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 – Baseline, First Round Soil Gas Sampling Technical Memorandum

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King County
Department of
Natural Resources and Parks
Solid Waste Division

Waste **Prevention** | *Resource* **Recovery** | *Waste* **Disposal**

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Final, May 30, 2019

CEDAR HILLS REGIONAL LANDFILL – EPZ PHASE I INTERIM ACTIONS – BASELINE, FIRST ROUND SOIL GAS SAMPLING TECHNICAL MEMORANDUM

Project No. 130088 • May 30, 2019 • FINAL

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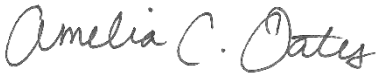

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1.0 INTRODUCTION

Aspect Consulting, LLC (Aspect) prepared this Technical Memorandum (Tech Memo) under King County Contract No. E00286E12 to summarize the results from the July 2018 baseline soil gas sampling at select 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 (Figure 1). Baseline soil gas sampling activities described in this Tech Memo included sampling six new compliance gas probes installed during the Phase I Infrastructure Upgrades (Aspect, 2018) and sampling select existing EPZ gas probes and monitoring wells originally evaluated for soil gas during the CHRLF EPZ Remedial Investigation (Aspect, 2016). The baseline soil gas sampling activities included the following scope of work:

- 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.
- Soil gas sampling fieldwork, including measuring water levels (Table 1), screening for LFG (methane, carbon dioxide and oxygen) levels using a GEM 2000 multi-gas meter (Table 2 and Figure 1), purging, and sampling at 20 sampling locations (Tables 3 and 4 and Figure 2). Sampling locations include:
    - Six new compliance gas probes installed near Passage Point: GP-63A, GP-63B, GP-63C, GP-64A, GP-64B, GP-64C
    - Seven shallow sampling locations including gas probes: GP-16A, GP-18A, GP-19A, GP-20A, GP-56, GP-60, GP-62
    - Seven deep sampling locations including gas probes and monitoring wells: GP-8, GP-16C, GP-18C, GP-19C, GP-20C, EB-6D, MW-102 (Figure 2)

  Soil gas samples were analyzed 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 a technical memorandum.

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 and placed it on plastic next to the well for subsequent reinstallation. Upon removal of the dedicated pump at EB-6D, a representative from Aspect installed specialized soil gas sampling well caps on July 17, 2018 on EB-6D and MW-102, to allow for and air-tight seal and equilibration of gases inside the wells prior to sampling. The monitoring wells equilibrated for eight days prior to sampling. The specialized friction fitting well caps contain ports suitable for purging and sampling soil gas from the wells.

3.0 SOIL GAS SAMPLING FIELD WORK

Soil gas sampling activities were performed on July 25 and 26, 2018, in general accordance with Ecology's guidance (Ecology, 2018). The barometric pressure during the sampling days was 30.16 inches of mercury and 30.13 inches of mercury, respectively and was falling for four days prior to the sampling event.

Water level was measured prior to sampling at each well or gas probe location to calculate the unsaturated length of screen to ensure adequate screen length was exposed for soil gas collection. Some of the gas probes were not accessible 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: MW-102, GP-60, GP-63A, GP-64A, and GP-64B. During water level and depth to bottom measurements, it was discovered that GP-64A and GP-64B were mislabeled in the field. Table 1 presents a summary of the water measurements. Using well or gas probe construction as-builts, the amount of unsaturated screen (i.e., the amount of screen that was above the top of the water level) for each well or gas probe containing water was calculated to evaluate if soil gas samples could be collected. There was adequate unsaturated screen exposed in MW-102 (10.88 feet), GP-60 (5.63 feet), GP-63A (1.85 feet), and GP-64B (1.04 feet). The screen in GP-64A was nearly completely submerged (less than 0.12 feet of screen was unsaturated) and was not sampled during this event.

3.1 Sampling Methods

In total, nineteen 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 shut-in test on each manifold and tighten connections as necessary to decrease likelihood of leaks. Calibrate GEM-2000 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 2000 for monitoring landfill gas (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 2000 to the wellhead manifold. During purging, record methane, carbon dioxide, and oxygen concentrations measured by the GEM 2000 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 2000. The purge rate is regulated by the 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 GEM2000 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 purge rate.
9. Set pump flow rate to 100 mL/min and sample for 4 minutes. Sorbent tube sample volume required by the analytical laboratory is 400 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 gas probes are included as Appendix B.

4.0 ANALYTICAL RESULTS

During purging of each well or gas probe location, methane levels were monitored and are summarized in Table 2. Detections of methane were observed in GP-63A, GP-63B, GP-63C, and GP-64C, at concentrations below five percent by volume, which is the methane LEL and Ecology and Seattle King County Public Health regulatory limit for methane detections at and beyond the landfill property boundary.

Tables 3 and 4 present the results of detected VOCs in each shallow and deep sampling location, respectively. Detected VOCs were compared to MTCA Method B screening levels for shallow soil gas. Within the shallow screened locations (screened between 5 and 15 feet below ground surface [bgs]), the following VOCs were detected at concentrations greater than shallow soil gas screening levels:

- Benzene - detected in GP-60 at a concentration of 11 $\mu g/m^3$, which is greater than the screening level of 10.7 $\mu g/m^3$.

- Naphthalene - detected at estimated concentrations of 13 $\mu g/m^3$ and 6.1 $\mu g/m^3$, at GP-16A and GP-60, respectively. The values are greater than the screening level of 2.45 $\mu g/m^3$. The naphthalene results for GP-16A and GP-60 were "J" qualified by the laboratory as estimated values because naphthalene was also detected in the method blank above the reporting limit.

Within the deep screened gas probes (screened between 15 and 179 feet bgs), 1,3-butadiene was the only VOC detected at a concentration greater than its deep soil gas MTCA Method B screening level. As indicated on Table 4, 1,3-butadiene was detected in GP-64B at a concentration of 15 µg/m^3, which exceeds the screening level of 8.33 µg/m^3.Several other VOCs were detected in deep gas probes, but at concentrations below the screening levels (Table 4).

5.0 FUTURE WORK

Three additional soil gas sampling events will be conducted to evaluate the effectiveness of optimizing the LFG system in controlling migration of LFG within the EPZ area. LFG optimization activities are anticipated to be completed in early fourth quarter of 2018. The additional soil gas sampling events will occur quarterly for one year, and brief Tech Memorandums will be completed after each event.

6.0 REFERENCES

Aspect Consulting, LLC (Aspect), 2016, East Perched Zones Remedial Investigation and Feasibility Study – Cedar Hills Regional Landfill, December 2016, Agency Review Draft.

Aspect Consulting, LLC (Aspect), 2018, Cedar Hills Regional Landfill – EPZ Infrastructure Upgrades Work Plan, May 2018.

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.S

TABLES

Table 1 - Gas Probe Construction Information and Water Levels

Project No. 130088, Cedar Hills Regional Landfill
Maple Valley, 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	629.8	8	6.5	8	6.5 - 8	Not accessible because of probe construction	NA	
GP-16C	0.5	1.29	629.76	60	58.5	60	58.5 - 60	Not accessible because of probe construction	NA	
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	547.3	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	496.6	8	6.5	8	6.5 - 8	Not accessible because of probe construction	NA	
GP-20C	0.5	1.55	496.6	88	86.5	88	86.5 - 88	Not accessible because of probe construction	NA	
GP-56	1	2.5	643.57	16	6	16	6 - 16	Not accessible because of probe construction	NA	
GP-60	1	4.12	635.84	18	8	18	8 - 18	17.75	5.63	
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	11.31	1.85	
GP-63B	0.5	2.98	636.95	37	32	37	31 - 38	Dry	5	
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	9.75	0.12	No sample collected- screen nearly submerged.
GP-64B	0.5	2.80	632.16	25	20	25	19 - 26	23.84	1.04	
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-6	2	1.75	589.61	30	20	30	16 - 30.5	Dry	10	
MW-102	2	2.75	552.48	49.5	34.5	49.5	32 - 50	48.13	10.88	

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 = data not available
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 - Landfill Gas Monitoring Results - July 2018
Project No. 130088, Cedar Hills Regional Landfill
Maple Valley, Washington

Sample Location	Methane (%)	Carbon Dioxide (%)	Oxygen (%)
GP-16A	0.0	1.1	18.8
GP-18A	0.0	0.9	20.4
GP-19A	0.0	0.4	20.9
GP-20A	0.0	0.0	20.4
GP-56	0.0	0.0	19.6
GP-60	0.0	0.0	21.1
GP-62	0.0	1.2	20.3
GP-63A	**0.2**	3.0	17.3
EB-6D	0.0	0.0	20.8
GP-8	0.0	0.0	20.9
GP-16C	0.0	0.3	17.3
GP-18C	0.0	0.0	21.1
GP-19C	0.0	0.0	21.3
GP-20C	0.0	0.1	16.9
GP-63B	**0.3**	0.0	19.3
GP-64B	0.0	0.0	17.9
GP-63C	**0.4**	0.0	20.2
GP-64C	**0.1**	1.6	16.1
MW-102	0.0	0.3	19.2

Notes:
Landfill gas measurements collected using a GEM 2000 multi-gas meter.
Bold indicates methane concentration less than 5 percent.
The oxygen sensor malfunctioned while sampling EB-6D, so the recorded oxygen result is the last reading prior to malfunction.

Table 3 - Shallow Soil Gas Sampling Results - July 2018
Project No. 130088, Cedar Hills Regional Landfill
King County, Washington

			Sample Location	GP-16A	GP-18A	GP-19A	GP-20A	GP-56	GP-60	GP-62	GP-63A
			Sample Date	07/26/2018	07/25/2018	07/25/2018	07/25/2018	07/26/2018	07/25/2018	07/26/2018	07/26/2018
			Analytical Method	EPA-TO-17	EPA-TO-17	EPA-TO-17	EPA-TO-17	EPA-TO-17	EPA-TO-17	EPA-TO-17	EPA-TO-17
Analyte	CAS	Units	Shallow Soil Gas Screening Level								
1,1,1-Trichloroethane	71-55-6	ug/m3	76200	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1,2,2-Tetrachloroethane	79-34-5	ug/m3	1.44	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1,2-Trichloroethane	79-00-5	ug/m3	5.21	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1-Dichloroethane	75-34-3	ug/m3	52.1	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
1,1-Dichloroethene	75-35-4	ug/m3	3050	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2,4-Trichlorobenzene	120-82-1	ug/m3	30.5	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2,4-Trimethylbenzene	95-63-6	ug/m3	107	< 2.8 U	**4.5**	< 2.8 U	< 2.8 U	< 2.8 U	**6.6**	< 2.8 U	**3.3**
1,2-Dibromo-3-chloropropane	96-12-8	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dibromoethane (EDB)	106-93-4	ug/m3	0.139	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichlorobenzene	95-50-1	ug/m3	3050	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichloroethane (EDC)	107-06-2	ug/m3	3.21	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichloropropane	78-87-5	ug/m3	8.33	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichlorotetrafluoroethane (Fluorocarbon 114)	76-14-2	ug/m3		< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**9.9**	< 2.5 U	< 2.5 U	< 2.5 U
1,3,5-Trimethylbenzene	108-67-8	ug/m3		< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
1,3-Butadiene	106-99-0	ug/m3	2.78	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,3-Dichlorobenzene	541-73-1	ug/m3		**16**	**30**	**22**	**3**	**15**	**130**	**10**	**35**
1,4-Dichlorobenzene	106-46-7	ug/m3	7.58	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,4-Dioxane	123-91-1	ug/m3		**2.8**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
2,2,4-Trimethylpentane	540-84-1	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**4.1**	< 2.8 U	< 2.8 U
2-Butanone	78-93-3	ug/m3	76200	**8.8 J**	**9.9 J**	**7.7 J**	< 2.8 U	**6.8 J**	**12 J**	**7.5 J**	**6.2 J**
2-Hexanone	591-78-6	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
4-Methyl-2-pentanone	108-10-1	ug/m3	45700	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	**8.8**	< 5.3 U	< 5.3 U
Acetone	67-64-1	ug/m3		**63 J**	**91 J**	**84 J**	**44 J**	**110 J**	**460**	**98 J**	**78 J**
Acetonitrile	75-05-8	ug/m3	914	< 5.3 U	< 5.3 U	< 5.6 U	< 5.3 U	**13 J**	**6.9 J**	**10 J**	**9.6 J**
Benzene	71-43-2	ug/m3	10.7	**6.2**	**7.6**	< 5.3 U	< 5.3 U	**10**	**11**	**8.7**	**10**
Bromodichloromethane	75-27-4	ug/m3	2.25	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Bromoform	75-25-2	ug/m3	75.8	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Carbon Disulfide	75-15-0	ug/m3	10700	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	**24**
Carbon Tetrachloride	56-23-5	ug/m3	13.9	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**3.4**	< 2.8 U	< 2.8 U
Chlorobenzene	108-90-7	ug/m3	762	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Chloroethane	75-00-3	ug/m3	152000	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**2.9**	< 2.5 U	< 2.5 U	< 2.5 U
Chloroform	67-66-3	ug/m3	3.62	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Chloromethane	74-87-3	ug/m3	1370	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**20**	**2.9**	**2.5**	**3**
cis-1,2-Dichloroethene (DCE)	156-59-2	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
cis-1,3-Dichloropropene	10061-01-5	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Cyclohexane	110-82-7	ug/m3		< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U
Dibromochloromethane	124-48-1	ug/m3	3.09	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Dichlorodifluoromethane	75-71-8	ug/m3	1520	**5.6**	**3**	< 2.5 U	< 2.5 U	**94**	**35**	**20**	**4.4**
Ethanol	64-17-5	ug/m3		< 13 U	**15**	**15**	< 13 U	**15**	**38**	< 13 U	< 13 U
Ethylbenzene	100-41-4	ug/m3	15200	< 2.8 U	< 2.8 U	**3**	< 2.8 U	< 2.8 U	**13**	< 2.8 U	< 2.8 U
Freon 113	76-13-1	ug/m3	457000	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**4.3**	**5.3**	**4.9**	< 2.8 U
Hexachlorobutadiene	87-68-3	ug/m3	3.79	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Hexane	110-54-3	ug/m3	10700	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**5.4**	< 2.8 U	**2.8**

Table 3 - Shallow Soil Gas Sampling Results - July 2018
Project No. 130088, Cedar Hills Regional Landfill
King County, Washington

Analyte	CAS	Units	Sample Location / Sample Date / Analytical Method / Shallow Soil Gas Screening Level	GP-16A 07/26/2018 EPA-TO-17	GP-18A 07/25/2018 EPA-TO-17	GP-19A 07/25/2018 EPA-TO-17	GP-20A 07/25/2018 EPA-TO-17	GP-56 07/26/2018 EPA-TO-17	GP-60 07/25/2018 EPA-TO-17	GP-62 07/26/2018 EPA-TO-17	GP-63A 07/26/2018 EPA-TO-17
Isopropyl Alcohol	67-63-0	ug/m3		**6.1**	**14**	< 5.3 U	< 5.3 U	< 5.3 U	**9.3**	< 5.3 U	**12**
Isopropylbenzene	98-82-8	ug/m3	6100	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
m,p-Xylene	179601-23-1	ug/m3		< 5.3 U	**6.3**	**8.8**	< 5.3 U	< 5.3 U	**51**	< 5.3 U	< 5.3 U
Methyl tert-butylether	1634-04-4	ug/m3	321	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Methylene Chloride	75-09-2	ug/m3	8330	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**9.4**	**3.6**	**2.9**	< 2.8 U
Naphthalene	91-20-3	ug/m3	2.45	**13 J**	< 0.90 U	< 1.1 U	< 1.2 U	< 0.93 U	**6.1 J**	< 1.2 U	< 1.2 U
n-Heptane	142-82-5	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**4.2**	< 2.8 U	< 2.8 U
Octane	111-65-9	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**4.6**	< 2.8 U	< 2.8 U
o-Xylene	95-47-6	ug/m3	1520	< 2.8 U	**3.1**	**4**	< 2.8 U	< 2.8 U	**19**	< 2.8 U	< 2.8 U
Styrene	100-42-5	ug/m3	15200	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Tetrachloroethene (PCE)	127-18-4	ug/m3	321	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**8.4**	< 2.8 U
Tetrahydrofuran	109-99-9	ug/m3		**2.8**	< 2.8 U	< 2.8 U	< 2.8 U	**5.5**	**4.1**	**9.8**	**5.6**
Toluene	108-88-3	ug/m3	76200	**3.2**	**9**	**9.8**	< 2.8 U	**3.1**	**37**	**5.5**	**6**
trans-1,2-Dichloroethene	156-60-5	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
trans-1,3-Dichloropropene	10061-02-6	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Trichloroethene (TCE)	79-01-6	ug/m3	12.3	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Trichlorofluoromethane	75-69-4	ug/m3	1070	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**9.2**	**11**	**6**	< 2.8 U
Vinyl Chloride	75-01-4	ug/m3	9.33	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U

Notes:
ug/m3 = micrograms per cubic meter
J qualifier indicates estimated value
U qualifier indicates non-detect
Bold concentrations indicate the analyte was detected by the laboratory.
Shading indicates exceedance of screening level.
Blank cells indicate a screening level is not established.
Screening level = MTCA Method B 2015 Subslab/Shallow Soil Gas Screening Level, in accordance with Ecology's Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Publication 09-09-047; October 2009 revised April 2018).
Soil gas collected at depths less than 15 feet below ground surface are considered "shallow".

Table 4 - Deep Soil Gas Sampling Results - July 2018
Project No. 130088, Cedar Hills Regional Landfill
King County, Washington

Analyte	CAS	Units	Deep Soil Gas Screening Level	EB-6D 07/26/2018 EPA-TO-17	GP-8 07/26/2018 EPA-TO-17	GP-16C 07/26/2018 EPA-TO-17	GP-18C 07/25/2018 EPA-TO-17	GP-19C 07/25/2018 EPA-TO-17	GP-20C 07/25/2018 EPA-TO-17	GP-63B 07/26/2018 EPA-TO-17	GP-63C 07/26/2018 EPA-TO-17	GP-64B 07/26/2018 EPA-TO-17	GP-64C 07/26/2018 EPA-TO-17	MW-102 07/26/2018 EPA-TO-17
1,1,1-Trichloroethane	71-55-6	ug/m3	229000	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1,2,2-Tetrachloroethane	79-34-5	ug/m3	4.31	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**2.8**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1,2-Trichloroethane	79-00-5	ug/m3	15.6	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,1-Dichloroethane	75-34-3	ug/m3	156	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**3.7**
1,1-Dichloroethene	75-35-4	ug/m3	9140	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2,4-Trichlorobenzene	120-82-1	ug/m3	91.4	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2,4-Trimethylbenzene	95-63-6	ug/m3	320	**4.1**	**54**	**10**	**3.4**	**3.5**	**2.8**	< 2.8 U	< 2.8 U	**8.2**	**3.2**	**5.1**
1,2-Dibromo-3-chloropropane	96-12-8	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dibromoethane (EDB)	106-93-4	ug/m3	0.417	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichlorobenzene	95-50-1	ug/m3	9140	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichloroethane (EDC)	107-06-2	ug/m3	9.62	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichloropropane	78-87-5	ug/m3	25.0	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,2-Dichlorotetrafluoroethane (Fluorocarbon 114)	76-14-2	ug/m3		< 2.5 U	< 2.5 U	**9.3**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
1,3,5-Trimethylbenzene	108-67-8	ug/m3		< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
1,3-Butadiene	106-99-0	ug/m3	8.33	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**15**	< 2.8 U	< 2.8 U
1,3-Dichlorobenzene	541-73-1	ug/m3		**10**	**7.8**	**11**	**15**	**20**	**21**	**9**	**19**	**10**	**15**	**3.1**
1,4-Dichlorobenzene	106-46-7	ug/m3	22.7	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
1,4-Dioxane	123-91-1	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**13**	< 2.8 U
2,2,4-Trimethylpentane	540-84-1	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
2-Butanone	78-93-3	ug/m3	229000	**4.5 J**	**89**	**8.6 J**	**8.4 J**	**8.7 J**	**13 J**	**13 J**	**5.3 J**	< 3.2 U	**4.8 J**	< 2.8 U
2-Hexanone	591-78-6	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**3.1**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
4-Methyl-2-pentanone	108-10-1	ug/m3	137000	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U
Acetone	67-64-1	ug/m3		**82 J**	**81 J**	**75 J**	**120 J**	**72 J**	**340 J**	**40 J**	**100 J**	**63 J**	**89 J**	< 26 U
Acetonitrile	75-05-8	ug/m3	2740	**14 J**	**6 J**	**19 J**	< 5.3 U	< 5.4 U	**7.2 J**	< 5.6 U	**11 J**	**22 J**	**8.3 J**	< 5.9 U
Benzene	71-43-2	ug/m3	32.1	**12**	**12**	**9.6**	**5.8**	**6.9**	**11**	**13**	**7.5**	< 5.3 U	**7.6**	**13**
Bromodichloromethane	75-27-4	ug/m3	6.76	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Bromoform	75-25-2	ug/m3	227	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Carbon Disulfide	75-15-0	ug/m3	32000	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U	**14**	< 13 U
Carbon Tetrachloride	56-23-5	ug/m3	41.7	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Chlorobenzene	108-90-7	ug/m3	2290	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Chloroethane	75-00-3	ug/m3	457000	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
Chloroform	67-66-3	ug/m3	10.9	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Chloromethane	74-87-3	ug/m3	4110	**2.7**	**3**	**22**	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	**3.3**	< 2.5 U	**4.2**	< 2.5 U
cis-1,2-Dichloroethene (DCE)	156-59-2	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**5**
cis-1,3-Dichloropropene	10061-01-5	ug/m3		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Cyclohexane	110-82-7	ug/m3		< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U	< 5.3 U
Dibromochloromethane	124-48-1	ug/m3	9.26	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Dichlorodifluoromethane	75-71-8	ug/m3	4570	**12**	**3.7**	**150**	**4.2**	< 2.5 U	**4.5**	< 2.5 U	**20**	**5.6**	**30**	**45**
Ethanol	64-17-5	ug/m3		< 13 U	< 13 U	< 13 U	**16**	< 13 U	**20**	< 13 U	< 13 U	< 13 U	< 13 U	< 13 U
Ethylbenzene	100-41-4	ug/m3	45700	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**2.9**	**2.8**	**4**	< 2.8 U	< 2.8 U	**2.8**	< 2.8 U
Freon 113	76-13-1	ug/m3	1370000	< 2.8 U	< 2.8 U	**5.7**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**3.1**	< 2.8 U	**4**	**5**
Hexachlorobutadiene	87-68-3	ug/m3	11.4	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Hexane	110-54-3	ug/m3	32000	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**3.1**	**3.5**	**150**	**6**	< 2.8 U

Table 4 - Deep Soil Gas Sampling Results - July 2018
Project No. 130088, Cedar Hills Regional Landfill
King County, Washington

Analyte	CAS	Units	Deep Soil Gas Screening Level	Well Sample Date Analytical Method	EB-6D 07/26/2018 EPA-TO-17	GP-8 07/26/2018 EPA-TO-17	GP-16C 07/26/2018 EPA-TO-17	GP-18C 07/25/2018 EPA-TO-17	GP-19C 07/25/2018 EPA-TO-17	GP-20C 07/25/2018 EPA-TO-17	GP-63B 07/26/2018 EPA-TO-17	GP-63C 07/26/2018 EPA-TO-17	GP-64B 07/26/2018 EPA-TO-17	GP-64C 07/26/2018 EPA-TO-17	MW-102 07/26/2018 EPA-TO-17
Isopropyl Alcohol	67-63-0	ug/m3			< 5.3 U	**8.8**	< 5.3 U	**6.9**	< 5.3 U	**78**	**15**	**16**	**6.3**	**5.7**	< 5.3 U
Isopropylbenzene	98-82-8	ug/m3	18300		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
m,p-Xylene	179601-23-1	ug/m3			< 5.3 U	**10**	< 5.3 U	**6**	**7.6**	**8.7**	**7.9**	< 5.3 U	< 5.3 U	**5.3**	< 5.3 U
Methyl tert-butylether	1634-04-4	ug/m3	962		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Methylene Chloride	75-09-2	ug/m3	25000		< 2.8 U	< 2.8 U	**16**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**5.4**	< 2.8 U	**3.9**	< 2.8 U
Naphthalene	91-20-3	ug/m3	7.35		< 0.98 U	< 0.93 U	< 0.93 U	< 0.95 U	< 1.3 U	< 3.8 U	< 1.3 U	< 0.93 U	< 0.93 U	< 0.93 U	< 0.93 U
n-Heptane	142-82-5	ug/m3			< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**4.3**	< 2.8 U	**29**	< 2.8 U	< 2.8 U
Octane	111-65-9	ug/m3			< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**3**	**7.6**	< 2.8 U	**5.1**	< 2.8 U	< 2.8 U
o-Xylene	95-47-6	ug/m3	4570		< 2.8 U	< 2.8 U	< 2.8 U	**3**	**3.8**	**3.6**	**3.5**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Styrene	100-42-5	ug/m3	45700		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Tetrachloroethene (PCE)	127-18-4	ug/m3	962		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Tetrahydrofuran	109-99-9	ug/m3			**22**	**6.5**	**6.7**	< 2.8 U	< 2.8 U	**2.9**	**5.8**	**4.4**	**5.2**	**9**	**3**
Toluene	108-88-3	ug/m3	229000		**2.8**	**7.6**	**3.6**	**6.2**	**9**	**14**	**14**	**4.6**	**3.8**	**5.8**	< 2.8 U
trans-1,2-Dichloroethene	156-60-5	ug/m3			< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
trans-1,3-Dichloropropene	10061-02-6	ug/m3			< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Trichloroethene (TCE)	79-01-6	ug/m3	37.0		< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U
Trichlorofluoromethane	75-69-4	ug/m3	32000		**3.2**	< 2.8 U	**5.1**	< 2.8 U	< 2.8 U	< 2.8 U	< 2.8 U	**6**	< 2.8 U	**9.9**	**9**
Vinyl Chloride	75-01-4	ug/m3	28.0		< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U

Notes:
ug/m3 = micrograms per cubic meter
J qualifier indicates estimated value
U qualifier indicates non-detect
Bold concentrations indicate the analyte was detected by the laboratory.
Shading indicates exceedance of screening level.
Blank cells indicate a screening level is not established.
Screening level = MTCA Method B 2015 Deep Soil Gas Screening Level, in accordance with Ecology's Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action (Publication 09-09-047; October 2009 revised April 2018).
Soil gas collected at depths greater than 15 feet below ground surface are considered "deep".

FIGURES

SHALLOW (Screened 5-15 feet bgs)

GP-20A
GP-19A
GP-18A
GP-16A
PASSAGE POINT FACILITY
GP-63A
M: 0.2 %
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
GP-63B
M: 0.3 %
GP-63C
M: 0.4 %
PASSAGE POINT FACILITY
GP-64B
GP-64C
M: 0.1 %
EB-6D
GP-8
MW-102
EAST MAIN HILL

Methane Results (July, 2018)

- >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 complete summary of landfill gas monitoring results.*
** 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

N

0 500 1,000
Feet

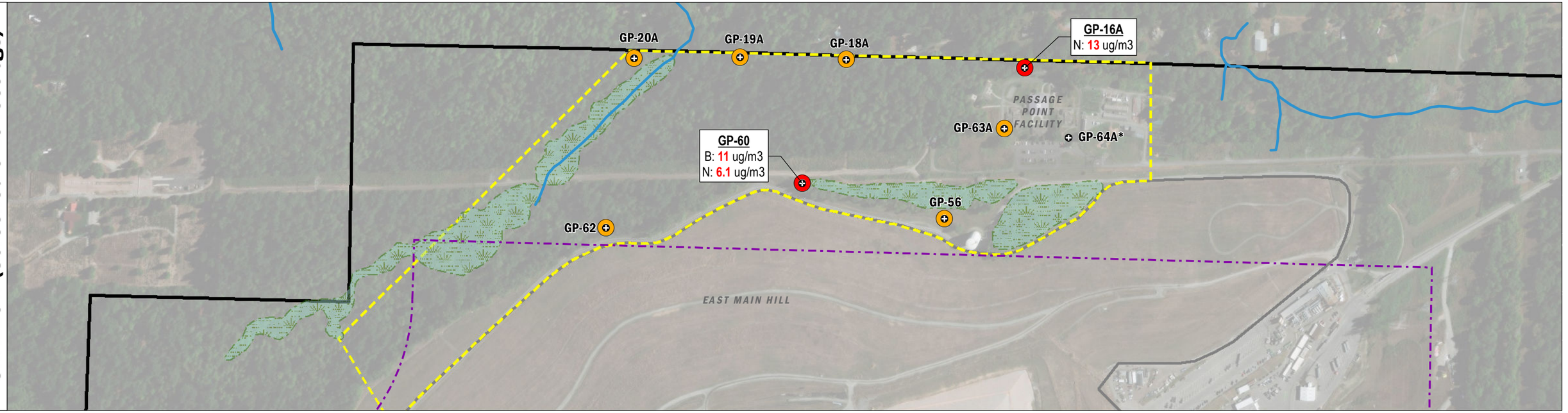
King County | Aspect CONSULTING

Methane Results - July 2018

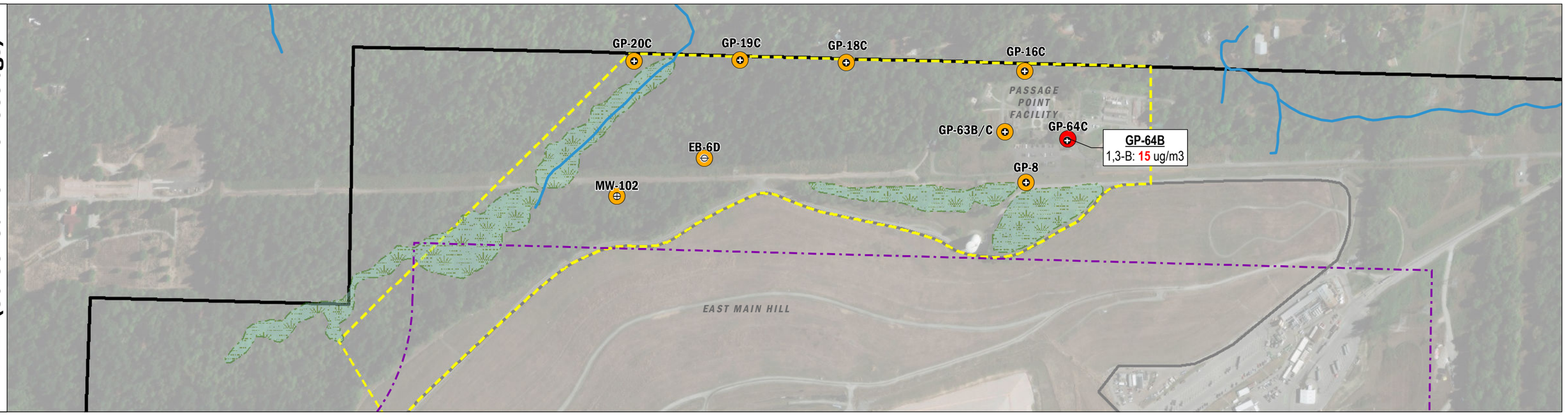
Cedar Hills Regional Landfill
King County, Washington

DATE: Oct-2018	PROJECT NO. 130088
DESIGNED BY: PPW	
DRAWN BY: PPW	FIGURE NO. 1
REVISED BY: RAP	

SHALLOW (Screened 5-15 feet bgs)



DEEP (Screened 15- 179 feet bgs)



Soil Gas Sampling Results (July 2018)

- 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

Exploration Name
B: Benzene
N: Naphthalene
1,3-B: 1,3-Butadiene
List of Analytes exceeded

Note: *Only Analytes exceeding Screening Levels are listed in the call-out box.* ***Red, bold*** *text indicates Screening Level exceedance.*
See Table 3 and Table 4 for full analytical results.
**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

Soil Gas Sampling Results - July 2018

Cedar Hills Regional Landfill
King County, Washington

DATE: Oct-2018	PROJECT NO. 130088
DESIGNED BY: PPW	
DRAWN BY: PPW	FIGURE NO. 2
REVISED BY: RAP	

APPENDIX A

Analytical Lab Report

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

August 14, 2018

Kirsi Longley
Aspect Consulting
401 2nd Ave. S, Suite 201
Seattle, WA 98104-3814

RE: Cedar Hills Regional Landfill / 130088

Dear Kirsi:

Enclosed are the results of the samples submitted to our laboratory on July 28, 2018. For your reference, these analyses have been assigned our service request number P1803906.

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 Sue Anderson at 3:42 pm, Aug 14, 2018

Sue Anderson
Project Manager

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Simi Valley, CA 93065
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Client: Aspect Consulting
Project: Cedar Hills Regional Landfill / 130088

Service Request No: P1803906

CASE NARRATIVE

The samples were received intact under chain of custody on July 28, 2018 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 upper surrogate control criterion was exceeded in sample GP16D180726 (P1803906-017) for 1,2-dichloroethane-d4 due to matrix interference. The target analytes and surrogate recoveries for the associated QC were acceptable. The associated data has been flagged with the appropriate data qualifiers. No further corrective action was appropriate.

The Method Blank (MB) yielded a hit of Naphthalene above the method reporting limit. The data has been flagged accordingly. The majority of the samples were found at levels below the concentration found in the MB. Three of the samples were close to or above that level and may be biased high. No corrective action could be performed.

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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	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1347317
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	4068-005
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	T104704413-18-9
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272017-8
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
Project ID: Cedar Hills Regional Landfill / 130088

Service Request: P1803906

Date Received: 7/28/2018
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	TO-17 - VOC Sorbent
GP20D180725-	P1803906-001	Air	7/25/2018	10:11	X
GP20S180725-	P1803906-002	Air	7/25/2018	10:32	X
GP19D180725-	P1803906-003	Air	7/25/2018	11:08	X
GP19S180725-	P1803906-004	Air	7/25/2018	11:21	X
GP18S 180725-	P1803906-005	Air	7/25/2018	11:46	X
GP18D 180725-	P1803906-006	Air	7/25/2018	12:01	X
GP60S 180725-	P1803906-007	Air	7/25/2018	12:59	X
GP62S 180726-	P1803906-008	Air	7/26/2018	09:55	X
GP56S 180726-	P1803906-009	Air	7/26/2018	10:43	X
GG8-180726-	P1803906-010	Air	7/26/2018	11:19	X
GP64S180726-	P1803906-011	Air	7/26/2018	11:50	X
GP64D180726-	P1803906-012	Air	7/26/2018	12:37	X
GP63S180726-	P1803906-013	Air	7/26/2018	13:09	X
GP63M180726-	P1803906-014	Air	7/26/2018	13:37	X
GP63D180726-	P1803906-015	Air	7/26/2018	14:17	X
GP16S180726-	P1803906-016	Air	7/26/2018	14:49	X
GP16D180726-	P1803906-017	Air	7/26/2018	15:26	X
G102180726-	P1803906-018	Air	7/26/2018	16:23	X
GB6-180726-	P1803906-019	Air	7/26/2018	17:06	X
VTRP180725-	P1803906-020	Air	7/25/2018	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. P180396

Company Name & Address (Reporting Information): Aspect Consulting, LLC, 401 2nd Ave S, #201, Seattle, WA 98104

Project Name: Cedar Hills Regional Landfill

Project Number: 130088

ALS Contact: Sue Anderson

Project Manager: Kirsi Longley

P.O. # / Billing Information

Phone: 206-812-4746 Fax:

Email Address for Result Reporting: klongley@aspectconsulting.com

Sampler (Print & Sign): Andrew Yonkofski

Client Sample ID	Laboratory ID #	Tube ID	Date Collected	Sampling Pump Flow (mL/min)	Sampling Start Time	Sampling End Time	Sample Volume	Analysis Method/Analytes: TO-17	Comments e.g. Actual Preservative or specific instructions
GP20D180725-	1	1125066	07/25/18	100	10:07	10:11	400 mL	X	
GP20S180725-	2	1059767	07/25/18	100	1028	1032	400 mL	X	
GP19D180725-	3	1064574	07/25/18	100	1104	1108	400 mL	X	
GP19S180725-	4	1064262	07/25/18	100	1117	1121	400 mL	X	
GP18S180725-	5	1110686	07/25/18	100	1142	1146	400mL	X	
GP18D180725-	6	1064283	07/25/18	100	1157	1201	400mL	X	
GP60S180725-	7	1124163	07/25/18	100	1255	1259	400 mL	X	
GP62S180726-	8	1110823	07/26/18	100	0951	0955	400 mL	X	
GP56S180726-	9	1049175	07/26/18	100	1039	1043	400mL	X	
GP8-180726-	10	1110831	07/26/18	100	1115	1119	400 mL	X	
GP64S180726-	11	1064780	07/26/18	100	1146	1150	400 mL	X	
GP64D180726-	12	1125062	07/26/18	100	1233	1237	400 mL	X	
GP63S180726-	13	1110258	07/26/18	100	1305	1309	400 mL	X	
GP63M180726-	14	371129	07/26/18	100	1333	1337	400 mL	X	
GP63D180726-	15	1109566	07/26/18	100	1413	1417	400mL	X	

Report Tier Levels - please select
Tier I - (Results/Default if not specified) * Plus chromatographs
Tier II (Results + QC) _____
Tier III (Data Validation Package) 10% Surcharge _____
Tier IV (client specified) _____

EDD required (Yes) / No
Type: _____

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
	7/27/18	1200	FedEx	1200
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time: 0930

7/28/18

Cooler / Blank Temperature 4 °C

GEL / not ICE

Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
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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. P1903906

Company Name & Address (Reporting Information)
Aspect Consulting, LLC
401 2nd Ave S, #201
Seattle, WA 98104

Project Name: Cedar Hills Regional Landfill
Project Number: 130088
P.O. # / Billing Information:

ALS Contact: Sue Anderson

Project Manager: Kirsi Longley
Phone: 206-812-4746
Fax:
Email Address for Result Reporting: klongley@aspectconsulting.com

Sampler (Print & Sign): Andrew Yonkofski

Client Sample ID	Laboratory ID #	Tube ID	Date Collected	Sampling Pump Flow (mL/min)	Sampling Start Time	Sampling End Time	Sample Volume	Analysis Method/Analytes: TI-PL	Comments e.g. Actual Preservative or specific instructions
GP16S180726-	16	1125022	07/26/18	100	1445	1449	400 mL	X	
GP16D180726-	17	1111251	07/26/18	100	1522	1526	400mL	X	
GP02180726-	18	1125697	07/26/18	100	1619	1623	400 mL	X	
GP26-180726-	19	1124810	07/26/18	100	1702	1706	400mL	X	
VTRP180725	20	1064805	07/25/18	N/A	N/A	N/A	N/A	X	

Report Tier Levels - please select
Tier I - (Results/Default if not specified) X Plus chromatographs
Tier II (Results + QC) _____
Tier III (Data Validation Package) 10% Surcharge _____
Tier IV (client specified) _____

EDD required (Yes) / No
Type: _____

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

	Date	Time		Time
Reliquished by: (Signature)	7/27/18	1200	Received by: (Signature) FedEx	1200
Reliquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
Reliquished by: (Signature)	Date:	Time:	Received by: (Signature) 7/28/18	Time: 0930

Cooler / Blank Temperature ____ °C

ALS Environmental
Sample Acceptance Check Form

Client: Aspect Consulting Work order: P1803906

Project: Cedar Hills Regional Landfill / 130088

Sample(s) received on: 7/28/18 Date opened: 7/28/18 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: 4° C Blank Temperature: ° C Thermometer ID T-111 Gel Packs			
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
P1803906-001.01	Tube, TD					
P1803906-002.01	Tube, TD					
P1803906-003.01	Tube, TD					
P1803906-004.01	Tube, TD					
P1803906-005.01	Tube, TD					
P1803906-006.01	Tube, TD					
P1803906-007.01	Tube, TD					
P1803906-008.01	Tube, TD					
P1803906-009.01	Tube, TD					
P1803906-010.01	Tube, TD					
P1803906-011.01	Tube, TD					
P1803906-012.01	Tube, TD					
P1803906-013.01	Tube, TD					
P1803906-014.01	Tube, TD					
P1803906-015.01	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: P1803906

Project: Cedar Hills Regional Landfill / 130088

Sample(s) received on: 7/28/18 Date opened: 7/28/18 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1803906-016.01	Tube, TD					
P1803906-017.01	Tube, TD					
P1803906-018.01	Tube, TD					
P1803906-019.01	Tube, TD					
P1803906-020.01	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: **GP20D180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-001

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	**4.5**	2.5	**0.91**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	8.0	**20**	13	**11**	7.0	
75-05-8	Acetonitrile	2.9	**7.2**	5.3	**4.3**	3.1	
67-64-1	Acetone	140	**340**	13	**140**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	31	**78**	5.3	**32**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	5.2	**13**	2.8	**4.4**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	1.2	**2.9**	2.8	**0.99**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.3	**11**	5.3	**3.3**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP20D180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-001

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	5.7	**14**	2.8	**3.8**	0.73	
591-78-6	2-Hexanone	1.2	**3.1**	2.8	**0.76**	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	1.2	**3.0**	2.8	**0.64**	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	1.1	**2.8**	2.8	**0.64**	0.63	
179601-23-1	m,p-Xylenes	3.5	**8.7**	5.3	**2.0**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.4	**3.6**	2.8	**0.83**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.1	**2.8**	2.8	**0.57**	0.56	
541-73-1	1,3-Dichlorobenzene	8.3	**21**	2.8	**3.4**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP20S180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-002

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	2.5	ND	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	< 2.1	ND	5.3	ND	3.1	
67-64-1	Acetone	18	**44**	13	**19**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	1.1	**2.8**	2.8	**0.95**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	2.8	ND	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	< 2.1	ND	5.3	ND	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP20S180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-002

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	< 1.1	ND	2.8	ND	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	1.2	**3.0**	2.8	**0.50**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP19D180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-003

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	2.5	ND	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	2.2	**5.4**	5.3	**3.2**	3.1	
67-64-1	Acetone	29	**72**	13	**30**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.5	**8.7**	2.8	**3.0**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	2.8	ND	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	2.8	**6.9**	5.3	**2.2**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP19D180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-003

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	3.6	**9.0**	2.8	**2.4**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	1.2	**2.9**	2.8	**0.67**	0.63	
179601-23-1	m,p-Xylenes	3.0	**7.6**	5.3	**1.7**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.5	**3.8**	2.8	**0.86**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.4	**3.5**	2.8	**0.72**	0.56	
541-73-1	1,3-Dichlorobenzene	8.0	**20**	2.8	**3.3**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP19S180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-004

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	2.5	ND	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	6.1	**15**	13	**8.1**	7.0	
75-05-8	Acetonitrile	2.2	**5.6**	5.3	**3.3**	3.1	
67-64-1	Acetone	34	**84**	13	**36**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.1	**7.7**	2.8	**2.6**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	2.8	ND	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	< 2.1	ND	5.3	ND	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP19S180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-004

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	3.9	**9.8**	2.8	**2.6**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	1.2	**3.0**	2.8	**0.68**	0.63	
179601-23-1	m,p-Xylenes	3.5	**8.8**	5.3	**2.0**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.6	**4.0**	2.8	**0.91**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	8.8	**22**	2.8	**3.7**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP18S 180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-005

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	1.2	**3.0**	2.5	**0.62**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	6.1	**15**	13	**8.2**	7.0	
75-05-8	Acetonitrile	< 2.1	ND	5.3	ND	3.1	
67-64-1	Acetone	36	**91**	13	**38**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	5.6	**14**	5.3	**5.7**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.9	**9.9**	2.8	**3.3**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	2.8	ND	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	3.0	**7.6**	5.3	**2.4**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP18S 180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-005

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	3.6	**9.0**	2.8	**2.4**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	2.5	**6.3**	5.3	**1.5**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.3	**3.1**	2.8	**0.72**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.8	**4.5**	2.8	**0.91**	0.56	
541-73-1	1,3-Dichlorobenzene	12	**30**	2.8	**4.9**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP18D 180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-006

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	1.7	**4.2**	2.5	**0.85**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	6.3	**16**	13	**8.3**	7.0	
75-05-8	Acetonitrile	2.1	**5.3**	5.3	**3.2**	3.1	
67-64-1	Acetone	48	**120**	13	**50**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	**6.9**	5.3	**2.8**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.3	**8.4**	2.8	**2.8**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	< 1.1	ND	2.8	ND	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	2.3	**5.8**	5.3	**1.8**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP18D 180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-006

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	2.5	**6.2**	2.8	**1.7**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	2.4	**6.0**	5.3	**1.4**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.2	**3.0**	2.8	**0.68**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.4	**3.4**	2.8	**0.69**	0.56	
541-73-1	1,3-Dichlorobenzene	5.9	**15**	2.8	**2.4**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP60S 180725-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-007

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	14	**35**	2.5	**7.0**	0.51	
74-87-3	Chloromethane	1.2	**2.9**	2.5	**1.4**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	15	**38**	13	**20**	7.0	
75-05-8	Acetonitrile	2.8	**6.9**	5.3	**4.1**	3.1	
67-64-1	Acetone	180	**460**	13	**190**	5.6	
75-69-4	Trichlorofluoromethane	4.5	**11**	2.8	**2.0**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.7	**9.3**	5.3	**3.8**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	1.4	**3.6**	2.8	**1.0**	0.79	
76-13-1	Trichlorotrifluoroethane	2.1	**5.3**	2.8	**0.69**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	4.8	**12**	2.8	**4.1**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	2.1	**5.4**	2.8	**1.5**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	1.6	**4.1**	2.8	**1.4**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.5	**11**	5.3	**3.5**	1.6	
56-23-5	Carbon Tetrachloride	1.4	**3.4**	2.8	**0.55**	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP60S 180725-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-007

Test Code: EPA TO-17 Date Collected: 7/25/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	1.7	**4.1**	2.8	**0.89**	0.59	
142-82-5	n-Heptane	1.7	**4.2**	2.8	**1.0**	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	3.5	**8.8**	5.3	**2.2**	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	15	**37**	2.8	**9.8**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	1.9	**4.6**	2.8	**0.99**	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	5.1	**13**	2.8	**2.9**	0.63	
179601-23-1	m,p-Xylenes	20	**51**	5.3	**12**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	7.5	**19**	2.8	**4.3**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	2.6	**6.6**	2.8	**1.3**	0.56	
541-73-1	1,3-Dichlorobenzene	54	**130**	2.8	**22**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP62S 180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-008

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	7.9	**20**	2.5	**4.0**	0.51	
74-87-3	Chloromethane	1.0	**2.5**	2.5	**1.2**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	4.1	**10**	5.3	**6.2**	3.1	
67-64-1	Acetone	39	**98**	13	**41**	5.6	
75-69-4	Trichlorofluoromethane	2.4	**6.0**	2.8	**1.1**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	1.2	**2.9**	2.8	**0.84**	0.79	
76-13-1	Trichlorotrifluoroethane	2.0	**4.9**	2.8	**0.64**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.0	**7.5**	2.8	**2.5**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	3.9	**9.8**	2.8	**3.3**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	3.5	**8.7**	5.3	**2.7**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP62S 180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-008

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	2.2	**5.5**	2.8	**1.5**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	3.4	**8.4**	2.8	**1.2**	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	4.0	**10**	2.8	**1.7**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP56S 180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-009

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	38	**94**	2.5	**19**	0.51	
74-87-3	Chloromethane	8.1	**20**	2.5	**9.8**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	4.0	**9.9**	2.5	**1.4**	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	1.2	**2.9**	2.5	**1.1**	0.95	
64-17-5	Ethanol	5.8	**15**	13	**7.7**	7.0	
75-05-8	Acetonitrile	5.3	**13**	5.3	**7.9**	3.1	
67-64-1	Acetone	45	**110**	13	**47**	5.6	
75-69-4	Trichlorofluoromethane	3.7	**9.2**	2.8	**1.6**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	3.8	**9.4**	2.8	**2.7**	0.79	
76-13-1	Trichlorotrifluoroethane	1.7	**4.3**	2.8	**0.56**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	2.7	**6.8**	2.8	**2.3**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.2	**5.5**	2.8	**1.9**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.1	**10**	5.3	**3.2**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP56S 180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-009

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.2	**3.1**	2.8	**0.82**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	5.9	**15**	2.8	**2.5**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GG8-180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-010

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	1.5	**3.7**	2.5	**0.75**	0.51	
74-87-3	Chloromethane	1.2	**3.0**	2.5	**1.5**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	2.4	**6.0**	5.3	**3.6**	3.1	
67-64-1	Acetone	33	**81**	13	**34**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.5	**8.8**	5.3	**3.6**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	36	**89**	2.8	**30**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.6	**6.5**	2.8	**2.2**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.7	**12**	5.3	**3.7**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GG8-180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-010

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	3.0	**7.6**	2.8	**2.0**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	4.1	**10**	5.3	**2.3**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	21	**54**	2.8	**11**	0.56	
541-73-1	1,3-Dichlorobenzene	3.1	**7.8**	2.8	**1.3**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP64S180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-011

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	2.3	**5.6**	2.5	**1.1**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	6.1	**15**	2.8	**6.8**	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	8.8	**22**	5.3	**13**	3.1	
67-64-1	Acetone	25	**63**	13	**26**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.5	**6.3**	5.3	**2.5**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	1.3	**3.2**	2.8	**1.1**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	58	**150**	2.8	**41**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.1	**5.2**	2.8	**1.8**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	< 2.1	ND	5.3	ND	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP64S180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-011

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	11	**29**	2.8	**7.0**	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.5	**3.8**	2.8	**1.0**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	2.0	**5.1**	2.8	**1.1**	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	3.3	**8.2**	2.8	**1.7**	0.56	
541-73-1	1,3-Dichlorobenzene	4.0	**10**	2.8	**1.7**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP64D180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-012

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	12	**30**	2.5	**6.1**	0.51	
74-87-3	Chloromethane	1.7	**4.2**	2.5	**2.0**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	3.3	**8.3**	5.3	**4.9**	3.1	
67-64-1	Acetone	36	**89**	13	**37**	5.6	
75-69-4	Trichlorofluoromethane	4.0	**9.9**	2.8	**1.8**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.3	**5.7**	5.3	**2.3**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	1.6	**3.9**	2.8	**1.1**	0.79	
76-13-1	Trichlorotrifluoroethane	1.6	**4.0**	2.8	**0.53**	0.36	
75-15-0	Carbon Disulfide	5.5	**14**	13	**4.4**	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	1.9	**4.8**	2.8	**1.6**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	2.4	**6.0**	2.8	**1.7**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	3.6	**9.0**	2.8	**3.0**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	3.0	**7.6**	5.3	**2.4**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP64D180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-012

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	5.1	**13**	2.8	**3.5**	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	2.3	**5.8**	2.8	**1.6**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	1.1	**2.8**	2.8	**0.65**	0.63	
179601-23-1	m,p-Xylenes	2.1	**5.3**	5.3	**1.2**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.3	**3.2**	2.8	**0.65**	0.56	
541-73-1	1,3-Dichlorobenzene	5.9	**15**	2.8	**2.5**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP63S180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-013

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	**4.4**	2.5	**0.89**	0.51	
74-87-3	Chloromethane	1.2	**3.0**	2.5	**1.5**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	3.9	**9.6**	5.3	**5.7**	3.1	
67-64-1	Acetone	31	**78**	13	**33**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.6	**12**	5.3	**4.7**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	9.6	**24**	13	**7.7**	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	2.5	**6.2**	2.8	**2.1**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	1.1	**2.8**	2.8	**0.80**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.2	**5.6**	2.8	**1.9**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.1	**10**	5.3	**3.2**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP63S180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-013

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	2.4	**6.0**	2.8	**1.6**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.3	**3.3**	2.8	**0.68**	0.56	
541-73-1	1,3-Dichlorobenzene	14	**35**	2.8	**5.9**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP63M180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-014

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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	2.5	ND	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	2.3	**5.6**	5.3	**3.4**	3.1	
67-64-1	Acetone	16	**40**	13	**17**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	6.0	**15**	5.3	**6.1**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	5.1	**13**	2.8	**4.3**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	1.3	**3.1**	2.8	**0.89**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.3	**5.8**	2.8	**2.0**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	5.2	**13**	5.3	**4.1**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP63M180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-014

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	1.7	**4.3**	2.8	**1.0**	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	5.5	**14**	2.8	**3.6**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	3.0	**7.6**	2.8	**1.6**	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	1.6	**4.0**	2.8	**0.92**	0.63	
179601-23-1	m,p-Xylenes	3.2	**7.9**	5.3	**1.8**	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	1.4	**3.5**	2.8	**0.80**	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	1.1	**2.8**	2.8	**0.40**	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	3.6	**9.0**	2.8	**1.5**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP63D180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-015

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	8.1	**20**	2.5	**4.1**	0.51	
74-87-3	Chloromethane	1.3	**3.3**	2.5	**1.6**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	4.4	**11**	5.3	**6.5**	3.1	
67-64-1	Acetone	40	**100**	13	**42**	5.6	
75-69-4	Trichlorofluoromethane	2.4	**6.0**	2.8	**1.1**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	6.2	**16**	5.3	**6.3**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	2.1	**5.4**	2.8	**1.5**	0.79	
76-13-1	Trichlorotrifluoroethane	1.2	**3.1**	2.8	**0.41**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	2.1	**5.3**	2.8	**1.8**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	1.4	**3.5**	2.8	**0.99**	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	1.7	**4.4**	2.8	**1.5**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	3.0	**7.5**	5.3	**2.4**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP63D180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-015

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.9	**4.6**	2.8	**1.2**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	7.5	**19**	2.8	**3.1**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP16S180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-016

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/7/18
Volume(s) Analyzed: 0.40 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)	2.3	**5.6**	2.5	**1.1**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	< 2.1	ND	5.3	ND	3.1	
67-64-1	Acetone	25	**63**	13	**27**	5.6	
75-69-4	Trichlorofluoromethane	< 1.1	ND	2.8	ND	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.4	**6.1**	5.3	**2.5**	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.5	**8.8**	2.8	**3.0**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	1.1	**2.8**	2.8	**0.95**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	2.5	**6.2**	5.3	**1.9**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP16S180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-016

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/7/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	1.1	**2.8**	2.8	**0.77**	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.3	**3.2**	2.8	**0.85**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	< 1.1	ND	2.8	ND	0.56	
541-73-1	1,3-Dichlorobenzene	6.4	**16**	2.8	**2.7**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GP16D180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-017

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/8/18
Volume(s) Analyzed: 0.40 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)	60	**150**	2.5	**30**	0.51	
74-87-3	Chloromethane	8.8	**22**	2.5	**11**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	3.7	**9.3**	2.5	**1.3**	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	7.8	**19**	5.3	**12**	3.1	
67-64-1	Acetone	30	**75**	13	**32**	5.6	
75-69-4	Trichlorofluoromethane	2.1	**5.1**	2.8	**0.91**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	6.2	**16**	2.8	**4.5**	0.79	
76-13-1	Trichlorotrifluoroethane	2.3	**5.7**	2.8	**0.74**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	3.4	**8.6**	2.8	**2.9**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	2.7	**6.7**	2.8	**2.3**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	3.9	**9.6**	5.3	**3.0**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GP16D180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-017

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/8/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.4	**3.6**	2.8	**0.95**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	4.0	**10**	2.8	**2.1**	0.56	
541-73-1	1,3-Dichlorobenzene	4.3	**11**	2.8	**1.8**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **G102180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-018

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/8/18
Volume(s) Analyzed: 0.40 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)	18	**45**	2.5	**9.1**	0.51	
74-87-3	Chloromethane	< 1.0	ND	2.5	ND	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	2.3	**5.9**	5.3	**3.5**	3.1	
67-64-1	Acetone	10	**26**	13	**11**	5.6	
75-69-4	Trichlorofluoromethane	3.6	**9.0**	2.8	**1.6**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	2.0	**5.0**	2.8	**0.65**	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	1.5	**3.7**	2.5	**0.91**	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	< 1.1	ND	2.8	ND	0.93	
156-59-2	cis-1,2-Dichloroethene	2.0	**5.0**	2.8	**1.3**	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	1.2	**3.0**	2.8	**1.0**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	5.2	**13**	5.3	**4.0**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **G102180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-018

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/8/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	< 1.1	ND	2.8	ND	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	2.1	**5.1**	2.8	**1.0**	0.56	
541-73-1	1,3-Dichlorobenzene	1.3	**3.1**	2.8	**0.52**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **GB6-180726-**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-019

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

Date Collected: 7/26/18
Date Received: 7/28/18
Date Analyzed: 8/8/18
Volume(s) Analyzed: 0.40 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)	4.8	**12**	2.5	**2.4**	0.51	
74-87-3	Chloromethane	1.1	**2.7**	2.5	**1.3**	1.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	< 1.0	ND	2.5	ND	0.36	
75-01-4	Vinyl Chloride	< 1.0	ND	2.5	ND	0.98	
106-99-0	1,3-Butadiene	< 1.1	ND	2.8	ND	1.2	
75-00-3	Chloroethane	< 1.0	ND	2.5	ND	0.95	
64-17-5	Ethanol	< 5.3	ND	13	ND	7.0	
75-05-8	Acetonitrile	5.5	**14**	5.3	**8.1**	3.1	
67-64-1	Acetone	33	**82**	13	**35**	5.6	
75-69-4	Trichlorofluoromethane	1.3	**3.2**	2.8	**0.57**	0.49	
67-63-0	2-Propanol (Isopropyl Alcohol)	< 2.1	ND	5.3	ND	2.1	
75-35-4	1,1-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-09-2	Methylene Chloride	< 1.1	ND	2.8	ND	0.79	
76-13-1	Trichlorotrifluoroethane	< 1.1	ND	2.8	ND	0.36	
75-15-0	Carbon Disulfide	< 5.3	ND	13	ND	4.3	
156-60-5	trans-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
75-34-3	1,1-Dichloroethane	< 1.0	ND	2.5	ND	0.62	
1634-04-4	Methyl tert-Butyl Ether	< 1.1	ND	2.8	ND	0.76	
78-93-3	2-Butanone (MEK)	1.8	**4.5**	2.8	**1.5**	0.93	
156-59-2	cis-1,2-Dichloroethene	< 1.1	ND	2.8	ND	0.69	
110-54-3	n-Hexane	< 1.1	ND	2.8	ND	0.78	
67-66-3	Chloroform	< 1.1	ND	2.8	ND	0.56	
109-99-9	Tetrahydrofuran (THF)	8.9	**22**	2.8	**7.6**	0.93	
107-06-2	1,2-Dichloroethane	< 1.1	ND	2.8	ND	0.68	
71-55-6	1,1,1-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
71-43-2	Benzene	4.8	**12**	5.3	**3.7**	1.6	
56-23-5	Carbon Tetrachloride	< 1.1	ND	2.8	ND	0.44	
110-82-7	Cyclohexane	< 2.1	ND	5.3	ND	1.5	
78-87-5	1,2-Dichloropropane	< 1.1	ND	2.8	ND	0.60	
75-27-4	Bromodichloromethane	< 1.1	ND	2.8	ND	0.41	

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: **GB6-180726-** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-019

Test Code: EPA TO-17 Date Collected: 7/26/18
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18
Analyst: Cory Lewis Date Analyzed: 8/8/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: 0.40 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	2.8	ND	0.51	
123-91-1	1,4-Dioxane	< 1.1	ND	2.8	ND	0.76	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	< 1.1	ND	2.8	ND	0.59	
142-82-5	n-Heptane	< 1.1	ND	2.8	ND	0.67	
10061-01-5	cis-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
108-10-1	4-Methyl-2-pentanone	< 2.1	ND	5.3	ND	1.3	
10061-02-6	trans-1,3-Dichloropropene	< 1.1	ND	2.8	ND	0.61	
79-00-5	1,1,2-Trichloroethane	< 1.1	ND	2.8	ND	0.50	
108-88-3	Toluene	1.1	**2.8**	2.8	**0.76**	0.73	
591-78-6	2-Hexanone	< 1.1	ND	2.8	ND	0.67	
124-48-1	Dibromochloromethane	< 1.1	ND	2.8	ND	0.32	
106-93-4	1,2-Dibromoethane	< 1.1	ND	2.8	ND	0.36	
111-65-9	n-Octane	< 1.1	ND	2.8	ND	0.59	
127-18-4	Tetrachloroethene	< 1.1	ND	2.8	ND	0.41	
108-90-7	Chlorobenzene	< 1.1	ND	2.8	ND	0.60	
100-41-4	Ethylbenzene	< 1.1	ND	2.8	ND	0.63	
179601-23-1	m,p-Xylenes	< 2.1	ND	5.3	ND	1.2	
75-25-2	Bromoform	< 1.1	ND	2.8	ND	0.27	
100-42-5	Styrene	< 1.1	ND	2.8	ND	0.65	
95-47-6	o-Xylene	< 1.1	ND	2.8	ND	0.63	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.1	ND	2.8	ND	0.40	
98-82-8	Cumene	< 1.1	ND	2.8	ND	0.56	
108-67-8	1,3,5-Trimethylbenzene	< 1.0	ND	2.5	ND	0.51	
95-63-6	1,2,4-Trimethylbenzene	1.7	**4.1**	2.8	**0.84**	0.56	
541-73-1	1,3-Dichlorobenzene	4.1	**10**	2.8	**1.7**	0.46	
106-46-7	1,4-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
95-50-1	1,2-Dichlorobenzene	< 1.1	ND	2.8	ND	0.46	
96-12-8	1,2-Dibromo-3-chloropropane	< 1.1	ND	2.8	ND	0.28	
120-82-1	1,2,4-Trichlorobenzene	< 1.1	ND	2.8	ND	0.37	
87-68-3	Hexachlorobutadiene	< 1.1	ND	2.8	ND	0.26	

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: **VTRP180725**
Client Project ID: **Cedar Hills Regional Landfill / 130088**

ALS Project ID: P1803906
ALS Sample ID: P1803906-020

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

Date Collected: 7/25/18
Date Received: 7/28/18
Date Analyzed: 8/8/18
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	< 1.0	NA	NA	NA	NA	
106-99-0	1,3-Butadiene	< 1.1	NA	NA	NA	NA	
75-00-3	Chloroethane	< 1.0	NA	NA	NA	NA	
64-17-5	Ethanol	< 5.3	NA	NA	NA	NA	
75-05-8	Acetonitrile	2.4	NA	NA	NA	NA	
67-64-1	Acetone	15	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	< 5.3	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)	1.8	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	< 1.1	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: **VTRP180725** ALS Project ID: P1803906

Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P1803906-020

Test Code: EPA TO-17 Date Collected: 7/25/18

Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: 7/28/18

Analyst: Cory Lewis Date Analyzed: 8/8/18

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	< 1.1	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	< 1.0	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	< 1.1	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: P1803906

Naphthalene

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date(s) Collected: 7/25 - 7/26/18
Analyst: Cory Lewis Date Received: 7/28/18
Sampling Media: TD Carbo 300 Sorbent Tube(s) Date Analyzed: 8/7 - 8/8/18
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
GP20D180725-	P1803906-001	0.40	**1.5**	**3.8**	2.8	0.93	**0.73**	0.52	0.18	**B**
GP20S180725-	P1803906-002	0.40	**0.50**	**1.2**	2.8	0.93	**0.24**	0.52	0.18	**J , B**
GP19D180725-	P1803906-003	0.40	**0.51**	**1.3**	2.8	0.93	**0.24**	0.52	0.18	**J , B**
GP19S180725-	P1803906-004	0.40	**0.44**	**1.1**	2.8	0.93	**0.21**	0.52	0.18	**J , B**
GP18S 180725-	P1803906-005	0.40	< 0.37	**0.90**	2.8	0.93	**0.17**	0.52	0.18	**J , B**
GP18D 180725-	P1803906-006	0.40	**0.38**	**0.95**	2.8	0.93	**0.18**	0.52	0.18	**J , B**
GP60S 180725-	P1803906-007	0.40	**2.4**	**6.1**	2.8	0.93	**1.2**	0.52	0.18	**B**
GP62S 180726-	P1803906-008	0.40	**0.46**	**1.2**	2.8	0.93	**0.22**	0.52	0.18	**J , B**
GP56S 180726-	P1803906-009	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GG8-180726-	P1803906-010	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GP64S180726-	P1803906-011	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GP64D180726-	P1803906-012	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GP63S180726-	P1803906-013	0.40	**0.50**	**1.2**	2.8	0.93	**0.24**	0.52	0.18	**J , B**
GP63M180726-	P1803906-014	0.40	**0.51**	**1.3**	2.8	0.93	**0.24**	0.52	0.18	**J , B**
GP63D180726-	P1803906-015	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GP16S180726-	P1803906-016	0.40	**5.4**	**13**	2.8	0.93	**2.6**	0.52	0.18	**B**
GP16D180726-	P1803906-017	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
G102180726-	P1803906-018	0.40	< 0.37	ND	2.8	0.93	ND	0.52	0.18	
GB6-180726-	P1803906-019	0.40	**0.39**	**0.98**	2.8	0.93	**0.19**	0.52	0.18	**J , B**
VTRP180725	P1803906-020	NA	< 0.37	NA	NA	NA	NA	NA	NA	
Method Blank	P180807-MB	NA	**1.7**	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.
B = Analyte found in method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Aspect Consulting**
Client Sample ID: **Method Blank** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P180807-MB

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 8/7/18
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	< 1.0	NA	NA	NA	NA	
106-99-0	1,3-Butadiene	< 1.1	NA	NA	NA	NA	
75-00-3	Chloroethane	< 1.0	NA	NA	NA	NA	
64-17-5	Ethanol	< 5.3	NA	NA	NA	NA	
75-05-8	Acetonitrile	< 2.1	NA	NA	NA	NA	
67-64-1	Acetone	< 5.3	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	< 5.3	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)	< 1.1	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	< 1.1	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: P1803906

Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P180807-MB

Test Code: EPA TO-17 Date Collected: NA

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

Analyst: Cory Lewis Date Analyzed: 8/7/18

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	< 1.1	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	< 1.0	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	< 1.1	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: P1803906

Test Code: EPA TO-17
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date(s) Collected: 7/25 - 7/26/18
Analyst: Cory Lewis Date(s) Received: 7/28/18
Sampling Media: TD Carbo 300 Sorbent Tube(s) Date(s) Analyzed: 8/7 - 8/8/18
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P180807-MB	**107**	70-140	**103**	70-140	**93**	70-140	
Lab Control Sample	P180807-LCS	**108**	70-140	**103**	70-140	**94**	70-140	
Duplicate Lab Control Sample	P180807-DLCS	**108**	70-140	**104**	70-140	**95**	70-140	
GP20D180725-	P1803906-001	**96**	70-140	**103**	70-140	**98**	70-140	
GP20S180725-	P1803906-002	**98**	70-140	**102**	70-140	**97**	70-140	
GP19D180725-	P1803906-003	**113**	70-140	**102**	70-140	**97**	70-140	
GP19S180725-	P1803906-004	**130**	70-140	**104**	70-140	**97**	70-140	
GP18S 180725-	P1803906-005	**101**	70-140	**105**	70-140	**97**	70-140	
GP18D 180725-	P1803906-006	**120**	70-140	**102**	70-140	**96**	70-140	
GP60S 180725-	P1803906-007	**113**	70-140	**103**	70-140	**97**	70-140	
GP62S 180726-	P1803906-008	**102**	70-140	**105**	70-140	**96**	70-140	
GP56S 180726-	P1803906-009	**101**	70-140	**102**	70-140	**98**	70-140	
GG8-180726-	P1803906-010	**99**	70-140	**102**	70-140	**97**	70-140	
GP64S180726-	P1803906-011	**113**	70-140	**103**	70-140	**98**	70-140	
GP64D180726-	P1803906-012	**105**	70-140	**103**	70-140	**98**	70-140	
GP63S180726-	P1803906-013	**107**	70-140	**102**	70-140	**100**	70-140	
GP63M180726-	P1803906-014	**132**	70-140	**109**	70-140	**99**	70-140	
GP63D180726-	P1803906-015	**100**	70-140	**101**	70-140	**97**	70-140	
GP16S180726-	P1803906-016	**107**	70-140	**103**	70-140	**97**	70-140	
GP16D180726-	P1803906-017	**161**	70-140	**102**	70-140	**99**	70-140	**S**
G102180726-	P1803906-018	**112**	70-140	**102**	70-140	**98**	70-140	
GB6-180726-	P1803906-019	**102**	70-140	**101**	70-140	**98**	70-140	
VTRP180725	P1803906-020	**129**	70-140	**102**	70-140	**98**	70-140	

S = Surrogate recovery not within specified limits.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P180807-DLCS

Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 8/07/18
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)	53.2	53.2	54.8	**100**	**103**	72-112	3	25	
74-87-3	Chloromethane	52.5	52.0	55.1	**99**	**105**	69-119	6	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	52.7	50.4	52.5	**96**	**100**	77-109	4	25	
75-01-4	Vinyl Chloride	52.7	53.7	57.2	**102**	**109**	79-116	7	25	
106-99-0	1,3-Butadiene	52.5	51.0	48.0	**97**	**91**	74-121	6	25	
75-00-3	Chloroethane	52.5	49.5	50.6	**94**	**96**	74-119	2	25	
64-17-5	Ethanol	261	252	263	**97**	**101**	75-134	4	25	
75-05-8	Acetonitrile	52.4	53.1	55.4	**101**	**106**	72-125	5	25	
67-64-1	Acetone	264	215	199	**81**	**75**	70-111	8	25	
75-69-4	Trichlorofluoromethane	52.1	52.2	53.4	**100**	**102**	69-116	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	106	99.1	96.4	**93**	**91**	66-133	2	25	
75-35-4	1,1-Dichloroethene	53.4	49.3	50.4	**92**	**94**	75-113	2	25	
75-09-2	Methylene Chloride	53.2	48.5	50.6	**91**	**95**	67-114	4	25	
76-13-1	Trichlorotrifluoroethane	53.5	49.9	51.8	**93**	**97**	75-113	4	25	
75-15-0	Carbon Disulfide	53.5	43.6	44.6	**81**	**83**	67-108	2	25	
156-60-5	trans-1,2-Dichloroethene	53.4	53.4	55.9	**100**	**105**	77-117	5	25	
75-34-3	1,1-Dichloroethane	53.1	51.7	53.3	**97**	**100**	77-114	3	25	
1634-04-4	Methyl tert-Butyl Ether	53.3	54.7	57.2	**103**	**107**	75-122	4	25	
78-93-3	2-Butanone (MEK)	52.9	50.6	50.6	**96**	**96**	74-139	0	25	
156-59-2	cis-1,2-Dichloroethene	53.0	54.3	56.4	**102**	**106**	77-117	4	25	
110-54-3	n-Hexane	53.3	52.8	54.9	**99**	**103**	76-115	4	25	
67-66-3	Chloroform	53.0	48.0	49.0	**91**	**92**	69-116	1	25	
109-99-9	Tetrahydrofuran (THF)	53.1	46.8	48.2	**88**	**91**	73-126	3	25	
107-06-2	1,2-Dichloroethane	53.0	48.3	48.5	**91**	**92**	61-115	1	25	
71-55-6	1,1,1-Trichloroethane	53.1	52.7	53.1	**99**	**100**	71-111	1	25	
71-43-2	Benzene	53.3	42.7	43.6	**80**	**82**	68-103	2	25	
56-23-5	Carbon Tetrachloride	53.4	55.1	56.0	**103**	**105**	70-116	2	25	
110-82-7	Cyclohexane	106	100.0	101	**94**	**95**	78-109	1	25	
78-87-5	1,2-Dichloropropane	53.1	52.2	52.7	**98**	**99**	80-111	1	25	
75-27-4	Bromodichloromethane	53.4	55.1	55.6	**103**	**104**	68-122	1	25	

Client: **Aspect Consulting**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1803906
Client Project ID: **Cedar Hills Regional Landfill / 130088** ALS Sample ID: P180807-DLCS

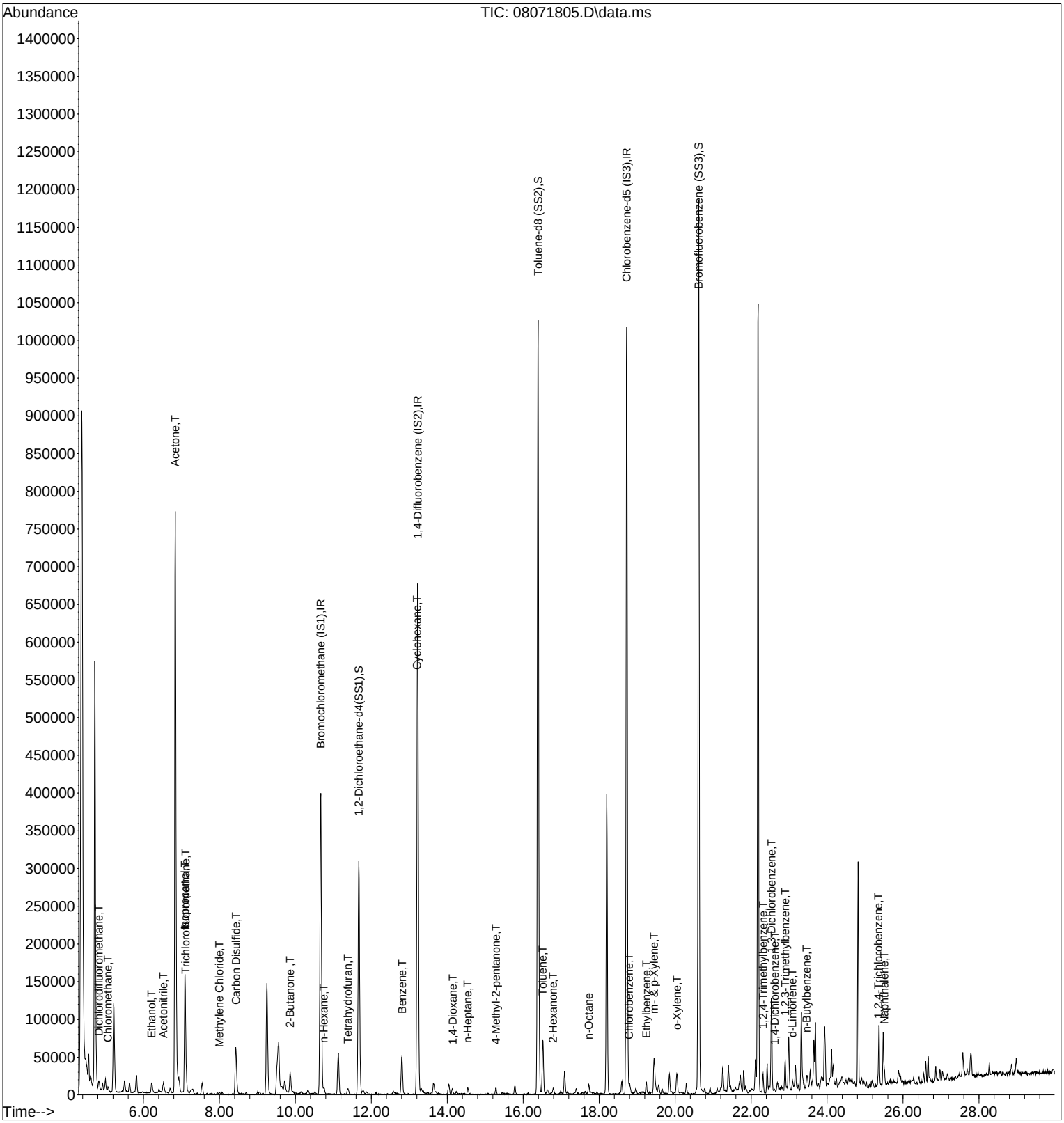
Test Code: EPA TO-17 Date Collected: NA
Instrument ID: Markes ATD/Agilent 5975Cinert/7890A/MS18 Date Received: NA
Analyst: Cory Lewis Date Analyzed: 8/07/18
Sampling Media: TD Carbo 300 Sorbent Tube Volume(s) Analyzed: NA Liter(s)
Test Notes:

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	53.1	51.9	53.1	**98**	**100**	82-111	2	25	
123-91-1	1,4-Dioxane	53.2	48.4	48.7	**91**	**92**	79-113	1	25	
540-84-1	2,2,4-Trimethylpentane (Isooctane)	53.1	52.4	53.4	**99**	**101**	76-114	2	25	
142-82-5	n-Heptane	53.3	51.4	51.9	**96**	**97**	80-113	1	25	
10061-01-5	cis-1,3-Dichloropropene	52.1	51.7	51.8	**99**	**99**	82-120	0	25	
108-10-1	4-Methyl-2-pentanone	53.3	50.7	52.6	**95**	**99**	84-124	4	25	
10061-02-6	trans-1,3-Dichloropropene	53.3	51.2	52.2	**96**	**98**	79-127	2	25	
79-00-5	1,1,2-Trichloroethane	53.0	50.8	52.1	**96**	**98**	82-113	2	25	
108-88-3	Toluene	52.8	48.0	49.0	**91**	**93**	78-110	2	25	
591-78-6	2-Hexanone	52.9	50.1	50.6	**95**	**96**	79-126	1	25	
124-48-1	Dibromochloromethane	52.9	52.1	52.4	**98**	**99**	81-113	1	25	
106-93-4	1,2-Dibromoethane	52.9	49.6	51.1	**94**	**97**	82-118	3	25	
111-65-9	n-Octane	53.1	53.9	53.9	**102**	**102**	74-116	0	25	
127-18-4	Tetrachloroethene	53.0	50.2	50.1	**95**	**95**	73-111	0	25	
108-90-7	Chlorobenzene	53.1	51.8	51.7	**98**	**97**	76-111	1	25	
100-41-4	Ethylbenzene	53.0	50.9	50.3	**96**	**95**	74-113	1	25	
179601-23-1	m,p-Xylenes	106	102	103	**96**	**97**	74-113	1	25	
75-25-2	Bromoform	53.1	50.4	51.6	**95**	**97**	73-117	2	25	
100-42-5	Styrene	52.7	50.9	51.3	**97**	**97**	78-121	0	25	
95-47-6	o-Xylene	52.8	51.3	51.6	**97**	**98**	73-114	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	52.9	52.5	51.2	**99**	**97**	72-116	2	25	
98-82-8	Cumene	53.1	52.0	52.8	**98**	**99**	75-113	1	25	
108-67-8	1,3,5-Trimethylbenzene	53.0	52.2	52.3	**98**	**99**	73-115	1	25	
95-63-6	1,2,4-Trimethylbenzene	53.1	51.4	52.3	**97**	**98**	73-117	1	25	
541-73-1	1,3-Dichlorobenzene	53.0	52.2	52.3	**98**	**99**	76-118	1	25	
106-46-7	1,4-Dichlorobenzene	53.5	52.5	52.8	**98**	**99**	74-113	1	25	
95-50-1	1,2-Dichlorobenzene	53.5	53.3	53.8	**100**	**101**	74-115	1	25	
96-12-8	1,2-Dibromo-3-chloropropane	52.6	55.6	55.7	**106**	**106**	78-131	0	25	
120-82-1	1,2,4-Trichlorobenzene	54.4	58.1	59.8	**107**	**110**	76-133	3	25	
91-20-3	Naphthalene	52.3	54.3	56.8	**104**	**109**	77-131	5	25	
87-68-3	Hexachlorobutadiene	53.1	51.0	52.7	**96**	**99**	74-115	3	25	

Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071805.D
Acq On : 7 Aug 2018 12:29
Operator : CL
Sample : P1803906-001
Misc : C300/TO17/TO17 1125066
ALS Vial : 41 Sample Multiplier: 1

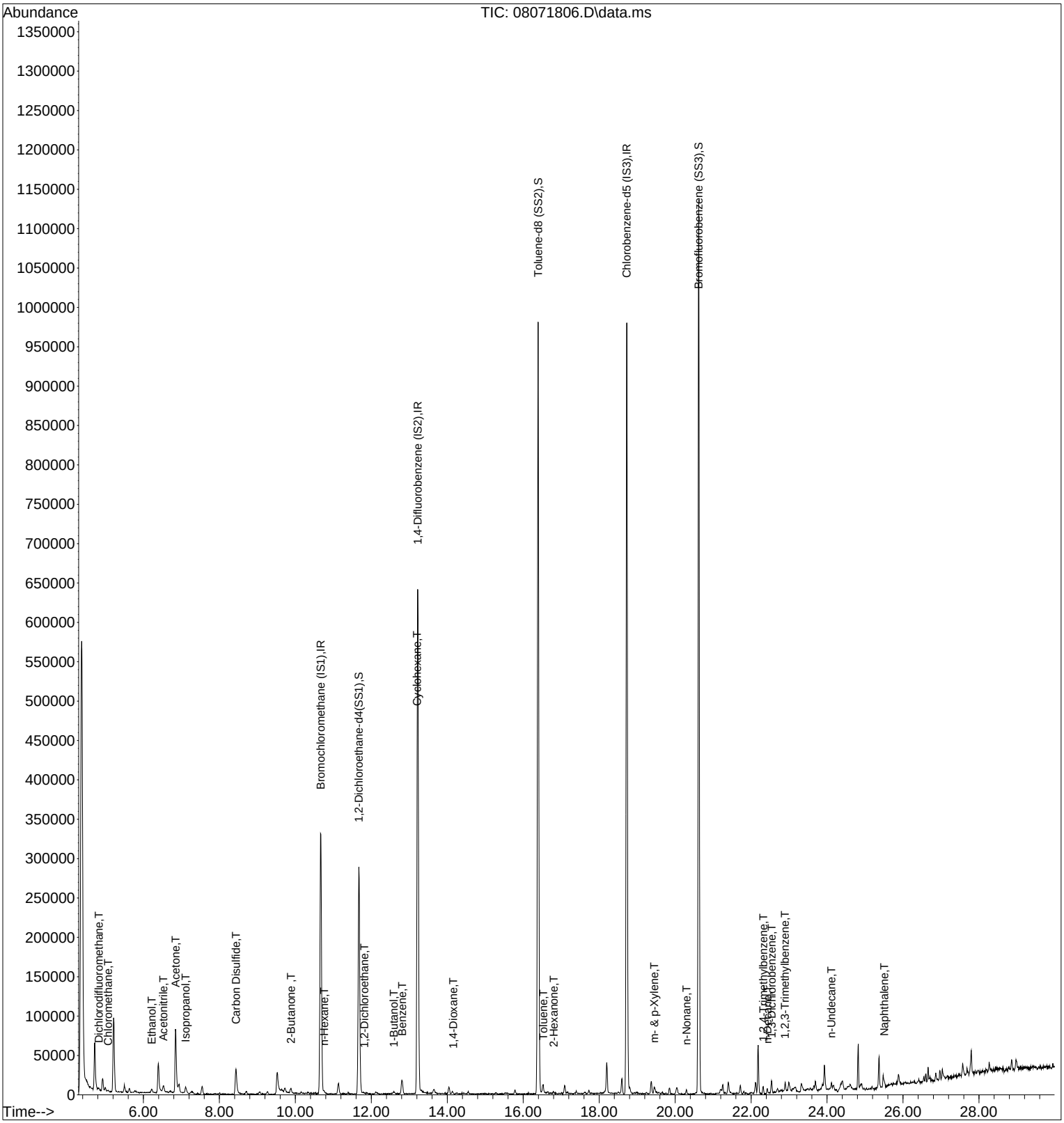
Quant Time: Aug 09 16:50:29 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071806.D
Acq On : 7 Aug 2018 13:07
Operator : CL
Sample : P1803906-002
Misc : C300/TO17/TO17 1059767
ALS Vial : 42 Sample Multiplier: 1

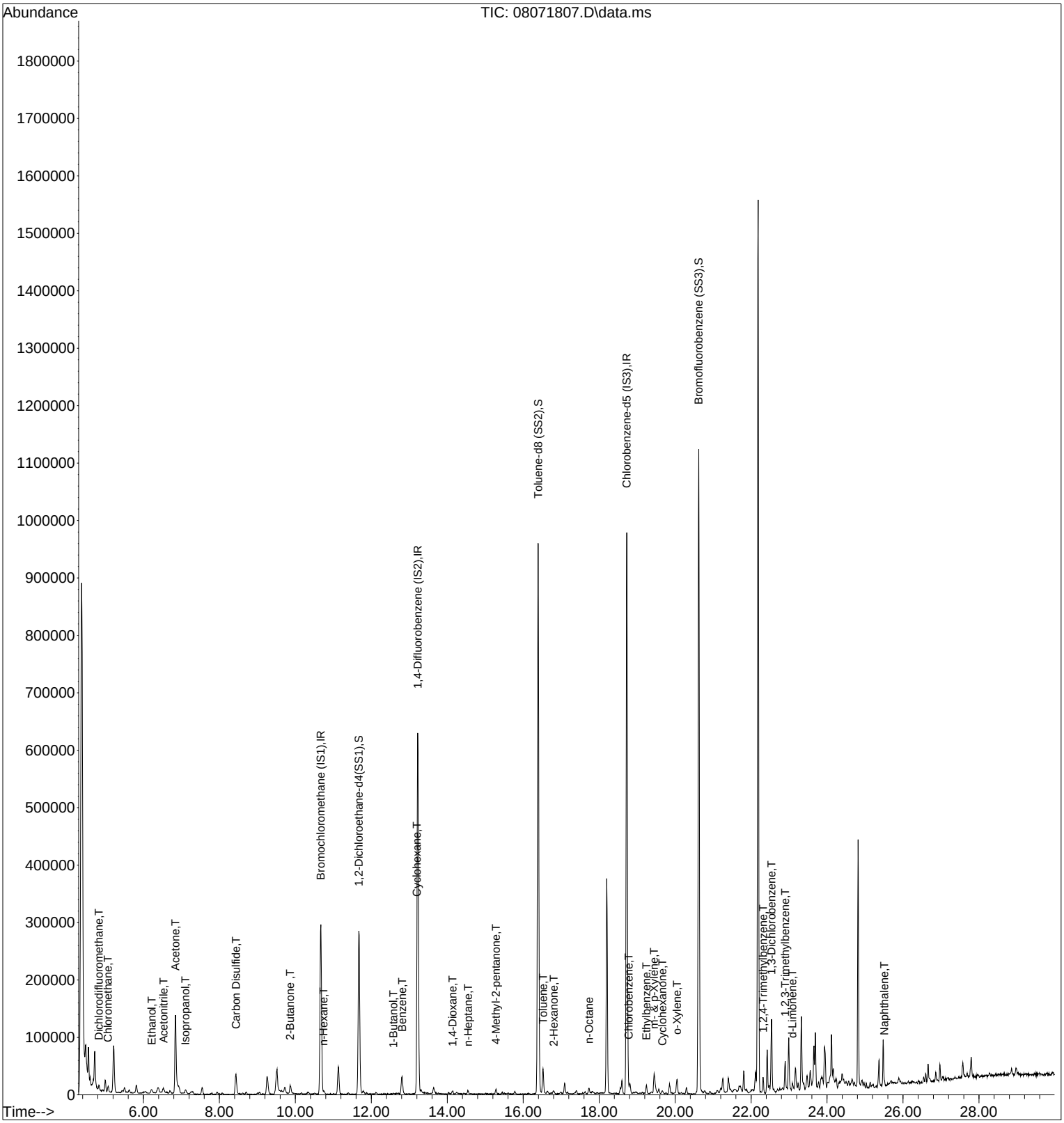
Quant Time: Aug 10 10:38:05 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

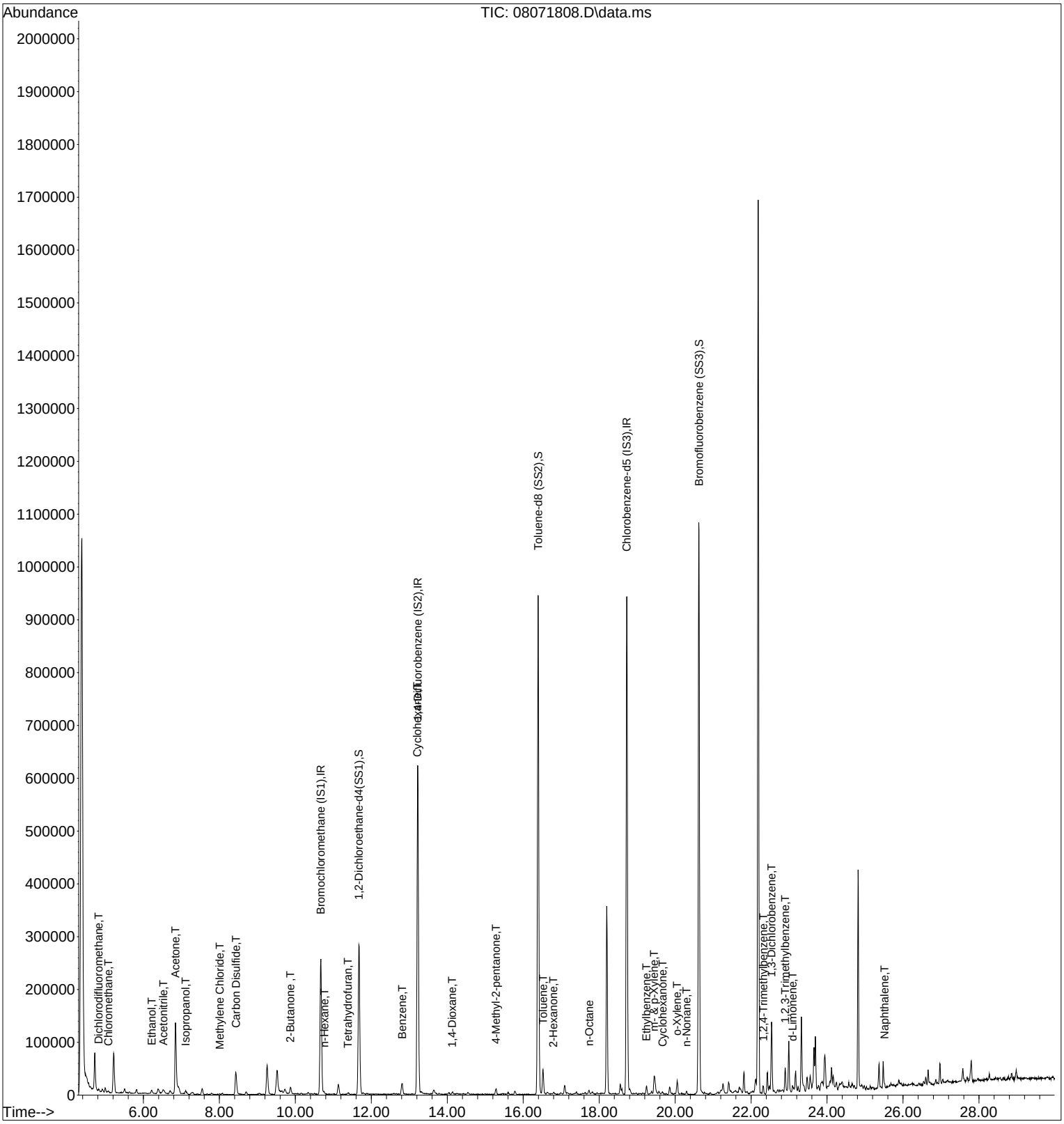
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071807.D
Acq On : 7 Aug 2018 13:45
Operator : CL
Sample : P1803906-003
Misc : C300/TO17/TO17 1064574
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Aug 10 10:39:09 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071808.D
Acq On : 7 Aug 2018 14:23
Operator : CL
Sample : P1803906-004
Misc : C300/TO17/TO17 1064262
ALS Vial : 44 Sample Multiplier: 1

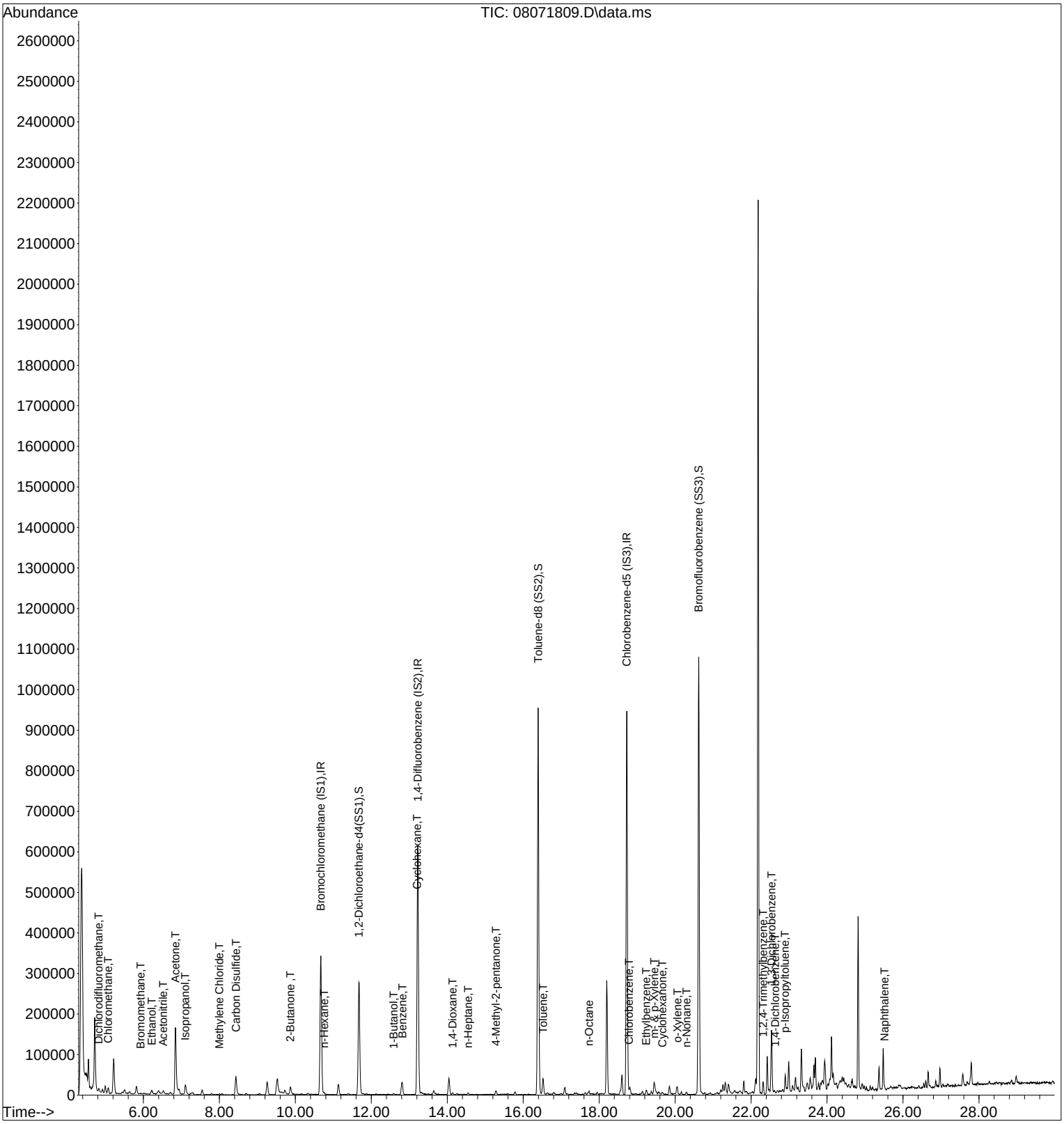
Quant Time: Aug 10 10:40:15 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

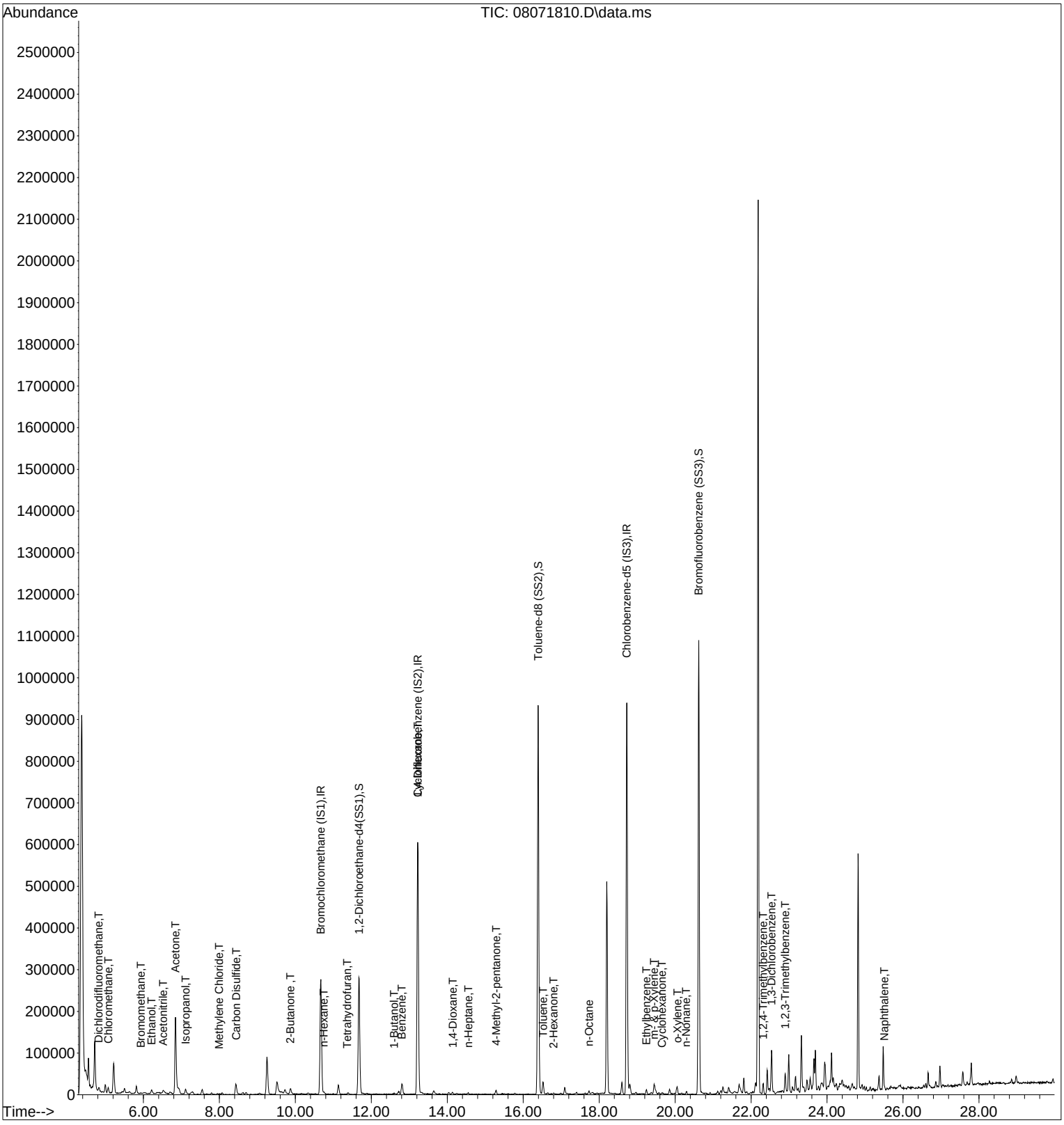
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071809.D
Acq On : 7 Aug 2018 15:01
Operator : CL
Sample : P1803906-005
Misc : C300/TO17/TO17 1110686
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Aug 10 10:41:19 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071810.D
Acq On : 7 Aug 2018 15:39
Operator : CL
Sample : P1803906-006
Misc : C300/TO17/TO17 1064283
ALS Vial : 46 Sample Multiplier: 1

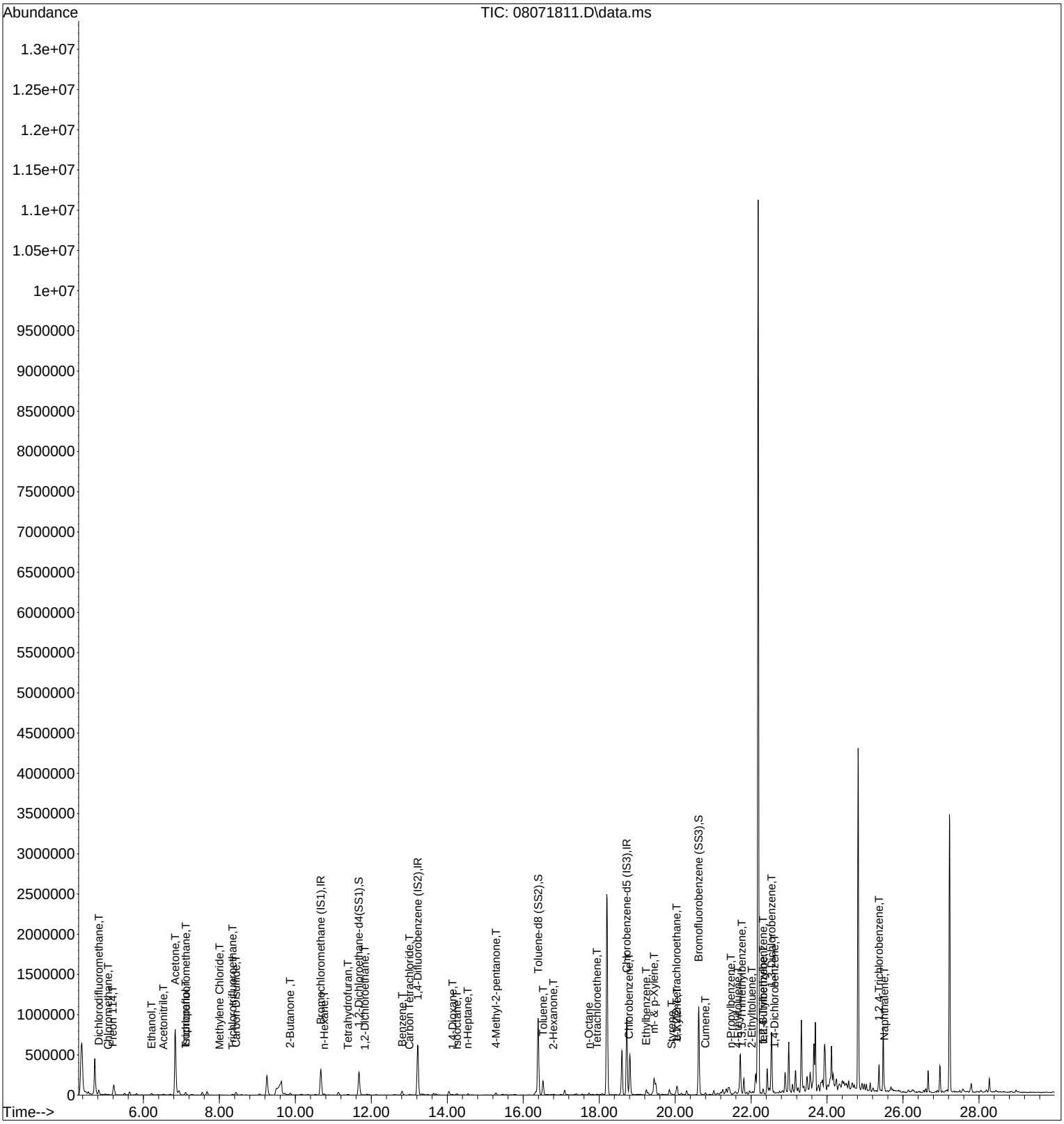
Quant Time: Aug 10 10:41:39 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071811.D
Acq On : 7 Aug 2018 16:17
Operator : CL
Sample : P1803906-007
Misc : C300/TO17/TO17 1124163
ALS Vial : 47 Sample Multiplier: 1

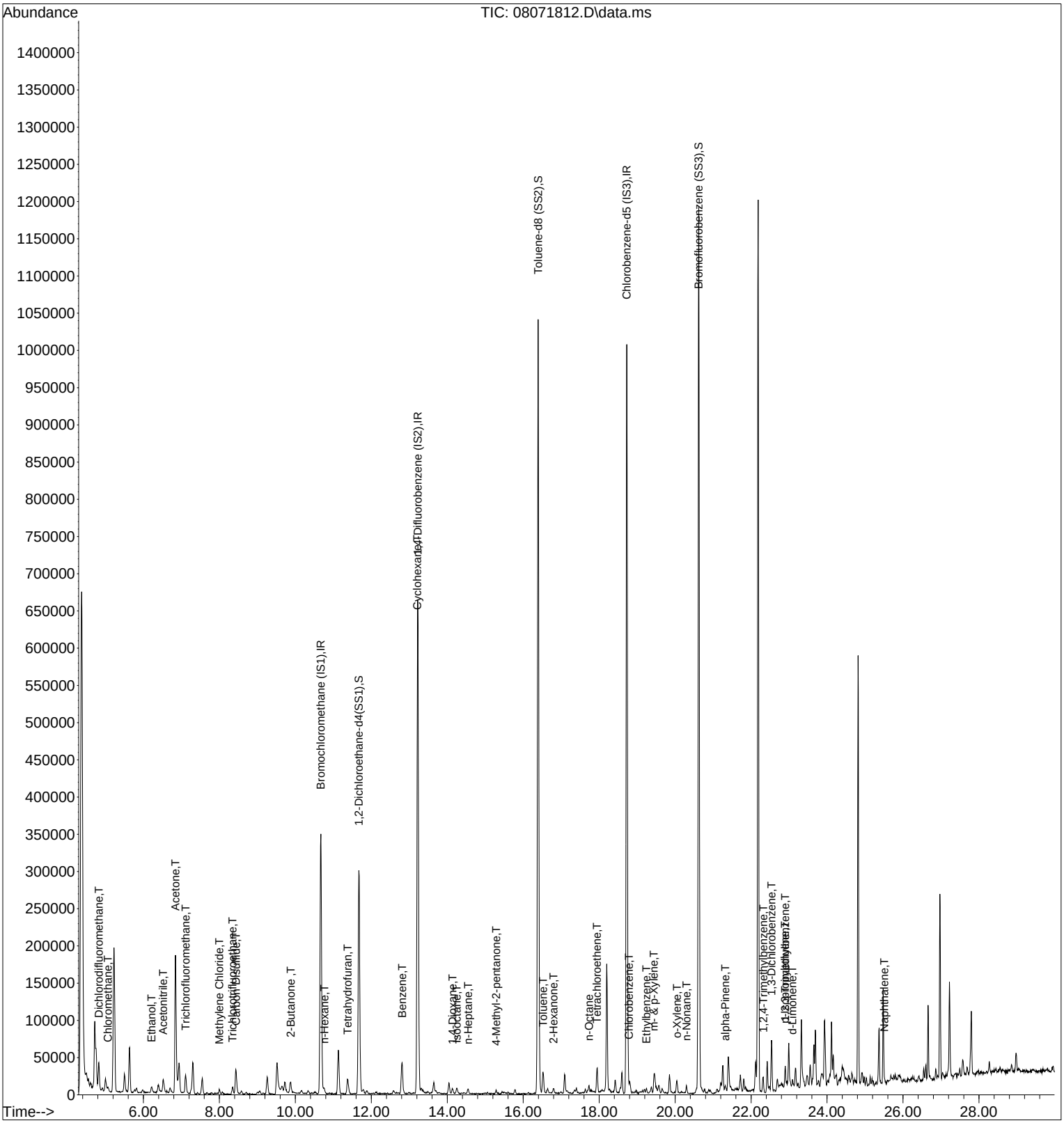
Quant Time: Aug 10 10:42:39 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071812.D
Acq On : 7 Aug 2018 16:55
Operator : CL
Sample : P1803906-008
Misc : C300/TO17/TO17 1110823
ALS Vial : 48 Sample Multiplier: 1

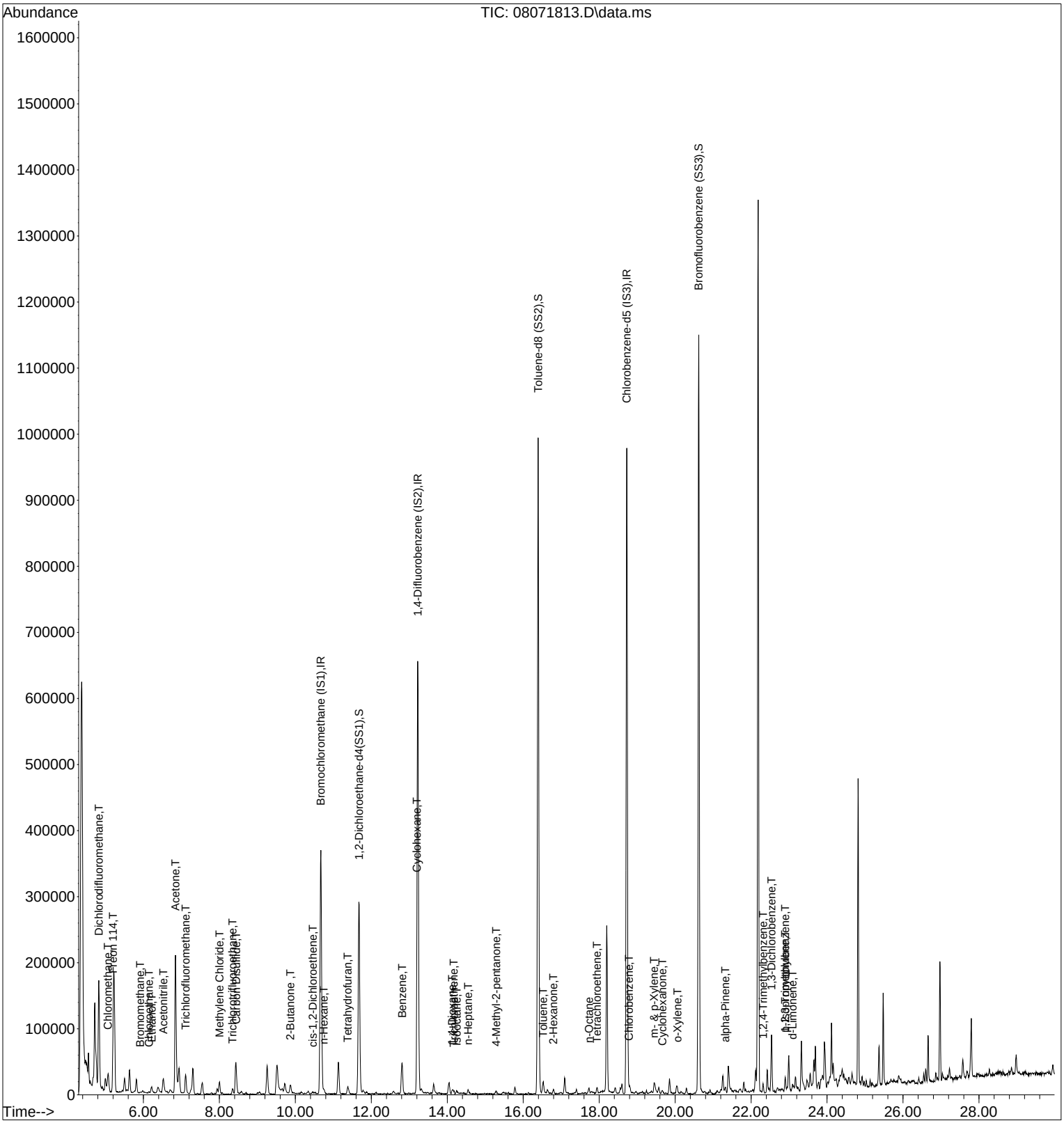
Quant Time: Aug 10 10:43:53 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071813.D
Acq On : 7 Aug 2018 17:33
Operator : CL
Sample : P1803906-009
Misc : C300/TO17/TO17 1049175
ALS Vial : 49 Sample Multiplier: 1

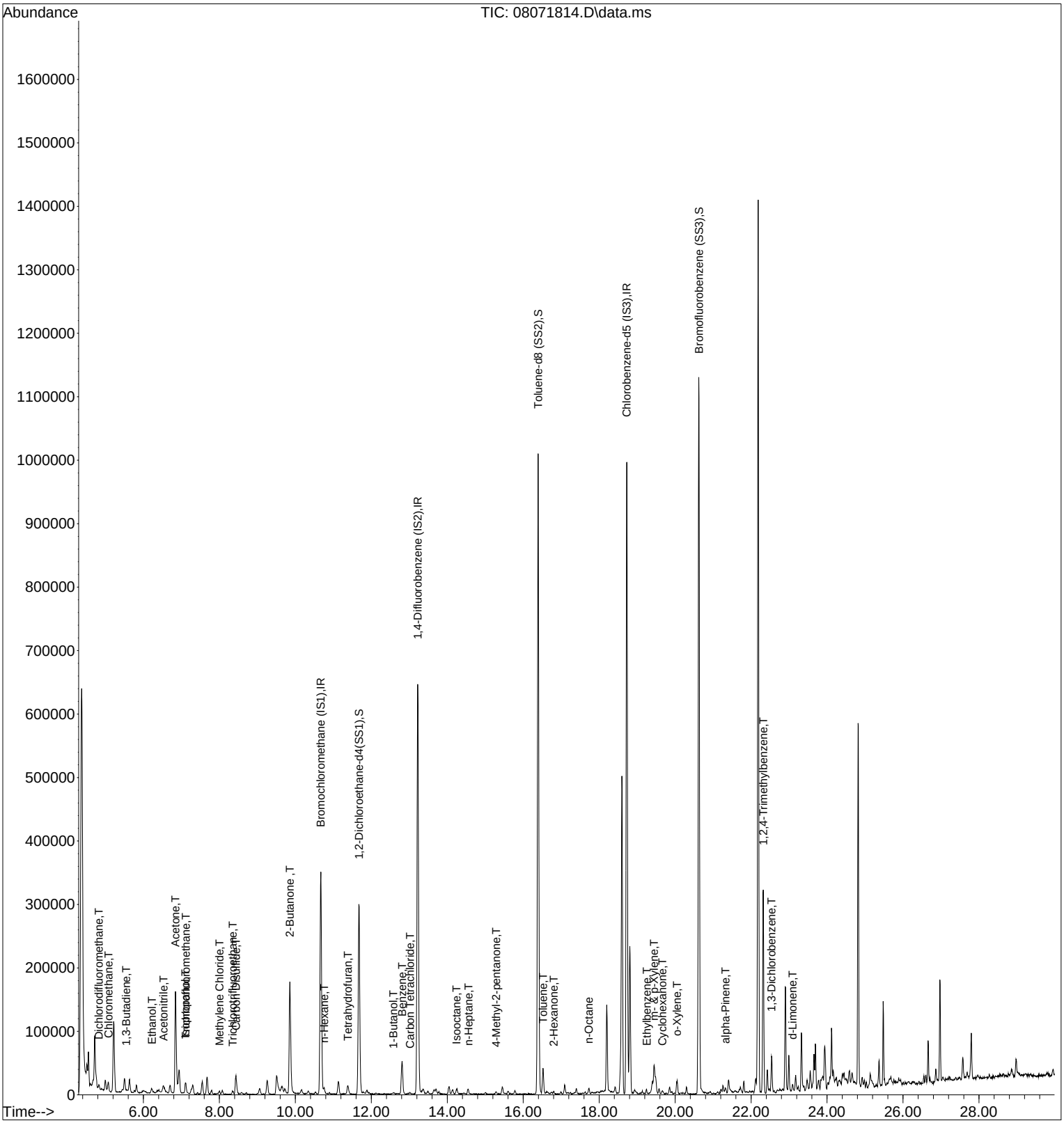
Quant Time: Aug 10 10:44:48 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

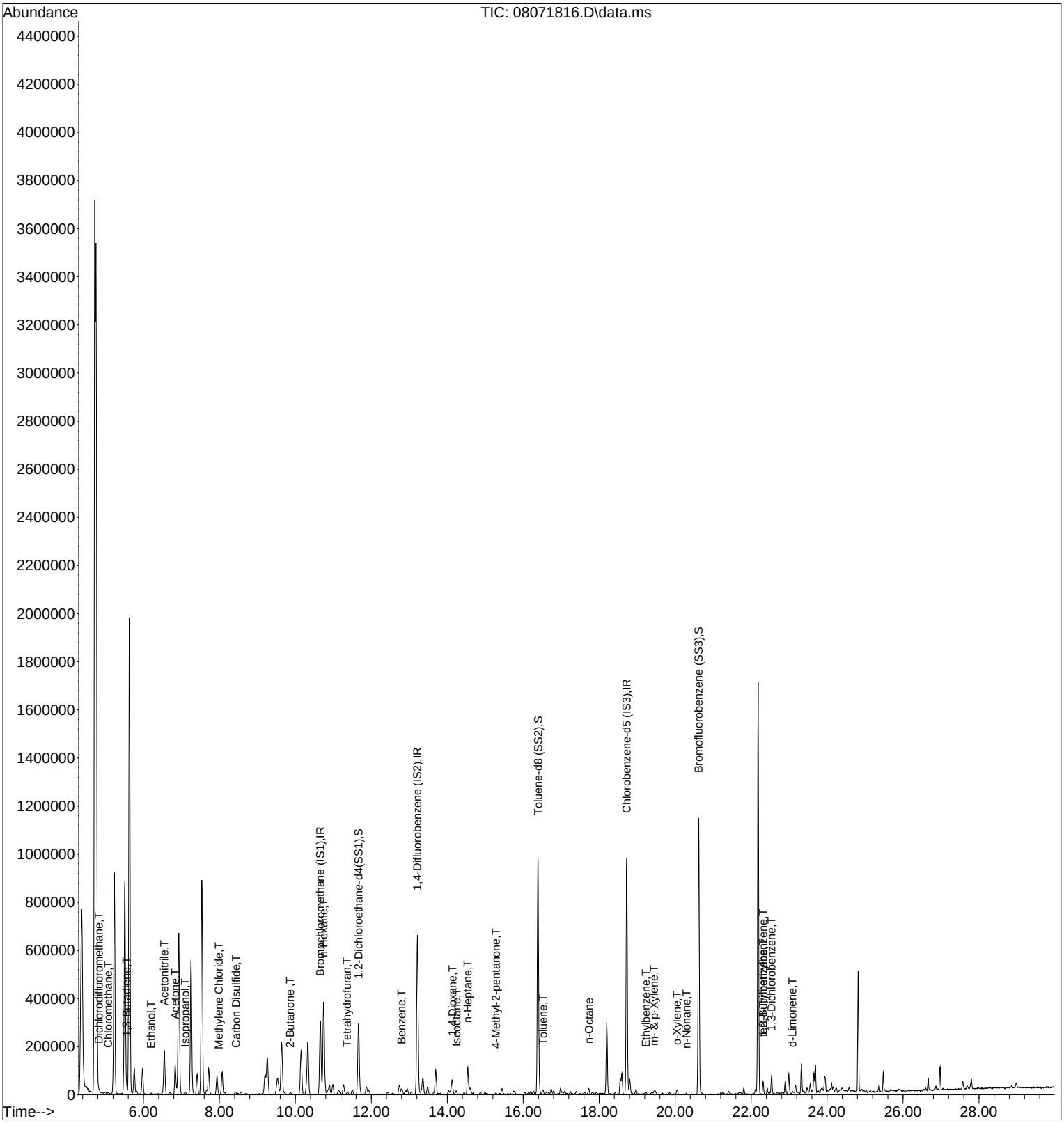
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071814.D
Acq On : 7 Aug 2018 18:12
Operator : CL
Sample : P1803906-010
Misc : C300/TO17/TO17 1110831
ALS Vial : 50 Sample Multiplier: 1

Quant Time: Aug 10 10:45:51 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071816.D
Acq On : 7 Aug 2018 19:34
Operator : CL
Sample : P1803906-011
Misc : C300/TO17/TO17 1064780
ALS Vial : 51 Sample Multiplier: 1

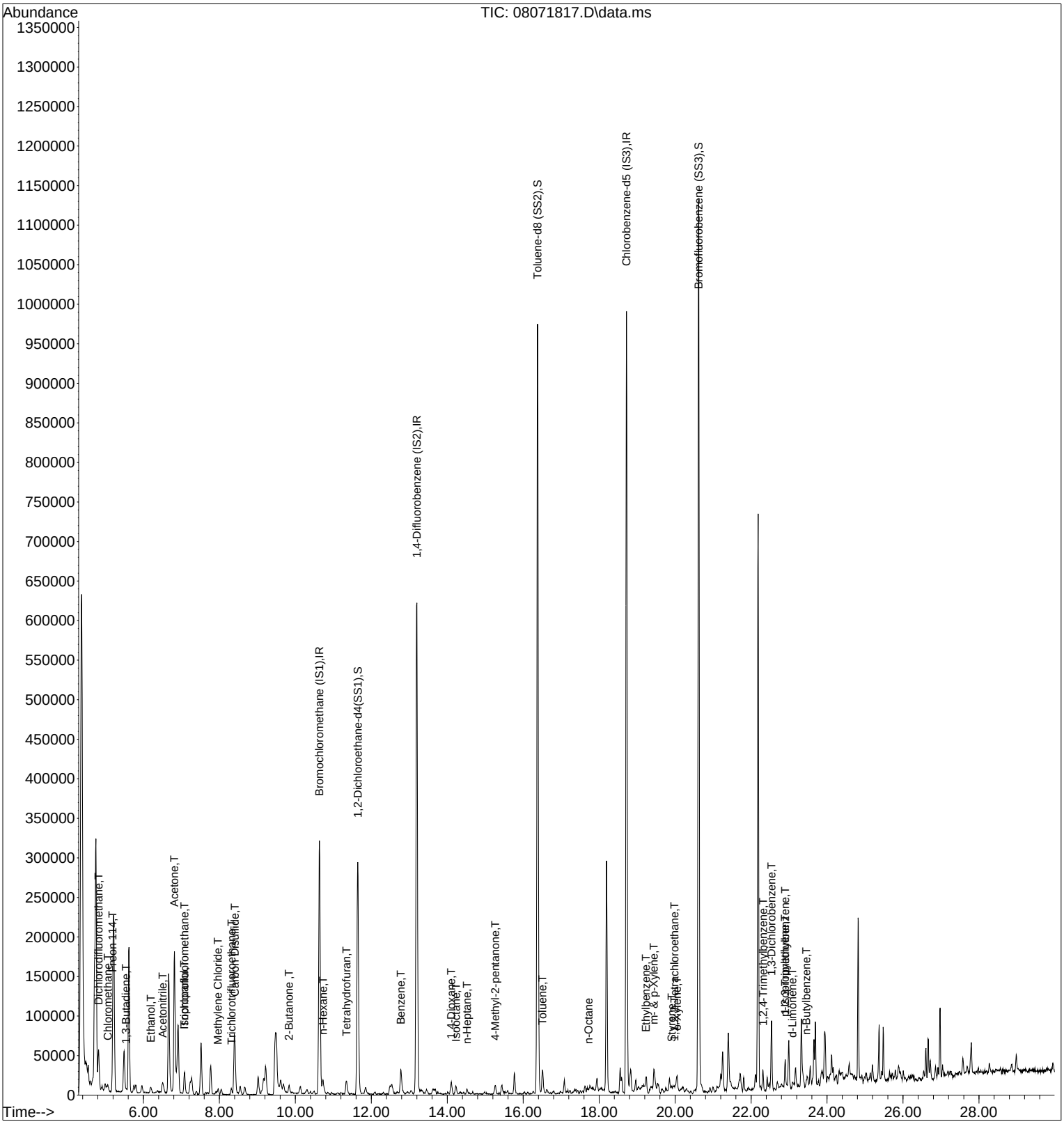
Quant Time: Aug 10 10:49:19 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071817.D
Acq On : 7 Aug 2018 20:30
Operator : CL
Sample : P1803906-012
Misc : C300/TO17/TO17 1125062
ALS Vial : 52 Sample Multiplier: 1

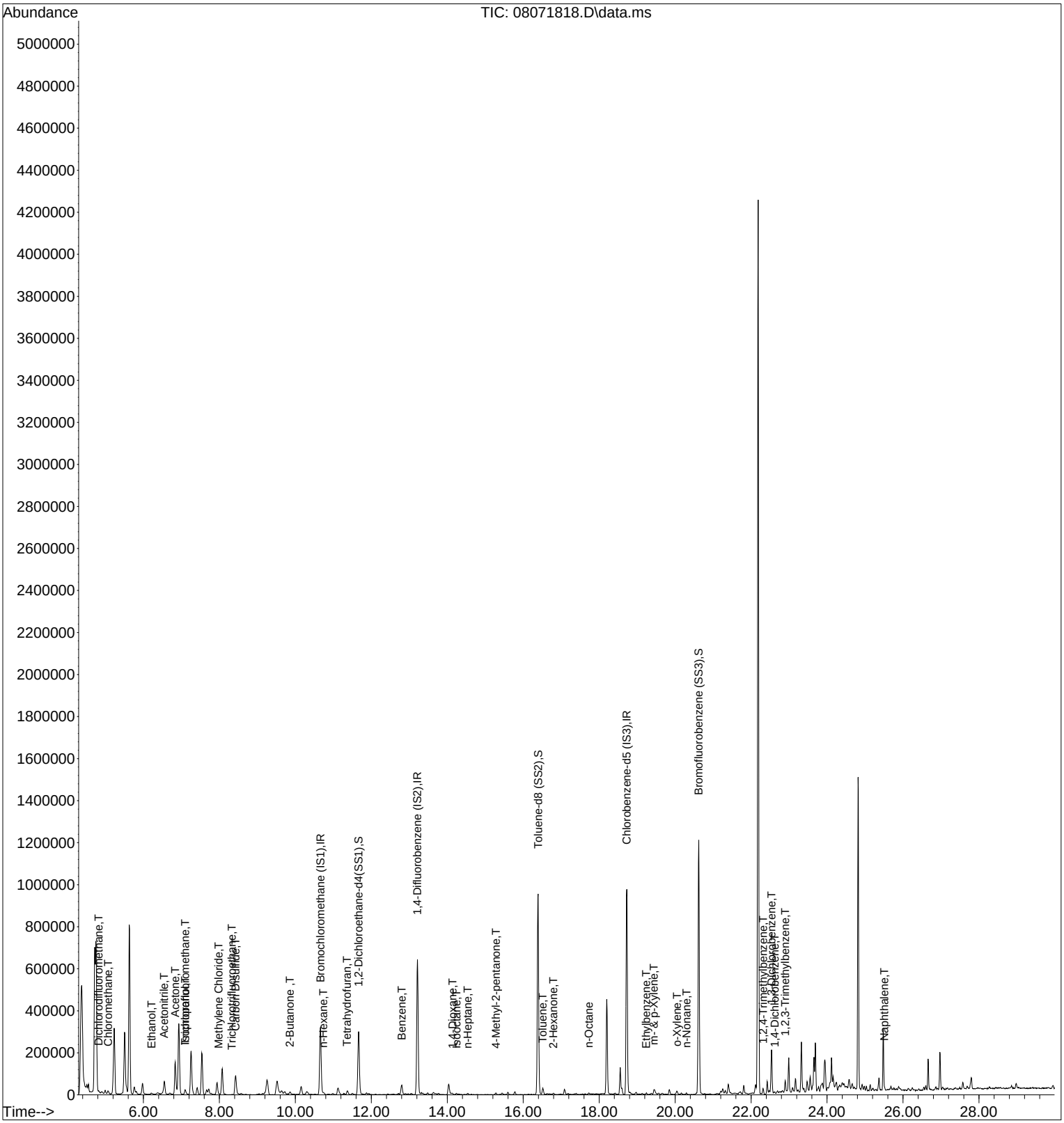
Quant Time: Aug 10 10:51:39 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071818.D
Acq On : 7 Aug 2018 21:12
Operator : CL
Sample : P1803906-013
Misc : C300/TO17/TO17 1110258
ALS Vial : 53 Sample Multiplier: 1

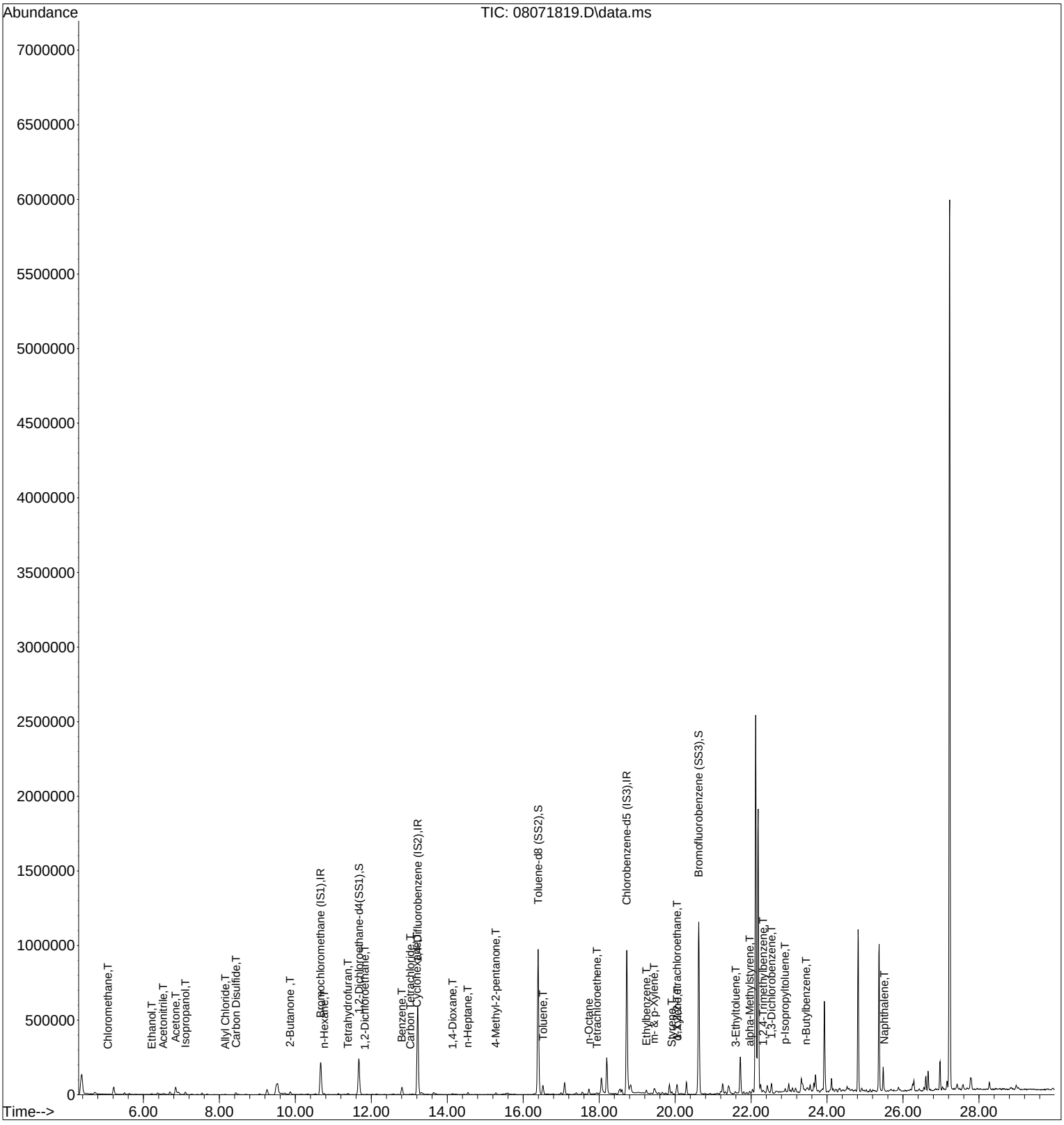
Quant Time: Aug 10 10:54:01 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

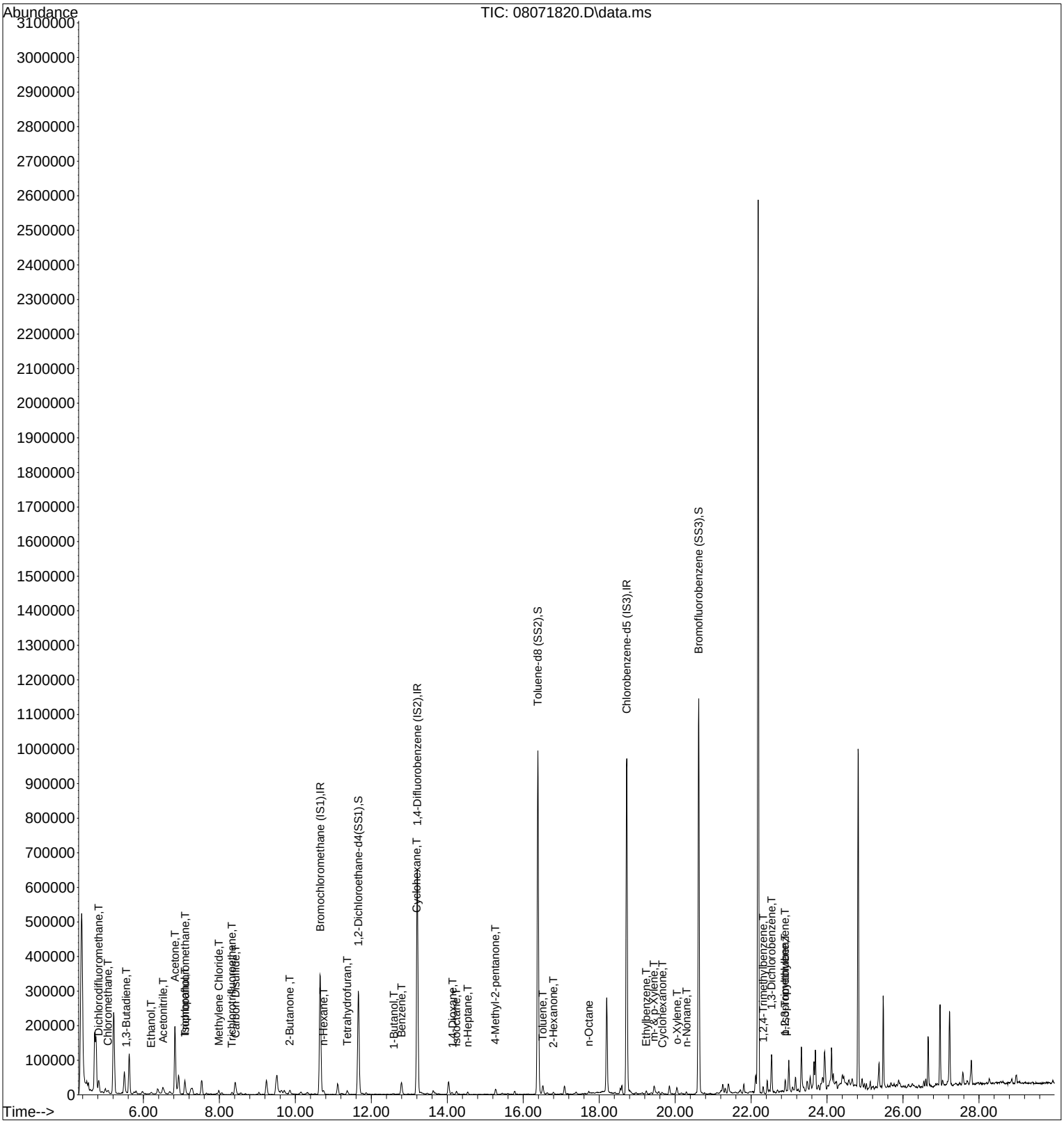
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071819.D
Acq On : 7 Aug 2018 21:53
Operator : CL
Sample : P1803906-014
Misc : C300/TO17/TO17 371129
ALS Vial : 54 Sample Multiplier: 1

Quant Time: Aug 10 10:55:05 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



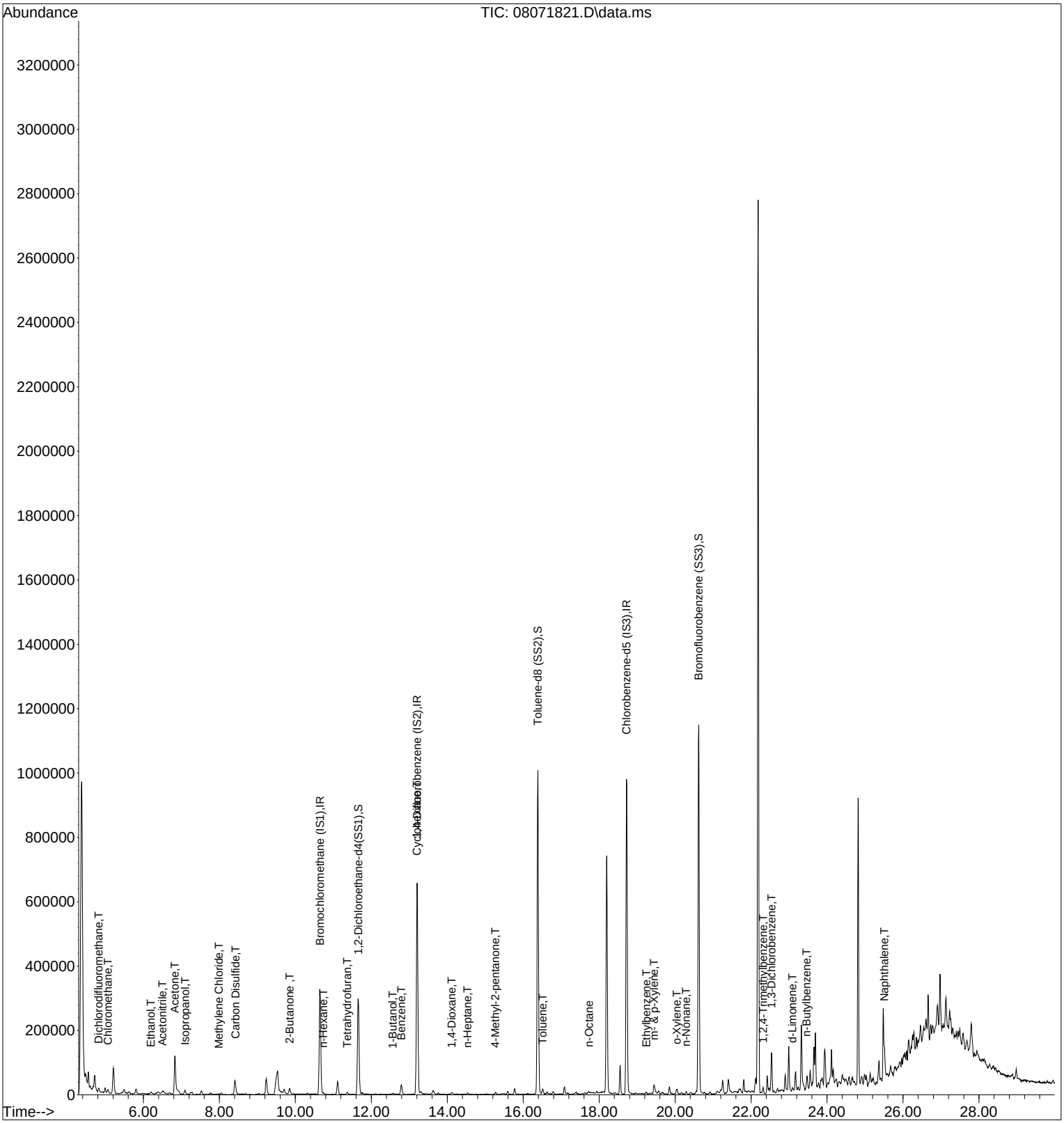
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071820.D
Acq On : 7 Aug 2018 22:37
Operator : CL
Sample : P1803906-015
Misc : C300/TO17/TO17 1109566
ALS Vial : 55 Sample Multiplier: 1

Quant Time: Aug 10 10:57:14 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



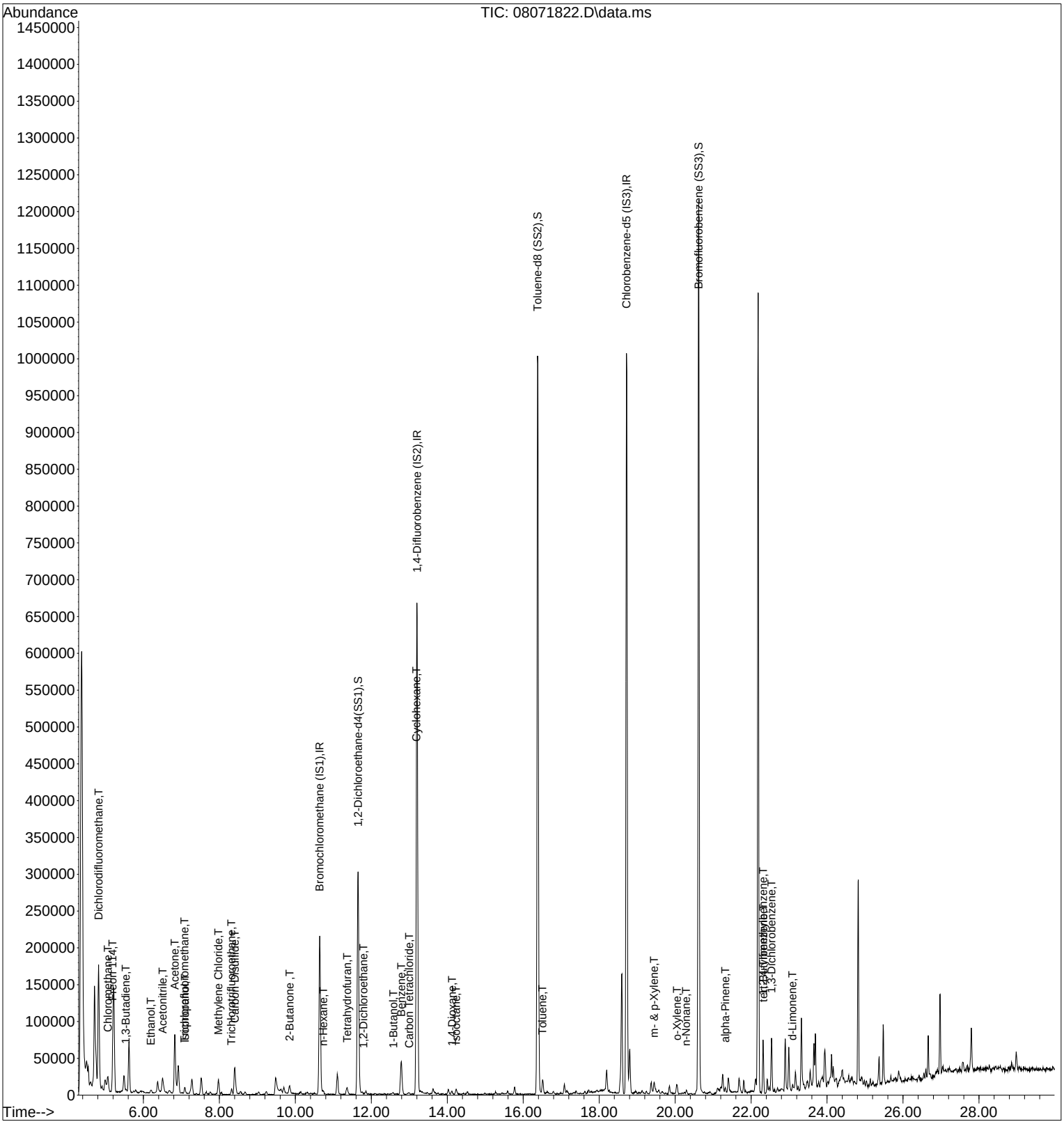
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071821.D
Acq On : 7 Aug 2018 23:26
Operator : CL
Sample : P1803906-016
Misc : C300/TO17/TO17 1125022
ALS Vial : 56 Sample Multiplier: 1

Quant Time: Aug 10 11:17:10 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



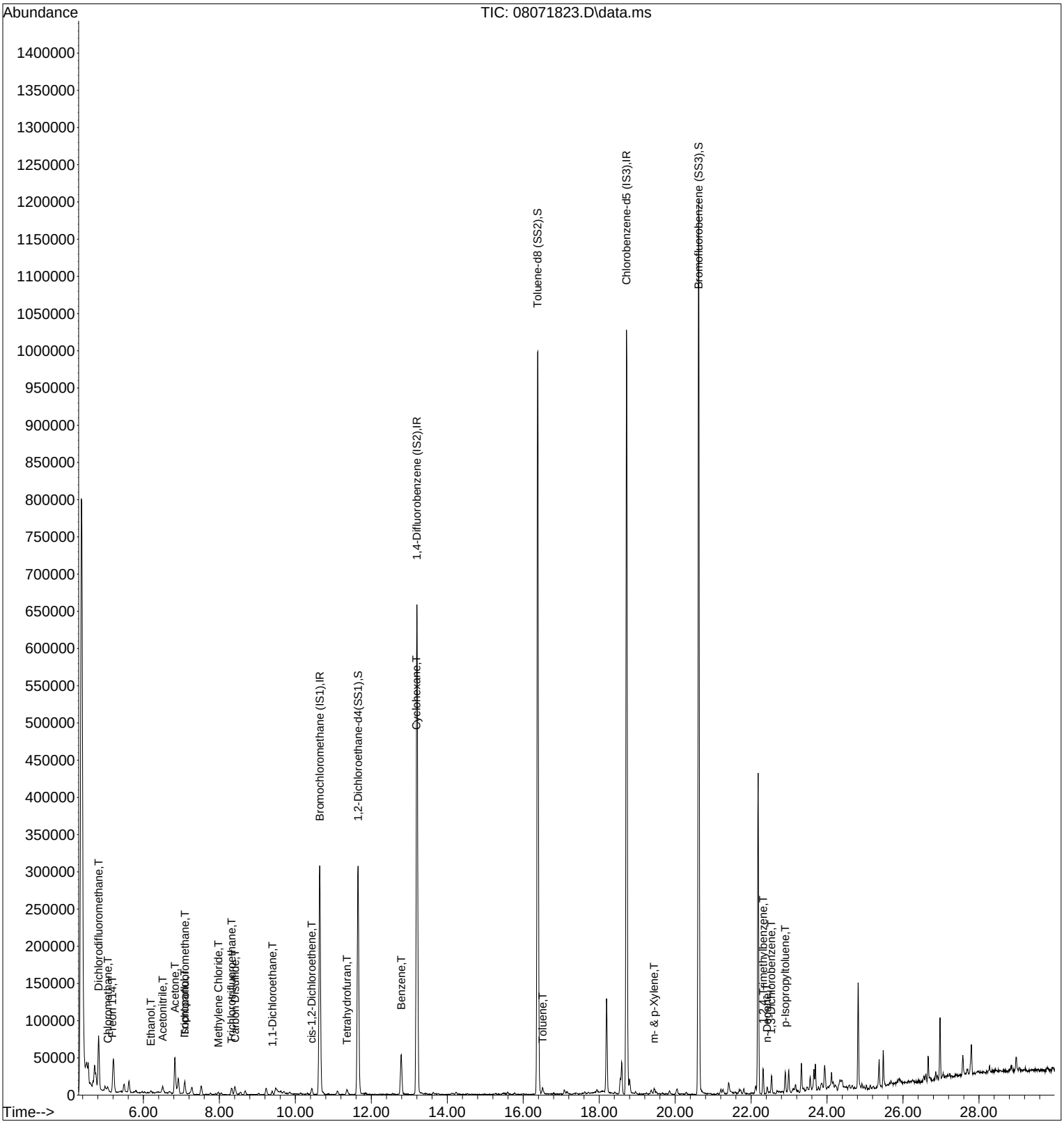
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071822.D
Acq On : 8 Aug 2018 00:15
Operator : CL
Sample : P1803906-017
Misc : C300/TO17/TO17 1111251
ALS Vial : 57 Sample Multiplier: 1

Quant Time: Aug 10 10:59:25 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071823.D
Acq On : 8 Aug 2018 1:07
Operator : CL
Sample : P1803906-018
Misc : C300/TO17/TO17 1125697
ALS Vial : 58 Sample Multiplier: 1

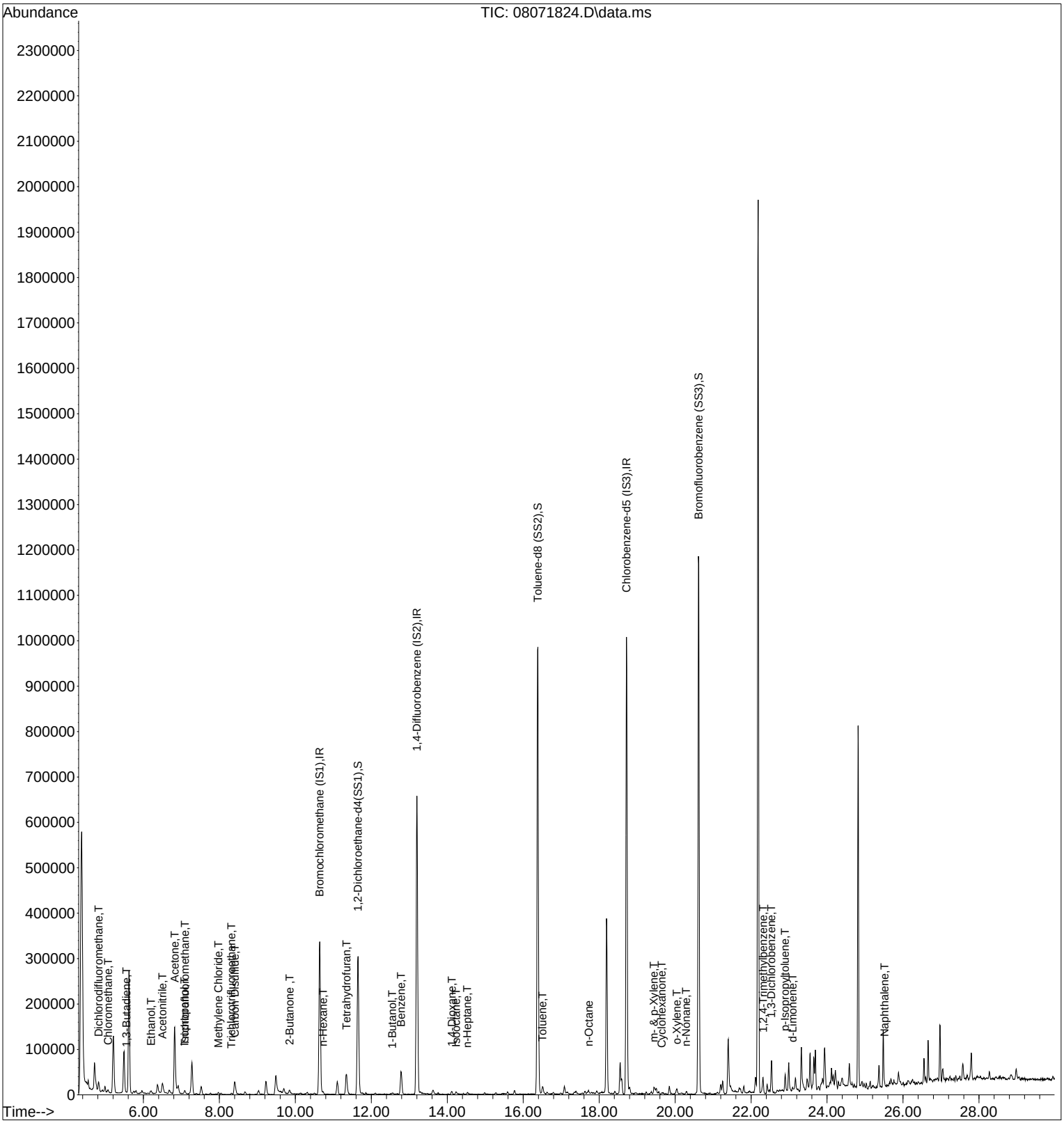
Quant Time: Aug 10 11:00:08 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

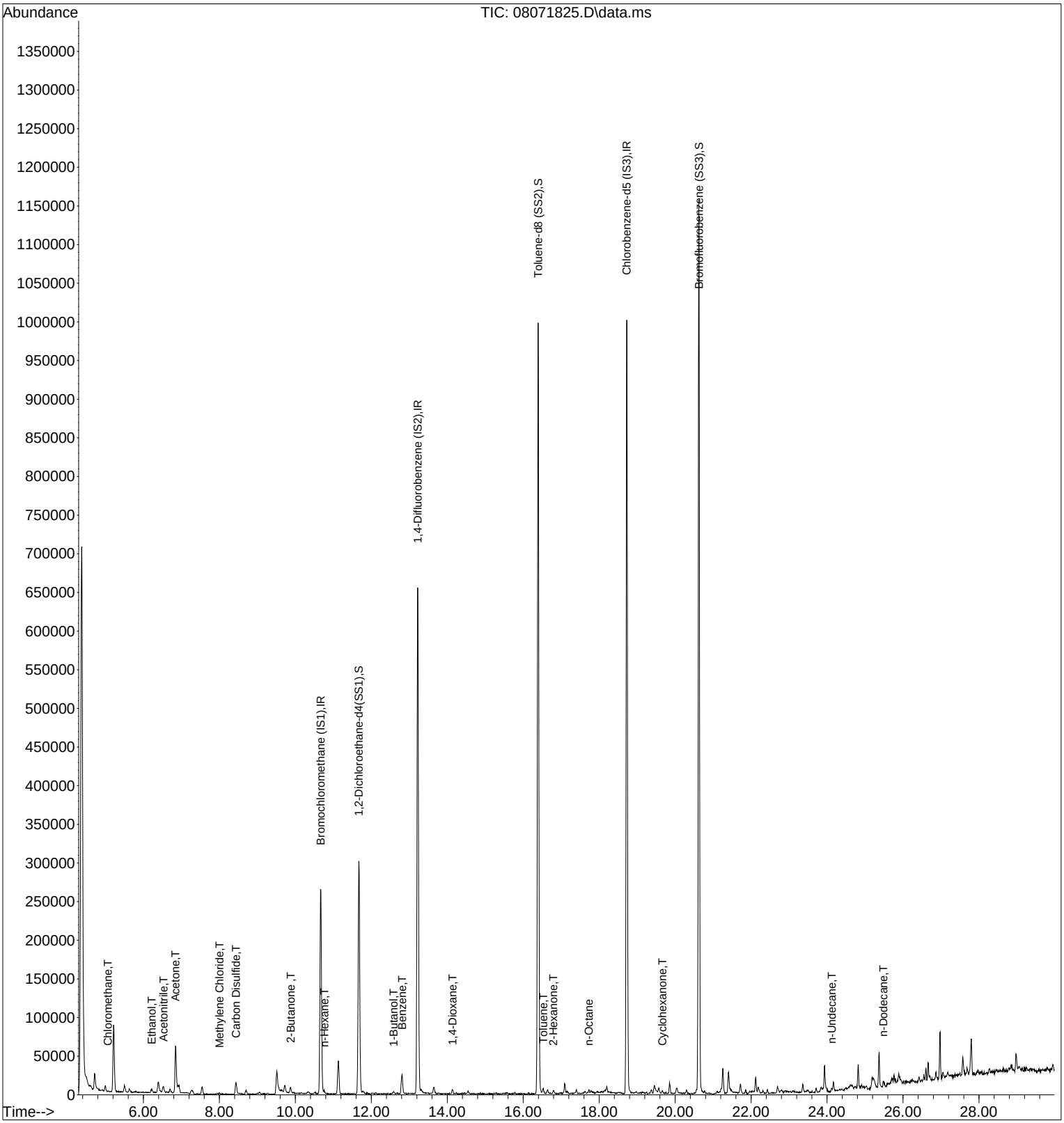
Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071824.D
Acq On : 8 Aug 2018 2:02
Operator : CL
Sample : P1803906-019
Misc : C300/TO17/TO17 1124810
ALS Vial : 59 Sample Multiplier: 1

Quant Time: Aug 10 11:00:53 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



Data Path : I:\MS18\DATA\2018 08\07\
Data File : 08071825.D
Acq On : 8 Aug 2018 2:42
Operator : CL
Sample : P1803906-020
Misc : C300/TO17/TO17 1064805
ALS Vial : 60 Sample Multiplier: 1

Quant Time: Aug 10 11:01:37 2018
Quant Method : I:\MS18\METHODS\F18062018.M
Quant Title : EPA TO-17 per SOP VOA-TO17 (CASS TO-17/GC-MS)
QLast Update : Wed Jun 20 15:17:55 2018
Response via : Initial Calibration



APPENDIX B

Photography Examples

Photograph 1. Complete sample train set up at GP-18.

Photograph 2. Aspect staff purging GP-18 prior to sampling.

Photograph 3. Obtaining a sample at GP-64C.

Photograph 4. Purging prior to sampling at GP-62.