King County Department of Natural Resources and Parks

Solid Waste Division

Phase 1 – Interim Actions

CONTRACT NO. E00286E12

Cedar Hills Regional Landfill – EPZ Phase I Interim Actions – Fourth Round, August 2019 Soil Gas Sampling Technical Memorandum

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Solid Waste Division

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CEDAR HILLS REGIONAL LANDFILL – EPZ PHASE I INTERIM ACTIONS – FOURTH ROUND, AUGUST 2019 SOIL GAS SAMPLING TECHNICAL MEMORANDUM

Prepared for: King County Solid Waste Division

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1.0 INTRODUCTION

Aspect Consulting, LLC (Aspect) prepared this Technical Memorandum (Tech Memo) under King County Contract No. E00286E12 to summarize the results from the August 2019 soil gas sampling at selected landfill gas (LFG) probes and monitoring wells installed at the Cedar Hills Regional Landfill East Perched Zones (CHRLF EPZ; the Site) and the east-adjoining Passage Point facility. Soil gas sampling activities described in this Tech Memo included purging, monitoring, and sampling soil gas probes and monitoring wells that were included in the baseline soil gas monitoring of the CHRLF EPZ. The number and location of gas probes and monitoring wells to be sampled was prescribed in Table 3.2 of the "East Perched Zones Remedial Investigation and Feasibility Study" (RI/FS Report; Aspect, 2016 DRAFT). LFG optimization activities were initiated in December 2018. The August 2019 soil gas sampling event was the fourth round to take place since LFG optimization was initiated, the intent of which was to monitor and evaluate the effectiveness of optimization. The soil gas sampling scope of work included the following:

- **Pre-sampling preparation,** including the removal of dedicated pumps from monitoring well EB-6D and installation of specialized well caps with a suitable port for soil gas sampling at monitoring wells EB-6D and MW-102. Additionally, water levels were measured at all sampling locations to allow for equilibration for at least 5 days prior to soil gas sampling.
- **Soil gas sampling fieldwork,** including screening for LFG (methane, carbon dioxide, and oxygen) levels using a GEM 5000 multi-gas meter, purging, and sampling at 20 sampling locations:
    - Nine shallow sampling locations, including gas probes: GP-16A, GP-18A, GP-19A, GP-20A, GP-56, GP-60, GP-62, GP-63A, and GP-64A
    - Eleven deep sampling locations, including gas probes and monitoring wells: GP-8, GP-16C, GP-18C, GP-19C, GP-20C, GP-63B, GP-63C, GP-64B, GP-64C, EB-6D, and MW-102
    - Soil gas samples were analyzed for volatile organic compounds (VOCs) using EPA Method TO-17.
- **Review and reporting of analytical results,** including comparison of sample results to appropriate Model Toxics Control Act (MTCA) Method B soil gas screening levels and preparation of this Tech Memo.
- **Compare soil gas results presented in the RI/FS** to the rounds of data collected in 2019 after initiating LFG optimization to provide qualitative evaluation of changes to soil gas by LFG optimization efforts.

2.0 PRE-SAMPLING PREPARATION

King County Solid Waste Division (KCSWD) staff removed the dedicated pump from monitoring well EB-6D prior to the soil gas sampling field work. On August 13, 2019, Aspect collected water level measurements

from the probes and monitoring wells and placed specialized friction fitting soil gas sampling well caps on EB-6D and MW-102. Water level was measured prior to sampling at each well and gas probe location to calculate the unsaturated length of screen to ensure adequate screen length was exposed for soil gas collection. The water level at some of the gas probes could not be measured using a water level indicator due to the small diameter of the well casing (0.5 inches) and presence of Tygon tubing within the casing.

Water was observed in sampling locations GP-56, GP-60, GP-63B, GP-64A, GP-64B, EB-6D, and MW-102. Table 1 presents a summary of the water measurements and identifies which of the wells were occluded due to probe construction.

Upon collecting water levels, Aspect installed specialized friction fitting soil gas sampling well caps on EB-6D and MW-102, which allow for an air-tight seal and equilibration of gases inside the wells prior to sampling. The specialized friction fitting well caps contain ports suitable for purging and sampling soil gas from the wells. All other gas probes were sealed with their respective gas monitoring caps. The monitoring wells and gas probes equilibrated for 8 days prior to sampling.

3.0 SOIL GAS SAMPLING FIELD WORK

Soil gas sampling activities were performed on August 20 and 21, 2019, in general accordance with the Washington State Department of Ecology's (Ecology) guidance (Ecology, 2018). The barometric pressure during the sampling days was 29.28 inches of mercury. The barometric pressure was falling for the 3 days prior to the first day of the sampling event.

Using well or gas probe construction as-builts, the length of unsaturated screen (i.e., the amount of screen that was above the top of the water level) for each well and gas probe containing water was calculated using water levels collected on August 13, 2019, to evaluate if sufficient unsaturated screen (greater than 0.25 foot) was present to collect soil gas samples. For gas probes whose construction precluded direct water level measurements, the Teflon tubing was monitored during purging for the presence of water. One of the nine shallow monitoring points exhibited saturated screens and could not be sampled (GP-64A).

3.1 Sampling Methods

In total, 19 soil gas samples were collected. The samples were acquired from existing wells or gas probes using existing or previously installed specialized gas sampling caps. The soil gas samples were collected using certified, laboratory-supplied sorbent tubes with dedicated sampling manifolds and a dedicated sampling train. The following method was employed during the sample point monitoring and sample collection:

1. Calculate the volume of air in the sampling location casing.
2. Conduct a leak test on each manifold and tighten connections as necessary to decrease likelihood of air leaks. Calibrate GEM 5000 multi-gas meter.

3. Install tubing onto well cap port and connect to manifold.
4. From the junction in the manifold with a valve, connect the GEM 5000 for monitoring LFG (methane, carbon dioxide and oxygen) levels at each probe location during purging.
5. For sample locations with large casing volumes, connect an SKC™ low-flow vacuum pump, rotameter and GEM 5000 to the wellhead manifold. During purging, record methane, carbon dioxide, and oxygen concentrations measured by the GEM 5000 at minimum 1-minute intervals. Immediately connect sorbent tube to manifold after purge of three casing volumes.
6. For sample locations with smaller casing volumes, open the manifold valve and begin purging with the GEM 5000. The purge rate is regulated by the soil gas flow restrictor in the manifold to approximately 200 milliliters per minute (mL/min). During purging, record methane, carbon dioxide, and oxygen concentrations at minimum 20-second intervals until parameters have stabilized or until a total of three casing volumes have been purged.
7. Turn off the GEM 5000 and close the manifold valve.
8. Connect the sorbent tube to the other junction on the manifold with silicone tubing in the indicated flow direction, with an inline low-flow pump and attached rotameter for monitoring the sampling rate.
9. Set pump flow rate to 100 mL/min and sample for 6 minutes. Sorbent tube sample volume required by the analytical laboratory is 600 mL.
10. Stop sample collection, disconnect sorbent tube, place into plastic case, and record tube number on the chain of custody.

Following sample collection, the well or gas probe well caps were replaced, and the protective monuments were locked. The samples were transferred under appropriate chain-of-custody documentation to the analytical laboratory, ALS Environmental in Simi Valley, California. The samples were analyzed using EPA Method TO-17 for volatile organic compounds (VOCs). See Appendix A for the laboratory reports. Example photographs of the constructed sample trains, purging, monitoring, and sampling of the gas probes are included as Appendix B.

4.0 ANALYTICAL RESULTS

4.1 Methane

During purging of each well and gas probe location, methane levels were recorded. Final methane readings are summarized in Table 2 and depicted on Figure 1. The Ecology and Seattle-King County Public Health regulatory limit for methane detections at and beyond the landfill property boundary is the LEL for methane, which is 5 percent by volume.

Methane detection results were as follows:

- Methane was not detected in 16 of the 19 sampled locations, as shown by the green color-coding on Figure 1. Seven non-detect locations were shallow monitoring points (GP-16A, -18A, -19A, -20A, -56, -60, and -63A) and nine non-detect locations were deep monitoring points (GP-8, -16C, -18C, -19C, -20C, -63B, -63C, -64B, and -64C).
- Methane was detected at a concentration of less than 2 percent by volume at the remaining 3 of 19 sample locations, which is below the regulatory limit of 5 percent by volume. These locations are indicated by the orange color-coding on Figure 1. GP-62 was the only shallow gas probe where methane was detected (0.1 percent). The other two locations MW-102 (0.5 percent), and EB-6D (1.8 percent) were deep monitoring wells.
- Methane detection at EB-6D (1.8 percent) was higher than historically observed in that well, so the well was purged and monitored for LFG again on August 21; however, no methane was detected.
- None of the sample locations contained methane at concentrations greater than the regulatory limit of 5 percent by volume.

4.2 Volatile Organic Compounds

Tables 3 and 4 summarize the results of detected VOCs in each shallow and deep sampling location, respectively. Detected VOCs were compared to the applicable MTCA Method B[1] screening levels for shallow (sub-slab) and deep soil gas, respective to the construction depth of the screen at each sample location. Screens constructed within 15 feet of ground surface are considered shallow while screens constructed deeper than 15 feet below ground surface are considered deep.

The following are the VOC results for the shallow sample locations:

- VOCs were detected at concentrations less than the MTCA Method B shallow (sub-slab) soil gas screening levels at seven shallow monitoring locations that were sampled (GP-18A, GP-19A, GP-20A, GP-56, GP-60, GP-62, and GP-63A), as shown by the orange color-coding on Figure 2.
- No VOCs were detected at concentrations above the MTCA Method B screening levels in shallow soil gas except:
    - Benzene was detected at a concentration of 11 µg/m^3 at GP-16A, which is at the MTCA Method B shallow (sub-slab) soil gas screening level for benzene (11 µg/m^3), as shown by the red color-coding on Figure 2.

The following are the VOC results for the deep sample locations:

- VOCs were detected at concentrations less than the MTCA Method B screening levels at all 11 deep soil gas sampling locations (GP-8, GP-16C, GP-18C, GP-19C, GP-20C, GP-63B, GP-63C, GP-64B, GP-64C, EB-6D, and MW-102), as shown by the orange color-coding on Figure 2.

[1] Includes new and modified MTCA Method B screening levels in accordance with Ecology's May 2019 updates to MTCA.

- No VOCs were detected at concentrations above the MTCA Method B screening levels in deep soil gas during this event.

Figure 2 depicts the soil gas sampling results for the August 2019 event.

5.0 CONCLUSIONS

The August 2019 sampling event concludes the scope of work for Task 830, Compliance Gas Probe Soil Gas Monitoring.

The August 2019 sampling event represents the fourth round of soil gas sampling since preliminary soil gas results were presented in the RI/FS Report (Aspect, 2016 DRAFT), and the third round of soil gas sampling after initiating optimization of the LFG collection system in the East Main Hill. The Draft RI/FS Report identified naphthalene in soil gas exceeding screening levels during the first sampling event, followed by a second event where no constituents exceeded screening levels. The Draft RI/FS Report surmised that LFG is the primary source of soil gas impacts.

The July 2018 sampling event represents the baseline soil gas conditions prior to the initiation of East Main Hill LFG collection system optimization. In shallow soil gas during the July 2018 baseline sampling event, benzene was detected at one location and naphthalene was detected at two locations at concentrations exceeding the shallow soil gas screening levels. In the subsequent sampling events (February, May, and August 2019) after LFG system optimization was initiated, benzene was only detected once at the same concentration as the soil gas screening level. Naphthalene has not been detected at concentrations exceeding screening levels since the LFG collection system was optimized at any location.

Similarly, 1,3-butadiene was detected during the baseline sampling event at one location in deep soil gas at concentrations exceeding the deep soil gas screening level. 1,3-butadiene has not been detected at concentrations exceeding the deep soil gas screening level since the LFG collection system was optimized.

These results indicate that initiating optimization of the LFG collection system has reduced LFG in soil gas in the EPZ. It is recommended that monthly LFG monitoring at gas probes GP-63 and GP-64 is added to KCSWD's monthly compliance monitoring program to monitor the presence of methane, as these are the closest probes to Passage Point. At this time, no further soil gas sampling is recommended.

Further discussion of the results from the baseline, three rounds of soil gas sampling to evaluate the effectiveness of the optimization activities performed in 2019, and recommendations for future work will be presented in the Landfill Gas Optimization Summary Report for Task 820.

6.0 REFERENCES

Aspect Consulting, LLC (Aspect), 2016, Cedar Hills Regional Landfill Environmental Control Systems Modifications Project, East Perched Zones Remedial Investigation and Feasibility Study, Agency Draft, December 2016.

Washington State Department of Ecology (Ecology), 2018, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Toxics Cleanup Program, Publication no. 09-09-047, Review Draft Revised, April 2018.

7.0 LIMITATIONS

Work for this project was performed for the King County Solid Waste Division (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix C titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

TABLES

Table 1. Gas Probe Construction Information and Water Levels

Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

Well ID	Well Diameter (in)	Stick-up (ft)	TOC Elevation (ft, NAVD88)	Boring Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Filter Pack Interval (ft bgs)	Depth to Water (ft bTOC)	Unsaturated Screen Length (ft)	Notes
Gas Probes										
GP-16A	0.5	1.33	629.80	8	6.5	8	6.5 - 8	Dry	1.5	
GP-16C	0.5	1.29	629.76	60	58.5	60	58.5 - 60	Dry	1.5	
GP-18A	0.5	1.49	603.76	8	6.5	8	6.5 - 8	Not accessible because of probe construction	NA	
GP-18C	0.5	1.38	603.65	45	43.5	45	43.5 - 45	Not accessible because of probe construction	NA	
GP-19A	0.5	1.06	547.30	8	6.5	8	6.5 - 8	Not accessible because of probe construction	NA	
GP-19C	0.5	1.04	547.28	31	29.5	31	29.5 - 31	Not accessible because of probe construction	NA	
GP-20A	0.5	1.56	496.60	8	6.5	8	6.5 - 8	Not accessible because of probe construction	NA	
GP-20C	0.5	1.55	496.60	88	86.5	88	86.5 - 88	Not accessible because of probe construction	NA	
GP-56	1	2.50	643.57	16	6	16	6 - 16	16.32	7.82	
GP-60	1	4.12	635.84	18	8	18	8 - 18	17.9	5.78	
GP-62	1	1.85	565.28	18	8	18	8 - 18	Dry	10	
GP-63A	0.5	2.96	637.18	8	6.5	8	5.5 - 9.0	Dry	1.5	
GP-63B	0.5	2.98	636.95	37	32	37	31 - 38	38.75	3.7741	
GP-63C	0.5	3.16	637.27	60	55	60	53 - 61	Dry	5	
GP-64A	0.5	3.13	632.66	8	6.5	8	5.5 - 9.0	8.69	---	No sample collected - screen submerged
GP-64B	0.5	2.80	632.16	25	20	25	19 - 26	23.44	0.6419	
GP-64C	0.5	2.94	632.42	59	54	59	52 - 60	Dry	5	
GP-8	0.5	1.46	642.23	46.5	44.5	46.5	44.5 - 46.5	Dry	2	
Montioring Wells										
EB-6D	2	1.75	589.61	30	20	30	16 - 30.5	31.03	9.28	
MW-102	2	2.75	552.48	49.5	34.5	49.5	32 - 50	48.3	11.05	

Notes:

ft = feet

ft, NAVD88 = feet, North America Vertical Datum of 1988.

ft bgs = feet below ground suface

ft bTOC = feet below top of casing

in = inches

NA = probe construction does not allow water level measurement

--- = screen saturated

a Ground elevation for probes listed as "Gas Probes" have been adjusted to NAVD88 by adding 3.6 feet. Original elevations were provided on borings logs in NGVD29.

Table 2. Deep Soil Gas Sampling Results - August 2019

FINAL

Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

Sample Location	Date	Methane (%)	Carbon Dioxide (%)	Oxygen (%)
Shallow Interval				
GP-16A	8/21/2019	0.0	3.0	19.3
GP-18A	8/20/2019	0.0	2.7	17.8
GP-19A	8/20/2019	0.0	1.2	19.0
GP-20A	8/20/2019	0.0	0.8	19.8
GP-56	8/20/2019	0.0	0.2	20.4
GP-60	8/20/2019	0.0	0.2	20.7
GP-62	8/20/2019	**0.1**	0.2	20.6
GP-63A	8/21/2019	0.0	8.7	14.9
Deep Interval				
GP-8	8/20/2019	0.0	0.9	15.2
GP-16C	8/21/2019	0.0	0.5	20.9
GP-18C	8/20/2019	0.0	0.1	16.8
GP-19C	8/20/2019	0.0	0.0	21.2
GP-20C	8/20/2019	0.0	0.2	10.9
GP-63B	8/21/2019	0.0	0.2	20.8
GP-63C	8/21/2019	0.0	0.1	20.8
GP-64B	8/21/2019	0.0	1.2	18.1
GP-64C	8/21/2019	0.0	0.2	20.4
MW-102	8/20/2019	**0.5**	0.5	20.4
EB-6D	8/20/2019	**1.8**	1.4	19.9

Notes:

Results presented above represent final reading prior to sample collection.

Landfill gas measurements collected using a GEM 5000 multi-gas meter.

Bold indicates detected methane at a concentration less than 5 percent.

Table 3. Shallow Soil Gas Sampling Results - August 2019

FINAL

Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

Analyte	MTCA Method B Shallow Subslab Soil Gas Screening Level	Location Date Sample GP-16A 08/21/2019 GP16S190821-	GP-18A 08/20/2019 GP18S190820-	GP-19A 08/20/2019 GP19S190820-	GP-20A 08/20/2019 GP20S190820-	GP-56 08/20/2019 GP56S190820-	GP-60 08/20/2019 GP60S190820-	GP-62 08/20/2019 GP62S190820-	GP-63A 08/21/2019 GP63S190821-
1,1,1-Trichloroethane	76000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1,2,2-Tetrachloroethane	1.4	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1,2-Trichloroethane	3	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1-Dichloroethane	52	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,1-Dichloroethene	3000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2,4-Trichlorobenzene	30	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2,4-TRIMETHYLBENZENE	910	< 1.8 U	**3.8**	**2.8**	**5.8**	**3.8**	**2.8**	< 1.8 U	< 1.8 U
1,2-Dibromo-3-chloropropane		< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,2-Dibromoethane (EDB)	0.14	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichlorobenzene	3000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichloroethane (EDC)	3.2	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichloropropane	23	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-DICHLOROTETRAFLUOROETHANE;FLUOROCARBON 114		< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	**5.4**	< 1.7 U	< 1.7 U	< 1.7 U
1,3,5-Trimethylbenzene		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,3-BUTADIENE	2.8	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,3-Dichlorobenzene		**7.2**	**5.5**	**3.7**	**5.1**	**4.5**	< 1.8 U	< 1.8 U	**7.2**
1,4-Dichlorobenzene	7.6	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,4-Dioxane		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**2.6**
2,2,4-TRIMETHYLPENTANE		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
2-Butanone	76000	**2.1**	**4.5**	< 1.7 U	**11**	**2.3**	**1.9**	< 1.7 U	**2.9**
2-Hexanone		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
4-Methyl-2-pentanone	46000	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Acetone		**18**	**24**	**31**	**24**	**15**	**9.2**	< 9.0 U	**18**
Acetonitrile	910	< 3.5 U	< 3.5 U	**23**	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Benzene	11	**11**	**4.1**	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Bromodichloromethane	2.3	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Bromoform	76	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Carbon Disulfide	11000	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U
Carbon Tetrachloride	14	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Chlorobenzene	760	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Chloroethane	150000	**4.7**	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Chloroform	3.6	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Chloromethane	1400	< 1.7 U	**2.2**	**3.7**	< 1.7 U	< 1.7 U	**5**	< 1.7 U	**2.1**
cis-1,2-Dichloroethene (DCE)		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
cis-1,3-Dichloropropene		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
CYCLOHEXANE		< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Dibromochloromethane		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Dichlorodifluoromethane	1500	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	**32**	< 1.7 U	< 1.7 U	< 1.7 U
ETHANOL		< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U
Ethylbenzene	15000	< 1.7 U	**1.8**	< 1.7 U	**2.4**	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Freon 113	76000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Hexachlorobutadiene	3.8	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
HEXANE	11000	< 1.8 U	**2.1**	**1.9**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
ISOPROPYL ALCOHOL (MANUFACTURING-STRONG ACID		< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Isopropylbenzene	6100	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
m,p-Xylene	1500	< 3.5 U	**7.4**	**4.9**	**9.9**	**5.4**	**5.3**	**3.6**	< 3.5 U

Table 3. Shallow Soil Gas Sampling Results - August 2019

FINAL

Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

Analyte	MTCA Method B Shallow Subslab Soil Gas Screening Level	Location / Date / Sample	GP-16A 08/21/2019 GP16S190821-	GP-18A 08/20/2019 GP18S190820-	GP-19A 08/20/2019 GP19S190820-	GP-20A 08/20/2019 GP20S190820-	GP-56 08/20/2019 GP56S190820-	GP-60 08/20/2019 GP60S190820-	GP-62 08/20/2019 GP62S190820-	GP-63A 08/21/2019 GP63S190821-
Methyl tert-butylether	320		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Methylene Chloride	8300		**1.9**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Naphthalene	2.5		< 0.62 U	< 0.62 U	< 0.62 U	**0.70 J**	< 0.62 U	< 0.62 U	< 0.62 U	< 0.62 U
N-HEPTANE			< 1.8 U	**2.2**	< 1.8 U	**2.1**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
OCTANE			< 1.8 U	**2.3**	< 1.8 U	**2.4**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
o-Xylene	1500		< 1.8 U	**2.8**	**1.9**	**4**	**2.1**	**2.1**	< 1.8 U	< 1.8 U
Styrene	15000		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Tetrachloroethene (PCE)	320		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**7.3**	< 1.8 U
TETRAHYDROFURAN			< 1.8 U	**8.2**	**6.8**	**12**	**4.6**	**4.4**	**3.5**	< 1.8 U
Toluene	76000		**2.2**	**11**	**8.3**	**12**	**6.8**	**7.4**	**4.7**	< 1.8 U
trans-1,2-Dichloroethene			< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
trans-1,3-Dichloropropene			< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Trichloroethene (TCE)	12		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Trichlorofluoromethane	11000		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Vinyl Chloride	9.4		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U

Notes:

Bold - Analyte Detected

Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

J - Result value estimated

Soil gas results are reported in ug/m3

Table 4. Deep Soil Gas Sampling Results - August 2019
Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

Analyte	MTCA Method B Deep Soil Gas Screening Level	Location Date Sample EB-6D 08/20/2019 GB6-190820-	GP-8 08/20/2019 GG8-190820-	GP-16C 08/21/2019 GP16D190821-	GP-18C 08/20/2019 GP18D190820-	GP-19C 08/20/2019 GP19D190820-	GP-20C 08/20/2019 GP20D190820-	GP-63B 08/21/2019 GP63M190821-	GP-63C 08/21/2019 GP63D190821-	GP-64B 08/21/2019 GP64M190821-	GP-64C 08/21/2019 GP64D190821-	MW-102 08/20/2019 G102190820-
1,1,1-Trichloroethane	230000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1,2,2-Tetrachloroethane	4.3	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1,2-Trichloroethane	9.1	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,1-Dichloroethane	160	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,1-Dichloroethene	9100	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2,4-Trichlorobenzene	91	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2,4-TRIMETHYLBENZENE	2700	**3**	**8.5**	< 1.8 U	**3.4**	**3.6**	**4.1**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dibromo-3-chloropropane		< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,2-Dibromoethane (EDB)	0.42	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichlorobenzene	9100	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichloroethane (EDC)	9.6	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-Dichloropropane	68	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,2-DICHLOROTETRAFLUOROETHANE;FLUOROCARBON 114		**5**	**6.2**	**9.2**	**2.3**	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	**2.4**
1,3,5-Trimethylbenzene		< 1.8 U	**2.4**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,3-BUTADIENE	8.3	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
1,3-Dichlorobenzene		**3.2**	**4.9**	**5**	< 1.8 U	**19**	< 1.8 U	< 1.8 U	< 1.8 U	**10**	**3.9**	**4.3**
1,4-Dichlorobenzene	23	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
1,4-Dioxane		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
2,2,4-TRIMETHYLPENTANE		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
2-Butanone	230000	**2**	**20**	**5.1**	**2.5**	**3.9**	**4.7**	< 1.7 U	< 1.7 U	**2**	< 1.7 U	< 1.7 U
2-Hexanone		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
4-Methyl-2-pentanone	140000	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Acetone		**12**	**23**	**18**	**16**	**24**	**23**	< 9.0 U	< 9.0 U	**12**	**17**	< 9.0 U
Acetonitrile	2700	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	**4.8**	**3.6**	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Benzene	32	**3.7**	< 3.5 U	< 3.5 U	**9.2**	< 3.5 U	**4.2**	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Bromodichloromethane	6.8	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Bromoform	230	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Carbon Disulfide	32000	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U	< 9.0 U
Carbon Tetrachloride	42	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Chlorobenzene	2300	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Chloroethane	460000	< 1.7 U	< 1.7 U	< 1.7 U	**6.7**	< 1.7 U	< 1.7 U	**3.2**	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Chloroform	11	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Chloromethane	4100	< 1.7 U	**2.8**	< 1.7 U	**2**	**4.3**	< 1.7 U	< 1.7 U	**4.1**	< 1.7 U	< 1.7 U	< 1.7 U
cis-1,2-Dichloroethene (DCE)		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
cis-1,3-Dichloropropene		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
CYCLOHEXANE		< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Dibromochloromethane		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Dichlorodifluoromethane	4600	**6.8**	**42**	**76**	**28**	< 1.7 U	< 1.7 U	**3.6**	< 1.7 U	< 1.7 U	< 1.7 U	**3.1**
ETHANOL		< 8.5 U	< 8.5 U	< 8.5 U	**11**	< 8.5 U	< 8.5 U	**12**	< 8.5 U	< 8.5 U	< 8.5 U	< 8.5 U
Ethylbenzene	46000	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	**1.7**	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U
Freon 113	230000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Hexachlorobutadiene	11	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
HEXANE	32000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**2.1**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
ISOPROPYL ALCOHOL (MANUFACTURING-STRONG ACID		< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U

Table 4. Deep Soil Gas Sampling Results - August 2019

Project No. 130088, Cedar Hills Regional Landfill, King County, Washington

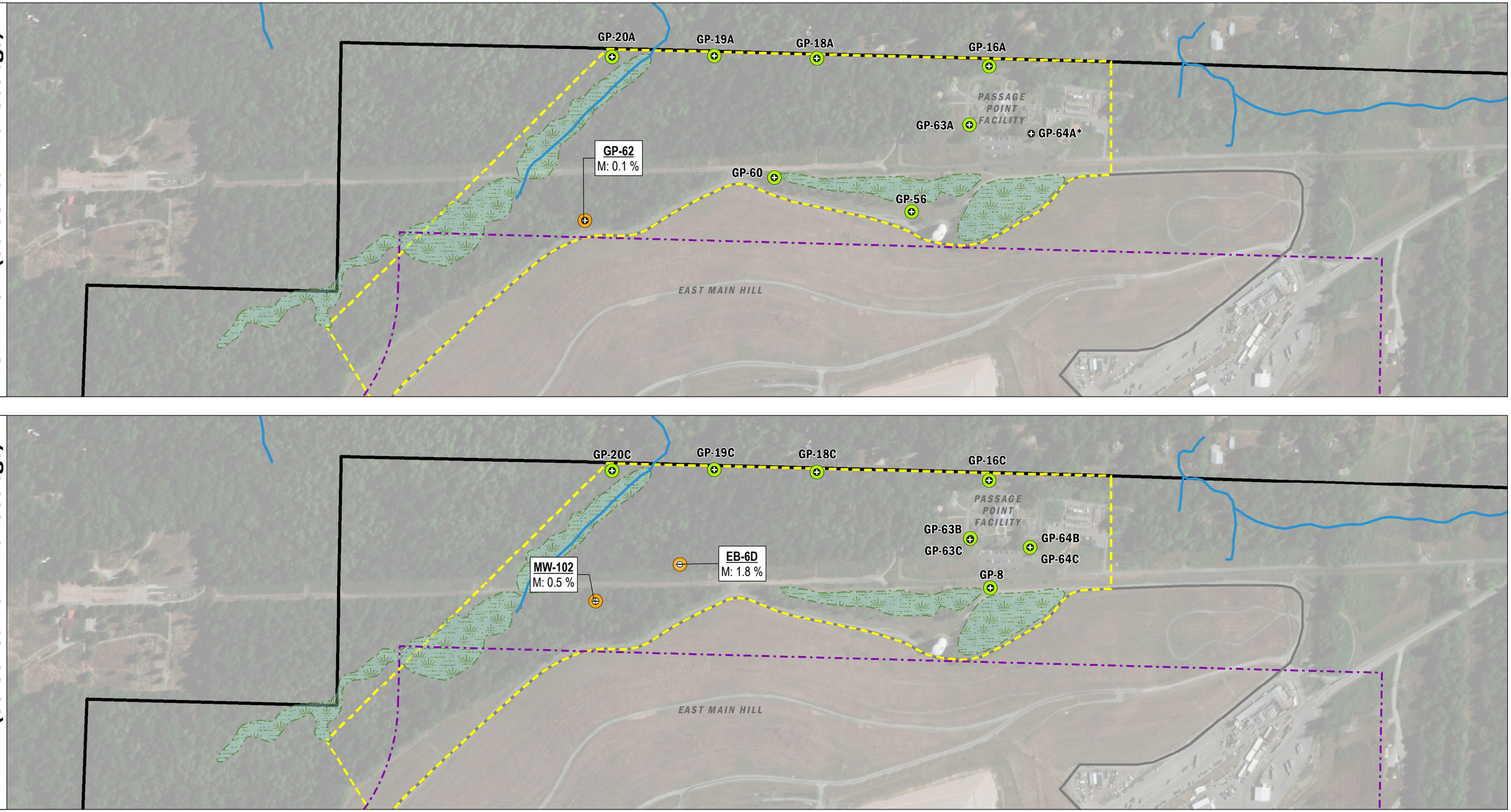
Analyte	MTCA Method B Deep Soil Gas Screening Level	Location Date Sample EB-6D 08/20/2019 GB6-190820-	GP-8 08/20/2019 GG8-190820-	GP-16C 08/21/2019 GP16D190821-	GP-18C 08/20/2019 GP18D190820-	GP-19C 08/20/2019 GP19D190820-	GP-20C 08/20/2019 GP20D190820-	GP-63B 08/21/2019 GP63M190821-	GP-63C 08/21/2019 GP63D190821-	GP-64B 08/21/2019 GP64M190821-	GP-64C 08/21/2019 GP64D190821-	MW-102 08/20/2019 G102190820-
Isopropylbenzene	18000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
m,p-Xylene		**5**	**6.5**	< 3.5 U	**4.5**	**5.8**	**7.2**	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U
Methyl tert-butylether	960	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Methylene Chloride	25000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**3.4**	**2.3**	< 1.8 U	< 1.8 U	< 1.8 U	**2.8**	< 1.8 U
Naphthalene	7.4	< 0.62 U	**0.73 J**	< 0.62 U	< 0.62 U	< 0.62 U	< 0.62 U	**2.5**	**0.70 J**	< 0.62 U	< 0.62 U	< 0.62 U
N-HEPTANE		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**2.6**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
OCTANE		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**2.6**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
o-Xylene	4600	**1.9**	**2.8**	< 1.8 U	**1.9**	**2.3**	**2.6**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Styrene	46000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Tetrachloroethene (PCE)	960	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
TETRAHYDROFURAN		**4.5**	**3.7**	< 1.8 U	**3.4**	**7.1**	**5.3**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**3.7**
Toluene	230000	**6.7**	**5.9**	< 1.8 U	**5.4**	**7.6**	**9.6**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**3**
trans-1,2-Dichloroethene		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
trans-1,3-Dichloropropene		< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Trichloroethene (TCE)	37	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Trichlorofluoromethane	32000	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
Vinyl Chloride	28	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**2.6**	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U

Notes
Bold - Analyte Detected
U - Analyte not detected at or above Reporting Limit (RL) shown
J - Result value estimated
Soil gas sampling results are reported in ug/m3

FIGURES

SHALLOW (Screened <15 feet bgs)

DEEP (Screened 15 – 179 feet bgs)



Methane Results (August, 2019)

- >5% Methane
- 0-5% Methane
- Methane Not Detected

- Gas Probe
- Perched Zone Monitoring Well
- Perched Zone Piezometer
- Permitted Landfill Buffer

Note: *See Table 2 for a summary of landfill gas readings at the time of sample collection.*
**GP-64A was not sampled due to the screen being fully submerged with water.*

- Approximate Extent of Wetland Areas
- Project Location
- Landfill Cover Limits
- Property Boundary

0 500 1,000 Feet

King County | Aspect CONSULTING

Methane Results - August 2019

Cedar Hills Regional Landfill
King County, Washington

DATE: Sep-2019	PROJECT NO. 130088
DESIGNED BY: PPW	
DRAWN BY: PPW	FIGURE NO. 1
REVISED BY: TDR	

Basemap Layer Credits || Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SHALLOW (Screened <15 feet bgs)

GP-20A
GP-19A
GP-18A
GP-16A
B: 11 ug/m3
PASSAGE POINT FACILITY
GP-63A
GP-64A*
GP-60
GP-56
GP-62
EAST MAIN HILL

DEEP (Screened 15- 179 feet bgs)

GP-20C
GP-19C
GP-18C
GP-16C
PASSAGE POINT FACILITY
GP-63B/C
GP-64B/C
EB-6D
GP-8
MW-102
EAST MAIN HILL

Soil Gas Sampling Results (August 2019)

- One or More Analytes Detected Above Screening Level
- One or More Analytes Detected, No Screening Level Exceedances
- No Detections

- Gas Probe
- Perched Zone Monitoring Well
- Perched Zone Piezometer
- Permitted Landfill Buffer

Note: *See Table 3 and Table 4 for full analytical results.*
**GP-64A was not sampled due to the screen being fully submerged with water.*

Exploration Name
B: Benzene
Analyte exceeded in micrograms per cubic meter

- Approximate Extent of Wetland Areas
- Project Location
- Landfill Cover Limits
- Property Boundary

0 500 1,000
Feet

Basemap Layer Credits || Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

King County
Aspect CONSULTING

TO-17 Results – August 2019

Cedar Hills Regional Landfill
King County, Washington

DATE: Sep-2019	PROJECT NO. 130088
DESIGNED BY: PPW	
DRAWN BY: PPW	FIGURE NO. 2
REVISED BY: TDR	

APPENDIX A

Analytical Lab Report

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

September 6, 2019

Kirsi Longley
Aspect Consulting
710 2nd Ave., Suite 550
Seattle, WA 98104

RE: Cedar Hills Regional Landfill / 130088

Dear Kirsi:

Enclosed are the results of the samples submitted to our laboratory on August 22, 2019. For your reference, these analyses have been assigned our service request number P1905003.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Hayden Akers at 4:11 pm, Sep 06, 2019

For Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: Aspect Consulting
Project: Cedar Hills Regional Landfill / 130088

Service Request No: P1905003

CASE NARRATIVE

The samples were received intact under chain of custody on August 22, 2019 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with the methodology outlined in EPA Method TO-17. This procedure is described in laboratory SOP VOA-TO17. The analyses were performed by thermal desorption/gas chromatography/mass spectrometry. This analysis is included on the laboratory's NELAP and DoD-ELAP scope of accreditation.

The recoveries of dichlorodifluoromethane, trichlorofluoromethane, 1,2-dichloroethane, o-xylene, and 1,2-dichlorobenzene were below the lower control limit but within the method-specified limits of 70% to 130%.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1521096
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-006
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Aspect Consulting
Service Request: P1905003
Project ID: Cedar Hills Regional Landfill / 130088

Date Received: 8/22/2019
Time Received: 09:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	TO-17 - VOC Sorbent
GB6-190820-	P1905003-001	Air	8/20/2019	10:10	X
G102190820-	P1905003-002	Air	8/20/2019	11:00	X
GP62S190820-	P1905003-003	Air	8/20/2019	11:33	X
GP60S190820-	P1905003-004	Air	8/20/2019	11:56	X
GP56S190820-	P1905003-005	Air	8/20/2019	12:19	X
GG8-190820-	P1905003-006	Air	8/20/2019	13:08	X
GP20S190820-	P1905003-007	Air	8/20/2019	13:47	X
GP20D190820-	P1905003-008	Air	8/20/2019	14:03	X
GP19S190820-	P1905003-009	Air	8/20/2019	14:19	X
GP19D190820-	P1905003-010	Air	8/20/2019	14:32	X
GP18S190820-	P1905003-011	Air	8/20/2019	14:47	X
GP18D190820-	P1905003-012	Air	8/20/2019	15:02	X
GP64M190821-	P1905003-013	Air	8/21/2019	10:54	X
GP64D190821-	P1905003-014	Air	8/21/2019	11:08	X
GP16S190821-	P1905003-015	Air	8/21/2019	11:32	X
GP16D190821-	P1905003-016	Air	8/21/2019	11:46	X
GP63S190821-	P1905003-017	Air	8/21/2019	12:10	X
GP63M190821-	P1905003-018	Air	8/21/2019	12:47	X
GP63D190821-	P1905003-019	Air	8/21/2019	13:01	X
VTRP190821-	P1905003-020	Air	8/21/2019	00:00	X

Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone: +1 805 526 7161 Fax: +1 805 526 7270

Requested Turnaround Time in Business Days (Surcharges) Please Circle:
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) **10 Day (Standard)**

ALS Project No. PP105003

Company Name & Address (Reporting Information): aspect Consulting, 710 2nd AVE, Suite 550, Seattle, WA 98104

Project Name: Cedar Hills Regional Landfill

Project Number: 130088

ALS Contact: Sue Anderson

Project Manager: Kirsi Longley

P.O. # / Billing Information: Accts. Payable.

Phone: 206-812-4746 Fax:

Email Address for Result Reporting: klongley@aspectconsulting.com

Sampler (Print & Sign): Amelia C. Oates

Client Sample ID	Laboratory ID #	Tube ID	Date Collected	Sampling Pump Flow (mL/min)	Sampling Start Time	Sampling End Time	Sample Volume (mL)	Analysis Method/Analytes: TO-17		Comments e.g. Actual Preservative or specific instructions
GB6-190820-	1	1110272	8/20/19	100	1004	1010	600	X		
G102190820-	2	1125610			1054	1100		X		
GP62S190820-	3	1112050			1127	1133		X		
GP60S190820-	4	1111029			1150	1156		X		
GP56S190820-	5	1125781			1213	1219		X		
GG8-190820-	6	1058757			1302	1308		X		
GP20S190820-	7	1064300			1341	1347		X		
GP20D190820-	8	1124802			1357	1403		X		
GP19S190820-	9	1124915			1413	1419		X		
GP19D190820-	10	1110279			1426	1432		X		
GP18S190820-	11	1124972			1441	1447		X		
GP18D190820-	12	1101033			1456	1502		X		
GP64M190821-	13	1134147	8/21/19	100	1048	1054	600	X		
GP64D190821-	14	1134326			1102	1108		X		
GP16S190821-	15	1110325			1126	1132		X		

Report Tier Levels - please select
Tier I - (Results/Default if not specified) _____ Tier III (Data Validation Package) 10% Surcharge _____
Tier II (Results + QC) _____ Tier IV (client specified) _____
EDD required Yes / No Type: _____

Project Requirements (MRLs, QAPP): RL for naphthalene needs to be below 2 ug/m3

Relinquished by: (Signature) Amelia C. Oates	Date: 8/21/19	Time: 1555	Received by: (Signature)	Time:
Relinquished by: (Signature)	Date: /	Time:	Received by: (Signature) 8/22/19	Time: 0900
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:

Cooler / Blank Temperature 5 °C GOZ

Chain of Custody Record & Analytical Service Request

Page 2 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone: +1 805 526 7161 Fax: +1 805 526 7270

Requested Turnaround Time in Business Days (Surcharges) Please Circle:
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day (Standard)

ALS Project No: ~~P~~ 905003

Company Name & Address (Reporting Information)
Aspect Consulting
710 2nd Ave, Suite 550
Seattle, WA 98104

Project Name: Cedar Hills Regional Landfill
Project Number: 130085
P.O. # / Billing Information: Accts. Payable

ALS Contact: Sue Anderson

Project Manager: Kirsi Longley
Phone: 206-812-4746 Fax:
Email Address for Result Reporting: klongley@aspectconsulting.com
Sampler (Print & Sign): Amelia C. Oates

Client Sample ID	Laboratory ID #	Tube ID	Date Collected	Sampling Pump Flow (mL/min)	Sampling Start Time	Sampling End Time	Sample Volume (mL)	Analysis Method/Analytes: TO-15		Comments e.g. Actual Preservative or specific instructions
GP16D190821-	16	1064773	8/21/19	100	1140	1146	600	X		
GP63S190821-	17	1064411	"	"	1204	1210	"	X		
GP63M190821-	18	1064682	"	"	1241	1247	"	X		
GP63D190821-	19	1060860	"	"	1255	1301	"	X		
VTRP190821-	~~20~~	1064753	8/21/19	N/A	N/A	N/A	N/A	X		

Report Tier Levels - please select
Tier I - (Results/Default if not specified) _____ Tier III (Data Validation Package) 10% Surcharge _____ EDD required Yes / No
Tier II (Results + QC) _____ Tier IV (client specified) _____ Type: _____

Project Requirements (MRLs, QAPP): RL for naphthalene needs to be below 2 ug/m³

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
Amelia C. Oates	8/21/19	1555		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
			8/22/19	0915
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: Aspect Consulting Work order: P1905003

Project: Cedar Hills Regional Landfill / 130088

Sample(s) received on: 8/22/2019 Date opened: 8/22/2019 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature: 5° C Blank Temperature: ° C			
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1905003-001.01	Tube, TD					
P1905003-002.01	Tube, TD					
P1905003-003.01	Tube, TD					
P1905003-004.01	Tube, TD					
P1905003-005.01	Tube, TD					
P1905003-006.01	Tube, TD					
P1905003-007.01	Tube, TD					
P1905003-008.01	Tube, TD					
P1905003-009.01	Tube, TD					
P1905003-010.01	Tube, TD					
P1905003-011.01	Tube, TD					
P1905003-012.01	Tube, TD					
P1905003-013.01	Tube, TD					
P1905003-014.01	Tube, TD					
P1905003-015.01	Tube, TD					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: Aspect Consulting Work order: P1905003

Project: Cedar Hills Regional Landfill / 130088

Sample(s) received on: 8/22/2019 Date opened: 8/22/2019 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1905003-016.01	Tube, TD					
P1905003-017.01	Tube, TD					
P1905003-018.01	Tube, TD					
P1905003-019.01	Tube, TD					
P1905003-020.01	Tube, TD					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GB6-190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-001

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	4.1	**6.8**	1.7	**1.4**	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	3.0	**5.0**	1.7	**0.72**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	7.1	**12**	9.0	**5.0**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.2	**2.0**	1.7	**0.66**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.7	**4.5**	1.8	**1.5**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	2.2	**3.7**	3.5	**1.2**	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GB6-190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-001

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	4.0	**6.7**	1.8	**1.8**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.0	**5.0**	3.5	**1.1**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.1	**1.9**	1.8	**0.43**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	1.8	**3.0**	1.8	**0.61**	0.37	
541-73-1	1,3-Dichlorobenzene	1.9	**3.2**	1.8	**0.53**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **G102190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-002

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	1.8	**3.1**	1.7	**0.62**	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	1.5	**2.4**	1.7	**0.35**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	< 5.4	ND	9.0	ND	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.2	**3.7**	1.8	**1.3**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **G102190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-002

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	1.8	**3.0**	1.8	**0.80**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	2.6	**4.3**	1.8	**0.72**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP62S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-003

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	< 5.4	ND	9.0	ND	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.1	**3.5**	1.8	**1.2**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP62S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-003

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	2.8	**4.7**	1.8	**1.2**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	4.4	**7.3**	1.8	**1.1**	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	2.1	**3.6**	3.5	**0.82**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP60S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-004

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	3.0	**5.0**	1.7	**2.4**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	5.5	**9.2**	9.0	**3.9**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.1	**1.9**	1.7	**0.64**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.6	**4.4**	1.8	**1.5**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP60S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-004

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	4.5	**7.4**	1.8	**2.0**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.2	**5.3**	3.5	**1.2**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.3	**2.1**	1.8	**0.49**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	1.7	**2.8**	1.8	**0.57**	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP56S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-005

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	19	**32**	1.7	**6.5**	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	3.2	**5.4**	1.7	**0.77**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	8.8	**15**	9.0	**6.2**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.4	**2.3**	1.7	**0.76**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.7	**4.6**	1.8	**1.5**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP56S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-005

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	4.1	**6.8**	1.8	**1.8**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.2	**5.4**	3.5	**1.2**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.3	**2.1**	1.8	**0.49**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	2.3	**3.8**	1.8	**0.77**	0.37	
541-73-1	1,3-Dichlorobenzene	2.7	**4.5**	1.8	**0.75**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GG8-190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-006

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	25	**42**	1.7	**8.5**	0.34	
74-87-3	Chloromethane	1.7	**2.8**	1.7	**1.4**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	3.7	**6.2**	1.7	**0.89**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	14	**23**	9.0	**9.9**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	12	**20**	1.7	**6.9**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.2	**3.7**	1.8	**1.2**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GG8-190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-006

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	3.5	**5.9**	1.8	**1.6**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.9	**6.5**	3.5	**1.5**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.7	**2.8**	1.8	**0.64**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	1.4	**2.4**	1.8	**0.48**	0.37	
95-63-6	1,2,4-Trimethylbenzene	5.1	**8.5**	1.8	**1.7**	0.37	
541-73-1	1,3-Dichlorobenzene	2.9	**4.9**	1.8	**0.81**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP20S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-007

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	14	**24**	9.0	**9.9**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	6.7	**11**	1.7	**3.8**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	7.3	**12**	1.8	**4.1**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP20S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-007

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	1.2	**2.1**	1.8	**0.51**	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	7.4	**12**	1.8	**3.3**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	1.4	**2.4**	1.8	**0.51**	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	1.4	**2.4**	1.7	**0.55**	0.38	
179601-23-1	m,p-Xylenes	5.9	**9.9**	3.5	**2.3**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	2.4	**4.0**	1.8	**0.92**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	3.5	**5.8**	1.8	**1.2**	0.37	
541-73-1	1,3-Dichlorobenzene	3.1	**5.1**	1.8	**0.85**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP20D190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-008

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	2.1	**3.6**	3.5	**2.1**	2.1	
67-64-1	Acetone	14	**23**	9.0	**9.6**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	1.4	**2.3**	1.8	**0.67**	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	2.8	**4.7**	1.7	**1.6**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	1.2	**2.1**	1.8	**0.58**	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	3.2	**5.3**	1.8	**1.8**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	2.5	**4.2**	3.5	**1.3**	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP20D190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-008

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	1.6	**2.6**	1.8	**0.65**	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	5.8	**9.6**	1.8	**2.6**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	1.6	**2.6**	1.8	**0.56**	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	1.0	**1.7**	1.7	**0.40**	0.38	
179601-23-1	m,p-Xylenes	4.3	**7.2**	3.5	**1.7**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.5	**2.6**	1.8	**0.59**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	2.5	**4.1**	1.8	**0.84**	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP19S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-009

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	2.2	**3.7**	1.7	**1.8**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	14	**23**	3.5	**14**	2.1	
67-64-1	Acetone	19	**31**	9.0	**13**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	1.1	**1.9**	1.8	**0.54**	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	4.1	**6.8**	1.8	**2.3**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP19S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-009

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	5.0	**8.3**	1.8	**2.2**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.0	**4.9**	3.5	**1.1**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.1	**1.9**	1.8	**0.44**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	1.7	**2.8**	1.8	**0.57**	0.37	
541-73-1	1,3-Dichlorobenzene	2.2	**3.7**	1.8	**0.62**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP19D190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-010

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	2.6	**4.3**	1.7	**2.1**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	1.5	**2.6**	1.8	**1.0**	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	2.9	**4.8**	3.5	**2.9**	2.1	
67-64-1	Acetone	15	**24**	9.0	**10**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	2.0	**3.4**	1.8	**0.97**	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	2.3	**3.9**	1.7	**1.3**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	4.3	**7.1**	1.8	**2.4**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP19D190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-010

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	4.6	**7.6**	1.8	**2.0**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	3.5	**5.8**	3.5	**1.3**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.4	**2.3**	1.8	**0.52**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	2.1	**3.6**	1.8	**0.73**	0.37	
541-73-1	1,3-Dichlorobenzene	11	**19**	1.8	**3.1**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP18S190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-011

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	1.3	**2.2**	1.7	**1.0**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	14	**24**	9.0	**10**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	2.7	**4.5**	1.7	**1.5**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	1.3	**2.1**	1.8	**0.60**	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	4.9	**8.2**	1.8	**2.8**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	2.4	**4.1**	3.5	**1.3**	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP18S190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-011

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	1.3	**2.2**	1.8	**0.53**	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	6.8	**11**	1.8	**3.0**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	1.4	**2.3**	1.8	**0.50**	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	1.1	**1.8**	1.7	**0.41**	0.38	
179601-23-1	m,p-Xylenes	4.5	**7.4**	3.5	**1.7**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.7	**2.8**	1.8	**0.65**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	2.3	**3.8**	1.8	**0.76**	0.37	
541-73-1	1,3-Dichlorobenzene	3.3	**5.5**	1.8	**0.91**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP18D190820-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-012

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/20/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	17	**28**	1.7	**5.6**	0.34	
74-87-3	Chloromethane	1.2	**2.0**	1.7	**0.95**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	1.4	**2.3**	1.7	**0.33**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	4.0	**6.7**	1.7	**2.6**	0.63	
64-17-5	Ethanol	6.9	**11**	8.5	**6.1**	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	9.6	**16**	9.0	**6.7**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.5	**2.5**	1.7	**0.86**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	2.0	**3.4**	1.8	**1.1**	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	5.5	**9.2**	3.5	**2.9**	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP18D190820-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-012

Test Code: EPA TO-17 Date Collected: 8/20/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	3.3	**5.4**	1.8	**1.4**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	2.7	**4.5**	3.5	**1.0**	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	1.1	**1.9**	1.8	**0.43**	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	2.0	**3.4**	1.8	**0.68**	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP64M190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-013

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	7.5	**12**	9.0	**5.2**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.2	**2.0**	1.7	**0.69**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP64M190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-013

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	6.0	**10**	1.8	**1.7**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP64D190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-014

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	10	**17**	9.0	**7.1**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	1.7	**2.8**	1.8	**0.79**	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP64D190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-014

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	2.3	**3.9**	1.8	**0.64**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP16S190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-015

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	2.8	**4.7**	1.7	**1.8**	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	11	**18**	9.0	**7.6**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	1.2	**1.9**	1.8	**0.56**	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.3	**2.1**	1.7	**0.71**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	6.6	**11**	3.5	**3.4**	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP16S190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-015

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	1.3	**2.2**	1.8	**0.57**	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	4.3	**7.2**	1.8	**1.2**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP16D190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-016

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	46	**76**	1.7	**15**	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	5.5	**9.2**	1.7	**1.3**	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	11	**18**	9.0	**7.5**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	3.1	**5.1**	1.7	**1.7**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP16D190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-016

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	3.0	**5.0**	1.8	**0.83**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63S190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-017

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/30/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	1.3	**2.1**	1.7	**1.0**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	11	**18**	9.0	**7.5**	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	1.8	**2.9**	1.7	**0.99**	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63S190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-017

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/30/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	1.6	**2.6**	1.8	**0.74**	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	4.3	**7.2**	1.8	**1.2**	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63M190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-018

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 9/3/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	**3.6**	1.7	**0.72**	0.34	
74-87-3	Chloromethane	< 1.0	ND	1.7	ND	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	1.9	**3.2**	1.7	**1.2**	0.63	
64-17-5	Ethanol	7.0	**12**	8.5	**6.2**	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	< 5.4	ND	9.0	ND	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63M190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-018

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 9/3/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63D190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-019

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 9/3/19
Volume(s) Analyzed: 0.600 Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	ND	1.7	ND	0.34	
74-87-3	Chloromethane	2.4	**4.1**	1.7	**2.0**	0.81	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	1.7	ND	0.24	
75-01-4	Vinyl Chloride	< 1.1	ND	1.8	ND	0.72	
106-99-0	1,3-Butadiene	< 1.0	ND	1.7	ND	0.75	
75-00-3	Chloroethane	< 1.0	ND	1.7	ND	0.63	
64-17-5	Ethanol	< 5.1	ND	8.5	ND	4.5	
75-05-8	Acetonitrile	< 2.1	ND	3.5	ND	2.1	
67-64-1	Acetone	< 5.4	ND	9.0	ND	3.8	
75-69-4	Trichlorofluoromethane	< 1.1	ND	1.8	ND	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	3.5	ND	1.4	
75-35-4	1,1-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-09-2	Methylene Chloride	< 1.1	ND	1.8	ND	0.53	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	1.8	ND	0.24	
75-15-0	Carbon Disulfide	< 5.4	ND	9.0	ND	2.9	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
75-34-3	1,1-Dichloroethane	< 1.0	ND	1.7	ND	0.41	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	1.8	ND	0.51	
78-93-3	2-Butanone (MEK)	< 1.0	ND	1.7	ND	0.57	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	1.8	ND	0.46	
110-54-3	n-Hexane	< 1.1	ND	1.8	ND	0.52	
67-66-3	Chloroform	< 1.1	ND	1.8	ND	0.38	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	1.8	ND	0.62	
107-06-2	1,2-Dichloroethane	< 1.1	ND	1.8	ND	0.45	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
71-43-2	Benzene	< 2.1	ND	3.5	ND	1.1	
56-23-5	Carbon Tetrachloride	< 1.0	ND	1.7	ND	0.27	
110-82-7	Cyclohexane	< 2.1	ND	3.5	ND	1.0	
78-87-5	1,2-Dichloropropane	< 1.1	ND	1.8	ND	0.40	
75-27-4	Bromodichloromethane	< 1.1	ND	1.8	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **GP63D190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-019

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 9/3/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.600 Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	ND	1.8	ND	0.34	
123-91-1	1,4-Dioxane	< 1.1	ND	1.8	ND	0.51	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	1.8	ND	0.39	
142-82-5	n-Heptane	< 1.1	ND	1.8	ND	0.45	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	3.5	ND	0.85	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	1.8	ND	0.40	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	1.8	ND	0.34	
108-88-3	Toluene	< 1.1	ND	1.8	ND	0.49	
591-78-6	2-Hexanone	< 1.1	ND	1.8	ND	0.45	
124-48-1	Dibromochloromethane	< 1.1	ND	1.8	ND	0.22	
106-93-4	1,2-Dibromoethane	< 1.1	ND	1.8	ND	0.24	
111-65-9	n-Octane	< 1.1	ND	1.8	ND	0.39	
127-18-4	Tetrachloroethene	< 1.1	ND	1.8	ND	0.27	
108-90-7	Chlorobenzene	< 1.1	ND	1.8	ND	0.40	
100-41-4	Ethylbenzene	< 1.0	ND	1.7	ND	0.38	
179601-23-1	m,p-Xylenes	< 2.1	ND	3.5	ND	0.81	
75-25-2	Bromoform	< 1.1	ND	1.8	ND	0.18	
100-42-5	Styrene	< 1.1	ND	1.8	ND	0.43	
95-47-6	o-Xylene	< 1.1	ND	1.8	ND	0.42	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	1.8	ND	0.27	
98-82-8	Cumene	< 1.1	ND	1.8	ND	0.37	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	1.8	ND	0.37	
541-73-1	1,3-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	1.8	ND	0.31	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	ND	1.7	ND	0.17	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	1.8	ND	0.25	
87-68-3	Hexachlorobutadiene	< 1.1	ND	1.8	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **VTRP190821-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1905003
ALS Sample ID: P1905003-020

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18
Analyst: Chris Parnell
Sampling Media: TD Carbo 300 Sorbent Tube
Test Notes:

Date Collected: 8/21/19
Date Received: 8/22/19
Date Analyzed: 8/29/19
Volume(s) Analyzed: NA Liter(s)

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	NA	NA	NA	NA	
74-87-3	Chloromethane	< 1.0	NA	NA	NA	NA	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	NA	NA	NA	NA	
75-01-4	Vinyl Chloride	< 1.1	NA	NA	NA	NA	
106-99-0	1,3-Butadiene	< 1.0	NA	NA	NA	NA	
75-00-3	Chloroethane	< 1.0	NA	NA	NA	NA	
64-17-5	Ethanol	< 5.1	NA	NA	NA	NA	
75-05-8	Acetonitrile	< 2.1	NA	NA	NA	NA	
67-64-1	Acetone	7.0	NA	NA	NA	NA	
75-69-4	Trichlorofluoromethane	< 1.1	NA	NA	NA	NA	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	NA	NA	NA	NA	
75-35-4	1,1-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-09-2	Methylene Chloride	< 1.1	NA	NA	NA	NA	
76-13-1	Trichlorotrifluoroethane	< 1.1	NA	NA	NA	NA	
75-15-0	Carbon Disulfide	< 5.4	NA	NA	NA	NA	
156-60-5	trans-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-34-3	1,1-Dichloroethane	< 1.0	NA	NA	NA	NA	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	NA	NA	NA	NA	
78-93-3	2-Butanone (MEK)	< 1.0	NA	NA	NA	NA	
156-59-2	cis-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
110-54-3	n-Hexane	< 1.1	NA	NA	NA	NA	
67-66-3	Chloroform	< 1.1	NA	NA	NA	NA	
109-99-9	Tetrahydrofuran (THF)	< 1.1	NA	NA	NA	NA	
107-06-2	1,2-Dichloroethane	< 1.1	NA	NA	NA	NA	
71-55-6	1,1,1-Trichloroethane	< 1.1	NA	NA	NA	NA	
71-43-2	Benzene	< 2.1	NA	NA	NA	NA	
56-23-5	Carbon Tetrachloride	< 1.0	NA	NA	NA	NA	
110-82-7	Cyclohexane	< 2.1	NA	NA	NA	NA	
78-87-5	1,2-Dichloropropane	< 1.1	NA	NA	NA	NA	
75-27-4	Bromodichloromethane	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **VTRP190821-** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1905003-020

Test Code: EPA TO-17 Date Collected: 8/21/19
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 8/22/19
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	NA	NA	NA	NA	
123-91-1	1,4-Dioxane	< 1.1	NA	NA	NA	NA	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	NA	NA	NA	NA	
142-82-5	n-Heptane	< 1.1	NA	NA	NA	NA	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
108-10-1	4-Methyl-2-pentanone	< 2.1	NA	NA	NA	NA	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
79-00-5	1,1,2-Trichloroethane	< 1.1	NA	NA	NA	NA	
108-88-3	Toluene	< 1.1	NA	NA	NA	NA	
591-78-6	2-Hexanone	< 1.1	NA	NA	NA	NA	
124-48-1	Dibromochloromethane	< 1.1	NA	NA	NA	NA	
106-93-4	1,2-Dibromoethane	< 1.1	NA	NA	NA	NA	
111-65-9	n-Octane	< 1.1	NA	NA	NA	NA	
127-18-4	Tetrachloroethene	< 1.1	NA	NA	NA	NA	
108-90-7	Chlorobenzene	< 1.1	NA	NA	NA	NA	
100-41-4	Ethylbenzene	< 1.0	NA	NA	NA	NA	
179601-23-1	m,p-Xylenes	< 2.1	NA	NA	NA	NA	
75-25-2	Bromoform	< 1.1	NA	NA	NA	NA	
100-42-5	Styrene	< 1.1	NA	NA	NA	NA	
95-47-6	o-Xylene	< 1.1	NA	NA	NA	NA	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	NA	NA	NA	NA	
98-82-8	Cumene	< 1.1	NA	NA	NA	NA	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
541-73-1	1,3-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
106-46-7	1,4-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
95-50-1	1,2-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	NA	NA	NA	NA	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	NA	NA	NA	NA	
87-68-3	Hexachlorobutadiene	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Project ID: P1905003

Naphthalene

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date(s) Collected: 8/20 - 8/21/19
Analyst: Chris Parnell Date Received: 8/22/19
Sampling Media: TD Carbo 300 Sorbent Tube(s) Date Analyzed: 8/29 - 9/3/19
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume Liter(s)	Result ng/Sample	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
GB6-190820-	P1905003-001	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
G102190820-	P1905003-002	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP62S190820-	P1905003-003	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP60S190820-	P1905003-004	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP56S190820-	P1905003-005	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GG8-190820-	P1905003-006	0.600	**0.44**	**0.73**	1.7	0.62	**0.14**	0.32	0.12	**J**
GP20S190820-	P1905003-007	0.600	**0.42**	**0.70**	1.7	0.62	**0.13**	0.32	0.12	**J**
GP20D190820-	P1905003-008	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP19S190820-	P1905003-009	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP19D190820-	P1905003-010	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP18S190820-	P1905003-011	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP18D190820-	P1905003-012	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP64M190821-	P1905003-013	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP64D190821-	P1905003-014	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP16S190821-	P1905003-015	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP16D190821-	P1905003-016	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP63S190821-	P1905003-017	0.600	< 0.37	ND	1.7	0.62	ND	0.32	0.12	
GP63M190821-	P1905003-018	0.600	**1.5**	**2.5**	1.7	0.62	**0.47**	0.32	0.12	
GP63D190821-	P1905003-019	0.600	**0.42**	**0.70**	1.7	0.62	**0.13**	0.32	0.12	**J**
VTRP190821-	P1905003-020	NA	< 0.37	NA	NA	NA	NA	NA	NA	
Method Blank	P190829-MB	NA	< 0.37	NA	NA	NA	NA	NA	NA	
Method Blank	P190903-MB	NA	< 0.37	NA	NA	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **Method Blank** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190829-MB

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	NA	NA	NA	NA	
74-87-3	Chloromethane	< 1.0	NA	NA	NA	NA	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	NA	NA	NA	NA	
75-01-4	Vinyl Chloride	< 1.1	NA	NA	NA	NA	
106-99-0	1,3-Butadiene	< 1.0	NA	NA	NA	NA	
75-00-3	Chloroethane	< 1.0	NA	NA	NA	NA	
64-17-5	Ethanol	< 5.1	NA	NA	NA	NA	
75-05-8	Acetonitrile	< 2.1	NA	NA	NA	NA	
67-64-1	Acetone	< 5.4	NA	NA	NA	NA	
75-69-4	Trichlorofluoromethane	< 1.1	NA	NA	NA	NA	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	NA	NA	NA	NA	
75-35-4	1,1-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-09-2	Methylene Chloride	< 1.1	NA	NA	NA	NA	
76-13-1	Trichlorotrifluoroethane	< 1.1	NA	NA	NA	NA	
75-15-0	Carbon Disulfide	< 5.4	NA	NA	NA	NA	
156-60-5	trans-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-34-3	1,1-Dichloroethane	< 1.0	NA	NA	NA	NA	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	NA	NA	NA	NA	
78-93-3	2-Butanone (MEK)	< 1.0	NA	NA	NA	NA	
156-59-2	cis-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
110-54-3	n-Hexane	< 1.1	NA	NA	NA	NA	
67-66-3	Chloroform	< 1.1	NA	NA	NA	NA	
109-99-9	Tetrahydrofuran (THF)	< 1.1	NA	NA	NA	NA	
107-06-2	1,2-Dichloroethane	< 1.1	NA	NA	NA	NA	
71-55-6	1,1,1-Trichloroethane	< 1.1	NA	NA	NA	NA	
71-43-2	Benzene	< 2.1	NA	NA	NA	NA	
56-23-5	Carbon Tetrachloride	< 1.0	NA	NA	NA	NA	
110-82-7	Cyclohexane	< 2.1	NA	NA	NA	NA	
78-87-5	1,2-Dichloropropane	< 1.1	NA	NA	NA	NA	
75-27-4	Bromodichloromethane	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Aspect Consulting**

Client Sample ID: **Method Blank** ALS Project ID: P1905003

Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190829-MB

Test Code: EPA TO-17 Date Collected: NA

Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA

Analyst: Chris Parnell Date Analyzed: 8/29/19

Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)

Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	NA	NA	NA	NA	
123-91-1	1,4-Dioxane	< 1.1	NA	NA	NA	NA	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	NA	NA	NA	NA	
142-82-5	n-Heptane	< 1.1	NA	NA	NA	NA	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
108-10-1	4-Methyl-2-pentanone	< 2.1	NA	NA	NA	NA	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
79-00-5	1,1,2-Trichloroethane	< 1.1	NA	NA	NA	NA	
108-88-3	Toluene	< 1.1	NA	NA	NA	NA	
591-78-6	2-Hexanone	< 1.1	NA	NA	NA	NA	
124-48-1	Dibromochloromethane	< 1.1	NA	NA	NA	NA	
106-93-4	1,2-Dibromoethane	< 1.1	NA	NA	NA	NA	
111-65-9	n-Octane	< 1.1	NA	NA	NA	NA	
127-18-4	Tetrachloroethene	< 1.1	NA	NA	NA	NA	
108-90-7	Chlorobenzene	< 1.1	NA	NA	NA	NA	
100-41-4	Ethylbenzene	< 1.0	NA	NA	NA	NA	
179601-23-1	m,p-Xylenes	< 2.1	NA	NA	NA	NA	
75-25-2	Bromoform	< 1.1	NA	NA	NA	NA	
100-42-5	Styrene	< 1.1	NA	NA	NA	NA	
95-47-6	o-Xylene	< 1.1	NA	NA	NA	NA	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	NA	NA	NA	NA	
98-82-8	Cumene	< 1.1	NA	NA	NA	NA	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
541-73-1	1,3-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
106-46-7	1,4-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
95-50-1	1,2-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	NA	NA	NA	NA	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	NA	NA	NA	NA	
87-68-3	Hexachlorobutadiene	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **Method Blank** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190903-MB

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 9/3/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	< 1.0	NA	NA	NA	NA	
74-87-3	Chloromethane	< 1.0	NA	NA	NA	NA	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	NA	NA	NA	NA	
75-01-4	Vinyl Chloride	< 1.1	NA	NA	NA	NA	
106-99-0	1,3-Butadiene	< 1.0	NA	NA	NA	NA	
75-00-3	Chloroethane	< 1.0	NA	NA	NA	NA	
64-17-5	Ethanol	< 5.1	NA	NA	NA	NA	
75-05-8	Acetonitrile	< 2.1	NA	NA	NA	NA	
67-64-1	Acetone	< 5.4	NA	NA	NA	NA	
75-69-4	Trichlorofluoromethane	< 1.1	NA	NA	NA	NA	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	NA	NA	NA	NA	
75-35-4	1,1-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-09-2	Methylene Chloride	< 1.1	NA	NA	NA	NA	
76-13-1	Trichlorotrifluoroethane	< 1.1	NA	NA	NA	NA	
75-15-0	Carbon Disulfide	< 5.4	NA	NA	NA	NA	
156-60-5	trans-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
75-34-3	1,1-Dichloroethane	< 1.0	NA	NA	NA	NA	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	NA	NA	NA	NA	
78-93-3	2-Butanone (MEK)	< 1.0	NA	NA	NA	NA	
156-59-2	cis-1,2-Dichloroethene	< 1.1	NA	NA	NA	NA	
110-54-3	n-Hexane	< 1.1	NA	NA	NA	NA	
67-66-3	Chloroform	< 1.1	NA	NA	NA	NA	
109-99-9	Tetrahydrofuran (THF)	< 1.1	NA	NA	NA	NA	
107-06-2	1,2-Dichloroethane	< 1.1	NA	NA	NA	NA	
71-55-6	1,1,1-Trichloroethane	< 1.1	NA	NA	NA	NA	
71-43-2	Benzene	< 2.1	NA	NA	NA	NA	
56-23-5	Carbon Tetrachloride	< 1.0	NA	NA	NA	NA	
110-82-7	Cyclohexane	< 2.1	NA	NA	NA	NA	
78-87-5	1,2-Dichloropropane	< 1.1	NA	NA	NA	NA	
75-27-4	Bromodichloromethane	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **Aspect Consulting**

Client Sample ID: **Method Blank** ALS Project ID: P1905003

Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190903-MB

Test Code: EPA TO-17 Date Collected: NA

Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA

Analyst: Chris Parnell Date Analyzed: 9/3/19

Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)

Test Notes:

CAS #	Compound	Result ng/Tube	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
79-01-6	Trichloroethene	< 1.1	NA	NA	NA	NA	
123-91-1	1,4-Dioxane	< 1.1	NA	NA	NA	NA	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	NA	NA	NA	NA	
142-82-5	n-Heptane	< 1.1	NA	NA	NA	NA	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
108-10-1	4-Methyl-2-pentanone	< 2.1	NA	NA	NA	NA	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	NA	NA	NA	NA	
79-00-5	1,1,2-Trichloroethane	< 1.1	NA	NA	NA	NA	
108-88-3	Toluene	< 1.1	NA	NA	NA	NA	
591-78-6	2-Hexanone	< 1.1	NA	NA	NA	NA	
124-48-1	Dibromochloromethane	< 1.1	NA	NA	NA	NA	
106-93-4	1,2-Dibromoethane	< 1.1	NA	NA	NA	NA	
111-65-9	n-Octane	< 1.1	NA	NA	NA	NA	
127-18-4	Tetrachloroethene	< 1.1	NA	NA	NA	NA	
108-90-7	Chlorobenzene	< 1.1	NA	NA	NA	NA	
100-41-4	Ethylbenzene	< 1.0	NA	NA	NA	NA	
179601-23-1	m,p-Xylenes	< 2.1	NA	NA	NA	NA	
75-25-2	Bromoform	< 1.1	NA	NA	NA	NA	
100-42-5	Styrene	< 1.1	NA	NA	NA	NA	
95-47-6	o-Xylene	< 1.1	NA	NA	NA	NA	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	NA	NA	NA	NA	
98-82-8	Cumene	< 1.1	NA	NA	NA	NA	
108-67-8	1,3,5-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	NA	NA	NA	NA	
541-73-1	1,3-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
106-46-7	1,4-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
95-50-1	1,2-Dichlorobenzene	< 1.1	NA	NA	NA	NA	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.0	NA	NA	NA	NA	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	NA	NA	NA	NA	
87-68-3	Hexachlorobutadiene	< 1.1	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Aspect Consulting**
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Project ID: P1905003

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date(s) Collected: 8/20 - 8/21/19
Analyst: Chris Parnell Date(s) Received: 8/22/19
Sampling Media: TD Carbo 300 Sorbent Tube(s) Date(s) Analyzed: 8/29 - 9/3/19
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	1,2-Dichloroethane-d4 Acceptance Limits	Toluene-d8 % Recovered	Toluene-d8 Acceptance Limits	Bromofluorobenzene % Recovered	Bromofluorobenzene Acceptance Limits	Data Qualifier
Method Blank	P190829-MB	**78**	70-140	**100**	70-140	**121**	70-140	
Method Blank	P190903-MB	**94**	70-140	**99**	70-140	**99**	70-140	
Lab Control Sample	P190829-LCS	**76**	70-140	**100**	70-140	**117**	70-140	
Lab Control Sample	P190903-LCS	**93**	70-140	**94**	70-140	**109**	70-140	
Duplicate Lab Control Sample	P190829-DLCS	**78**	70-140	**107**	70-140	**114**	70-140	
Duplicate Lab Control Sample	P190903-DLCS	**94**	70-140	**99**	70-140	**100**	70-140	
GB6-190820-	P1905003-001	**74**	70-140	**104**	70-140	**127**	70-140	
G102190820-	P1905003-002	**74**	70-140	**103**	70-140	**124**	70-140	
GP62S190820-	P1905003-003	**79**	70-140	**103**	70-140	**115**	70-140	
GP60S190820-	P1905003-004	**77**	70-140	**107**	70-140	**106**	70-140	
GP56S190820-	P1905003-005	**79**	70-140	**100**	70-140	**126**	70-140	
GG8-190820-	P1905003-006	**82**	70-140	**95**	70-140	**128**	70-140	
GP20S190820-	P1905003-007	**78**	70-140	**102**	70-140	**110**	70-140	
GP20D190820-	P1905003-008	**82**	70-140	**118**	70-140	**96**	70-140	
GP19S190820-	P1905003-009	**81**	70-140	**101**	70-140	**101**	70-140	
GP19D190820-	P1905003-010	**76**	70-140	**104**	70-140	**113**	70-140	
GP18S190820-	P1905003-011	**81**	70-140	**103**	70-140	**108**	70-140	
GP18D190820-	P1905003-012	**79**	70-140	**104**	70-140	**120**	70-140	
GP64M190821-	P1905003-013	**78**	70-140	**103**	70-140	**111**	70-140	
GP64D190821-	P1905003-014	**79**	70-140	**102**	70-140	**126**	70-140	
GP16S190821-	P1905003-015	**77**	70-140	**104**	70-140	**115**	70-140	
GP16D190821-	P1905003-016	**78**	70-140	**100**	70-140	**119**	70-140	
GP63S190821-	P1905003-017	**78**	70-140	**98**	70-140	**115**	70-140	
GP63M190821-	P1905003-018	**102**	70-140	**97**	70-140	**100**	70-140	
GP63D190821-	P1905003-019	**93**	70-140	**98**	70-140	**103**	70-140	
VTRP190821-	P1905003-020	**85**	70-140	**99**	70-140	**117**	70-140	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190829-DLCS

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ng	Result LCS ng	Result DLCS ng	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	52.6	39.6	46.5	**75**	**88**	77-113	16	25	**L**
74-87-3	Chloromethane	52.8	43.8	50.5	**83**	**96**	66-113	15	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	52.8	48.4	56.0	**92**	**106**	81-114	14	25	
75-01-4	Vinyl Chloride	53.5	48.9	56.8	**91**	**106**	77-117	15	25	
106-99-0	1,3-Butadiene	52.6	46.6	53.9	**89**	**102**	75-112	14	25	
75-00-3	Chloroethane	53.5	43.4	50.3	**81**	**94**	68-108	15	25	
64-17-5	Ethanol	256	231	270	**90**	**105**	75-121	15	25	
75-05-8	Acetonitrile	51.5	42.3	49.5	**82**	**96**	68-119	16	25	
67-64-1	Acetone	265	220	244	**83**	**92**	63-106	10	25	
75-69-4	Trichlorofluoromethane	52.8	41.2	47.4	**78**	**90**	79-114	14	25	**L**
67-63-0	2-Propanol (Isopropyl Alcohol)	103	88.5	99.1	**86**	**96**	73-120	11	25	
75-35-4	1,1-Dichloroethene	54.5	50.0	56.7	**92**	**104**	79-109	12	25	
75-09-2	Methylene Chloride	54.2	48.0	56.0	**89**	**103**	78-111	15	25	
76-13-1	Trichlorotrifluoroethane	53.9	48.0	55.2	**89**	**102**	79-116	14	25	
75-15-0	Carbon Disulfide	54.4	44.3	51.0	**81**	**94**	68-108	15	25	
156-60-5	trans-1,2-Dichloroethene	53.5	46.8	53.7	**87**	**100**	79-116	14	25	
75-34-3	1,1-Dichloroethane	53.9	46.6	53.7	**86**	**100**	78-112	15	25	
1634-04-4	Methyl tert-Butyl Ether	53.6	47.4	54.9	**88**	**102**	81-117	15	25	
78-93-3	2-Butanone (MEK)	51.9	48.3	55.2	**93**	**106**	75-115	13	25	
156-59-2	cis-1,2-Dichloroethene	52.7	45.1	52.2	**86**	**99**	79-114	14	25	
110-54-3	n-Hexane	53.9	49.2	57.0	**91**	**106**	75-114	15	25	
67-66-3	Chloroform	54.2	44.7	50.6	**82**	**93**	78-110	13	25	
109-99-9	Tetrahydrofuran (THF)	54.0	40.2	45.0	**74**	**83**	68-116	11	25	
107-06-2	1,2-Dichloroethane	53.7	38.7	44.9	**72**	**84**	74-110	15	25	**L**
71-55-6	1,1,1-Trichloroethane	53.8	46.4	51.2	**86**	**95**	81-113	10	25	
71-43-2	Benzene	52.8	46.9	52.8	**89**	**100**	72-103	12	25	
56-23-5	Carbon Tetrachloride	52.9	51.3	57.1	**97**	**108**	81-122	11	25	
110-82-7	Cyclohexane	104	100	112	**96**	**108**	81-111	12	25	
78-87-5	1,2-Dichloropropane	54.0	51.6	58.1	**96**	**108**	78-117	12	25	
75-27-4	Bromodichloromethane	53.7	50.4	56.6	**94**	**105**	85-119	11	25	

L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190829-DLCS

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 8/29/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ng	Result LCS ng	Result DLCS ng	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
79-01-6	Trichloroethene	53.4	54.8	61.1	**103**	**114**	84-118	10	25	
123-91-1	1,4-Dioxane	53.5	54.4	59.4	**102**	**111**	79-114	8	25	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	53.3	50.6	56.1	**95**	**105**	79-116	10	25	
142-82-5	n-Heptane	53.8	51.7	57.6	**96**	**107**	82-114	11	25	
10061-01-5	cis-1,3-Dichloropropene	53.6	52.6	58.8	**98**	**110**	83-120	12	25	
108-10-1	4-Methyl-2-pentanone	52.3	52.2	58.8	**100**	**112**	79-124	11	25	
10061-02-6	trans-1,3-Dichloropropene	53.2	51.4	57.5	**97**	**108**	87-122	11	25	
79-00-5	1,1,2-Trichloroethane	53.7	53.3	59.4	**99**	**111**	83-117	11	25	
108-88-3	Toluene	53.0	48.9	54.4	**92**	**103**	79-111	11	25	
591-78-6	2-Hexanone	53.6	46.1	51.3	**86**	**96**	75-122	11	25	
124-48-1	Dibromochloromethane	53.2	53.0	59.4	**100**	**112**	86-123	11	25	
106-93-4	1,2-Dibromoethane	54.1	53.4	59.1	**99**	**109**	85-118	10	25	
111-65-9	n-Octane	54.3	47.1	49.4	**87**	**91**	76-123	4	25	
127-18-4	Tetrachloroethene	53.2	48.0	49.9	**90**	**94**	84-123	4	25	
108-90-7	Chlorobenzene	53.7	47.4	49.1	**88**	**91**	85-115	3	25	
100-41-4	Ethylbenzene	53.1	45.3	47.2	**85**	**89**	83-116	5	25	
179601-23-1	m,p-Xylenes	107	90.4	94.9	**84**	**89**	84-120	6	25	
75-25-2	Bromoform	53.4	49.6	51.7	**93**	**97**	87-125	4	25	
100-42-5	Styrene	53.0	47.1	49.6	**89**	**94**	87-124	5	25	
95-47-6	o-Xylene	53.5	45.2	47.4	**84**	**89**	86-119	6	25	**L**
79-34-5	1,1,2,2-Tetrachloroethane	53.6	47.7	49.6	**89**	**93**	82-120	4	25	
98-82-8	Cumene	53.6	46.8	49.2	**87**	**92**	86-120	6	25	
108-67-8	1,3,5-Trimethylbenzene	53.5	47.0	49.0	**88**	**92**	87-121	4	25	
95-63-6	1,2,4-Trimethylbenzene	53.8	47.1	49.7	**88**	**92**	86-123	4	25	
541-73-1	1,3-Dichlorobenzene	54.0	48.2	50.7	**89**	**94**	89-124	5	25	
106-46-7	1,4-Dichlorobenzene	54.0	48.5	50.8	**90**	**94**	89-123	4	25	
95-50-1	1,2-Dichlorobenzene	53.9	47.9	50.7	**89**	**94**	90-124	5	25	**L**
96-12-8	1,2-Dibromo-3-chloropropane	52.3	52.3	55.6	**100**	**106**	94-133	6	25	
120-82-1	1,2,4-Trichlorobenzene	53.6	54.1	58.2	**101**	**109**	90-137	8	25	
91-20-3	Naphthalene	50.8	49.9	54.3	**98**	**107**	87-132	9	25	
87-68-3	Hexachlorobutadiene	52.3	49.5	52.1	**95**	**100**	86-135	5	25	

L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190903-DLCS

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 9/03/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ng	Result LCS ng	Result DLCS ng	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
75-71-8	Dichlorodifluoromethane (CFC 12)	52.6	49.2	53.3	**94**	**101**	77-113	7	25	
74-87-3	Chloromethane	52.8	48.0	50.9	**91**	**96**	66-113	5	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	52.8	50.5	54.2	**96**	**103**	81-114	7	25	
75-01-4	Vinyl Chloride	53.5	49.8	53.0	**93**	**99**	77-117	6	25	
106-99-0	1,3-Butadiene	52.6	48.9	51.3	**93**	**98**	75-112	5	25	
75-00-3	Chloroethane	53.5	43.0	46.0	**80**	**86**	68-108	7	25	
64-17-5	Ethanol	256	243	266	**95**	**104**	75-121	9	25	
75-05-8	Acetonitrile	51.5	46.8	50.7	**91**	**98**	68-119	7	25	
67-64-1	Acetone	265	233	242	**88**	**91**	63-106	3	25	
75-69-4	Trichlorofluoromethane	52.8	49.4	53.5	**94**	**101**	79-114	7	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	103	100.0	104	**97**	**101**	73-120	4	25	
75-35-4	1,1-Dichloroethene	54.5	49.6	53.8	**91**	**99**	79-109	8	25	
75-09-2	Methylene Chloride	54.2	48.7	52.5	**90**	**97**	78-111	7	25	
76-13-1	Trichlorotrifluoroethane	53.9	50.4	54.7	**94**	**101**	79-116	7	25	
75-15-0	Carbon Disulfide	54.4	48.4	51.8	**89**	**95**	68-108	7	25	
156-60-5	trans-1,2-Dichloroethene	53.5	50.9	54.9	**95**	**103**	79-116	8	25	
75-34-3	1,1-Dichloroethane	53.9	50.3	54.0	**93**	**100**	78-112	7	25	
1634-04-4	Methyl tert-Butyl Ether	53.6	53.6	58.0	**100**	**108**	81-117	8	25	
78-93-3	2-Butanone (MEK)	51.9	51.5	55.9	**99**	**108**	75-115	9	25	
156-59-2	cis-1,2-Dichloroethene	52.7	49.1	52.9	**93**	**100**	79-114	7	25	
110-54-3	n-Hexane	53.9	50.7	54.5	**94**	**101**	75-114	7	25	
67-66-3	Chloroform	54.2	50.3	54.5	**93**	**101**	78-110	8	25	
109-99-9	Tetrahydrofuran (THF)	54.0	49.9	53.2	**92**	**99**	68-116	7	25	
107-06-2	1,2-Dichloroethane	53.7	49.9	53.8	**93**	**100**	74-110	7	25	
71-55-6	1,1,1-Trichloroethane	53.8	53.9	56.9	**100**	**106**	81-113	6	25	
71-43-2	Benzene	52.8	48.1	51.6	**91**	**98**	72-103	7	25	
56-23-5	Carbon Tetrachloride	52.9	53.6	57.1	**101**	**108**	81-122	7	25	
110-82-7	Cyclohexane	104	105	112	**101**	**108**	81-111	7	25	
78-87-5	1,2-Dichloropropane	54.0	54.8	59.1	**101**	**109**	78-117	8	25	
75-27-4	Bromodichloromethane	53.7	55.5	59.2	**103**	**110**	85-119	7	25	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1905003
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P190903-DLCS

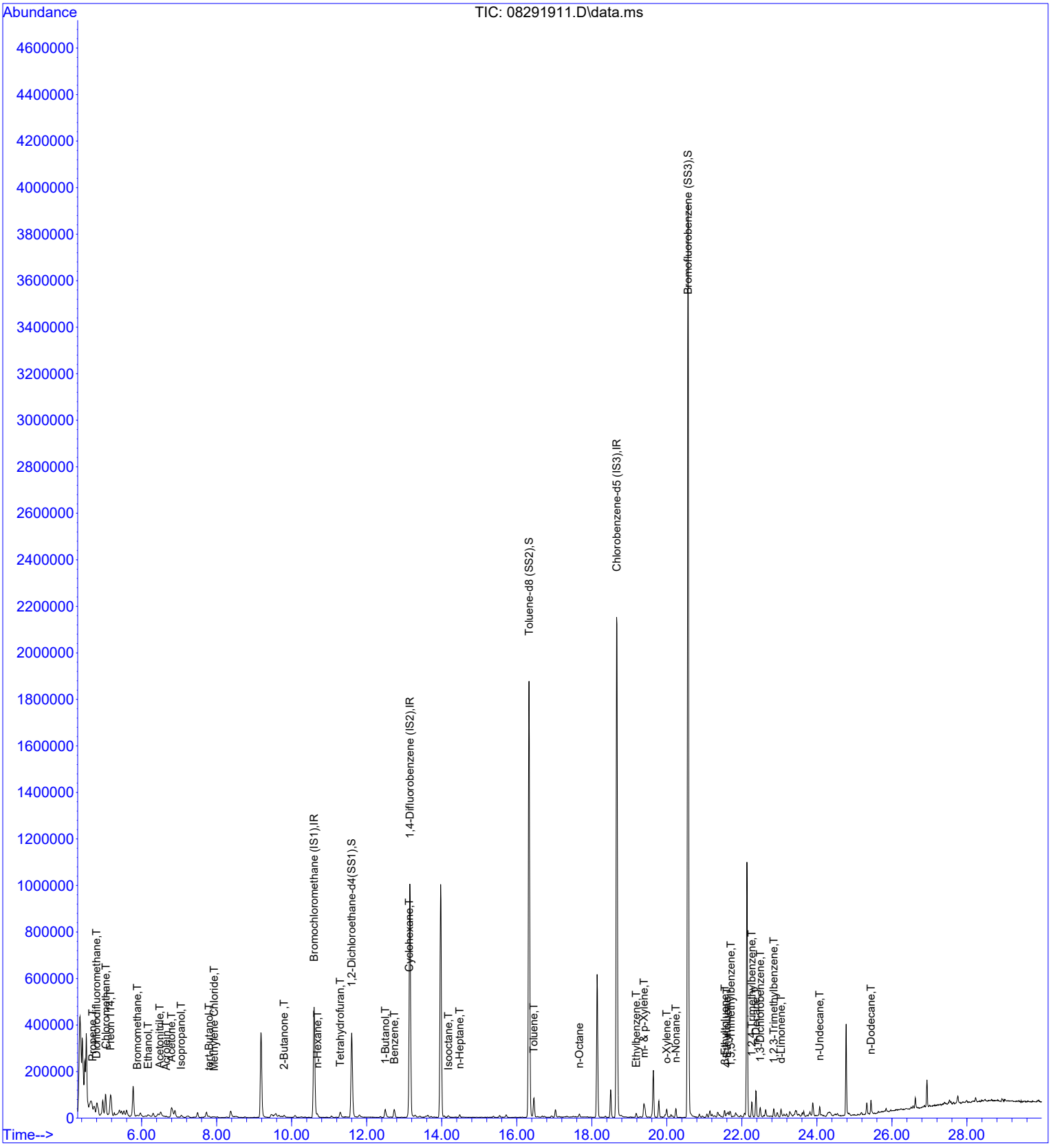
Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Chris Parnell Date Analyzed: 9/03/19
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ng	Result LCS ng	Result DLCS ng	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
79-01-6	Trichloroethene	53.4	55.5	59.0	**104**	**110**	84-118	6	25	
123-91-1	1,4-Dioxane	53.5	54.2	57.5	**101**	**107**	79-114	6	25	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	53.3	51.9	54.8	**97**	**103**	79-116	6	25	
142-82-5	n-Heptane	53.8	53.5	56.7	**99**	**105**	82-114	6	25	
10061-01-5	cis-1,3-Dichloropropene	53.6	56.4	60.4	**105**	**113**	83-120	7	25	
108-10-1	4-Methyl-2-pentanone	52.3	54.8	57.7	**105**	**110**	79-124	5	25	
10061-02-6	trans-1,3-Dichloropropene	53.2	56.4	60.8	**106**	**114**	87-122	7	25	
79-00-5	1,1,2-Trichloroethane	53.7	55.8	58.7	**104**	**109**	83-117	5	25	
108-88-3	Toluene	53.0	51.5	54.5	**97**	**103**	79-111	6	25	
591-78-6	2-Hexanone	53.6	52.9	56.2	**99**	**105**	75-122	6	25	
124-48-1	Dibromochloromethane	53.2	57.3	61.2	**108**	**115**	86-123	6	25	
106-93-4	1,2-Dibromoethane	54.1	57.0	60.1	**105**	**111**	85-118	6	25	
111-65-9	n-Octane	54.3	56.0	57.0	**103**	**105**	76-123	2	25	
127-18-4	Tetrachloroethene	53.2	57.6	58.3	**108**	**110**	84-123	2	25	
108-90-7	Chlorobenzene	53.7	57.0	57.8	**106**	**108**	85-115	2	25	
100-41-4	Ethylbenzene	53.1	55.5	56.3	**105**	**106**	83-116	0.9	25	
179601-23-1	m,p-Xylenes	107	113	115	**106**	**107**	84-120	0.9	25	
75-25-2	Bromoform	53.4	61.3	61.0	**115**	**114**	87-125	0.9	25	
100-42-5	Styrene	53.0	59.6	60.8	**112**	**115**	87-124	3	25	
95-47-6	o-Xylene	53.5	57.0	58.0	**107**	**108**	86-119	0.9	25	
79-34-5	1,1,2,2-Tetrachloroethane	53.6	57.5	58.6	**107**	**109**	82-120	2	25	
98-82-8	Cumene	53.6	57.2	58.3	**107**	**109**	86-120	2	25	
108-67-8	1,3,5-Trimethylbenzene	53.5	58.9	59.5	**110**	**111**	87-121	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	53.8	59.5	60.4	**111**	**112**	86-123	0.9	25	
541-73-1	1,3-Dichlorobenzene	54.0	58.6	59.9	**109**	**111**	89-124	2	25	
106-46-7	1,4-Dichlorobenzene	54.0	58.6	59.0	**109**	**109**	89-123	0	25	
95-50-1	1,2-Dichlorobenzene	53.9	59.2	60.5	**110**	**112**	90-124	2	25	
96-12-8	1,2-Dibromo-3-chloropropane	52.3	63.2	63.9	**121**	**122**	94-133	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	53.6	61.3	62.7	**114**	**117**	90-137	3	25	
91-20-3	Naphthalene	50.8	57.1	59.1	**112**	**116**	87-132	4	25	
87-68-3	Hexachlorobutadiene	52.3	59.6	60.2	**114**	**115**	86-135	0.9	25	

Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291911.D Vial: 42
Acq On : 29 Aug 2019 16:14 Operator: CP
Sample : P1905003-001 Inst : GCMS18
Misc : C300/TO17/TO17 1110272

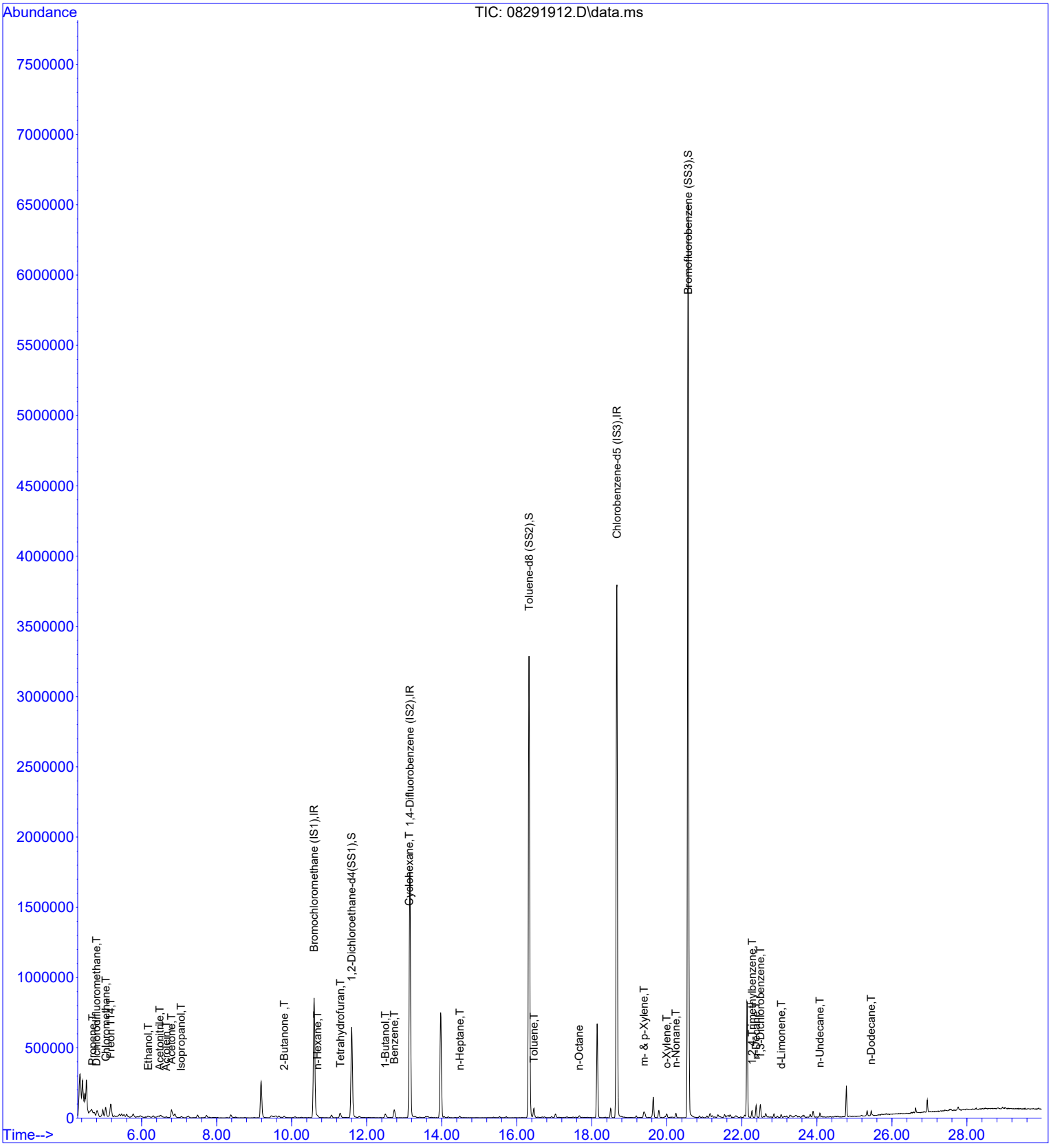
Quant Time: Sep 03 17:04:20 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291912.D Vial: 43
Acq On : 29 Aug 2019 16:51 Operator: CP
Sample : P1905003-002 Inst : GCMS18
Misc : C300/TO17/TO17 1125610

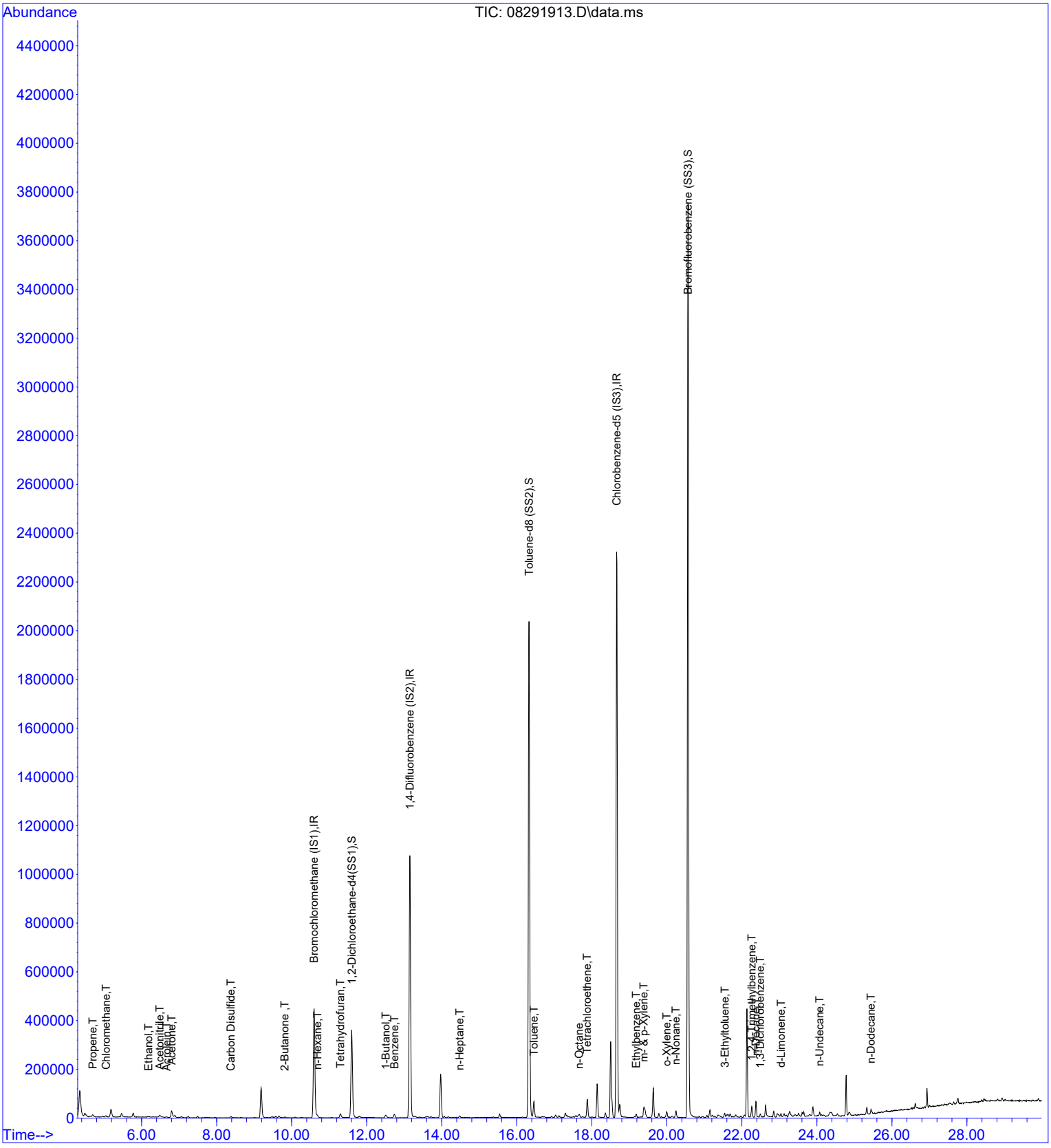
Quant Time: Sep 03 17:05:24 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291913.D Vial: 44
Acq On : 29 Aug 2019 17:45 Operator: CP
Sample : P1905003-003 Inst : GCMS18
Misc : C300/TO17/TO17 1112050

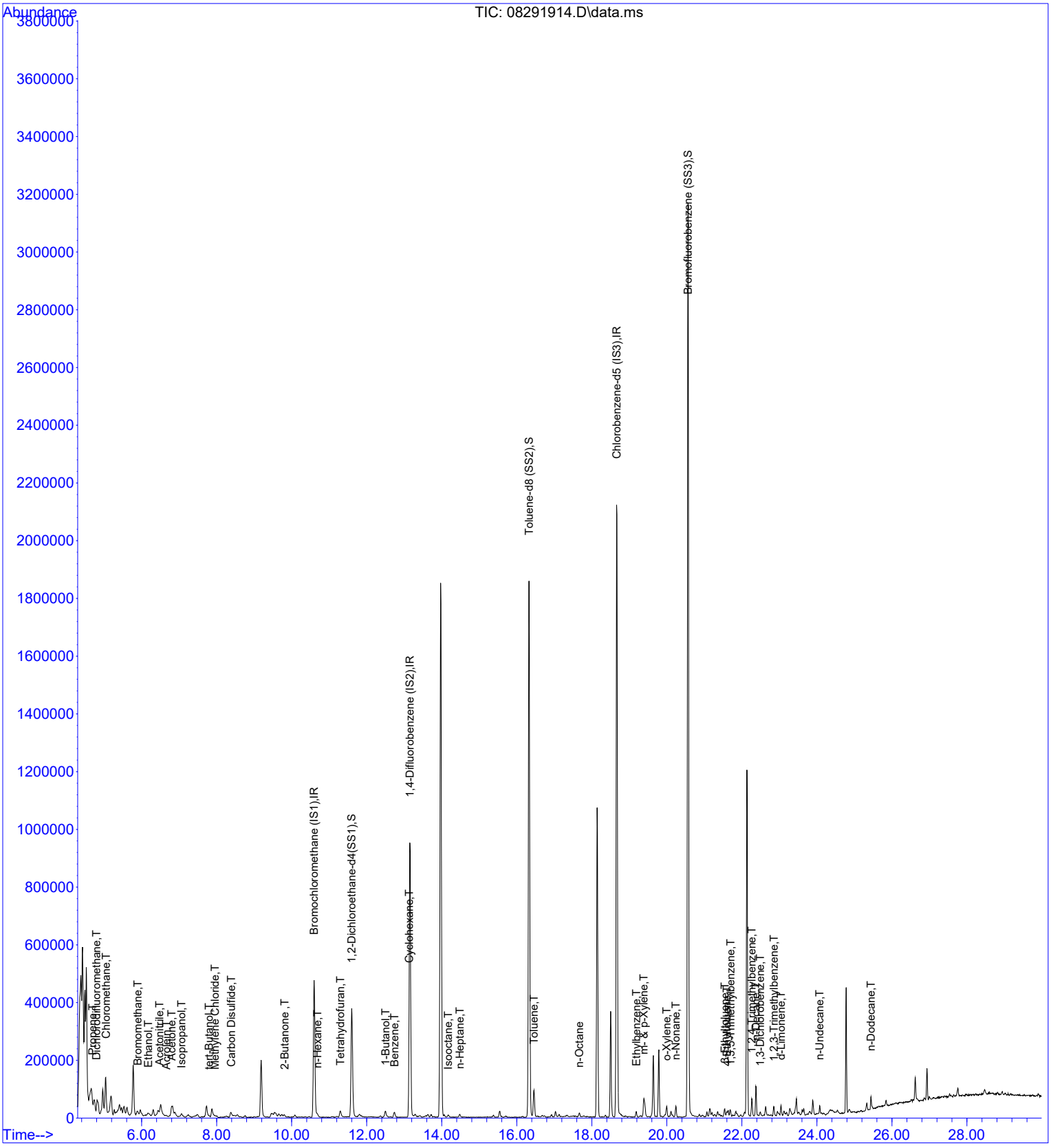
Quant Time: Sep 03 17:06:28 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291914.D Vial: 45
Acq On : 29 Aug 2019 18:23 Operator: CP
Sample : P1905003-004 Inst : GCMS18
Misc : C300/TO17/TO17 1111029

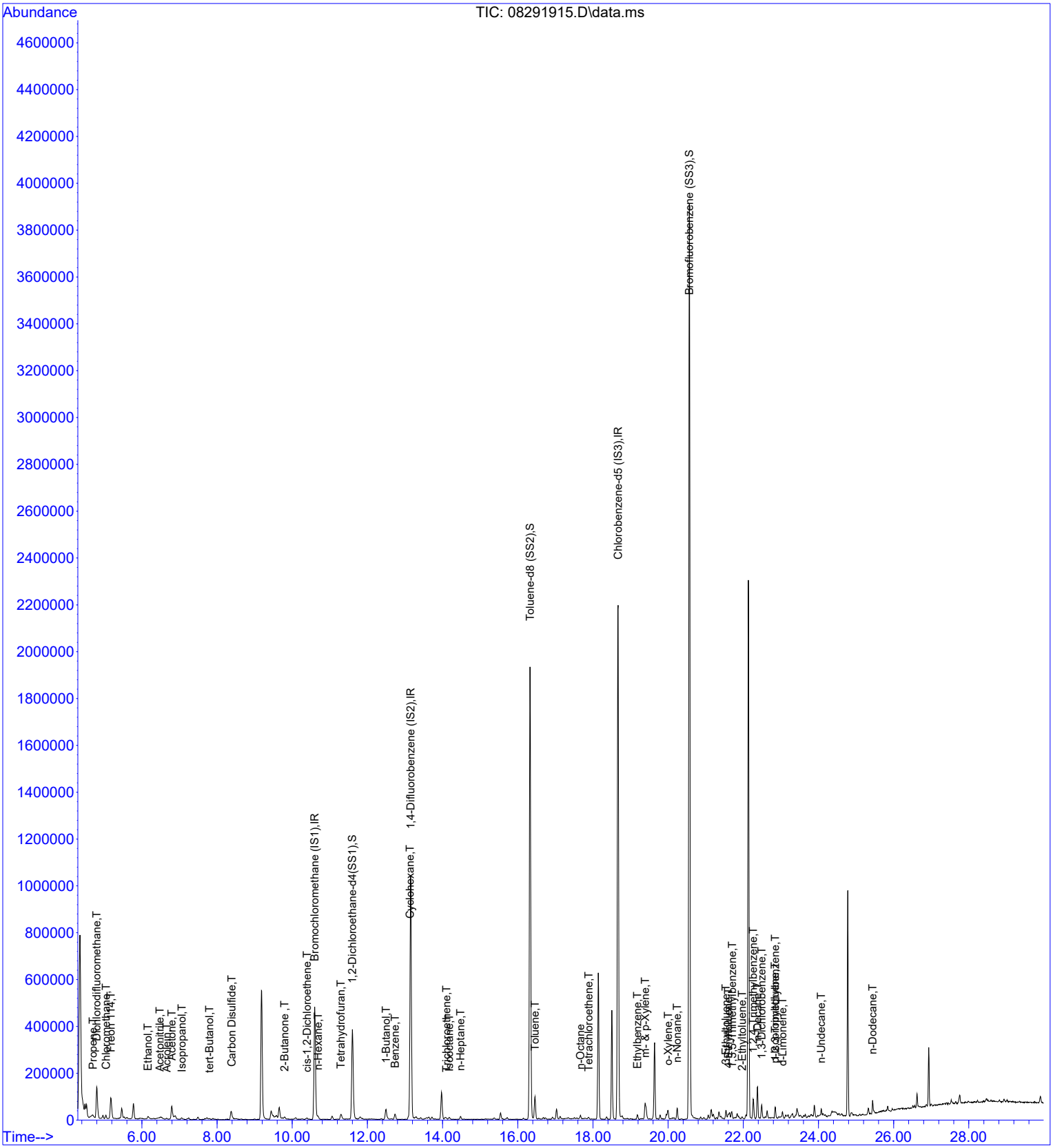
Quant Time: Sep 03 17:07:24 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291915.D Vial: 46
Acq On : 29 Aug 2019 19:02 Operator: CP
Sample : P1905003-005 Inst : GCMS18
Misc : C300/TO17/TO17 1125781

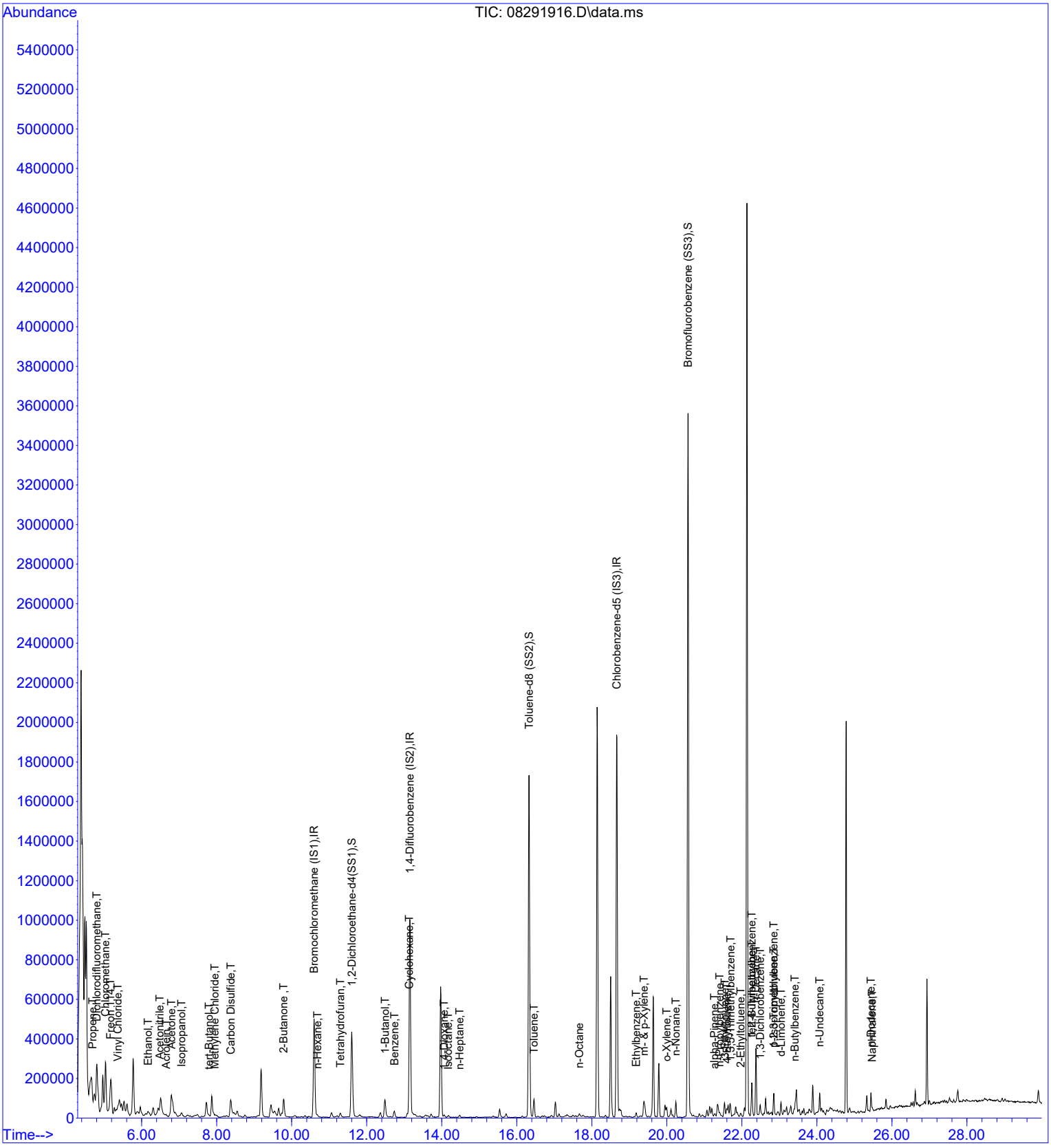
Quant Time: Sep 03 17:08:33 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291916.D Vial: 47
Acq On : 29 Aug 2019 19:40 Operator: CP
Sample : P1905003-006 Inst : GCMS18
Misc : C300/TO17/TO17 1058757

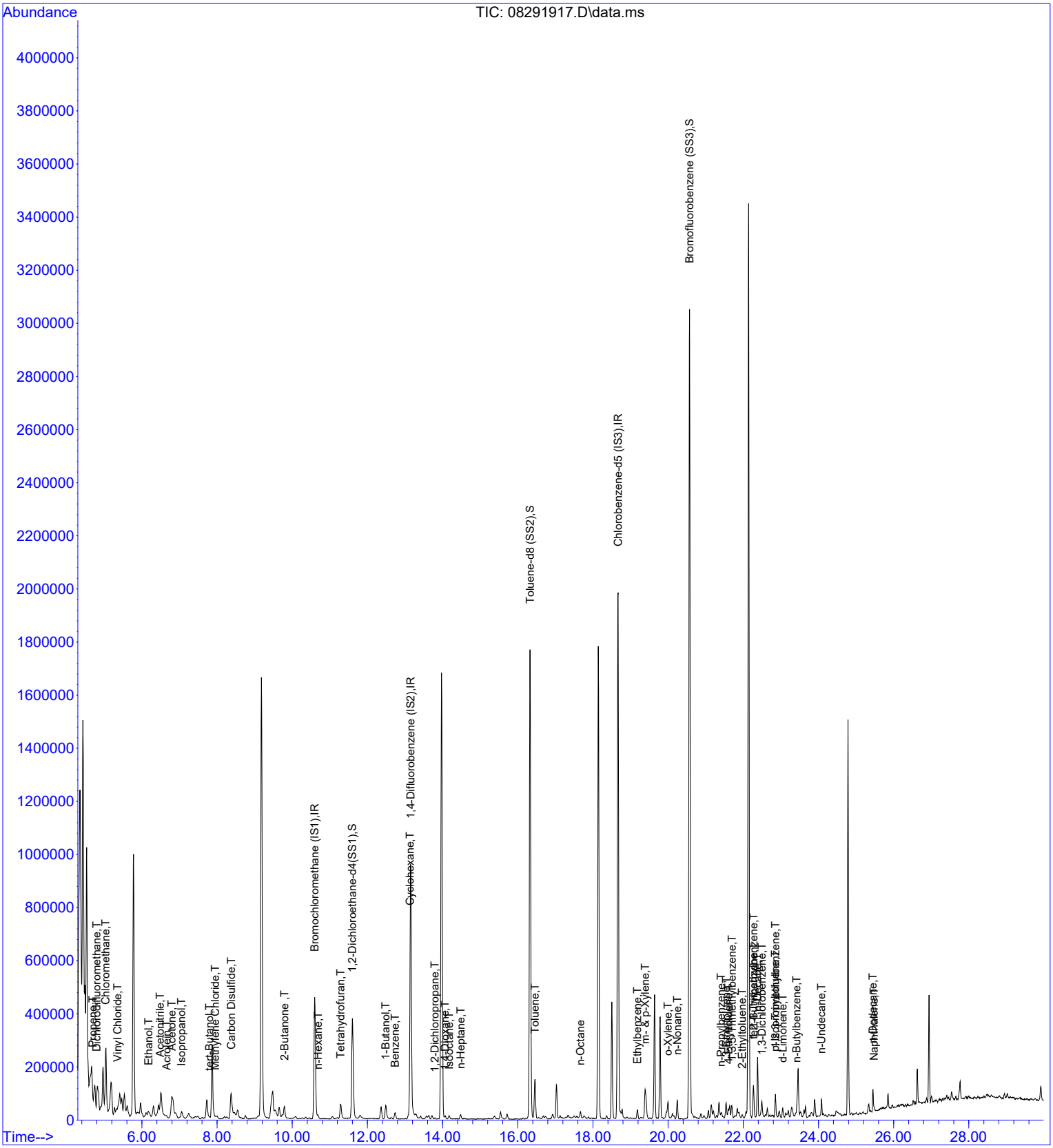
Quant Time: Sep 03 17:09:44 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291917.D Vial: 48
Acq On : 29 Aug 2019 20:19 Operator: CP
Sample : P1905003-007 Inst : GCMS18
Misc : C300/TO17/TO17 1064300

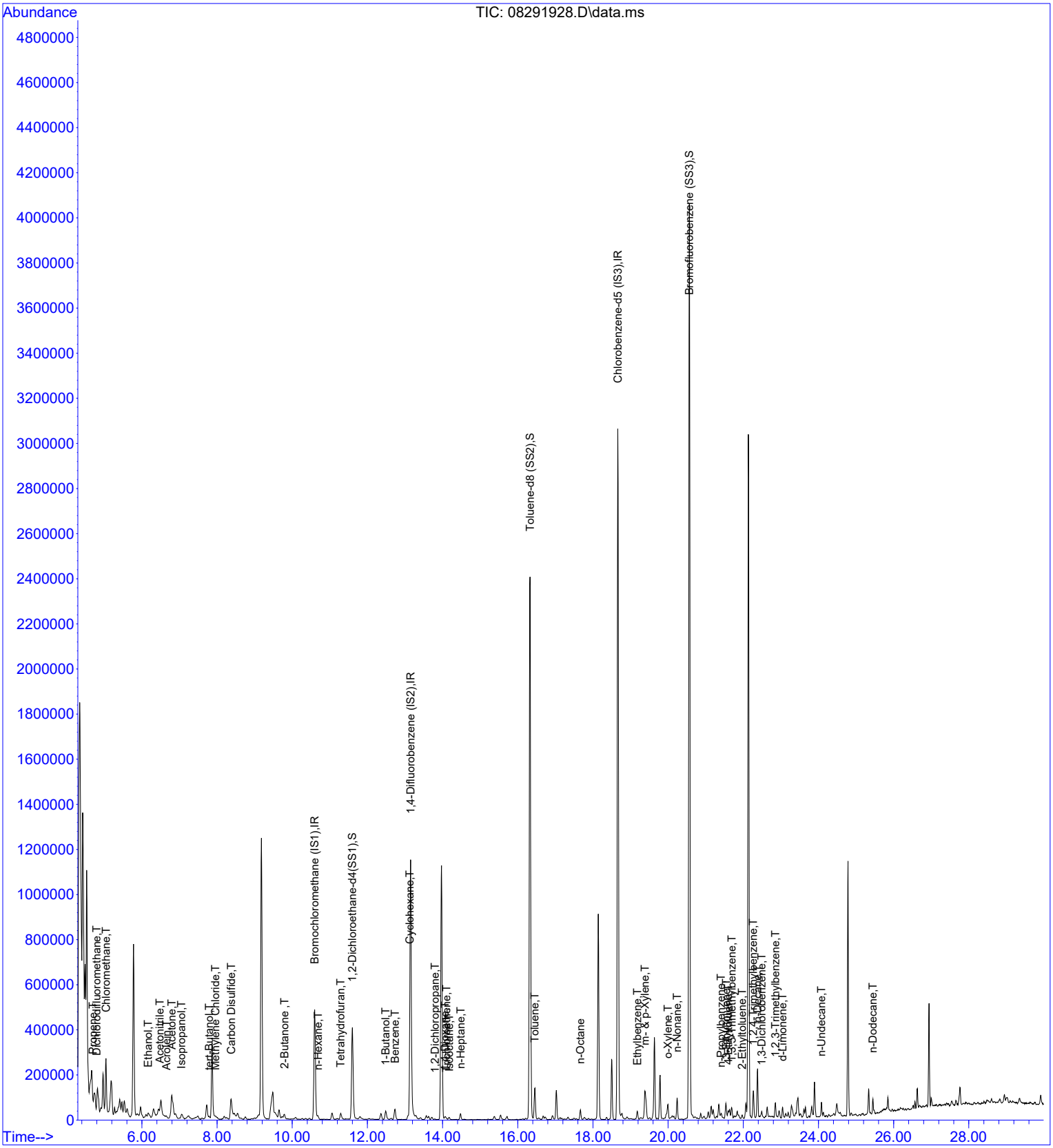
Quant Time: Sep 03 17:10:56 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291928.D Vial: 49
Acq On : 30 Aug 2019 7:13 Operator: CP
Sample : P1905003-008 Inst : GCMS18
Misc : C300/TO17/TO17 1124802

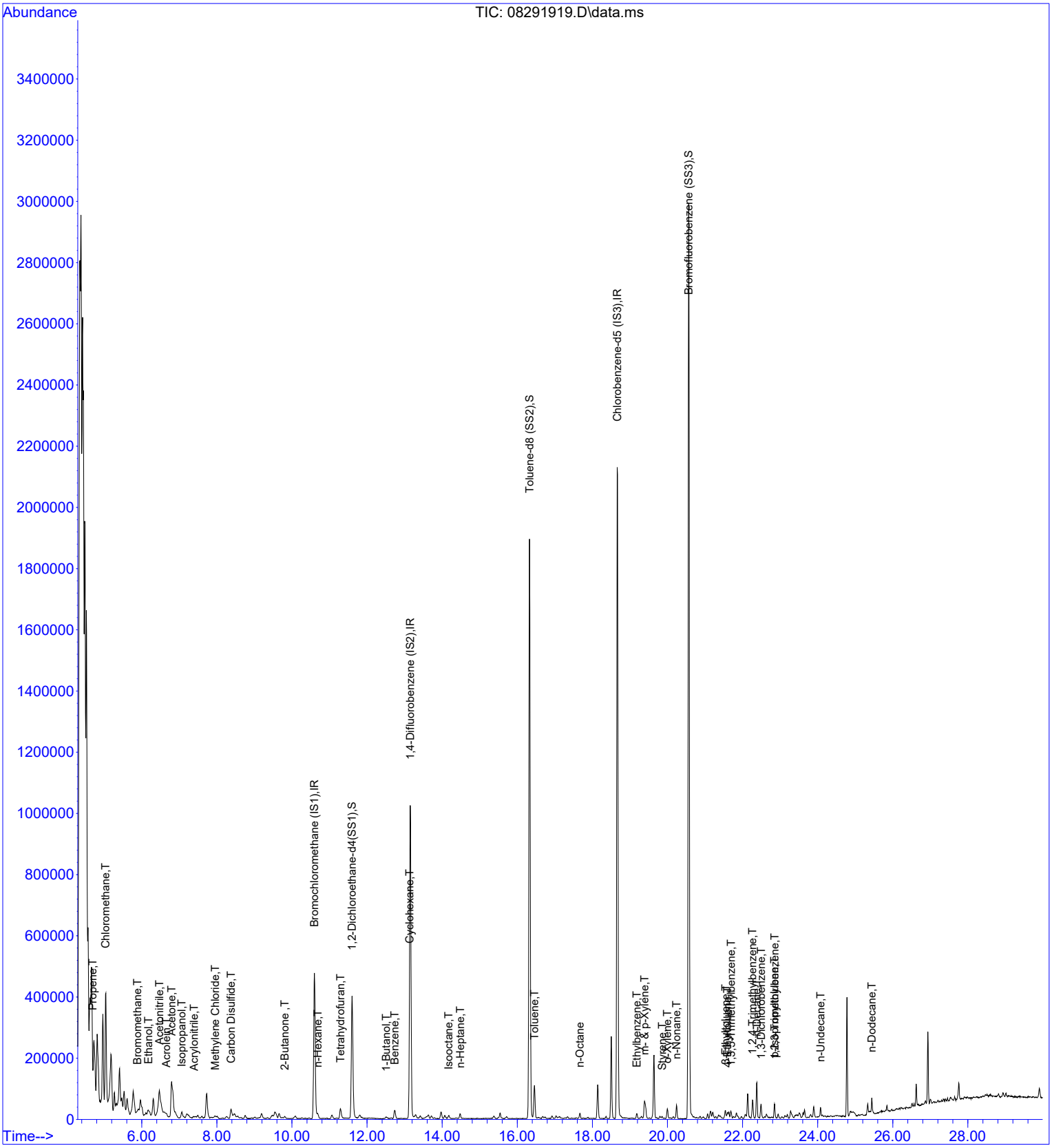
Quant Time: Sep 03 17:25:55 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291919.D Vial: 50
Acq On : 29 Aug 2019 21:34 Operator: CP
Sample : P1905003-009 Inst : GCMS18
Misc : C300/TO17/TO17 1124915

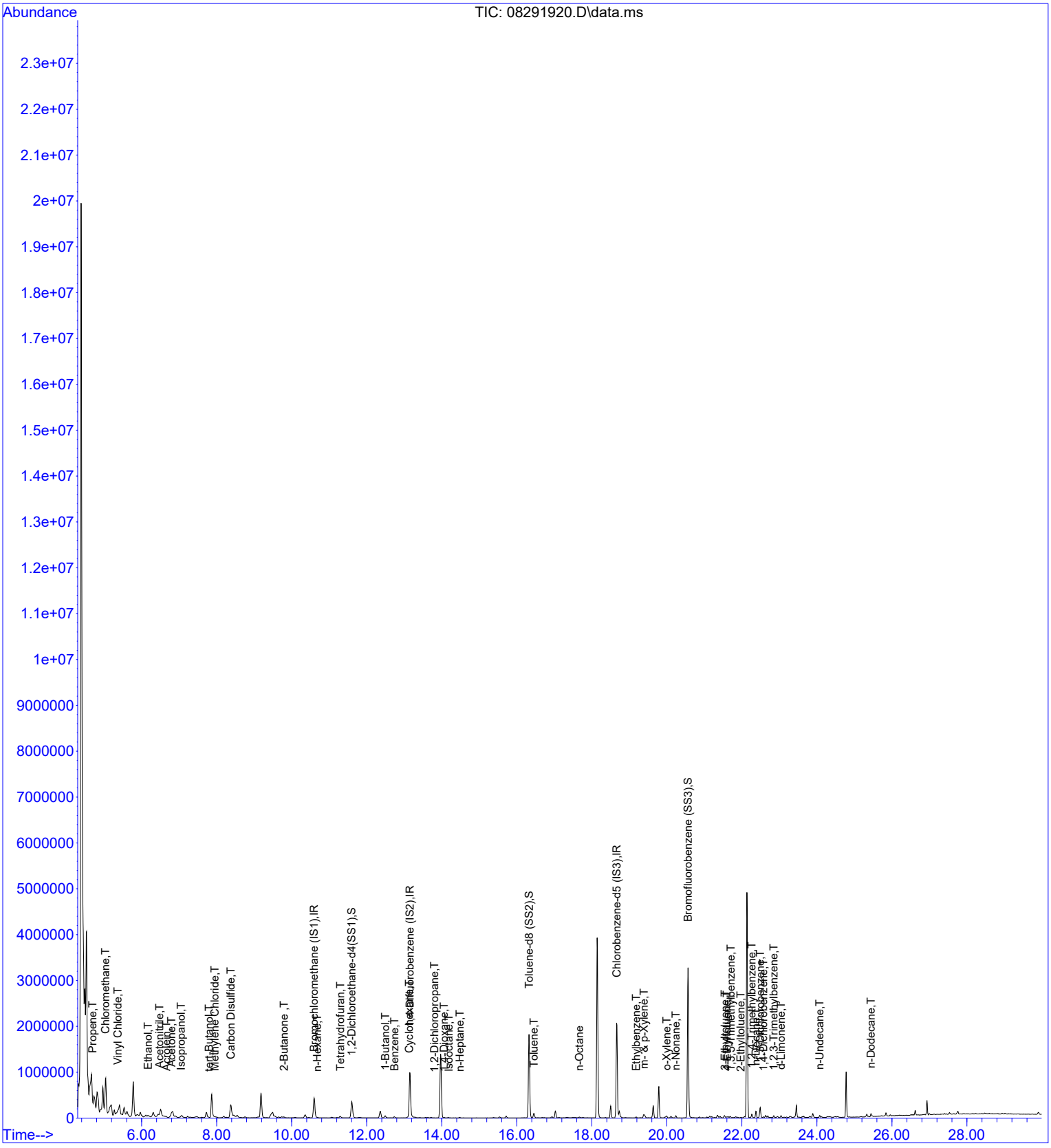
Quant Time: Sep 03 17:12:05 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291920.D Vial: 51
Acq On : 29 Aug 2019 22:13 Operator: CP
Sample : P1905003-010 Inst : GCMS18
Misc : C300/TO17/TO17 1110279

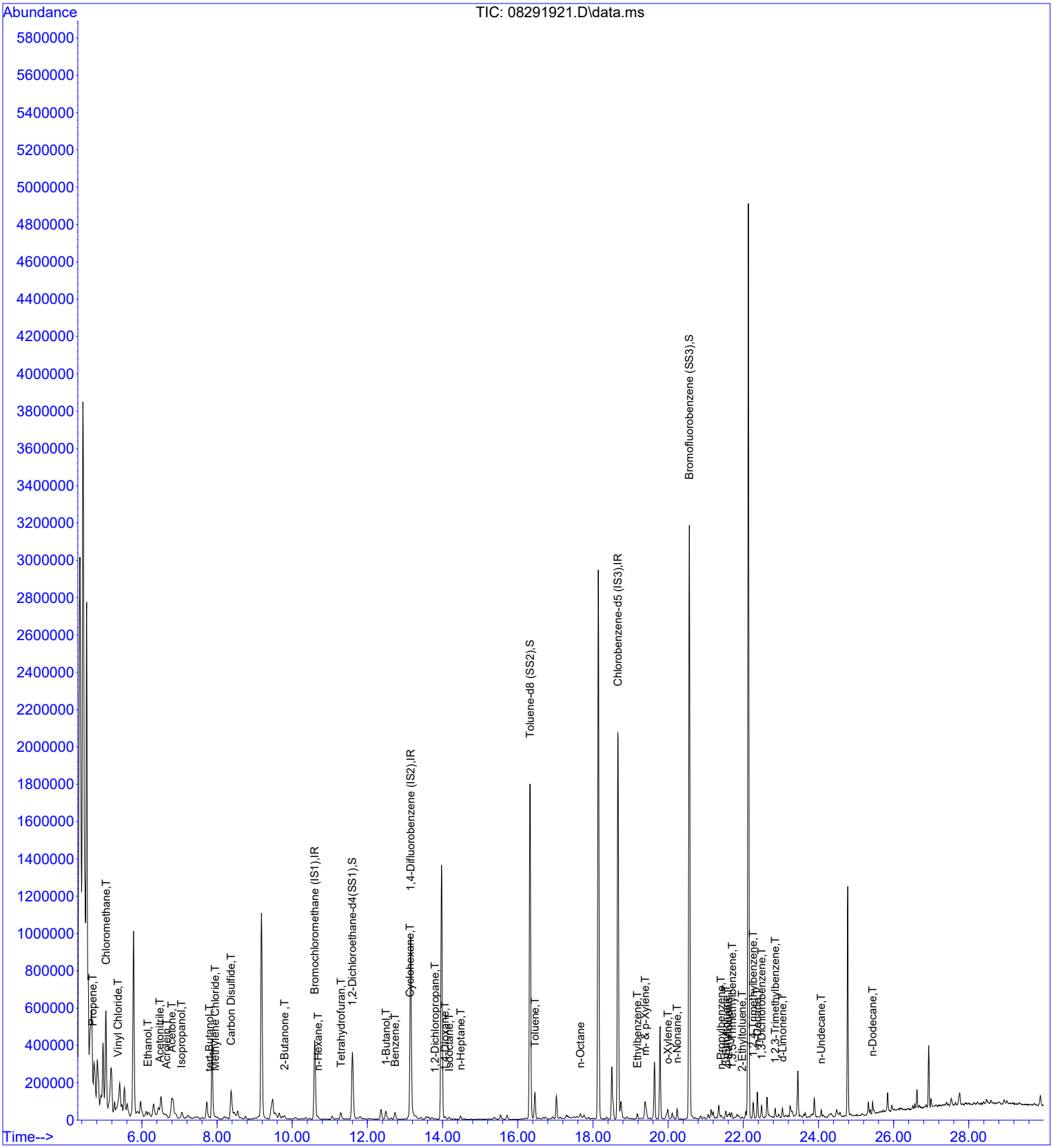
Quant Time: Sep 03 17:13:44 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291921.D Vial: 52
Acq On : 29 Aug 2019 22:51 Operator: CP
Sample : P1905003-011 Inst : GCMS18
Misc : C300/TO17/TO17 1134972

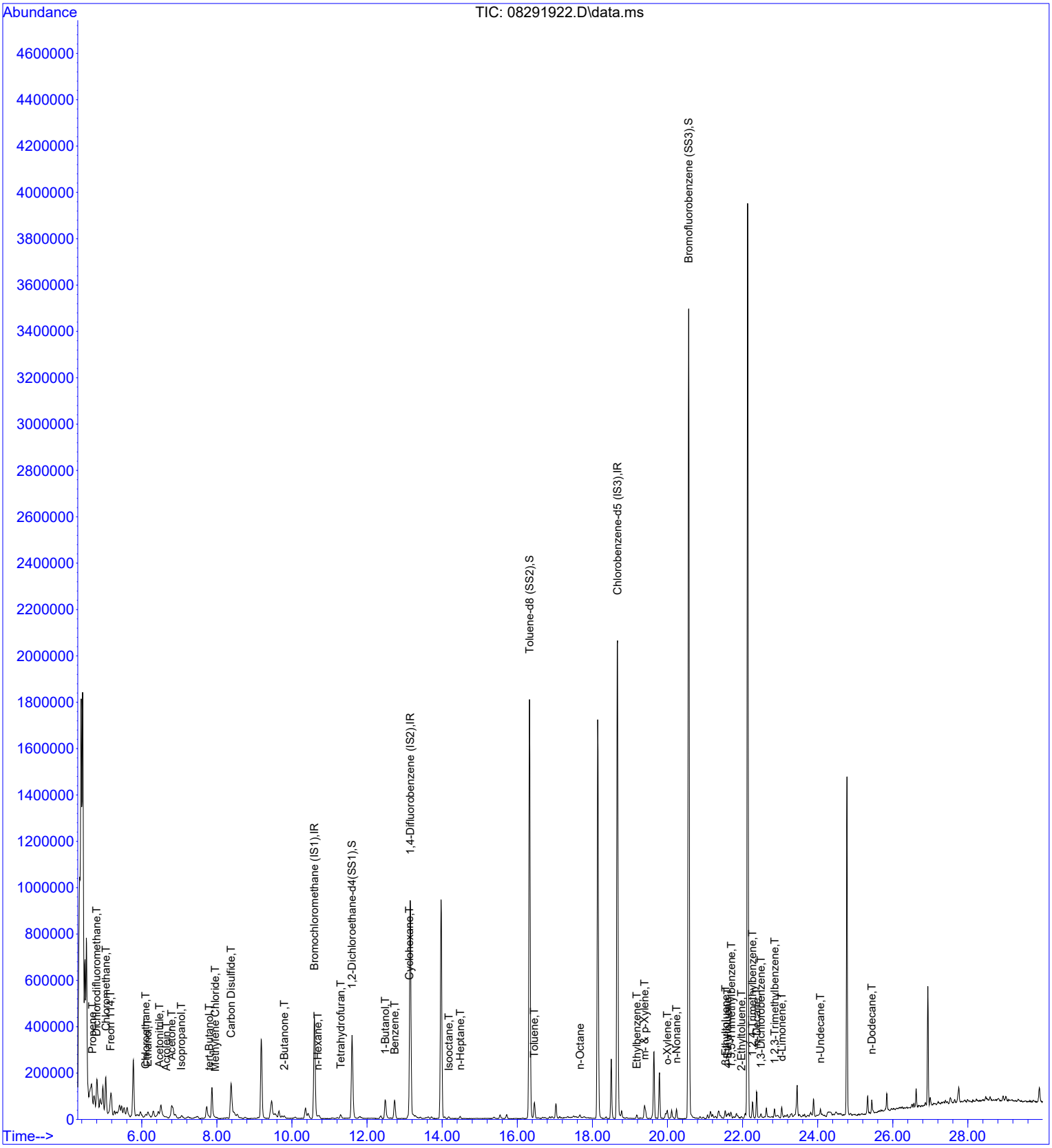
Quant Time: Sep 03 17:15:13 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291922.D Vial: 53
Acq On : 29 Aug 2019 23:29 Operator: CP
Sample : P1905003-012 Inst : GCMS18
Misc : C300/TO17/TO17 1101033

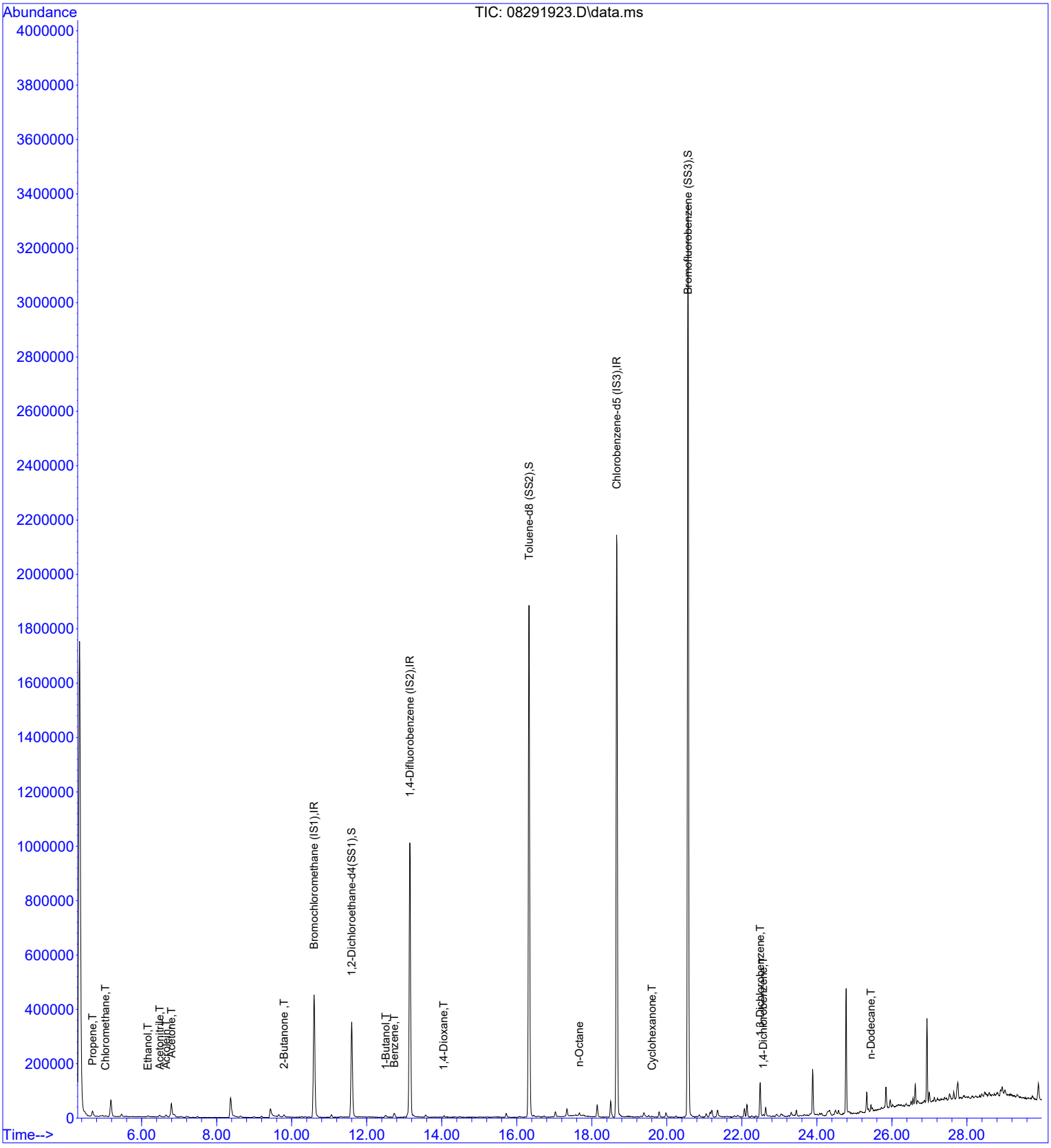
Quant Time: Sep 03 17:16:22 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291923.D Vial: 54
Acq On : 30 Aug 2019 00:08 Operator: CP
Sample : P1905003-013 Inst : GCMS18
Misc : C300/TO17/TO17 1134147

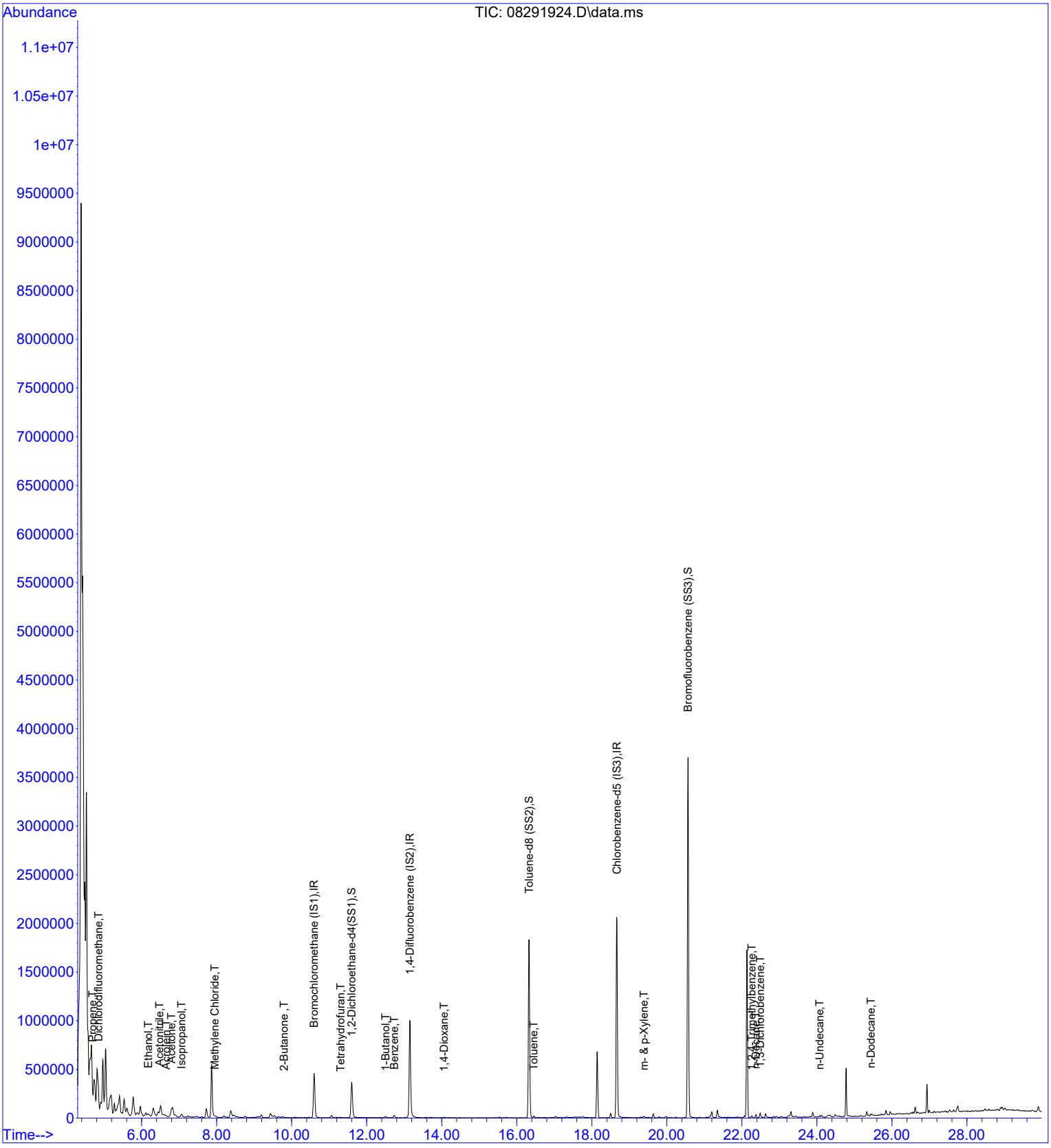
Quant Time: Sep 03 17:17:17 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291924.D Vial: 55
Acq On : 30 Aug 2019 00:46 Operator: CP
Sample : P1905003-014 Inst : GCMS18
Misc : C300/TO17/TO17 1134326

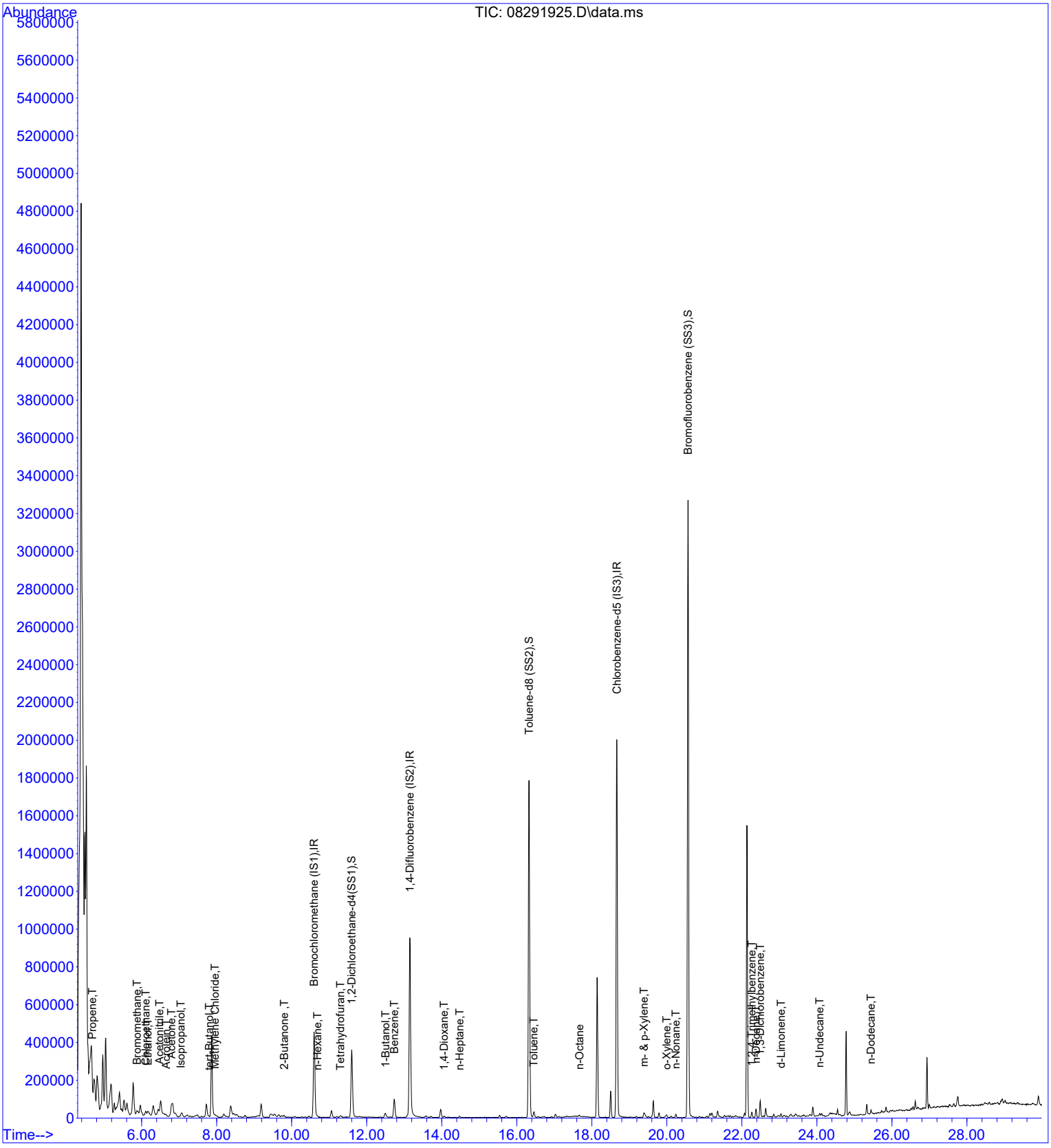
Quant Time: Sep 03 17:18:21 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291925.D Vial: 56
Acq On : 30 Aug 2019 1:24 Operator: CP
Sample : P1905003-015 Inst : GCMS18
Misc : C300/TO17/TO17 1110325

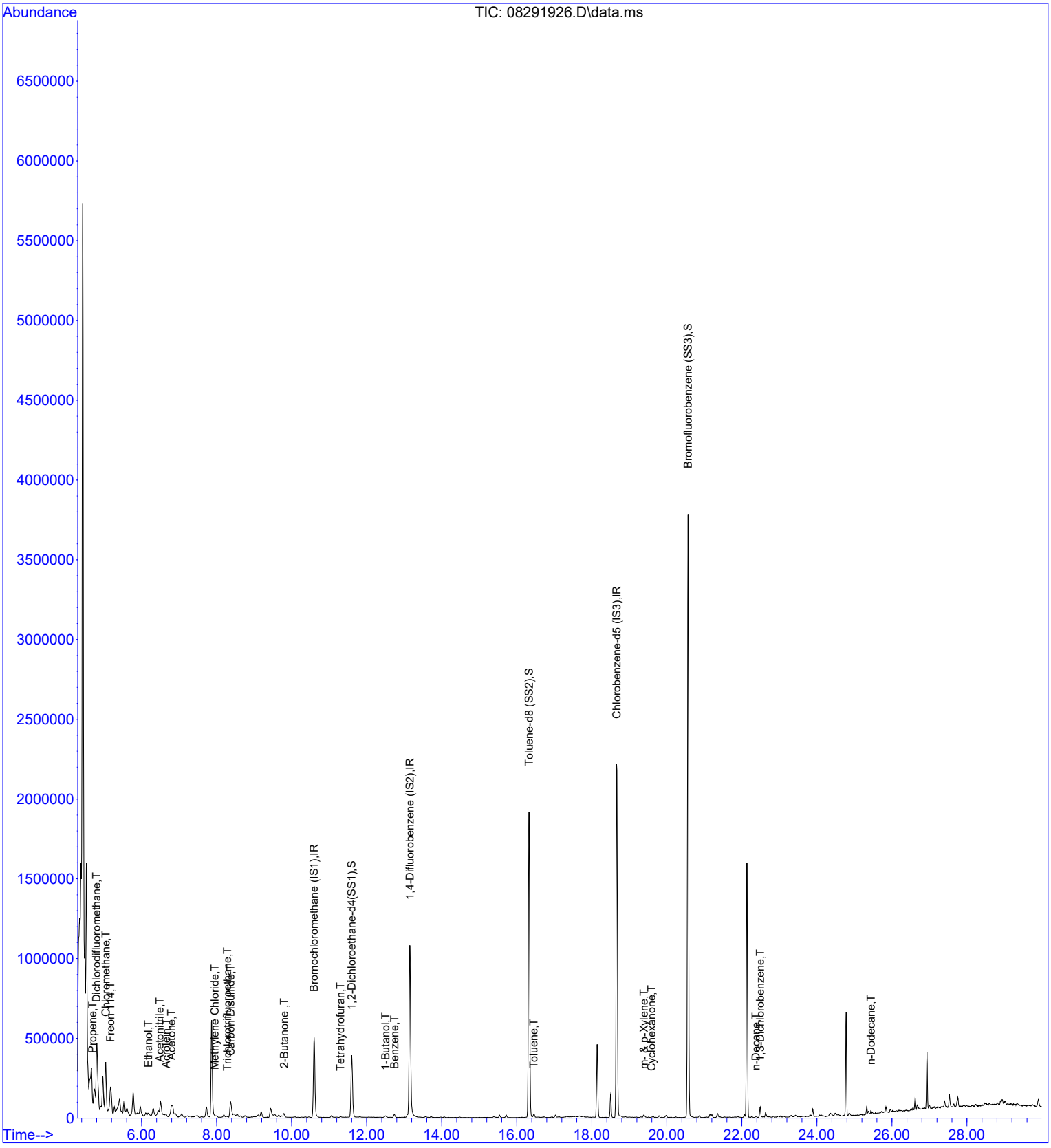
Quant Time: Sep 03 17:20:28 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291926.D Vial: 57
Acq On : 30 Aug 2019 2:03 Operator: CP
Sample : P1905003-016 Inst : GCMS18
Misc : C300/TO17/TO17 1064773

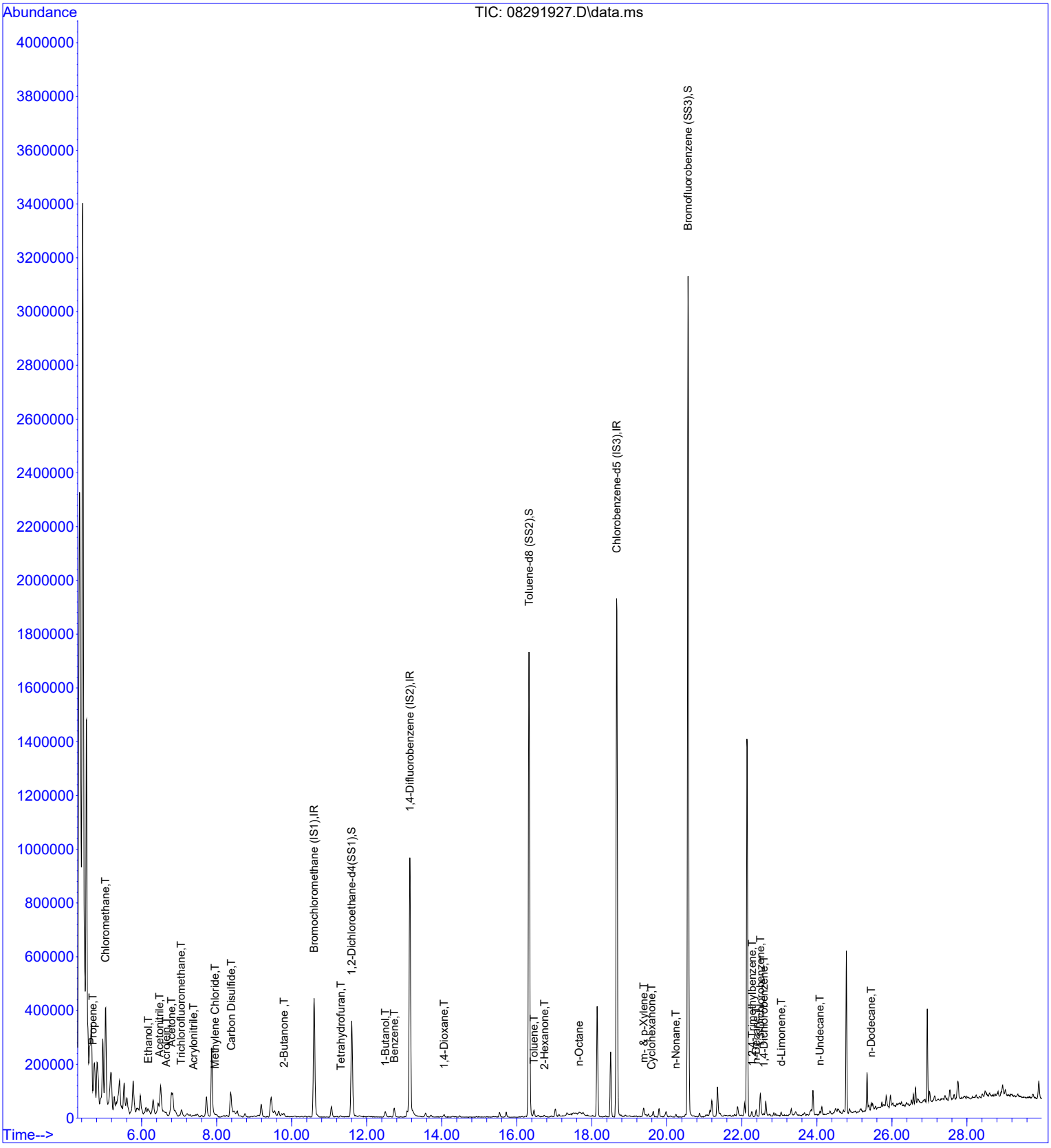
Quant Time: Sep 03 17:22:29 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291927.D Vial: 58
Acq On : 30 Aug 2019 2:41 Operator: CP
Sample : P1905003-017 Inst : GCMS18
Misc : C300/TO17/TO17 1064411

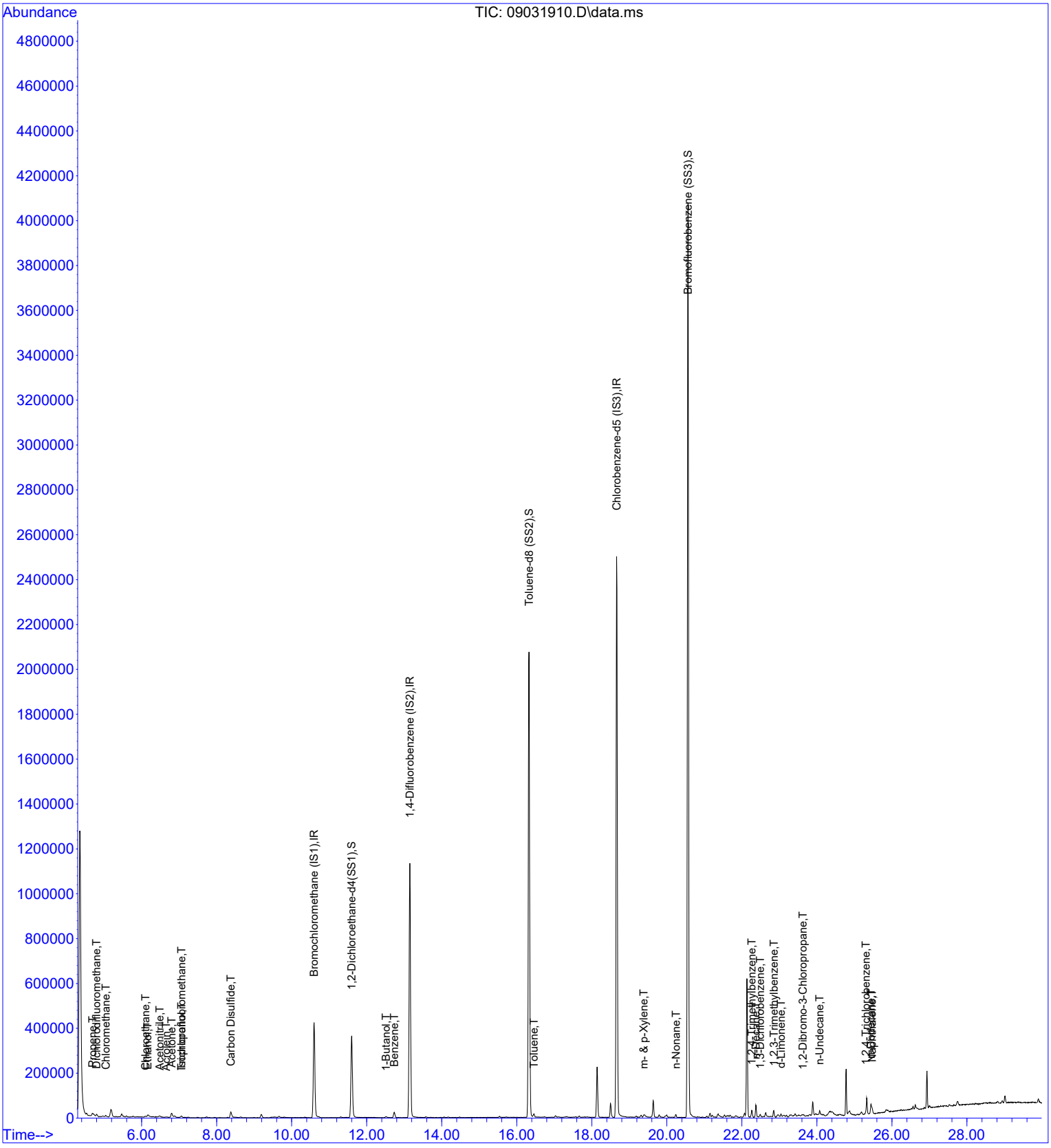
Quant Time: Sep 03 17:24:17 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 09\03\09031910.D Vial: 56
Acq On : 3 Sep 2019 15:31 Operator: CP
Sample : P1905003-018 Inst : GCMS18
Misc : C300/TO17/TO17 1064682

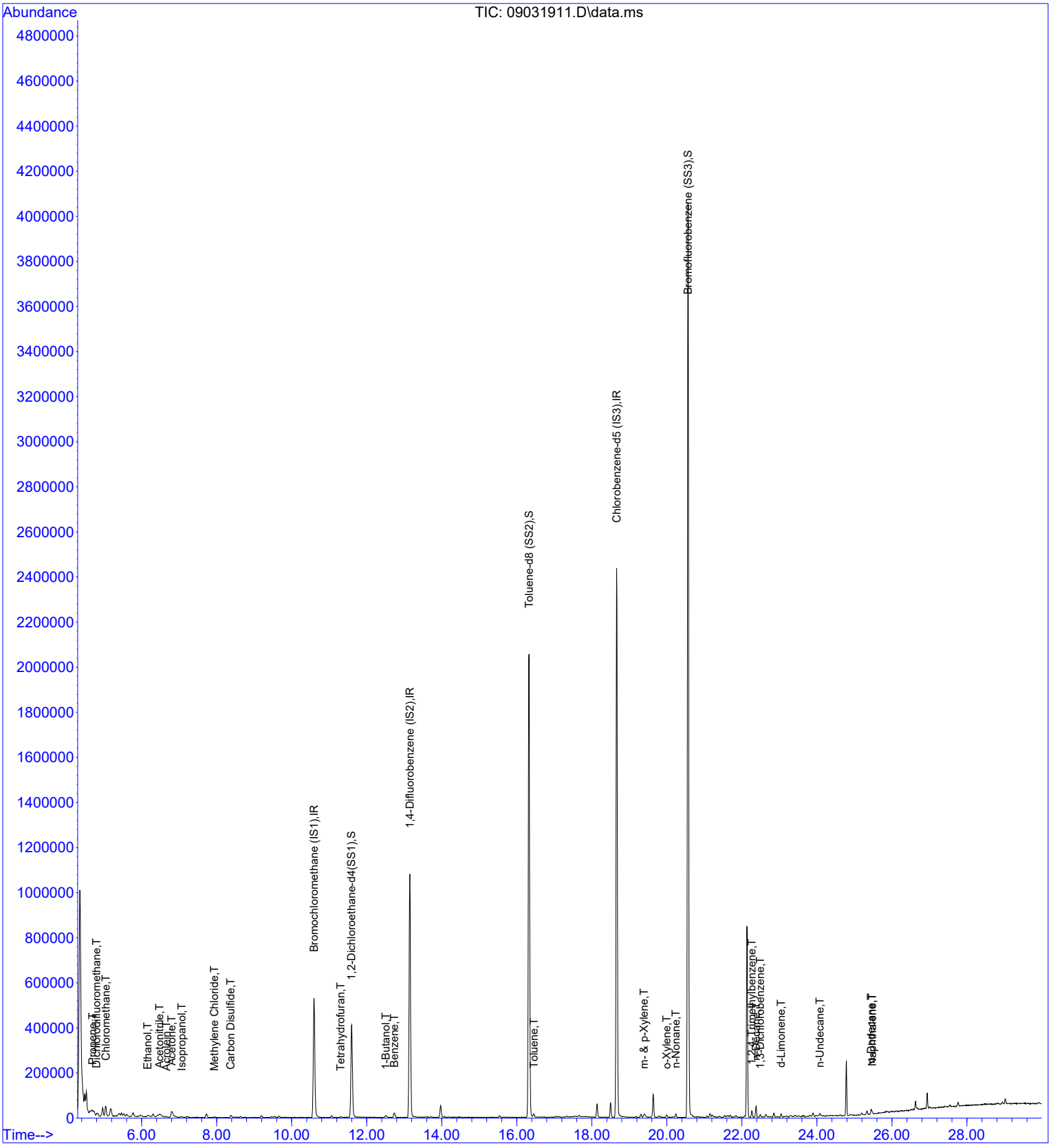
Quant Time: Sep 04 08:19:23 2019
Quant Method : I:\MS18\METHODS\F18083019.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Sat Aug 31 08:17:33 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 09\03\09031911.D Vial: 57
Acq On : 3 Sep 2019 16:07 Operator: CP
Sample : P1905003-019 Inst : GCMS18
Misc : C300/TO17/TO17 1060860

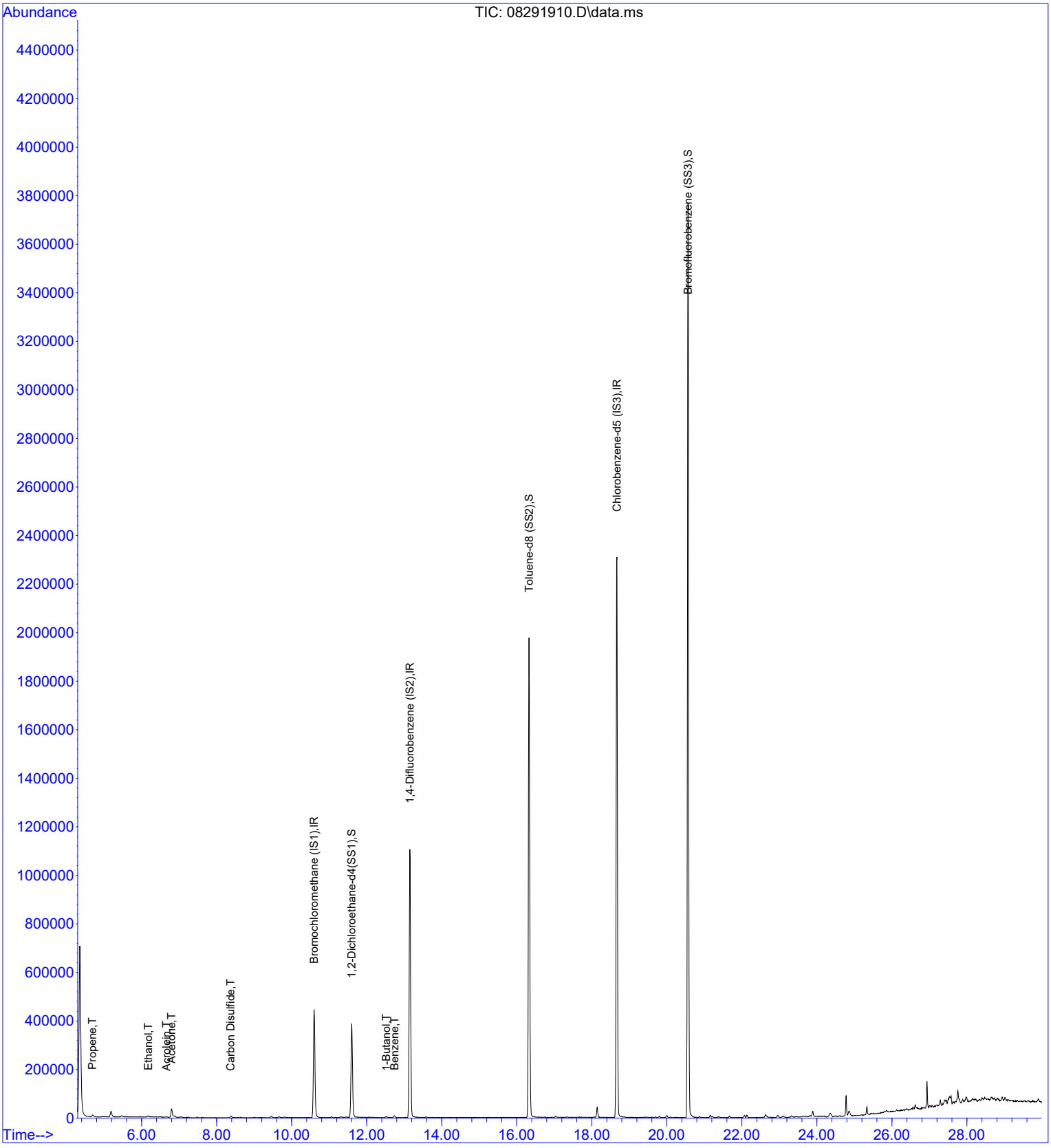
Quant Time: Sep 04 08:20:18 2019
Quant Method : I:\MS18\METHODS\F18083019.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Sat Aug 31 08:17:33 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



Quantitation Report (QT Reviewed)

Data File : I:\MS18\DATA\2019 08\29\08291910.D Vial: 41
Acq On : 29 Aug 2019 15:35 Operator: CP
Sample : P1905003-020 Inst : GCMS18
Misc : C300/TO17/TO17 1064753

Quant Time: Sep 03 17:02:58 2019
Quant Method : I:\MS18\METHODS\F18062519.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 26 13:31:59 2019
Response via : Initial Calibration
DataAcq Meth:TO17.M



APPENDIX B

Photograph Examples

Photograph 1: High-flow purge sample train set up at GP-56.

Photograph 2: Aspect staff monitor methane readings during the purge of GP-64B/C.

Photograph 3: Aspect staff monitor methane readings during the purge of GP-20A/C.

Photograph 4: Aspect field staff collecting a sample from GP-16A/C.

APPENDIX C

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with Contract No. E00102E08 (Agreement) and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the Site. The report is not intended to make any representation concerning title or ownership to the Site. If real property records were reviewed, they were reviewed for the sole purpose of determining the Site's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the Site, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and Site. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the Site, project or governmental regulatory actions

If changes are made to the project or Site after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the Site.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the Site in quantities or under conditions that may have led, or may lead, to contamination of the Site, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time =, by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the Site or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.