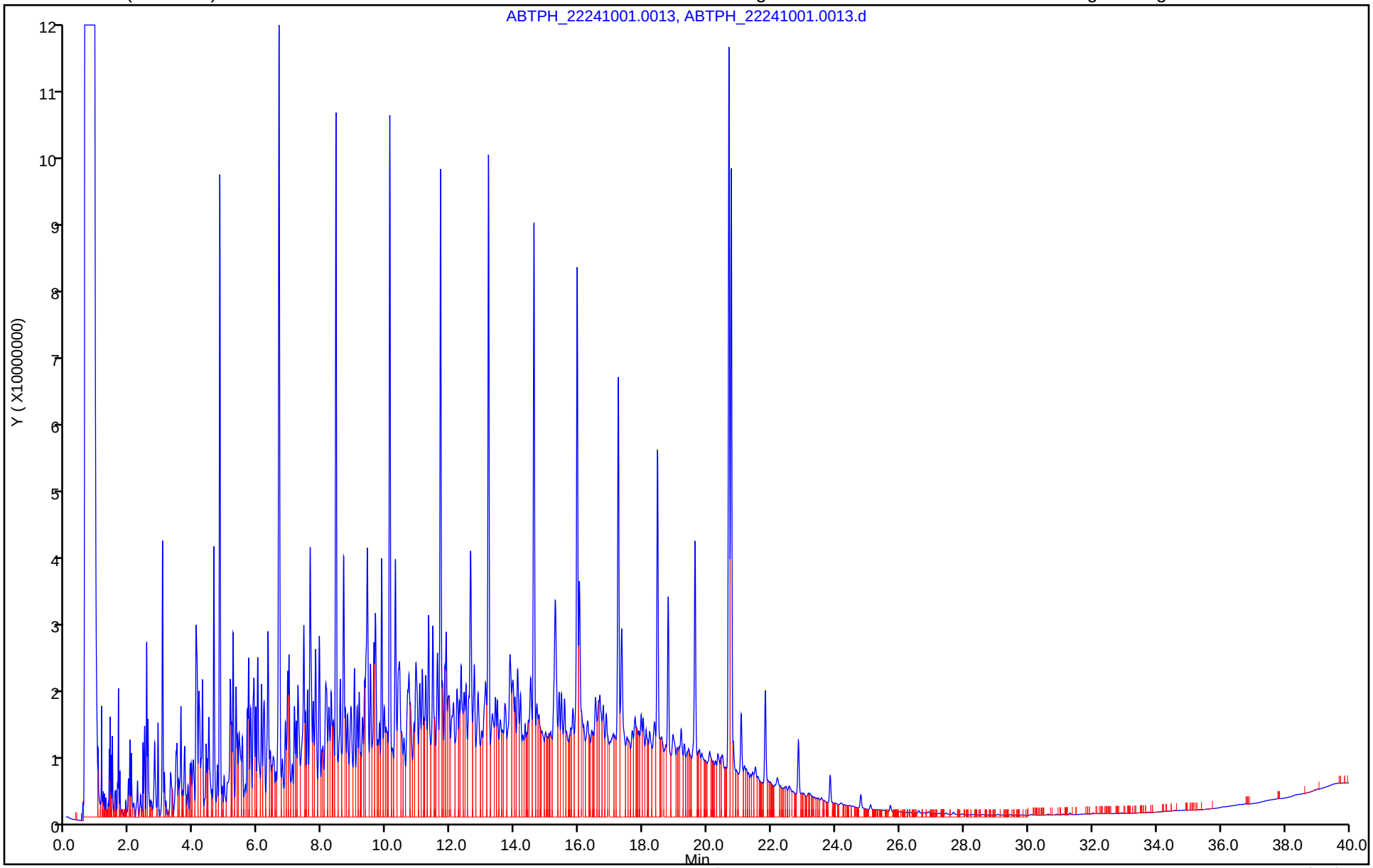
EPH_1FUL3_00007 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:41:17 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0013.d				
Injection Date:	30-Aug-2022 03:17:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC FUL3			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

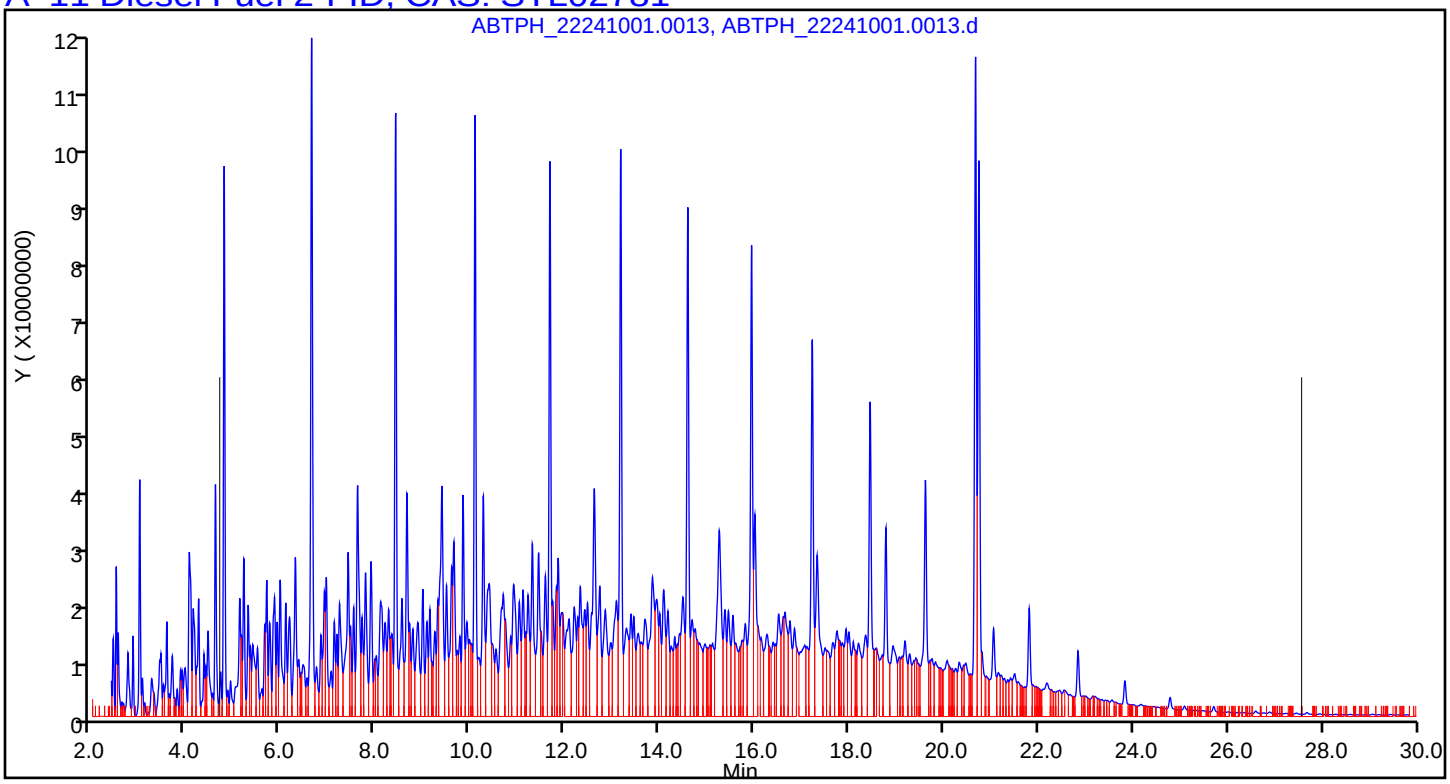


Report Date: 06-Sep-2022 14:41:17 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0013.d				
Injection Date:	30-Aug-2022 03:17:00	Instrument ID:	10254-A		
Lims ID:	IC FUL3				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_11 Diesel Fuel 2-FID, CAS: STL02781

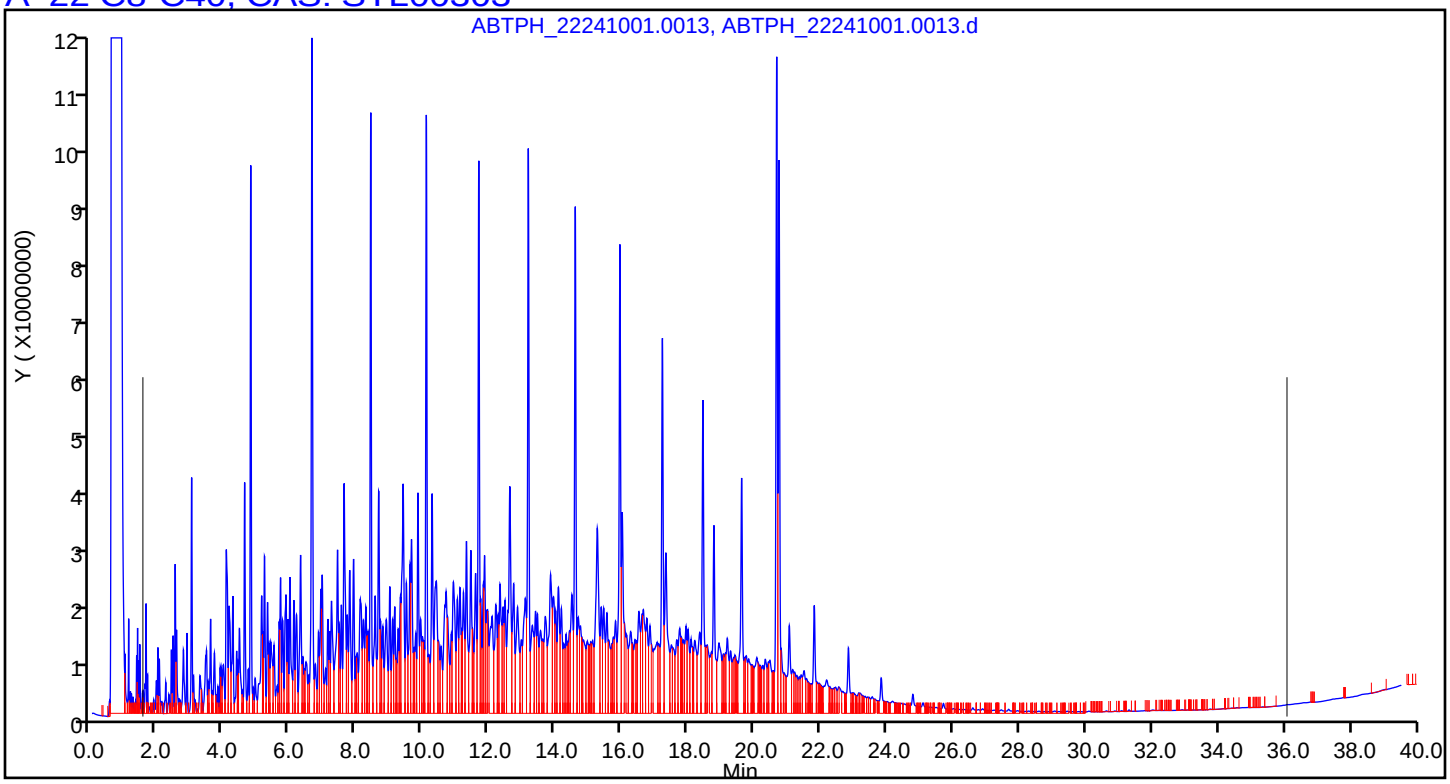


Report Date: 06-Sep-2022 14:41:17 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0013.d				
Injection Date:	30-Aug-2022 03:17:00	Instrument ID:	10254-A		
Lims ID:	IC FUL3				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0014.d				
Lims ID:	IC FUL4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	30-Aug-2022 04:05:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC FUL4				
Misc. Info.:	410-0065078-014				
Operator ID:		Instrument ID:	10254-A		
Sublist:	chrom-Fuels_10254A*sub7				
Method:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	06-Sep-2022 14:41:19	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)			Det: ABTPH_19123049B.012	
Process Host:	CTX1638				

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 9 Diesel						
16.138	(8.324-23.939)		131655670860	NC	NC	
A 11 Diesel Fuel 2-FID						
16.132	(4.702-27.562)		162113823485	1600.3	1582.7	
A 22 C8-C40						
18.808	(1.540-36.076)		173801718033	1600.3	1579.8	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

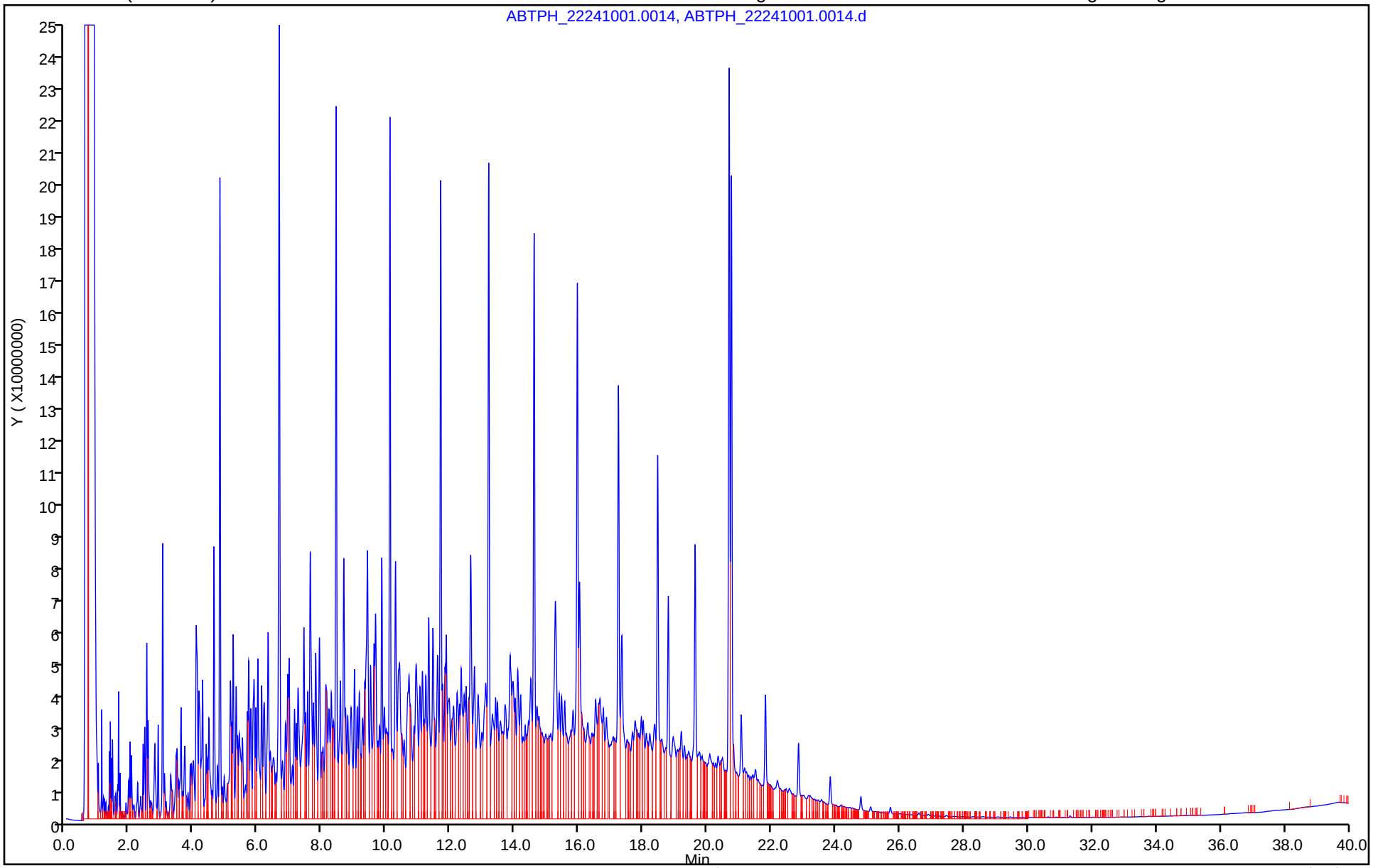
EPH_1FUL4_00006 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:41:24 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0014.d				
Injection Date:	30-Aug-2022 04:05:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC FUL4			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

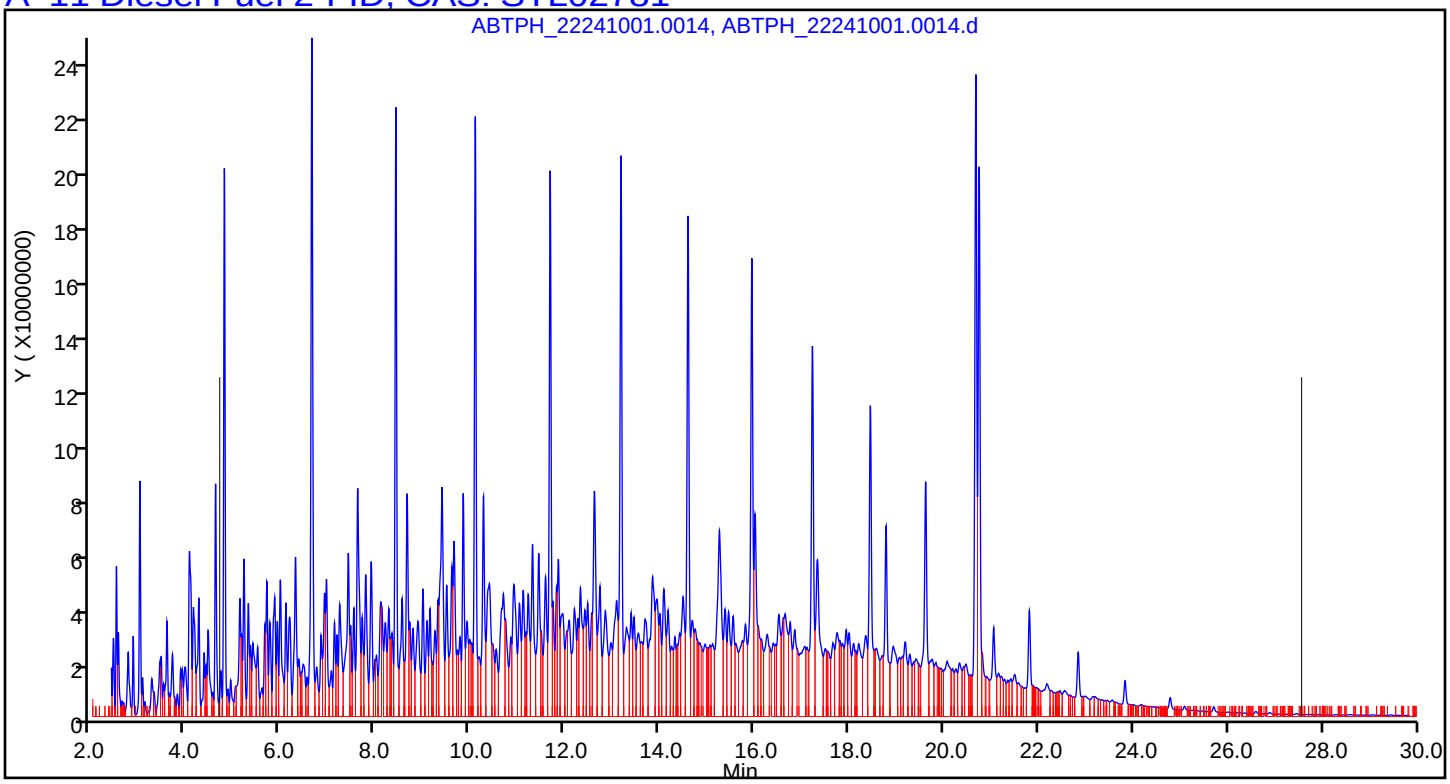


Report Date: 06-Sep-2022 14:41:25 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0014.d				
Injection Date:	30-Aug-2022 04:05:00	Instrument ID:	10254-A		
Lims ID:	IC FUL4				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_11 Diesel Fuel 2-FID, CAS: STL02781

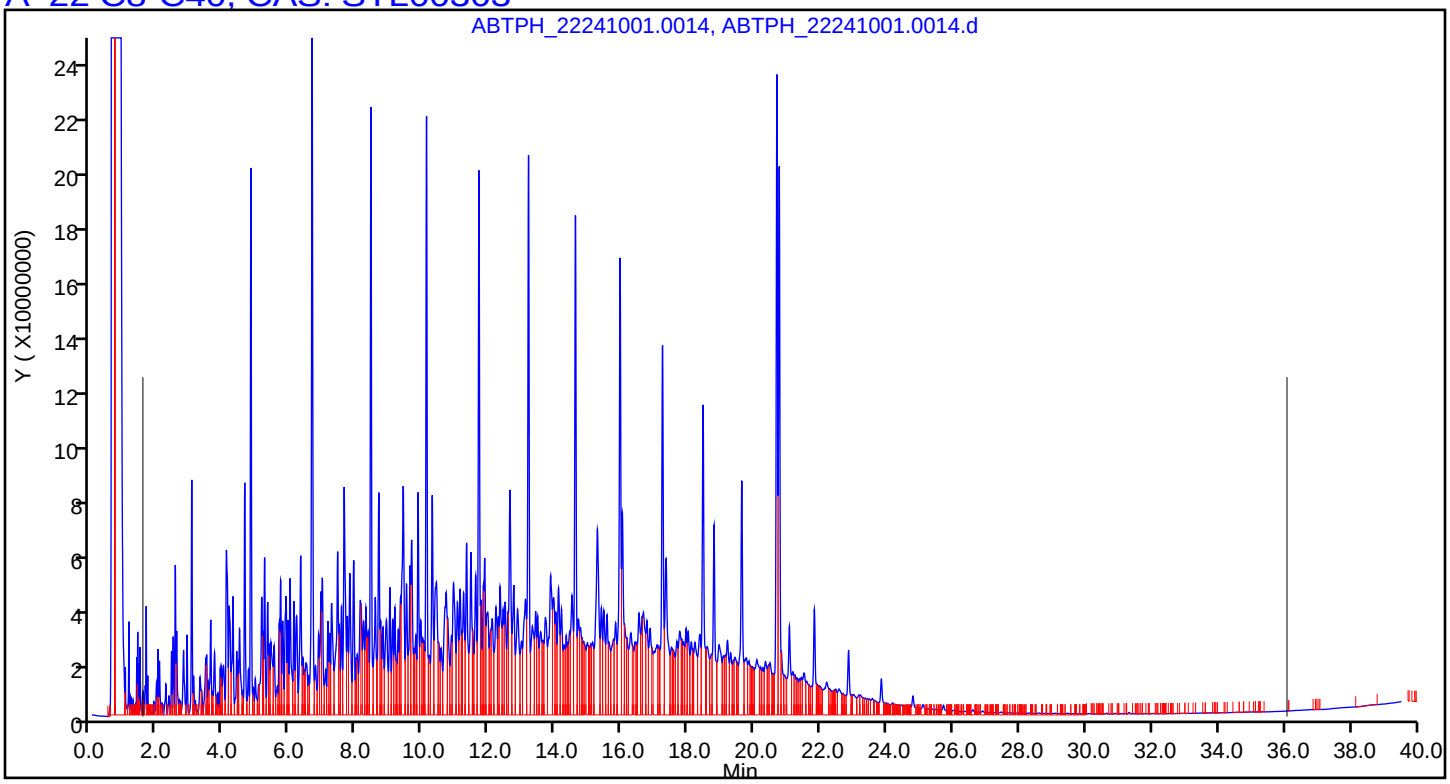


Report Date: 06-Sep-2022 14:41:25 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0014.d				
Injection Date:	30-Aug-2022 04:05:00	Instrument ID:	10254-A		
Lims ID:	IC FUL4				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0015.d				
Lims ID:	IC FUL5				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	30-Aug-2022 04:53:00	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC FUL5				
Misc. Info.:	410-0065078-015				
Operator ID:		Instrument ID:	10254-A		
Sublist:	chrom-Fuels_10254A*sub7				
Method:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	06-Sep-2022 14:41:27	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1638				

First Level Reviewer: UHEW Date: 30-Aug-2022 16:26:40

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 9 Diesel						
16.124	(8.324-23.939)		292411590467	NC	NC	
A 11 Diesel Fuel 2-FID						
16.132	(4.702-27.562)		360500745580	3500.7	3519.5	
A 22 C8-C40						
18.808	(1.540-36.076)		386255254941	3500.7	3511.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

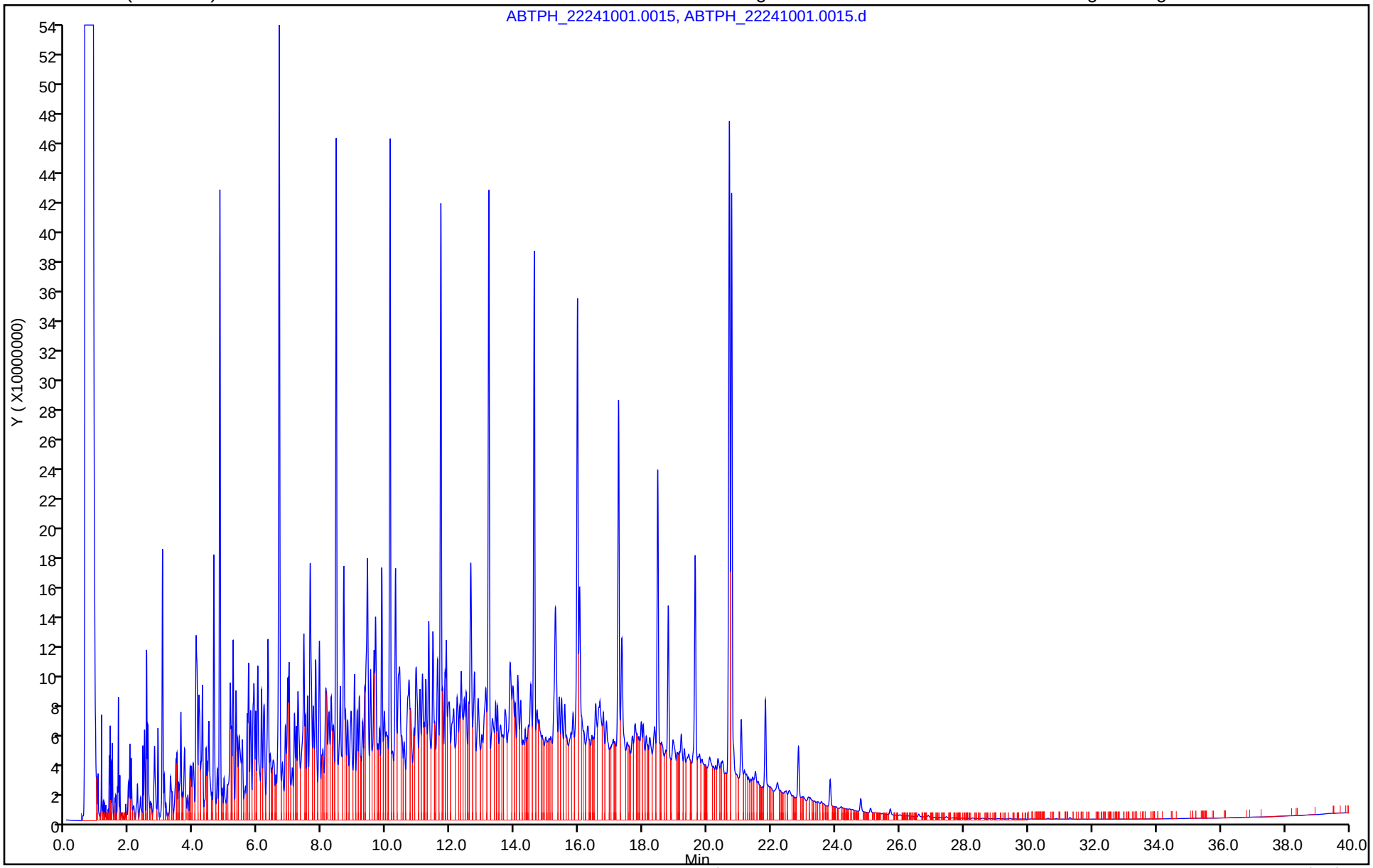
EPH_1FUL5_00007 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:41:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0015.d				
Injection Date:	30-Aug-2022 04:53:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	IC FUL5			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

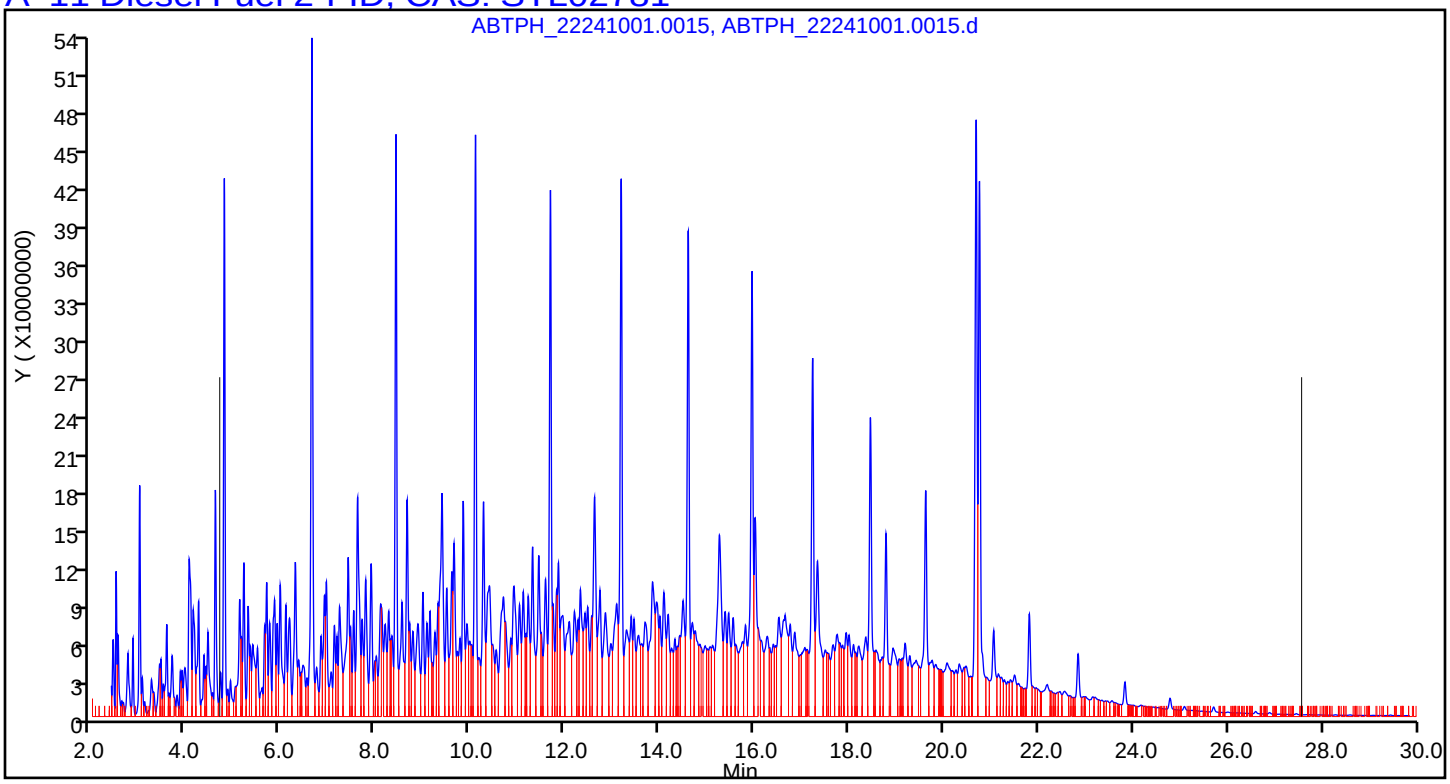


Report Date: 06-Sep-2022 14:41:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0015.d				
Injection Date:	30-Aug-2022 04:53:00	Instrument ID:	10254-A		
Lims ID:	IC FUL5				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_11 Diesel Fuel 2-FID, CAS: STL02781

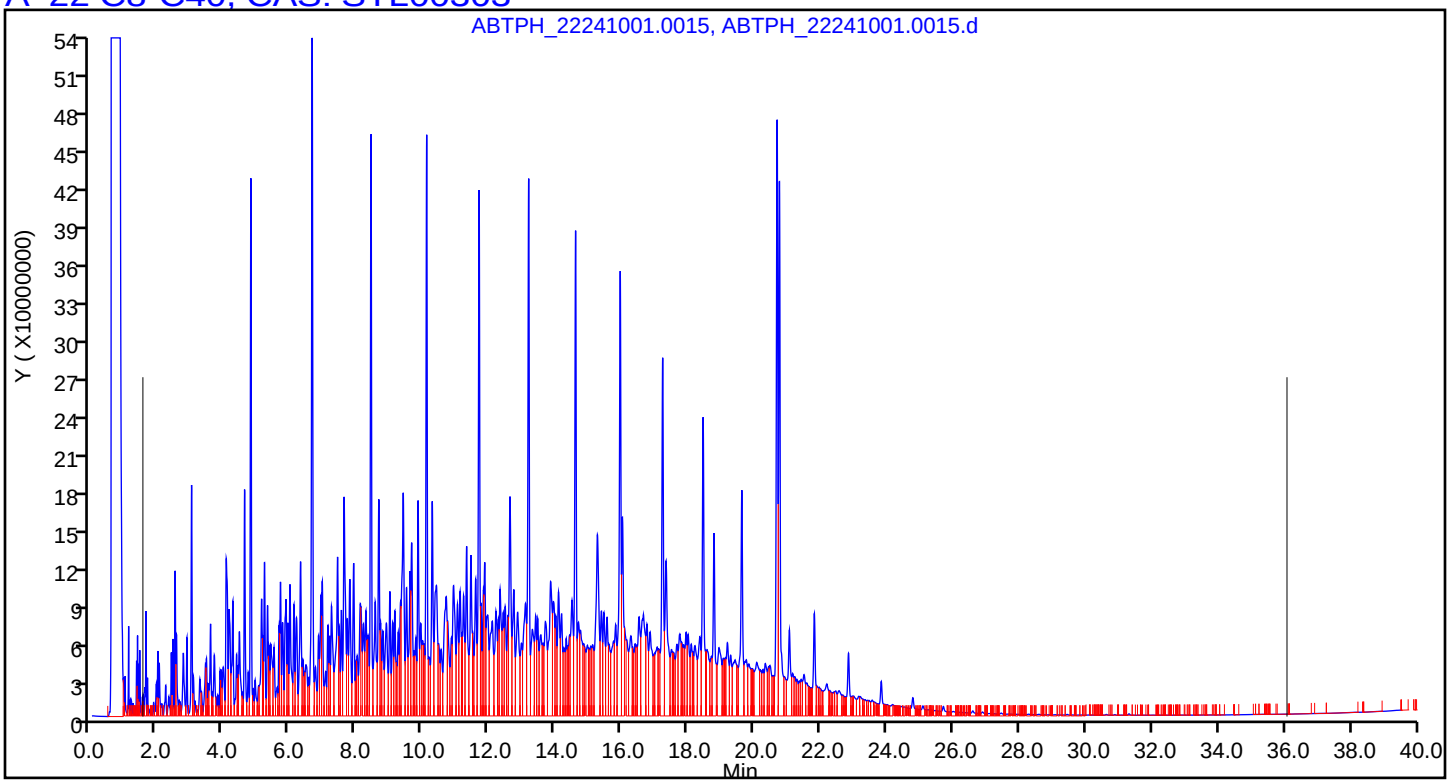


Report Date: 06-Sep-2022 14:41:33 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0015.d				
Injection Date:	30-Aug-2022 04:53:00	Instrument ID:	10254-A		
Lims ID:	IC FUL5				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Calibration / Diesel Fuel 2-FID

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

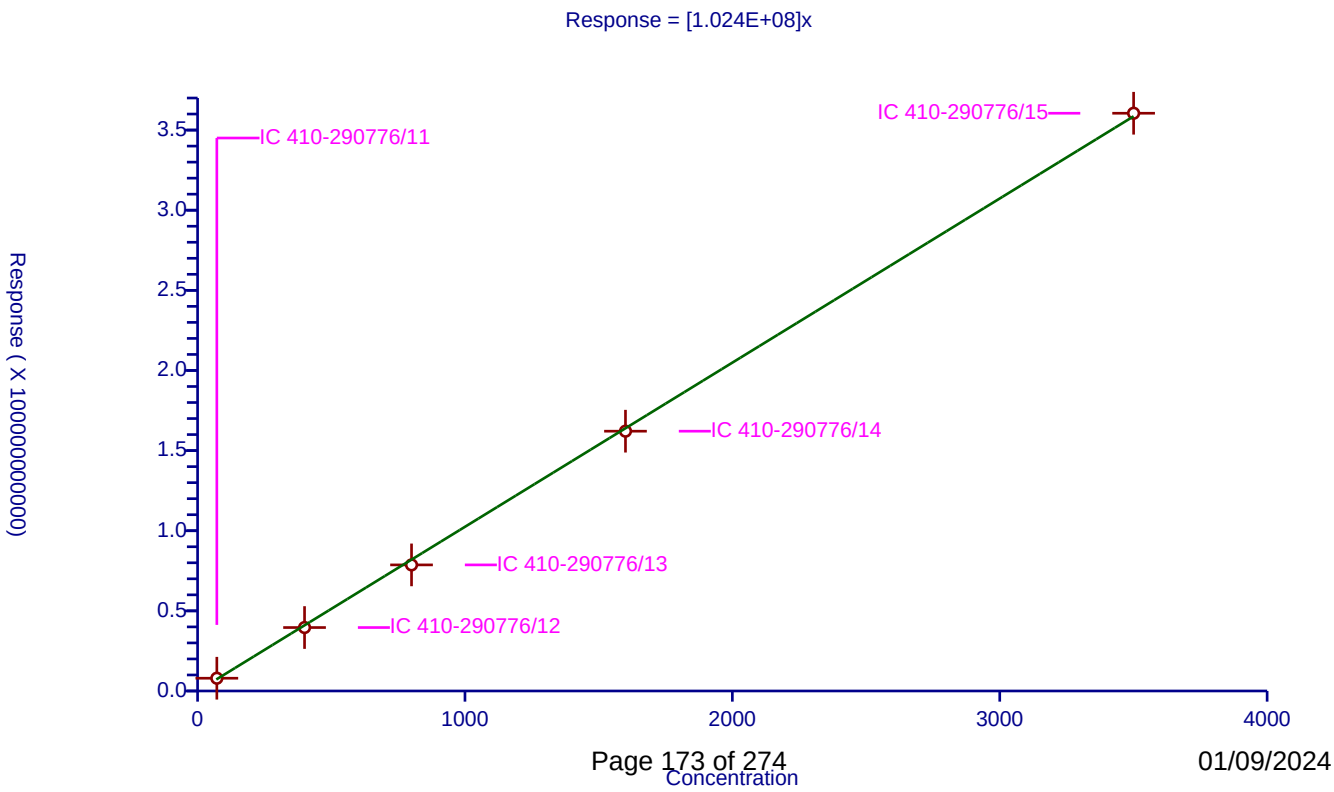
Curve Coefficients

Intercept:	0
Slope:	1.024E+08

Error Coefficients

Standard Error:	2240000000
Relative Standard Error:	4.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/11	72.014544	7963552011.0			110582551.366291	Y
2	IC 410-290776/12	400.0808	39592171035.0			98960437.579109	Y
3	IC 410-290776/13	800.1616	78680788002.0			98331122.115833	Y
4	IC 410-290776/14	1600.3232	162113823485.0			101300676.941383	Y
5	IC 410-290776/15	3500.707	360500745580.0			102979411.181798	Y



Calibration / C8-C40

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

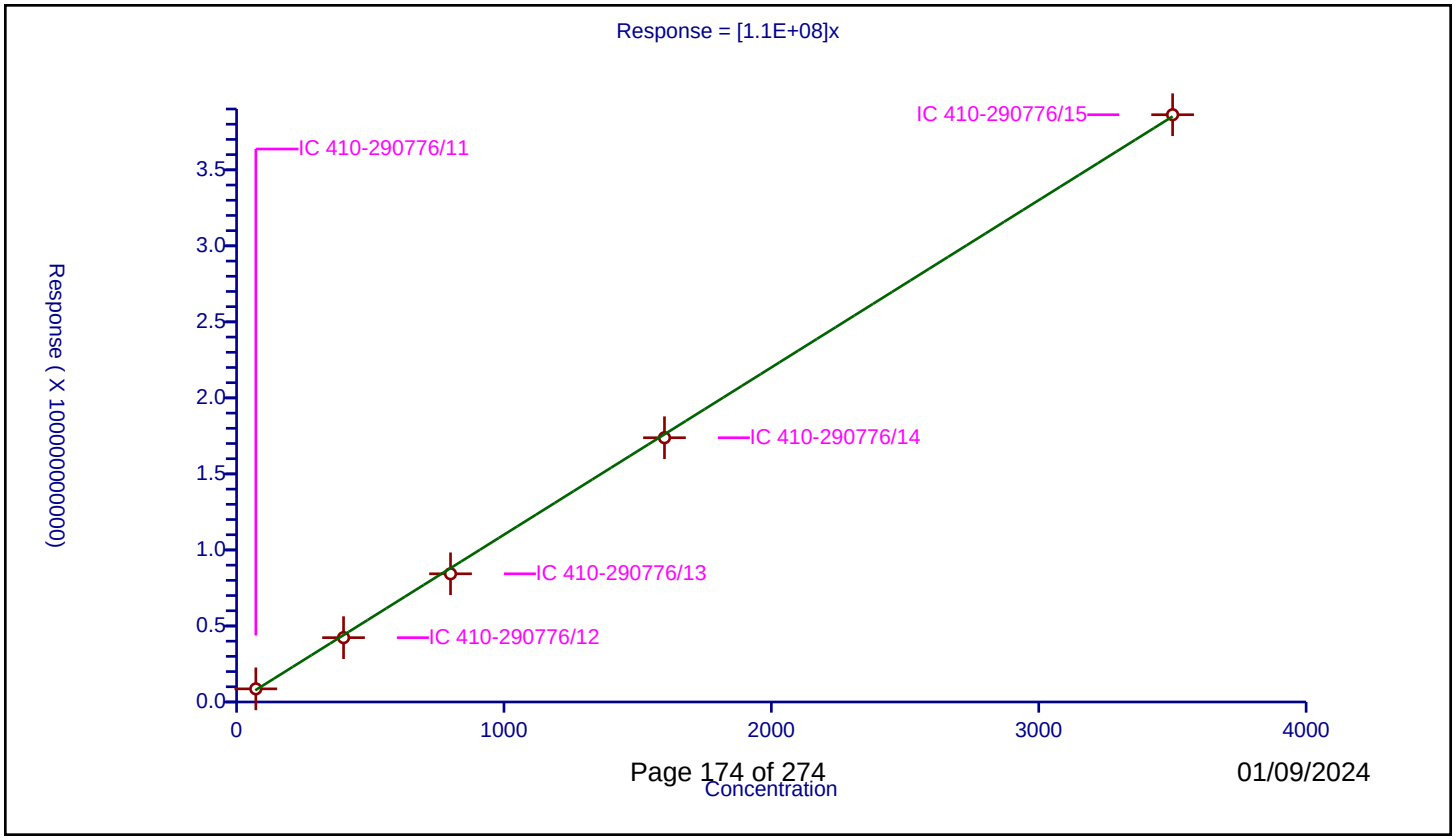
Curve Coefficients

Intercept:	0
Slope:	1.1E+08

Error Coefficients

Standard Error:	2430000000
Relative Standard Error:	5.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-290776/11	72.014544	8641785194.0			120000554.249153	Y
2	IC 410-290776/12	400.0808	42314255228.0			105764273.686715	Y
3	IC 410-290776/13	800.1616	84309063403.0			105365045.514556	Y
4	IC 410-290776/14	1600.3232	173801718033.0			108604135.735206	Y
5	IC 410-290776/15	3500.707	386255254941.0			110336356.32488	Y



FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: ICV 410-290776/30
Calibration Date: 08/30/2022 16:59

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241001.0030.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Octane	Ave	100591442	102314388			16.0	1.7	
n-Decane	Ave	105174724	105111479			16.1	-0.0	
Dodecane	Ave	106955917	107826310			16.0	0.8	
n-Tetradecane	Ave	108395498	109805106			16.0	1.3	
Hexadecane	Ave	112275355	110779470			16.0	-1.3	
n-Octadecane	Ave	113780432	111925732			16.1	-1.6	
icosane	Ave	112490786	112701567			16.0	0.2	
n-Docosane	Ave	113376940	114026351			16.1	0.6	
C12-C40	Ave	115428155	115597995		241	241	0.1	
n-Tetracosane	Ave	114434126	114611854			16.0	0.2	
n-Hexacosane	Ave	115216063	115001578			16.1	-0.2	
n-Octacosane	Ave	115968745	116021556			16.0	0.0	
Triacontane	Ave	116797674	116601209			16.0	-0.2	
Dotriacontane	Ave	114724352	116249807			16.0	1.3	
Tetratriacontane	Ave	115932099	119394611			16.1	3.0	
n-Hexatriacontane	Ave	113939077	115929282			16.1	1.7	
n-Octatriacontane	Ave	110432597	112151462			16.0	1.6	
n-Tetracontane	Ave	113015898	115611573			16.0	2.3	
Chlorobenzene (Surr)	Ave	79790568	77319664		15.6	16.1	-3.1	20.0
o- terphenyl (Surr)	Ave	122668097	117334023		15.3	16.0	-4.3	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: ICV 410-290776/30
Calibration Date: 08/30/2022 16:59

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241001.0030.d

Analyte	RT	RT WINDOW	
		FROM	TO
n-Octane	1.63	1.59	1.69
n-Decane	4.80	4.75	4.85
Dodecane	8.42	8.37	8.47
n-Tetradecane	11.68	11.64	11.74
Hexadecane	14.60	14.55	14.65
n-Octadecane	17.23	17.18	17.28
icosane	19.62	19.57	19.67
n-Docosane	21.82	21.77	21.87
C12-C40	22.20	8.32	36.08
n-Tetracosane	23.84	23.79	23.89
n-Hexacosane	25.72	25.66	25.76
n-Octacosane	27.46	27.41	27.51
Triacontane	29.10	29.05	29.15
Dotriacontane	30.63	30.58	30.68
Tetratriacontane	32.08	32.03	32.13
n-Hexatriacontane	33.45	33.40	33.50
n-Octatriacontane	34.74	34.69	34.79
n-Tetracontane	35.98	35.93	36.03
Chlorobenzene (Surr)	2.17	2.13	2.23
o- terphenyl (Surr)	18.24	18.19	18.29

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d
Lims ID: ICV TPH
Client ID:
Sample Type: ICV
Inject. Date: 30-Aug-2022 16:59:00 ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TPH
Misc. Info.: 410-0065078-030
Operator ID: Instrument ID: 10254-A
Sublist:

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:41:55 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

First Level Reviewer: UHEW Date: 30-Aug-2022 18:32:05

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.632	1.640	-0.008	1640631675	16.0	16.3	
$ 2 Chlorobenzene (Surr)						
2.174	2.182	-0.008	1248681652	16.1	15.6	
4 n-Decane						
4.797	4.802	-0.005	1688510799	16.1	16.1	
5 Dodecane						
8.421	8.424	-0.003	1730396620	16.0	16.2	
7 n-Tetradecane						
11.683	11.685	-0.002	1761449582	16.0	16.3	
8 Hexadecane						
14.597	14.598	-0.001	1777788927	16.0	15.8	
12 n-Octadecane						
17.227	17.229	-0.002	1796542310	16.1	15.8	
$ 13 o- terphenyl (Surr)						
18.241	18.243	-0.002	1877457009	16.0	15.3	
A 22 C8-C40						
18.808	(1.540-36.076)		31296460560	272.8	284.5	
24 icosane						
19.621	19.621	0.000	1806470882	16.0	16.1	
25 n-Docosane						
21.815	21.815	0.000	1830989530	16.1	16.1	
A 26 C12-C40						
22.200	(8.324-36.076)		27823790092	240.7	241.0	
27 n-Tetracosane						
23.839	23.839	0.000	1837457238	16.0	16.1	
29 n-Hexacosane						
25.715	25.714	0.001	1846649333	16.1	16.0	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
30 n-Octacosane						
27.461	27.462	-0.001	1861913927	16.0	16.1	
31 Triacontane						
29.097	29.097	0.000	1871216201	16.0	16.0	
33 Dotriacontane						
30.634	30.631	0.003	1865576898	16.0	16.3	
34 Tetratriacontane						
32.080	32.078	0.002	1916426782	16.1	16.5	
35 n-Hexatriacontane						
33.448	33.446	0.002	1860804096	16.1	16.3	
36 C38						
34.744	34.743	0.001	1799088891	16.0	16.3	
37 C40						
35.979	35.976	0.003	1854594606	16.0	16.4	

QC Flag Legend

Processing Flags

Reagents:

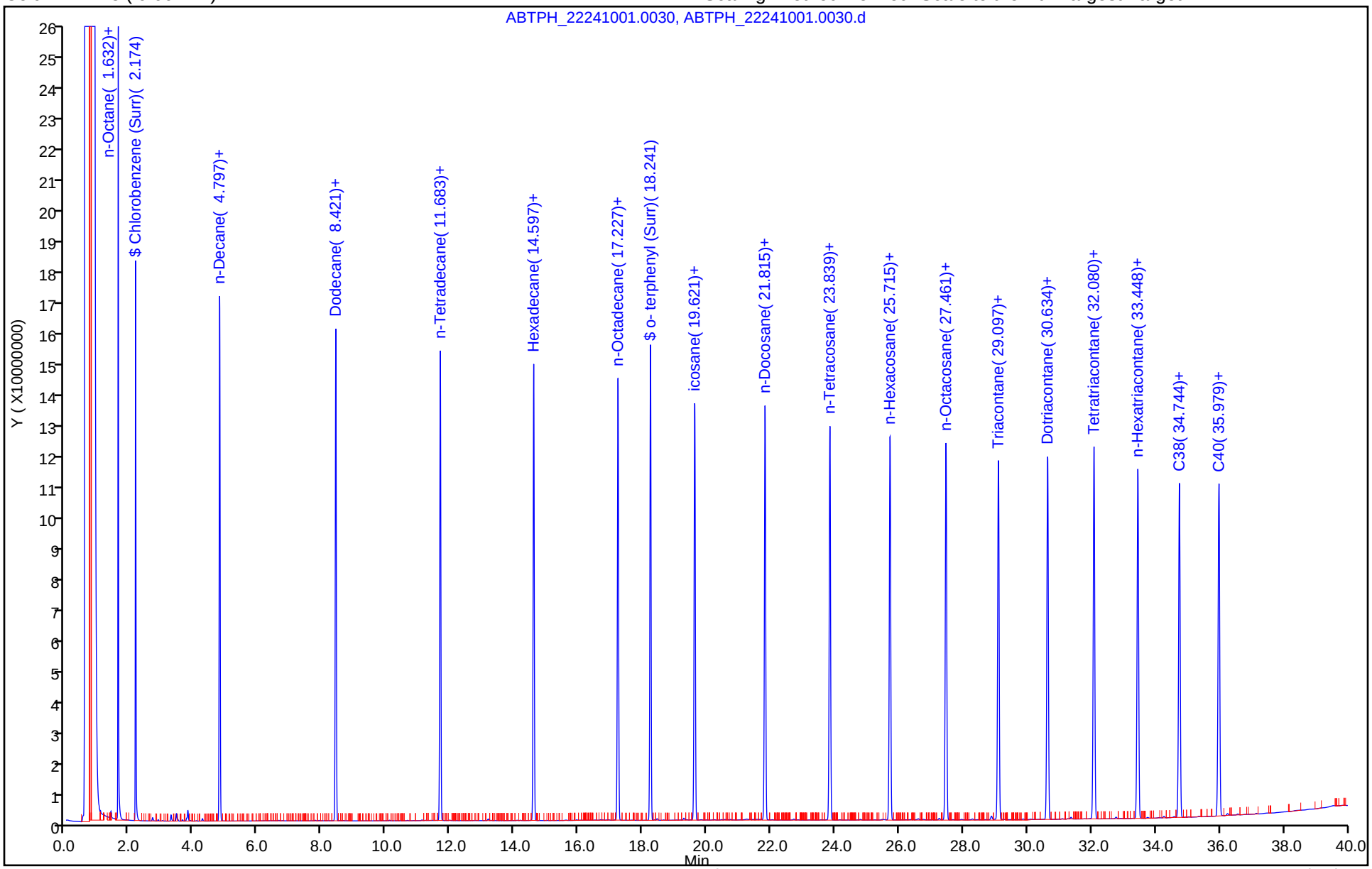
EPH_TPHC_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:42:47 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d				
Injection Date:	30-Aug-2022 16:59:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	ICV TPH			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

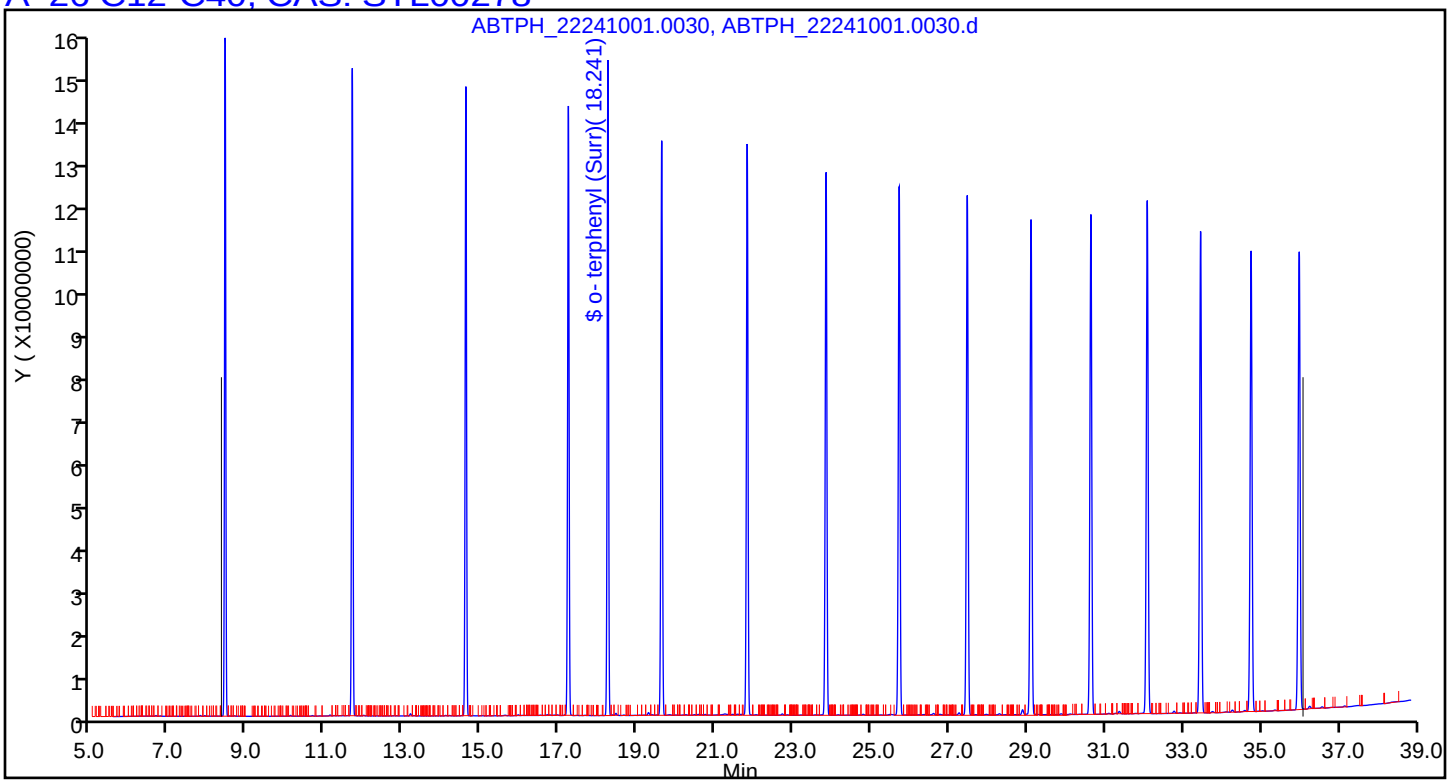


Report Date: 06-Sep-2022 14:42:47 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d				
Injection Date:	30-Aug-2022 16:59:00	Instrument ID:	10254-A		
Lims ID:	ICV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: ICV 410-290776/30
Calibration Date: 08/30/2022 16:59

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241001.0030.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
C8-C40	Ave	110014073	114725787		284	273	4.3	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: ICV 410-290776/30
Calibration Date: 08/30/2022 16:59

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241001.0030.d

Analyte	RT	RT WINDOW	
		FROM	TO
C8-C40	18.81	1.54	36.08

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d
Lims ID: ICV TPH
Client ID:
Sample Type: ICV
Inject. Date: 30-Aug-2022 16:59:00 ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TPH
Misc. Info.: 410-0065078-030
Operator ID: Instrument ID: 10254-A
Sublist:

Method: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 06-Sep-2022 14:41:55 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1638

First Level Reviewer: UHEW Date: 30-Aug-2022 18:32:05

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.632	1.640	-0.008	1640631675	16.0	16.3	
$ 2 Chlorobenzene (Surr)						
2.174	2.182	-0.008	1248681652	16.1	15.6	
4 n-Decane						
4.797	4.802	-0.005	1688510799	16.1	16.1	
5 Dodecane						
8.421	8.424	-0.003	1730396620	16.0	16.2	
7 n-Tetradecane						
11.683	11.685	-0.002	1761449582	16.0	16.3	
8 Hexadecane						
14.597	14.598	-0.001	1777788927	16.0	15.8	
12 n-Octadecane						
17.227	17.229	-0.002	1796542310	16.1	15.8	
$ 13 o- terphenyl (Surr)						
18.241	18.243	-0.002	1877457009	16.0	15.3	
A 22 C8-C40						
18.808	(1.540-36.076)		31296460560	272.8	284.5	
24 icosane						
19.621	19.621	0.000	1806470882	16.0	16.1	
25 n-Docosane						
21.815	21.815	0.000	1830989530	16.1	16.1	
A 26 C12-C40						
22.200	(8.324-36.076)		27823790092	240.7	241.0	
27 n-Tetracosane						
23.839	23.839	0.000	1837457238	16.0	16.1	
29 n-Hexacosane						
25.715	25.714	0.001	1846649333	16.1	16.0	

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
30 n-Octacosane						
27.461	27.462	-0.001	1861913927	16.0	16.1	
31 Triacontane						
29.097	29.097	0.000	1871216201	16.0	16.0	
33 Dotriacontane						
30.634	30.631	0.003	1865576898	16.0	16.3	
34 Tetratriacontane						
32.080	32.078	0.002	1916426782	16.1	16.5	
35 n-Hexatriacontane						
33.448	33.446	0.002	1860804096	16.1	16.3	
36 C38						
34.744	34.743	0.001	1799088891	16.0	16.3	
37 C40						
35.979	35.976	0.003	1854594606	16.0	16.4	

QC Flag Legend

Processing Flags

Reagents:

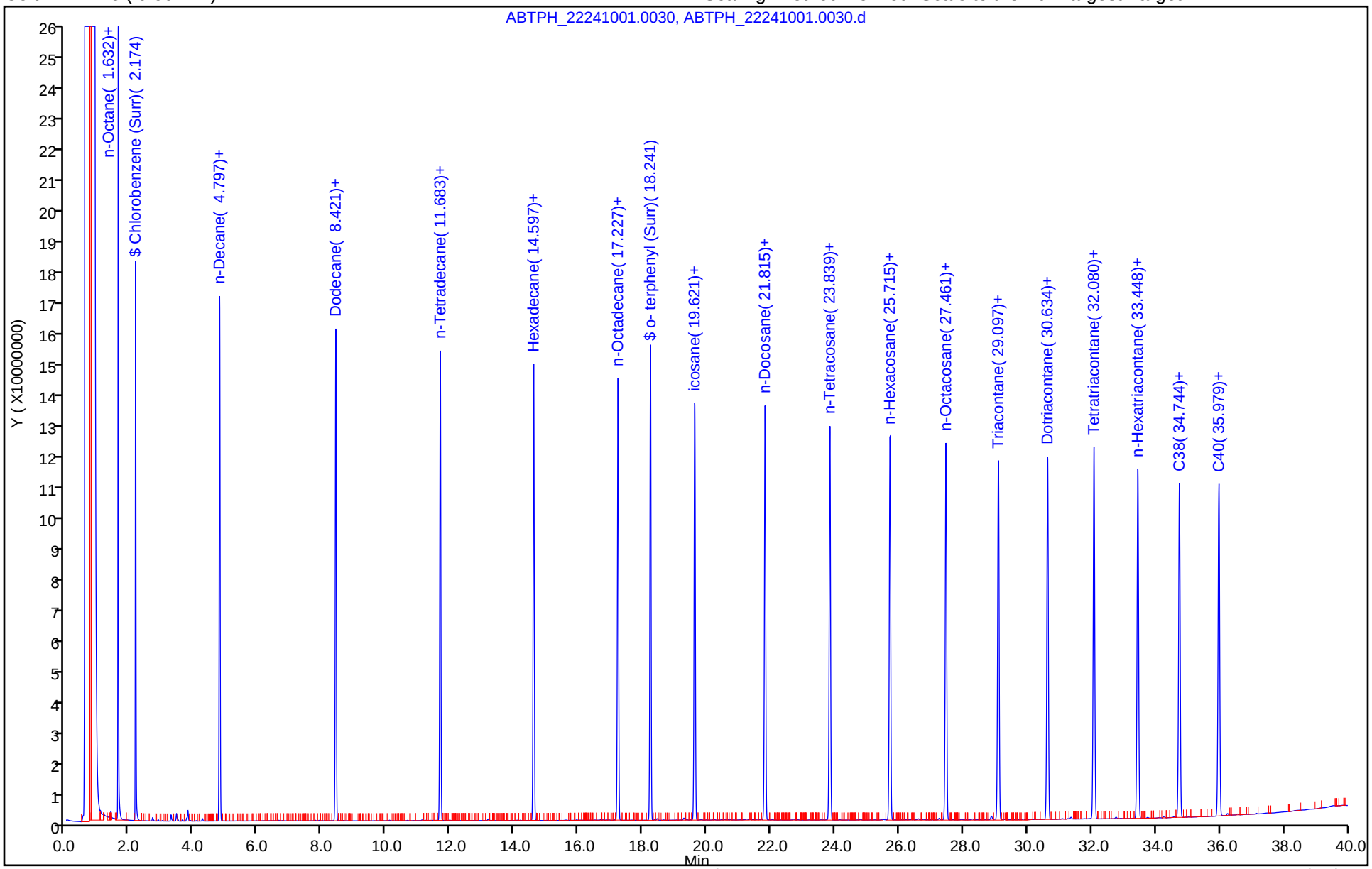
EPH_TPHC_00002 Amount Added: 1.00 Units: mL

Report Date: 06-Sep-2022 14:42:47 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d				
Injection Date:	30-Aug-2022 16:59:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	ICV TPH			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

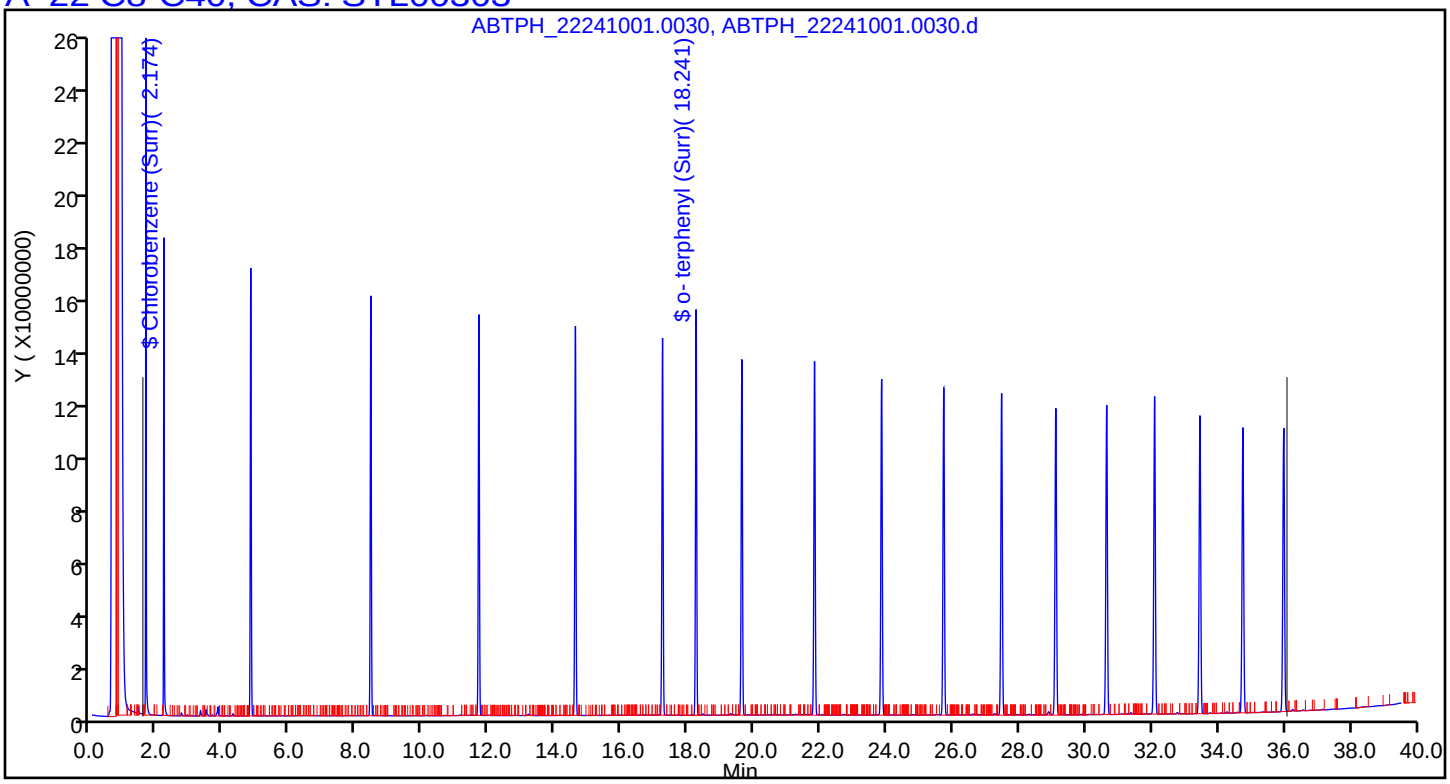


Report Date: 06-Sep-2022 14:42:47 Chrom Revision: 2.3 30-Aug-2022 19:06:20

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0030.d				
Injection Date:	30-Aug-2022 16:59:00	Instrument ID:	10254-A		
Lims ID:	ICV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/5
Calibration Date: 01/03/2024 21:07

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241088.0005.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Octane	Ave	100591442	106668867			16.1	6.0	
n-Nonane	Ave	102322807	104734227			16.1	2.4	
n-Decane	Ave	105174724	105363198			16.1	0.2	
Dodecane	Ave	106955917	107240351			16.1	0.3	
n-Tetradecane	Ave	108395498	111018993			16.0	2.4	
Hexadecane	Ave	112275355	112072202			16.1	-0.2	
n-Octadecane	Ave	113780432	114059367			16.1	0.2	
icosane	Ave	112490786	117218560			16.0	4.2	
n-Docosane	Ave	113376940	116165585			16.1	2.5	
C12-C40	Ave	115428155	118784523		248	241	2.9	
n-Tetracosane	Ave	114434126	115069691			16.0	0.6	
n-Hexacosane	Ave	115216063	114356172			16.2	-0.7	
n-Octacosane	Ave	115968745	114338056			16.0	-1.4	
Triacontane	Ave	116797674	116953081			16.1	0.1	
Dotriacontane	Ave	114724352	114852859			16.1	0.1	
Tetratriacontane	Ave	115932099	115745444			16.1	-0.2	
n-Hexatriacontane	Ave	113939077	113544678			16.1	-0.3	
n-Octatriacontane	Ave	110432597	113059573			16.1	2.4	
n-Tetracontane	Ave	113015898	113959675			16.1	0.8	
Chlorobenzene (Surr)	Ave	79790568	81943857		16.5	16.1	2.7	20.0
o- terphenyl (Surr)	Ave	122668097	127959694		16.7	16.0	4.3	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/5
Calibration Date: 01/03/2024 21:07

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241088.0005.d

Analyte	RT	RT WINDOW	
		FROM	TO
n-Octane	1.59	1.54	1.64
n-Nonane	2.94	2.89	2.99
n-Decane	4.71	4.67	4.77
Dodecane	8.32	8.28	8.38
n-Tetradecane	11.58	11.54	11.64
Hexadecane	14.49	14.45	14.55
n-Octadecane	17.11	17.08	17.18
icosane	19.50	19.47	19.57
n-Docosane	21.69	21.66	21.76
C12-C40	22.10	8.23	35.95
n-Tetracosane	23.71	23.68	23.78
n-Hexacosane	25.59	25.55	25.65
n-Octacosane	27.33	27.30	27.40
Triacontane	28.96	28.93	29.03
Dotriacontane	30.50	30.46	30.56
Tetratriacontane	31.94	31.91	32.01
n-Hexatriacontane	33.31	33.27	33.37
n-Octatriacontane	34.60	34.57	34.67
n-Tetracontane	35.84	35.80	35.90
Chlorobenzene (Surr)	2.12	2.07	2.17
o- terphenyl (Surr)	18.12	18.09	18.19

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d
Lims ID: CCV TPH
Client ID:
Sample Type: CCV
Inject. Date: 03-Jan-2024 21:07:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT TPH
Misc. Info.: 410-0103280-005
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 13:05:25 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:25

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 n-Octane						
	1.589	1.594	-0.005	1716942091	16.1	17.1	
$	2 Chlorobenzene (Surr)						
	2.117	2.123	-0.006	1315231683	16.1	16.5	
	3 n-Nonane						
	2.935	2.944	-0.009	1686807566	16.1	16.5	
	4 n-Decane						
	4.708	4.718	-0.010	1691542921	16.1	16.1	
	5 Dodecane						
	8.321	8.332	-0.011	1722709004	16.1	16.1	
	7 n-Tetradecane						
	11.577	11.589	-0.012	1779856489	16.0	16.4	
	8 Hexadecane						M
	14.487	14.500	-0.013	1799610588	16.1	16.0	M
	12 n-Octadecane						M
	17.113	17.126	-0.013	1836264569	16.1	16.1	M
$	13 o- terphenyl (Surr)						
	18.120	18.137	-0.017	2048890628	16.0	16.7	
A	22 C8-C40						M
	18.728	(1.507-35.950)		33818914829	289.4	307.4	M
	24 icosane						M
	19.503	19.517	-0.014	1879998158	16.0	16.7	M
	25 n-Docosane						M
	21.693	21.708	-0.015	1867199153	16.1	16.5	M
A	26 C12-C40						M
	22.100	(8.250-35.950)		28639423611	241.1	248.1	M
	27 n-Tetracosane						M
	23.713	23.729	-0.016	1842219726	16.0	16.1	M

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						M
25.587	25.602	-0.015	1846897925	16.2	16.0	M
30 n-Octacosane						M
27.333	27.347	-0.014	1829408892	16.0	15.8	M
31 Triacontane						M
28.963	28.980	-0.017	1882851043	16.1	16.1	M
33 Dotriacontane						
30.497	30.514	-0.017	1843893734	16.1	16.1	
34 Tetratriacontane						
31.943	31.959	-0.016	1866742517	16.1	16.1	
35 n-Hexatriacontane						
33.308	33.324	-0.016	1825071729	16.1	16.0	
36 C38						
34.603	34.619	-0.016	1819806887	16.1	16.5	
37 C40						
35.835	35.850	-0.015	1837941641	16.1	16.3	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

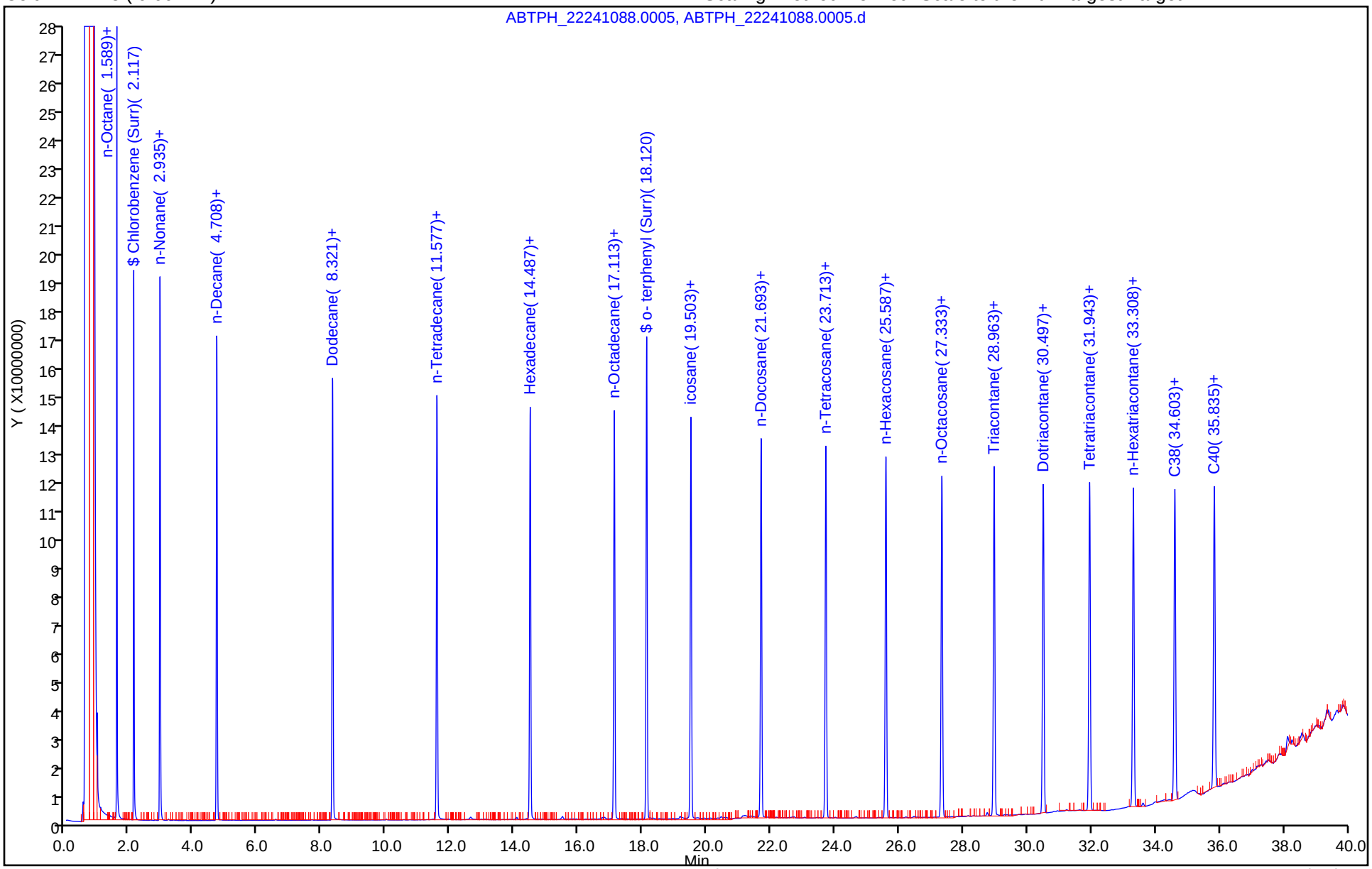
EPH_TPH_3_00023 Amount Added: 1.00 Units: mL

Report Date: 04-Jan-2024 13:05:25 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	CCV TPH			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

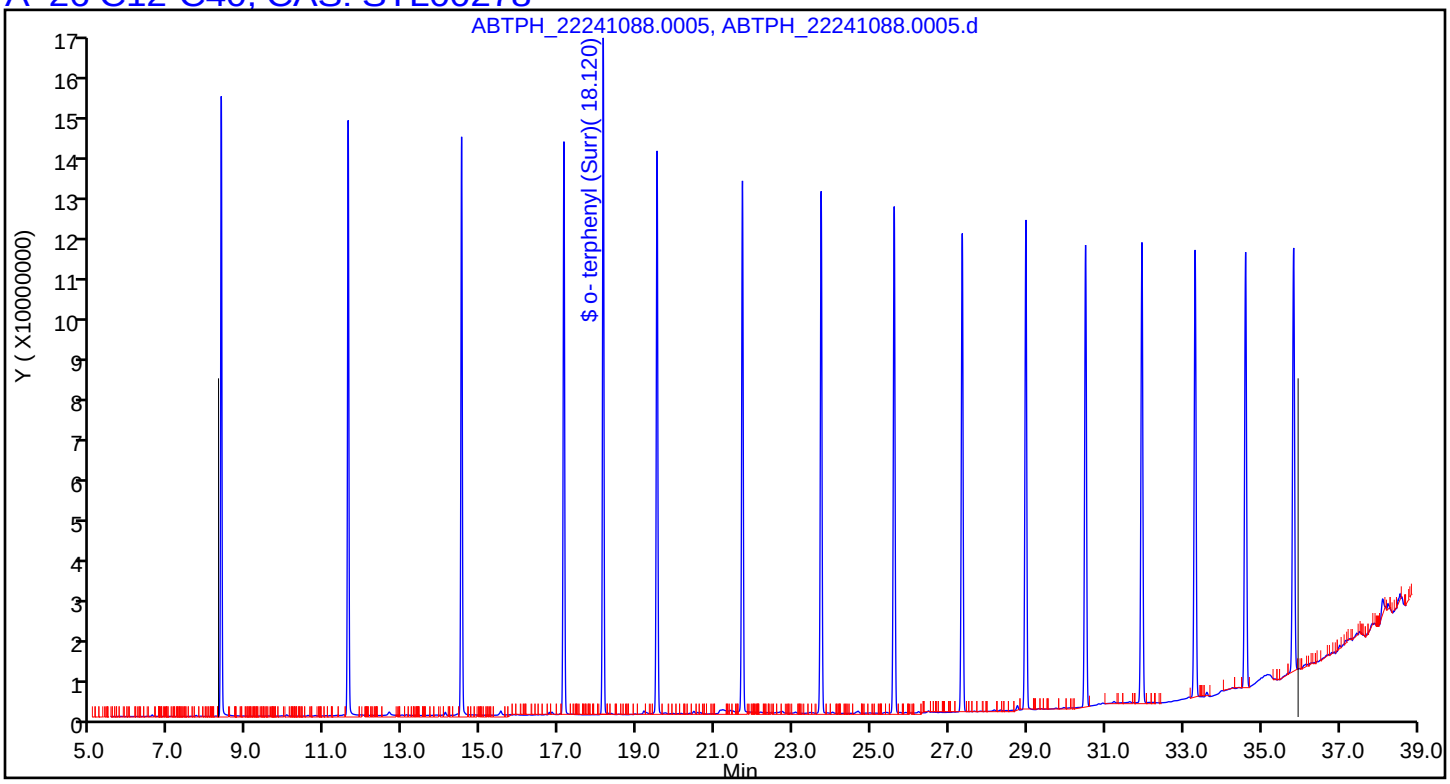


Report Date: 04-Jan-2024 13:05:26 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

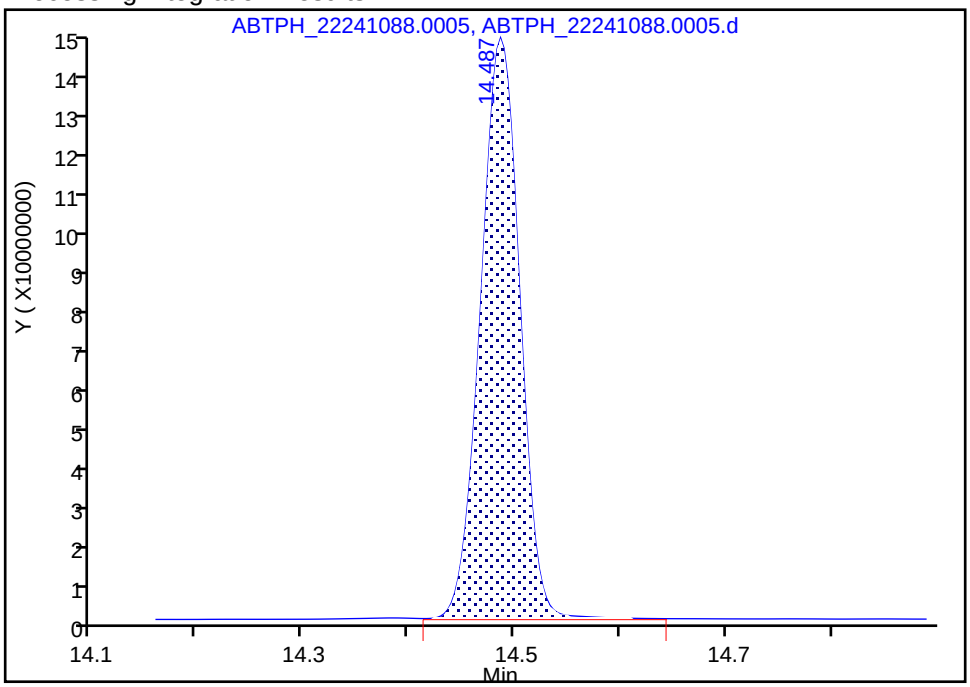
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

8 Hexadecane, CAS: 544-76-3

Signal: 1

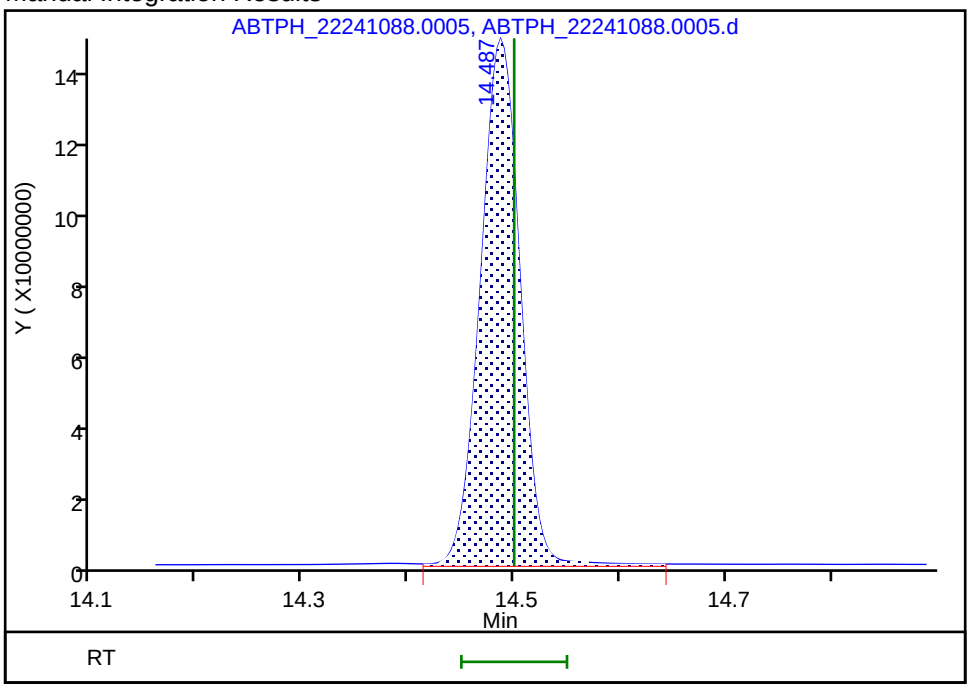
Processing Integration Results

RT: 14.49
Area: 1805605514
Amount: 16.081940
Amount Units: ug/ml



Manual Integration Results

RT: 14.49
Area: 1799610588
Amount: 16.028545
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

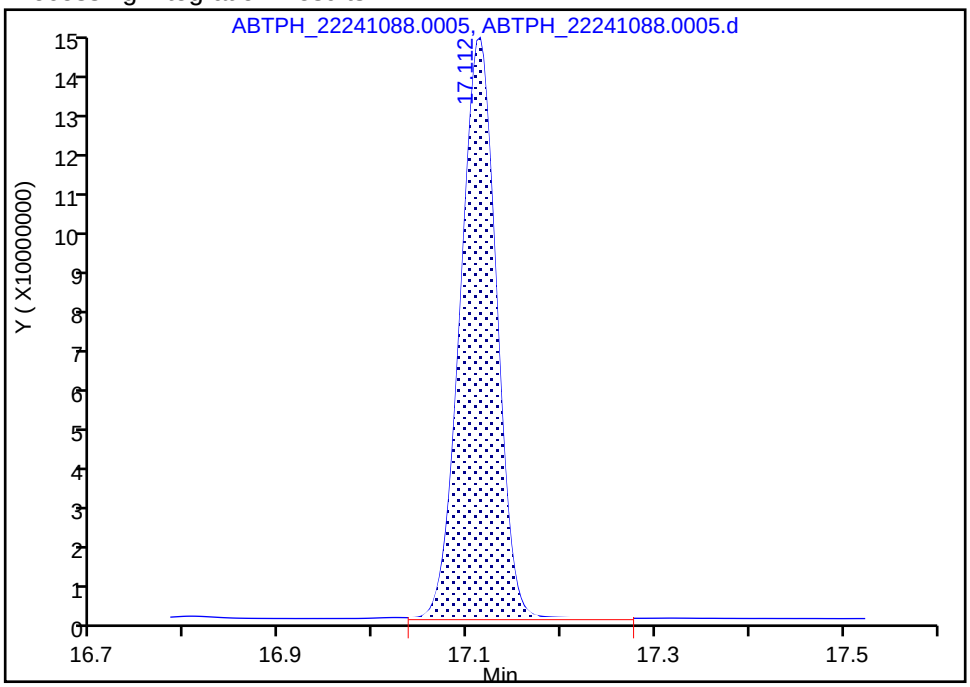
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

12 n-Octadecane, CAS: 593-45-3

Signal: 1

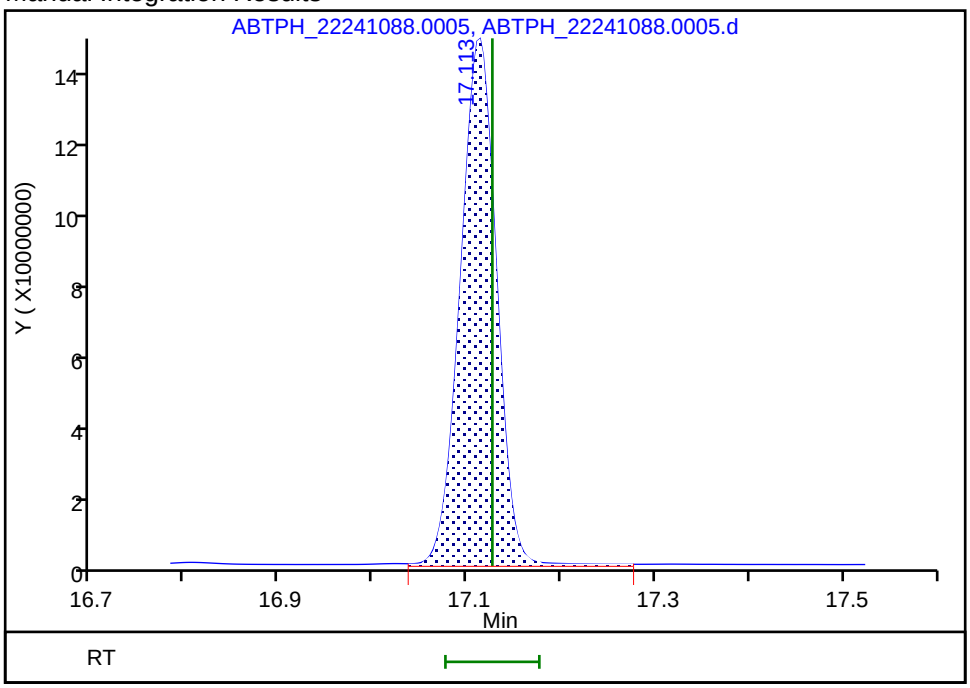
Processing Integration Results

RT: 17.11
Area: 1853823734
Amount: 16.292993
Amount Units: ug/ml



Manual Integration Results

RT: 17.11
Area: 1836264569
Amount: 16.138668
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

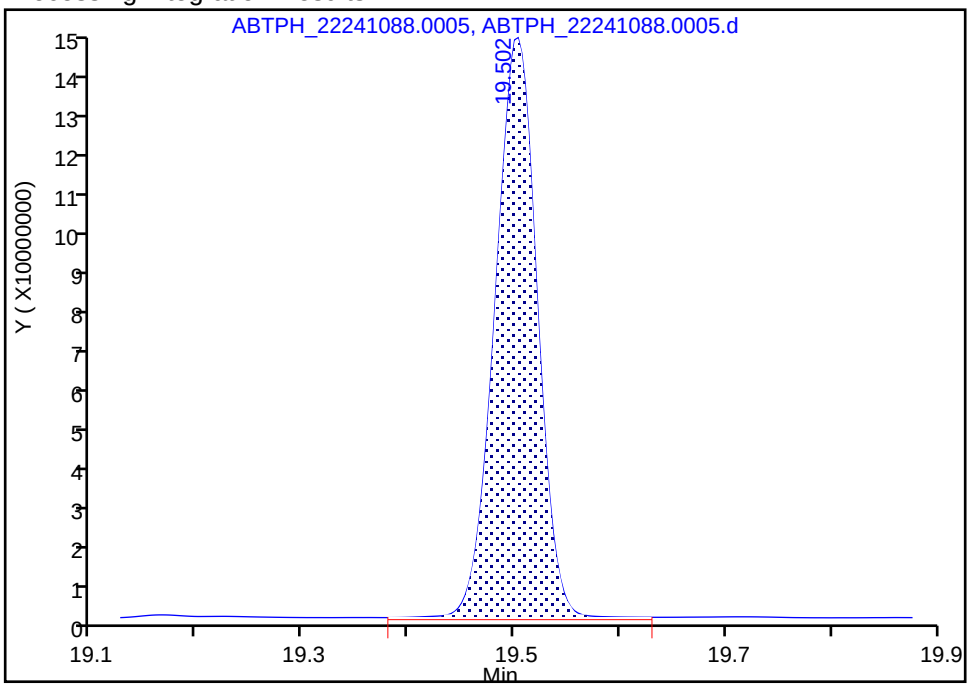
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

24 icosane, CAS: 112-95-8

Signal: 1

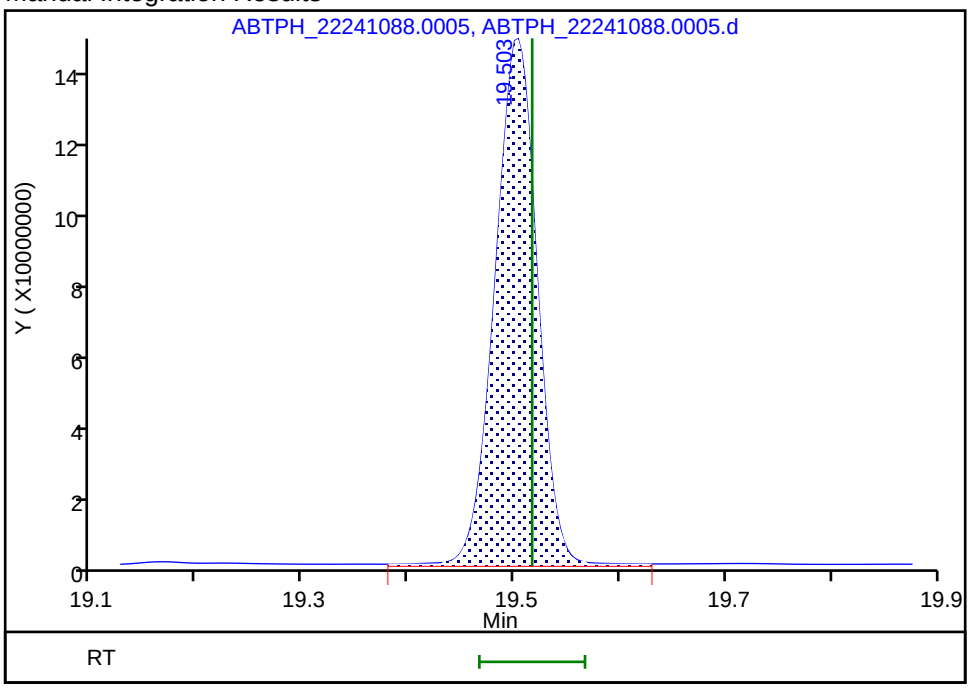
RT: 19.50
Area: 1909335399
Amount: 16.973260
Amount Units: ug/ml

Processing Integration Results



RT: 19.50
Area: 1879998158
Amount: 16.712464
Amount Units: ug/ml

Manual Integration Results



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

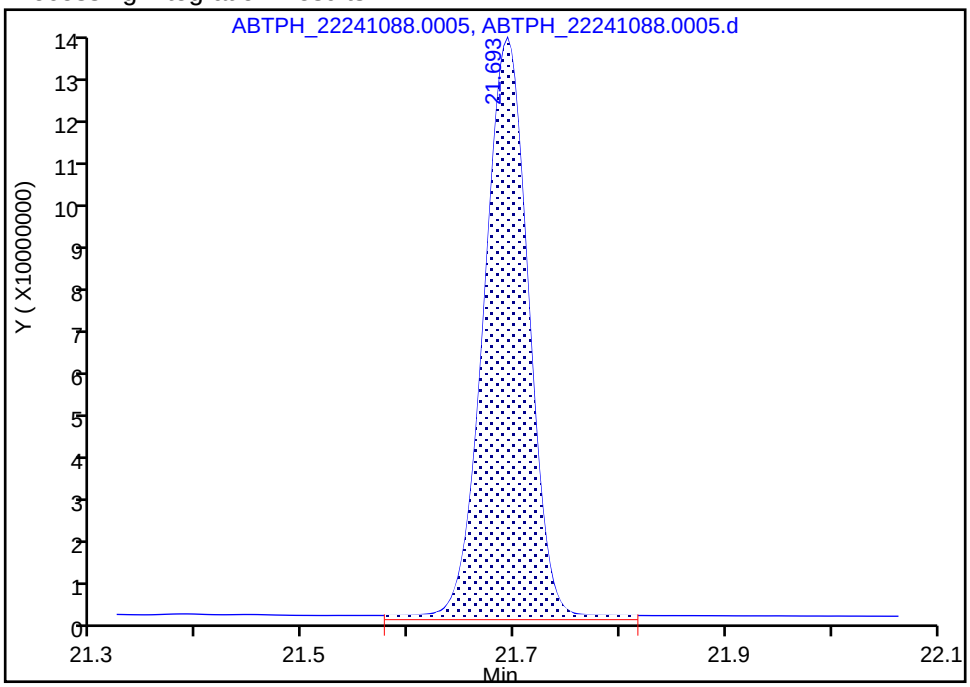
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

25 n-Docosane, CAS: 629-97-0

Signal: 1

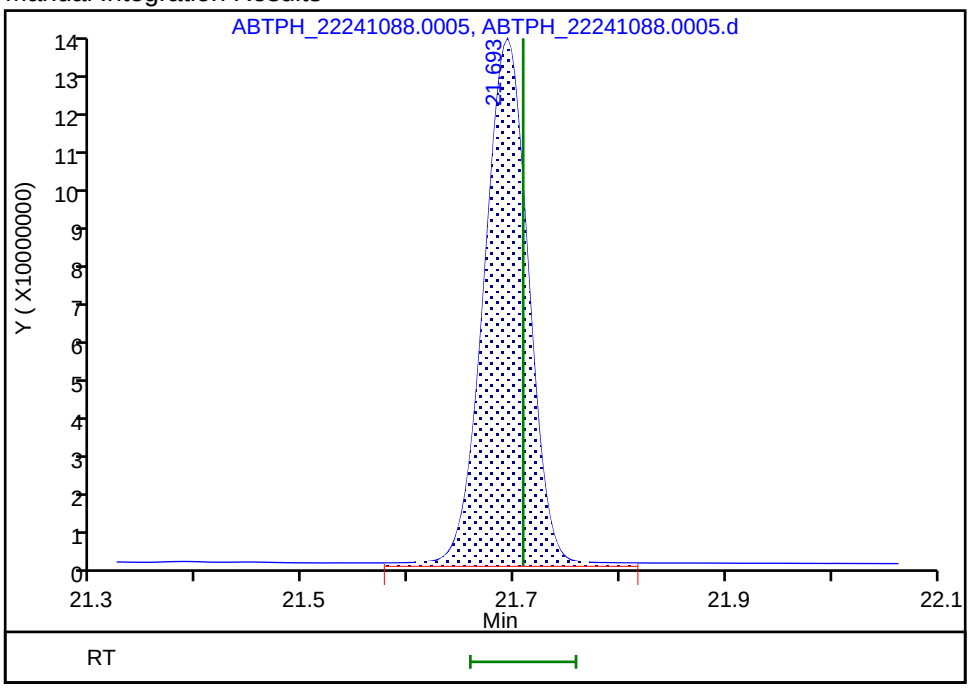
Processing Integration Results

RT: 21.69
Area: 1903308450
Amount: 16.787439
Amount Units: ug/ml



Manual Integration Results

RT: 21.69
Area: 1867199153
Amount: 16.468950
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

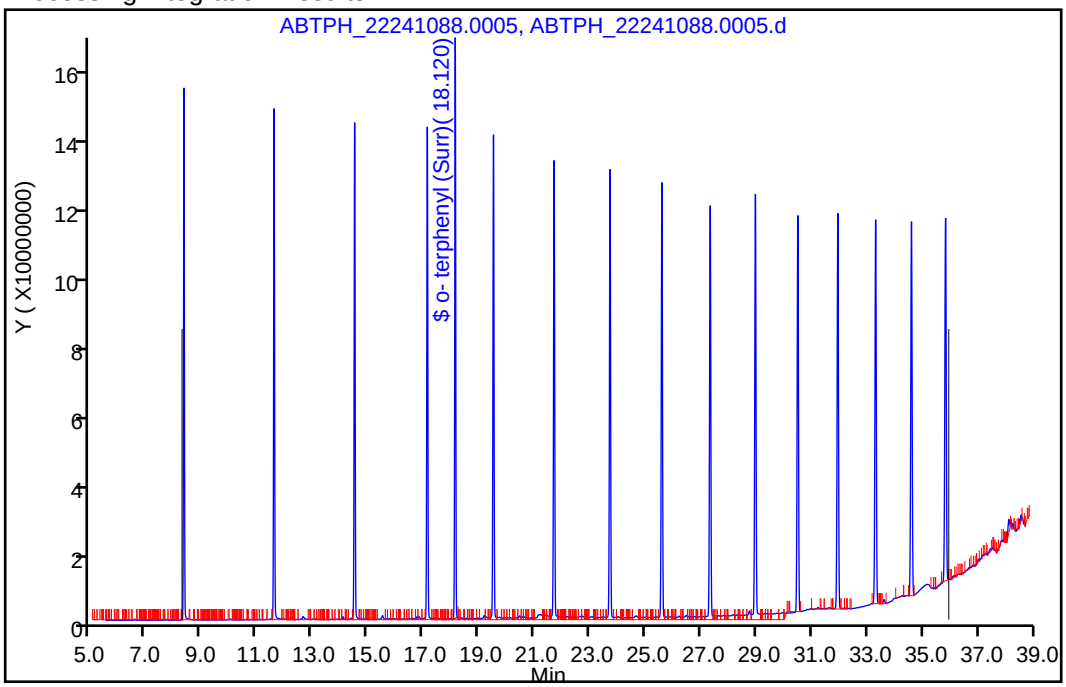
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, RT: 22.091, CAS: STL00278

Signal: 1

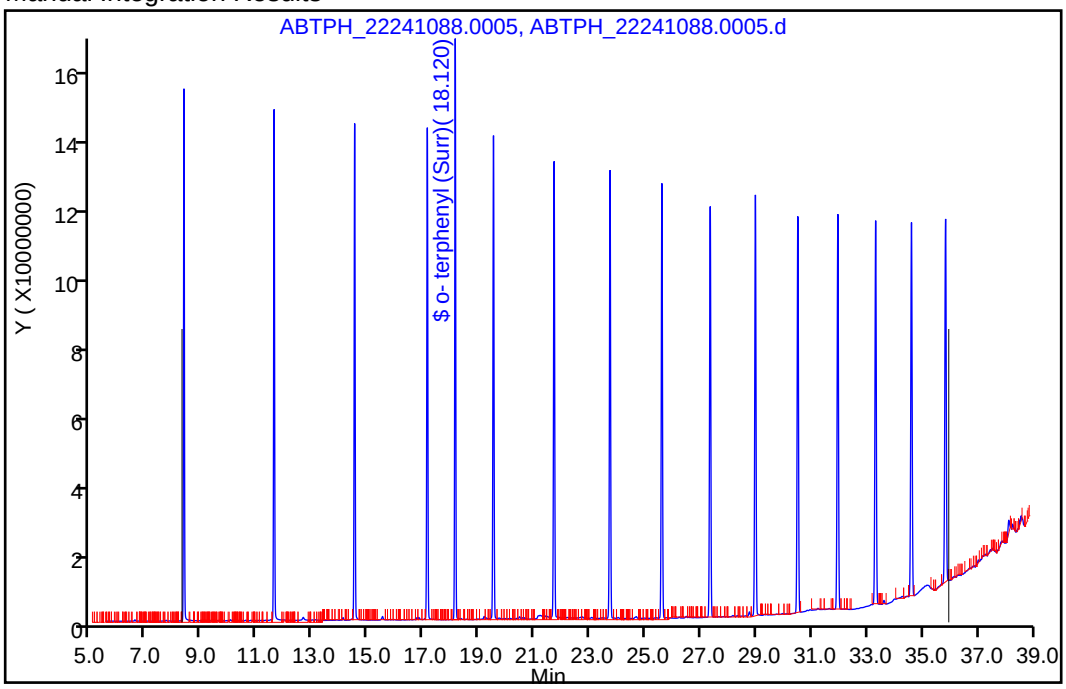
Processing Integration Results

RT: 22.10
Response: 31540489304
Amount: 273.2478



Manual Integration Results

RT: 22.10
Response: 28639423611
Amount: 248.1147



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

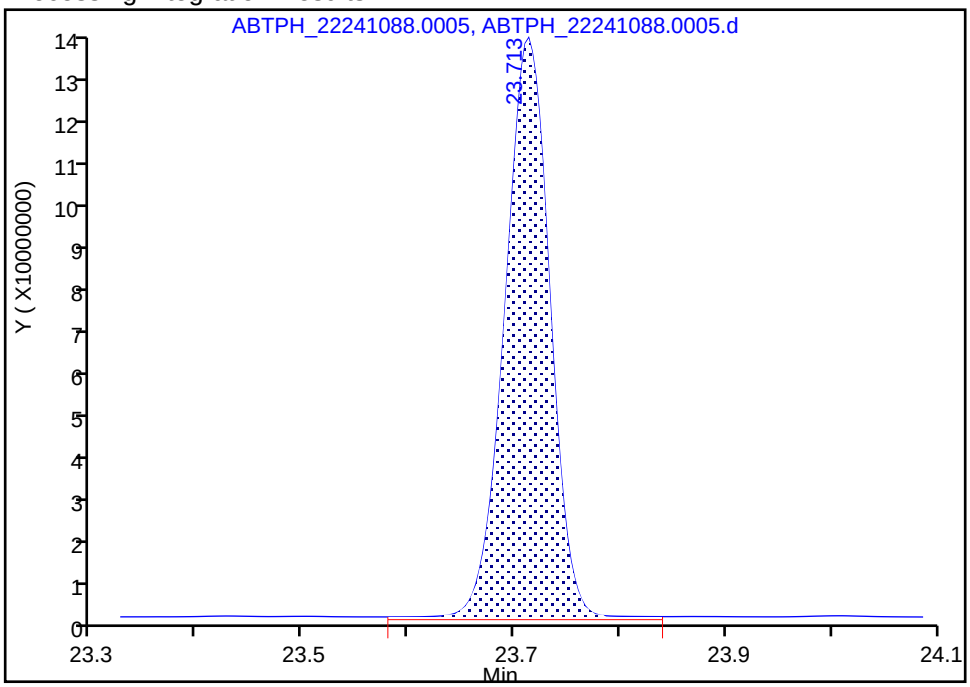
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

27 n-Tetracosane, CAS: 646-31-1

Signal: 1

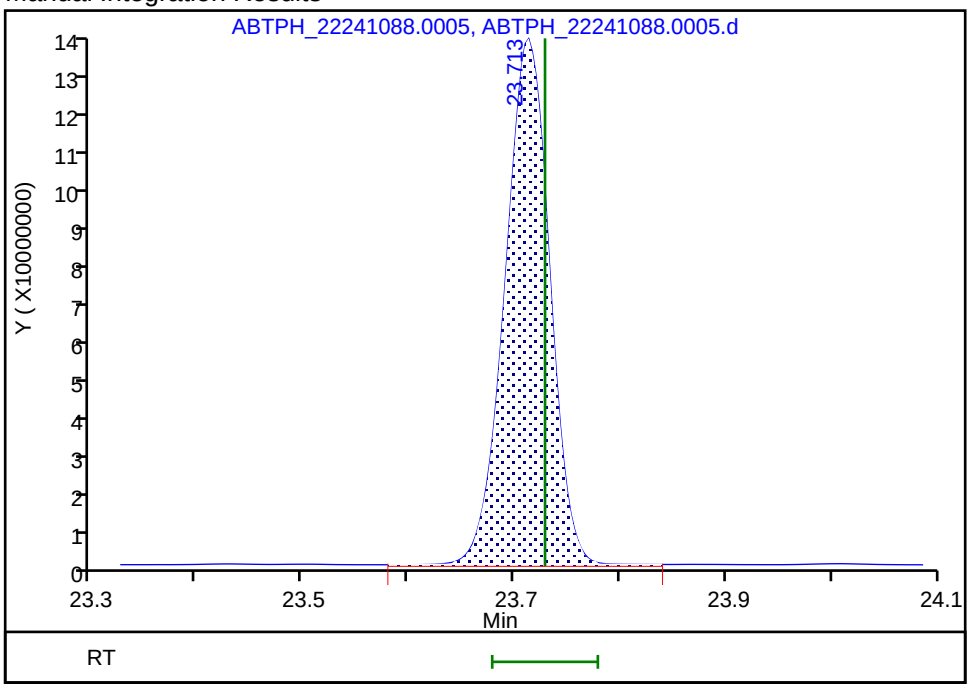
Processing Integration Results

RT: 23.71
Area: 1892024447
Amount: 16.533743
Amount Units: ug/ml



Manual Integration Results

RT: 23.71
Area: 1842219726
Amount: 16.098517
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

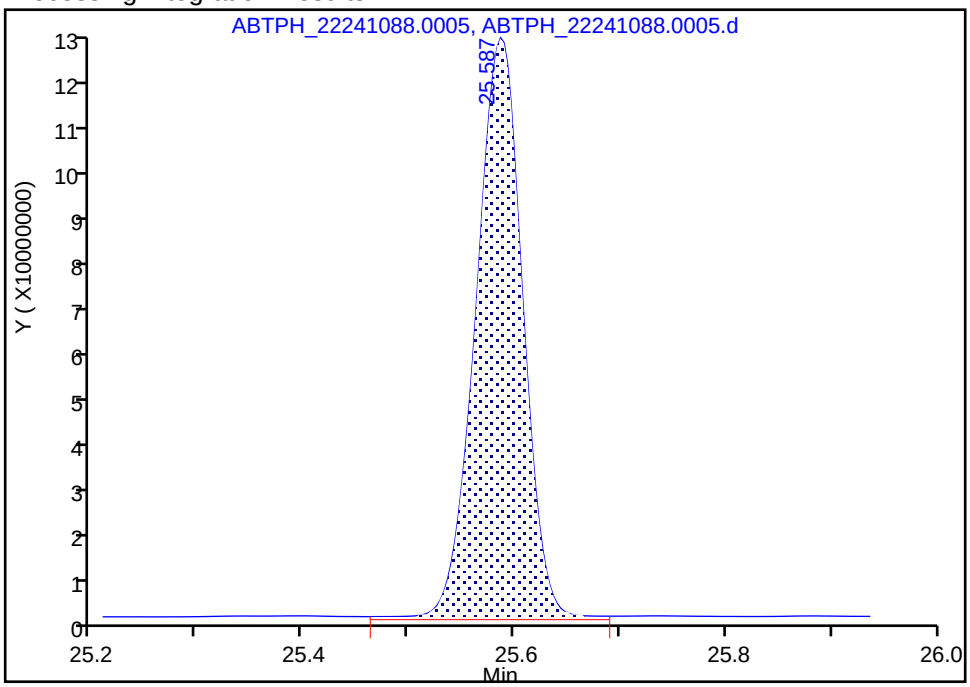
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

29 n-Hexacosane, CAS: 630-01-3

Signal: 1

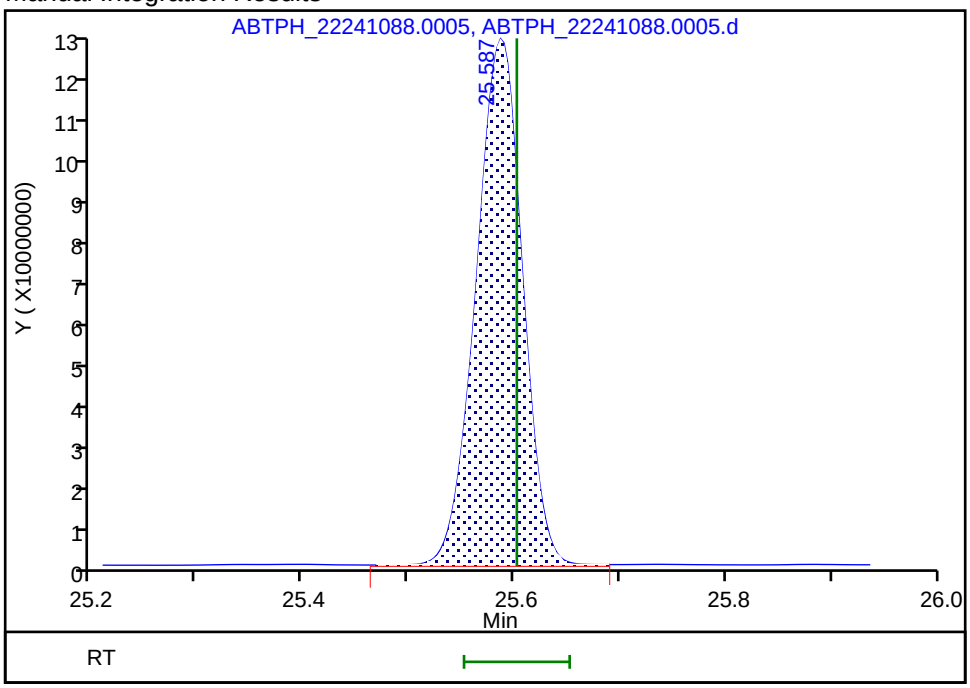
Processing Integration Results

RT: 25.59
Area: 1898688848
Amount: 16.479376
Amount Units: ug/ml



Manual Integration Results

RT: 25.59
Area: 1846897925
Amount: 16.029865
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

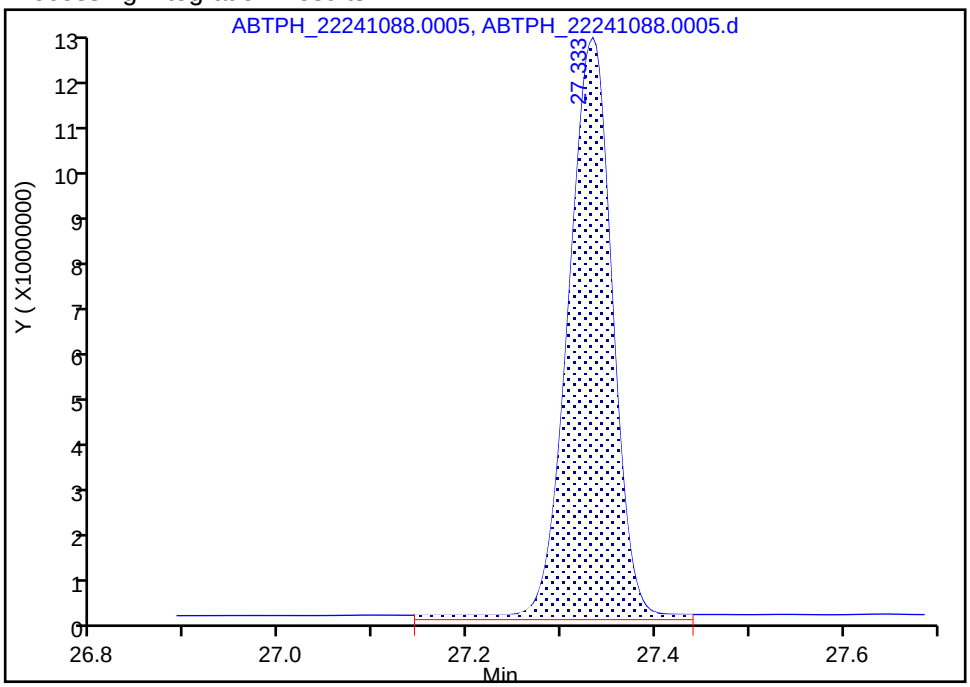
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

30 n-Octacosane, CAS: 630-02-4

Signal: 1

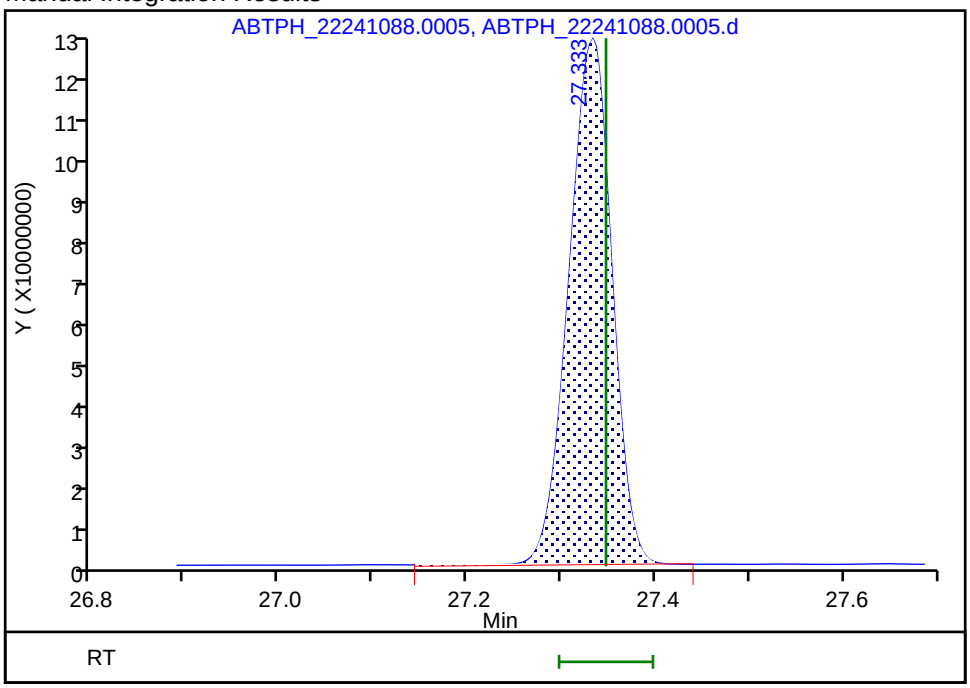
Processing Integration Results

RT: 27.33
Area: 1918698215
Amount: 16.544960
Amount Units: ug/ml



Manual Integration Results

RT: 27.33
Area: 1829408892
Amount: 15.775017
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:19 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

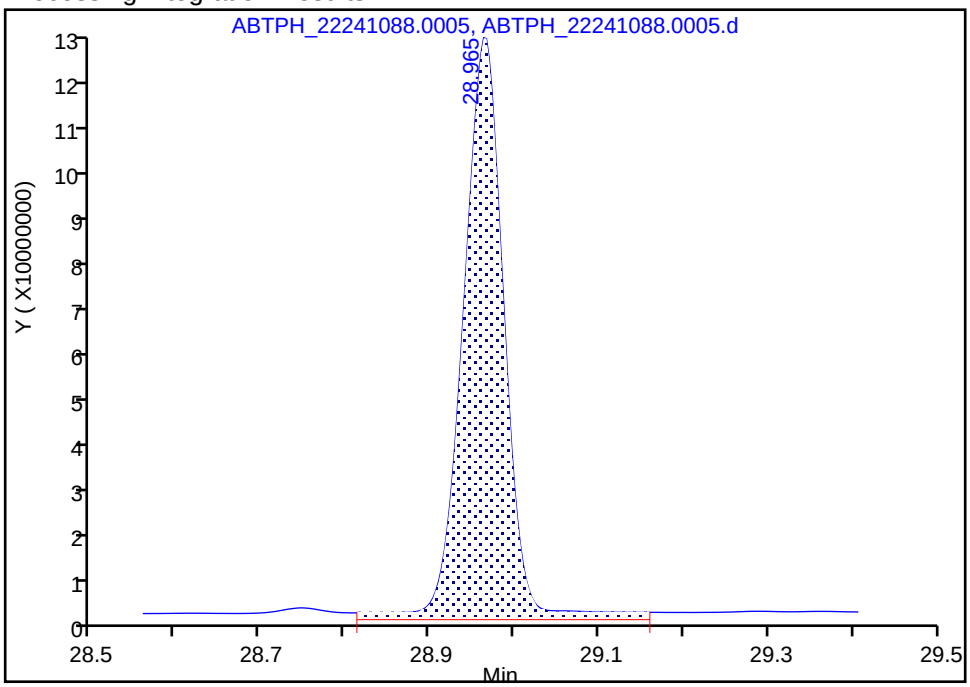
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

31 Triacontane, CAS: 638-68-6

Signal: 1

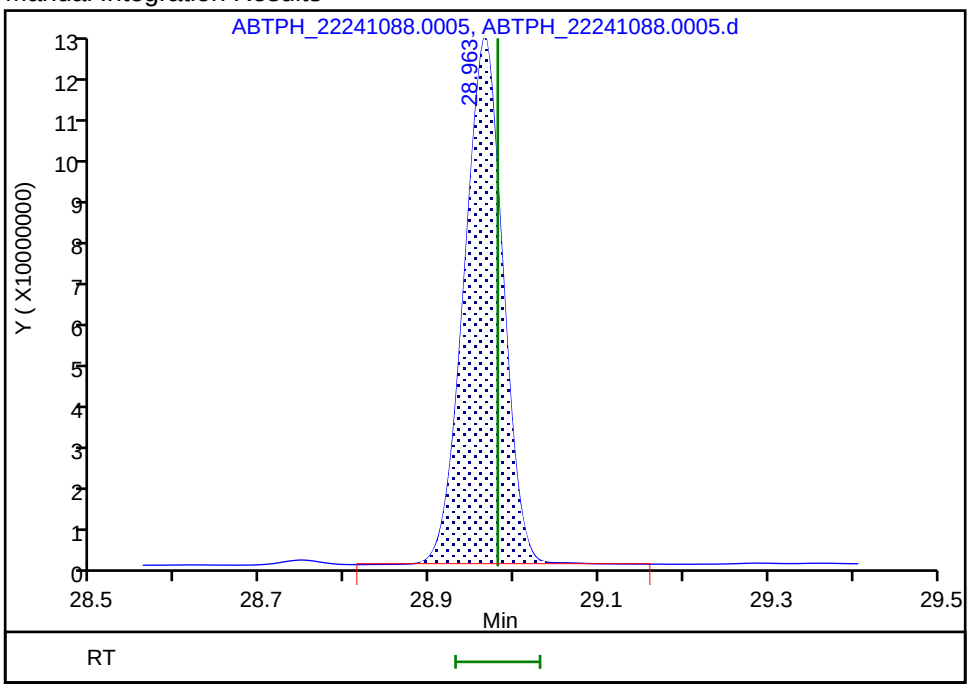
Processing Integration Results

RT: 28.96
Area: 2040931585
Amount: 17.474077
Amount Units: ug/ml



Manual Integration Results

RT: 28.96
Area: 1882851043
Amount: 16.120621
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:02:23 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/5
Calibration Date: 01/03/2024 21:07

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241088.0005.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
C8-C40	Ave	110014073	116874878		307	289	6.2	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/5
Calibration Date: 01/03/2024 21:07

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241088.0005.d

Analyte	RT	RT WINDOW	
		FROM	TO
C8-C40	18.73	1.49	35.95

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d
Lims ID: CCV TPH
Client ID:
Sample Type: CCV
Inject. Date: 03-Jan-2024 21:07:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT TPH
Misc. Info.: 410-0103280-005
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 13:05:25 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:25

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 n-Octane						
	1.589	1.594	-0.005	1716942091	16.1	17.1	
$	2 Chlorobenzene (Surr)						
	2.117	2.123	-0.006	1315231683	16.1	16.5	
	3 n-Nonane						
	2.935	2.944	-0.009	1686807566	16.1	16.5	
	4 n-Decane						
	4.708	4.718	-0.010	1691542921	16.1	16.1	
	5 Dodecane						
	8.321	8.332	-0.011	1722709004	16.1	16.1	
	7 n-Tetradecane						
	11.577	11.589	-0.012	1779856489	16.0	16.4	
	8 Hexadecane						M
	14.487	14.500	-0.013	1799610588	16.1	16.0	M
	12 n-Octadecane						M
	17.113	17.126	-0.013	1836264569	16.1	16.1	M
$	13 o- terphenyl (Surr)						
	18.120	18.137	-0.017	2048890628	16.0	16.7	
A	22 C8-C40						M
	18.728	(1.507-35.950)		33818914829	289.4	307.4	M
	24 icosane						M
	19.503	19.517	-0.014	1879998158	16.0	16.7	M
	25 n-Docosane						M
	21.693	21.708	-0.015	1867199153	16.1	16.5	M
A	26 C12-C40						M
	22.100	(8.250-35.950)		28639423611	241.1	248.1	M
	27 n-Tetracosane						M
	23.713	23.729	-0.016	1842219726	16.0	16.1	M

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						M
25.587	25.602	-0.015	1846897925	16.2	16.0	M
30 n-Octacosane						M
27.333	27.347	-0.014	1829408892	16.0	15.8	M
31 Triacontane						M
28.963	28.980	-0.017	1882851043	16.1	16.1	M
33 Dotriacontane						
30.497	30.514	-0.017	1843893734	16.1	16.1	
34 Tetratriacontane						
31.943	31.959	-0.016	1866742517	16.1	16.1	
35 n-Hexatriacontane						
33.308	33.324	-0.016	1825071729	16.1	16.0	
36 C38						
34.603	34.619	-0.016	1819806887	16.1	16.5	
37 C40						
35.835	35.850	-0.015	1837941641	16.1	16.3	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

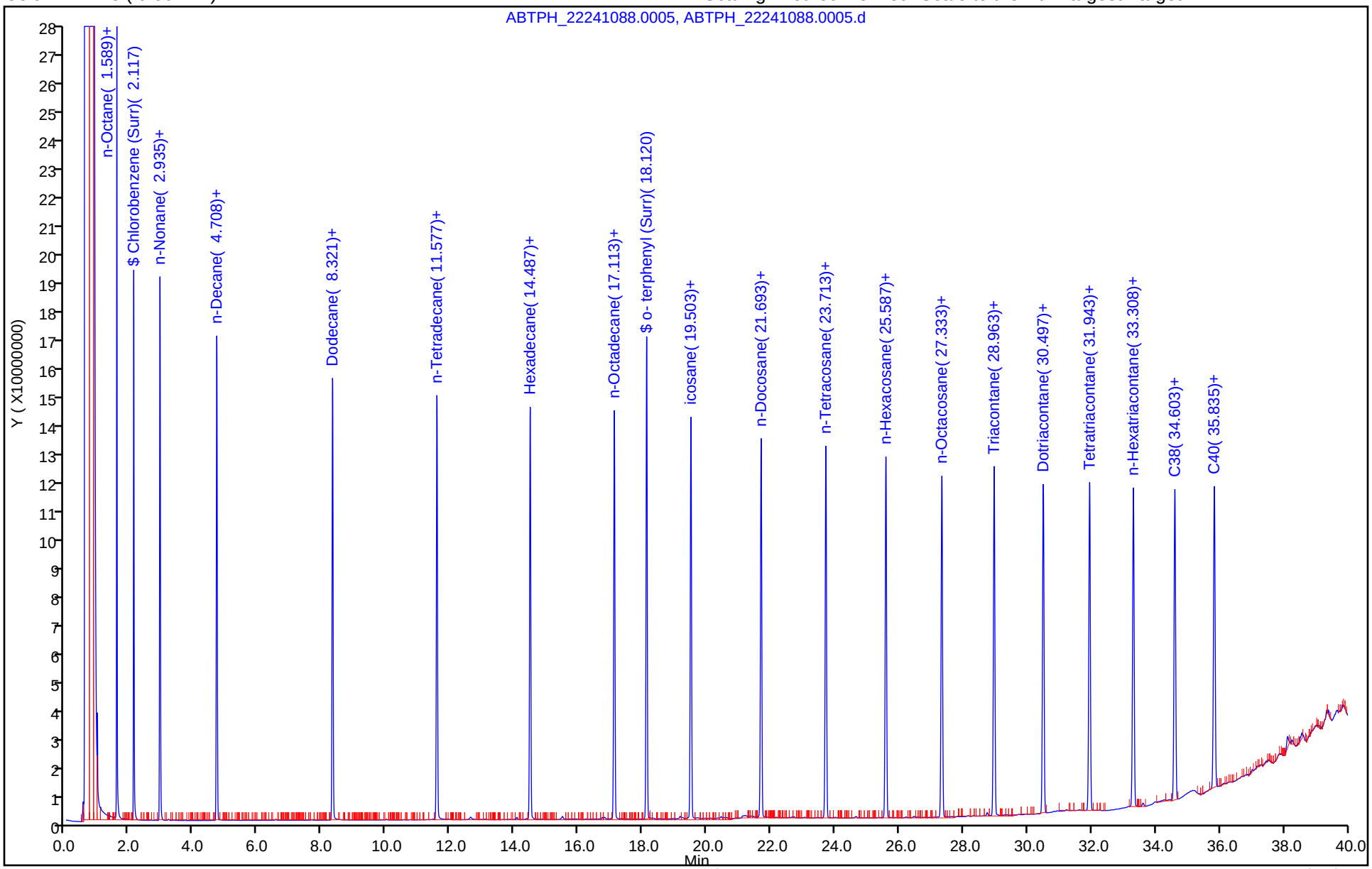
EPH_TPH_3_00023 Amount Added: 1.00 Units: mL

Report Date: 04-Jan-2024 13:05:25 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	CCV TPH			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

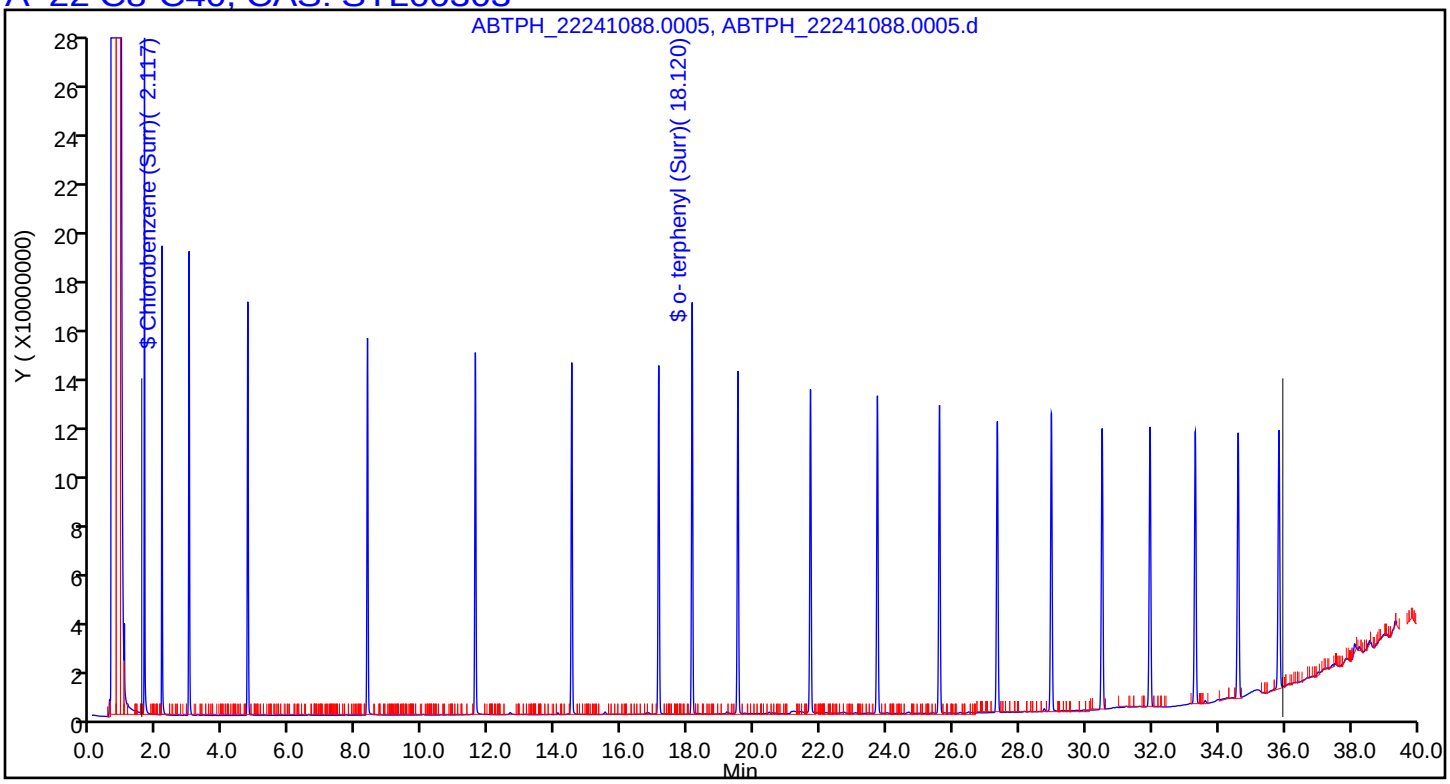


Report Date: 04-Jan-2024 13:05:26 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

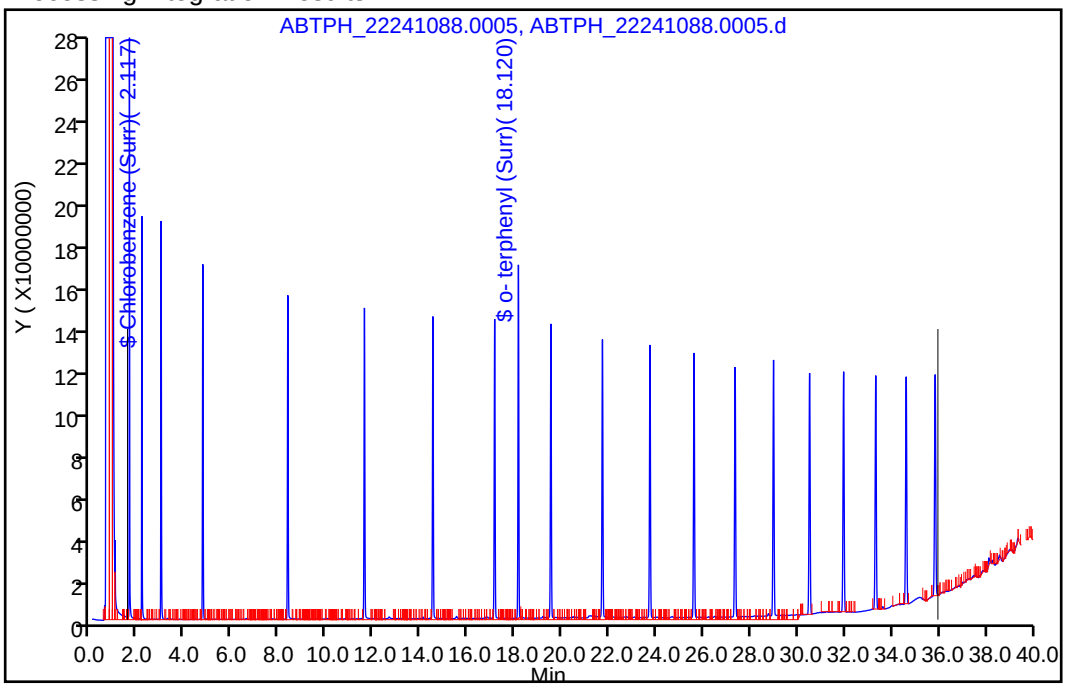
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0005.d				
Injection Date:	03-Jan-2024 21:07:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, RT: 18.722, CAS: STL00303

Signal: 1

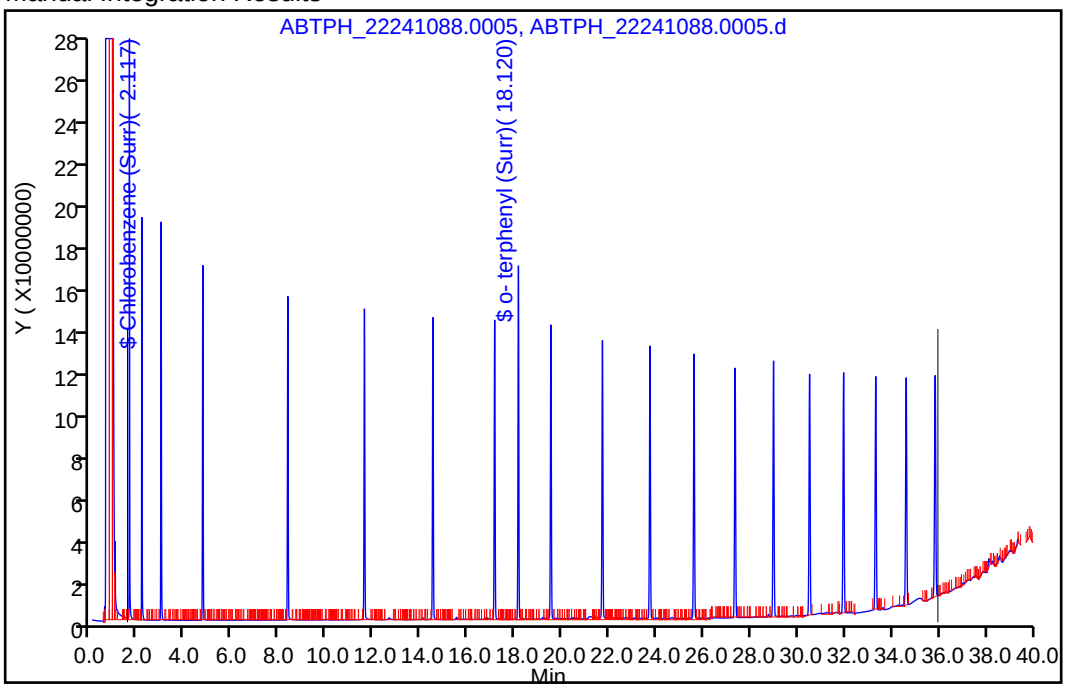
Processing Integration Results

RT: 18.73
Response: 36719980522
Amount: 333.7753



Manual Integration Results

RT: 18.73
Response: 33818914829
Amount: 307.4054



Reviewer: UHEW, 04-Jan-2024 13:02:17 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/13
Calibration Date: 01/04/2024 03:35

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241088.0013.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Octane	Ave	100591442	105951612			16.1	5.3	
n-Nonane	Ave	102322807	104812196			16.1	2.4	
n-Decane	Ave	105174724	105884480			16.1	0.7	
Dodecane	Ave	106955917	107835993			16.1	0.8	
n-Tetradecane	Ave	108395498	108915647			16.0	0.5	
Hexadecane	Ave	112275355	112054217			16.1	-0.2	
n-Octadecane	Ave	113780432	114176063			16.1	0.3	
icosane	Ave	112490786	119490715			16.0	6.2	
n-Docosane	Ave	113376940	116733395			16.1	3.0	
C12-C40	Ave	115428155	129589690		271	241	12.3	
n-Tetracosane	Ave	114434126	120524600			16.0	5.3	
n-Hexacosane	Ave	115216063	119102690			16.2	3.4	
n-Octacosane	Ave	115968745	120728046			16.0	4.1	
Triacontane	Ave	116797674	125038667			16.1	7.1	
Dotriacontane	Ave	114724352	120362982			16.1	4.9	
Tetratriacontane	Ave	115932099	115859974			16.1	-0.0	
n-Hexatriacontane	Ave	113939077	113692313			16.1	-0.2	
n-Octatriacontane	Ave	110432597	114092854			16.1	3.3	
n-Tetracontane	Ave	113015898	113191387			16.1	0.2	
Chlorobenzene (Surr)	Ave	79790568	81657216		16.4	16.1	2.3	20.0
o- terphenyl (Surr)	Ave	122668097	127947005		16.7	16.0	4.3	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/13
Calibration Date: 01/04/2024 03:35

Instrument ID: 10254-A
Calib Start Date: 08/29/2022 21:37

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 00:51

Lab File ID: ABTPH_22241088.0013.d

Analyte	RT	RT WINDOW	
		FROM	TO
n-Octane	1.59	1.54	1.64
n-Nonane	2.94	2.89	2.99
n-Decane	4.71	4.67	4.77
Dodecane	8.32	8.28	8.38
n-Tetradecane	11.58	11.54	11.64
Hexadecane	14.49	14.45	14.55
n-Octadecane	17.11	17.08	17.18
icosane	19.50	19.47	19.57
n-Docosane	21.70	21.66	21.76
C12-C40	22.10	8.23	35.95
n-Tetracosane	23.72	23.68	23.78
n-Hexacosane	25.59	25.55	25.65
n-Octacosane	27.34	27.30	27.40
Triacontane	28.97	28.93	29.03
Dotriacontane	30.50	30.46	30.56
Tetratriacontane	31.95	31.91	32.01
n-Hexatriacontane	33.31	33.27	33.37
n-Octatriacontane	34.61	34.57	34.67
n-Tetracontane	35.84	35.80	35.90
Chlorobenzene (Surr)	2.12	2.07	2.17
o- terphenyl (Surr)	18.12	18.09	18.19

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d
Lims ID: CCV TPH
Client ID:
Sample Type: CCV
Inject. Date: 04-Jan-2024 03:35:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TPH
Misc. Info.: 410-0103280-013
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 13:05:40 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:05:05

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.588	1.594	-0.006	1705397147	16.1	17.0	
$ 2 Chlorobenzene (Surr)						
2.117	2.123	-0.006	1310630975	16.1	16.4	
3 n-Nonane						
2.935	2.944	-0.009	1688063304	16.1	16.5	
4 n-Decane						
4.708	4.718	-0.010	1699911800	16.1	16.2	
5 Dodecane						M
8.323	8.332	-0.009	1732277390	16.1	16.2	M
7 n-Tetradecane						M
11.580	11.589	-0.009	1746135654	16.0	16.1	M
8 Hexadecane						M
14.490	14.500	-0.010	1799321790	16.1	16.0	M
12 n-Octadecane						M
17.113	17.126	-0.013	1838143267	16.1	16.2	M
$ 13 o- terphenyl (Surr)						
18.123	18.137	-0.014	2048687441	16.0	16.7	
A 22 C8-C40						M
18.728	(1.507-35.950)		36447970923	289.4	331.3	M
24 icosane						M
19.503	19.517	-0.014	1916439888	16.0	17.0	M
25 n-Docosane						M
21.697	21.708	-0.011	1876325903	16.1	16.5	M
A 26 C12-C40						M
22.100	(8.250-35.950)		31244592539	241.1	270.7	M
27 n-Tetracosane						M
23.717	23.729	-0.012	1929550643	16.0	16.9	M

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						M
25.590	25.602	-0.012	1923556082	16.2	16.7	M
30 n-Octacosane						M
27.337	27.347	-0.010	1931648737	16.0	16.7	M
31 Triacontane						M
28.967	28.980	-0.013	2013022501	16.1	17.2	M
33 Dotriacontane						
30.500	30.514	-0.014	1932355452	16.1	16.8	
34 Tetratriacontane						
31.946	31.959	-0.013	1868589660	16.1	16.1	
35 n-Hexatriacontane						
33.312	33.324	-0.012	1827444758	16.1	16.0	
36 C38						
34.605	34.619	-0.014	1836438571	16.1	16.6	
37 C40						
35.839	35.850	-0.011	1825550682	16.1	16.2	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

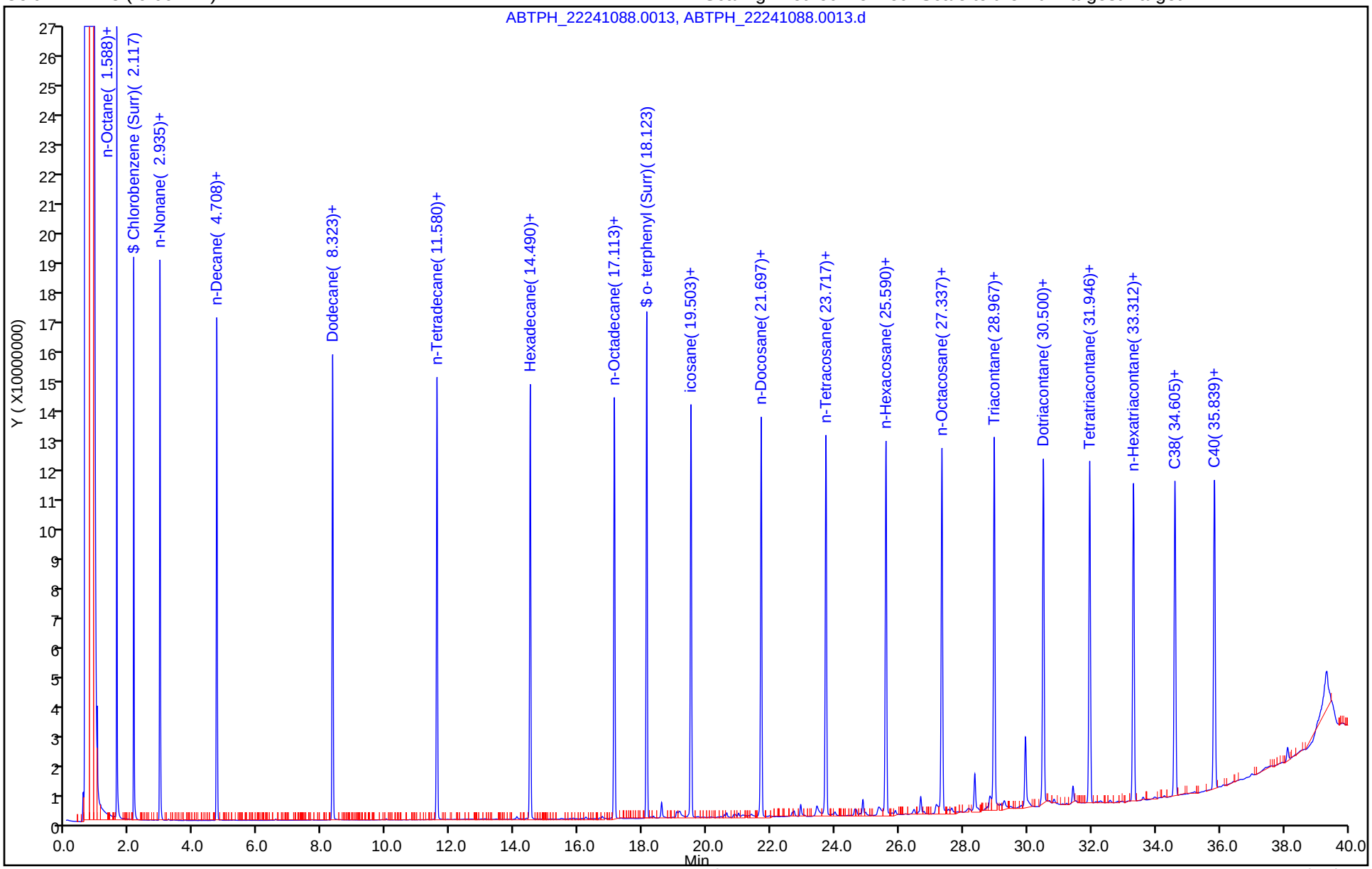
EPH_TPH_3_00023 Amount Added: 1.00 Units: mL

Report Date: 04-Jan-2024 13:05:40 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	CCV TPH			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

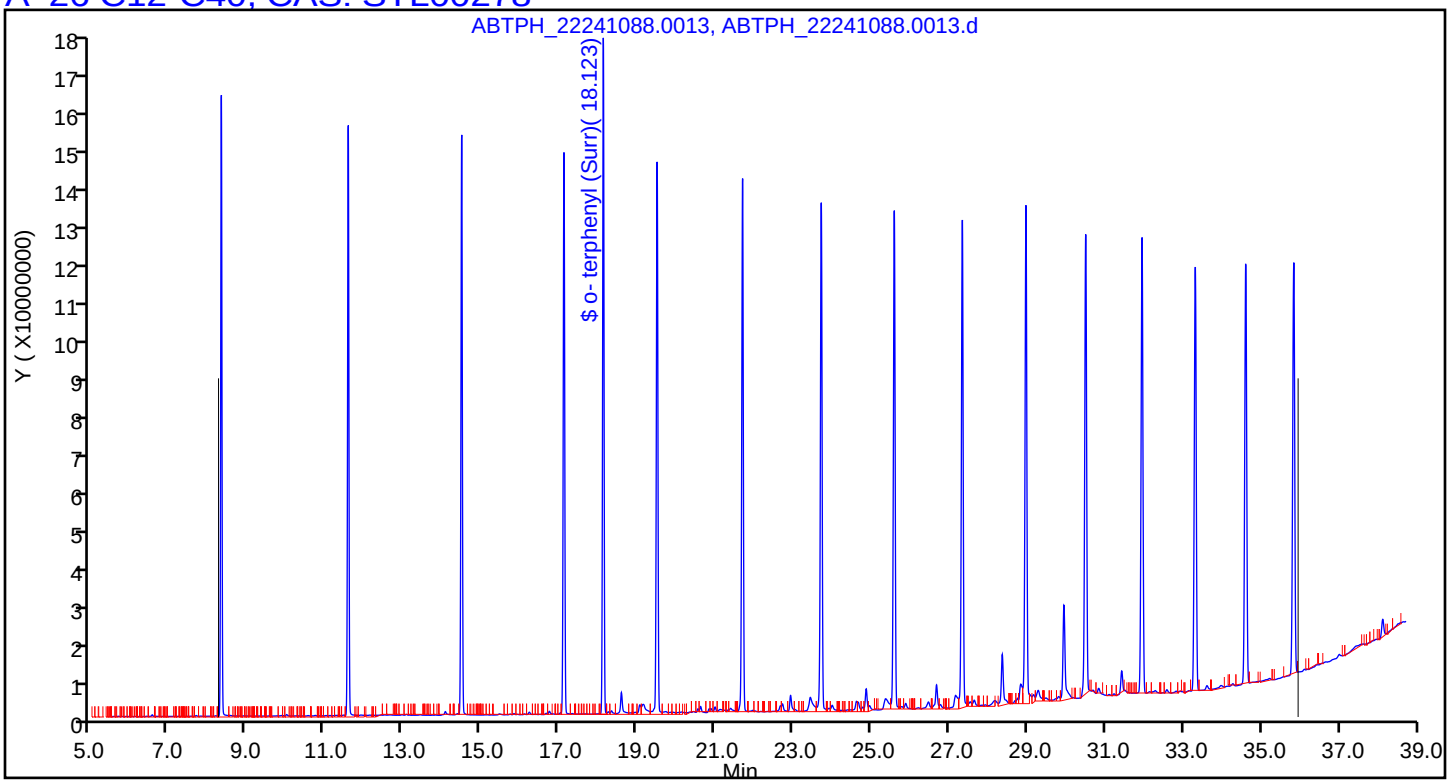


Report Date: 04-Jan-2024 13:05:41 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, CAS: STL00278



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

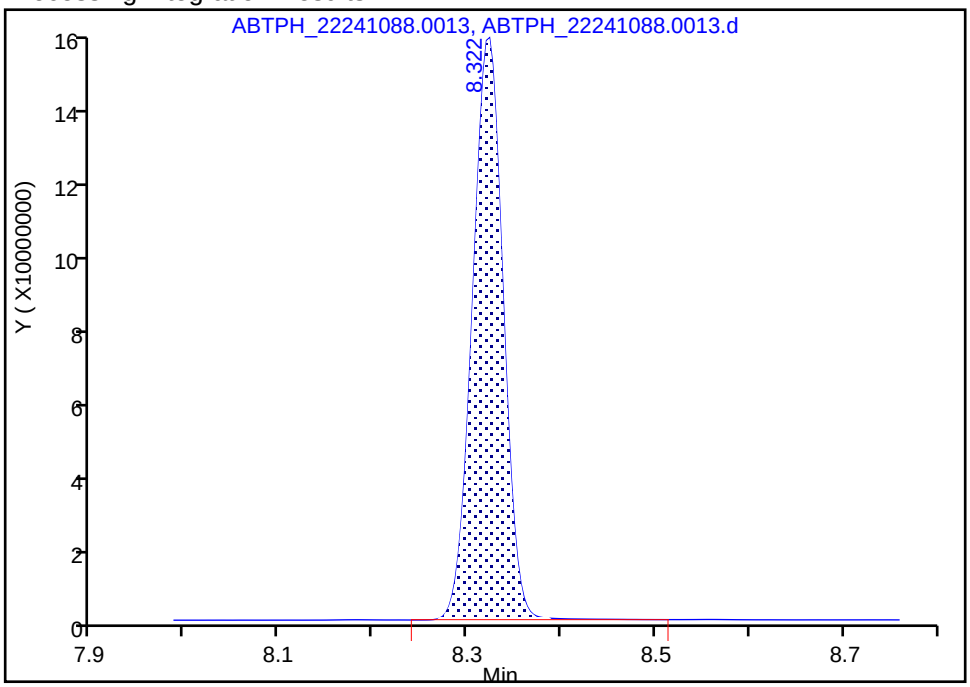
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

5 Dodecane, CAS: 112-40-3

Signal: 1

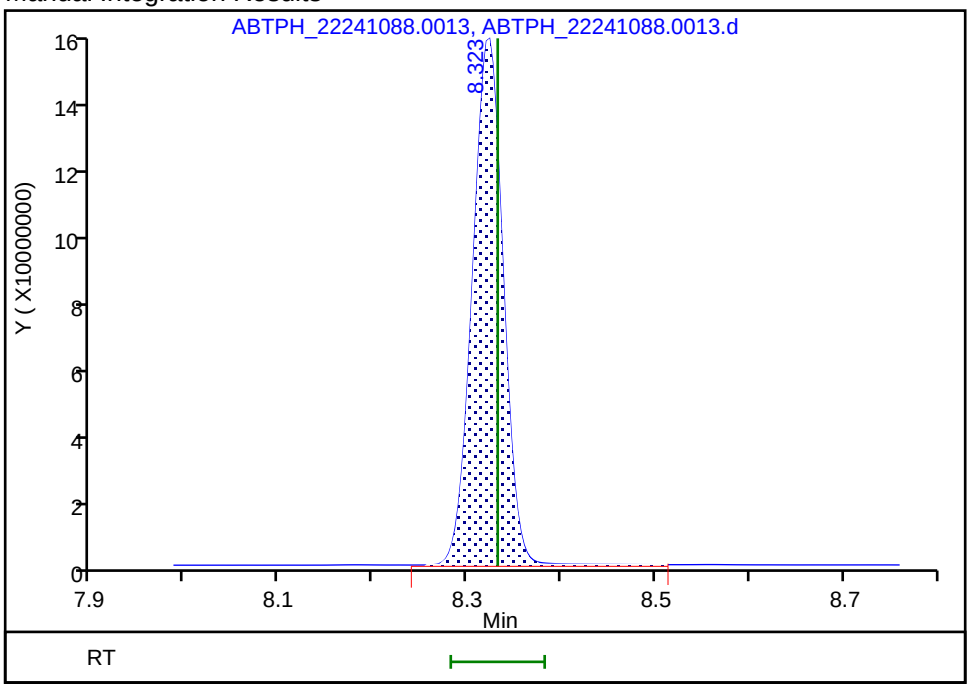
Processing Integration Results

RT: 8.32
Area: 1735627114
Amount: 16.227500
Amount Units: ug/ml



Manual Integration Results

RT: 8.32
Area: 1732277390
Amount: 16.196181
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:45 -05:00:00 (UTC)
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

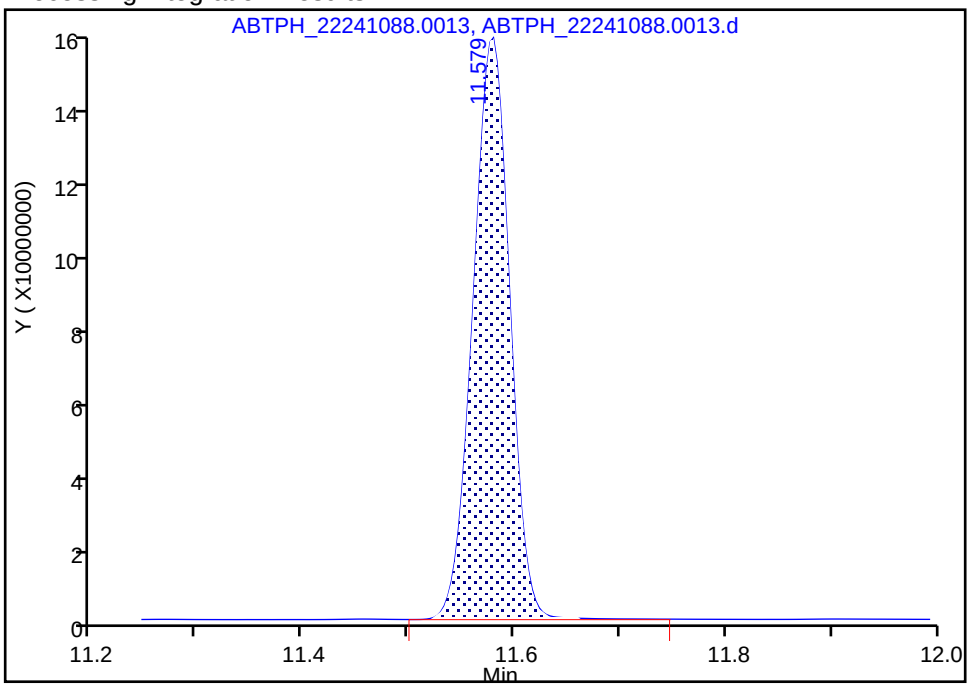
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

7 n-Tetradecane, CAS: 629-59-4

Signal: 1

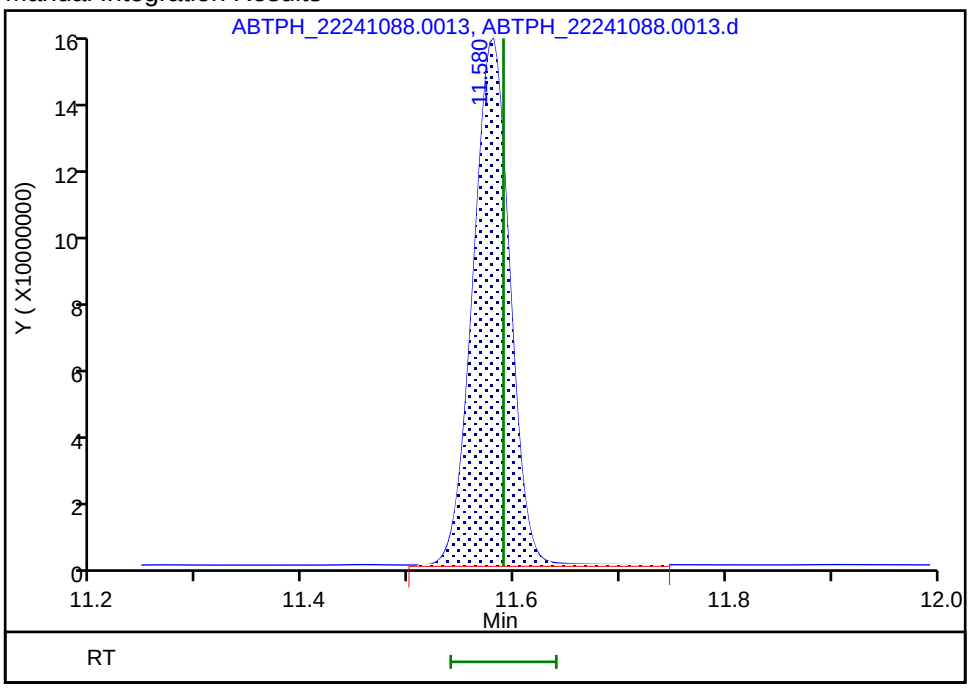
Processing Integration Results

RT: 11.58
Area: 1757920744
Amount: 16.217655
Amount Units: ug/ml



Manual Integration Results

RT: 11.58
Area: 1746135654
Amount: 16.108932
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:45 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

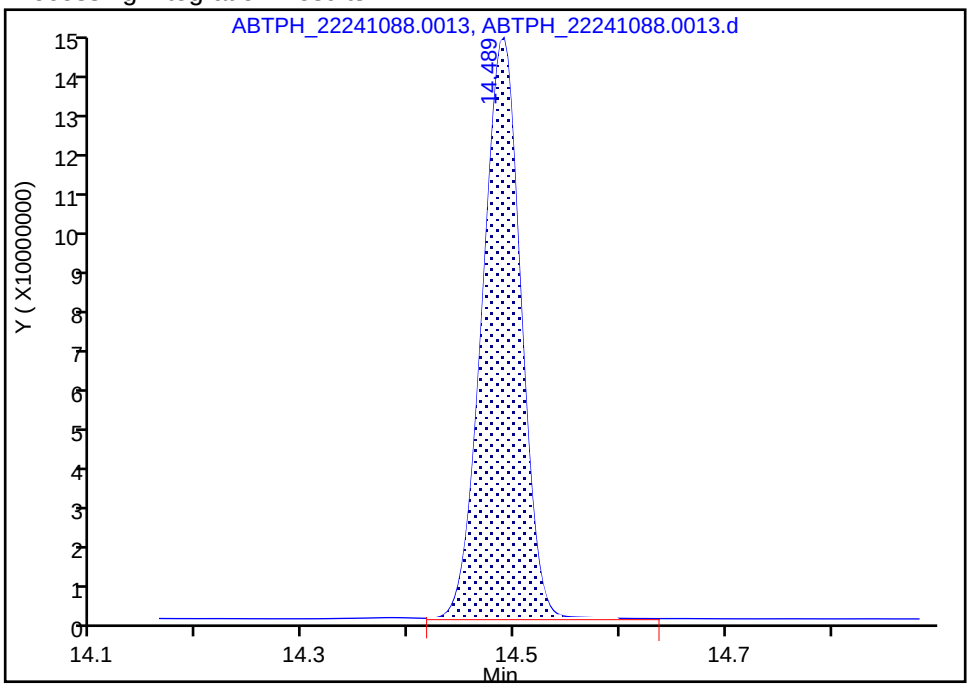
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

8 Hexadecane, CAS: 544-76-3

Signal: 1

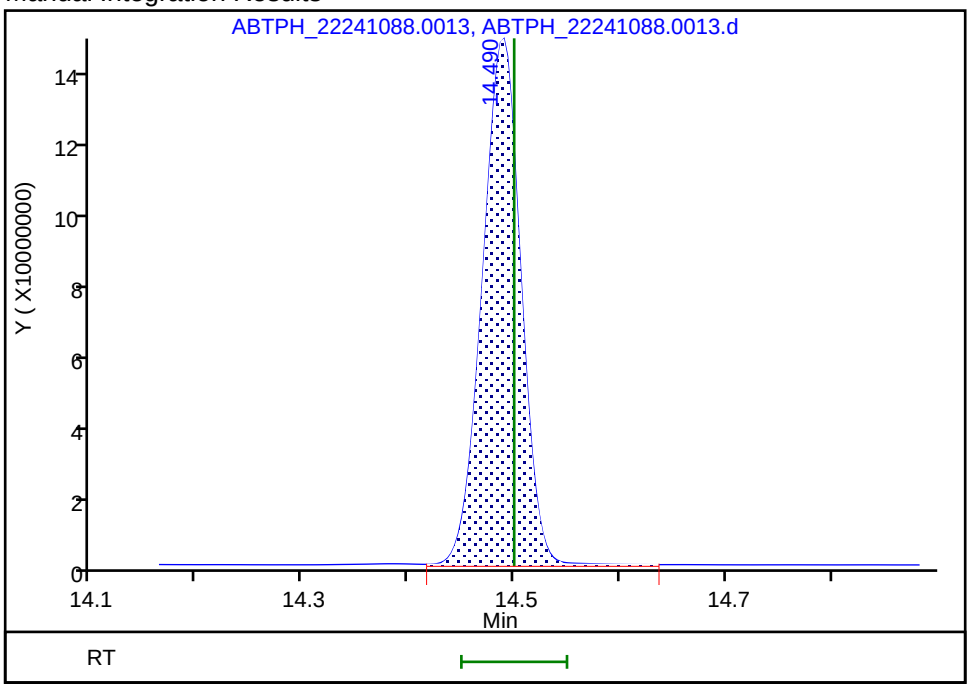
Processing Integration Results

RT: 14.49
Area: 1817776610
Amount: 16.190344
Amount Units: ug/ml



Manual Integration Results

RT: 14.49
Area: 1799321790
Amount: 16.025973
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:48 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

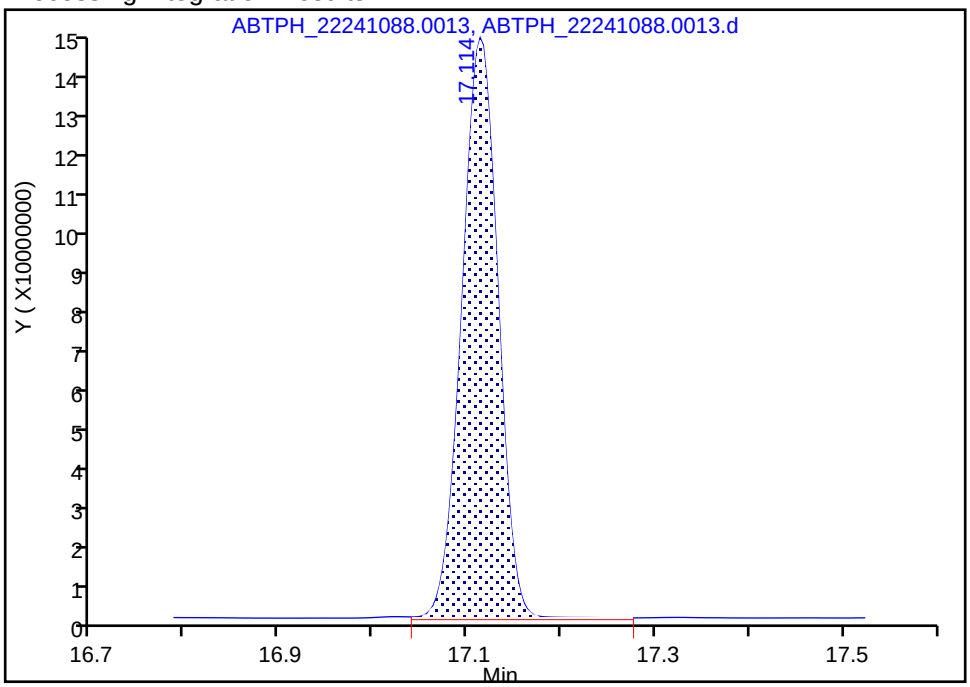
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

12 n-Octadecane, CAS: 593-45-3

Signal: 1

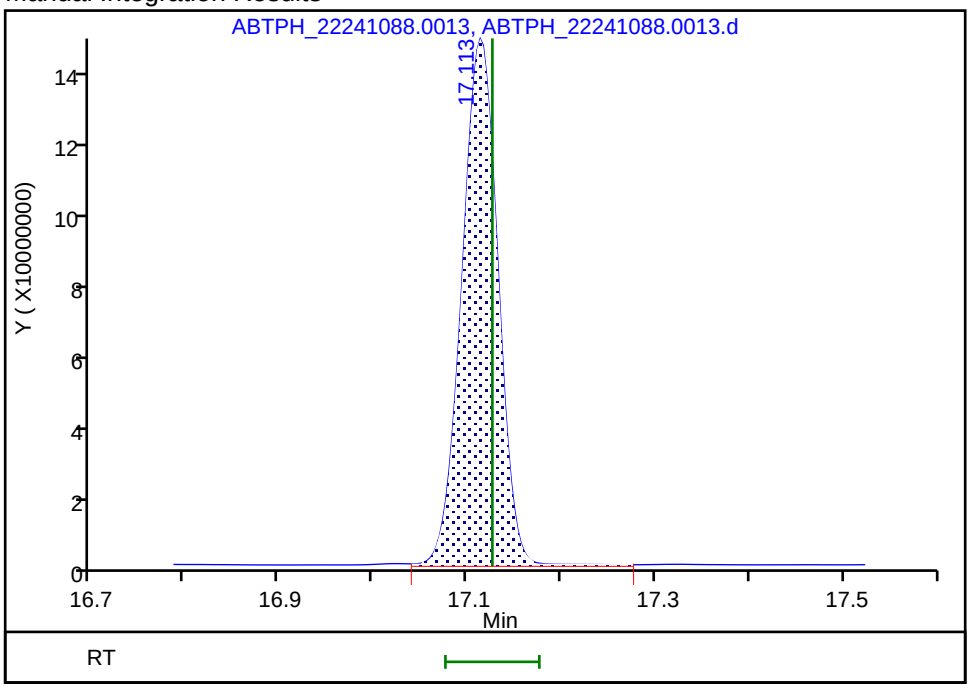
Processing Integration Results

RT: 17.11
Area: 1871252856
Amount: 16.446175
Amount Units: ug/ml



Manual Integration Results

RT: 17.11
Area: 1838143267
Amount: 16.155179
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:48 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

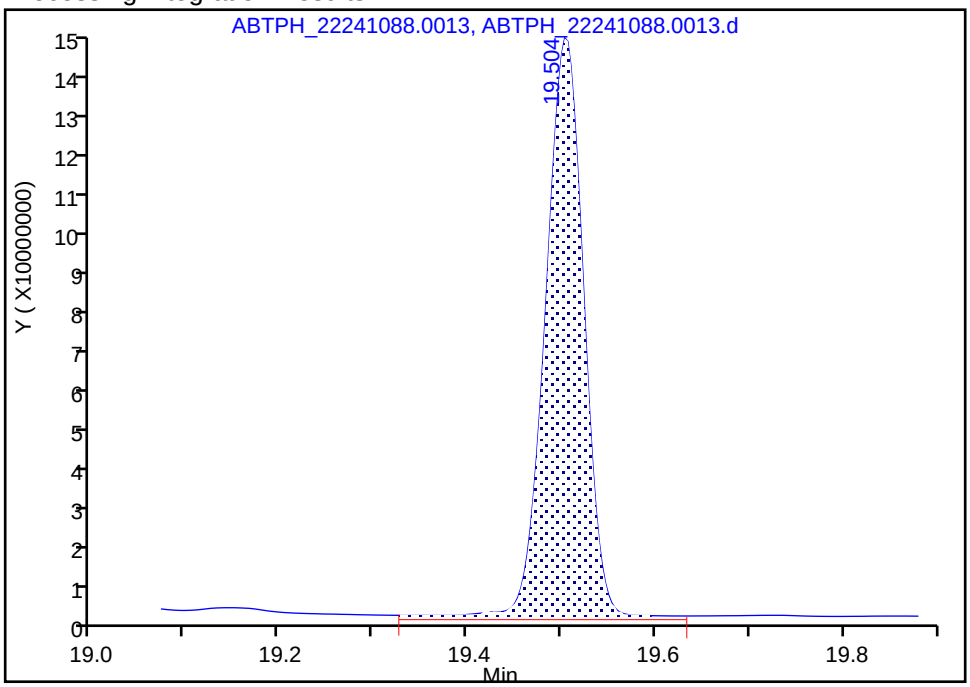
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

24 icosane, CAS: 112-95-8

Signal: 1

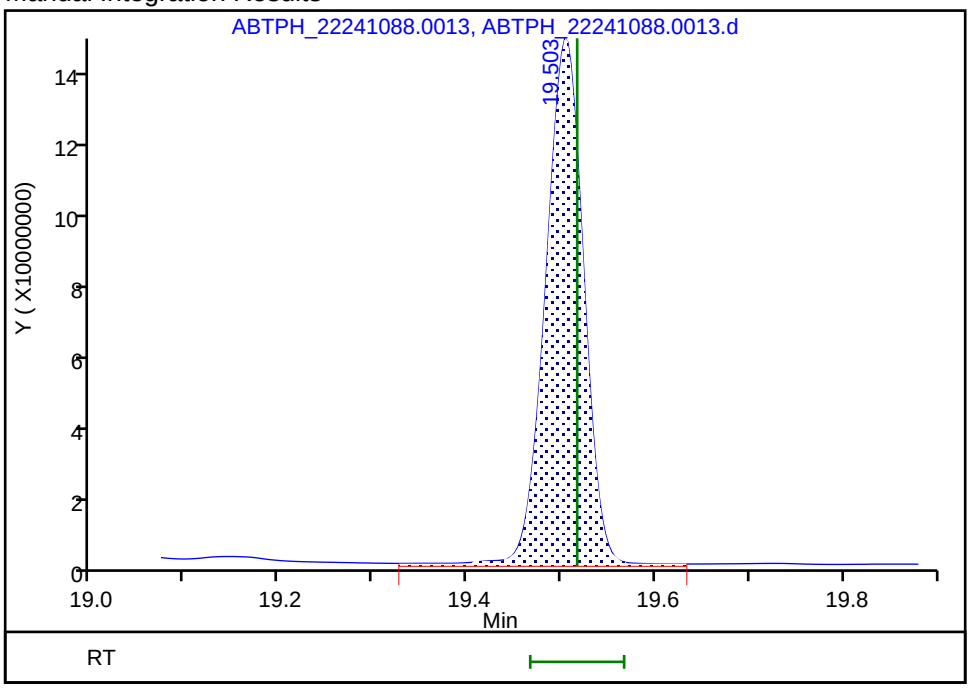
Processing Integration Results

RT: 19.50
Area: 1982409727
Amount: 17.622863
Amount Units: ug/ml



Manual Integration Results

RT: 19.50
Area: 1916439888
Amount: 17.036417
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:52 -05:00:00 (UTC)
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

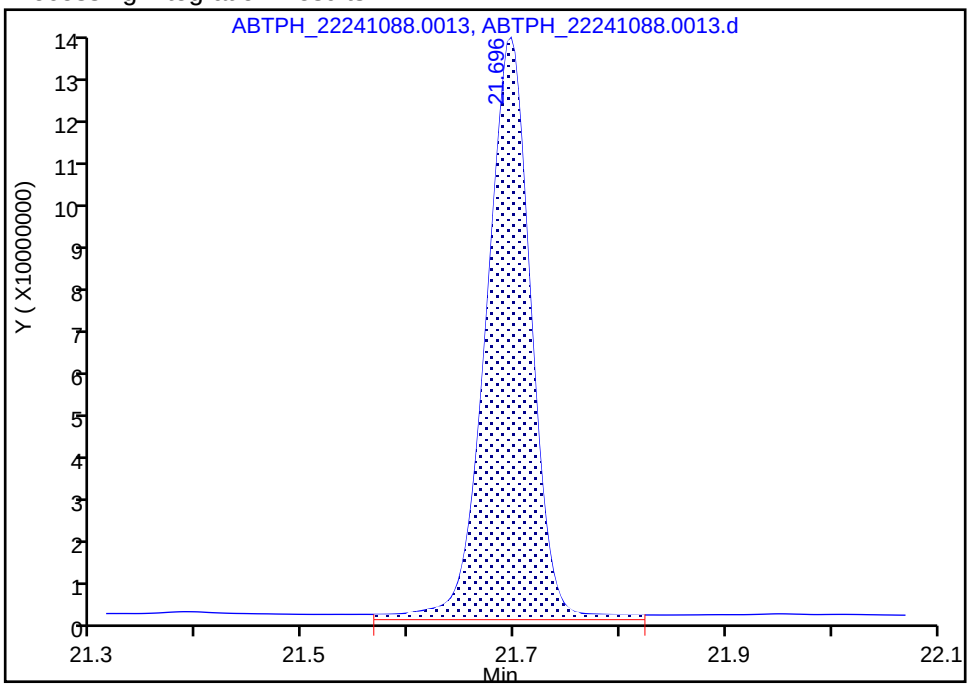
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

25 n-Docosane, CAS: 629-97-0

Signal: 1

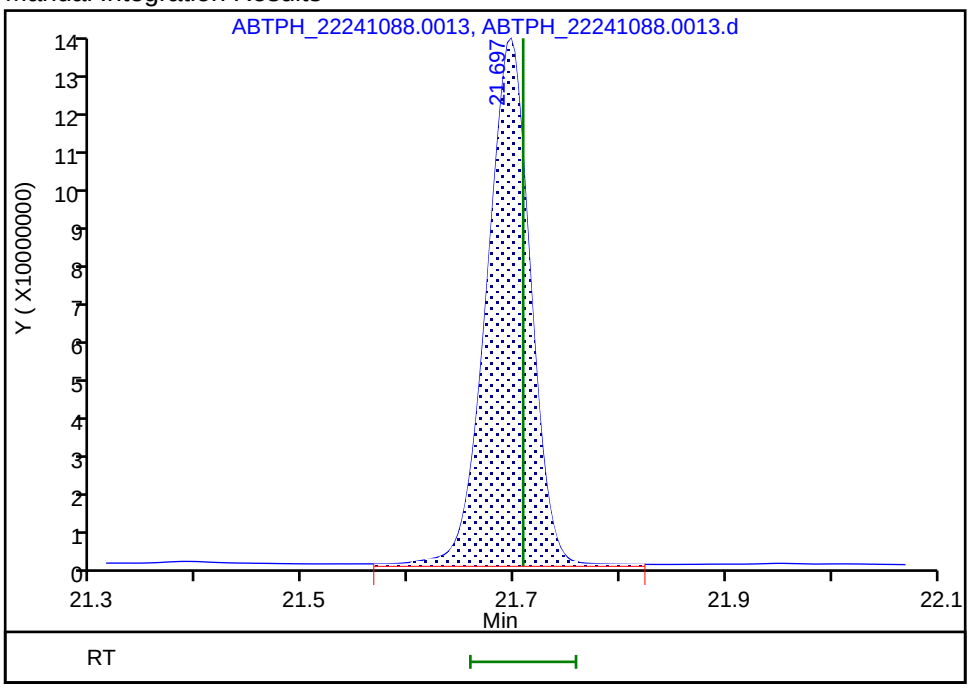
Processing Integration Results

RT: 21.70
Area: 1955785585
Amount: 17.250294
Amount Units: ug/ml



Manual Integration Results

RT: 21.70
Area: 1876325903
Amount: 16.549449
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:52 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

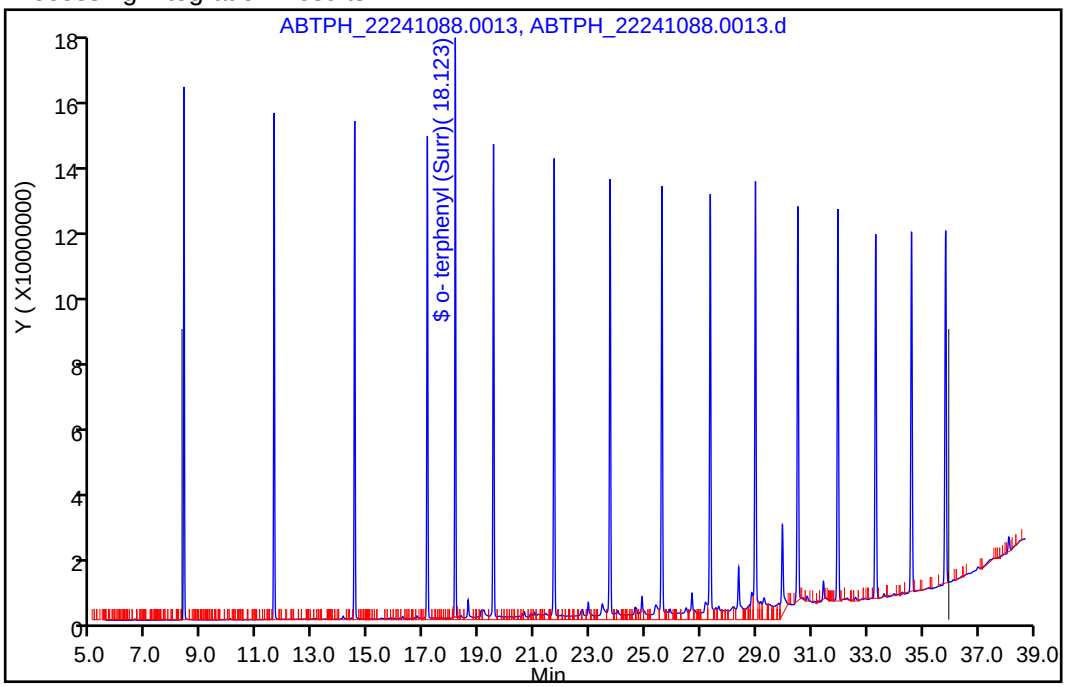
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 26 C12-C40, RT: 22.091, CAS: STL00278

Signal: 1

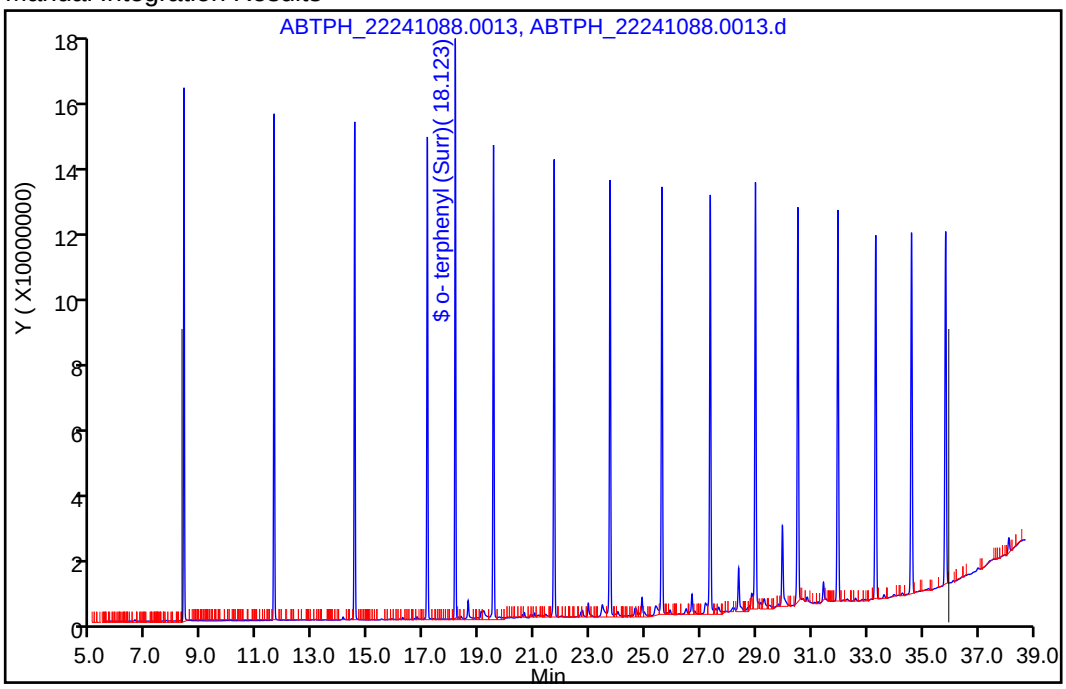
Processing Integration Results

RT: 22.10
Response: 37371628954
Amount: 323.7653



Manual Integration Results

RT: 22.10
Response: 31244592539
Amount: 270.6843



Reviewer: UHEW, 04-Jan-2024 13:04:45 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

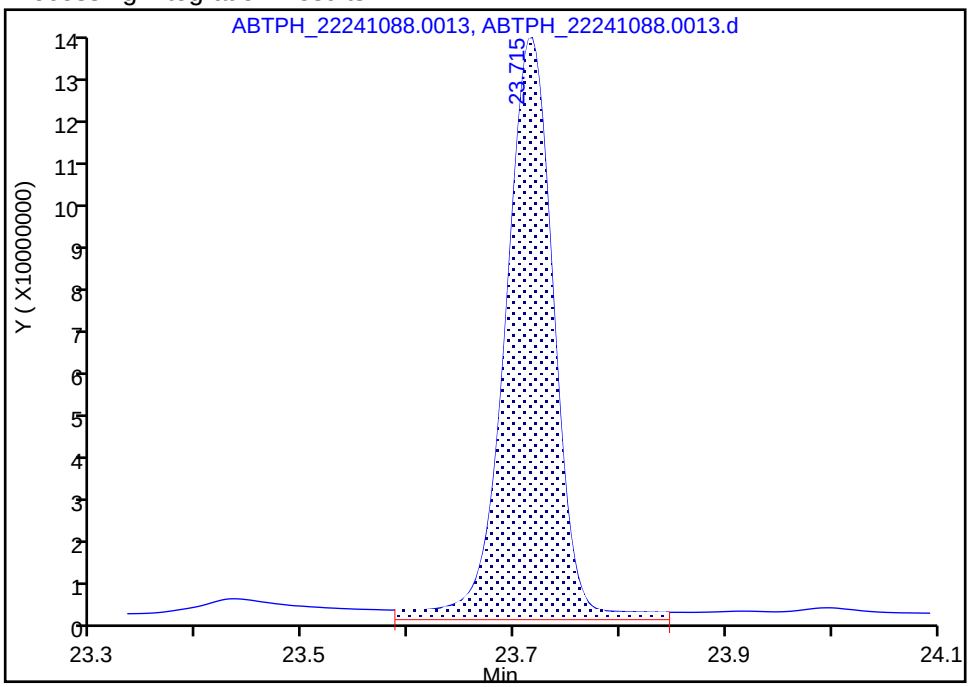
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

27 n-Tetracosane, CAS: 646-31-1

Signal: 1

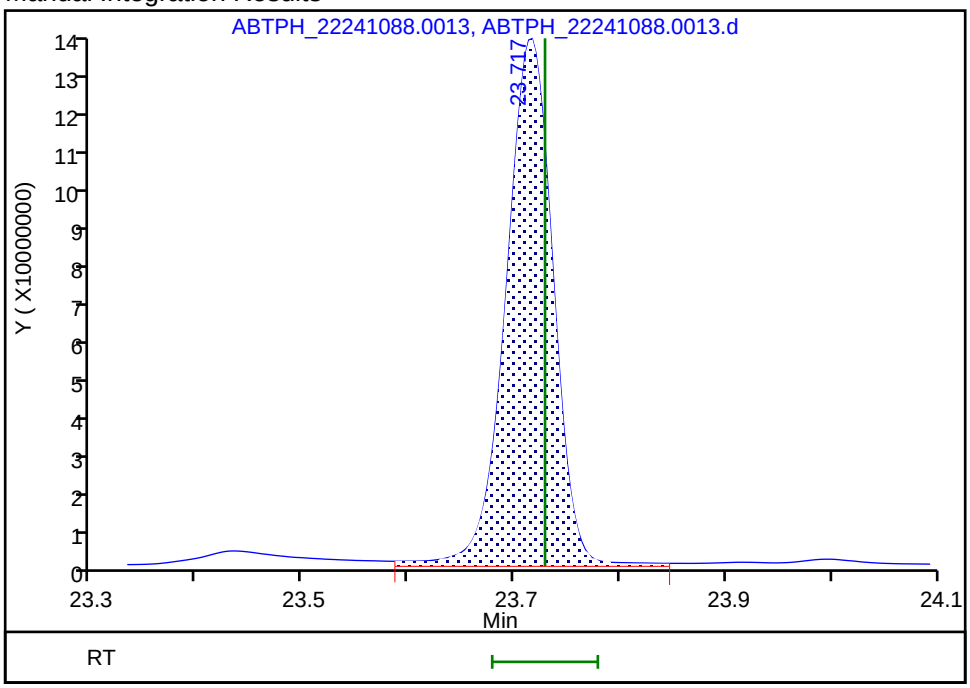
Processing Integration Results

RT: 23.72
Area: 2030480596
Amount: 17.743663
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 1929550643
Amount: 16.861671
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:52 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

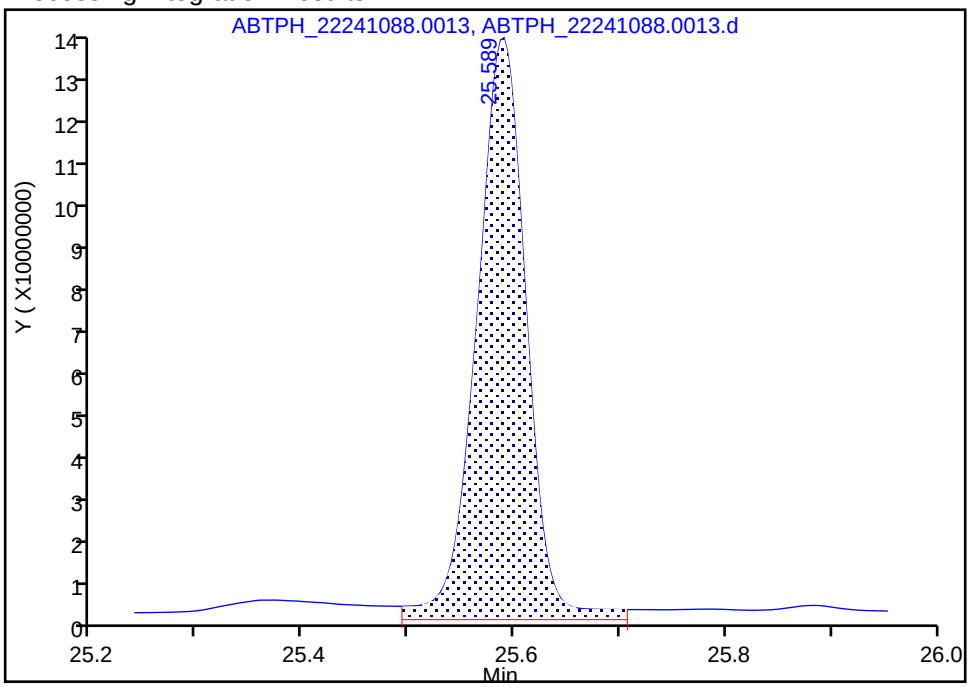
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

29 n-Hexacosane, CAS: 630-01-3

Signal: 1

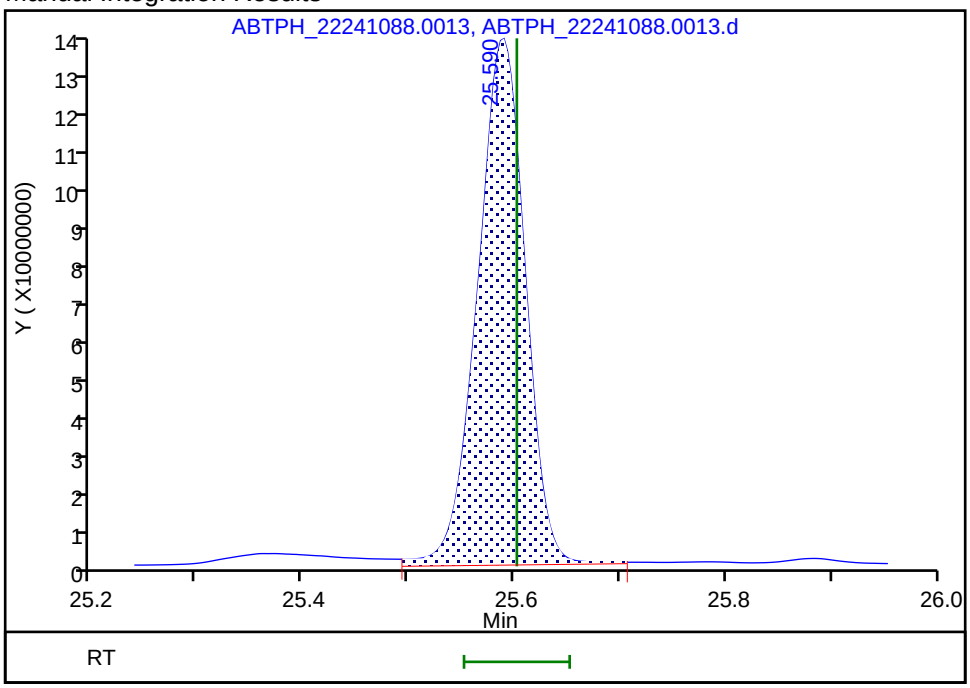
Processing Integration Results

RT: 25.59
Area: 2028677916
Amount: 17.607596
Amount Units: ug/ml



Manual Integration Results

RT: 25.59
Area: 1923556082
Amount: 16.695208
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:55 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

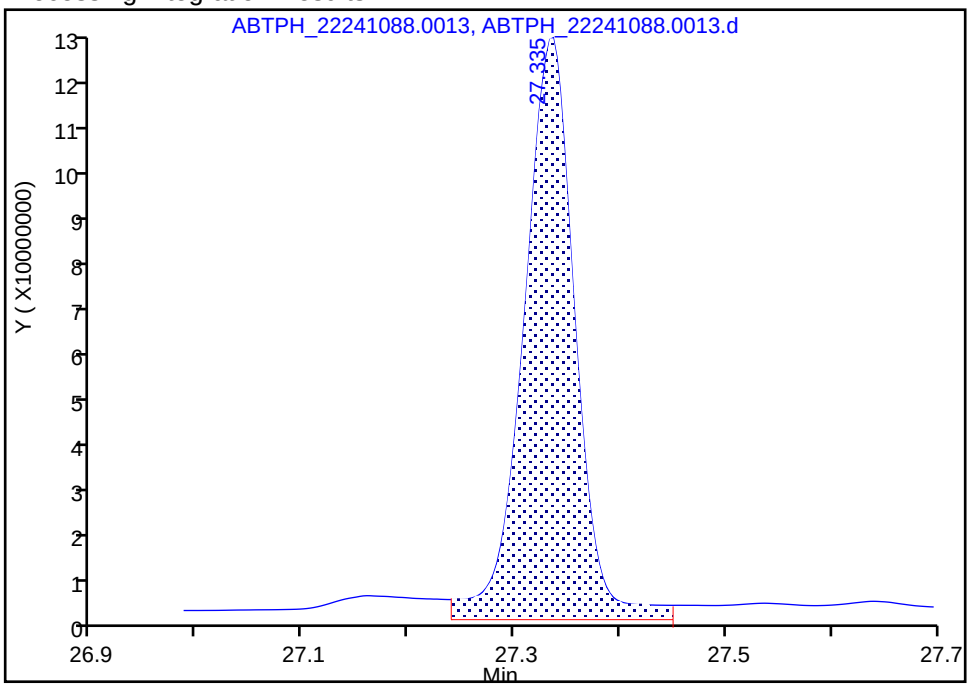
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

30 n-Octacosane, CAS: 630-02-4

Signal: 1

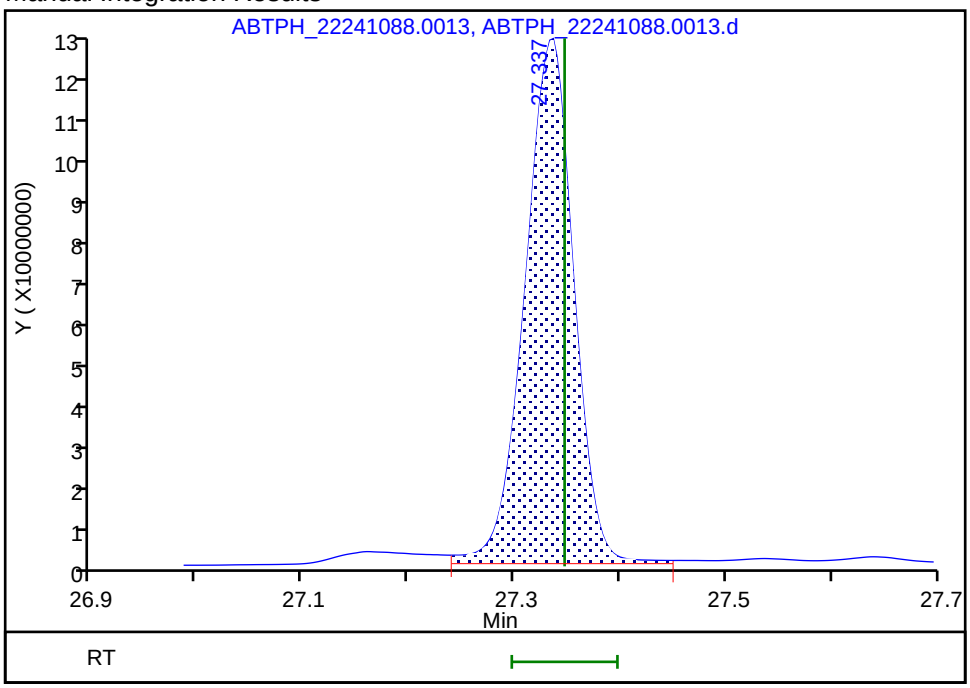
Processing Integration Results

RT: 27.34
Area: 2061841843
Amount: 17.779289
Amount Units: ug/ml



Manual Integration Results

RT: 27.34
Area: 1931648737
Amount: 16.656632
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:55 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

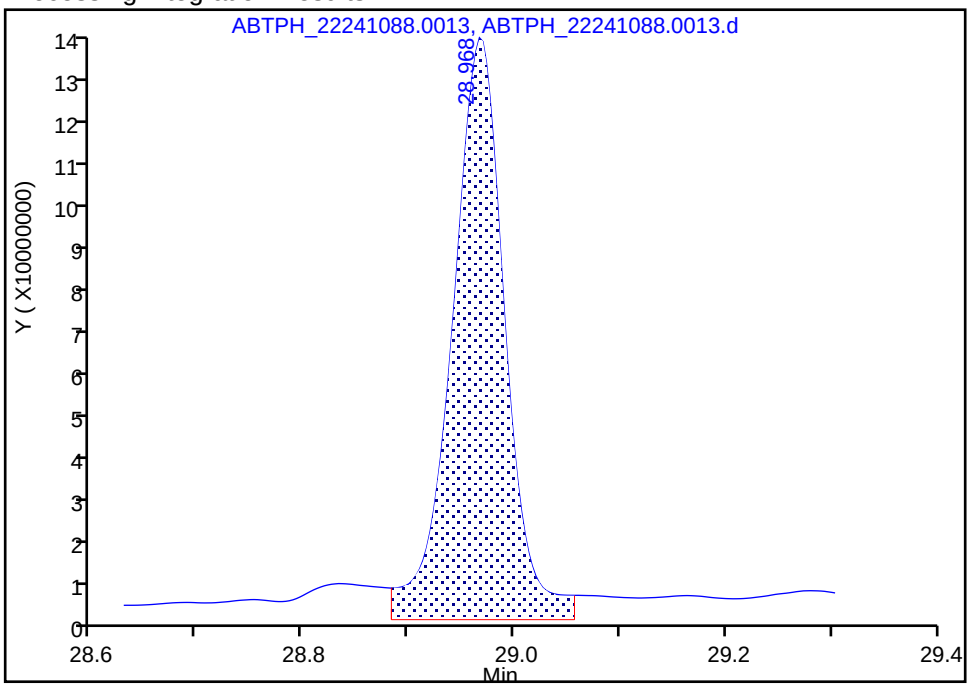
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

31 Triacontane, CAS: 638-68-6

Signal: 1

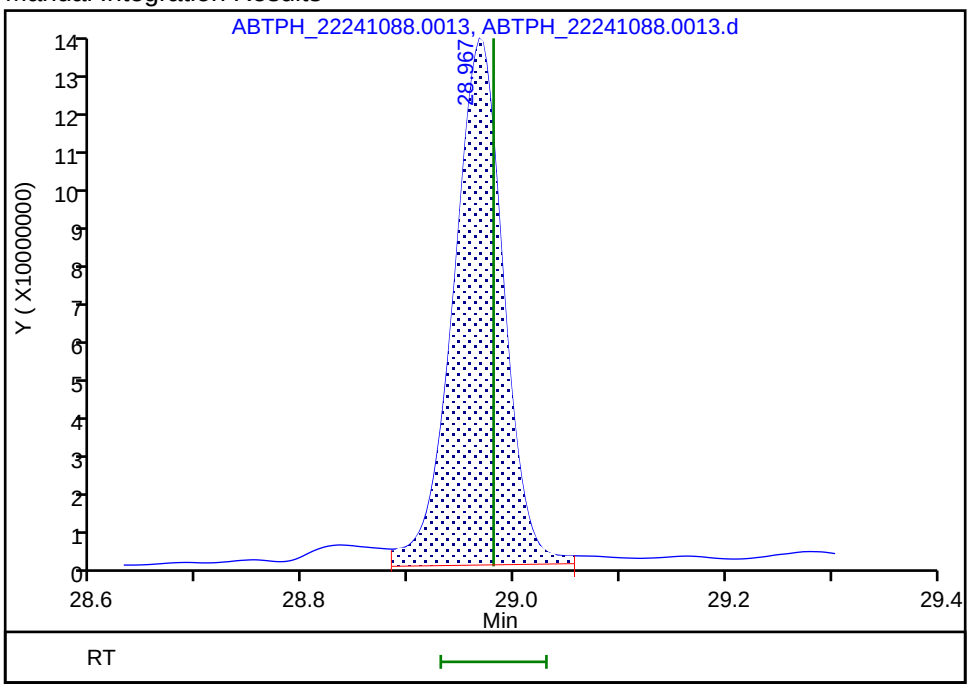
Processing Integration Results

RT: 28.97
Area: 2180932132
Amount: 18.672736
Amount Units: ug/ml



Manual Integration Results

RT: 28.97
Area: 2013022501
Amount: 17.235125
Amount Units: ug/ml



Reviewer: UHEW, 04-Jan-2024 13:04:59 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/13
Calibration Date: 01/04/2024 03:35

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241088.0013.d
Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
C8-C40	Ave	110014073	125960640		331	289	14.5	20.0

FORM VII
DIESEL RANGE ORGANICS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Lab Sample ID: CCV 410-459936/13
Calibration Date: 01/04/2024 03:35

Instrument ID: 10254-A
Calib Start Date: 08/30/2022 01:40

GC Column: ZB-5 ID:
Calib End Date: 08/30/2022 04:53

Lab File ID: ABTPH_22241088.0013.d

Analyte	RT	RT WINDOW	
		FROM	TO
C8-C40	18.73	1.49	35.95

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d
Lims ID: CCV TPH
Client ID:
Sample Type: CCV
Inject. Date: 04-Jan-2024 03:35:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TPH
Misc. Info.: 410-0103280-013
Operator ID: Instrument ID: 10254-A
Sublist: chrom-Fuels_10254A*sub6

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 13:05:40 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:05:05

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 n-Octane						
1.588	1.594	-0.006	1705397147	16.1	17.0	
$ 2 Chlorobenzene (Surr)						
2.117	2.123	-0.006	1310630975	16.1	16.4	
3 n-Nonane						
2.935	2.944	-0.009	1688063304	16.1	16.5	
4 n-Decane						
4.708	4.718	-0.010	1699911800	16.1	16.2	
5 Dodecane						M
8.323	8.332	-0.009	1732277390	16.1	16.2	M
7 n-Tetradecane						M
11.580	11.589	-0.009	1746135654	16.0	16.1	M
8 Hexadecane						M
14.490	14.500	-0.010	1799321790	16.1	16.0	M
12 n-Octadecane						M
17.113	17.126	-0.013	1838143267	16.1	16.2	M
$ 13 o- terphenyl (Surr)						
18.123	18.137	-0.014	2048687441	16.0	16.7	
A 22 C8-C40						M
18.728	(1.507-35.950)		36447970923	289.4	331.3	M
24 icosane						M
19.503	19.517	-0.014	1916439888	16.0	17.0	M
25 n-Docosane						M
21.697	21.708	-0.011	1876325903	16.1	16.5	M
A 26 C12-C40						M
22.100	(8.250-35.950)		31244592539	241.1	270.7	M
27 n-Tetracosane						M
23.717	23.729	-0.012	1929550643	16.0	16.9	M

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
29 n-Hexacosane						M
25.590	25.602	-0.012	1923556082	16.2	16.7	M
30 n-Octacosane						M
27.337	27.347	-0.010	1931648737	16.0	16.7	M
31 Triacontane						M
28.967	28.980	-0.013	2013022501	16.1	17.2	M
33 Dotriacontane						
30.500	30.514	-0.014	1932355452	16.1	16.8	
34 Tetratriacontane						
31.946	31.959	-0.013	1868589660	16.1	16.1	
35 n-Hexatriacontane						
33.312	33.324	-0.012	1827444758	16.1	16.0	
36 C38						
34.605	34.619	-0.014	1836438571	16.1	16.6	
37 C40						
35.839	35.850	-0.011	1825550682	16.1	16.2	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

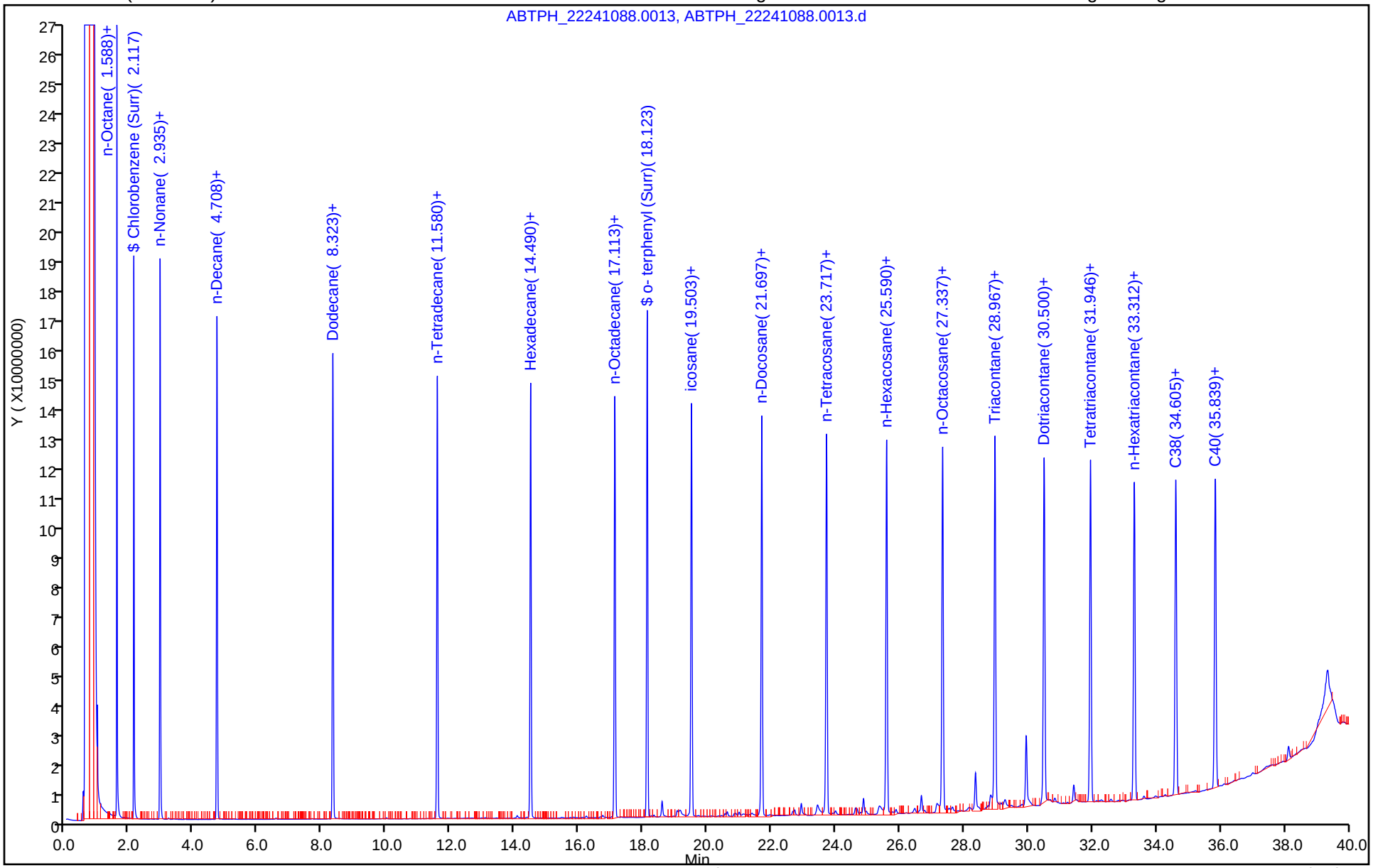
EPH_TPH_3_00023 Amount Added: 1.00 Units: mL

Report Date: 04-Jan-2024 13:05:40 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	CCV TPH			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1

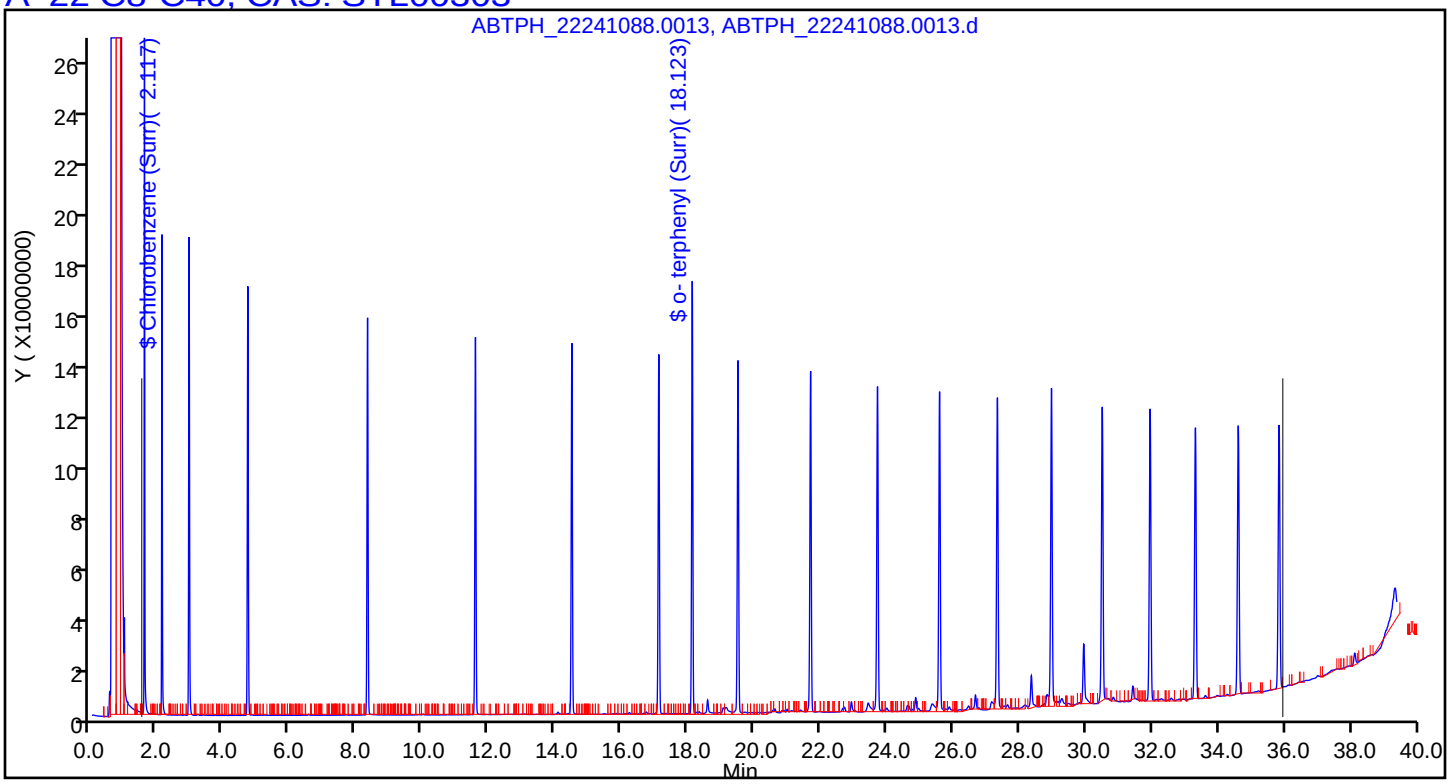


Report Date: 04-Jan-2024 13:05:41 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, CAS: STL00303



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

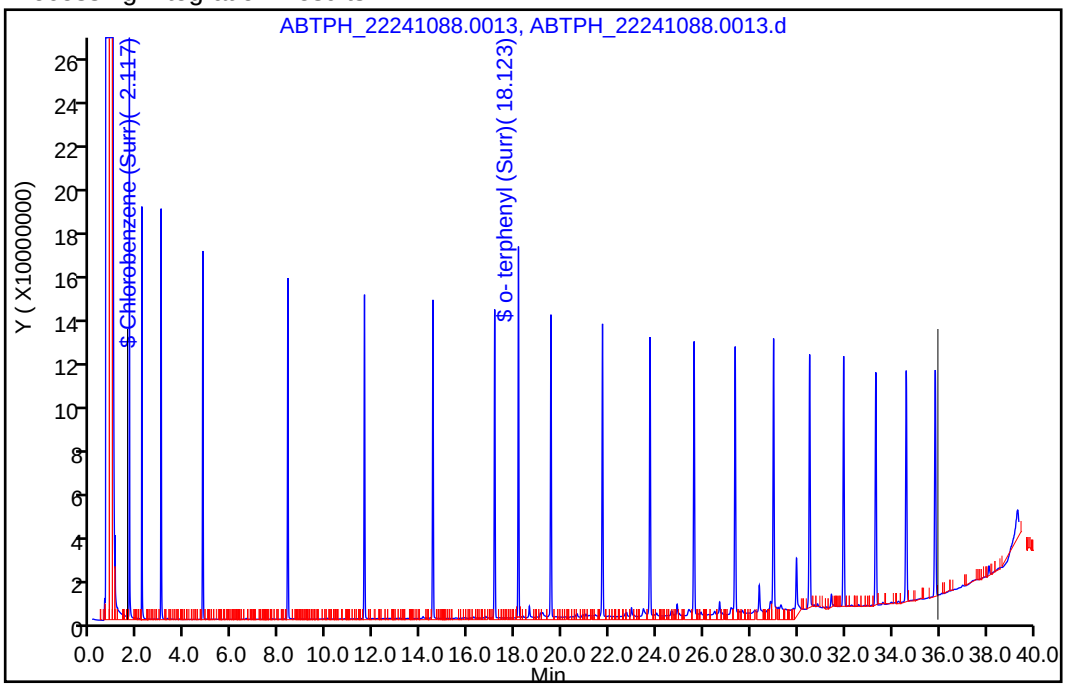
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0013.d				
Injection Date:	04-Jan-2024 03:35:00	Instrument ID:	10254-A		
Lims ID:	CCV TPH				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 22 C8-C40, RT: 18.722, CAS: STL00303

Signal: 1

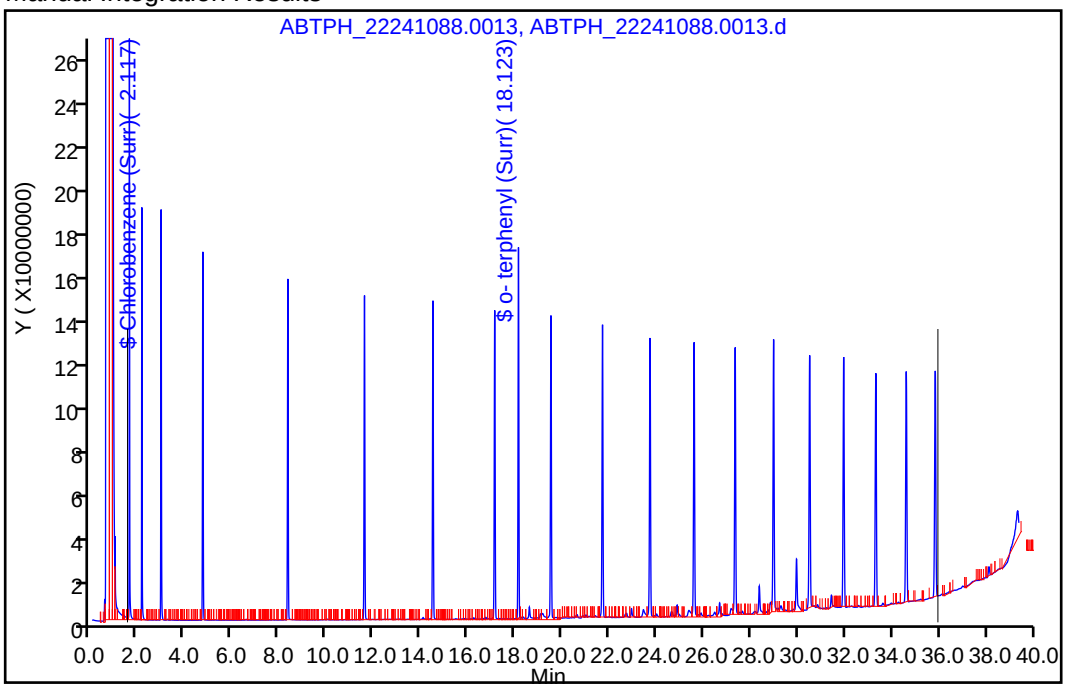
Processing Integration Results

RT: 18.73
Response: 42577749185
Amount: 387.0209



Manual Integration Results

RT: 18.73
Response: 36447970923
Amount: 331.3028



Reviewer: UHEW, 04-Jan-2024 13:04:45 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Client Sample ID:
Lab Sample ID: MB 410-458714/1-A

Matrix: Solid
Lab File ID: ABTPH_22241088.0006.d

Analysis Method: 8015D TPH
Date Collected:

Extraction Method: 3546
Date Extracted: 12/29/2023 07:36

Sample wt/vol: 30.00(g)
Date Analyzed: 01/03/2024 21:56

Con. Extract Vol.: 5(mL)
Dilution Factor: 1

Injection Volume: 1(uL)
GC Column: ZB-5 ID:

% Moisture: % Solids:
GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 459936
Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
68476-31-3	Fuel Oil #4	ND		12	5.0
68334-30-5	#2 Diesel Fuel	ND		12	5.0
8008-20-6	Kerosene	ND		12	5.0
64475-85-0	Mineral Spirits	ND		12	5.0
STL00299	Motor Oil (>C24-C36)	ND		12	5.0
68553-00-4	Fuel Oil #6	ND		12	5.0
8001-58-9	coal tar oil	ND		12	5.0
STL00228	Gasoline	ND		12	5.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o- terphenyl (Surr)	106		52-124
108-90-7	Chlorobenzene (Surr)	80		10-143

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d
Lims ID: MB 410-458714/1-A
Client ID:
Sample Type: MB
Inject. Date: 03-Jan-2024 21:56:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 410-458714/1-A
Misc. Info.: 410-0103280-006
Operator ID: Instrument ID: 10254-A

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 14:13:31 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:44

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 2 Chlorobenzene (Surr)						
2.133	2.123	0.010	768051092	12.0	9.63	
3 n-Nonane						
2.947	2.944	0.003	2430186		0.0238	
4 n-Decane						
4.716	4.718	-0.002	446369		0.004244	
5 Dodecane						
8.326	8.332	-0.006	467128		0.004367	
A 6 C8-C18						M
9.376	(1.513-17.170)		330005821		NC	M
7 n-Tetradecane						M
11.583	11.589	-0.006	2085430		0.0192	M
8 Hexadecane						M
14.487	14.500	-0.013	3254762		0.0290	M
A 10 C12-C24						M
16.024	(8.263-23.760)		592125760		5.13	M
A 9 Diesel						M
16.024	(8.263-23.760)		592125760		NC	M
A 11 Diesel Fuel 2-FID						M
16.015	(4.643-27.423)		697201431		6.81	M
12 n-Octadecane						M
17.110	17.126	-0.016	3546307		0.0312	M
$ 13 o- terphenyl (Surr)						
18.117	18.137	-0.020	1571497731	12.1	12.8	
A 19 Motor Oil						M
18.738	(1.513-35.930)		958967088		8.72	M
A 18 Fuel Oil #4						M
18.738	(1.513-35.930)		958967088		8.72	M

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
A 23 Fuel Oil #6						M
18.738 (1.513-35.930)			958967088		8.72	M
A 16 Creosote						M
18.738 (1.513-35.930)			958967088		8.72	M
A 22 C8-C40						M
18.738 (1.513-35.930)			958967088		8.72	M
A 14 Qualitative Method						M
18.738 (1.513-35.930)			958967088		8.72	M
A 15 Mineral Spirits						M
18.738 (1.513-35.930)			958967088		8.72	M
A 21 Kerosene						M
18.738 (1.513-35.930)			958967088		8.72	M
A 20 Gasoline						M
18.738 (1.513-35.930)			958967088		8.72	M
24 icosane						M
19.500	19.517	-0.017	16504979		0.1467	M
A 17 #2 Diesel Fuel						M
20.284 (4.643-35.930)			827602710		7.52	M
25 n-Docosane						M
21.687	21.708	-0.021	14041583		0.1238	M
A 26 C12-C40						M
22.091 (8.263-35.930)			815763462		7.07	M
27 n-Tetracosane						M
23.707	23.729	-0.022	13679409		0.1195	M
A 28 C16-C36						M
23.942 (14.400-33.357)			642303744		8.23	M
29 n-Hexacosane						M
25.570	25.602	-0.032	5203605		0.0452	M
30 n-Octacosane						M
27.313	27.347	-0.034	7067265		0.0609	M
31 Triacontane						M
28.930	28.980	-0.050	4664304		0.0399	M
A 32 C24-C40						M
29.889 (23.829-35.930)			223121369		1.93	M
34 Tetratriacontane						
31.922	31.959	-0.037	4505675		0.0389	
35 n-Hexatriacontane						
33.345	33.324	0.021	1059498		0.009299	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

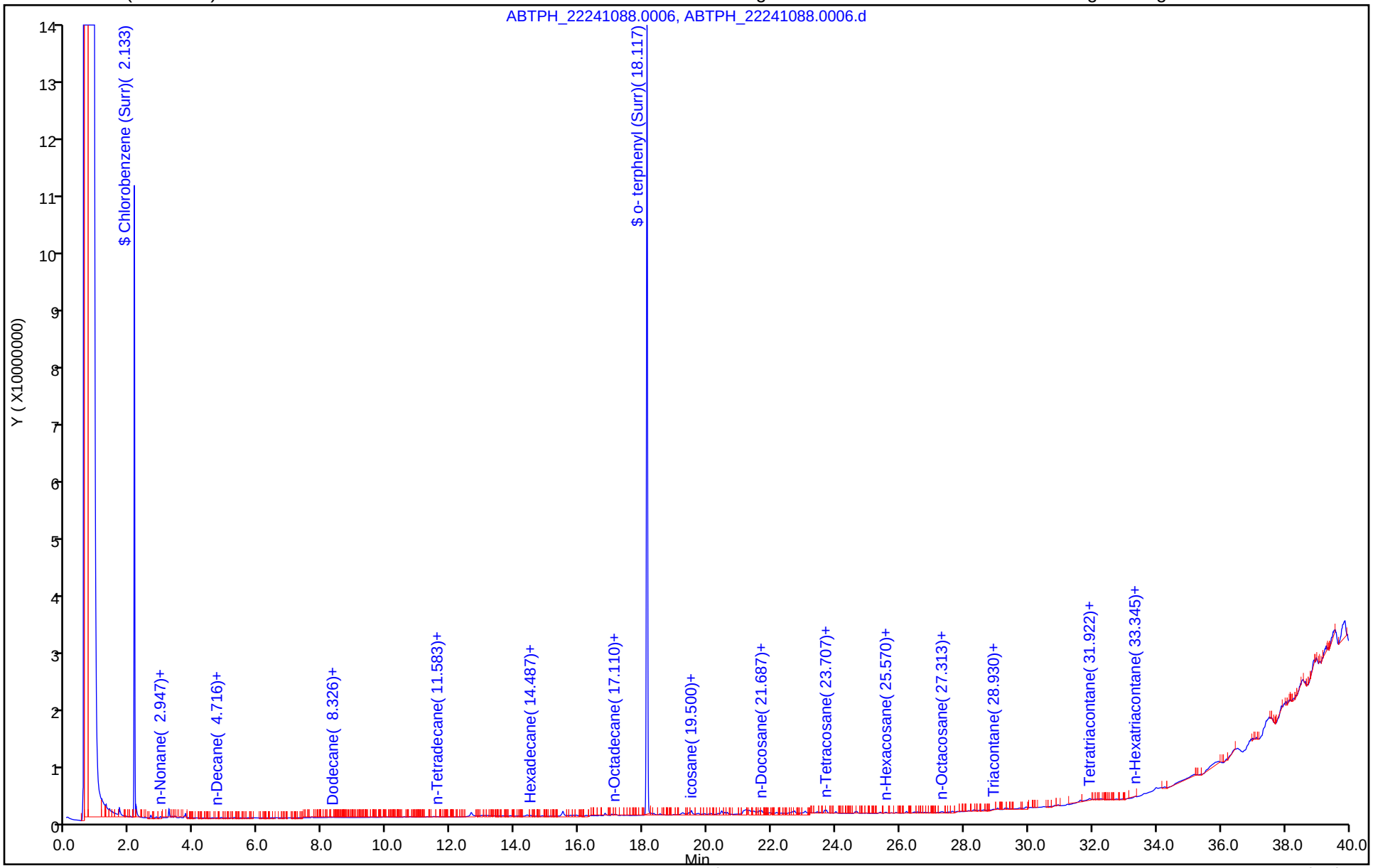
M - Manually Integrated

Report Date: 04-Jan-2024 14:13:51 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	MB 410-458714/1-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Lancaster Laboratories Environment Testing, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Lims ID:	MB 410-458714/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	03-Jan-2024 21:56:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 410-458714/1-A				
Misc. Info.:	410-0103280-006				
Operator ID:		Instrument ID:	10254-A		
Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1615				

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:44

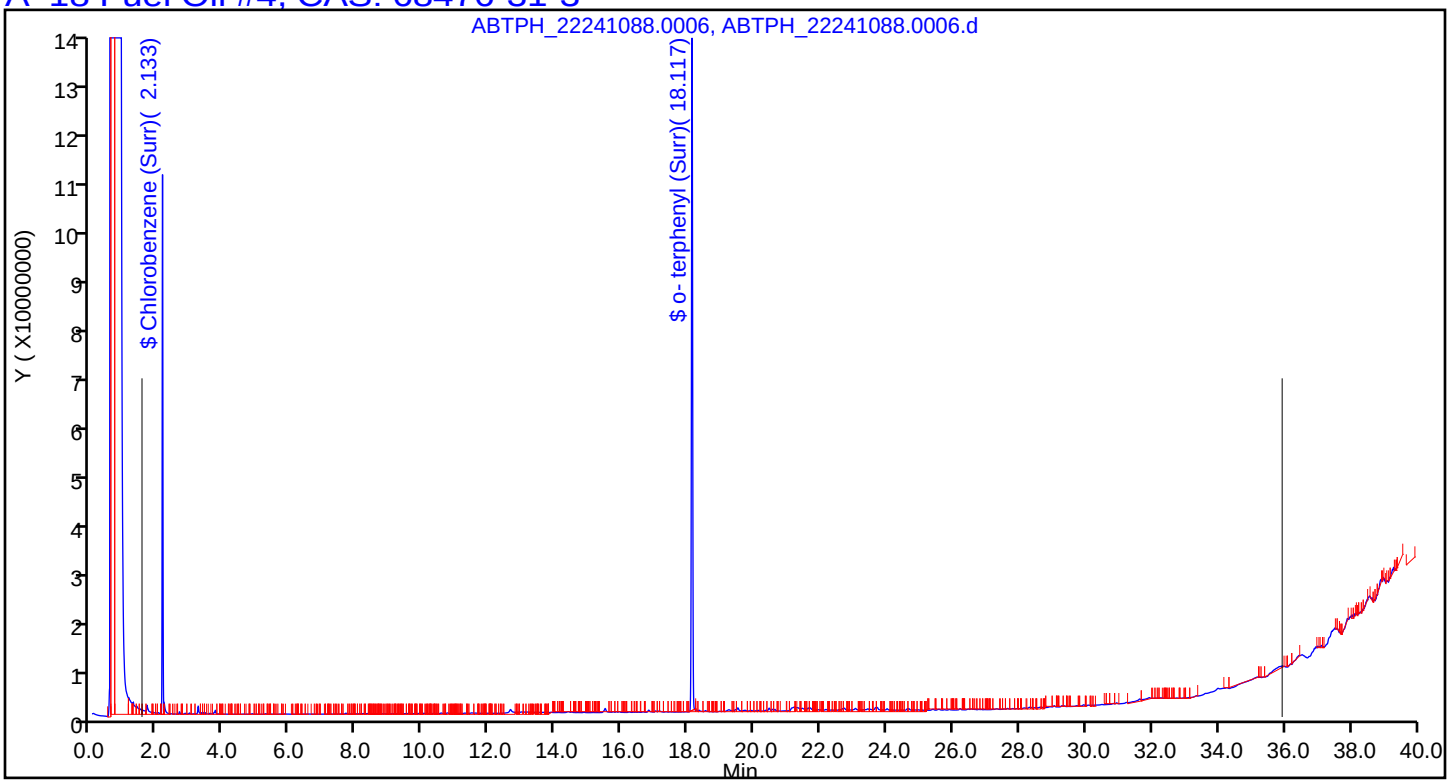
Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Chlorobenzene (Surr)	12.0	9.63	79.96
$ 13 o- terphenyl (Surr)	12.1	12.8	106.25

Report Date: 04-Jan-2024 14:13:51 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, CAS: 68476-31-3

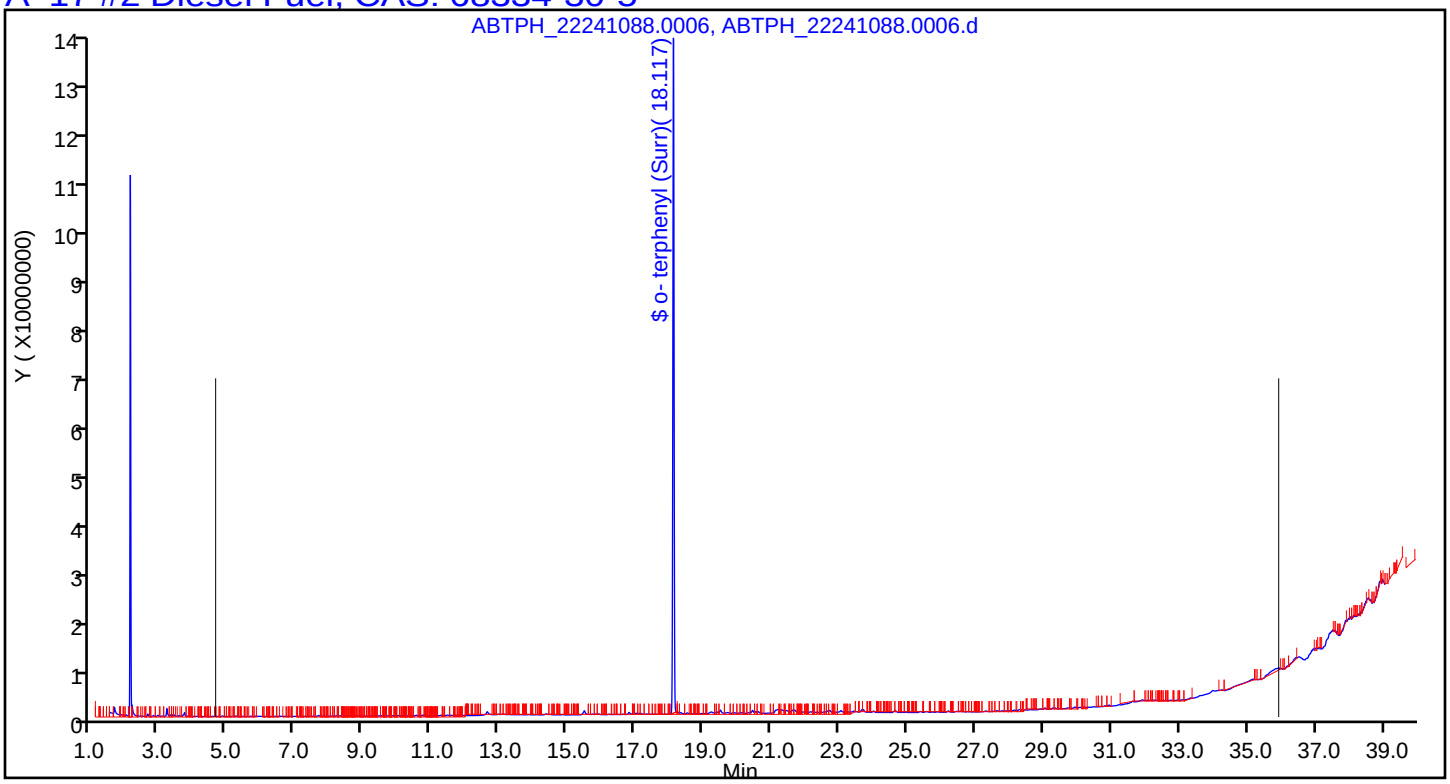


Report Date: 04-Jan-2024 14:13:54 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A_17 #2 Diesel Fuel, CAS: 68334-30-5

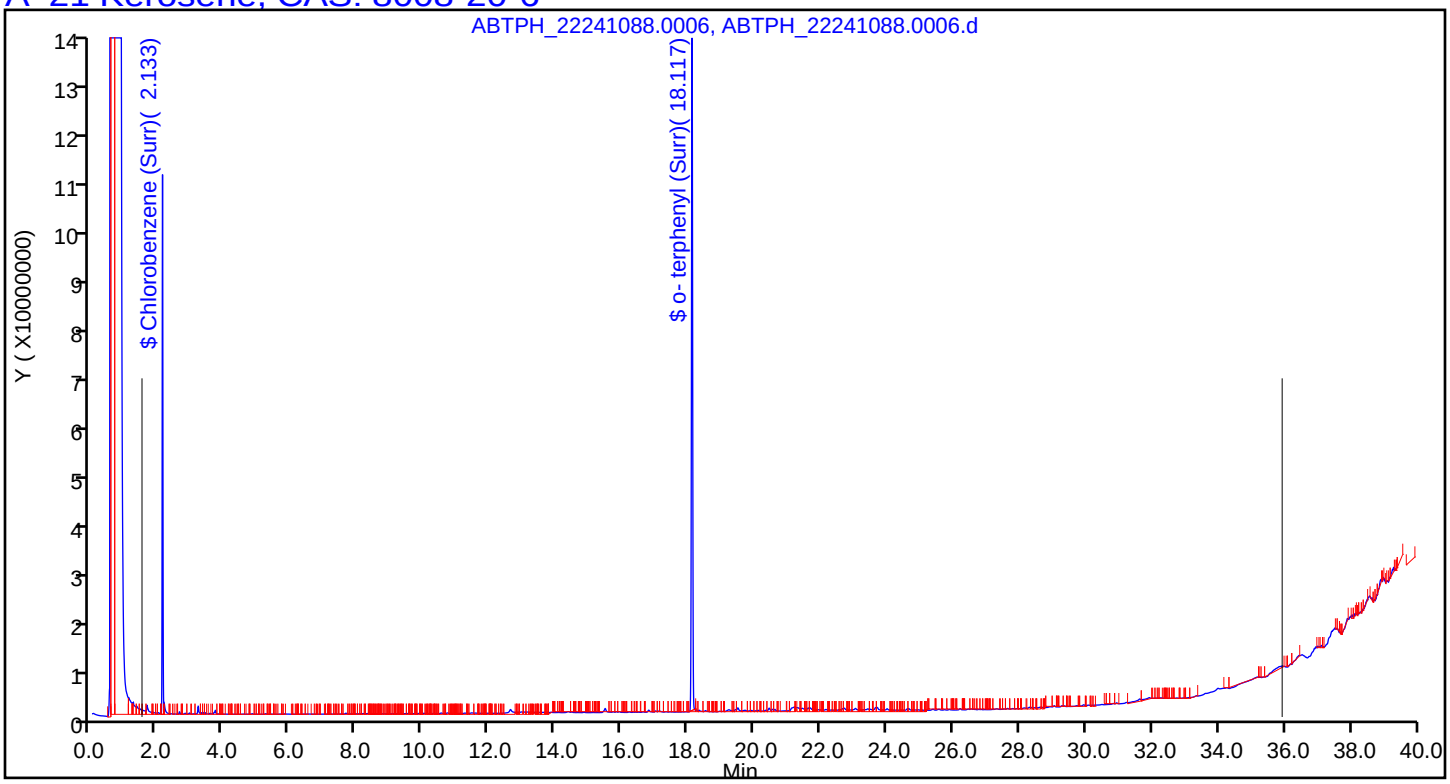


Report Date: 04-Jan-2024 14:13:53 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, CAS: 8008-20-6

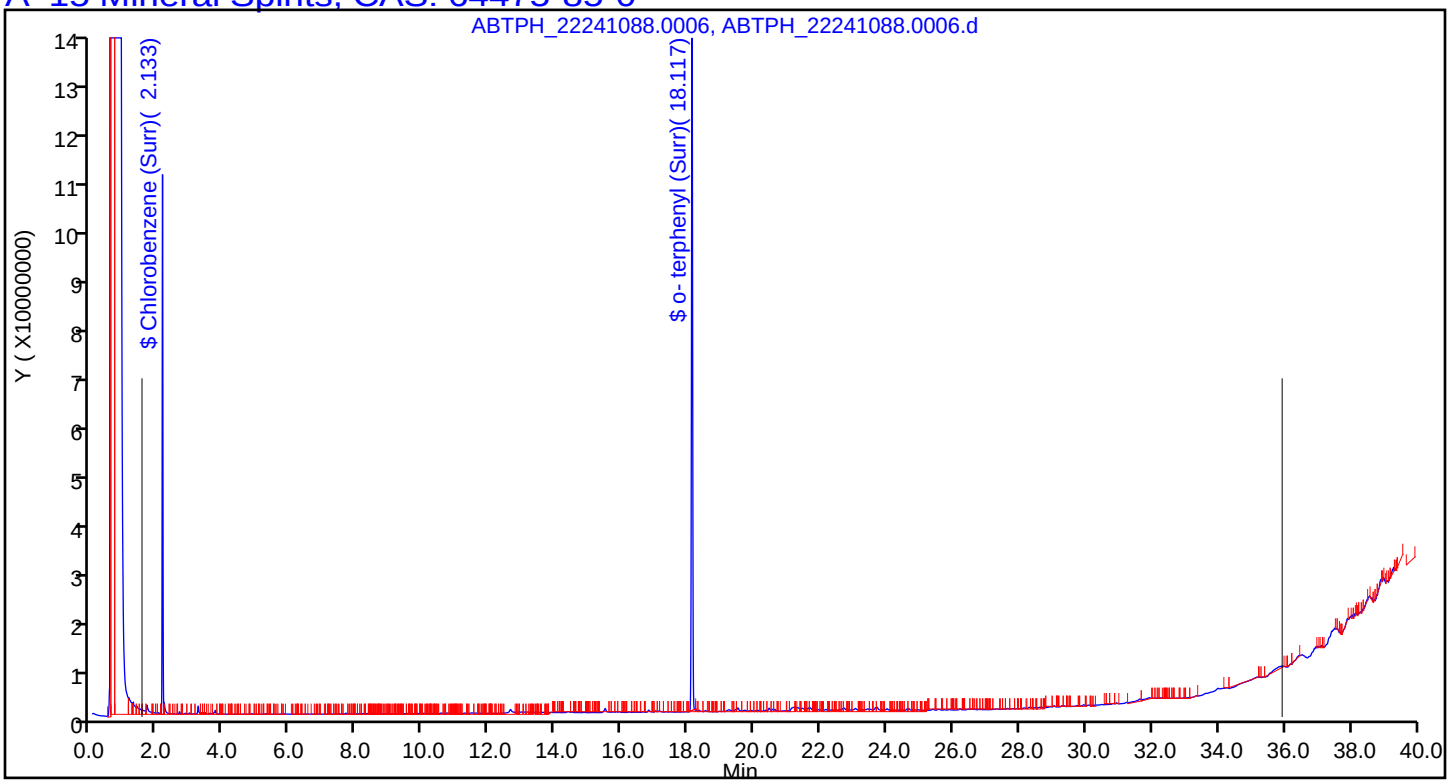


Report Date: 04-Jan-2024 14:13:53 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, CAS: 64475-85-0

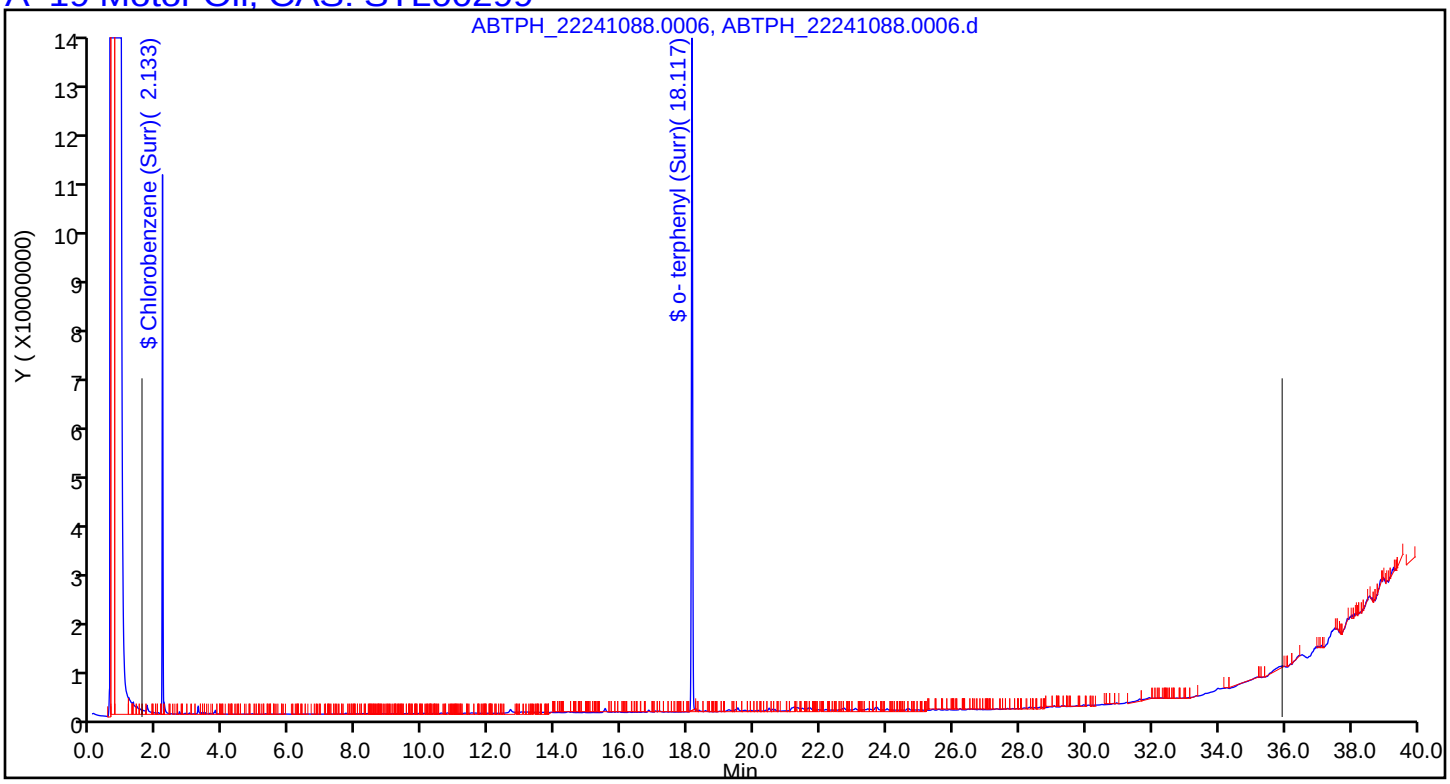


Report Date: 04-Jan-2024 14:13:51 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, CAS: STL00299

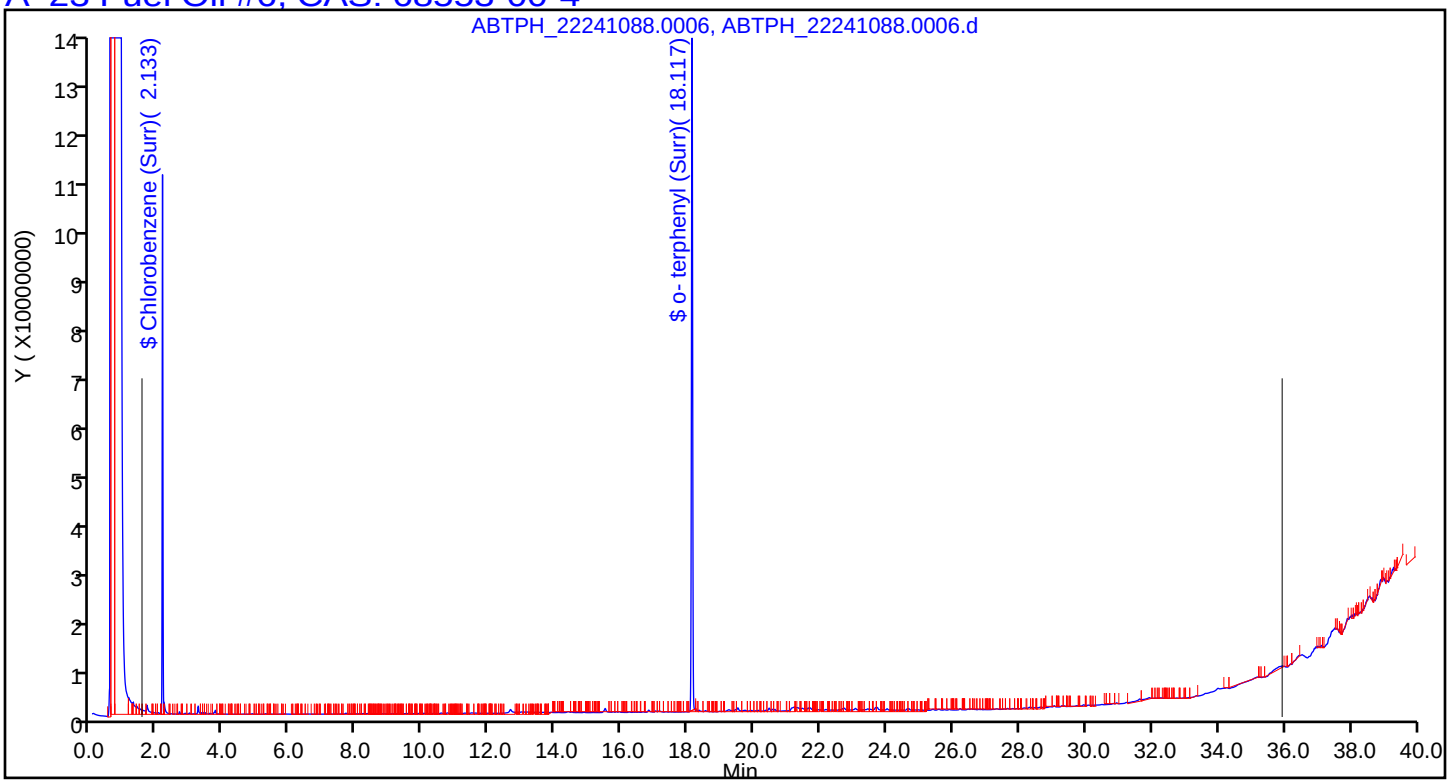


Report Date: 04-Jan-2024 14:13:52 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, CAS: 68553-00-4

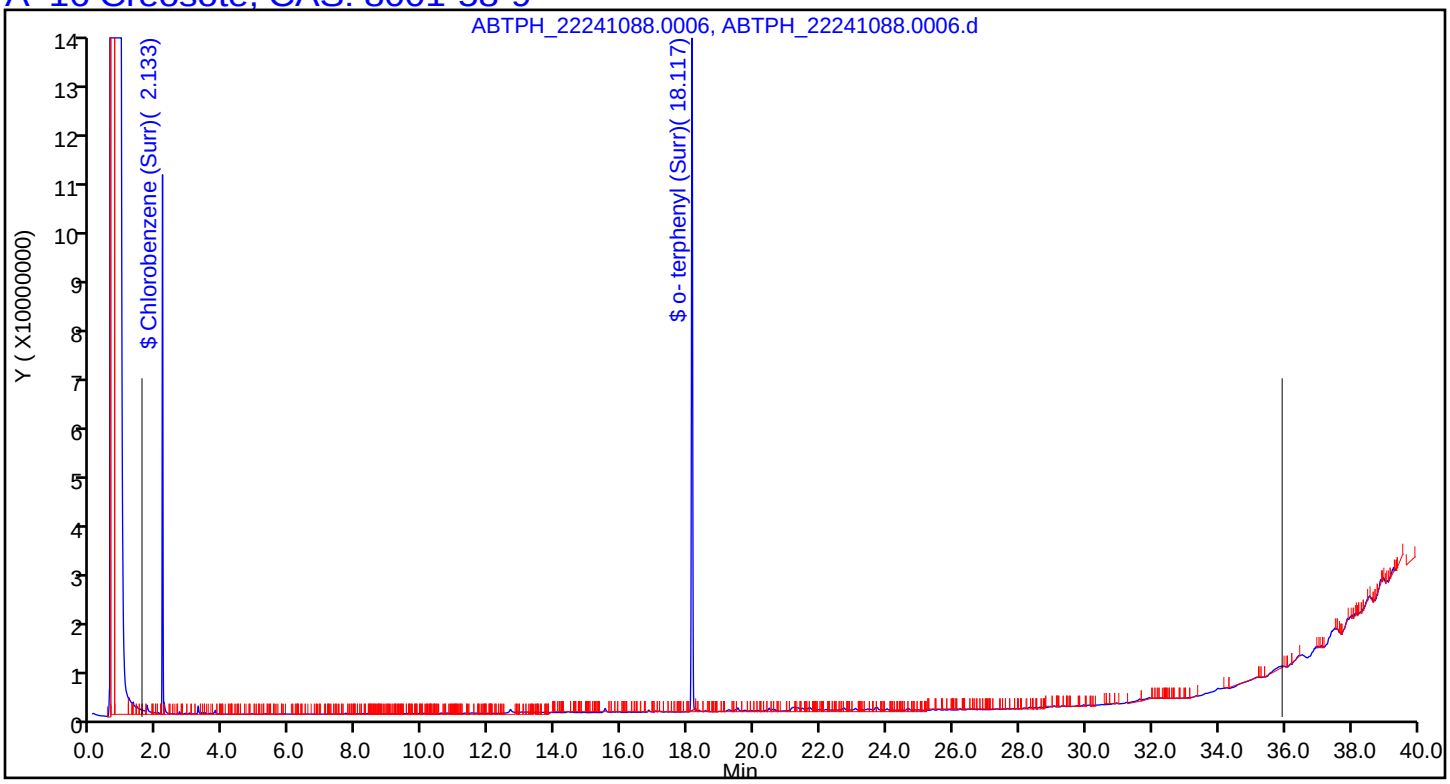


Report Date: 04-Jan-2024 14:13:52 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, CAS: 8001-58-9

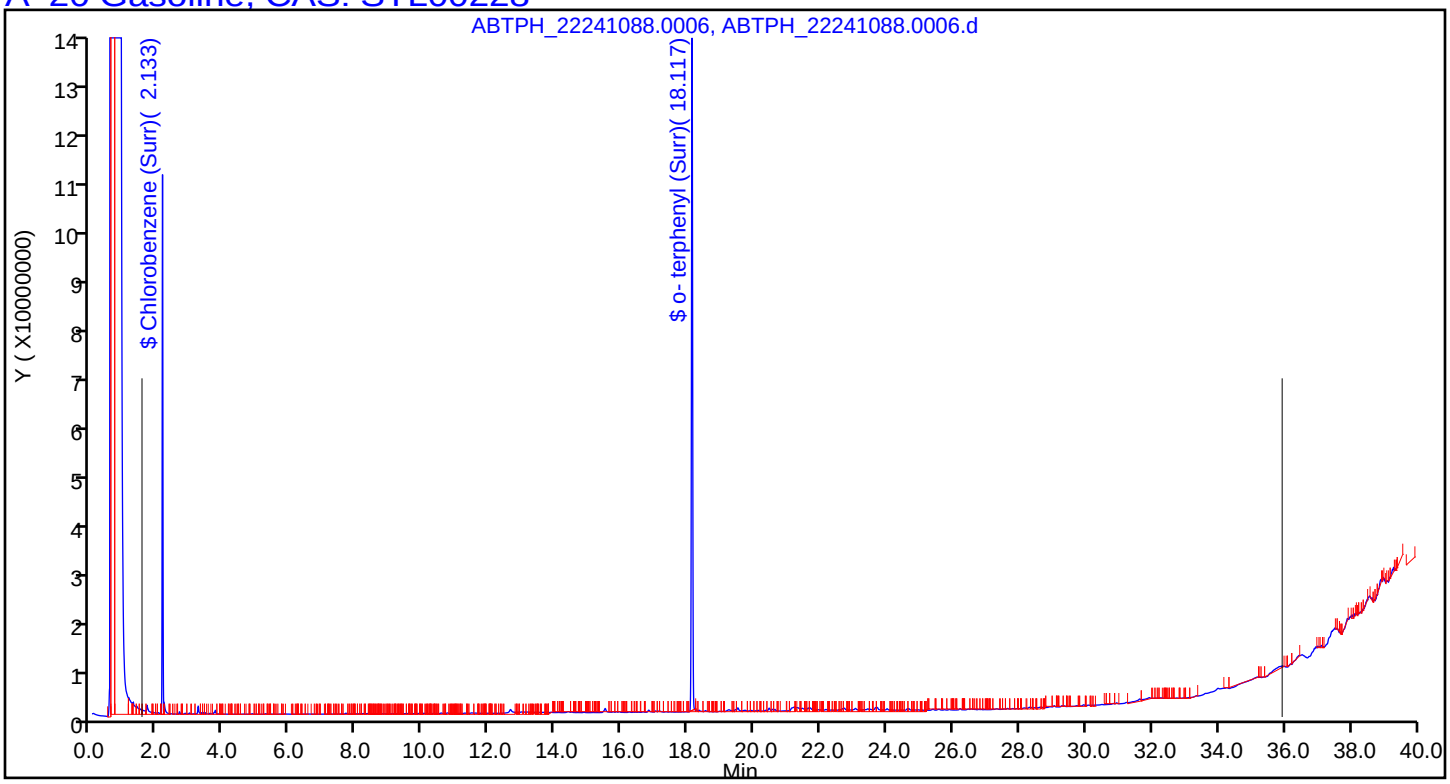


Report Date: 04-Jan-2024 14:13:53 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, CAS: STL00228



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

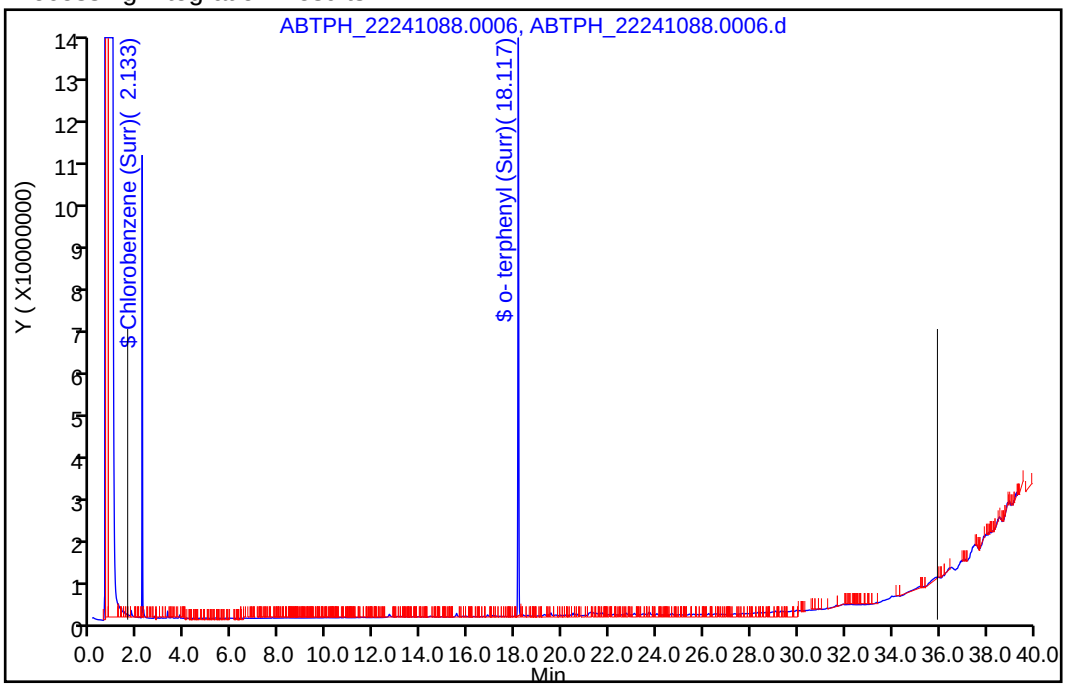
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 18 Fuel Oil #4, RT: 18.722, CAS: 68476-31-3

Signal: 1

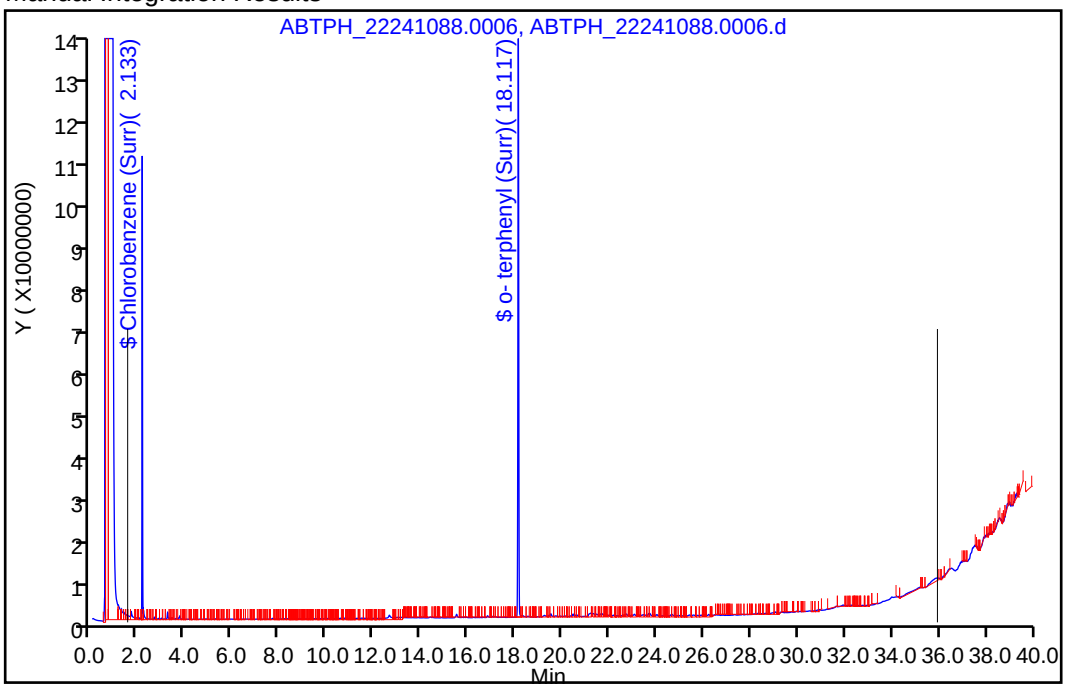
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

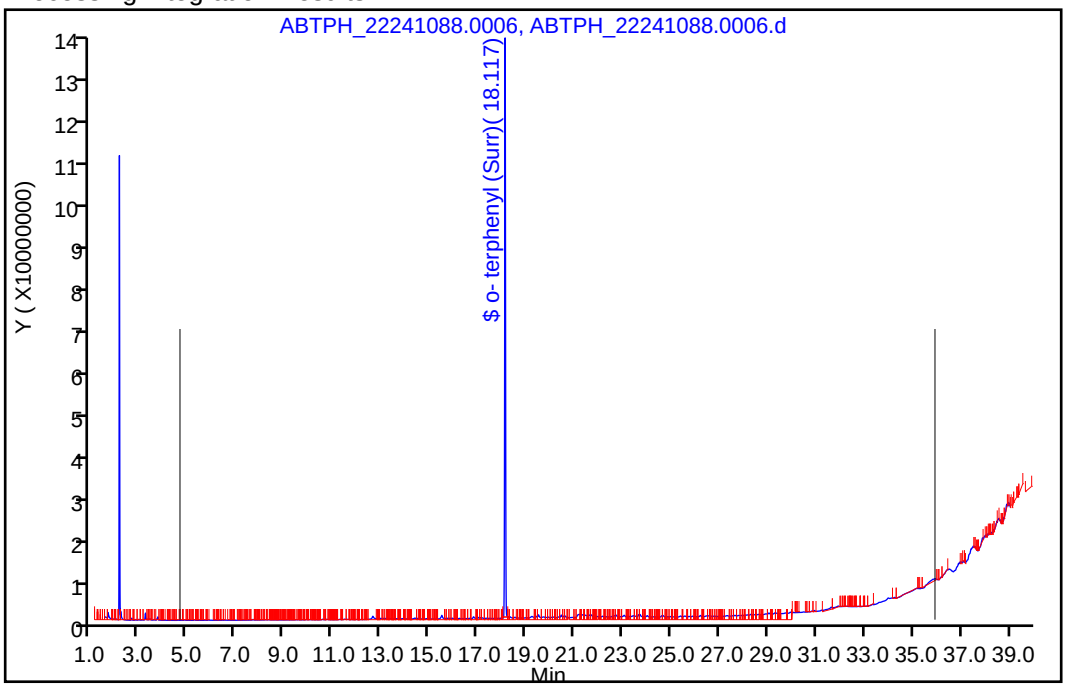
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, RT: 20.284, CAS: 68334-30-5

Signal: 1

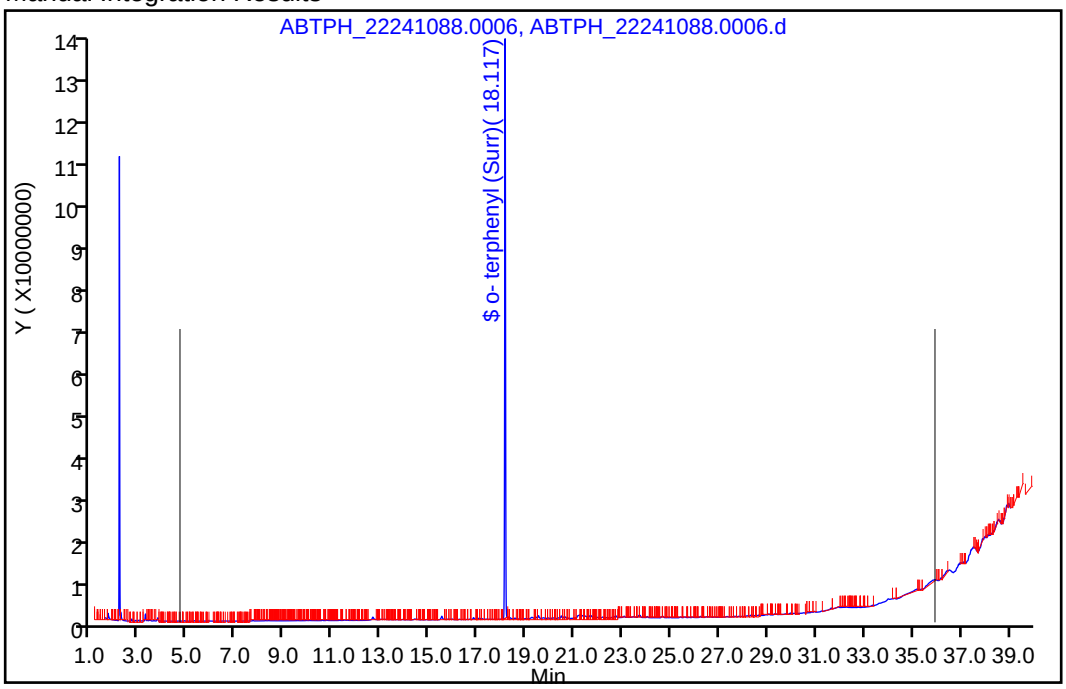
Processing Integration Results

RT: 20.28
Response: 3385825280
Amount: 30.776292



Manual Integration Results

RT: 20.28
Response: 827602710
Amount: 7.522699



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

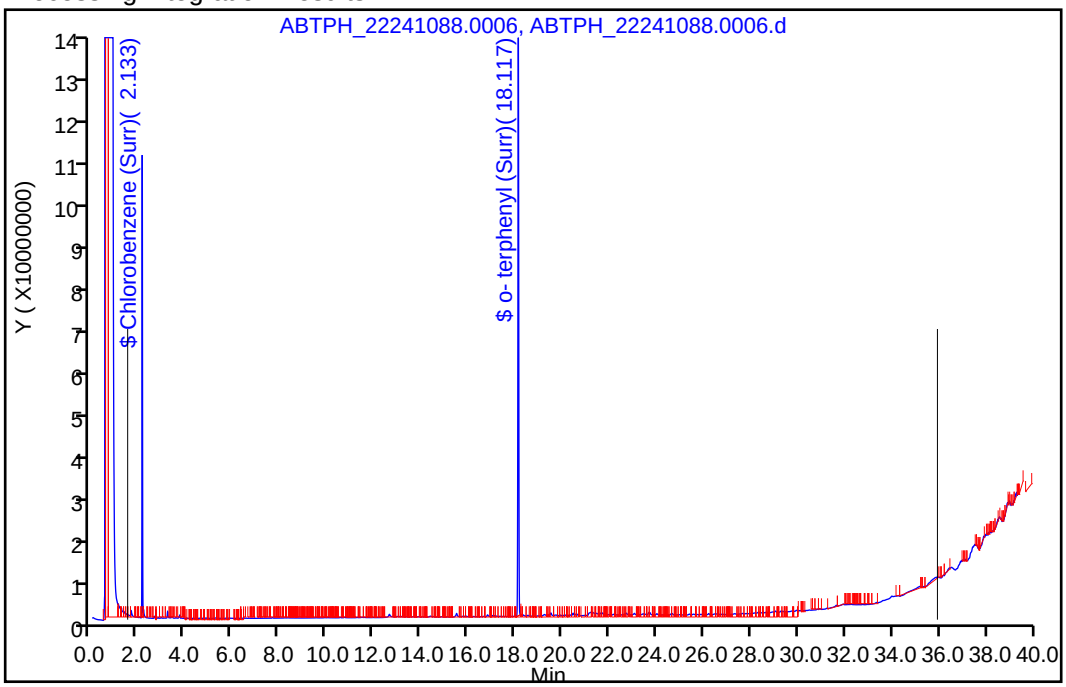
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 21 Kerosene, RT: 18.722, CAS: 8008-20-6

Signal: 1

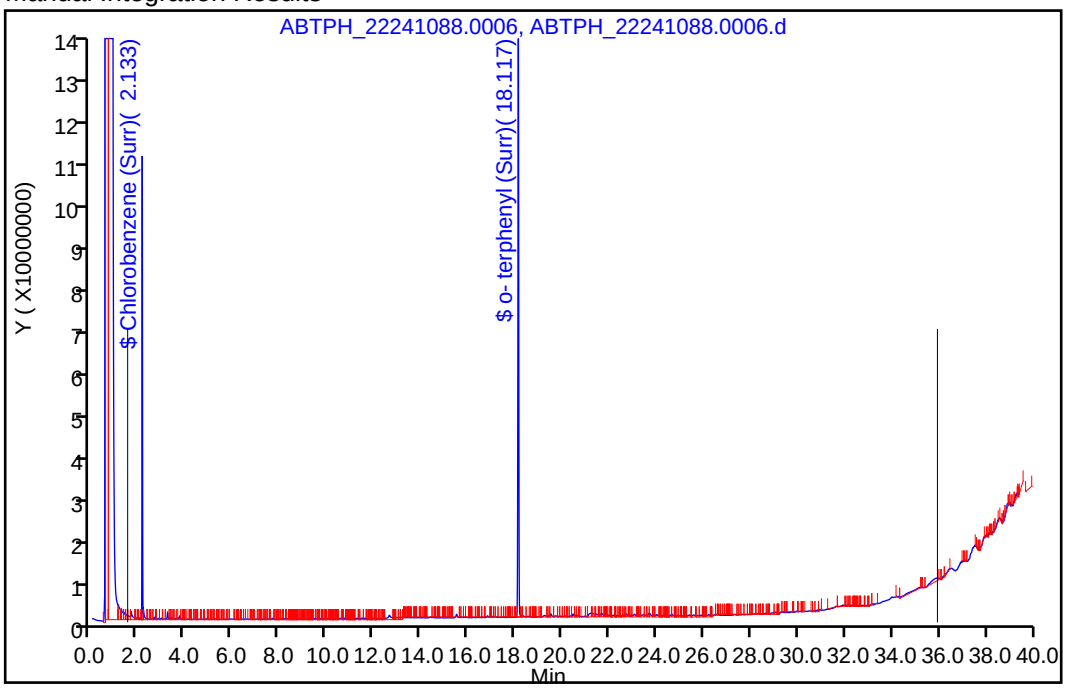
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

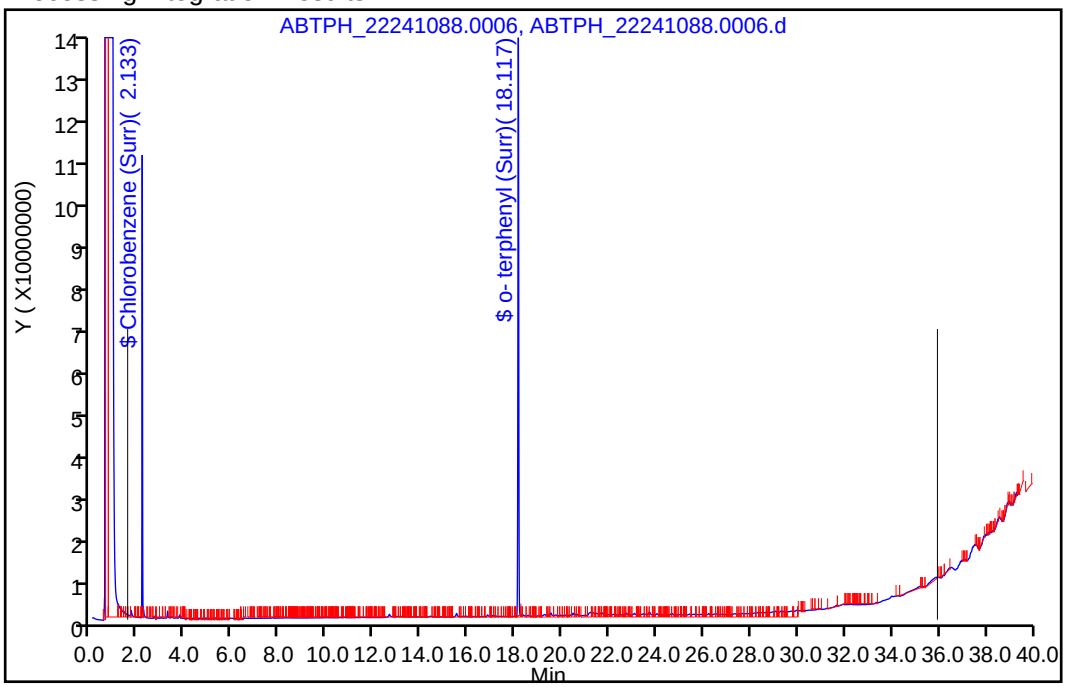
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 15 Mineral Spirits, RT: 18.722, CAS: 64475-85-0

Signal: 1

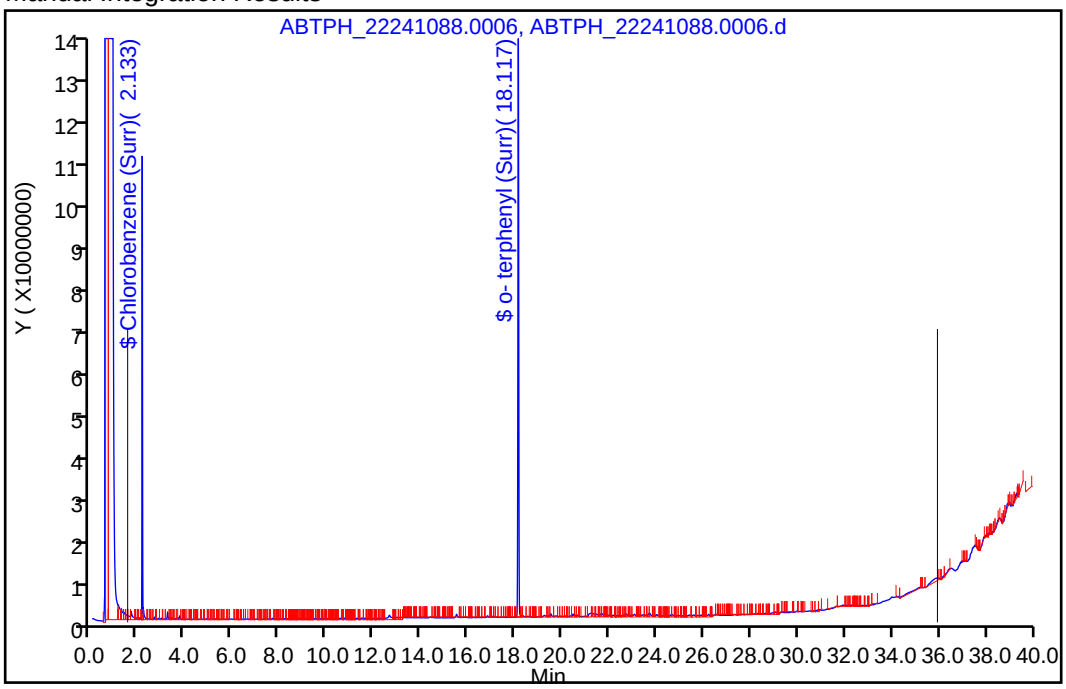
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

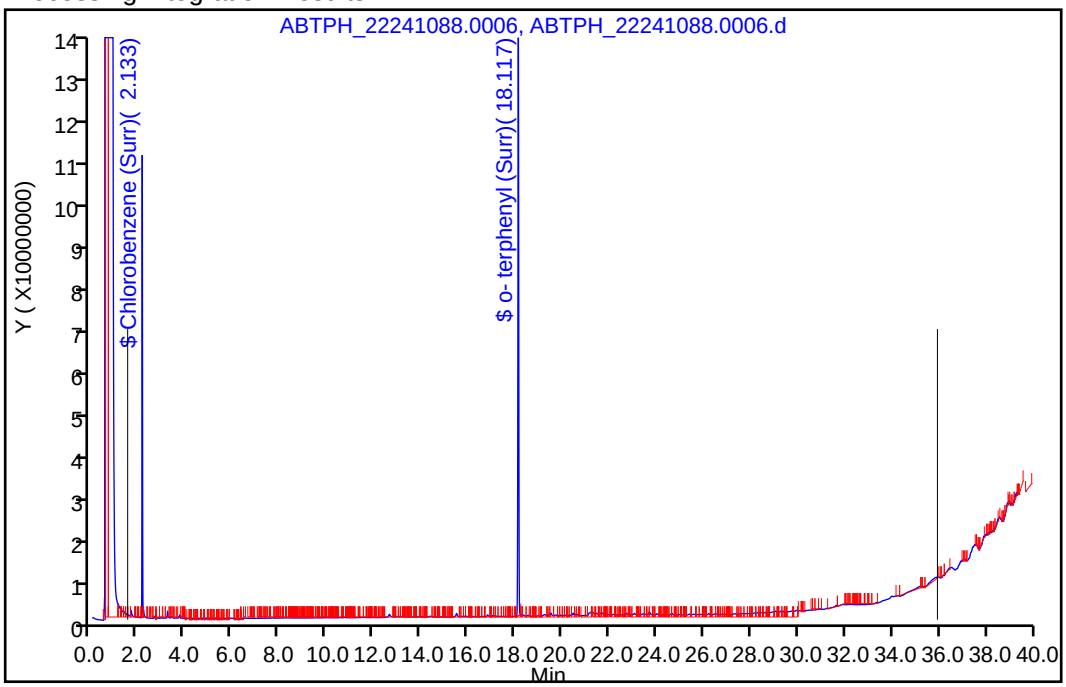
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 19 Motor Oil, RT: 18.722, CAS: STL00299

Signal: 1

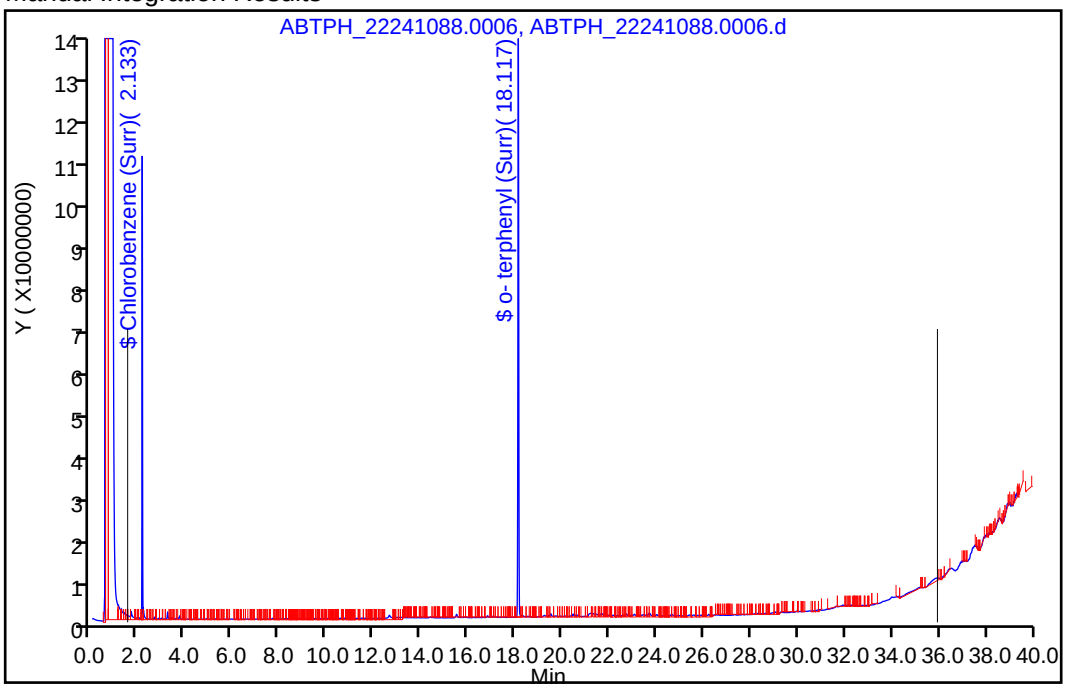
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

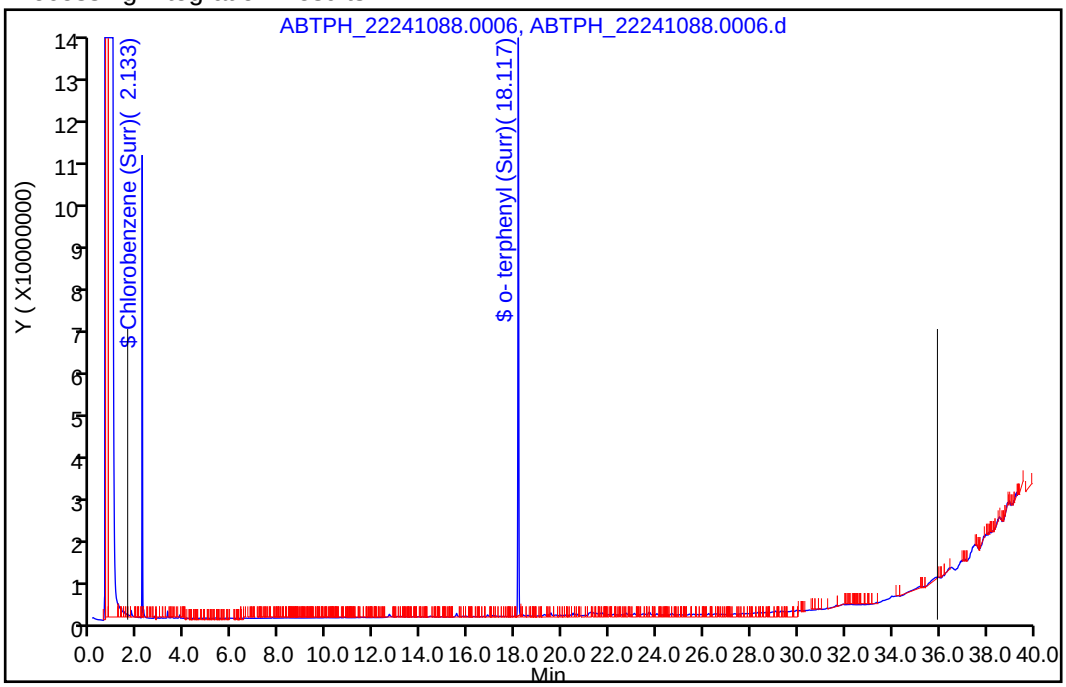
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 23 Fuel Oil #6, RT: 18.722, CAS: 68553-00-4

Signal: 1

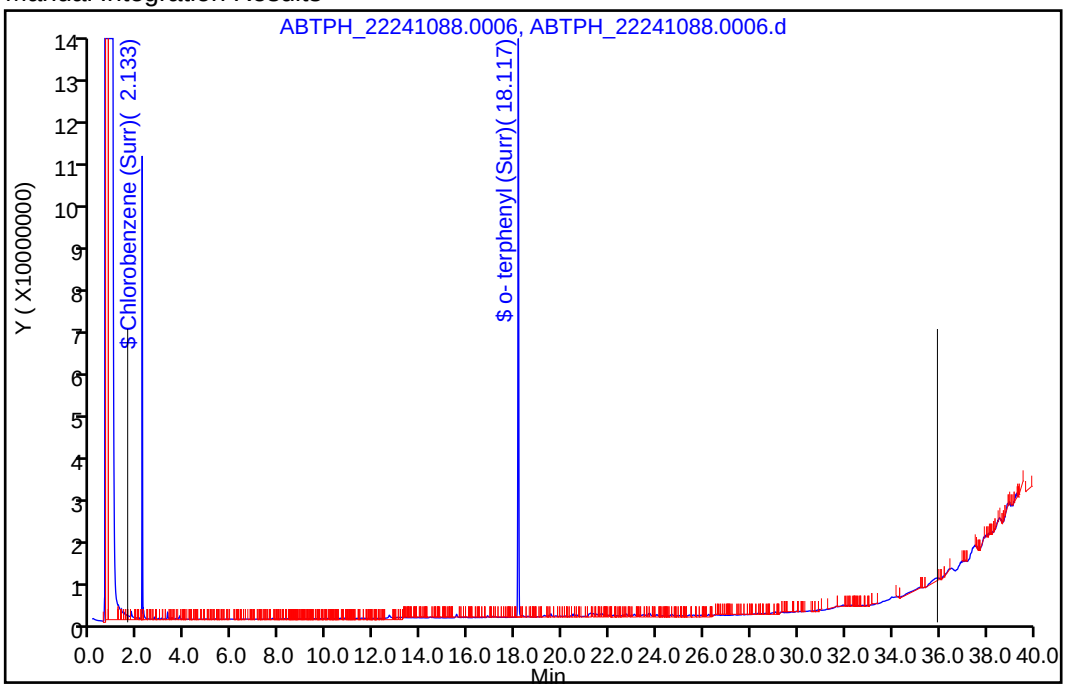
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

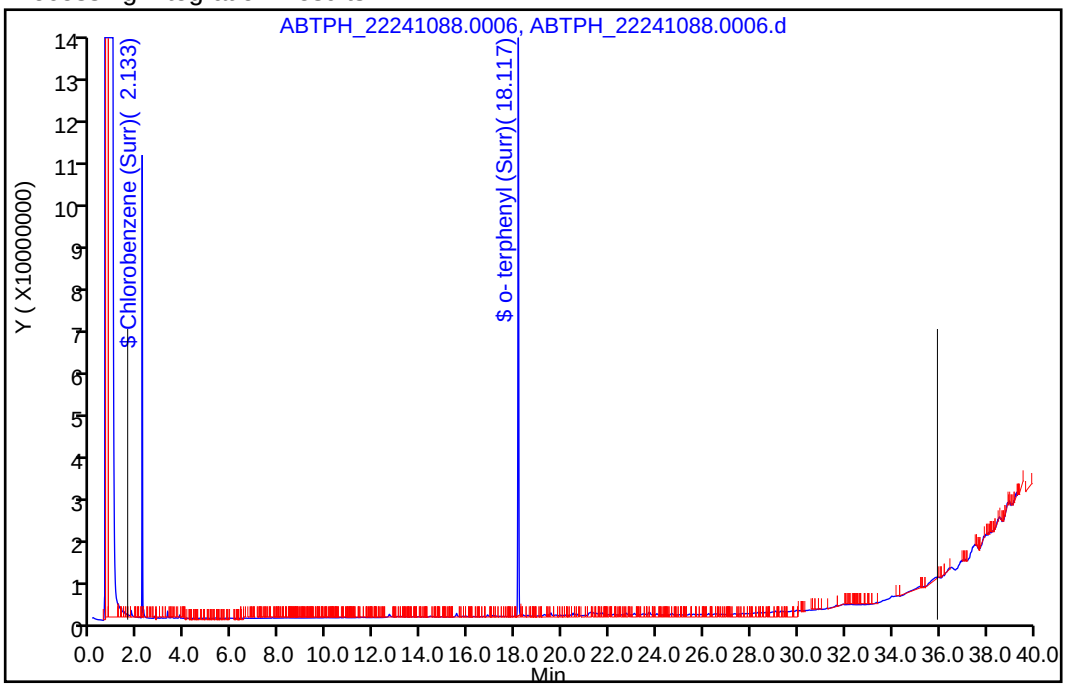
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 16 Creosote, RT: 18.722, CAS: 8001-58-9

Signal: 1

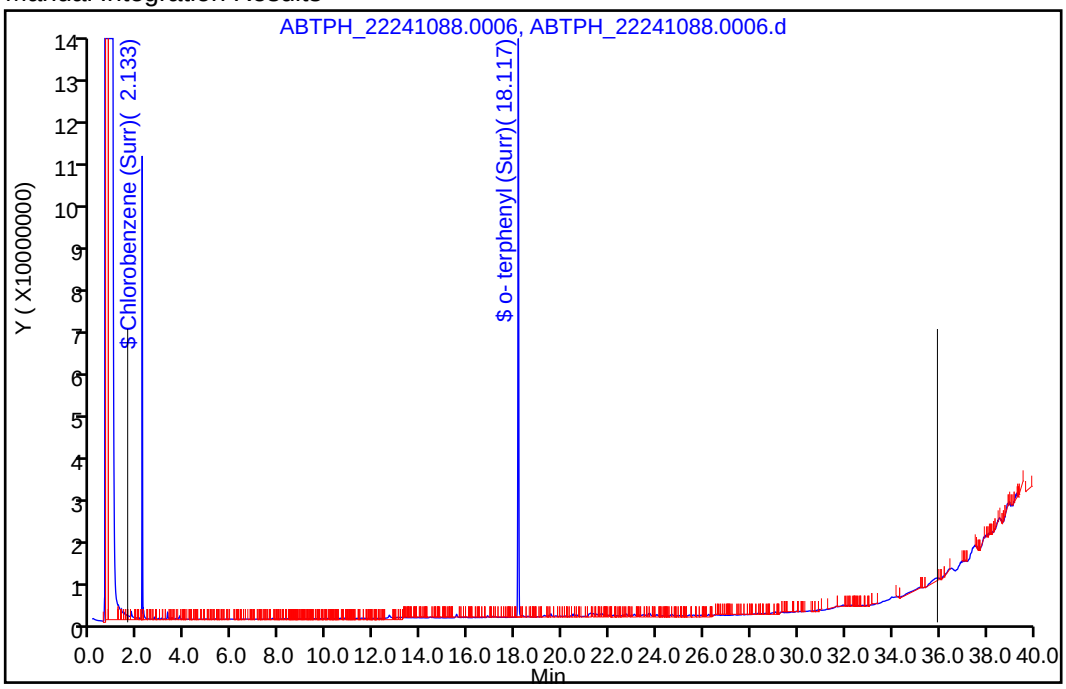
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

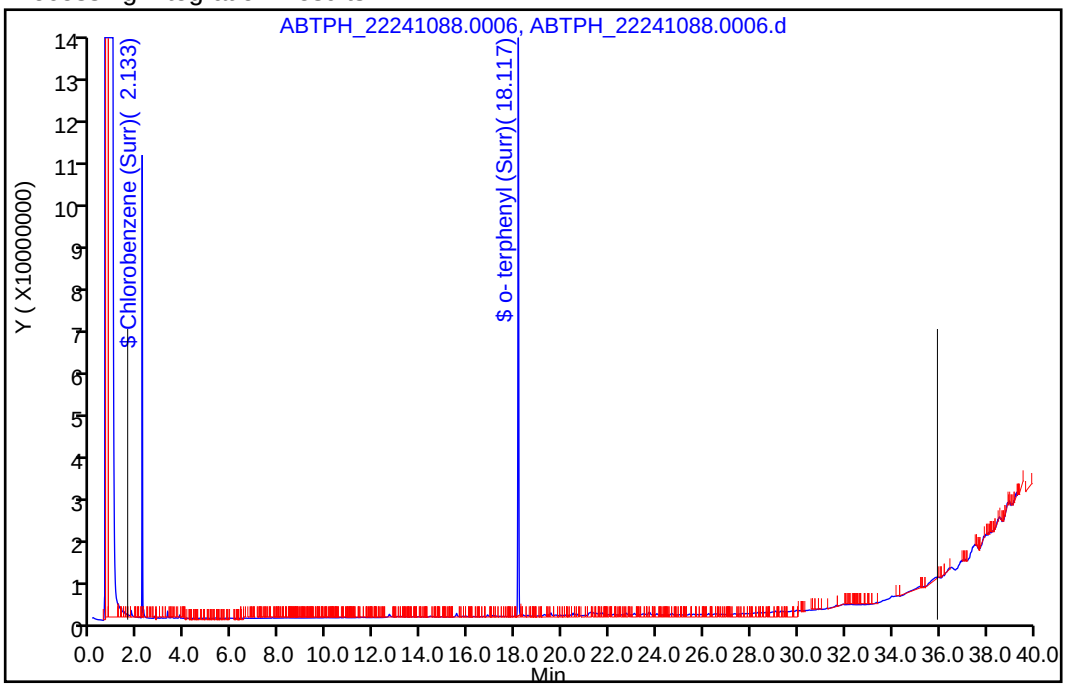
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0006.d				
Injection Date:	03-Jan-2024 21:56:00	Instrument ID:	10254-A		
Lims ID:	MB 410-458714/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 20 Gasoline, RT: 18.722, CAS: STL00228

Signal: 1

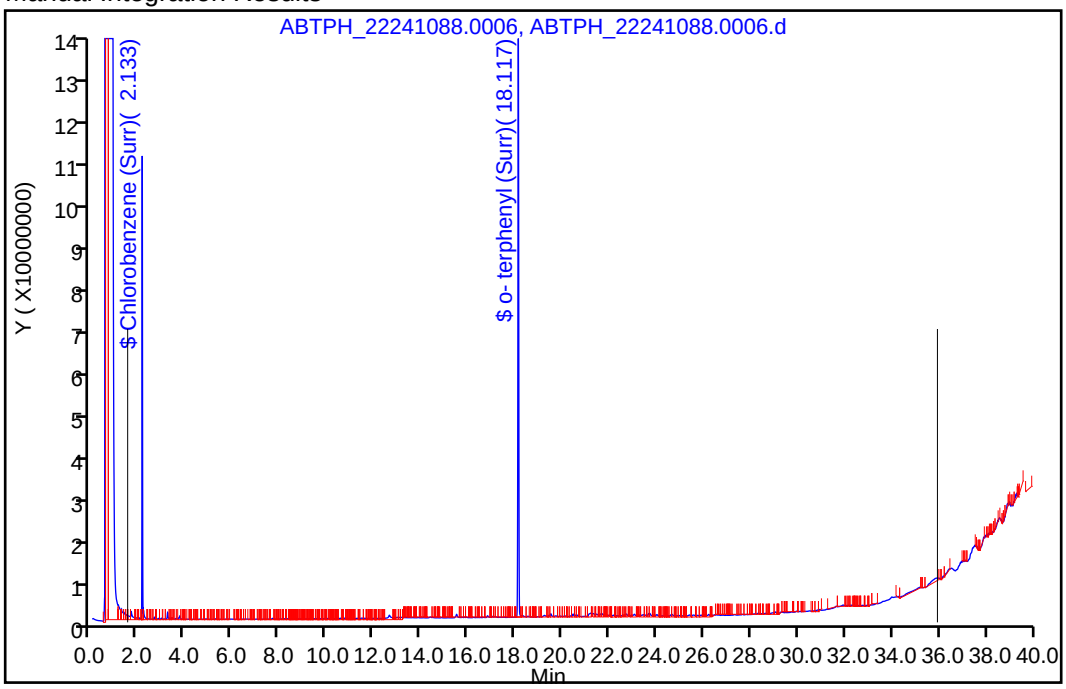
Processing Integration Results

RT: 18.74
Response: 3517189658
Amount: 31.970361



Manual Integration Results

RT: 18.74
Response: 958967088
Amount: 8.716767



Reviewer: UHEW, 04-Jan-2024 14:11:05 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
DIESEL RANGE ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job No.: 410-155700-1

SDG No.:

Client Sample ID:
Lab Sample ID: LCS 410-458714/2-A

Matrix: Solid
Lab File ID: ABTPH_22241088.0007.d

Analysis Method: 8015D TPH
Date Collected:

Extraction Method: 3546
Date Extracted: 12/29/2023 07:36

Sample wt/vol: 30.00(g)
Date Analyzed: 01/03/2024 22:44

Con. Extract Vol.: 5(mL)
Dilution Factor: 1

Injection Volume: 1(uL)
GC Column: ZB-5 ID:

% Moisture: % Solids:
GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 459936
Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
68334-30-5	#2 Diesel Fuel	126		12	5.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o- terphenyl (Surr)	109		52-124
108-90-7	Chlorobenzene (Surr)	84		10-143

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0007.d
Lims ID: LCS 410-458714/2-A
Client ID:
Sample Type: LCS
Inject. Date: 03-Jan-2024 22:44:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 410-458714/2-A
Misc. Info.: 410-0103280-007
Operator ID: Instrument ID: 10254-A

Method: \\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m
Limit Group: GCSV - 8015C_D DRO
Last Update: 04-Jan-2024 14:13:31 Calib Date: 30-Aug-2022 12:57:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d

Column 1 : ZB-5 (0.00 mm) Det: ABTPH_19123049B.012
Process Host: CTX1615

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:57

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 2 Chlorobenzene (Surr)						
2.137	2.123	0.014	810884413	12.0	10.2	
A 10 C12-C24						M
16.056	(8.263-23.760)		69430744034	800.1	601.5	M
A 9 Diesel						M
16.056	(8.263-23.760)		69430744034	NC	NC	M
$ 13 o- terphenyl (Surr)						
18.120	18.137	-0.017	1609801149	12.1	13.1	
A 22 C8-C40						M
18.692	(1.513-35.930)		87754418265	800.1	797.7	M
A 17 #2 Diesel Fuel						M
20.254	(4.643-35.930)		83362277528	800.1	757.7	M

QC Flag Legend

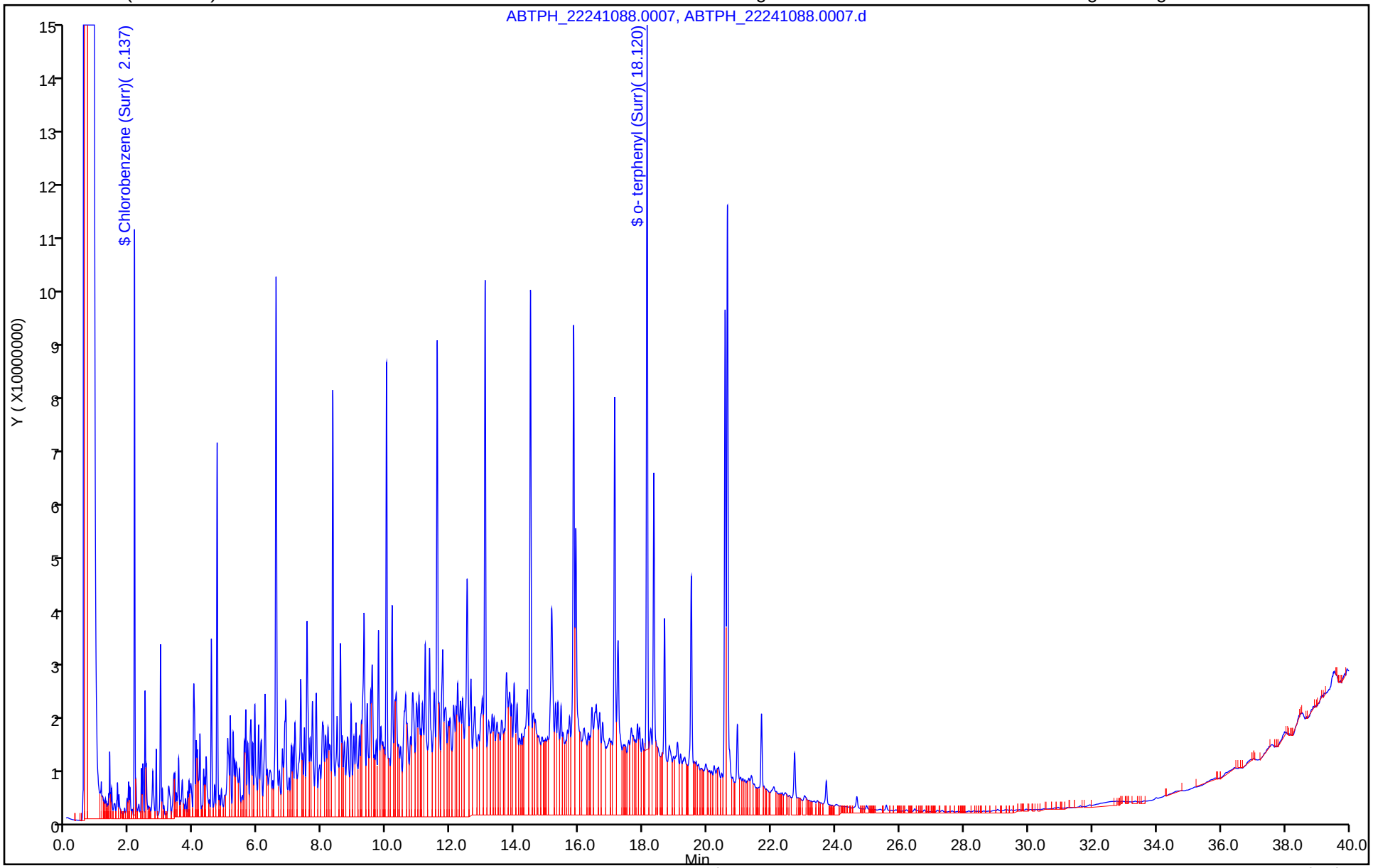
Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 04-Jan-2024 14:13:59 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0007.d				
Injection Date:	03-Jan-2024 22:44:00	Instrument ID:	10254-A	Operator ID:	
Lims ID:	LCS 410-458714/2-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		

Column: ZB-5 (0.00 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins Lancaster Laboratories Environment Testing, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0007.d				
Lims ID:	LCS 410-458714/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	03-Jan-2024 22:44:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 410-458714/2-A				
Misc. Info.:	410-0103280-007				
Operator ID:		Instrument ID:	10254-A		
Method:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\Fuels_10254A.m				
Limit Group:	GCSV - 8015C_D DRO				
Last Update:	04-Jan-2024 14:13:31	Calib Date:	30-Aug-2022 12:57:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\10254\20220829-65214.b\ABTPH_22241001.0025.d				
Column 1 :	ZB-5 (0.00 mm)		Det: ABTPH_19123049B.012		
Process Host:	CTX1615				

First Level Reviewer: UHEW Date: 04-Jan-2024 13:02:57

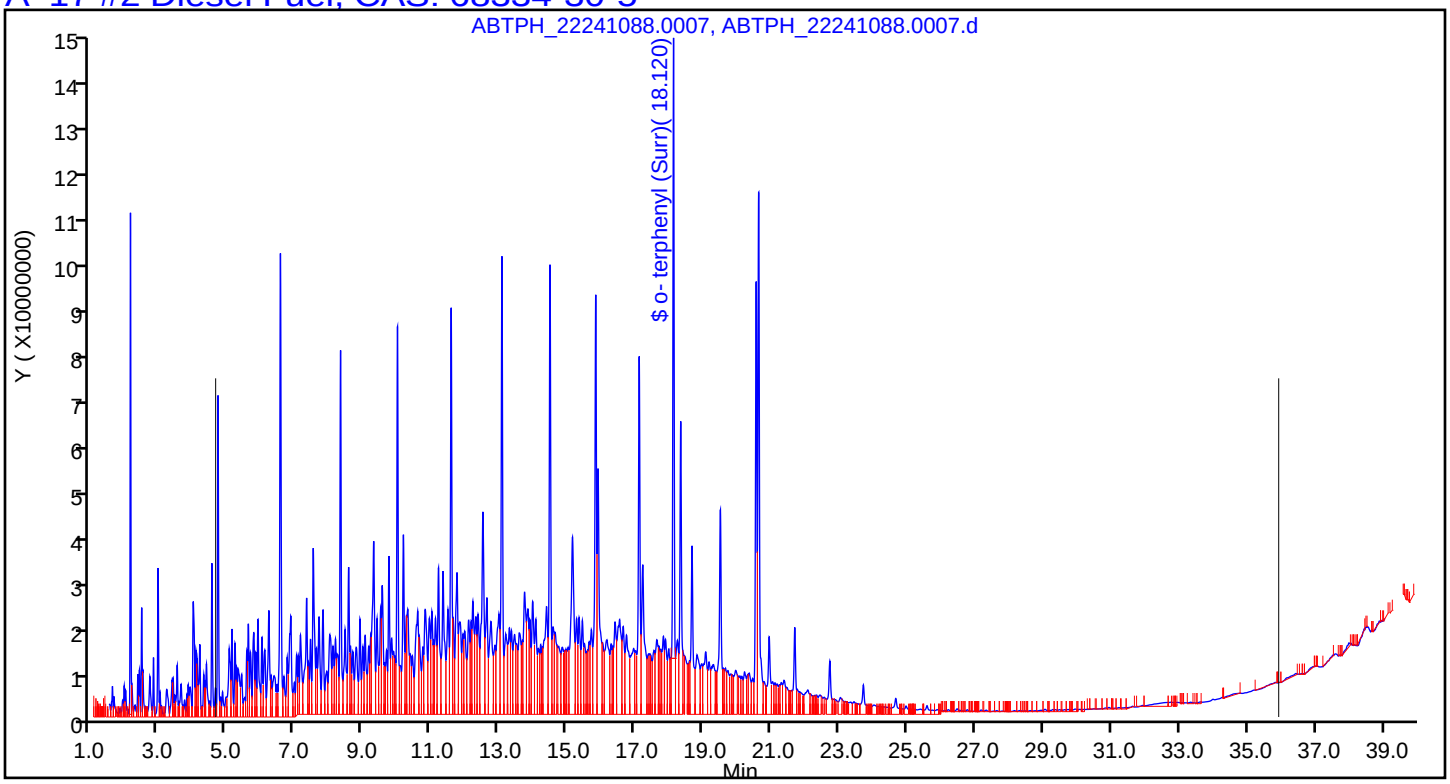
Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Chlorobenzene (Surr)	12.0	10.2	84.42
$ 13 o- terphenyl (Surr)	12.1	13.1	108.84

Report Date: 04-Jan-2024 14:14:00 Chrom Revision: 2.3 30-Nov-2023 17:25:52

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0007.d				
Injection Date:	03-Jan-2024 22:44:00	Instrument ID:	10254-A		
Lims ID:	LCS 410-458714/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, CAS: 68334-30-5



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

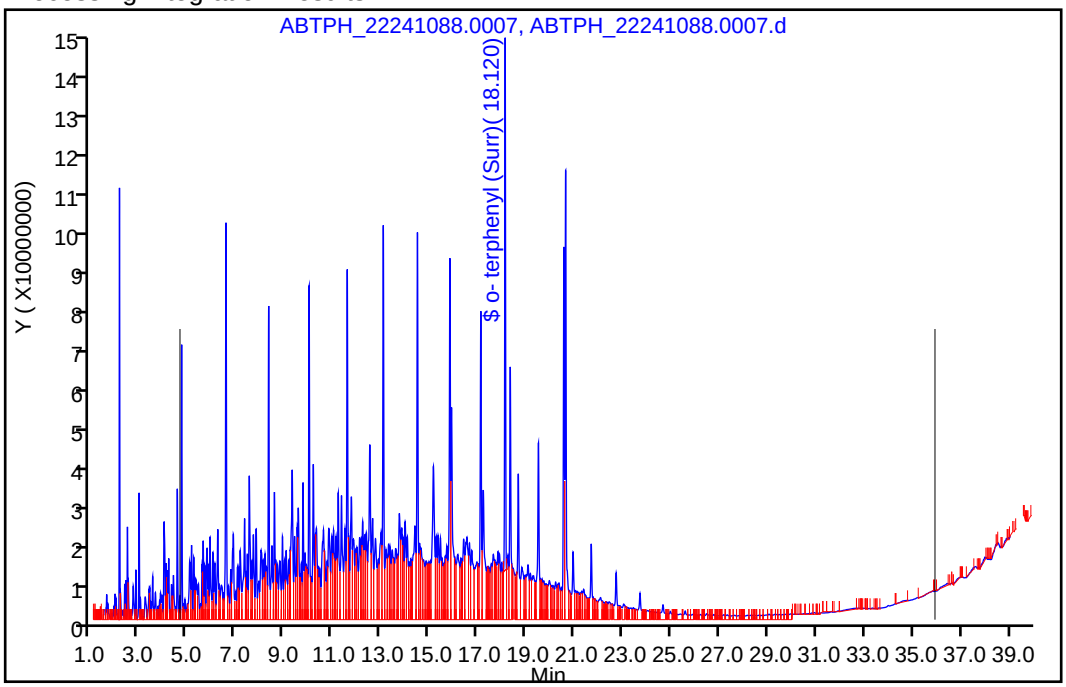
Data File:	\\chromfs\Lancaster\ChromData\10254\20240103-103280.b\ABTPH_22241088.0007.d				
Injection Date:	03-Jan-2024 22:44:00	Instrument ID:	10254-A		
Lims ID:	LCS 410-458714/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Fuels_10254A	Limit Group:	GCSV - 8015C_D DRO		
Column:	ZB-5 (0.00 mm)	Detector	ABTPH_19123049B.012		

A 17 #2 Diesel Fuel, RT: 20.284, CAS: 68334-30-5

Signal: 1

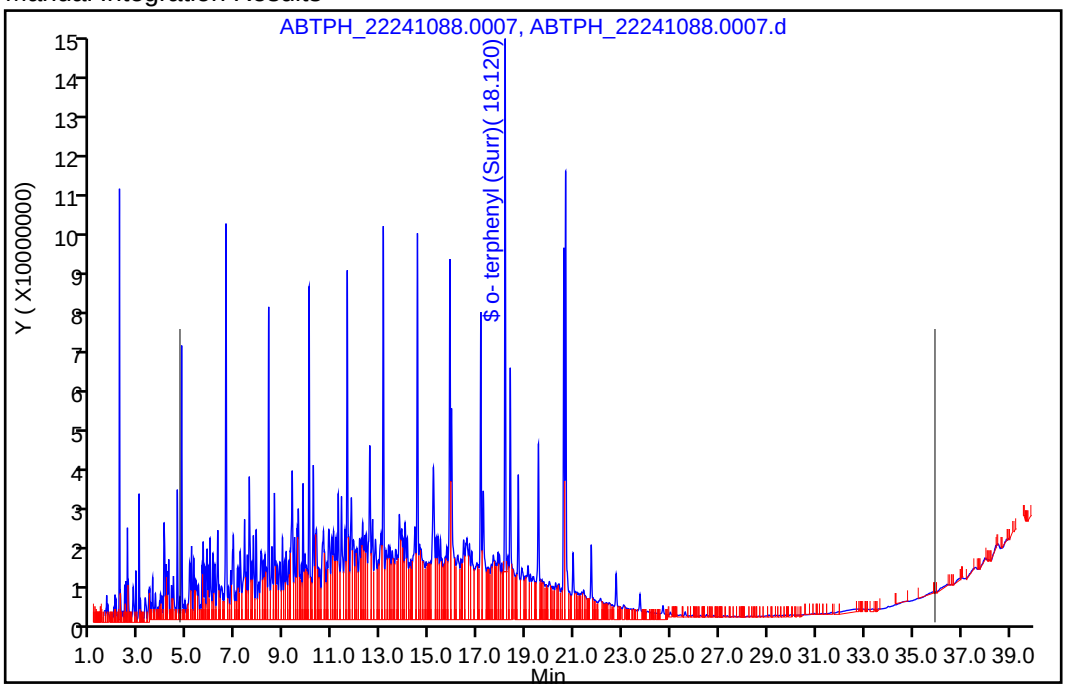
Processing Integration Results

RT: 20.25
Response: 84467573668
Amount: 767.7888



Manual Integration Results

RT: 20.25
Response: 83362277528
Amount: 757.7419



Reviewer: UHEW, 04-Jan-2024 14:11:30 -05:00:00 (UTC)

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

DIESEL RANGE ORGANICS ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC

Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A

Start Date: 08/29/2022 20:49

Analysis Batch Number: 290776

End Date: 08/30/2022 17:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PIBLK 410-290776/5		08/29/2022 20:49	1		ZB-5
IC 410-290776/6		08/29/2022 21:37	1	ABTPH_22241001.0006.d	ZB-5
IC 410-290776/7		08/29/2022 22:26	1	ABTPH_22241001.0007.d	ZB-5
ICRT 410-290776/8		08/29/2022 23:14	1	ABTPH_22241001.0008.d	ZB-5
IC 410-290776/9		08/30/2022 00:03	1	ABTPH_22241001.0009.d	ZB-5
IC 410-290776/10		08/30/2022 00:51	1	ABTPH_22241001.0010.d	ZB-5
IC 410-290776/11		08/30/2022 01:40	1	ABTPH_22241001.0011.d	ZB-5
IC 410-290776/12		08/30/2022 02:28	1	ABTPH_22241001.0012.d	ZB-5
IC 410-290776/13		08/30/2022 03:17	1	ABTPH_22241001.0013.d	ZB-5
IC 410-290776/14		08/30/2022 04:05	1	ABTPH_22241001.0014.d	ZB-5
IC 410-290776/15		08/30/2022 04:53	1	ABTPH_22241001.0015.d	ZB-5
ICVL 410-290776/27		08/30/2022 14:34	1		ZB-5
ICVL 410-290776/28		08/30/2022 15:22	1		ZB-5
ICV 410-290776/30		08/30/2022 16:59	1	ABTPH_22241001.0030.d	ZB-5
ICV 410-290776/31		08/30/2022 17:48	1		ZB-5

8015D TPH

DIESEL RANGE ORGANICS ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC

Job No.: 410-155700-1

SDG No.:

Instrument ID: 10254-A

Start Date: 01/03/2024 21:07

Analysis Batch Number: 459936

End Date: 01/04/2024 03:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 410-459936/5		01/03/2024 21:07	1	ABTPH_22241088.0005.d	ZB-5
MB 410-458714/1-A		01/03/2024 21:56	1	ABTPH_22241088.0006.d	ZB-5
LCS 410-458714/2-A		01/03/2024 22:44	1	ABTPH_22241088.0007.d	ZB-5
410-155700-1	SB-ZMW-11-3.5	01/03/2024 23:33	25	ABTPH_22241088.0008.d	ZB-5
410-155700-2	SS-SBoundaryPeat	01/04/2024 00:21	1	ABTPH_22241088.0009.d	ZB-5
CCV 410-459936/13		01/04/2024 03:35	1	ABTPH_22241088.0013.d	ZB-5

8015D TPH

DIESEL RANGE ORGANICS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-155700-1

SDG No.:

Batch Number: 290776 Batch Start Date: 08/29/22 20:49 Batch Analyst: Williams, Heather E

Batch Method: 8015D TPH Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	EPH_1FUL1 00006	EPH_1FUL2 00006	EPH_1FUL3 00007	EPH_1FUL4 00006	EPH_1FUL5 00007
IC 410-290776/6		8015D TPH		1 mL					
IC 410-290776/7		8015D TPH		1 mL					
ICRT 410-290776/8		8015D TPH		1 mL					
IC 410-290776/9		8015D TPH		1 mL					
IC 410-290776/10		8015D TPH		1 mL					
IC 410-290776/11		8015D TPH		1 mL	1 mL				
IC 410-290776/12		8015D TPH		1 mL		1 mL			
IC 410-290776/13		8015D TPH		1 mL			1 mL		
IC 410-290776/14		8015D TPH		1 mL				1 mL	
IC 410-290776/15		8015D TPH		1 mL					1 mL
ICV 410-290776/30		8015D TPH		1 mL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	EPH_TPH_1 00002	EPH_TPH_2 00002	EPH_TPH_3 00009	EPH_TPH_4 00002	EPH_TPH_5 00002	EPH_TPHC 00002
IC 410-290776/6		8015D TPH		1 mL					
IC 410-290776/7		8015D TPH			1 mL				
ICRT 410-290776/8		8015D TPH				1 mL			
IC 410-290776/9		8015D TPH					1 mL		
IC 410-290776/10		8015D TPH						1 mL	
IC 410-290776/11		8015D TPH							
IC 410-290776/12		8015D TPH							
IC 410-290776/13		8015D TPH							
IC 410-290776/14		8015D TPH							
IC 410-290776/15		8015D TPH							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIESEL RANGE ORGANICS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-155700-1

SDG No.:

Batch Number: 290776 Batch Start Date: 08/29/22 20:49 Batch Analyst: Williams, Heather E

Batch Method: 8015D TPH Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	EPH_TPH_1 00002	EPH_TPH_2 00002	EPH_TPH_3 00009	EPH_TPH_4 00002	EPH_TPH_5 00002	EPH_TPHC 00002
ICV 410-290776/30		8015D TPH							1 mL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIESEL RANGE ORGANICS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-155700-1

SDG No.:

Batch Number: 458714 Batch Start Date: 12/29/23 07:36 Batch Analyst: Johnson, Valderez

Batch Method: 3546 Batch End Date: 12/29/23 12:09

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CUPerformed	OP_TPH_SS 00054	OP_TPHWS_MS 00074	AnalysisComment
MB 410-458714/1		3546, 8015D TPH		30.00 g	5 mL	N	1 mL		Na2SO4
LCS 410-458714/2		3546, 8015D TPH		30.00 g	5 mL	N	1 mL	1 mL	Na2SO4
410-155700-A-1	SB-ZMW-11-3.5	3546, 8015D TPH	T	30.31 g	5 mL	N	1 mL		brown dirt;dry;small rocks
410-155700-A-2	SS-SBoundaryPeat	3546, 8015D TPH	T	30.06 g	5 mL	N	1 mL		brown dirt;dry;small rocks

Batch Notes	
Balance ID	17609
Balance is Level? (Y/N)	yes
Microwave Oven ID	9818
Pipette/Syringe/Dispenser ID	3
Analyst ID - Extraction	vhj92356
Blank Matrix ID	Na2SO4
Analyst ID - Spike Analyst	vhj92356
Analyst ID - Spike Witness Analyst	ems97448
Prep Solvent ID	MeCl2 63258
Na2SO4 ID	23355A
Analyst ID - Concentration	vhj92356/ems97448
Equipment ID - Concentration 1	rapidvap 1 3 4
Concentration 1 Corrected Temperature	80 Degrees C
Exchange Solvent ID	MeCl2 63258
Vial Lot Number	clearvials 21126080
Analyst ID - Clean Up	vhj92356
Pipette Tip Lot ID	33253

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC

Job Number: 410-155700-1

SDG No.:

Project: Buxton Fuel fingerprinting

Client Sample ID	Lab Sample ID
SB-ZMW-11-3.5	410-155700-1
SS-SBoundaryPeat	410-155700-2

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job Number: 410-155700-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture DL Date: 10/16/2018 12:54

Analyte	Wavelength/ Mass	LOQ (%)	DL (%)
Percent Moisture		1	0.1

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC
Job Number: 410-155700-1

SDG Number:

Matrix: Solid
Instrument ID: NOEQUIP

Method: Moisture
XMDL Date: 10/16/2018 09:12

Analyte	Wavelength/ Mass	XRL (%)	XMDL (%)
Percent Moisture		1	0.1

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC

Job No.: 410-155700-1

SDG No.:

Instrument ID: NOEQUIP

Analysis Method: Moisture

Start Date: 12/27/2023 13:29

End Date: 12/27/2023 13:29

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
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ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
410-155700-1	1	T	13:29	X																							
410-155700-2	1	T	13:29	X																							
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								
ZZZZZZ			13:29																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-155700-1

SDG No.:

Batch Number: 457904 Batch Start Date: 12/27/23 13:29 Batch Analyst: Peelor, Anthony P

Batch Method: Moisture Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry	%_Moisture	%_Solid
410-155700-A-1	SB-ZMW-11-3.5	Moisture	T	904-14	0.81 g	7.38 g	6.61 g	11.7199391171994 %	88.2800608828006 %
410-155700-A-2	SS-SBoundaryPeat	Moisture	T	904-15	0.81 g	6.44 g	5.93 g	9.0586145648313 %	90.9413854351687 %

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
410-155700-A-1	SB-ZMW-11-3.5	Moisture	T	gritty moist soil roots					
410-155700-A-2	SS-SBoundaryPeat	Moisture	T	gritty moist soil roots					

Batch Notes	
Balance ID	B4462
Balance is Level? (Y/N)	yes
Oven ID	8948
Thermometer ID	1078
Date samples were placed in the oven	12/27/2023
Time samples were place in the oven	14:05
Oven Temp In	105 Degrees C
Date samples were removed from oven	12/28/2023
Time Samples were removed from oven	10:30
Oven Temp Out	105 Degrees C
Batch Comment	cal 3-15-24

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

General Chemistry Raw Data Report

Job ID: 410-155700-1

Batch: 457904 **Analyst Initials: X4C8**

Method: Moisture **Instrument: NONE**

Lab Sample ID: 410-155700-A-1 **Analysis Date: Dec 27, 2023 13:29**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	11.7199391171994	%

Lab Sample ID: 410-155700-A-2 **Analysis Date: Dec 27, 2023 13:29**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	9.0586145648313	%

Shipping and Receiving Documents

Euro
2425 N
Lancas
Phone:

410-155700 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing

Client	Sampler: TTapley	Lab PM: Brown, Nicole	Carrier Tracking No(s): [illegible]	COC No: 410-104474-29888.1
Client Contact: Tracey Tapley	Phone: 912 677 6075	E-Mail: Nicole Brown@et eurofinsus com	State of Origin: NC	Page: Page 1 of 1
Company: U.S. Army Corps of Engineers	PWSID:			Job #
Address: 100 West Oglethorpe Ave	Due Date Requested:			
City: Savannah	TAT Requested (days): Standard			
State, Zip: GA, 31401	Compliance Project: Δ Yes Δ No			
Phone: 912-652-6007(Tel)	PO #: W33SJG33457426			
Email: tracey.tapley@usace army.mil	WO #:			
Project Name: Buxton Fuel fingerprinting	Project #: 41017828			
Site: Buxton Naval Facility	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_TPH, Moisture	8015D_TPH - Quantitative Fingerprinting	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	A		
SB-ZMW-11-3.5	12/20/23	0945	G	Solid	N	N	1	—		
SS-SBoundaryPeat	12/20/23	1030	G	Solid	N	N	1	—		
				Solid						
				Water						
				Water						
				Water						

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]		USACE	FEDEX		
			[signature]	12/22/23 1050	[signature]

Custody Seals Intact: ☒ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: R: 4.3 C: 4.2

CD

Ver 06/08/2021

01/09/2024

Login Sample Receipt Checklist

Client: U.S. Army Corps of Engineers

Job Number: 410-155700-1

Login Number: 155700
List Number: 1
Creator: Santiago, Nathaniel

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	