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October 27, 2017

Mr. Vincent Shigekuni
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Via email: vshigekuni@pbrhawaii.com

Subject: **Letter Report**
Limited Phase II Environmental Site Assessment
Former Stadium Bowl-O-Drome Site
820 Isenberg Street
Honolulu, Oahu, Hawaii
TMK: (1) 2-7-008: Parcels 018 and 020

Dear Mr. Shigekuni:

Element Environmental, LLC (E2) is pleased to submit this letter report to briefly describe the Limited Phase II Environmental Site Assessment (ESA) completed for the above referenced property (hereinafter referred to as *the site and/or the subject property*). Figure 1, attached, shows the site location. The purpose of the Limited Phase II ESA was to evaluate the presence/absence and nature of contamination at the site associated with historical use.

The Limited Phase II ESA was conducted concurrently with Pacific Legacy, Inc. (PLI), while they completed an archaeological inventory survey for the subject property. PLI excavated a total of 24 shallow observation trenches throughout the exterior area of the site with the intent to provide an even distribution across the parcel. E2 monitored excavation activities from July 10 through 14, 2017, and opportunistically collected shallow subsurface soil samples from the trenches. Figure 2, attached, shows the archaeological trench locations. At the time of the Limited Phase II ESA, the property was vacant and consisted of the existing structure, asphalt-paved parking areas and driveway, and small landscaped areas in the front of the building.

The Phase II ESA is considered to be limited because sample locations and maximum depths were determined by the needs of the archaeological survey.

1.0 HISTORY OF LAND USE

Historical use of the subject property included:

Honolulu Stadium associated uses (possibly as early as 1926 to the early 1960s): Possible construction baseyard for Honolulu Stadium, parking on the unpaved lot, incinerator operation to burn rubbish generated by the adjacent stadium, debris disposal (as evidenced by the era of the bottles observed in the trenches), and stock car and demolition derby car staging on the unpaved lot (maybe even fueling and maintenance/repairs). The 1953 photograph below shows stock cars on the subject property. The ground

beneath and around the stock cars appears to be saturated with oil, likely applied as a dust control measure. The subject property was owned by the University of Hawaii before it was developed as a bowling alley in 1955. It is likely that the University of Hawaii leased the subject property to the owners/operators of the Honolulu Stadium.

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A typical-sized field held nearly a hundred cars whose drivers awaited the evening's festivities in the Stadium parking lot in 1953. This field was located on the future Bowl-o-Drome property on Isenberg Street.

Reference: Moiliili Community Center[1]

<u>*Stadium and University Bowl-O-Drome*</u>: Bowling alley (1955 through 2004).

<u>*Oahu Auto Service and its related company Kuni's Automotive & Towing (Kuni's) (2003 to April 2017)*</u>: Leased the exterior portion of the property to operate an unpermitted, temporary storage facility for a large number of illegally parked, abandoned, damaged (accidents), and junk vehicles. Kuni's had an office trailer and operated a non-authorized vehicle repair shop on-site. The area adjacent to the back of the

[1] *Moiliili – The Life of a Community*. Moiliili Community Center 2005.

building was used for storage of hazardous/regulated substances (e.g., solvent, petroleum-based products), unknown substances (no labels), and miscellaneous supplies and equipment.

2.0 ENVIRONMENTAL CONCERNS

Environmental concerns were identified in two Phase I ESAs completed for the subject property; the first by Mountain Edge Environmental, LLC (MEE) in 2001, and the second by E2 in 2017. Phase I ESA findings included the following:

- Oil-stained soil was observed on the south corner of the site (Parcel 020). The stain was approximately two to three feet in diameter. It appeared that the oil might have been dumped over the wall or leaked from a damaged vehicle bordering the property since no other nearby source was evident (MEE 2001).
- Historical use of the site for parking and/or stock car staging on the unpaved portion of the property may have negatively impacted the subject property (E2 2017).
- Historical operation of an incinerator on the site may have negatively impacted the subject property (E2 2017).
- Abandoned and damaged vehicles were temporarily stored at the site by the most recent tenant and some were observed to have leaked petroleum (i.e., gasoline, diesel, oil, etc.) and radiator fluid (ethylene glycol) to the ground (E2 2017).
- Lead-containing paint (LCP) was used on the structure's exterior walls and soil in the vicinity of the structure may be lead-impacted from normal paint deterioration (E2 2017).
- Residual levels of pesticides attributable to termite treatment may be present in the soil beneath and in the vicinity of the structure (E2 2017).

Contaminants of potential concern (COPCs) associated with identified historical uses of the subject property include:

1. *Petroleum-related products*, including gasoline, diesel, oil, used oil, solvents, paints, etc. COPCs include total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals.
2. *Incinerator–related byproducts*, including incompletely burned debris and ash. COPCs include metals and dioxins/furans).
3. *Pesticide applications*, including termite treatment. COPCs include organochlorine (OCl) pesticides, specifically technical chlordane.
4. *LCP use on the building exterior*. COPCs include total and leachable lead.

3.0 TRENCH MONITORING

Trenches were excavated to the coral limestone bedrock, which was encountered at relatively shallow depths ranging from 5 inches to 5.5 feet below ground surface (bgs).

With the exception of the bare soil area in the vicinity of Trench 16, the site was covered with a layer of asphalt, which was, for the most part, in poor condition. The soil encountered at the site generally consists of a coralline limestone with intermittent depressions overlain by various layers of fill material and miscellaneous debris.

E2 observed and documented the condition of the material encountered within each of the trenches. Descriptions of the trenches, distinguishing characteristics, and soil sample depths and analyses are summarized in Table 1. Figure 3, attached, shows distinguishing characteristics observed in the trenches. Photographs of the trenches and soils encountered in the trenches are also included in this letter report.

Table 1: Trench Observations

Trench Number	**Trench Location** (Distances are approximate)	**Distinguishing Characteristics** (Depths are approximate)	**Soil Sample Depths Sample Analyses** (v = volatile analysis; nv = nonvolatile analysis)
1	Parcel 018, 12 feet west of the central west outer wall of the building.	• Thick black stained soil layer at 5 inches below asphalt (ba).	*v*: 11 to 17 inches bgs *nv*: 5 to 29 inches bgs
2	Parcel 018, 13 feet west of the west outer wall of the building. One sample was collected from a burn pit encountered in this trench.	• Thin black stained soil layer at 6 inches ba. • Debris, including metal wire at 30 inches bgs and a burn pit from 24 to 36 inches bgs.	*v*: 13 to 19 inches bgs *nv*: 7 to 31 inches bgs *nv:* 24 to 36 inches bgs (*Trench 2BP*)
3	Parcel 018, 45 feet southwest of the west outer wall of the building, and southwest of Trench 2.	• Black soil layer, possibly organic, at 54 to 66 inches (4.5 to 5.5 feet) bgs. • Animal bones and debris including PVC piping.	*v*: 12 to 18 inches bgs *nv*: 6 to 30 inches bgs
4	Parcel 018, 51 feet west of the central north outer wall of the building and to the north of Trench 3.	• Black stained soil layer at 6 inches ba. • Debris, including metal wire near the ground surface and concrete at 50 inches (4.2 feet) bgs. • Fill, including a red and yellow soil layers at 50 inches (4.2 feet) bgs.	*v*: 12 to 18 inches bgs *nv*: 6 to 30 inches bgs
5	Parcel 020, 111 feet west of the northern portion of the west outer wall of the building near the former incinerator and property boundary.	• Note: Concrete foundation of former incinerator identified. • Debris, including metal trash, fabric, plastic, and a piece of transite at 24 inches bgs. *Note*: Transite (asbestos millboard) was historically used in garbage incinerators.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
6	Parcel 018, 15 feet west of the northern portion of the outer wall of the building and north of Trench 1.	• Fill, including a red/brown soil layer at the north end of the trench at 8 to 10 inches bgs.	*v*: 12 to 18 inches bgs *nv*: 6 to 30 inches bgs
7	Parcel 018, 52 feet west of the northern portion of the west outer wall of the building and west of Trench 6.	• Black stained soil layer at 4 to 5 inches bgs. • Debris, including a trash pit at 6 inches bgs. • Fill, including red soil in two areas of the trench.	*v*: 11 to 17 inches bgs *nv*: 5 to 29 inches bgs
8	Parcel 018, 99 feet west of the northern portion of the west outer wall of the building and west of Trench 7.		*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs

Trench Number	Trench Location (Distances are approximate)	Distinguishing Characteristics (Depths are approximate)	Soil Sample Depths Sample Analyses (v = volatile analysis; nv = nonvolatile analysis)
9	Parcel 018, 2 feet south of the western portion of the south outer wall of the building, southeast of Trench 2.	• Black stained soil layer at 8 to 20 inches bgs. • Debris, including glass bottles, metal pieces, and small bricks from 8 to 36 inches bgs.	*v*: 14 to 20 inches bgs *nv*: 7 to 31 inches bgs
10	Parcel 020, 102 feet west of the central portion of the west outer wall of the building near the east outer wall of the former incinerator.	• Debris, including metal wires at the south end of the trench at 12 to 16 inches bgs.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
11	Parcel 020, adjacent to the north outer wall of the building 36 feet from Isenberg Street.	• Black stained soil layer at 8 to 10 inches bgs. • Debris, including sewage pipes, pipe fittings, glass cup, and metal scraps 12 to 16 inches bgs.	*v*: 16 to 24 inches bgs *nv*: 10 to 34 inches bgs
12	Parcel 020, adjacent to the north outer wall of the building 97 feet from Isenberg Street.	• Black stained soil layer at 8 to 10 inches bgs. • Debris, including bottles below black stained soil layer.	*v*: 16 to 24 inches bgs *nv*: 10 to 34 inches bgs
13	Parcel 020, 30 feet north of the north outer wall of the building and the northeast property boundary fronting Isenberg Street, north of Trench 11.		*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
14	Parcel 020, 30 feet north of the north outer wall of the building and 88 feet northwest of Isenberg Street, north of Trench 12.	• Debris, including china bowl, glass bottles, tree trunk, concrete, lava rock, and shells at 24 inches bgs.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
15	Parcel 020, 30 feet north of the north outer wall of the building and 151 feet northwest of Isenberg Street.	• Black stained soil layer at 10 inches bgs. • Debris, including bottles at 12 inches bgs.	*v*: 16 to 24 inches bgs *nv*: 10 to 34 inches bgs
16	Parcel 020, 121 feet west of the southern portion outer wall of the building and near the west property boundary. *Area unpaved*.	• Diesel odor in first 8 inches bgs of soil. • Grey and black stained soil observed in top 10 inches bgs. • Debris, including bowl fragments at 19 inches bgs.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
17	Parcel 020, 83 feet southwest of the southwest outer wall of the building.	• Note: Possible concrete foundation observed from 2 to 6 inches bgs.	*v*: Not sampled *nv*: 0 to 6 inches bgs
18	Parcel 020, 130 feet southwest of the southwest outer wall of the building and northwest of Trench 17.	• One 4-inch metal pipe encountered at 24 inches bgs.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs

Trench Number	Trench Location (Distances are approximate)	Distinguishing Characteristics (Depths are approximate)	Soil Sample Depths Sample Analyses (v = volatile analysis; nv = nonvolatile analysis)
19	Parcel 020, 93 feet west of the southern portion of the outer wall of the building and to the west of Trench 3.		*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
20	Parcel 020, 121 feet west of the central portion of the west outer wall of the building and near the west property boundary.	• Moderate diesel odor in the soil.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
21	Parcel 020, 30 feet north of the outer wall of the building and 150 feet northwest of Isenberg Street and north of Trench 15.	• Black stained soil layer on the north side only at 4 to 6 inches bgs. • Debris, including roots and ceramic pieces at 12 inches bgs. • Fill, including reddish-brown soil on north side only from 4 to 6 inches bgs.	*v*: 12 to 18 inches bgs *nv*: 6 to 30 inches bgs
22	Parcel 020, 56 feet northwest of the northwest corner of the building and 216 feet northwest of Isenberg Street and north of Trench 7.	• Debris, including clay pipe fragments and bricks.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs
23	Parcel 020, 125 feet northwest of the northwest corner of the building in the northwest corner of the site.	• Black slag/tar-like material observed in pockets throughout the trench. • Debris, including metal pipes and metal pieces at 17 inches bgs.	*v*: 6 to 12 inches ba *nv*: 6 to 24 inches bgs *nv*: Various depths (*Trench 23 SLAG*)
24	Parcel 020, 125 feet west of the west outer wall of the building crossing Trench 5 near the former incinerator.	• Debris, including concrete and rebar at 8 inches bgs, metal pieces at 12 to 24 inches bgs, transite and green plastic, fabric, and clear plastic at 22 inches bgs. *Note*: Transite (asbestos millboard) was historically used in garbage incinerators.	Not sampled

In summary:

Black stained (or black) soil was observed at three distinct depths:

- Present in the shallow subsurface soil in some areas of the site at depths from approximately *3 to 6 inches beneath the top asphalt layer*. Possibly a very old asphalt layer, or associated with the possible historical use of oil by Honolulu Stadium for dust control and/or former releases from historical use of the site for vehicle parking and stock and demolition car staging (and maybe fueling and repairs).
- Present in subsurface soil from *8 to 20 inches bgs* in some areas of the site. Possibly associated with former releases from historical use of the site for vehicle parking and stock and demolition car staging (and maybe fueling and repairs).

- Present in the deeper subsurface soil in one trench from *4.5 to 5.5 feet bgs* (most trenches were not excavated to this depth, so the layer might be in other areas). A petroleum odor was not detected in this material. It is possibly organic material resultant from the historical natural wetland, which occupied the area prior to drainage by the Ala Wai Canal.

Diesel odors were noted in two trenches:

- A diesel odor and grey/black-stained soil were observed in the *top 8 to 10 inches bgs* of soil in Trench 16. Trench 16 was located in an unpaved area of the site.
- A moderate diesel odor was observed in soil within Trench 20.

Pockets of a *black slag/tar-like* material were observed in Trench 23.

Debris was encountered in 15 of the 24 trenches. Some of the debris encountered in the trenches may be from historical dumping by adjacent residents, since this property remained undeveloped until Honolulu Stadium was built in 1926. It is also possible that the site was used as a base yard during stadium and bowling alley construction and construction/demolition debris was buried on-site. Debris observed in the trenches included the following:

- A *burn pit* in Trench 2 from 24 to 36 inches bgs.
- A *trash pit* in Trench 7, beginning at 6 inches bgs.
- *Demolition debris*, including, concrete and transite in Trenches 5 and 24; both located in the vicinity of the former incinerator.
- *Miscellaneous debris* at various depths in many of the trenches, including, metal wire and scrap, animal bones, PVC and metal pipes, concrete, metal, ceramic pieces, brick, clay pipe fragments, glass bottles, fabric, plastic, transite, sewage pipes, pipe fittings, a glass cup, lava rock, and shells.
- *Yellow/brown/red soil fill* in several of the trenches at varying depths (Trenches 4, 6, 7, and 21).

4.0 SOIL SAMPLING

The environmental work was conducted in general accordance with the State of Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response Office (HEER) Technical Guidance Manual (TGM) (2009 and updates)[2].

E2 collected a total of 25 soil samples; 23 samples from Trenches 1 through 23, one sample from a burn pit within Trench 2 (*Trench 2BP*), and one sample from a slag/tar-like substance within Trench 23 (*Trench 23 SLAG*). Sampling was not conducted within Trench 24 because the material appeared to consist of debris from the former incinerator, which was already sampled in Trench 5. With the exception of three trenches (Trenches 2, 23, and 24), one *MULTI INCREMENT*®[3] soil sample was collected from each of the designated trenches.

The field archaeologist was responsible for directing the excavator operator to remove soil to depths up to 5.5 feet bgs from trenches approximately 16 feet long to facilitate archaeological inspection and soil sample collection.

[2] *Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan, Interim Final. Office of Hazard Evaluation and Emergency Response, November 12, 2009 and updates*.
[3] *MULTI INCREMENT* is a registered trademark of EnviroStat, Inc.

E2 collected soil samples directly from the trench walls, as follows:

- Soil samples for *volatile analysis*: A total of 30 increments were collected using a Terra Core™ sampler (capable of retrieving a five-gram plug of soil), which was inserted directly into the trench walls. Each of the five-gram plugs was placed immediately into an amber glass sample jar containing 150 milliliters (mL) (a 1:1 ratio) of methanol preservative.
- Soil samples for *non-volatile analysis*: A total of 30 increments were collected using a stainless-steel cup with an approximate volume of 30 grams (for an approximate total volume of 1-kilogram). Each of the 30-gram increments was placed directly into a re-sealable Ziploc® Freezer Bag.

Samples were immediately placed on wet ice while in the field, then packaged in gel-ice for shipping, and air freighted via Federal Express to Enthalpy Analytical (formerly Curtis & Tompkins, Ltd.), located in Berkeley, California. Chain-of-custody forms, designating the analyses desired for the samples recovered, were completed in the field and placed in the coolers to be shipped.

Soil samples were analyzed for one or more of the following:

- TPH as diesel range organics (DRO) and residual range organics (RRO) using U.S. Environmental Protection Agency (EPA) Methods 3550C/8015B;
- TPH as gasoline range organics (GRO) (all trenches with the exception of Trenches 2BP, 17 and 23 SLAG) using U.S. EPA Method 5035/8015B Modified;
- VOCs, including naphthalene, (all trenches with the exception of Trenches 2BP, 17 and 23 SLAG) using U.S. EPA Methods 5030B/5035/8260B;
- PAHs (all trenches with the exception of Trench 23 SLAG) using U.S. EPA Methods 3550C/8270C-SIM;
- PCBs (all trenches with the exception of Trench 23 SLAG) using U.S. EPA Methods 3550C/8082;
- OCl pesticides using U.S. EPA Methods 3550C/8081A (Trenches 1, 2, 6, 9, 11, and 12, [adjacent to on-site structure] and 14 [adjacent to former stadium structure] only);
- Resource Conservation and Recovery Act (RCRA)-8 metals (arsenic, barium, cadmium, chromium, selenium, silver, mercury, and iron) using U.S. EPA Methods 3050B/6010B/7471A; and
- Dioxins/furans using U.S. EPA Methods 3540C/8290A (Trenches 2BP, 5, and 23 SLAG only; assumed to be a product of the incinerator).

MULTI INCREMENT soil samples were representatively subsampled by the laboratory for the minimum appropriate extraction and analysis mass (HDOH HEER Office TGM)[4].

5.0 SOIL SAMPLE RESULTS

Soil sample results were compared to project action limits as follows:

- HDOH Tier 1 Environmental Action Levels (EALs) for Residential land use (referred to as Tier 1 EALs) and

[4] *Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan, Interim Final. Office of Hazard Evaluation and Emergency Response, November 12, 2009 and updates.*

- HDOH EALs for Commercial/Industrial land use (referred to as C/I EALs) for sites where groundwater is a current or potential source of drinking water, and the site is greater than 150 meters from a surface water body.
- EPA Regional Screening Levels (RSLs) with target cancer risk (TR) of 1E-06 and with a target hazard quotient (THQ) of 1.0 for Residential and Industrial (for comparison purposes only, exceedances not discussed in detail).

Table 2 summarizes the soil sample results that exceed HDOH EALs and EPA RSLs. Table 3, the master table, is included as an attachment to this letter report and summarizes all of the soil sample results compared to HDOH EALs and EPA RSLs. Laboratory reports are also included as an attachment.

Table 2: Soil Sample Exceedances of HDOH Tier 1 EALs and EPA RSLs

Sample Number	Analytes (mg/kg)						
	TPH-DRO	TPH-RRO	Benzo(a) pyrene	BHC (Lindane)	Arsenic	Barium	Lead
Trench 2B (24-36 in.)	24[Y]	47	0.013[J]	NA	4.7	460[b]	160
Trench 3 (6-30 in.)	130[Y]	290	ND	NA	4	590[b]	120
Trench 5 (6-24 in.)	99[Y]	210	ND	NA	4.1	580[b]	200
Trench 7 (5-29 in.)	110[Y]	220	ND	NA	3.8	610[b]	64
Trench 8 (6-24 in.)	350[Y]	250	0.13[J]	NA	14[J]	740[b]	73
Trench 9 (7-31 in.)	680[Y]	1,300	ND	0.105	1.8	750[b]	71
Trench 10 (6-24 in.)	150[Y]	340	ND	NA	7.7	380[b]	340
Trench 11 (10-34 in.)	160[Y]	390	0.059[J]	0.011	4.7	380[b]	760
Trench 12 (10-34 in.)	180[Y]	430	ND	0.055	2.5	570[b]	16
Trench 13 (6-24 in.)	80[Y]	230	ND	NA	6.1	390[b]	47
Trench 15 (6-24 in.)	43[Y]	79	ND	NA	3	700	18
Trench 16 (6-24 in.)	1,500[Y]	3,500	ND	NA	9.7	470	320
Trench 17 (6-24 in.)	520[Yb]	1,200[b]	0.23[Jb]	NA	1.6	780	120
Trench 18 (6-24 in.)	250[Y]	780	0.46	NA	6.7	130	120
Trench 19 (6-24 in.)	210[Y]	920	ND	NA	12	440	310
Trench 20 (6-24 in.)	1,100[Y]	3,500	ND	NA	9.5	490	190
Trench 21 (6-30 in.)	66[Y]	260	ND	NA	8.2	1,000	51
Trench 22 (6-24 in.)	29[Y]	140	ND	NA	9.1	1,100	40
Trench 23 (6-24 in.)	22[Y]	100	ND	NA	7.9	970	17
Trench 23 SLAG	8,200	85,000	NA	NA	7.3	550	18
HDOH Residential EALs	100	500	1.6	0.075	24	1,000	200
HDOH C/I EALs	100	1,000	2.9	0.075	95	2,500	800
EPA Residential RSLs	520	2,500	0.11	0.3	0.68	15,000	400
EPA Industrial RSLs	2,200	33,000	2.1	1.3	3	220,000	800

Note: Blue font indicates the HDOH Tier 1 Unrestricted (Residential) land use EAL is exceeded.
Red font indicates the HDOH Tier 1 and C/I land use EALs are exceeded.
indicates that the EPA Residential RSL is exceeded.
indicates the EPA Residential and Industrial RSLs are exceeded.
Y = Sample exhibits chromatographic pattern which does not resemble standard.
b = Barium was detected at or above the reporting limit at least 10 times the blank level.
J = Results is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
mg/kg = milligrams per kilogram.

Five of the COPCs, including TPH-DRO, TPH-RRO, the OCl pesticide BHC as Lindane, and the metals barium and lead, were detected in 14 of the 25 soil samples at concentrations exceeding HDOH Tier 1 and/or C/I

EALs. Five of the COPCs including TPH-DRO, TPH-RRO, the PAH benzo(a)pyrene, and the metals arsenic and lead were detected in 20 of the 25 soil samples at concentrations exceeding EPA Residential and/or Industrial RSLs. Figure 2, attached, shows the trench locations and analytical results for samples where HDOH EALs were exceeded.

All of the COPCs detected above HDOH EALs are semi- or non-volatile constituents. VOCs and PAHs were not detected in any of the samples at levels exceeding HDOH EALs, indicating that the contamination encountered at the site is old and weathered.

Table 4 compares soil sample results to HDOH Tier 1 EALs for environmental hazards associated with each of the five COPCs identified in the soil at the site. HDOH HEER Office Surfer Summary Reports (electronic lookup tables) for each of the analytes detected in soil at concentrations that exceed Tier 1 EALs are included as an attachment to this letter report.

COPCs identified in shallow subsurface and subsurface soils at the site are present at concentrations that pose potential risks to human health and the environment as follows:

TPH-DRO is present in soil at the site at concentrations that pose potential direct exposure and gross contamination (e.g., free product, odors) risks to both residential site users and construction/trench workers, should they come into contact with contaminated soil (e.g., if impacted soil is brought to the surface during construction). Vapor emissions to indoor air and leaching to groundwater are also identified potential environmental hazards associated with TPH-DRO. The presence/absence of TPH-DRO in soil vapor and/or groundwater can be directly evaluated by collecting and analyzing samples.

TPH-RRO is present in soil at the site at concentrations that pose a potential gross contamination risk to both residential site users and construction/trench workers, should they come into contact with contaminated soil. TPH-RRO concentrations in soil also pose a potential leaching threat to groundwater.

Lindane is present in soil at the site at a concentration that poses a potential leaching threat to groundwater. The presence/absence of Lindane in groundwater can be directly evaluated by collecting and analyzing groundwater samples. Lindane was only detected in one (*Trench 9*) of the six tested trench locations. The source of the Lindane is unknown.

Barium is present in soil at the site at a concentration that poses a potential gross contamination risk to both residential site users and construction/trench workers, should they come into contact with contaminated soil. The barium concentration in soil also poses a potential leaching threat to groundwater, and can be evaluated using a batch test. The presence/absence of barium in groundwater can also be directly evaluated by collecting and analyzing groundwater samples. Barium was only detected in one sample location (*Trench 22*). It is possible that the source of the barium is the bricks and clay pipe fragments that were observed in this trench. Barium additives (e.g., tribarium aluminate, barium carbonate) were historically used in structural clay products, such as bricks and clay sewer pipes.

Lead is present in soil at the site at concentrations that pose potential direct exposure risks to residential site users, should they come into contact with contaminated soil. Lead concentrations in soil also pose a potential leaching threat to groundwater, and can be evaluated using a batch test. The presence/absence of lead in groundwater can also be directly evaluated by collecting and analyzing groundwater samples.

Table 4: Soil Sample Results Compared to Environmental Hazard Tier 1 Action Levels

Environmental Hazard	Analyte Tier 1 Action Level	Trench Samples that Exceed Environmental Hazard Level(s) Sample Depth in Inches bgs													
		3 6-30	7 5-29	8 6-24	9 7-31	10 6-24	11 10-34	12 10-34	16 6-24	17 6-24	18 6-24	19 6-24	20 6-24	22 6-24	23 Varies
Direct Exposure Residential	TPH-DRO 260 (mg/kg)														
	TPH-RRO (9,400 mg/kg)														
Vapor Emissions to Indoor Air	TPH-DRO (use soil gas)														
Gross Contamination	TPH-DRO 500 (mg/kg)														
	TPH-RRO (500 mg/kg)														
	Barium (1,000 mg/kg)														
Leaching to Groundwater	TPH-DRO 100 (mg/kg)														
	TPH-RRO (1,000 mg/kg)														
	Lindane (0.075 mg/kg)														
	Barium (use batch test)														
	Lead (use batch test)														
Direct Exposure Construction/Trench Workers	TPH-DRO (500 mg/kg)														

Note: indicates the HDOH Environmental Hazard Tier 1 Action Level is exceeded.
mg/kg = milligrams per kilogram.

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6.0 SPILL REPORT

On July 11, 2017, a crew from Commercial Building Maintenance attempted to move a 30-gallon drum labeled "*Spartan Scrubbable Floor Finish*" and in doing so accidentally punctured the drum. Approximately three gallons of a grey liquid spilled onto the backfilled soil in Trench 2. A sample of the liquid within the drum was collected by Bauske Environmental dba Benco and analyzed by Advanced Analytical Laboratory, Inc. for toxicity characteristic leaching procedure metals and was determined to be non-hazardous. The laboratory report is attached. Pacific Commercial Services, LLC transported the drummed waste to Matson Navigation Company, who then transported it to the Clean Harbors Grassy Mountain, LLC facility in Gratsville, Utah.

7.0 LEAD-CONTAINING PAINT ON BUILDING EXTERIOR

LCP was identified on the exterior railing and stairs, exterior walls, and the gutter downspout pipe on the building during a hazardous material survey conducted by Muranaka Environmental Consultants, Inc. in 2016. It is possible, due to natural paint deterioration and/or paint damage during renovation/upgrades, that bare soil adjacent to the building is lead-contaminated.

8.0 SUMMARY OF FINDINGS

The following is a summary of the Limited Phase II ESA findings:

1. Phase II ESA soil sampling locations and depths were limited by the needs of the archaeological survey. Groundwater sampling was not conducted as part of the Limited Phase II ESA.
2. Five COPCs (TPH-DRO, TPH-RRO, Lindane, barium, and lead) were detected in soil at concentrations exceeding HDOH Tier 1 and/or C/I EALs at depths of 5 to 34 inches bgs in 14 of the 25 soil samples.
3. All of the COPCs detected above HDOH EALs are semi- or non-volatile constituents. VOCs and PAHs were not detected in any of the soil samples at concentrations exceeding HDOH EALs, indicating that the contamination encountered at the site is old and weathered.
4. Three of the five COPCs (TPH-DRO and –RRO and barium) are present in shallow subsurface soil at concentrations that pose potential direct exposure and/or gross contamination risks to both residents (including adjacent residents) and construction/trench workers, should they come into contact with contaminated soil.
5. One of the five COPCs (TPH-DRO) is present in shallow subsurface soil at concentrations that pose potential for vapor emissions to indoor air.
6. Three of the five COPCs (TPH-DRO and –RRO and Lindane) are present in shallow subsurface soil at concentrations that pose a potential threat of leaching to groundwater. Additional sampling (batch testing) is necessary to evaluate the potential leaching hazard for the remaining two COPCs (barium and lead).
7. Three of the COPCs (TPH-DRO, barium, lead) may be present in shallow subsurface and subsurface soil at concentrations that pose a risk of vapor emissions to indoor air and/or as potential leaching threats to groundwater; however, these potential risks can only be evaluated by conducting additional investigation (e.g., soil gas, batch, and/or groundwater testing).

8. A black stained soil layer was observed at a depth of approximately 6 inches bgs within 11 of the 24 trenches, possibly associated with historical use of oil as a method of dust suppression on the site.
9. The sample collected from Trench 23 (*Trench 23-SLAG*) was initially suspected of being a product of the former on-site incinerator; however, its chemical composition indicates that it is more likely very old oil or tar. This material was only observed in Trench 23. The source of the material is unknown.
10. LCP is present on the exterior railing and stairs, exterior walls, and the gutter downspout pipe on the building.
11. OCl pesticides (including technical chlordane) were not detected in the soil samples collected from seven of the 24 trenches located near the structure (and former Honolulu stadium Structure). However, a majority of the trenches were located greater than five feet from the structure, to preserve the structural integrity of the building.
12. Historical use of the site has negatively impacted the subject property, as demonstrated by the presence of soil contamination, as well as buried debris (wire, glass, ceramic, transite, remnants of the former incinerator, etc.) throughout the exterior portion of the site.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the soil sample results, observations made during trenching activities, and findings of the 2016 hazardous materials survey (MEC) and 2017 Phase I ESA (E2), E2 concludes the following:

1. Five COPCs (TPH-DRO, TPH-RRO, Lindane, barium, and lead) were detected in shallow subsurface soil at concentrations exceeding HDOH Tier 1 and/or C/I EALs. Their presence in the soil at the site poses potential risks to human health and the environment.
2. The shallow subsurface soil beneath the subject property has been negatively impacted by historical use, as demonstrated by the presence of soil contamination, as well as buried debris throughout the exterior portion of the site. It is possible that contaminated soils and buried debris are also present in soil beneath the structure.
3. Phase II ESA soil sampling locations and depths were limited by the needs of the archaeological survey. Horizontal and vertical delineation of soil contamination was not completed during the Limited Phase II ESA. Groundwater sampling was not conducted as part of the Limited Phase II ESA. It is possible that deeper subsurface soil and/or groundwater beneath the site have been negatively impacted.
4. OCl pesticides (including technical chlordane) were not detected in the soil samples collected from trenches located near the structure (and former Honolulu Stadium Structure); however, a majority of the trenches were located greater than five feet from the structure, to preserve the structural integrity of the building. It is possible that OCl pesticides are present in shallow subsurface soils adjacent to the building.
5. LCP is present on the exterior railing and stairs, exterior walls, and the gutter downspout pipe on the building. It is possible, due to natural paint deterioration and/or renovation, that bare soil in the vicinity of the building is lead-contaminated.

E2 recommends the following:

1. Additional sampling should be conducted to delineate the nature and extent of soil contamination at the site.
2. Additional sampling should be conducted to evaluate the presence/absence and nature of contamination (if any) in groundwater beneath the site.
3. Upon completion of the additional soil and groundwater sampling, an Environmental Hazard Evaluation (EHE) should be completed to 1) evaluate potential risk to human health and the environment associated with environmental hazards posed by contamination present in soil and groundwater beneath the site.
4. Upon completion of the EHE, an Environmental Hazard Management Plan (EHMP) should be completed to minimize potential exposure to and manage of impacted media during site maintenance and/or future construction activities that require disturbance of heavily contaminated soil and groundwater (if any).
5. Future construction bid documents should contain specifications to address contaminated soil and/or groundwater concerns.

oOo

Please feel free to contact me at (808) 551-9552 if you have any questions regarding the information presented in this letter report.

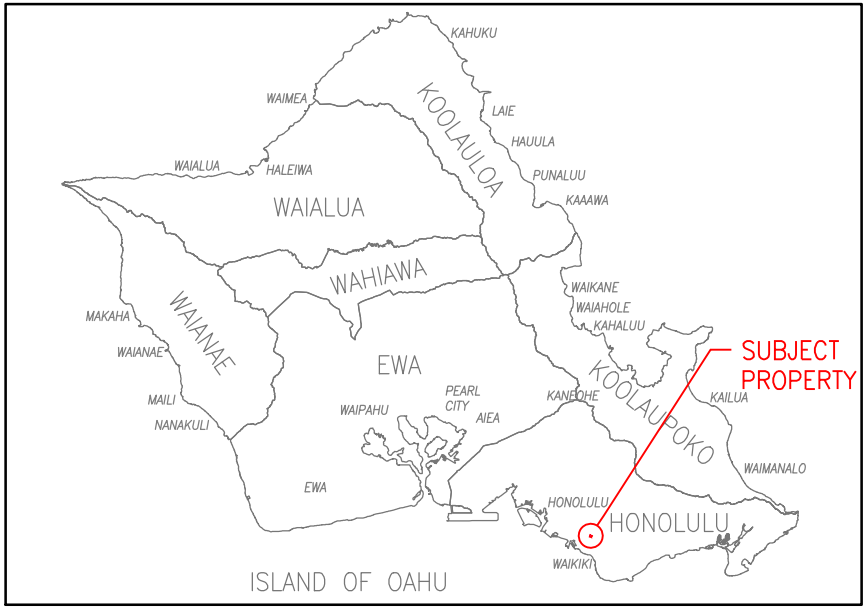
Sincerely,

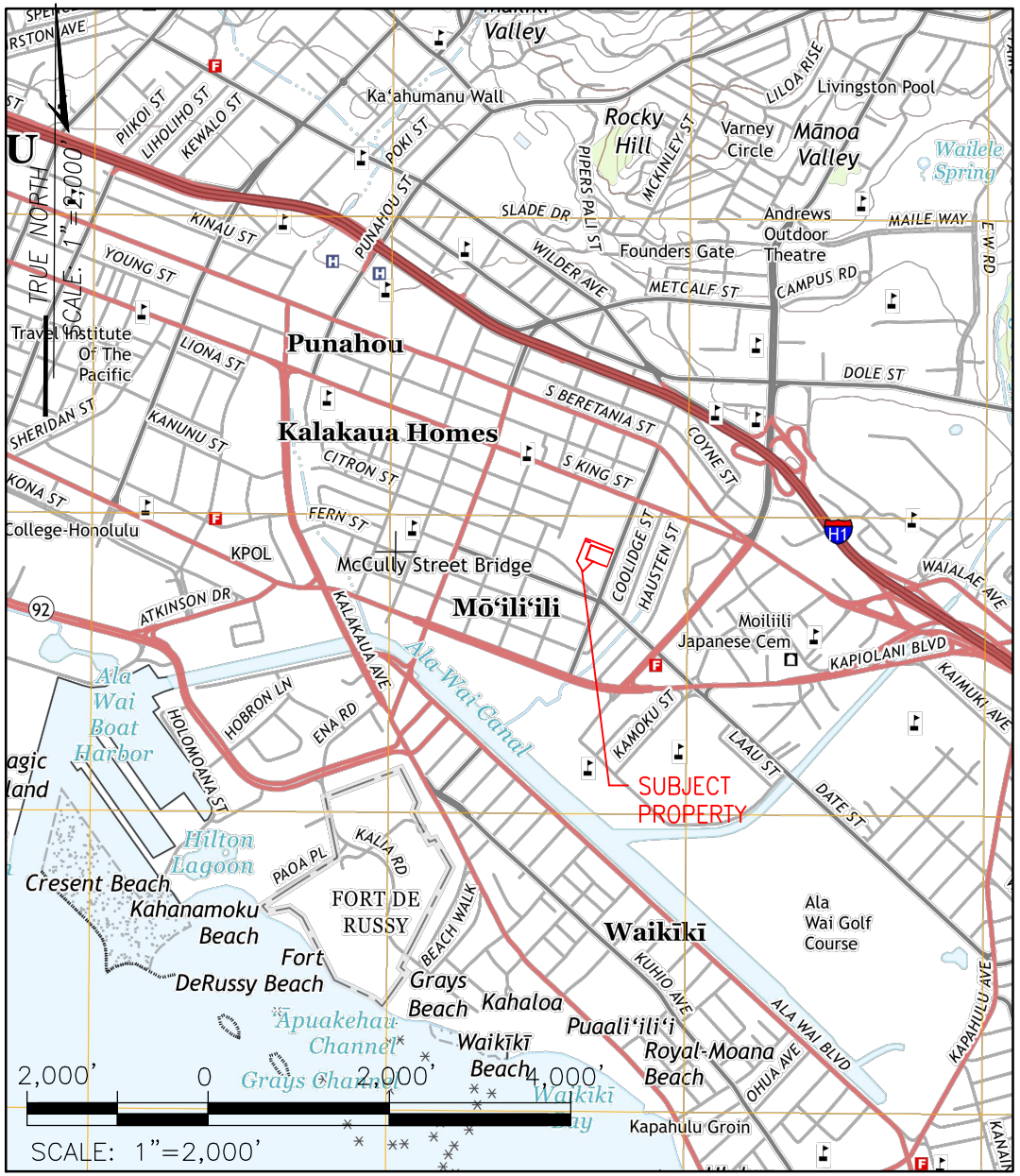
Arlene Campbell

Arlene Campbell, L.G.
Senior Geologist

Attachments
Figure 1 – Site Vicinity and Location Map
Figure 2 – Archaeological Trench Locations and Soil Sample Exceedances
Figure 3 – Distinguishing Trench Characteristics
Photo Plates
Table 3 – Summary of Soil Sample Analytical Results
Laboratory Reports
Surfer Summary Reports

ATTACHMENTS





	DATE: OCT 2017	PROJECT TITLE: PHASE II ENVIRONMENTAL SITE ASSESSMENT 820 ISENBERG STREET, HONOLULU, OAHU, HAWAII TMK (1) 2-7-008: PARCELS 018 AND 020
	FIGURE TITLE: SITE VICINITY AND LOCATION MAP	FIGURE NO.: 1

TRUE NORTH

SCALE: 1"=60'

TRENCH 23 SLAG			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	8,200	100	100
RRO	85,000	500	1,000

TRENCH 22			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
BARIUM	1,100	1,000	2,500

TRENCH 7			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	110	100	100

TRENCH 8			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	350	100	100

TRENCH 10			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	150	100	100
LEAD	340	200	800

TRENCH 20			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	1,100	100	100
RRO	3,500	500	1,000

TRENCH 16			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	1,500	100	100
RRO	3,500	500	1,000
LEAD	320	200	800

TRENCH 19			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	210	100	100
RRO	920	500	1,000
LEAD	310	200	800

TRENCH 18			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	250	100	100
RRO	780	500	1,000

60' 0 60' 120'

SCALE: 1"=60'

HONOLULU STADIUM STATE RECREATION AREA

FORMER INCINERATOR

FORMER 14 CAR STRUCTURE

STADIUM BOWL BUILDING PARCEL 018

PARCEL 020

HENMI APTS (1958)

KAMEKANA LTD (1954)

SCENIC TOWER CONDO (1973)

ISENBERG STREET

Citron-Ct

LEGEND

- Parcel Boundary
- Trench with no HDOH Tier 1 EAL Exceedances
- Trench with HDOH Tier 1 or C/I Exceedances
- Trench not sampled
- Blue — Value exceeds HDOH EAL for Residential Land Use (Tier 1 EAL)
- Red — Value Exceeds HDOH EAL for Commercial/Industrial Land Use (C/I EAL)
- DRO — total petroleum hydrocarbons as diesel range organics
- RRO — total petroleum hydrocarbons residual range organics

Values are listed in milligrams per kilogram (mg/kg)

State of Hawaii Department of Health (HDOH) Environmental Action Level (EAL) for sites where groundwater is a current or potential drinking water source and surface water is located greater than 150 meters from the site (HDOH 2016).

TRENCH 12			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	180	100	100

TRENCH 11			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	160	100	100
LEAD	760	200	800

TRENCH 17			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	520	100	100
RRO	1,200	500	1,000

TRENCH 3			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	130	100	100

TRENCH 9			
ANALYTE	RESULT	TIER 1 EAL	C/I EAL
DRO	680	100	100
RRO	1,300	500	1,000
BHC AS LINDANE	0.105	0.075	0.075

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PROJECT TITLE:
PHASE II ENVIRONMENTAL SITE ASSESSMENT
820 ISENBERG STREET, HONOLULU, OAHU, HAWAII
TMK (1) 2-7-008: PARCELS 018 AND 020

FIGURE TITLE:
ARCHAEOLOGICAL TRENCH LOCATIONS AND SOIL SAMPLE EXCEEDANCES

DATE: OCT 2017

FIGURE NO.: 2

LEGEND

- Parcel Boundary
- Shallow oil staining (3 to 6 inches bgs)
- Subsurface oil staining (8 to 20 inches bgs)
- Subsurface staining, possibly organic (4.5 to 5.5 feet bgs)
- Diesel odor (8 to 16 inches bgs)
- Slag–like substance
- Trench with no debris
- Trench with debris

TRUE NORTH

SCALE: 1"=60'

HONOLULU STADIUM
STATE RECREATION
AREA

FORMER
INCINERATOR

FORMER 14 CAR STRUCTURE

STADIUM BOWL
BUILDING
PARCEL 018

PARCEL 020

HENMI APTS
(1958)

KAMEKANA LTD
(1954)

SCENIC TOWER CONDO
(1973)

ISENBERG STREET

Citron-St

60' 0 60' 120'

SCALE: 1"=60'

element environmental llc
environmental · engineering · water resources

PROJECT TITLE:
PHASE II ENVIRONMENTAL SITE ASSESSMENT
820 ISENBERG STREET, HONOLULU, OAHU, HAWAII
TMK (1) 2-7-008: PARCELS 018 AND 020

FIGURE TITLE:
DISTINGUISHING TRENCH CHARACTERISTICS

DATE:
OCT 2017

FIGURE NO.:
3

E2 Project No.:			
170039	**Description**	Trench 1 located in the parking lot of parcel 018 approximately 12 feet west of the central outer wall of the building. View looking east.	**Photo 1**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 7/10/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 2 located in the parking lot of parcel 018 approximately 13 feet west of the southwest outer wall of the building. View looking south.	**Photo 2**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 7/10/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 2 lithology, showing thin black soil layer.	Photo 3
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 3 located in the parking lot of parcel 018 approximately 45 feet southwest of the southwest outer wall of the building and to the southwest of Trench 2. View looking west.	Photo 4
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 3, animal bones, and debris including PVC piping.	Photo 5
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 4 located in the parking lot of parcel 018 approximately 51 feet west of the central outer wall of the building and to the north of Trench 3. View looking south.	Photo 6
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 4 lithology, showing red soil layer.	Photo 7
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Trench 5 located in the parking lot of parcel 020 approximately 111 feet west of the northern portion of the outer wall of the building near the former incinerator and property boundary. View looking southeast.	Photo 8
170039	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	Photo Date 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 6 located in the parking lot of parcel 018 approximately 15 feet west of the northern portion of the outer wall of the building and north of Trench 1. View looking south.	**Photo 9**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 7 located in the parking lot of parcel 018 approximately 52 feet west of the northern portion of the outer wall of the building and west of Trench 6. View looking northwest.	**Photo 10**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 9 located in the parking lot of parcel 018 approximately 2 feet south of the western portion of the outer wall of the building and to the southeast of Trench 2. View looking east-southeast.	**Photo 11**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 10 located in the parking lot of parcel 020 approximately 102 feet west of the central portion of the outer wall of the building near the east outer wall of the former incinerator. View looking south.	**Photo 12**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/5/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 11 located in the parking lot of parcel 020 adjacent to the north side of the outer wall of the building approximately 36 feet from Isenberg Street. View looking east.	**Photo 13**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/15/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 12 located in the parking lot of parcel 020 adjacent to the north side of the outer wall of the building approximately 97 feet from Isenberg Street. View looking west-southwest.	**Photo 14**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/15/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 13 located in the parking lot of parcel 020 approximately 30 feet north of the outer wall of the building and the northeast property boundary fronting Isenberg Street and north of Trench 11. View looking south.	**Photo 15**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/15/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 14 located in the parking lot of parcel 020 approximately 30 feet north of the outer wall of the building and approximately 88 feet northwest of Isenberg Street and north of Trench 12. View looking southwest.	**Photo 16**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/15/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 15 located in the parking lot of parcel 020 approximately 30 feet north of the outer wall of the building and approximately 151 feet northwest of Isenberg Street. View looking west.	**Photo 17**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/15/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 16 located in the parking lot of parcel 020 approximately 121 feet west of the southern portion outer wall of the building and near the west property boundary. View looking northeast.	**Photo 18**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/19/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 17 located in the southernmost parking lot of parcel 020 approximately 83 feet southwest of the outer wall of the building. View looking south.	**Photo 19**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/19/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 18 Located in the southernmost parking lot of parcel 020 approximately 130 feet southwest of the outer wall of the building and to the northwest of Trench 17. View looking west-southwest.	**Photo 20**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/23/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 20 located in the parking lot of parcel 020 approximately 121 feet west of the central portion of the outer wall of the building and near the west property boundary. View looking east.	**Photo 21**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/232017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
170039	**Description**	Trench 21 located in the parking lot of parcel 020 approximately 30 feet north of the outer wall of the building and approximately 150 feet northwest of Isenberg Street and north of Trench 15. View looking east-southeast.	**Photo 22**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/232017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 23 located in the parking lot of parcel 020 approximately 125 feet northwest of the outer wall of the building in the northwest corner of the site. View looking west.	**Photo 23**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/26/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	**Description**	Trench 24 located in the parking lot of parcel 020 approximately 125 feet west of the outer wall of the building crossing Trench 5 near the former incinerator. View looking	**Photo 24**
170039	**Site Name**	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/26/2017
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.: **170039**	**Description**	Drum spill on filled in soil on Trench 2. View looking south-southwest.	**Photo 25**
	Site Name	820 Isenberg Street, TMK: (1) 2-7-008: 018 and 020 Honolulu, Oahu, Hawaii	**Photo Date** 6/28/2017
	Client	PBR HAWAII & Associates, Inc.	

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 1		TRENCH 2		TRENCH 2BP		TRENCH 3		TRENCH 4		TRENCH 5		TRENCH 6		TRENCH 7		TRENCH 8	
					290582-002/018		290582-001/017		290582-003/019		290582-004/020		290582-005/021		290582-006/022		290582-007/023		290582-008/024		290582-009/025	
					7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/11/2017		7/11/2017		7/11/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Total Petroleum Hydrocarbons (TPH) (mg/kg) (SW-846 3550C/5035/8015B)																						
Diesel Range Organics (DRO)	100	100	520	2,200	13	Y	100	Y	24	Y	130	Y	76	Y	99	Y	66	Y	110	Y	350	Y
Gasoline Range Organics (GRO)	100	100	96	440	ND	6.5	1.4	J	NA		0.8	J	1	J	ND	6.8	1	J	0.97	J	1	J
Residual Range Organics (RRO)	500	1000	2,500	33,000	28		220		47		290		190		210		160		220		250	
BTEX, MtBE, and Napthalene (mg/kg) (SW-846 5035/8260B)																						
Benzene	0.3	0.3	1.2	5.1	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Toluene	3.2	3.2	4,900	47,000	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Ethylbenzene	3.7	3.7	5.8	25	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Xylenes, total	2.1	2.1	580	2,500	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Methyl tert butyl ether (MtBE)	0.028	0.028	47	210	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Naphthalene	4.4	4.4	3.8	17	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Volatile Organic Compounds (VOCs) (mg/kg) (SW-846 5035/8260B)																						
1,1,1,2-Tetrachloroethane	0.018	0.018	2	8.8	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,1,1-Trichloroethane	23	23	8,100	36,000	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,1,2,2-Tetrachloroethane	0.0014	0.0014	0.6	2.7	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,1,2-Trichloroethane	0.0089	0.062	1.1	5	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,1-Dichloroethane	0.11	0.11	3.6	16	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,1-Dichloroethene (1,1-DCE)	1.2	1.2	230	1000	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,2-Dichlorobenzene (1,2-DCB)	0.75	0.75	1,800	9,300	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,2-Dichloroethane	0.023	0.07	0.46	2	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,2-Dichloropropane	0.06	0.14	0.28	1.2	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,3-Dichlorobenzene (1,3-DCB)	0.57	0.57	NS	NS	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
1,4-Dichlorobenzene (1,4-DCB)	0.055	0.39	2.6	11	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Bromobenzene	NS	NS	290	1,800	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Bromodichloromethane	0.0025	0.0025	0.29	1.3	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Bromoform	0.69	0.69	19	86	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Bromomethane	0.22	0.36	6.8	30	ND	0.65	ND	0.65	NA		ND	0.45	ND	0.56	ND	0.68	ND	0.54	ND	0.52	ND	0.57
Carbon Tetrachloride	0.1	0.73	0.65	2.9	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Chlorobenzene	2.2	2.9	280	1300	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Chloroethane	1.2	1.2	14,000	57,000	ND	0.65	ND	0.65	NA		ND	0.45	ND	0.56	ND	0.68	ND	0.54	ND	0.52	ND	0.57
Chloroform	0.026	0.19	0.32	1.4	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Chloromethane	4	11	110	460	ND	0.65	ND	0.65	NA		ND	0.45	ND	0.56	ND	0.68	ND	0.54	ND	0.52	ND	0.57
cis-1,2-Dichloroethene	0.36	2.2	160	2,300	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
cis-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Dibromochloromethane	0.0021	0.0021	8.3	39	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Dibromomethane	NS	NS	24	99	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Trichlorotrifluoroethane (Freon 113)	NS	NS	NS	NS	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Dichlorodifluoromethane (Freon 12)	NS	NS	87	370	ND	0.65	ND	0.65	NA		ND	0.45	ND	0.56	ND	0.68	ND	0.54	ND	0.52	ND	0.57
Methylene Chloride	0.12	0.12	57	1,000	ND	1.3	ND	1.3	NA		ND	0.91	ND	1.1	ND	1.4	ND	1.1	ND	1	ND	1.1
Tetrachloroethene (PCE)	0.098	0.64	24	100	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
trans 1,2-Dichloroethylene	3.6	6.5	1,600	23,000	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
trans-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Trichloroethylene (TCE)	0.089	0.36	0.94	6	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Trichlorofluoromethane	NS	NS	23,000	350,000	ND	0.32	ND	0.32	NA		ND	0.23	ND	0.28	ND	0.34	ND	0.27	ND	0.26	ND	0.29
Vinyl Chloride	0.036	0.35	0.059	1.7	ND	0.65	ND	0.65	NA		ND	0.45	ND	0.56	ND	0.68	ND	0.54	ND	0.52	ND	0.57
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg) (SW-846 3550C/8270C-SIM)																						
1-Methylnaphthalene	2.5	2.5	18	73	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
2-Methylnaphthalene	4.1	4.1	240	3,000	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Acenaphthene	120	120	3,600	45,000	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 1		TRENCH 2		TRENCH 2BP		TRENCH 3		TRENCH 4		TRENCH 5		TRENCH 6		TRENCH 7		TRENCH 8	
					290582-002/018		290582-001/017		290582-003/019		290582-004/020		290582-005/021		290582-006/022		290582-007/023		290582-008/024		290582-009/025	
					7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/11/2017		7/11/2017		7/11/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Acenaphthylene	100	100	NS	NS	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Anthracene	4.2	4.2	18,000	230,000	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Benzo(a)anthracene	10	10	1.1	21	ND	0.0061	ND	0.14	0.0082	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.14	J
Benzo(a)pyrene	1.6	2.9	0.11	2.1	ND	0.0061	ND	0.14	0.013	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.13	J
Benzo(b)fluoranthene	5.4	5.4	1.1	21	ND	0.0061	ND	0.14	0.019		ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.13	J
Benzo(g,h,i)perylene	35	35	NS	NS	0.0013	J	ND	0.14	0.012	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.11	J
Benzo(k)fluoranthene	29	29	11	210	ND	0.0061	ND	0.14	0.0074	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.035	J
Chrysene	30	30	110	2,100	ND	0.0061	ND	0.14	0.016		ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.17	
Dibenz(a,h)anthracene	1.6	2.9	0.11	2.1	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Fluoranthene	120	120	2,400	30,000	ND	0.0061	ND	0.14	0.016		ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.17	
Fluorene	93	93	2,400	30,000	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Indeno(1,2,3-cd)pyrene	9.6	9.6	1.1	21	ND	0.0061	ND	0.14	0.0078	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.057	J
Naphthalene	4.4	4.4	3.8	17	ND	0.0061	ND	0.14	ND	0.015	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	ND	0.15
Phenanthrene	470	550	NS	NS	ND	0.0061	ND	0.14	0.0093	J	ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.31	
Pyrene	44	44	1,800	23,000	ND	0.0061	ND	0.14	0.02		ND	0.29	ND	0.14	ND	0.3	ND	0.15	ND	0.58	0.42	
Polychlorinated biphenyls (PCBs) (mg/kg) (SW-846 3550C/8082)																						
Aroclor-1016	NS	NS	4.1	27	ND	0.0048	ND	0.0047	ND	0.0048	ND	0.0048	ND	0.017	ND	0.017	ND	0.0048	ND	0.017	ND	0.0048
Aroclor-1221	NS	NS	0.2	0.83	ND	0.0096	ND	0.0095	ND	0.0096	ND	0.0096	ND	0.033	ND	0.033	ND	0.0095	ND	0.033	ND	0.0095
Aroclor-1232	NS	NS	0.17	0.72	ND	0.0048	ND	0.0047	ND	0.0048	ND	0.0048	ND	0.017	ND	0.017	ND	0.0048	ND	0.017	ND	0.0048
Aroclor-1242	NS	NS	0.23	0.95	ND	0.0048	ND	0.0047	ND	0.0048	ND	0.0048	ND	0.017	ND	0.017	ND	0.0048	ND	0.017	ND	0.0048
Aroclor-1248	NS	NS	0.23	0.95	ND	0.0048	ND	0.0047	ND	0.0048	ND	0.0048	ND	0.017	ND	0.017	ND	0.0048	ND	0.017	ND	0.0048
Aroclor-1254	NS	NS	0.24	0.97	ND	0.0048	ND	0.0047	ND	0.0048	ND	0.0048	ND	0.017	ND	0.017	ND	0.0048	ND	0.017	ND	0.0048
Aroclor-1260	NS	NS	0.24	0.99	ND	0.0048	0.0023	J	ND	0.0048	0.0085		ND	0.017	0.014	J	0.0021	J	0.0044	J	0.017	b
PCBs, total	1.2	9.8	NS	NS	ND	0.0096	0.0023		ND	0.0096	0.0085		ND	0.033	0.014		0.0021		0.0044		0.017	
Organochlorine Pesticides (mg/kg) (SW-846 3550C/8081A)																						
4,4'-DDD	2.3	9.6	2.3	9.6	ND	0.0082	0.0077	CJ	NA		NA		NA		NA		0.0075	CJ	NA		NA	
4,4'-DDE	2	9.3	2	9.3	ND	0.0082	ND	0.033	NA		NA		NA		NA		ND	0.033	NA		NA	
4,4'-DDT	1.9	5.6	1.9	8.5	0.002	J	0.0072	J	NA		NA		NA		NA		0.0073	J	NA		NA	
Aldrin	3.9	8.4	0.039	0.18	ND	0.0042	0.0054	CJ	NA		NA		NA		NA		ND	0.017	NA		NA	
BHC alpha (Lindane)	NS	NS	0.086	0.36	ND	0.0042	ND	0.017	NA		NA		NA		NA		ND	0.017	NA		NA	
BHC beta (Lindane)	NS	NS	0.3	1.3	ND	0.0042	ND	0.017	NA		NA		NA		NA		ND	0.017	NA		NA	
BHC delta (Lindane)	NS	NS	NS	NS	0.0021	CJ	ND	0.017	NA		NA		NA		NA		0.0047	J	NA		NA	
BHC gamma (Lindane)	NS	NS	0.57	2.5	ND	0.0042	ND	0.017	NA		NA		NA		NA		ND	0.017	NA		NA	
BHC as Lindane	0.075	0.075	0.3	1.3	0.0021		ND	0.017	NA		NA		NA		NA		0.0047		NA		NA	
Chlordane (technical)	17	23	1.7	7.7	ND	0.075	ND	0.3	NA		NA		NA		NA		ND	0.3	NA		NA	
Chlordane, Alpha	NS	NS	NS	NS	0.026	b	ND	0.017	NA		NA		NA		NA		0.012	J	NA		NA	
Chlordane, Gamma	NS	NS	NS	NS	0.025	b	0.009	J	NA		NA		NA		NA		0.012	J	NA		NA	
Dieldrin	2.5	24	0.034	0.14	ND	0.0082	ND	0.033	NA		NA		NA		NA		ND	0.033	NA		NA	
Endosulfan I	NS	NS	NS	NS	ND	0.0042	0.0073	CJ	NA		NA		NA		NA		ND	0.017	NA		NA	
Endosulfan II	NS	NS	NS	NS	0.0093	Cb	0.0071	J	NA		NA		NA		NA		ND	0.033	NA		NA	
Endosulfan Sulfate	NS	NS	NS	NS	ND	0.0082	ND	0.033	NA		NA		NA		NA		0.0092	J	NA		NA	
Endosulfan, total	13	13	470	7,000	0.0093		0.0144		NA		NA		NA		NA		0.0092		NA		NA	
Endrin	NS	NS	NS	NS	ND	0.0082	ND	0.033	NA		NA		NA		NA		ND	0.033	NA		NA	
Endrin Aldehyde	NS	NS	NS	NS	0.0035	CJ	0.0099	J	NA		NA		NA		NA		ND	0.033	NA		NA	
Endrin Ketone	NS	NS	NS	NS	0.0023	J	0.0094	J	NA		NA		NA		NA		0.0095	CJ	NA		NA	
Endrin, total	3.8	30	19	250	0.0058		0.0193		NA		NA		NA		NA		0.0095		NA		NA	
Heptachlor	0.14	0.63	0.13	0.63	ND	0.0042	ND	0.017	NA		NA		NA		NA		0.005	J	NA		NA	
Heptachlor Epoxide	0.071	0.33	0.07	0.33	0.0045	Cb	0.0052	J	NA		NA		NA		NA		0.0049	J	NA		NA	
Methoxychlor	16	16	320	4,100	ND	0.042	ND	0.17	NA		NA		NA		NA		ND	0.17	NA		NA	

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 1		TRENCH 2		TRENCH 2BP		TRENCH 3		TRENCH 4		TRENCH 5		TRENCH 6		TRENCH 7		TRENCH 8	
					290582-002/018		290582-001/017		290582-003/019		290582-004/020		290582-005/021		290582-006/022		290582-007/023		290582-008/024		290582-009/025	
					7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/10/2017		7/11/2017		7/11/2017		7/11/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Toxaphene	0.49	2.1	0.49	2.1	ND	0.15	ND	0.59	NA		NA		NA		NA		ND	0.6	NA		NA	
Dioxins/Furans (pg/g) (SW-846 8290A)																						
1,2,3,4,6,7,8,9-OCDD	NS	NS	NS	NS	NA		NA		57.9		NA		NA		54500	E	NA		NA		NA	
1,2,3,4,6,7,8,9-OCDF	NS	NS	NS	NS	NA		NA		1.99	J	NA		NA		5930		NA		NA		NA	
1,2,3,4,6,7,8-HpCDD	NS	NS	NS	NS	NA		NA		6.92		NA		NA		4260		NA		NA		NA	
1,2,3,4,6,7,8-HpCDF	NS	NS	NS	NS	NA		NA		ND	4.97	NA		NA		980		NA		NA		NA	
1,2,3,4,7,8,9-HpCDF	NS	NS	NS	NS	NA		NA		2.06	J	NA		NA		45.8		NA		NA		NA	
1,2,3,4,7,8-HxCDD	NS	NS	NS	NS	NA		NA		ND	4.97	NA		NA		11.2	JK	NA		NA		NA	
1,2,3,4,7,8-HxCDF	NS	NS	NS	NS	NA		NA		0.244	JK	NA		NA		13.2	J	NA		NA		NA	
1,2,3,6,7,8-HxCDD	NS	NS	NS	NS	NA		NA		0.375	J	NA		NA		73.3		NA		NA		NA	
1,2,3,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		0.471	JK	NA		NA		16.7	J	NA		NA		NA	
1,2,3,7,8,9-HxCDD	NS	NS	NS	NS	NA		NA		0.399	J	NA		NA		26.7	K	NA		NA		NA	
1,2,3,7,8,9-HxCDF	NS	NS	NS	NS	NA		NA		ND	4.97	NA		NA		ND	23.3	NA		NA		NA	
1,2,3,7,8-PeCDD	NS	NS	NS	NS	NA		NA		0.195	J	NA		NA		5.15	J	NA		NA		NA	
1,2,3,7,8-PeCDF	NS	NS	NS	NS	NA		NA		0.234	J	NA		NA		ND	23.3	NA		NA		NA	
2,3,4,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		0.638	J	NA		NA		22.5	J	NA		NA		NA	
2,3,4,7,8-PeCDF	NS	NS	NS	NS	NA		NA		0.943	J	NA		NA		4.85	J	NA		NA		NA	
2,3,7,8-TCDD	NS	NS	NS	NS	NA		NA		ND	0.993	NA		NA		ND	4.66	NA		NA		NA	
2,3,7,8-TCDF	NS	NS	NS	NS	NA		NA		0.445	J	NA		NA		ND	4.66	NA		NA		NA	
Toxic Equivalency Quotient	240	1500	NS	NS	NA		NA		0.778		NA		NA		90.1		NA		NA		NA	
Metals (mg/kg) (SW-846 6010B)																						
Arsenic (As)	24	95	0.68	3	1.8		2.3		**4.7**		**4**		2.6		**4.1**		1.7		**3.8**		1.4	J
Barium (Ba)	1000	2500	15,000	220,000	920		710	b	460	b	590	b	870	b	580	b	770	b	610	b	740	b
Cadmium (Cd)	14	74	71	980	0.8		0.85		2.1		1		0.92		1.1		0.7		0.93		0.86	
Chromium (Cr)	1100	1100	NS	NS	28		40		97		55		40		51		29		64		43	
Lead (Pb)	200	800	400	800	6.2		58		160		120		19		200		6		64		73	
Mercury (Hg)	4.7	70	11	46	ND	0.019	0.02		0.29		0.072		0.02		0.041		0.0075	J	0.03		0.0099	J
Selenium (Se)	78	1200	390	5,800	2.2		0.34	J	4.7		ND	2	1.1	J	1.4	J	0.91	J	0.79	J	1.2	J
Silver (Ag)	78	1200	390	5,800	ND	0.25	ND	0.24	ND	0.25	ND	0.25	ND	0.24	ND	0.24	ND	0.24	ND	0.25	ND	0.25
TCLP Metals (mg/L) (SW-846 3010A/6010B)																						
Lead (Pb)	5		NS		NA		NA		NA		NA		NA		NA		NA		NA		NA	

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 9		TRENCH 10		TRENCH 11		TRENCH 12		TRENCH 13		TRENCH 14		TRENCH 15		TRENCH 16		TRENCH 17	
					290582-010/026		290582-011/027		290582-012/028		290582-013/029		290582-014/030		290582-015		290582-016/032		290650-001/010		292775-001	
					7/11/2017		7/11/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/13/2017		7/13/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Total Petroleum Hydrocarbons (TPH) (mg/kg) (SW-846 8015B)																						
Diesel Range Organics (DRO)	100	100	520	2,200	680	Y	150	Y	160	Y	180	Y	80	Y	37	Y	43	Y	1,500	Y	520	Yb
Gasoline Range Organics (GRO)	100	100	96	440	4.8	J	1.1	J	1.3	J	1	J	2	J	1.2	J	1.3	J	37	Y	NA	
Residual Range Organics (RRO)	500	1000	2,500	33,000	1,300		340		390		430		230		70		79		3,500		1,200	b
Volatile Organic Compounds (VOCs) (mg/kg) (SW-846 8260B)																						
Benzene	0.3	0.3	1.2	5.1	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Toluene	3.2	3.2	4,900	47,000	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Ethylbenzene	3.7	3.7	5.8	25	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Xylenes, total	2.1	2.1	580	2,500	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	0.05		NA	
Methyl tert butyl ether (MtBE)	0.028	0.028	47	210	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Naphthalene	4.4	4.4	3.8	17	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	0.015	J	ND	0.3	0.21	J	NA	
Volatile Organic Compounds (VOCs) (mg/kg) (SW-846 8260B)																						
1,1,1,2-Tetrachloroethane	0.018	0.018	2	8.8	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,1,1-Trichloroethane	23	23	8,100	36,000	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,1,2,2-Tetrachloroethane	0.0014	0.0014	0.6	2.7	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,1,2-Trichloroethane	0.0089	0.062	1.1	5	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,1-Dichloroethane	0.11	0.11	3.6	16	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,1-Dichloroethene (1,1-DCE)	1.2	1.2	230	1000	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,2-Dichlorobenzene (1,2-DCB)	0.75	0.75	1,800	9,300	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	0.033	J	NA	
1,2-Dichloroethane	0.023	0.07	0.46	2	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,2-Dichloropropane	0.06	0.14	0.28	1.2	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,3-Dichlorobenzene (1,3-DCB)	0.57	0.57	NS	NS	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
1,4-Dichlorobenzene (1,4-DCB)	0.055	0.39	2.6	11	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Bromobenzene	NS	NS	290	1,800	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Bromodichloromethane	0.0025	0.0025	0.29	1.3	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Bromoform	0.69	0.69	19	86	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Bromomethane	0.22	0.36	6.8	30	ND	0.88	ND	0.5	ND	0.6	ND	0.48	ND	0.61	0.088	J	ND	0.59	ND	0.62	NA	
Carbon Tetrachloride	0.1	0.73	0.65	2.9	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Chlorobenzene	2.2	2.9	280	1300	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Chloroethane	1.2	1.2	14,000	57,000	ND	0.88	ND	0.5	ND	0.6	ND	0.48	ND	0.61	ND	0.51	ND	0.59	ND	0.62	NA	
Chloroform	0.026	0.19	0.32	1.4	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Chloromethane	4	11	110	460	ND	0.88	ND	0.5	ND	0.6	ND	0.48	ND	0.61	ND	0.51	ND	0.59	ND	0.62	NA	
cis-1,2-Dichloroethene	0.36	2.2	160	2,300	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
cis-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Dibromochloromethane	0.0021	0.0021	8.3	39	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Dibromomethane	NS	NS	24	99	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Trichlorotrifluoroethane (Freon 113)	NS	NS	NS	NS	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Dichlorodifluoromethane (Freon 12)	NS	NS	87	370	ND	0.88	ND	0.5	ND	0.6	ND	0.48	ND	0.61	ND	0.51	ND	0.59	ND	0.62	NA	
Methylene Chloride	0.12	0.12	57	1,000	ND	1.8	ND	1	ND	1.2	ND	0.97	ND	1.2	ND	1	ND	1.2	ND	1.2	NA	
Tetrachloroethene (PCE)	0.098	0.64	24	100	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
trans 1,2-Dichloroethylene	3.6	6.5	1,600	23,000	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
trans-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Trichloroethylene (TCE)	0.089	0.36	0.94	6	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Trichlorofluoromethane	NS	NS	23,000	350,000	ND	0.44	ND	0.25	ND	0.3	ND	0.24	ND	0.31	ND	0.25	ND	0.3	ND	0.31	NA	
Vinyl Chloride	0.036	0.35	0.059	1.7	ND	0.88	ND	0.5	ND	0.6	ND	0.48	ND	0.61	ND	0.51	ND	0.59	ND	0.62	NA	
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg) (SW-846 8270C-SIM)																						
1-Methylnaphthalene	2.5	2.5	18	73	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
2-Methylnaphthalene	4.1	4.1	240	3,000	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Acenaphthene	120	120	3,600	45,000	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 9		TRENCH 10		TRENCH 11		TRENCH 12		TRENCH 13		TRENCH 14		TRENCH 15		TRENCH 16		TRENCH 17	
					290582-010/026		290582-011/027		290582-012/028		290582-013/029		290582-014/030		290582-015		290582-016/032		290650-001/010		292775-001	
					7/11/2017		7/11/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/13/2017		7/13/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Acenaphthylene	100	100	NS	NS	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Anthracene	4.2	4.2	18,000	230,000	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	0.17	Jb
Benzo(a)anthracene	10	10	1.1	21	ND	1.2	ND	0.28	0.07	J	ND	0.28	ND	0.33	0.025	J	ND	0.059	ND	0.29	ND	0.51b
Benzo(a)pyrene	1.6	2.9	0.11	2.1	ND	1.2	ND	0.28	0.059	J	ND	0.28	ND	0.33	0.031	J	ND	0.059	ND	0.29	**0.23**	Jb
Benzo(b)fluoranthene	5.4	5.4	1.1	21	ND	1.2	ND	0.28	0.083	J	ND	0.28	ND	0.33	0.05	J	ND	0.059	ND	0.29	0.46	Jb
Benzo(g,h,i)perylene	35	35	NS	NS	ND	1.2	ND	0.28	0.059	J	ND	0.28	ND	0.33	0.035	J	ND	0.059	0.13	J	0.24	Jb
Benzo(k)fluoranthene	29	29	11	210	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	0.11	Jb
Chrysene	30	30	110	2,100	ND	1.2	ND	0.28	0.071	J	ND	0.28	ND	0.33	0.033	J	ND	0.059	ND	0.29	ND	0.51b
Dibenz(a,h)anthracene	1.6	2.9	0.11	2.1	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Fluoranthene	120	120	2,400	30,000	ND	1.2	ND	0.28	0.069	J	ND	0.28	ND	0.33	0.034	J	ND	0.059	0.069	J	0.11	Jb
Fluorene	93	93	2,400	30,000	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Indeno(1,2,3-cd)pyrene	9.6	9.6	1.1	21	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	0.023	J	ND	0.059	ND	0.29	0.14	Jb
Naphthalene	4.4	4.4	3.8	17	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Phenanthrene	470	550	NS	NS	ND	1.2	ND	0.28	ND	0.16	ND	0.28	ND	0.33	ND	0.11	ND	0.059	ND	0.29	ND	0.51b
Pyrene	44	44	1,800	23,000	ND	1.2	ND	0.28	0.076	J	ND	0.28	ND	0.33	0.039	J	ND	0.059	0.12	J	0.35	Jb
Polychlorinated biphenyls (PCBs) (mg/kg) (SW-846-8082A)																						
Aroclor-1016	NS	NS	4.1	27	ND	0.0048	ND	0.017	ND	0.017	ND	0.017	ND	0.017	ND	0.0048	ND	0.0048	ND	0.017	ND	0.0048b
Aroclor-1221	NS	NS	0.2	0.83	ND	0.0097	ND	0.034	ND	0.033	ND	0.033	ND	0.033	ND	0.0096	ND	0.0096	ND	0.034	ND	0.0097b
Aroclor-1232	NS	NS	0.17	0.72	ND	0.0048	ND	0.017	ND	0.017	ND	0.017	ND	0.017	ND	0.0048	ND	0.0048	ND	0.017	ND	0.0048b
Aroclor-1242	NS	NS	0.23	0.95	ND	0.0048	ND	0.017	ND	0.017	ND	0.017	ND	0.017	ND	0.0048	ND	0.0048	ND	0.017	ND	0.0048b
Aroclor-1248	NS	NS	0.23	0.95	ND	0.0048	ND	0.017	ND	0.017	ND	0.017	ND	0.017	ND	0.0048	ND	0.0048	ND	0.017	ND	0.0048b
Aroclor-1254	NS	NS	0.24	0.97	ND	0.0048	ND	0.017	ND	0.017	ND	0.017	ND	0.017	ND	0.0048	ND	0.0048	ND	0.017	ND	0.0048b
Aroclor-1260	NS	NS	0.24	0.99	0.026	b	0.092		0.0089	J	0.0063	J	0.0042	J	ND	0.0048	ND	0.0048	0.069		0.013	
PCBs, total	1.2	9.8	NS	NS	0.026		0.092		0.0089		0.0063		0.0042		ND	0.0096	ND	0.0096	0.069		0.013	
Organochlorine Pesticides (mg/kg) (SW-846 8081A)																						
4,4'-DDD	2.3	9.6	2.3	9.6	ND	0.17	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
4,4'-DDE	2	9.3	2	9.3	ND	0.17	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
4,4'-DDT	1.9	5.6	1.9	8.5	0.036	J	NA		0.018	J	0.018	J	NA		0.0073	J	NA		NA		NA	
Aldrin	3.9	8.4	0.039	0.18	ND	0.086	NA		ND	0.042	ND	0.043	NA		ND	0.017	NA		NA		NA	
BHC alpha (Lindane)	NS	NS	0.086	0.36	ND	0.086	NA		ND	0.042	ND	0.043	NA		ND	0.017	NA		NA		NA	
BHC beta (Lindane)	NS	NS	0.3	1.3	ND	0.086	NA		ND	0.042	ND	0.043	NA		ND	0.017	NA		NA		NA	
BHC delta (Lindane)	NS	NS	NS	NS	0.022	J	NA		0.011	J	ND	0.043	NA		ND	0.017	NA		NA		NA	
BHC gamma (Lindane)	NS	NS	0.57	2.5	0.083	CJ	NA		ND	0.042	0.055	Cb	NA		ND	0.017	NA		NA		NA	
BHC as Lindane	0.075	0.075	0.3	1.3	0.105		NA		0.011		0.055		NA		ND	0.017	NA		NA		NA	
Chlordane (technical)	17	23	1.7	7.7	ND	1.5	NA		ND	0.75	ND	0.75	NA		ND	0.3	NA		NA		NA	
Chlordane, Alpha	NS	NS	NS	NS	0.025	J	NA		0.016	CJ	0.026	J	NA		0.0046	J	NA		NA		NA	
Chlordane, Gamma	NS	NS	NS	NS	0.031	J	NA		0.017	CJ	0.028	J	NA		0.0055	J	NA		NA		NA	
Dieldrin	2.5	24	0.034	0.14	ND	0.17	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
Endosulfan I	NS	NS	NS	NS	ND	0.086	NA		ND	0.042	ND	0.043	NA		0.0056	J	NA		NA		NA	
Endosulfan II	NS	NS	NS	NS	0.038	CJ	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
Endosulfan Sulfate	NS	NS	NS	NS	ND	0.17	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
Endosulfan, total	13	13	470	7,000	0.038		NA		ND	0.082	ND	0.083	NA		0.0056		NA		NA		NA	
Endrin	NS	NS	NS	NS	ND	0.17	NA		ND	0.082	ND	0.083	NA		ND	0.033	NA		NA		NA	
Endrin Aldehyde	NS	NS	NS	NS	0.05	J	NA		ND	0.082	ND	0.083	NA		0.013	J	NA		NA		NA	
Endrin Ketone	NS	NS	NS	NS	ND	0.17	NA		0.025	CJ	ND	0.083	NA		0.0098	CJ	NA		NA		NA	
Endrin, total	3.8	30	19	250	0.05		NA		0.025		ND	0.083	NA		0.0228		NA		NA		NA	
Heptachlor	0.14	0.63	0.13	0.63	0.025	CJ	NA		0.012	CJ	0.013	CJ	NA		0.0055	CJ	NA		NA		NA	
Heptachlor Epoxide	0.071	0.33	0.07	0.33	0.025	J	NA		ND	0.042	0.012	J	NA		0.005	J	NA		NA		NA	
Methoxychlor	16	16	320	4,100	ND	0.86	NA		ND	0.42	ND	0.43	NA		ND	0.17	NA		NA		NA	

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					290582-010/026		290582-011/027		290582-012/028		290582-013/029		290582-014/030		290582-015		290582-016/032		290650-001/010		292775-001	
					7/11/2017		7/11/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/12/2017		7/13/2017		7/13/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Toxaphene	0.49	2.1	0.49	2.1	ND	3	NA		ND	1.5	ND	1.5	NA		ND	0.6	NA		NA		NA	
Organochlorine Pesticides (mg/kg) (SW-846 8081A)																						
1,2,3,4,6,7,8,9-OCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,6,7,8,9-OCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,6,7,8-HpCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,6,7,8-HpCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,7,8,9-HpCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,7,8-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,4,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,6,7,8-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,7,8,9-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,7,8,9-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,7,8-PeCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3,7,8-PeCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,3,4,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,3,4,7,8-PeCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,3,7,8-TCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,3,7,8-TCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Toxic Equivalency Quotient	240	1500	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals (mg/kg) (SW-846 6010B)																						
Arsenic (As)	24	95	0.68	3	1.8		**7.7**		**4.7**		2.5		**6.1**		2.7		**3**		**9.7**		1.6	
Barium (Ba)	1000	2500	15,000	220,000	750	b	380	b	380	b	570	b	390	b	890	b	700		470		780	
Cadmium (Cd)	14	74	71	980	0.92		1.7		1.4		0.88		1.1		0.96		0.9		1.3		ND	0.25
Chromium (Cr)	1100	1100	NS	NS	49		130		60		49		110		41		55		100		42	
Lead (Pb)	200	800	400	800	71		340		760		16		47		59		18		320		120	
Mercury (Hg)	4.7	70	11	46	0.082		0.021		0.079		ND	0.018	0.12		0.05		0.039		0.042		0.078	b
Selenium (Se)	78	1200	390	5,800	0.34	J	1.7	J	0.44	J	0.85	J	1.5	J	1.8	J	2.4		2.7		ND	0.67
Silver (Ag)	78	1200	390	5,800	ND	0.25	ND	0.24	ND	0.25	ND	0.24	ND	0.24	ND	0.23	ND	0.25	ND	0.24	ND	0.25
TCLP Metals (mg/L) (SW-846 3010A/6010B)																						
Lead (Pb)	5		NS		NA		NA		ND	0.05	NA		NA		NA		NA		NA		NA	

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 18		TRENCH 19		TRENCH 20		TRENCH 21		TRENCH 22		TRENCH 23		TRENCH 23 SLAG	
					290650-003/012		290650-004/013		290650-005/014		290650-006/015		290650-007/016		290650-008/017		290650-009/018	
					7/13/2017		7/13/2017		7/13/2017		7/14/2017		7/14/2017		7/14/2017		7/14/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Total Petroleum Hydrocarbons (TPH) (mg/kg) (SW-846 8015B)																		
Diesel Range Organics (DRO)	100	100	520	2,200	250	Y	210	Y	1,100	Y	66	Y	29	Y	22	Y	8,200	Y
Gasoline Range Organics (GRO)	100	100	96	440	3.4	J	1.2	J	14	Y	3.4	J	3.9	J	4	J	NA	
Residual Range Organics (RRO)	500	1000	2,500	33,000	780		920		3,500		260		140		100		85,000	
BTEX, MtBE, and Napthalene (mg/kg) (SW-846 8260B)																		
Benzene	0.3	0.3	1.2	5.1	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Toluene	3.2	3.2	4,900	47,000	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Ethylbenzene	3.7	3.7	5.8	25	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Xylenes, total	2.1	2.1	580	2,500	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Methyl tert butyl ether (MtBE)	0.028	0.028	47	210	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Naphthalene	4.4	4.4	3.8	17	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Volatile Organic Compounds (VOCs) (mg/kg) (SW-846 8260B)																		
1,1,1,2-Tetrachloroethane	0.018	0.018	2	8.8	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,1,1-Trichloroethane	23	23	8,100	36,000	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,1,2,2-Tetrachloroethane	0.0014	0.0014	0.6	2.7	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,1,2-Trichloroethane	0.0089	0.062	1.1	5	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,1-Dichloroethane	0.11	0.11	3.6	16	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,1-Dichloroethene (1,1-DCE)	1.2	1.2	230	1000	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,2-Dichlorobenzene (1,2-DCB)	0.75	0.75	1,800	9,300	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,2-Dichloroethane	0.023	0.07	0.46	2	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,2-Dichloropropane	0.06	0.14	0.28	1.2	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,3-Dichlorobenzene (1,3-DCB)	0.57	0.57	NS	NS	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
1,4-Dichlorobenzene (1,4-DCB)	0.055	0.39	2.6	11	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Bromobenzene	NS	NS	290	1,800	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Bromodichloromethane	0.0025	0.0025	0.29	1.3	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Bromoform	0.69	0.69	19	86	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Bromomethane	0.22	0.36	6.8	30	ND	0.54	ND	0.57	ND	0.57	ND	0.47	ND	0.57	ND	0.57	NA	
Carbon Tetrachloride	0.1	0.73	0.65	2.9	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Chlorobenzene	2.2	2.9	280	1300	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Chloroethane	1.2	1.2	14,000	57,000	ND	0.54	ND	0.57	ND	0.57	ND	0.47	ND	0.57	ND	0.57	NA	
Chloroform	0.026	0.19	0.32	1.4	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Chloromethane	4	11	110	460	ND	0.54	ND	0.57	ND	0.57	ND	0.47	ND	0.57	ND	0.57	NA	
cis-1,2-Dichloroethene	0.36	2.2	160	2,300	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
cis-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Dibromochloromethane	0.0021	0.0021	8.3	39	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Dibromomethane	NS	NS	24	99	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Trichlorotrifluoroethane (Freon 113)	NS	NS	NS	NS	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Dichlorodifluoromethane (Freon 12)	NS	NS	87	370	ND	0.54	ND	0.57	ND	0.57	ND	0.47	ND	0.57	ND	0.57	NA	
Methylene Chloride	0.12	0.12	57	1,000	ND	1.1	ND	1.1	ND	1.1	ND	0.93	ND	1.1	ND	1.1	NA	
Tetrachloroethene (PCE)	0.098	0.64	24	100	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
trans 1,2-Dichloroethylene	3.6	6.5	1,600	23,000	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
trans-1,3-Dichloropropene	NS	NS	NS	NS	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Trichloroethylene (TCE)	0.089	0.36	0.94	6	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Trichlorofluoromethane	NS	NS	23,000	350,000	ND	0.27	ND	0.28	ND	0.28	ND	0.23	ND	0.29	ND	0.29	NA	
Vinyl Chloride	0.036	0.35	0.059	1.7	ND	0.54	ND	0.57	ND	0.57	ND	0.47	ND	0.57	ND	0.57	NA	
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg) (SW-846 8270C-SIM)																		
1-Methylnaphthalene	2.5	2.5	18	73	ND	0.12	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
2-Methylnaphthalene	4.1	4.1	240	3,000	ND	0.12	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Acenaphthene	120	120	3,600	45,000	0.057	J	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	

Table 3: Summary of Soil Sample Analytical Results

Analyte	HDOH Residential EALs (mg/kg)	HDOH C/I EALs (mg/kg)	EPA Residential RSLs (mg/kg)	EPA Industrial RSLs (mg/kg)	TRENCH 18		TRENCH 19		TRENCH 20		TRENCH 21		TRENCH 22		TRENCH 23		TRENCH 23 SLAG	
					290650-003/012		290650-004/013		290650-005/014		290650-006/015		290650-007/016		290650-008/017		290650-009/018	
					7/13/2017		7/13/2017		7/13/2017		7/14/2017		7/14/2017		7/14/2017		7/14/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Acenaphthylene	100	100	NS	NS	0.036	J	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Anthracene	4.2	4.2	18,000	230,000	0.16		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Benzo(a)anthracene	10	10	1.1	21	0.41		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Benzo(a)pyrene	1.6	2.9	0.11	2.1	0.46		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Benzo(b)fluoranthene	5.4	5.4	1.1	21	0.68		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Benzo(g,h,i)perylene	35	35	NS	NS	0.39		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Benzo(k)fluoranthene	29	29	11	210	0.23		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Chrysene	30	30	110	2,100	0.48		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Dibenz(a,h)anthracene	1.6	2.9	0.11	2.1	0.091	J	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Fluoranthene	120	120	2,400	30,000	1.3		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Fluorene	93	93	2,400	30,000	0.065	J	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Indeno(1,2,3-cd)pyrene	9.6	9.6	1.1	21	0.32		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Naphthalene	4.4	4.4	3.8	17	0.044	J	ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Phenanthrene	470	550	NS	NS	0.87		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Pyrene	44	44	1,800	23,000	1.1		ND	0.65	ND	2.7	ND	0.25	ND	0.15	ND	0.055	NA	
Polychlorinated biphenyls (PCBs) (mg/kg) (SW-846-8082A)																		
Aroclor-1016	NS	NS	4.1	27	ND	0.017	ND	0.0048	ND	0.067	ND	0.017	ND	0.0048	ND	0.0048	NA	
Aroclor-1221	NS	NS	0.2	0.83	ND	0.034	ND	0.0095	ND	0.13	ND	0.034	ND	0.0096	ND	0.0095	NA	
Aroclor-1232	NS	NS	0.17	0.72	ND	0.017	ND	0.0048	ND	0.067	ND	0.017	ND	0.0048	ND	0.0048	NA	
Aroclor-1242	NS	NS	0.23	0.95	ND	0.017	ND	0.0048	ND	0.067	ND	0.017	ND	0.0048	ND	0.0048	NA	
Aroclor-1248	NS	NS	0.23	0.95	ND	0.017	ND	0.0048	ND	0.067	ND	0.017	ND	0.0048	ND	0.0048	NA	
Aroclor-1254	NS	NS	0.24	0.97	ND	0.017	ND	0.0048	ND	0.067	ND	0.017	ND	0.0048	ND	0.0048	NA	
Aroclor-1260	NS	NS	0.24	0.99	0.02		0.011		0.093		ND	0.017	ND	0.0048	ND	0.0048	NA	
PCBs, total	1.2	9.8	NS	NS	0.02		0.011		0.093		ND	0.034	ND	0.0096	ND	0.0095	NA	
Organochlorine Pesticides (mg/kg) (SW-846 8081A)																		
4,4'-DDD	2.3	9.6	2.3	9.6	NA		NA		NA		NA		NA		NA		NA	
4,4'-DDE	2	9.3	2	9.3	NA		NA		NA		NA		NA		NA		NA	
4,4'-DDT	1.9	5.6	1.9	8.5	NA		NA		NA		NA		NA		NA		NA	
Aldrin	3.9	8.4	0.039	0.18	NA		NA		NA		NA		NA		NA		NA	
BHC alpha (Lindane)	NS	NS	0.086	0.36	NA		NA		NA		NA		NA		NA		NA	
BHC beta (Lindane)	NS	NS	0.3	1.3	NA		NA		NA		NA		NA		NA		NA	
BHC delta (Lindane)	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
BHC gamma (Lindane)	NS	NS	0.57	2.5	NA		NA		NA		NA		NA		NA		NA	
BHC as Lindane	0.075	0.075	0.3	1.3	NA		NA		NA		NA		NA		NA		NA	
Chlordane (technical)	17	23	1.7	7.7	NA		NA		NA		NA		NA		NA		NA	
Chlordane, Alpha	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Chlordane, Gamma	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Dieldrin	2.5	24	0.034	0.14	NA		NA		NA		NA		NA		NA		NA	
Endosulfan I	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endosulfan II	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endosulfan Sulfate	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endosulfan, total	13	13	470	7,000	NA		NA		NA		NA		NA		NA		NA	
Endrin	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endrin Aldehyde	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endrin Ketone	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		NA	
Endrin, total	3.8	30	19	250	NA		NA		NA		NA		NA		NA		NA	
Heptachlor	0.14	0.63	0.13	0.63	NA		NA		NA		NA		NA		NA		NA	
Heptachlor Epoxide	0.071	0.33	0.07	0.33	NA		NA		NA		NA		NA		NA		NA	
Methoxychlor	16	16	320	4,100	NA		NA		NA		NA		NA		NA		NA	

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					290650-003/012		290650-004/013		290650-005/014		290650-006/015		290650-007/016		290650-008/017		290650-009/018	
					7/13/2017		7/13/2017		7/13/2017		7/14/2017		7/14/2017		7/14/2017		7/14/2017	
					Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier	Result	RL/ Qualifier
Toxaphene	0.49	2.1	0.49	2.1	NA		NA		NA		NA		NA		NA		NA	
Organochlorine Pesticides (mg/kg) (SW-846 8081A)																		
1,2,3,4,6,7,8,9-OCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		25.3	J
1,2,3,4,6,7,8,9-OCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	98
1,2,3,4,6,7,8-HpCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,4,6,7,8-HpCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,4,7,8,9-HpCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,4,7,8-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,4,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,6,7,8-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,7,8,9-HxCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,7,8,9-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,7,8-PeCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
1,2,3,7,8-PeCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
2,3,4,6,7,8-HxCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
2,3,4,7,8-PeCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	49
2,3,7,8-TCDD	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	9.8
2,3,7,8-TCDF	NS	NS	NS	NS	NA		NA		NA		NA		NA		NA		ND	9.8
Toxic Equivalency Quotient	240	1500	NS	NS	NA		NA		NA		NA		NA		NA		5.55	
Metals (mg/kg) (SW-846 6010B)																		
Arsenic (As)	24	95	0.68	3	6.7		12		9.5		8.2		9.1		7.9		7.3	
Barium (Ba)	1000	2500	15,000	220,000	130		440		490		1,000		1,100		970		550	
Cadmium (Cd)	14	74	71	980	0.77		1.2		0.76		0.85		0.89		0.84		0.67	
Chromium (Cr)	1100	1100	NS	NS	99		84		62		38		40		28		43	
Lead (Pb)	200	800	400	800	120		310		190		51		40		17		18	
Mercury (Hg)	4.7	70	11	46	0.054		0.26		0.016	J	0.019		0.078		0.017	J	0.016	J
Selenium (Se)	78	1200	390	5,800	1.1		3.3		2.4		3.2		5.8		3.9		7.9	
Silver (Ag)	78	1200	390	5,800	ND	0.23	ND	0.25	ND	0.24	ND	0.24	ND	0.24	ND	0.24	ND	0.25
TCLP Metals (mg/L) (SW-846 3010A/6010B)																		
Lead (Pb)	5		NS		NA		NA		NA		NA		NA		NA		NA	

HDOH Environmental Action Levels (EALs) for sites where groundwater IS a current or potential source of drinking water and the site is greater than 150 meters to a surface water body (HDOH Summer 2016 rev November 2016).
Blue font indicates the HDOH Tier 1 Unrestricted (Residential) land use EAL exceeded.
Red font indicates that HDOH Residential and Commercial/Industrial (C/I) land use EALs exceeded.
Environmental Protection Agency (EPA) Regional Screening Level (RSL) with target cancer risk (TR) of 1E-06 and with a target hazard quotient (THQ) of 1.0 for Residential and Industrial
Blue highlight indicates the EPA Residential RSL exceeded.
Red highlight indicates the EPA Residential and Industrial RSLs exceeded.
RL = Reporting Limit listed in the table are laboratory method detection limit for TPH and metals and laboratory reporting limits for OCl pesticides.
ND = The sample specific detection limit does not support the regulatory requirement
mg/kg = milligrams per kilogram; mg/L = milligrams per liter; pg/g = pictograms per gram
J = Results is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
Y = Sample exhibits chromatographic pattern which does not resemble standard.
b = Barium was detected at or above the reporting limit at least 10 times the blank level.
NA - Not analyzed; NS - No Standard

ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 290582
ANALYTICAL REPORT

Element Environmental, LLC
98-030 Hekaha Street
Aiea, HI 96701

Project : 170039
Location : 820 Eisenberg Phase II
Level : II

Sample ID	Lab ID	Sample ID	Lab ID
TRENCH 2	290582-001	TRENCH 2	290582-017
TRENCH 1	290582-002	TRENCH 1	290582-018
TRENCH 2BP	290582-003	TRENCH 2BP	290582-019
TRENCH 3	290582-004	TRENCH 3	290582-020
TRENCH 4	290582-005	TRENCH 4	290582-021
TRENCH 5	290582-006	TRENCH 5	290582-022
TRENCH 6	290582-007	TRENCH 6	290582-023
TRENCH 7	290582-008	TRENCH 7	290582-024
TRENCH 8	290582-009	TRENCH 8	290582-025
TRENCH 9	290582-010	TRENCH 9	290582-026
TRENCH 10	290582-011	TRENCH 10	290582-027
TRENCH 11	290582-012	TRENCH 11	290582-028
TRENCH 12	290582-013	TRENCH 12	290582-029
TRENCH 13	290582-014	TRENCH 13	290582-030
TRENCH 14	290582-015	TRENCH 14	290582-031
TRENCH 15	290582-016	TRENCH 15	290582-032

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 08/25/2017

Dina Ali
Project Manager
dina.ali@enthalpy.com
(510) 204-2223 Ext 13105

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**290582**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**07/14/17**
Samples Received:	**07/14/17**

This data package contains sample and QC results for sixteen soil samples, requested for the above referenced project on 07/14/17. The samples were received on ice and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Matrix spikes were not performed for this analysis in batch 249734 due to insufficient sample amount. Gasoline C6-C12 was detected between the MDL and the RL in the method blank for batch 249734; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High response was observed for Freon 113 in the ICV analyzed 07/22/17 03:49; affected data was qualified with "b". High responses were observed for many analytes in the CCV analyzed 07/21/17 16:06; affected data was qualified with "b". Low response was observed for Freon 12 in the CCV analyzed 07/18/17 14:06; this analyte met minimum response criteria, and affected data was qualified with "b". High response was observed for Freon 113 in the CCV analyzed 07/19/17 17:52; affected data was qualified with "b". High responses were observed for bromomethane, Freon 113, and Freon 12 in the CCV analyzed 07/20/17 16:15; affected data was qualified with "b". Matrix spikes were not performed for this analysis in batch 249892 due to limited sample volume or interferences from the solvent in sample dilutions. Matrix spikes were not performed for this analysis in batch 249956 due to insufficient sample amount. High recovery was observed for Freon 113 in the LCS for batch 249742; this analyte was not detected at or above the RL in the associated samples. Low recoveries were observed for many analytes in the MS/MSD for batch 249769; the parent sample was not a project sample, the LCS was within limits, and the associated RPDs were within limits. Low recoveries were observed for cis-1,3-dichloropropene, trans-1,3-dichloropropene, and 1,1,2,2-tetrachloroethane in the MS/MSD for batch 249742; the parent sample was not a project sample, the LCS was within limits, and the associated RPDs were within limits. High recoveries were observed for many analytes; these analytes were not detected at or above the RL in the associated samples. High RPD was also observed for many analytes; these analytes were not detected at or above the RL in the associated samples. High recovery was observed for Freon 113 in the LCS for batch 249868; this analyte was not detected at or above the RL in the associated samples. Low recoveries were observed for many

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**290582**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**07/14/17**
Samples Received:	**07/14/17**

Volatile Organics by GC/MS (EPA 8260B):
analytes in the MS/MSD for batch 249868; the parent sample was not a project sample, and the LCS was within limits. High recoveries were observed for a number of analytes; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. High RPD was observed for cis-1,3-dichloropropene and trans-1,3-dichloropropene; these analytes were not detected at or above the RL in the associated samples. High recoveries were observed for a number of analytes in the BS/BSD for batch 249892; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. Bromomethane was detected between the MDL and the RL in the method blank for batch 249769; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Pesticides (EPA 8081A):
All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. All samples underwent florisil cleanup using EPA Method 3620C. High responses were observed for a number of analytes in the CCV analyzed 07/24/17 18:56; affected data was qualified with "b". High responses were observed for alpha-chlordane, gamma-BHC, and gamma-chlordane in the CCV analyzed 07/24/17 22:17; affected data was qualified with "b". High responses were observed for many analytes in the CCV analyzed 07/20/17 13:28; affected data was qualified with "b". High response was observed for heptachlor epoxide in the CCV analyzed 07/24/17 22:17; affected data was qualified with "b". Matrix spikes QC893776,QC893777 (batch 249828) were not reported because the parent sample required a dilution that would have diluted out the spikes. Many samples were diluted due to the color of the sample extracts. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High response was observed for Aroclor-1260 in the CCV analyzed 08/02/17 16:52; affected data was qualified with "b". High response was observed for Aroclor-1016 in the CCV analyzed 07/20/17 14:09; affected data was qualified with "b". High response was observed for Aroclor-1016 in the CCV analyzed 07/20/17 23:09; affected data was qualified with "b". Matrix spikes

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**290582**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**07/14/17**
Samples Received:	**07/14/17**

PCBs (EPA 8082):
QC893776,QC893777 (batch 249828) were not reported because the parent sample required a dilution that would have diluted out the spikes. Many samples were diluted due to the color of the sample extracts. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Barium was detected at or above the RL in the XCCB analyzed 07/25/17 04:59; this analyte was detected in samples at least 10 times the blank level, and affected data was qualified with "b". Barium was detected at or above the RL in the XCCB analyzed 07/25/17 05:34; this analyte was detected in samples at least 10 times the blank level, and affected data was qualified with "b". Barium was detected at or above the RL in the XCCB analyzed 07/24/17 21:22; this analyte was detected in samples at least 10 times the blank level, and affected data was qualified with "b". High recoveries were observed for mercury in the MS/MSD for batch 249984; the parent sample was not a project sample, and the BS/BSD were within limits. Low recoveries were observed for silver and chromium in the MS/MSD of TRENCH 15 (lab # 290582-016); the LCS was within limits. High RPD was observed for silver; this analyte was not detected at or above the RL in the associated samples. Response exceeding the instrument's linear range was observed for mercury in the MS for batch 249984; affected data was qualified with "b". Silver, barium, and chromium were detected between the MDL and the RL in the method blank for batch 249942; these analytes were either not detected in samples at or above the RL, or detected at a level at least 10 times that of the blank. No other analytical problems were encountered.

Moisture (ASTM D2216-98/CLP):
No analytical problems were encountered.

Dioxins and Furans (EPA 8290):
Cape Fear Analytical in Wilmington, NC performed the analysis (NELAP certified). Please see the Cape Fear Analytical case narrative.

CHAIN OF CUSTODY

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

Chain of Custody # : _____

C&T LOGIN # 290582

Project No: 170039
Project Name: 820 Eisenberg
EDD Format: Non-DoD Rpt Level: x II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals (Hold for further instruction)					
	Trench 2	7/10/2017	0910		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 1	7/10/2017	0925		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 2BP	7/10/2017	0945		x		1						x	x	x	x	x		x	x	x		x						
	Trench 3	7/10/2017	1145		x		2				x		x	x	x	x	x		x	x	x								
	Trench 4	7/10/2017	~~1200~~ 1330		x		2				x		x	x	x	x	x		x	x	x								
	Trench 5	7/10/2017	1340		x		2				x		x	x	x	x	x		x	x	x		x						
	Trench 6	7/11/2017	0855		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 7	7/11/2017	0840		x		2				x		x	x	x	x	x		x	x	x								
	Trench 8	7/11/2017	0945		x		2				x		x	x	x	x	x		x	x	x								
	Trench 9	7/11/2017	1515		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 10	7/11/2017	1355		x		2				x		x	x	x	x	x		x	x	x								
	Trench 11	7/12/2017	0930		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 12	7/12/2017	0915		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 13	7/12/2017	1130		x		2				x		x	x	x	x	x		x	x	x								
	Trench 14	7/12/2017	1405		x		2				x		x	x	x	x	x	x	x	x	x								
	Trench 15	7/12/2017	1445		x		2				x		x	x	x	x	x		x	x	x								

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Eric C. Kwok 7/13/17 14:30 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Kevin Pyon 7-14-17 / 10:28 DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 290582 Date Received 7-14-17 Number of coolers 2
Client Element Env., LLC Project ~~T0039~~ 820 Eisenberg
by 7-14-17

Date Opened 7-14-17 By (print) kp (sign) kp
Date Logged in ↓ By (print) BTN (sign) [signature]
Date Labelled ↓ By (print) [signature] (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc) Fedex YES NO
Shipping info 7796 2983 6940, 7796 2983 7111

2A. Were custody seals present? .... ☑ YES (circle) on cooler on samples ☐ NO
How many 2 Name Signature Date 7-13-17
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☑ Blue/Gel ☐ None Temp(°C) 1.2, 2.9

☐ Temperature blank(s) included? ☐ Thermometer# ☑ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? @ 18:00
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#_____) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS
11. Did not receive MeOH container for sample 3

Rev 13, 6/01/16

ENTHALPY ANALYTICAL

Detections Summary for 290582

Results for any subcontracted analyses are not included in this summary.

Client : Element Environmental, LLC
Project : 170039
Location : 820 Eisenberg Phase II

Client Sample ID : TRENCH 2 Laboratory Sample ID : 290582-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aldrin	0.0054	C,J	0.017	0.0026	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.0052	J	0.017	0.0026	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endosulfan I	0.0073	C,J	0.017	0.0019	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endosulfan II	0.0071	J	0.033	0.0043	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
4,4'-DDD	0.0077	C,J	0.033	0.0034	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endrin ketone	0.0094	J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endrin aldehyde	0.0099	J	0.033	0.0056	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
4,4'-DDT	0.0072	J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
gamma-Chlordane	0.0090	J	0.017	0.0017	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Aroclor-1260	0.0023	J	0.0047	0.00076	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	2.3		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	710	b	24	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.85		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	58		0.97	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.34	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 1 Laboratory Sample ID : 290582-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
delta-BHC	0.0021	C,J	0.0042	0.00061	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.0045	C,b	0.0042	0.00054	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
Endosulfan II	0.0093	C,b	0.0082	0.0011	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
Endrin ketone	0.0023	J	0.0082	0.00080	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
Endrin aldehyde	0.0035	C,J	0.0082	0.0014	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
4,4'-DDT	0.0020	J	0.0082	0.00080	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
alpha-Chlordane	0.026	b	0.0042	0.00045	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
gamma-Chlordane	0.025	b	0.0042	0.00043	mg/Kg	As Recd	5.000	EPA 8081A	EPA 3550C
Arsenic	1.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	920		25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.80		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	28		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	6.2		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.2		2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 2BP Laboratory Sample ID : 290582-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	4.7		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	460	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	2.1		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	97		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	160		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	4.7		2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 3 Laboratory Sample ID : 290582-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.0085		0.0048	0.00077	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	4.0		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	590	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	1.0		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	55		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	120		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 4 Laboratory Sample ID : 290582-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.6		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	870	b	24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.92		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	19		0.97	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.1	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 5 Laboratory Sample ID : 290582-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.014	J	0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	4.1		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	580	b	24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	1.1		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	51		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	200		0.96	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.4	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 6 Laboratory Sample ID : 290582-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
delta-BHC	0.0047	J	0.017	0.0024	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Heptachlor	0.0050	J	0.017	0.0025	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.0049	J	0.017	0.0026	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endosulfan sulfate	0.0092	J	0.033	0.0033	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
4,4'-DDD	0.0075	C,J	0.033	0.0034	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endrin ketone	0.0095	C,J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
4,4'-DDT	0.0073	J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
alpha-Chlordane	0.012	J	0.017	0.0018	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
gamma-Chlordane	0.012	J	0.017	0.0030	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Aroclor-1260	0.0021	J	0.0048	0.00077	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	1.7		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	770	b	24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.70		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	6.0		0.96	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.91	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 7 Laboratory Sample ID : 290582-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.0044	J	0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	3.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	610	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.93		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	64		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	64		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.79	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 8 Laboratory Sample ID : 290582-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.017	b	0.0048	0.00077	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	1.4	J	1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	740	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.86		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	43		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	73		1.0	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.2	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : TRENCH 9 Laboratory Sample ID : 290582-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-BHC	0.083	C,J	0.086	0.015	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
delta-BHC	0.022	J	0.086	0.012	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
Heptachlor	0.025	C,J	0.086	0.012	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.025	J	0.086	0.013	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
Endosulfan II	0.038	C,J	0.17	0.022	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
Endrin aldehyde	0.050	J	0.17	0.029	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
4,4'-DDT	0.036	J	0.17	0.016	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
alpha-Chlordane	0.025	J	0.086	0.012	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
gamma-Chlordane	0.031	J	0.086	0.015	mg/Kg	As Recd	100.0	EPA 8081A	EPA 3550C
Aroclor-1260	0.026	b	0.0048	0.00078	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	1.8		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	750	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.92		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	49		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	71		0.99	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.34	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 10 Laboratory Sample ID : 290582-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.092		0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	7.7		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	380	b	0.24	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	1.7		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	130		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	340		0.98	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.7	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 11 Laboratory Sample ID : 290582-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
delta-BHC	0.011	J	0.042	0.0061	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Heptachlor	0.012	C,J	0.042	0.0062	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Endrin ketone	0.025	C,J	0.082	0.0080	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
4,4'-DDT	0.018	J	0.082	0.0080	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
alpha-Chlordane	0.016	C,J	0.042	0.0060	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
gamma-Chlordane	0.017	C,J	0.042	0.0075	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Aroclor-1260	0.0089	J	0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	4.7		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	380	b	25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	1.4		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	60		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	760		50	13	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Selenium	0.44	J	2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 12 Laboratory Sample ID : 290582-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-BHC	0.055	C,b	0.043	0.0075	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Heptachlor	0.013	C,J	0.043	0.0062	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.012	J	0.043	0.0066	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
4,4'-DDT	0.018	J	0.083	0.0081	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
alpha-Chlordane	0.026	J	0.043	0.0045	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
gamma-Chlordane	0.028	J	0.043	0.0076	mg/Kg	As Recd	50.00	EPA 8081A	EPA 3550C
Aroclor-1260	0.0063	J	0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	2.5		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	570	b	24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.88		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	49		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	16		0.94	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	0.85	J	1.9	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 13 Laboratory Sample ID : 290582-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.0042	J	0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550C
Arsenic	6.1		1.4	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	390	b	0.24	0.028	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	110		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	47		0.96	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.5	J	1.9	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 14 Laboratory Sample ID : 290582-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Heptachlor	0.0055	C,J	0.017	0.0025	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Heptachlor epoxide	0.0050	J	0.017	0.0027	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endosulfan I	0.0056	J	0.017	0.0019	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endrin ketone	0.0098	C,J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Endrin aldehyde	0.013	J	0.033	0.0057	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
4,4'-DDT	0.0073	J	0.033	0.0032	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
alpha-Chlordane	0.0046	J	0.017	0.0024	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
gamma-Chlordane	0.0055	J	0.017	0.0030	mg/Kg	As Recd	20.00	EPA 8081A	EPA 3550C
Arsenic	2.7		1.4	0.18	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	890	b	23	2.7	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.96		0.23	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	41		0.23	0.046	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	59		0.92	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.8	J	1.8	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : TRENCH 15 Laboratory Sample ID : 290582-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.0		1.5	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	700		25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.90		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	55		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	18		0.98	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.4		2.0	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 2 Laboratory Sample ID : 290582-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.4	J	6.5	0.38	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	100	Y	11	3.5	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	220		57	17	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.020		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 1 Laboratory Sample ID : 290582-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C12-C28	13	Y	1.2	0.37	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	28		6.1	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Benzo(g,h,i)perylene	0.0013	J	0.0061	0.0012	mg/Kg	Dry	1.000	EPA 8270C-SIM	EPA 3550C

Client Sample ID : TRENCH 2BP Laboratory Sample ID : 290582-019

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C12-C28	24	Y	1.5	0.45	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	47		7.4	2.2	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550C
Phenanthrene	0.0093	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Fluoranthene	0.016		0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Pyrene	0.020		0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	0.0082	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Chrysene	0.016		0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	0.019		0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	0.0074	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	0.013	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	0.0078	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	0.012	J	0.015	0.0029	mg/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Mercury	0.29		0.024	0.0072	mg/Kg	Dry	1.000	EPA 7471A	METHOD

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Client Sample ID : TRENCH 3 Laboratory Sample ID : 290582-020

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	0.80	J	4.5	0.27	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	130	Y	12	3.6	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	290		59	18	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.072		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 4 Laboratory Sample ID : 290582-021

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.0	J	5.6	0.33	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	76	Y	11	3.5	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	190		57	17	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.020		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 5 Laboratory Sample ID : 290582-022

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C12-C28	99	Y	12	3.6	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	210		59	18	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.041		0.020	0.0061	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 6 Laboratory Sample ID : 290582-023

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.0	J	5.4	0.32	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	66	Y	12	3.8	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	160		62	19	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.0075	J	0.022	0.0065	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 7 Laboratory Sample ID : 290582-024

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	0.97	J	5.2	0.31	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	110	Y	11	3.5	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	220		57	17	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.030		0.019	0.0058	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 8 Laboratory Sample ID : 290582-025

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.0	J	5.7	0.34	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	350	Y	6.0	1.8	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	250		30	9.1	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550C
Phenanthrene	0.31		0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Fluoranthene	0.17		0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Pyrene	0.42		0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	0.14	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Chrysene	0.17		0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	0.13	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	0.035	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	0.13	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	0.057	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	0.11	J	0.15	0.030	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Mercury	0.0099	J	0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 9 Laboratory Sample ID : 290582-026

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	4.8	J	8.8	0.52	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	680	Y	23	7.2	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	1,300		120	35	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Mercury	0.082		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 10 Laboratory Sample ID : 290582-027

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.1	J	5.0	0.29	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	150	Y	11	3.4	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	340		56	17	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550C
Mercury	0.021		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 11 Laboratory Sample ID : 290582-028

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.3	J	6.0	0.35	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	160	Y	25	7.5	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	390		120	37	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Fluoranthene	0.069	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Pyrene	0.076	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	0.070	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Chrysene	0.071	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	0.083	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	0.059	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	0.059	J	0.16	0.031	mg/Kg	Dry	25.00	EPA 8270C-SIM	EPA 3550C
Mercury	0.079		0.021	0.0064	mg/Kg	Dry	1.000	EPA 7471A	METHOD

ENTHALPY ANALYTICAL

Client Sample ID : TRENCH 12 Laboratory Sample ID : 290582-029

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.0	J	4.8	0.29	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	180	Y	22	6.8	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	430		110	34	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C

Client Sample ID : TRENCH 13 Laboratory Sample ID : 290582-030

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	2.0	J	6.1	0.36	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	80	Y	26	8.1	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	230		130	40	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550C
Mercury	0.12		0.022	0.0067	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 14 Laboratory Sample ID : 290582-031

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.2	J	5.1	0.30	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	37	Y	3.4	1.0	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	70		17	5.2	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550C
Bromomethane	0.088	J	0.51	0.051	mg/Kg	Dry	44.55	EPA 8260B	EPA 5035
Fluoranthene	0.034	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Pyrene	0.039	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	0.025	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Chrysene	0.033	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	0.050	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	0.031	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	0.023	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	0.035	J	0.11	0.023	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550C
Mercury	0.050		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 15 Laboratory Sample ID : 290582-032

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.3	J	5.9	0.35	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	43	Y	3.6	1.1	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550C
Residual Range Organics C28-40	79		18	5.4	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550C
Mercury	0.039		0.021	0.0062	mg/Kg	Dry	1.000	EPA 7471A	METHOD

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

b = See narrative

ENTHALPY ANALYTICAL

Gasoline by GC/FID (5035 Prep)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249734
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/17/17

Field ID:	TRENCH 2	Moisture:	12%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-017	Sampled:	07/10/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.4 J	6.5	0.38

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	70-138

Field ID:	TRENCH 1	Moisture:	18%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-018	Sampled:	07/10/17

Analyte	Result	RL	MDL
Gasoline C6-C12	ND	6.5	0.38

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	70-138

Field ID:	TRENCH 3	Moisture:	15%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-020	Sampled:	07/10/17

Analyte	Result	RL	MDL
Gasoline C6-C12	0.80 J	4.5	0.27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	70-138

Field ID:	TRENCH 4	Moisture:	13%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-021	Sampled:	07/10/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.0 J	5.6	0.33

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	70-138

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Gasoline by GC/FID (5035 Prep)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249734
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/17/17

Field ID:	TRENCH 5	Moisture:	16%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-022	Sampled:	07/10/17

Analyte	Result	RL	MDL
Gasoline C6-C12	ND	6.8	0.40

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	86	70-138

Field ID:	TRENCH 6	Moisture:	20%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-023	Sampled:	07/11/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.0 J	5.4	0.32

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	70-138

Field ID:	TRENCH 7	Moisture:	13%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-024	Sampled:	07/11/17

Analyte	Result	RL	MDL
Gasoline C6-C12	0.97 J	5.2	0.31

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	70-138

Field ID:	TRENCH 8	Moisture:	17%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-025	Sampled:	07/11/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.0 J	5.7	0.34

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	70-138

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Gasoline by GC/FID (5035 Prep)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249734
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/17/17

Field ID:	TRENCH 9	Moisture:	14%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-026	Sampled:	07/11/17

Analyte	Result	RL	MDL
Gasoline C6-C12	4.8 J	8.8	0.52

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	70-138

Field ID:	TRENCH 10	Moisture:	11%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-027	Sampled:	07/11/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.1 J	5.0	0.29

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	70-138

Field ID:	TRENCH 11	Moisture:	19%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-028	Sampled:	07/12/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.3 J	6.0	0.35

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	70-138

Field ID:	TRENCH 12	Moisture:	10%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290582-029	Sampled:	07/12/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.0 J	4.8	0.29

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	70-138

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Gasoline by GC/FID (5035 Prep)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249734
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/17/17

Field ID: TRENCH 13 | Moisture: 24%
Type: SAMPLE | Diln Fac: 25.00
Lab ID: 290582-030 | Sampled: 07/12/17

Analyte	Result	RL	MDL
Gasoline C6-C12	2.0 J	6.1	0.36

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	70-138

Field ID: TRENCH 14 | Moisture: 12%
Type: SAMPLE | Diln Fac: 25.00
Lab ID: 290582-031 | Sampled: 07/12/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.2 J	5.1	0.30

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	70-138

Field ID: TRENCH 15 | Moisture: 15%
Type: SAMPLE | Diln Fac: 25.00
Lab ID: 290582-032 | Sampled: 07/12/17

Analyte	Result	RL	MDL
Gasoline C6-C12	1.3 J	5.9	0.35

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	70-138

Type: BLANK | Diln Fac: 1.000
Lab ID: QC893403

Analyte	Result	RL	MDL
Gasoline C6-C12	0.045 J	0.20	0.012

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	70-138

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249734
Units:	mg/Kg	Analyzed:	07/17/17
Diln Fac:	1.000		

Type: BS Lab ID: QC893401

Analyte	Spiked	Result	%REC	Limits
Gasoline C6-C12	1.000	1.116	112	80-120

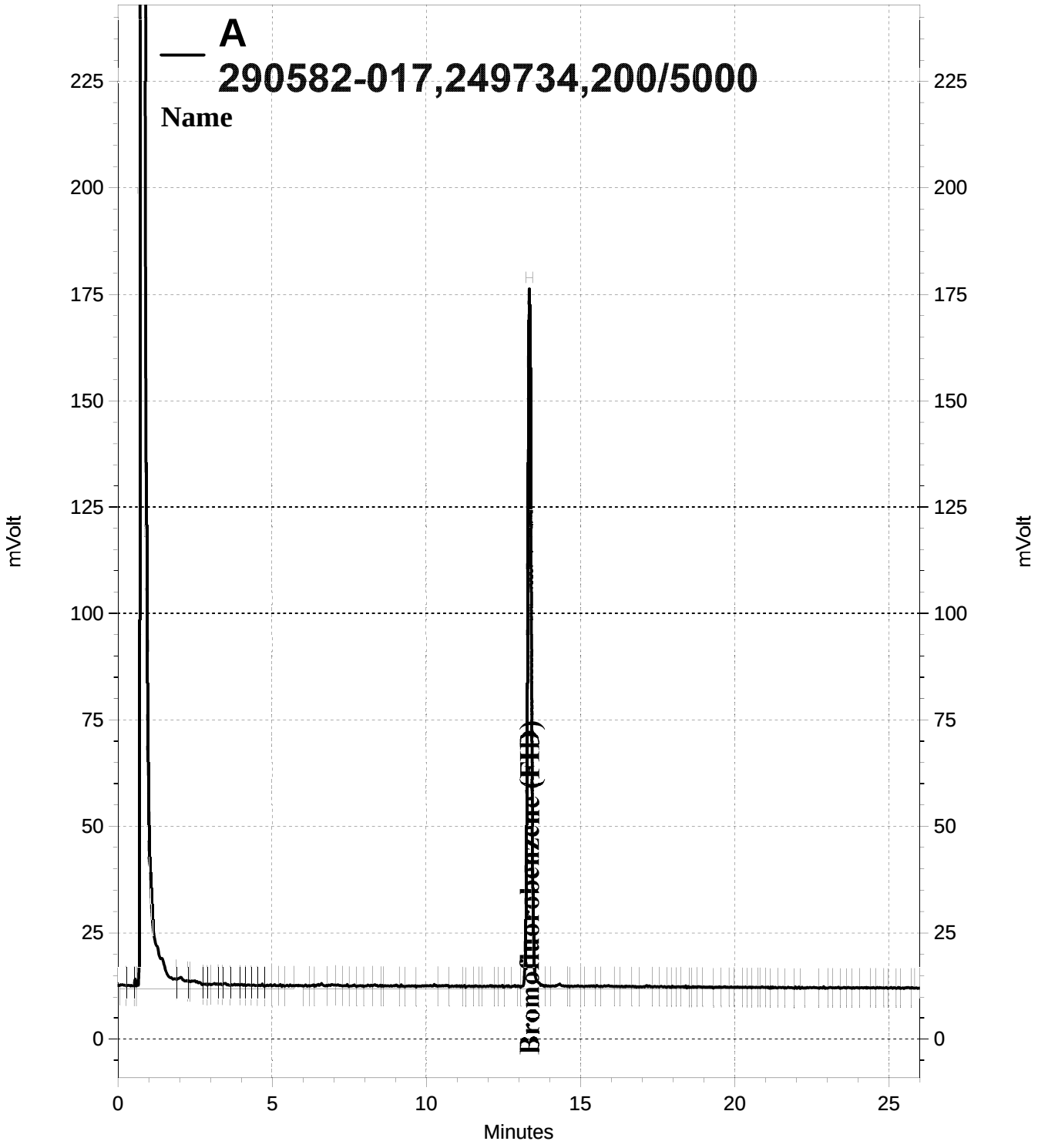
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	70-138

Type: BSD Lab ID: QC893402

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C6-C12	2.000	2.175	109	80-120	3	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	70-138

RPD= Relative Percent Difference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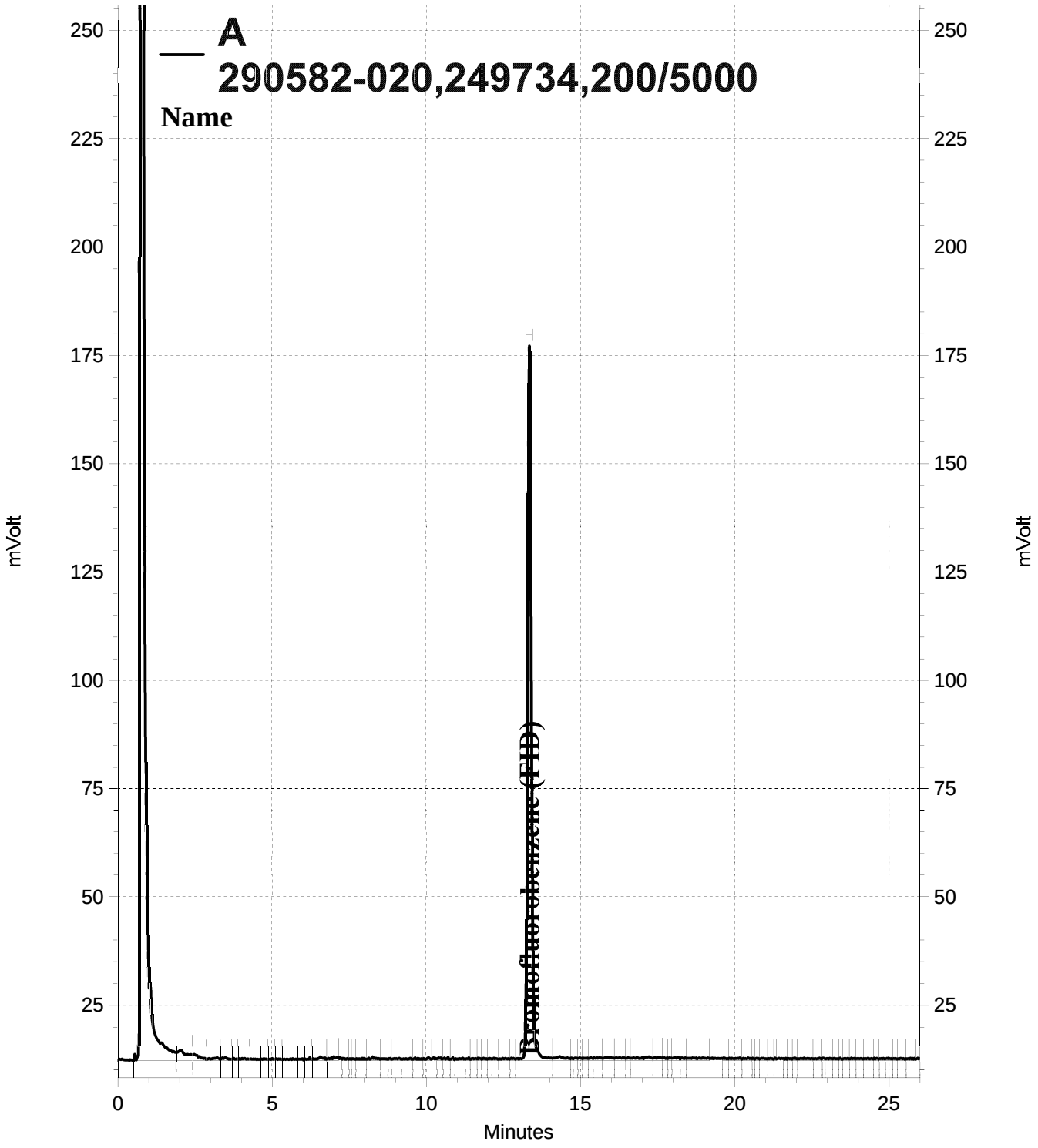

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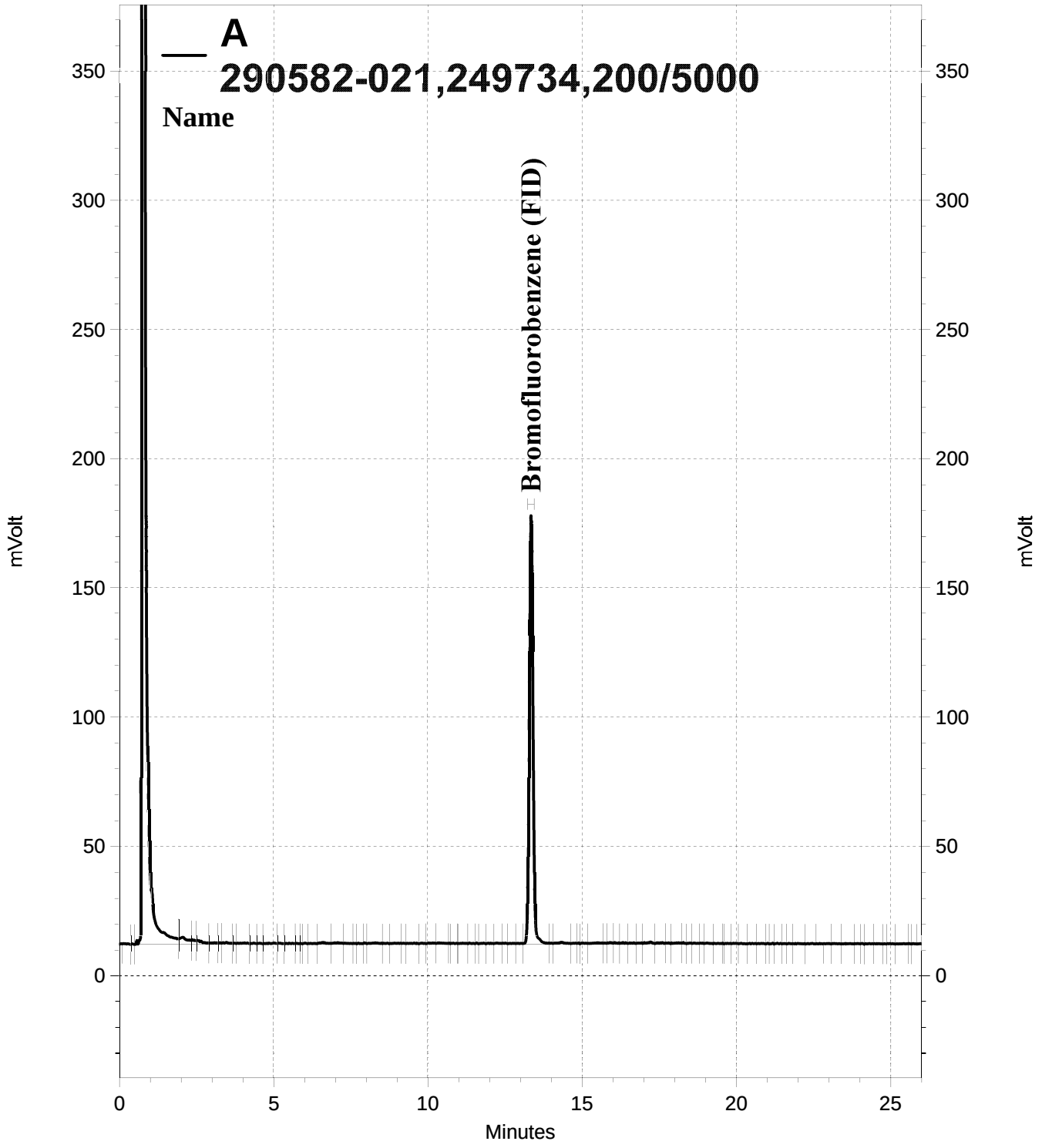
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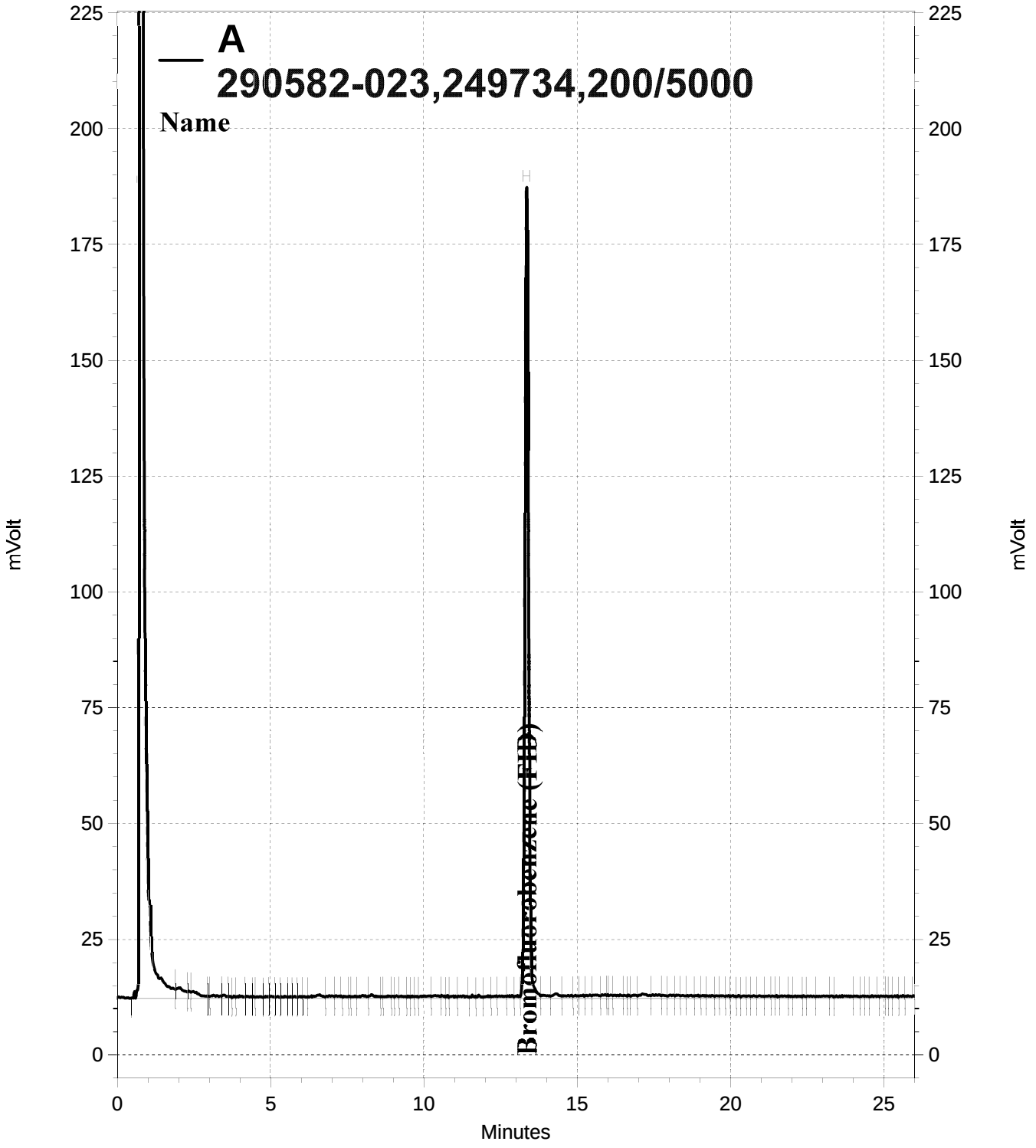
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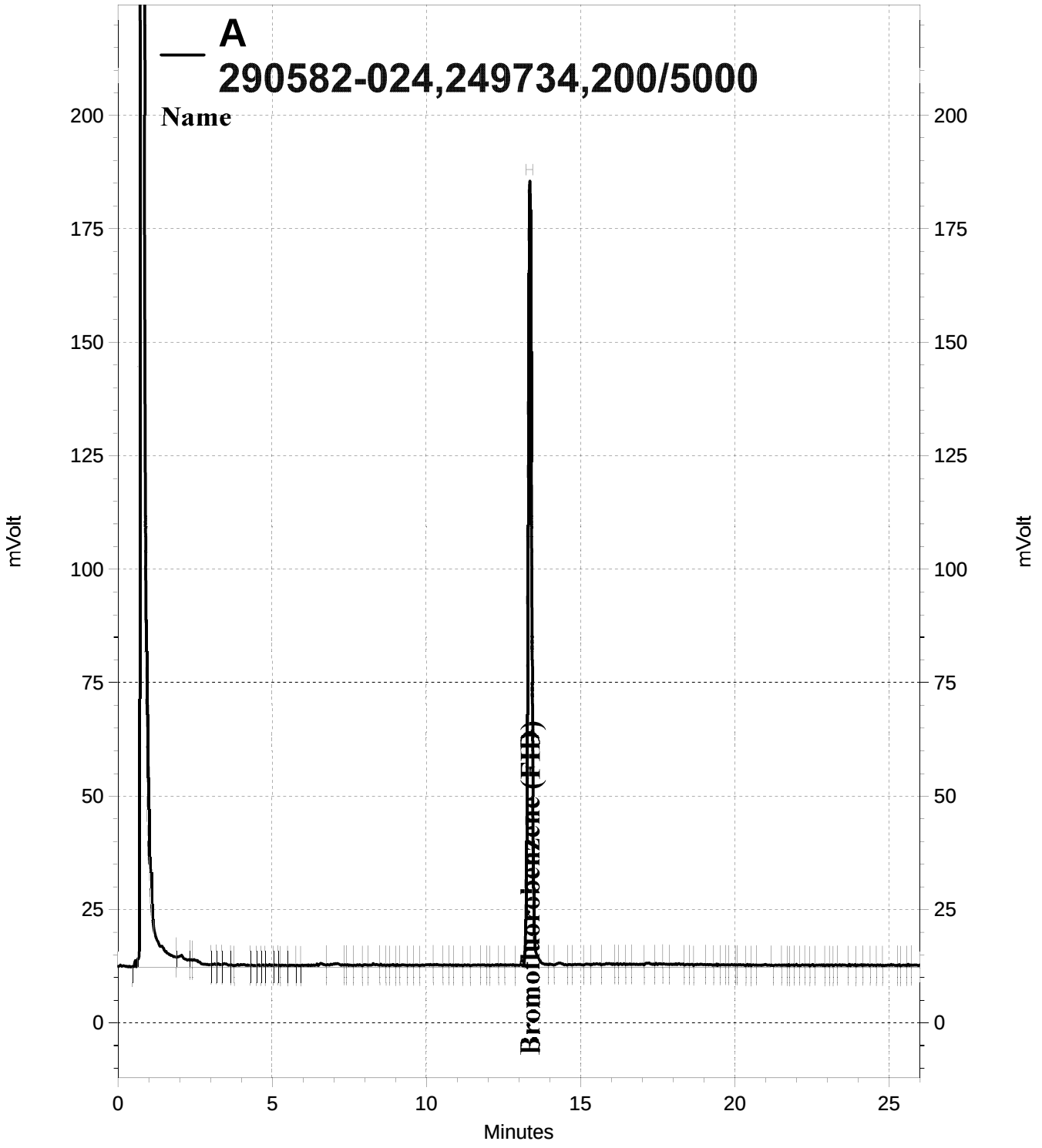

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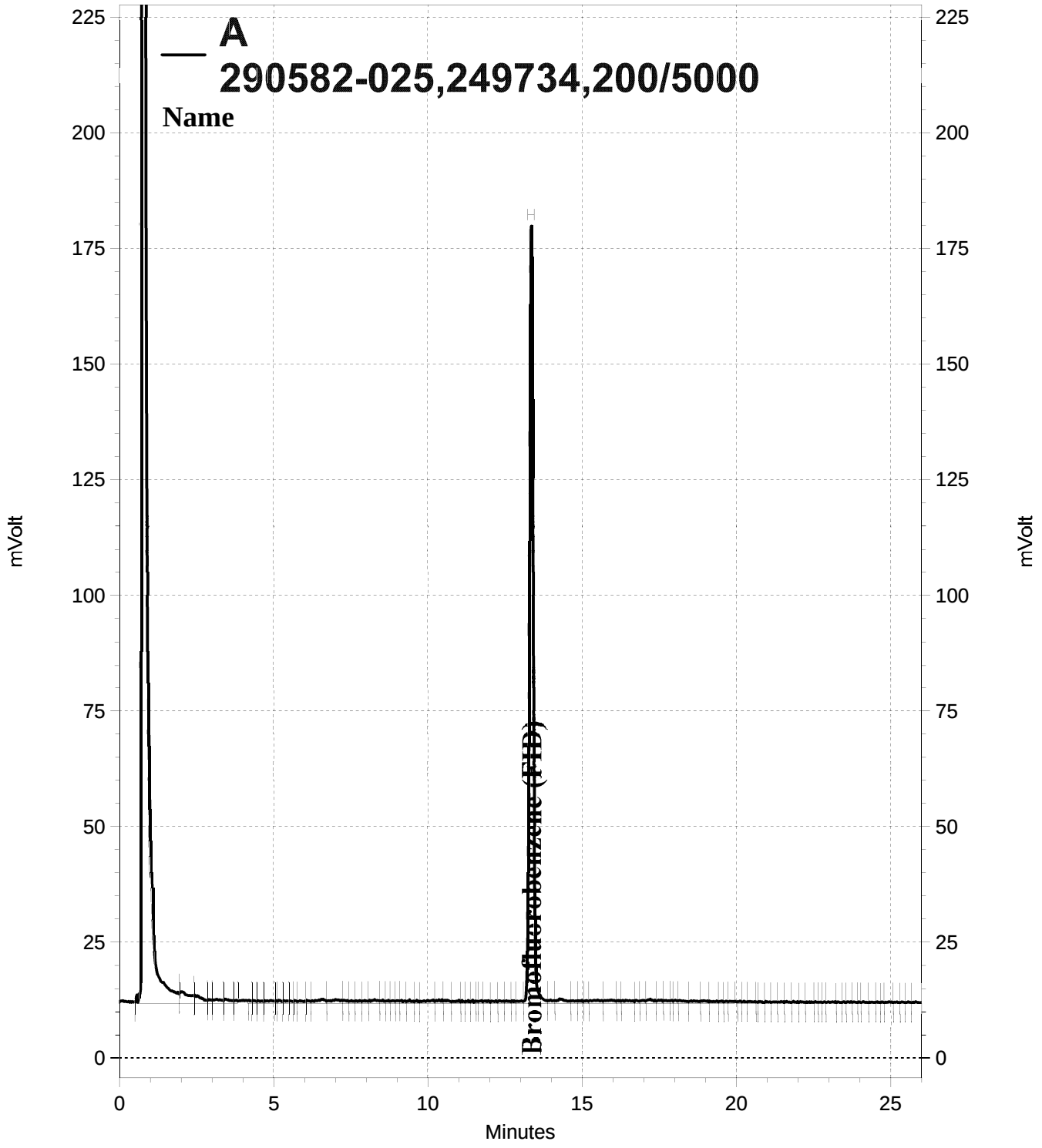
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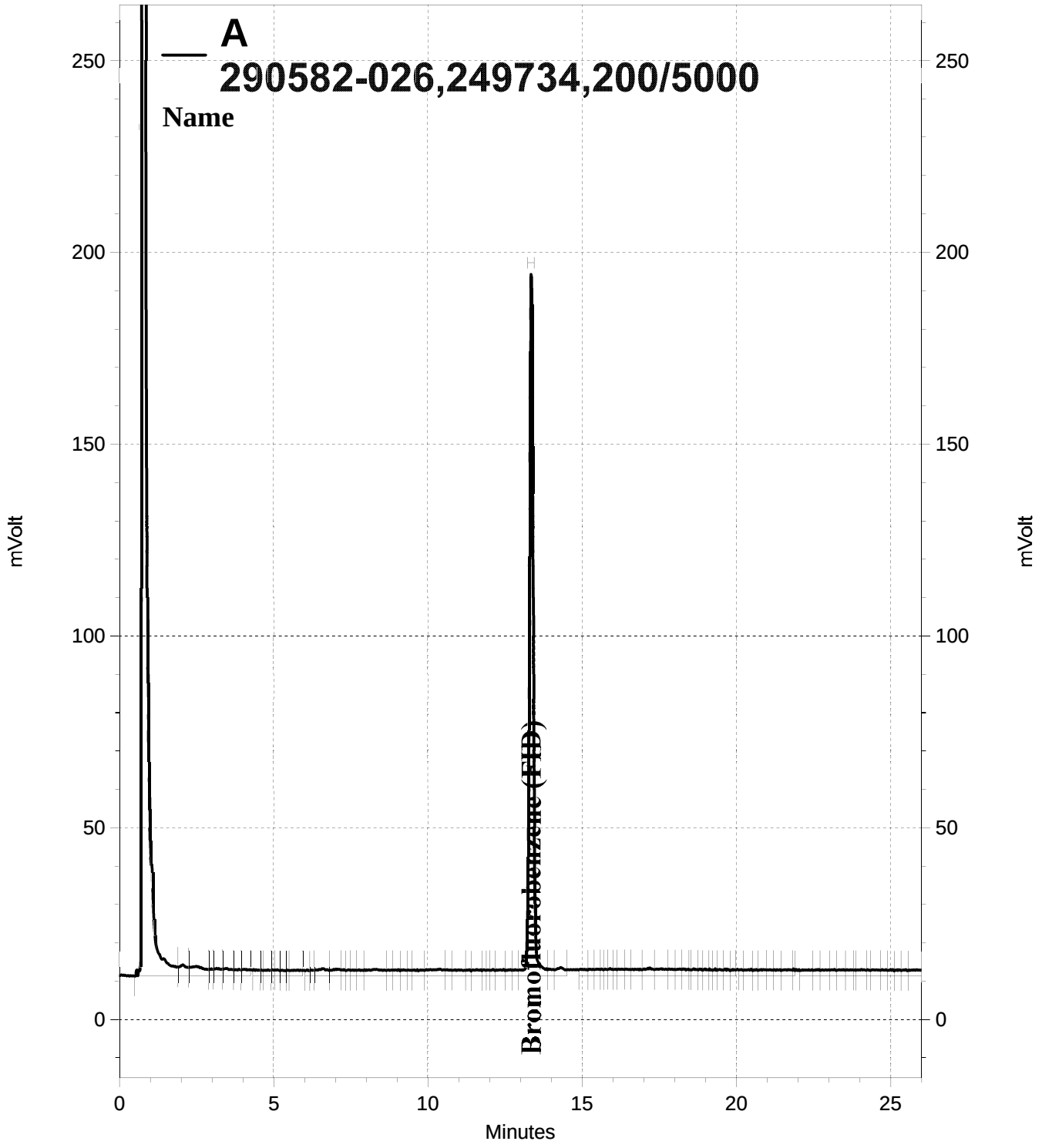
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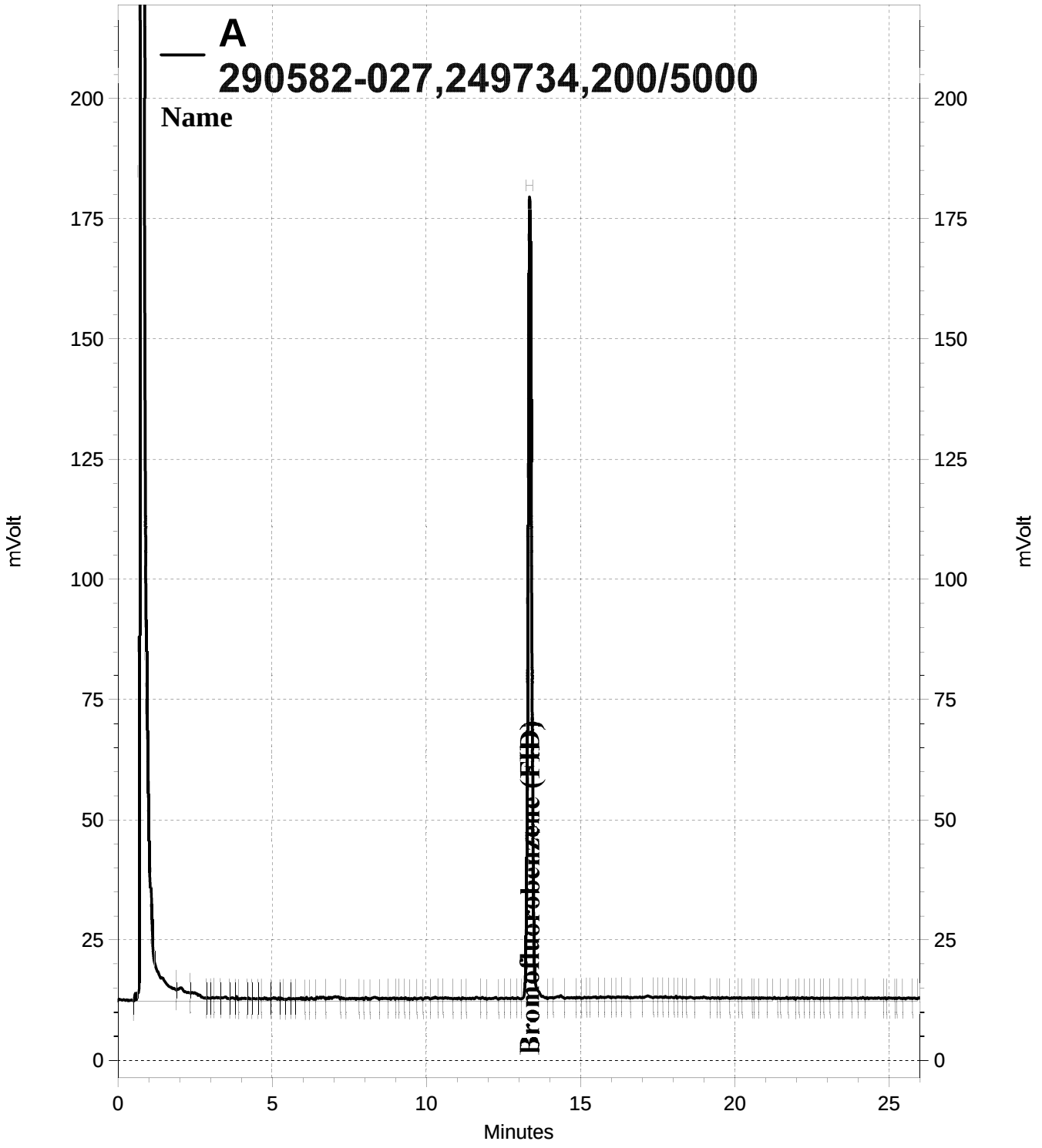
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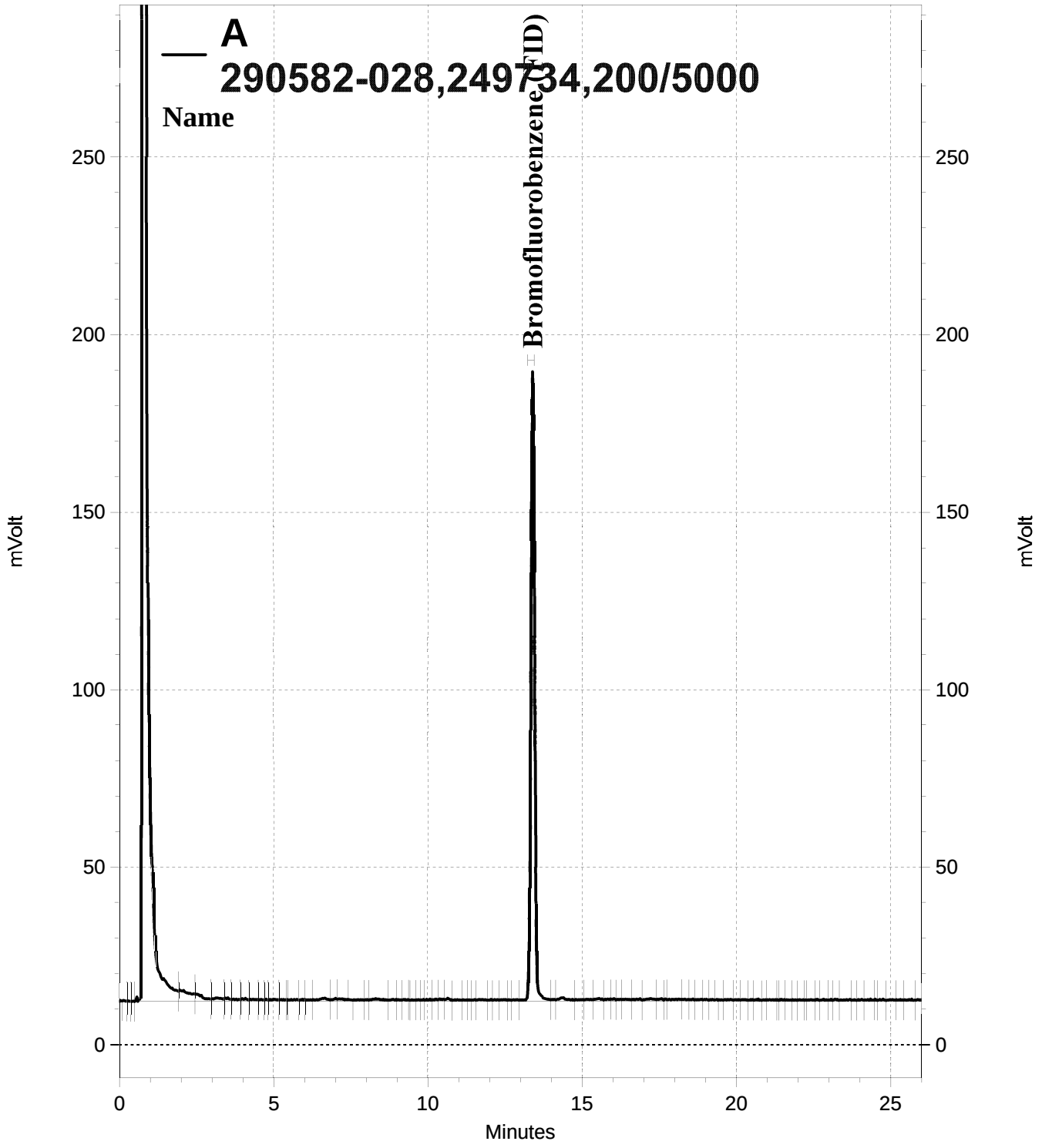
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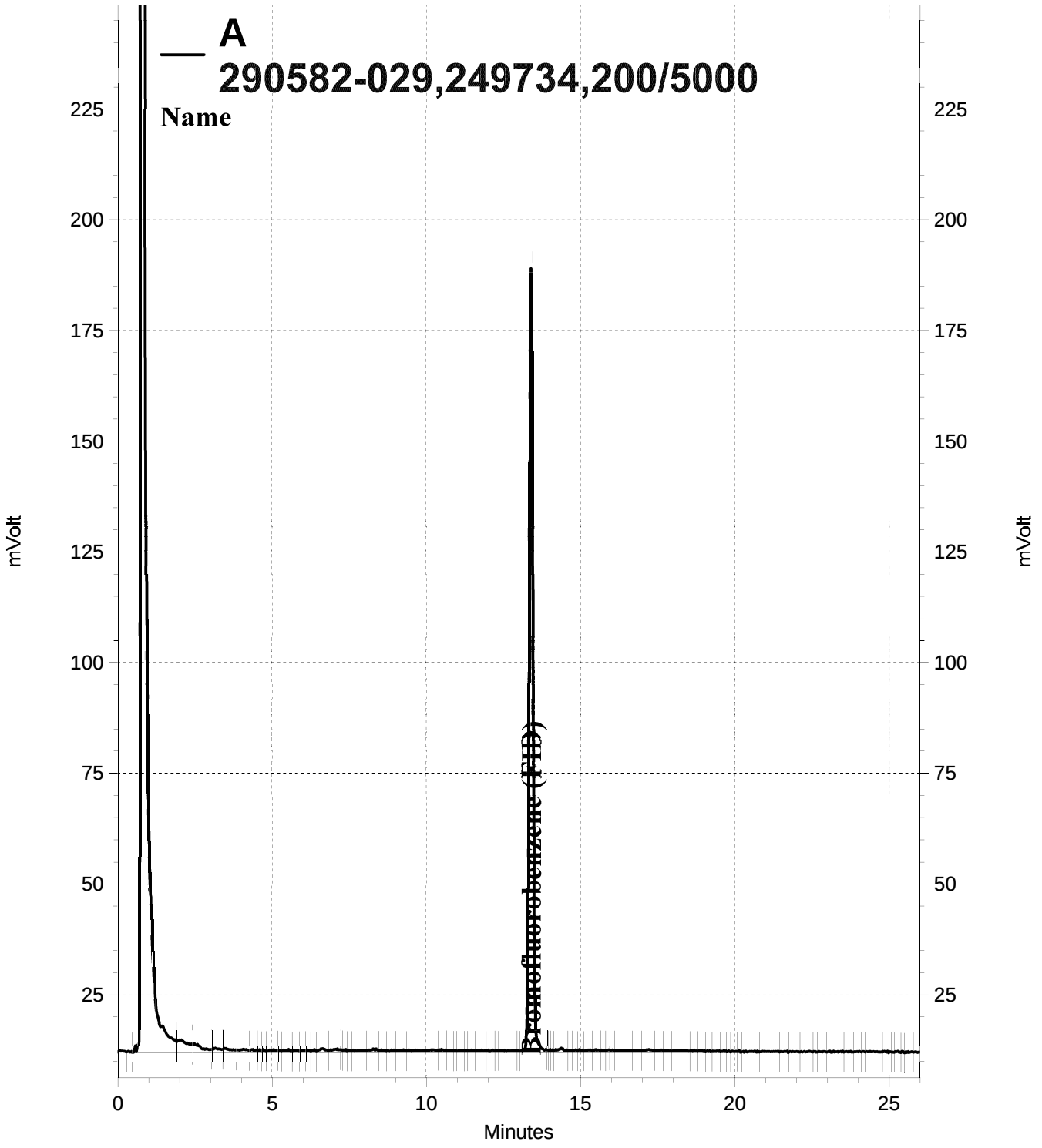

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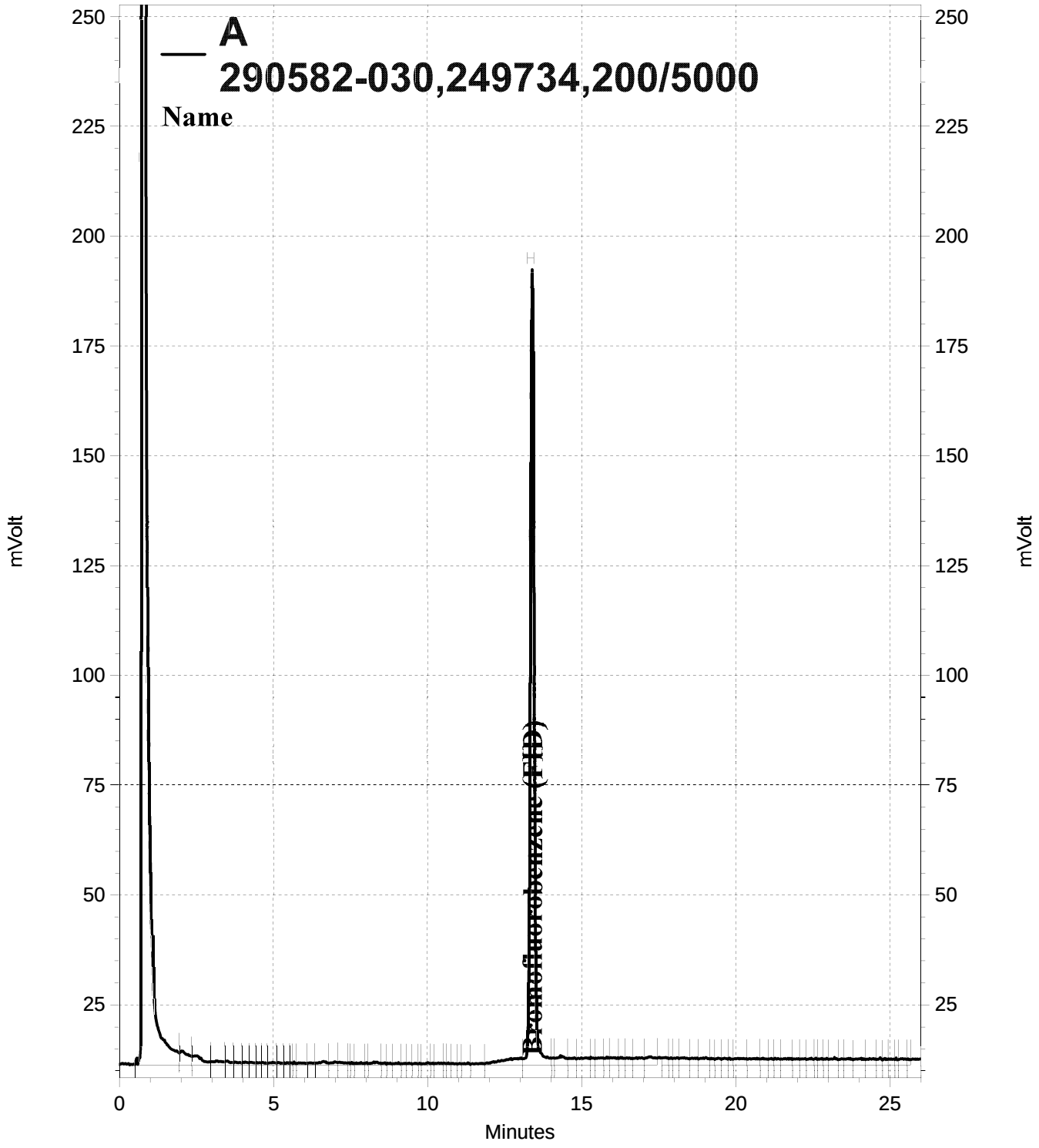
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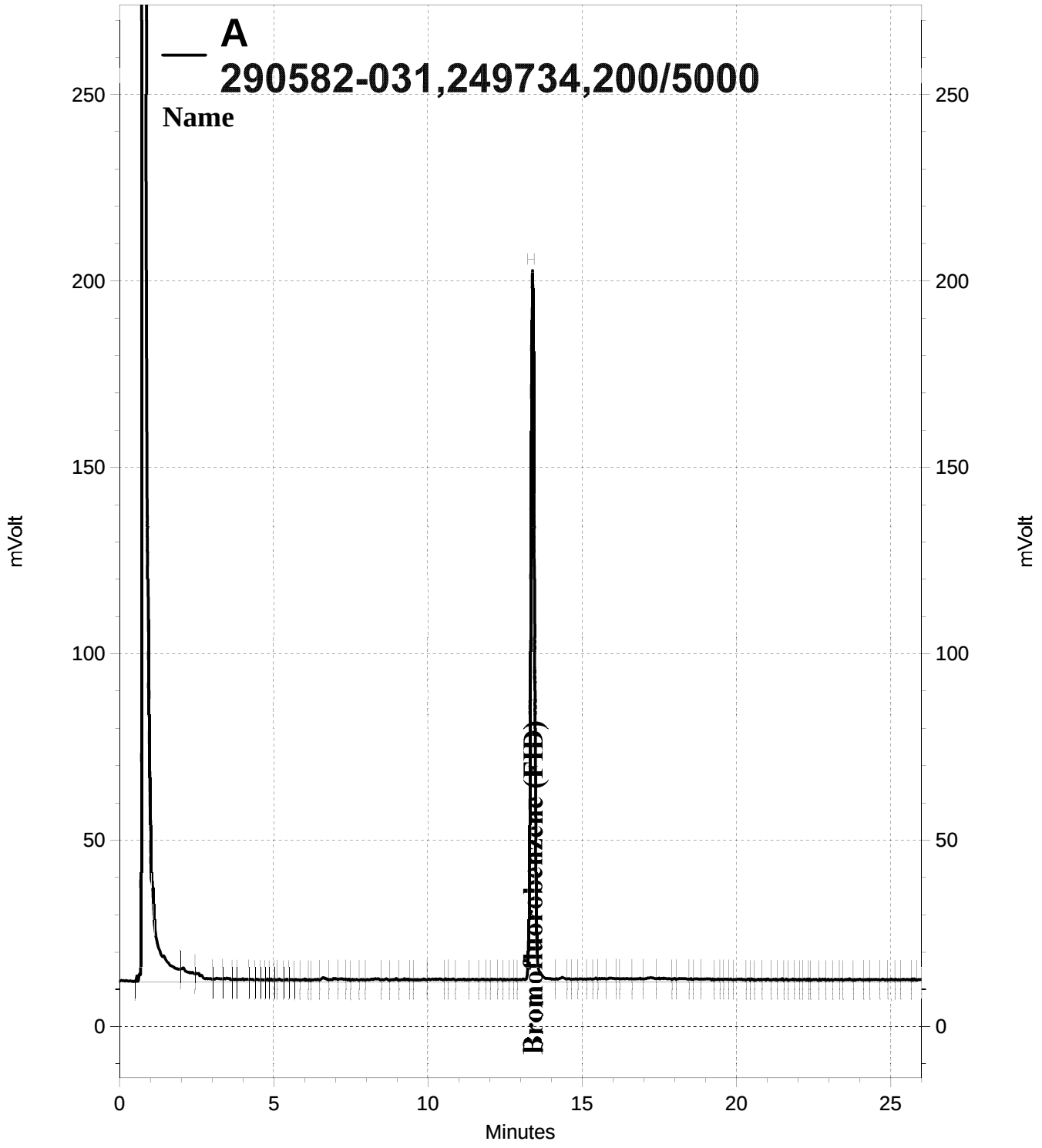
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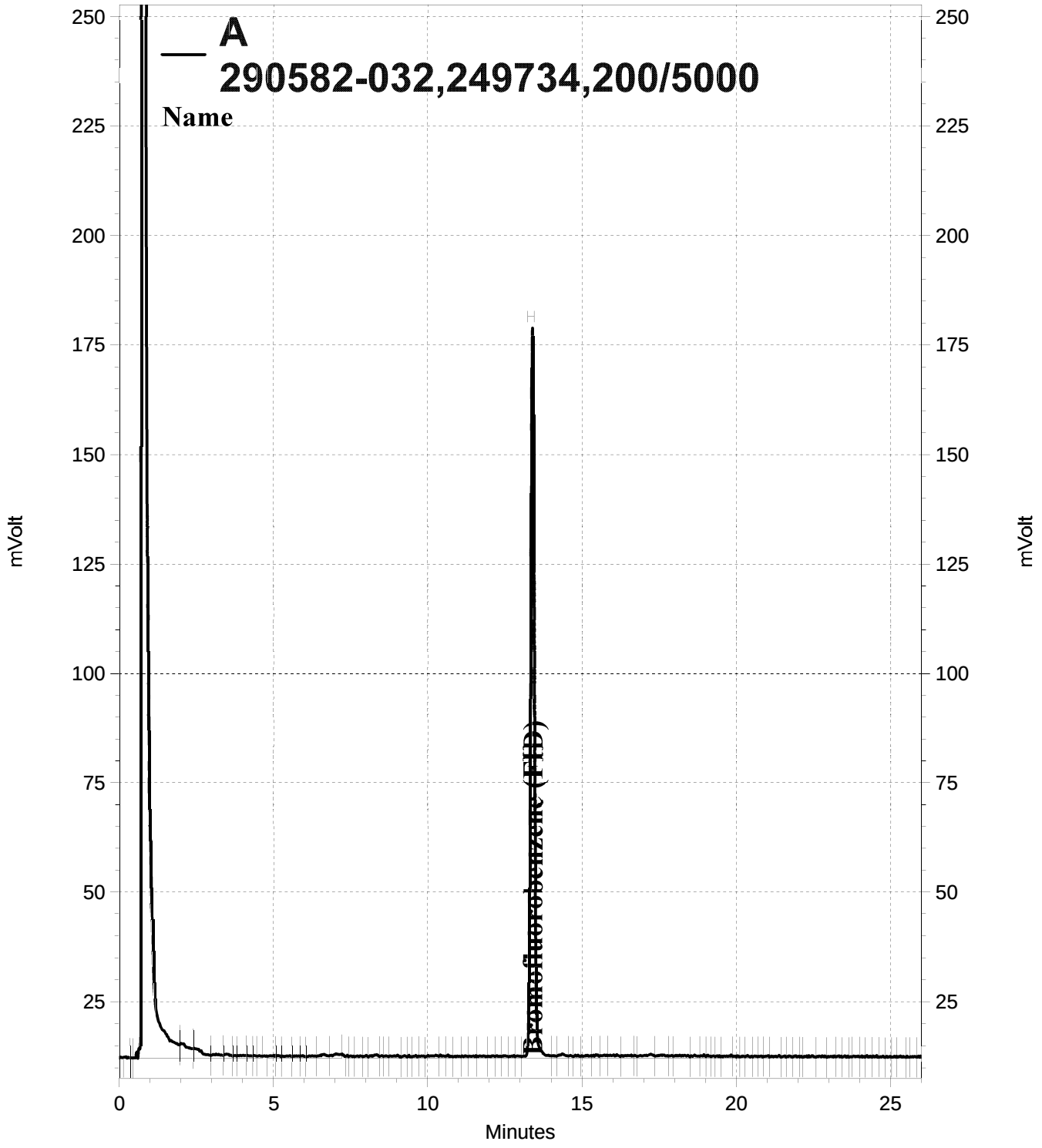
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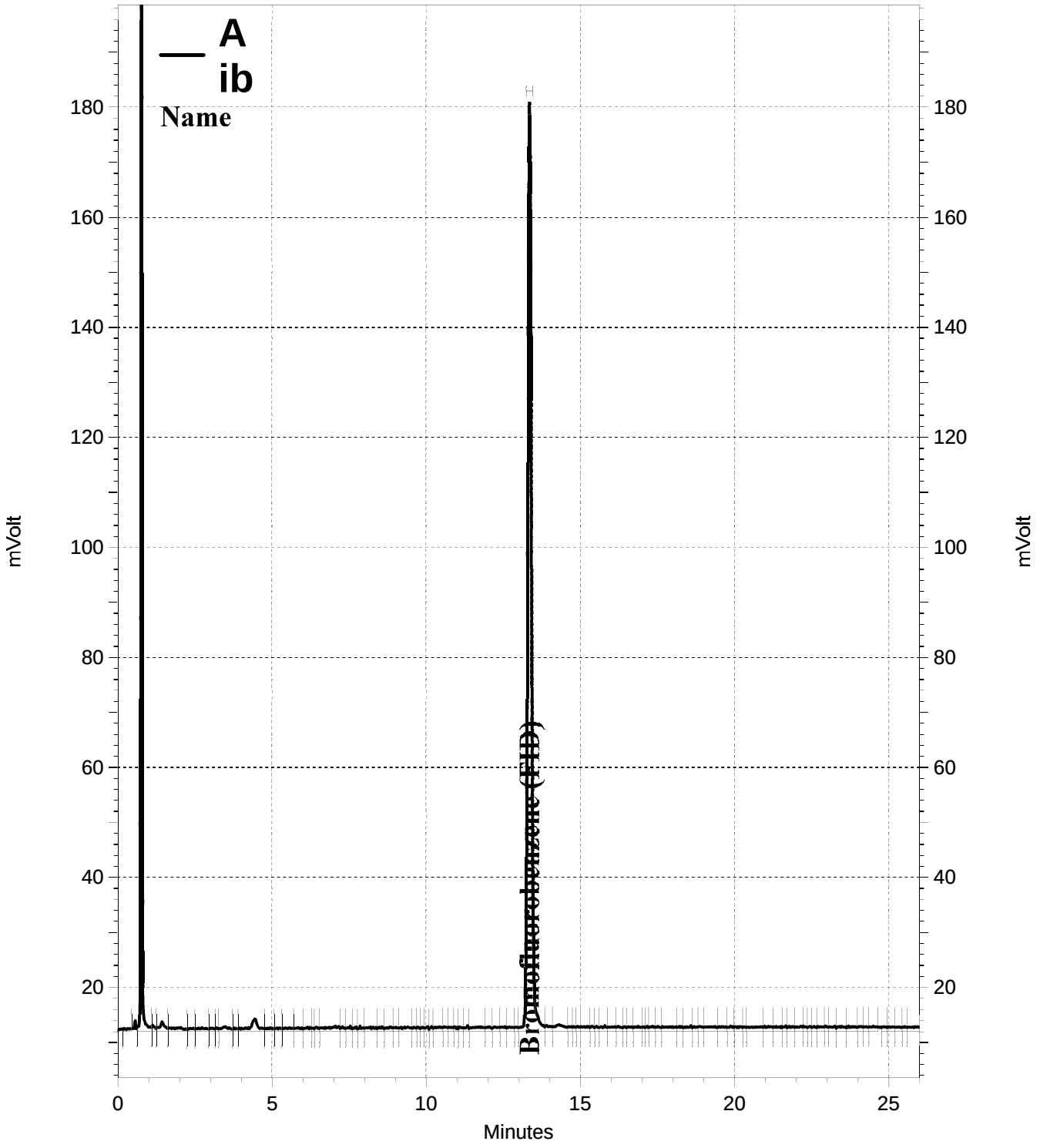

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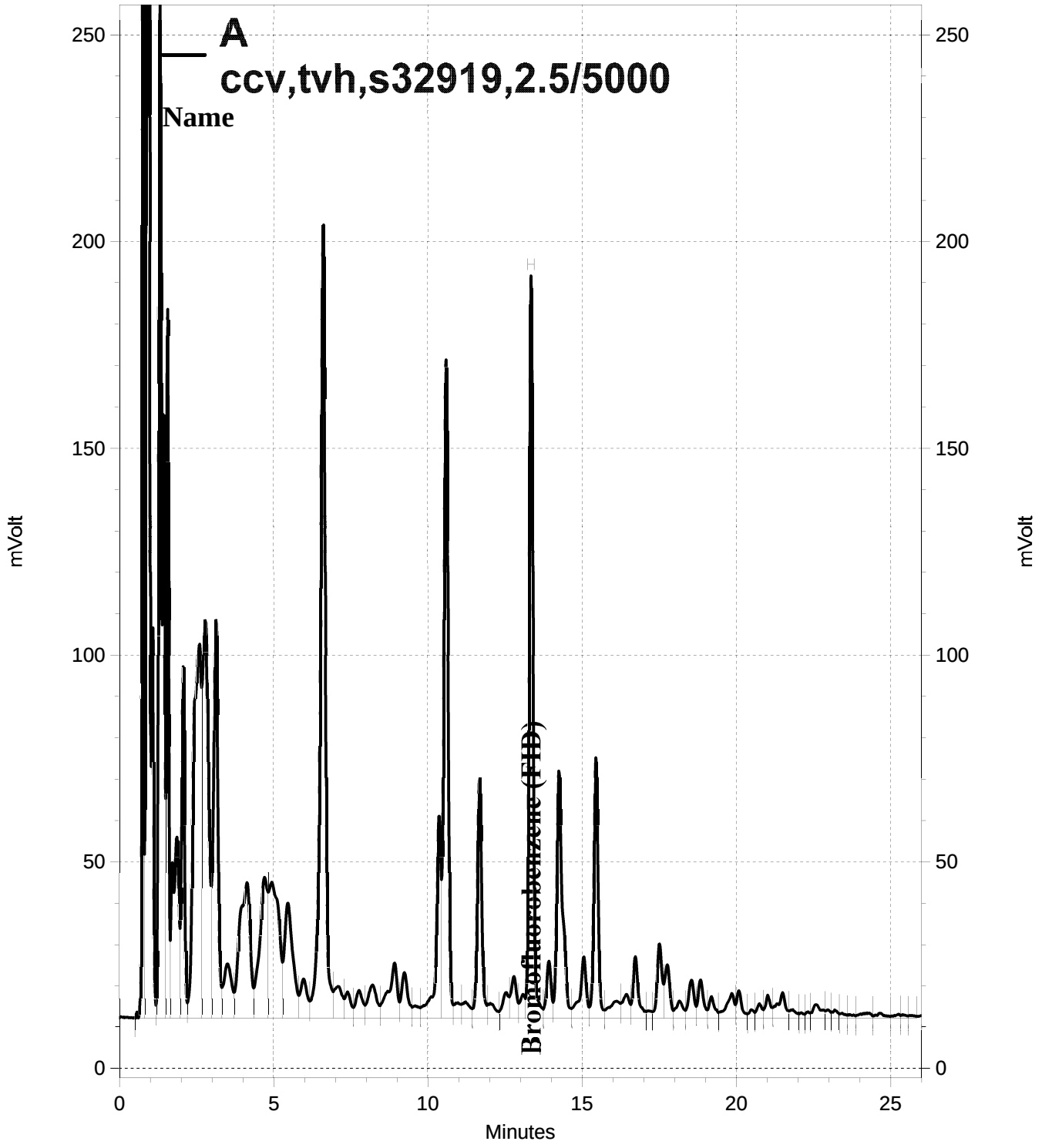
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ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 2	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-017	Analyzed:	07/20/17
Moisture:	12%		

Analyte	Result	RL	MDL
Diesel C12-C28	100 Y	11	3.5
Residual Range Organics C28-40	220	57	17

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-018	Analyzed:	07/20/17
Moisture:	18%		

Analyte	Result	RL	MDL
Diesel C12-C28	13 Y	1.2	0.37
Residual Range Organics C28-40	28	6.1	1.8

Surrogate	%REC	Limits
o-Terphenyl	100	58-136

Field ID:	TRENCH 2BP	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-019	Analyzed:	07/20/17
Moisture:	32%		

Analyte	Result	RL	MDL
Diesel C12-C28	24 Y	1.5	0.45
Residual Range Organics C28-40	47	7.4	2.2

Surrogate	%REC	Limits
o-Terphenyl	96	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 3	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-020	Analyzed:	07/20/17
Moisture:	15%		

Analyte	Result	RL	MDL
Diesel C12-C28	130 Y	12	3.6
Residual Range Organics C28-40	290	59	18

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 4	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-021	Analyzed:	07/20/17
Moisture:	13%		

Analyte	Result	RL	MDL
Diesel C12-C28	76 Y	11	3.5
Residual Range Organics C28-40	190	57	17

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 5	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-022	Analyzed:	07/20/17
Moisture:	16%		

Analyte	Result	RL	MDL
Diesel C12-C28	99 Y	12	3.6
Residual Range Organics C28-40	210	59	18

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 6	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-023	Analyzed:	07/20/17
Moisture:	20%		

Analyte	Result	RL	MDL
Diesel C12-C28	66 Y	12	3.8
Residual Range Organics C28-40	160	62	19

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 7	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-024	Analyzed:	07/21/17
Moisture:	13%		

Analyte	Result	RL	MDL
Diesel C12-C28	110 Y	11	3.5
Residual Range Organics C28-40	220	57	17

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 8	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-025	Analyzed:	07/20/17
Moisture:	17%		

Analyte	Result	RL	MDL
Diesel C12-C28	350 Y	6.0	1.8
Residual Range Organics C28-40	250	30	9.1

Surrogate	%REC	Limits
o-Terphenyl	88	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 9	Diln Fac:	20.00
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-026	Analyzed:	07/21/17
Moisture:	14%		

Analyte	Result	RL	MDL
Diesel C12-C28	680 Y	23	7.2
Residual Range Organics C28-40	1,300	120	35

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 10	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-027	Analyzed:	07/21/17
Moisture:	11%		

Analyte	Result	RL	MDL
Diesel C12-C28	150 Y	11	3.4
Residual Range Organics C28-40	340	56	17

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 11	Diln Fac:	20.00
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-028	Analyzed:	07/21/17
Moisture:	19%		

Analyte	Result	RL	MDL
Diesel C12-C28	160 Y	25	7.5
Residual Range Organics C28-40	390	120	37

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 12	Diln Fac:	20.00
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-029	Analyzed:	07/21/17
Moisture:	10%		

Analyte	Result	RL	MDL
Diesel C12-C28	180 Y	22	6.8
Residual Range Organics C28-40	430	110	34

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 13	Diln Fac:	20.00
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-030	Analyzed:	07/21/17
Moisture:	24%		

Analyte	Result	RL	MDL
Diesel C12-C28	80 Y	26	8.1
Residual Range Organics C28-40	230	130	40

Surrogate	%REC	Limits
o-Terphenyl	DO	58-136

Field ID:	TRENCH 14	Diln Fac:	3.000
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-031	Analyzed:	07/21/17
Moisture:	12%		

Analyte	Result	RL	MDL
Diesel C12-C28	37 Y	3.4	1.0
Residual Range Organics C28-40	70	17	5.2

Surrogate	%REC	Limits
o-Terphenyl	87	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	249851
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Prepared:	07/20/17

Field ID:	TRENCH 15	Diln Fac:	3.000
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-032	Analyzed:	07/21/17
Moisture:	15%		

Analyte	Result	RL	MDL
Diesel C12-C28	43 Y	3.6	1.1
Residual Range Organics C28-40	79	18	5.4

Surrogate	%REC	Limits
o-Terphenyl	84	58-136

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893877	Analyzed:	07/20/17

Analyte	Result	RL	MDL
Diesel C12-C28	ND	1.0	0.31
Residual Range Organics C28-40	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	101	58-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893878	Batch#:	249851
Matrix:	Soil	Prepared:	07/20/17
Units:	mg/Kg	Analyzed:	07/20/17

Analyte	Spiked	Result	%REC	Limits
Diesel C12-C28	50.11	49.65	99	56-137

Surrogate	%REC	Limits
o-Terphenyl	101	58-136

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	249851
MSS Lab ID:	290585-001	Sampled:	07/14/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	as received	Analyzed:	07/20/17
Diln Fac:	3.000		

Type: MS Lab ID: QC893879

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C12-C28	22.67	50.28	67.91	90	20-164

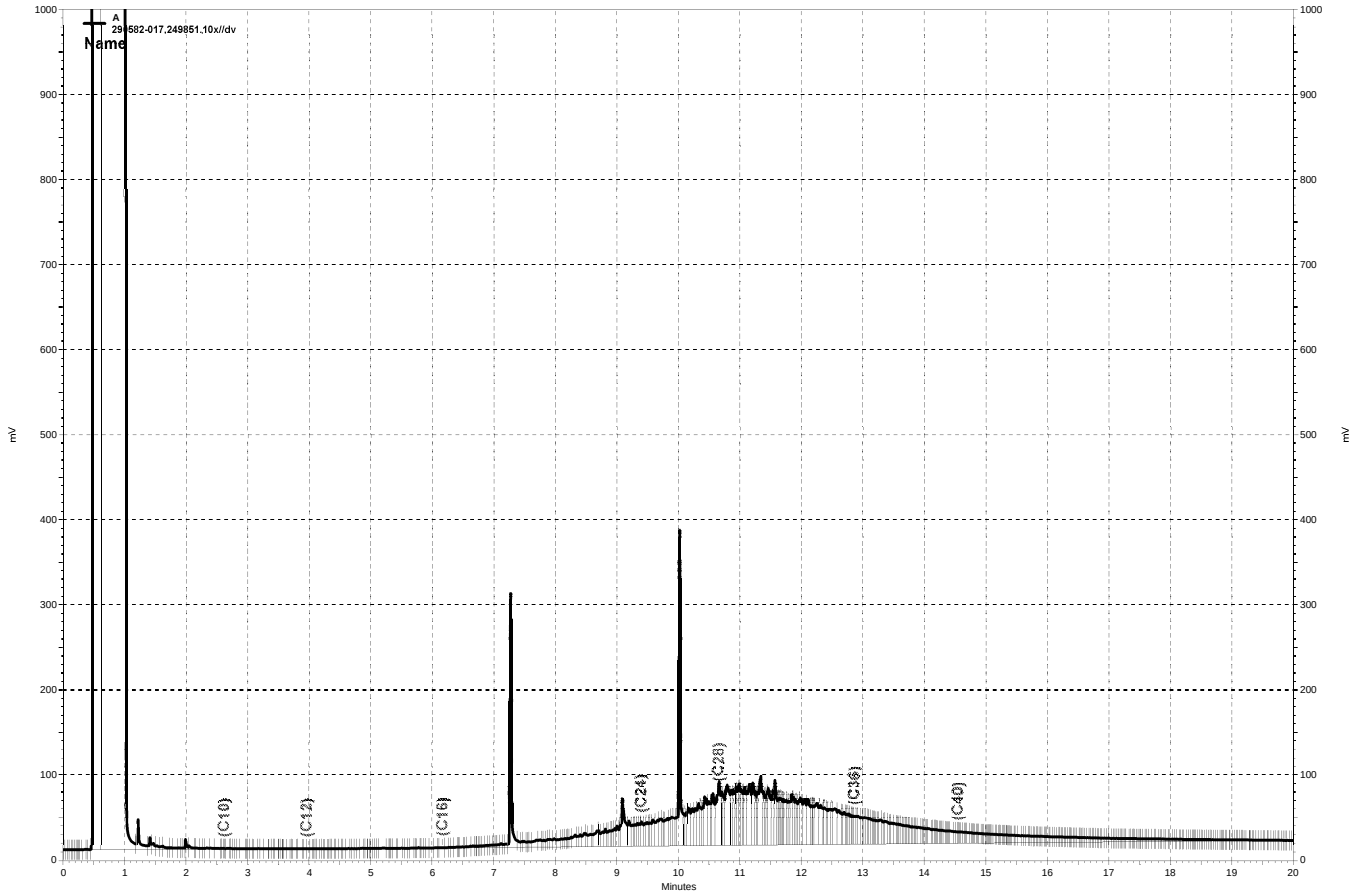
Surrogate	%REC	Limits
o-Terphenyl	98	58-136

Type: MSD Lab ID: QC893880

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C12-C28	50.24	37.36	29	20-164	58	63

Surrogate	%REC	Limits
o-Terphenyl	60	58-136

RPD= Relative Percent Difference



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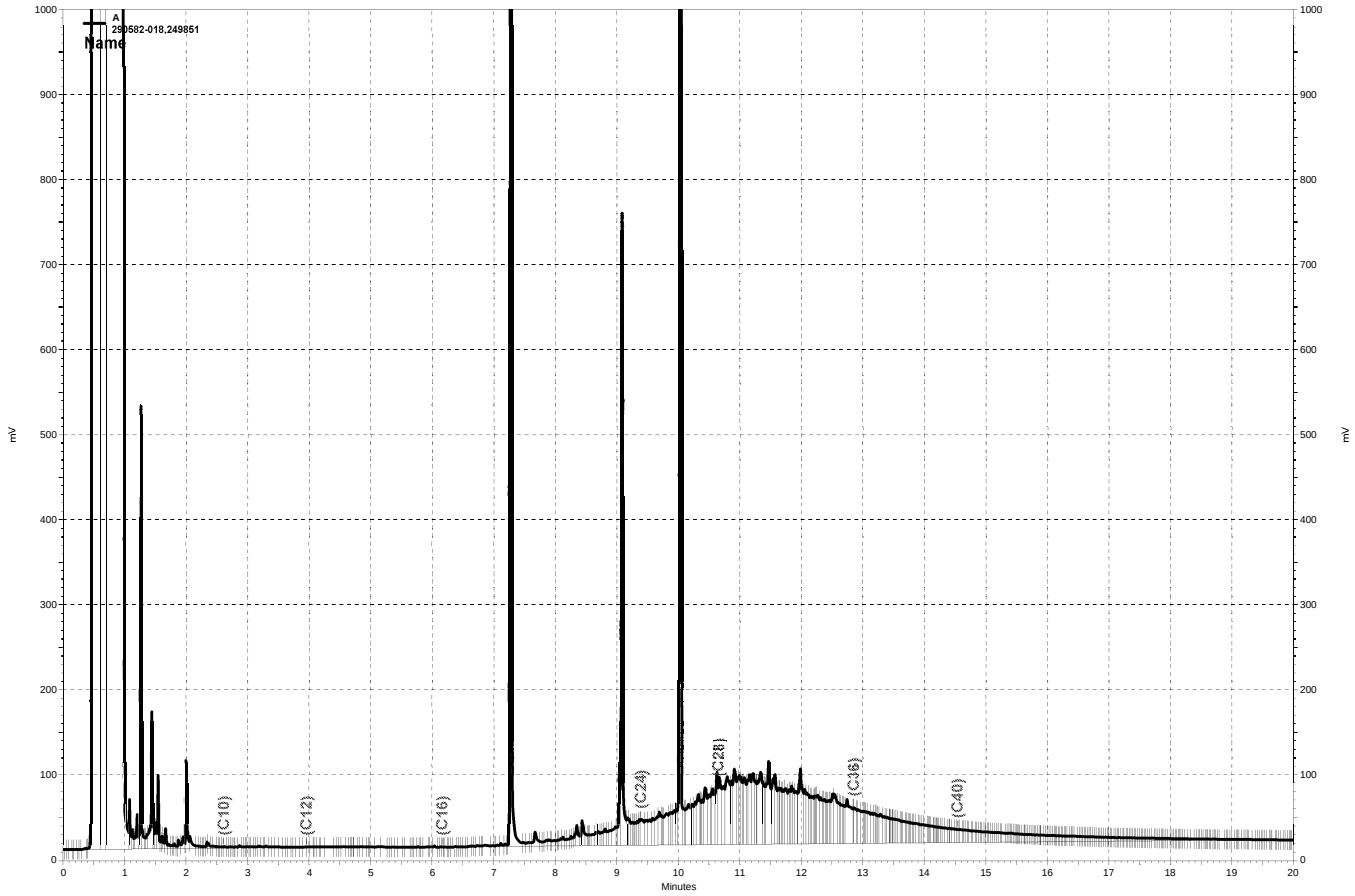

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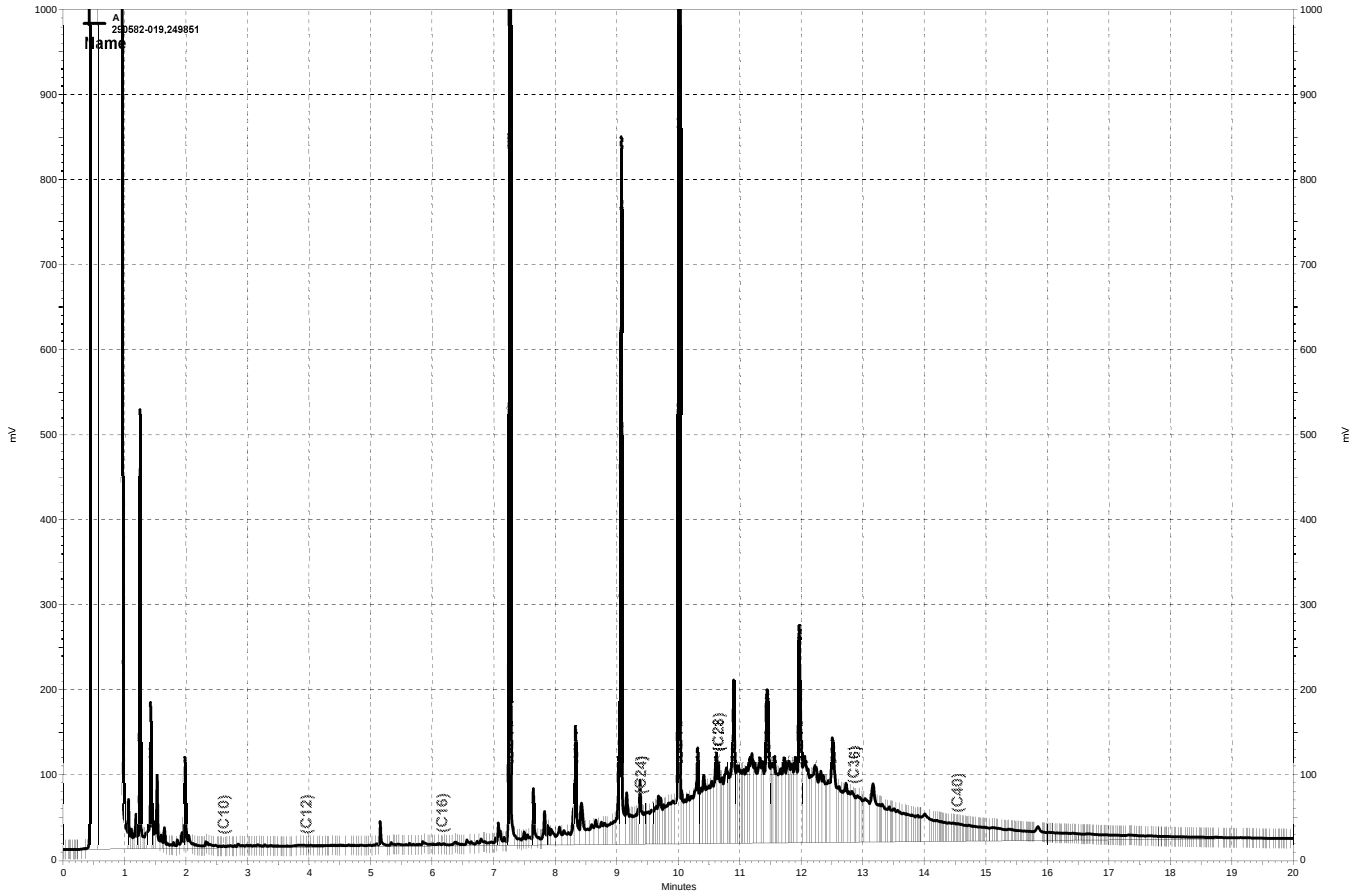

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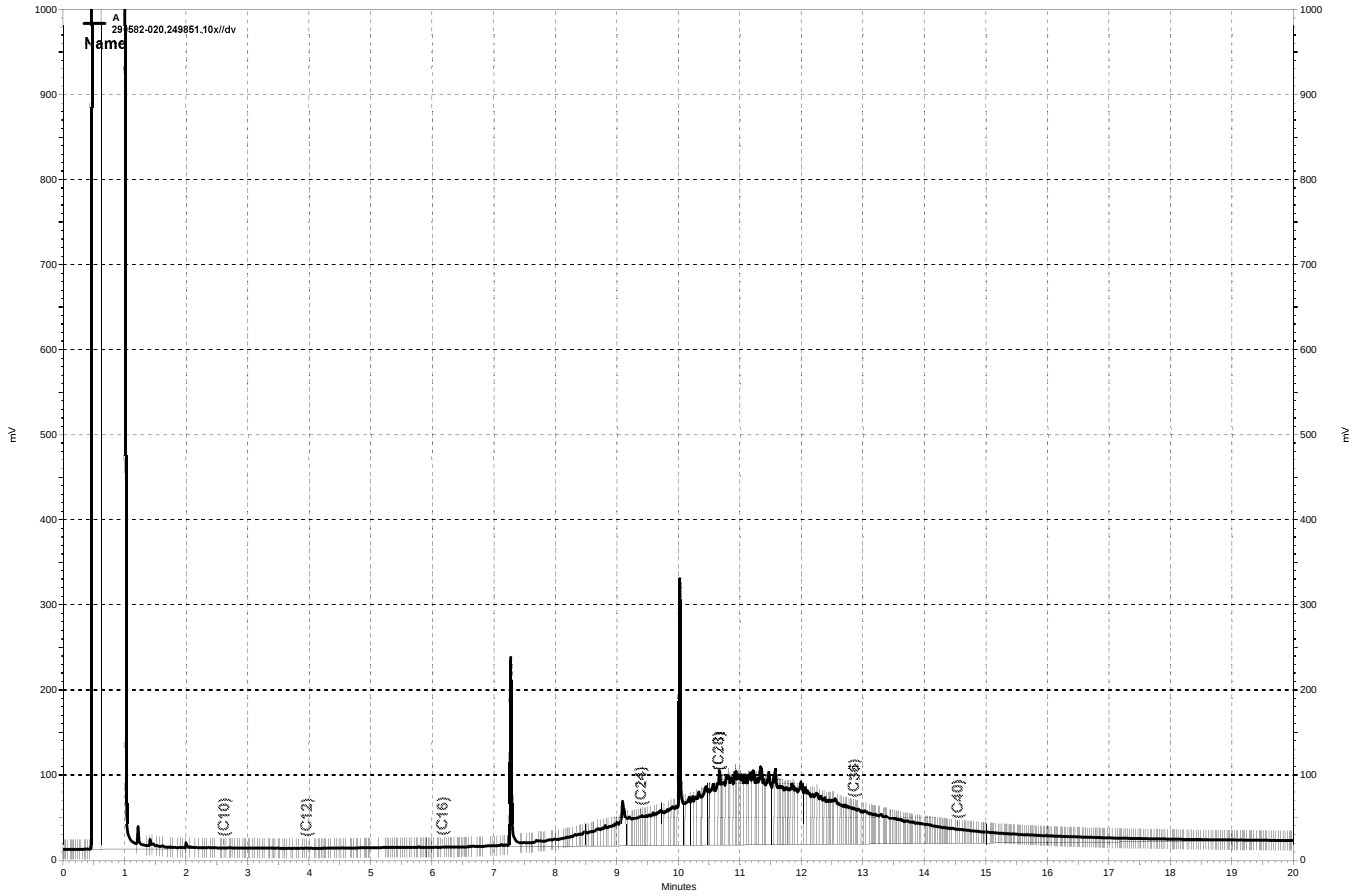

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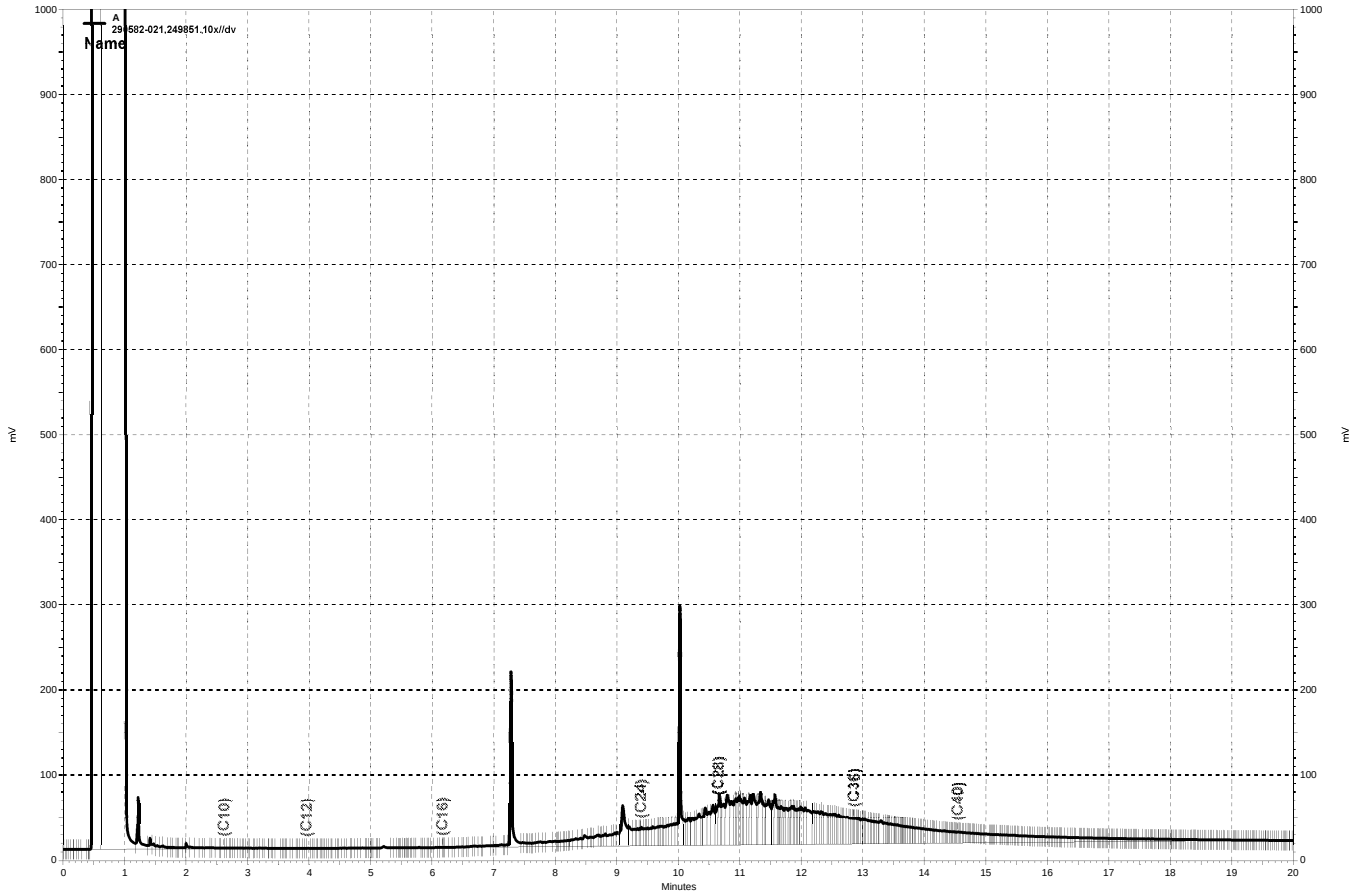

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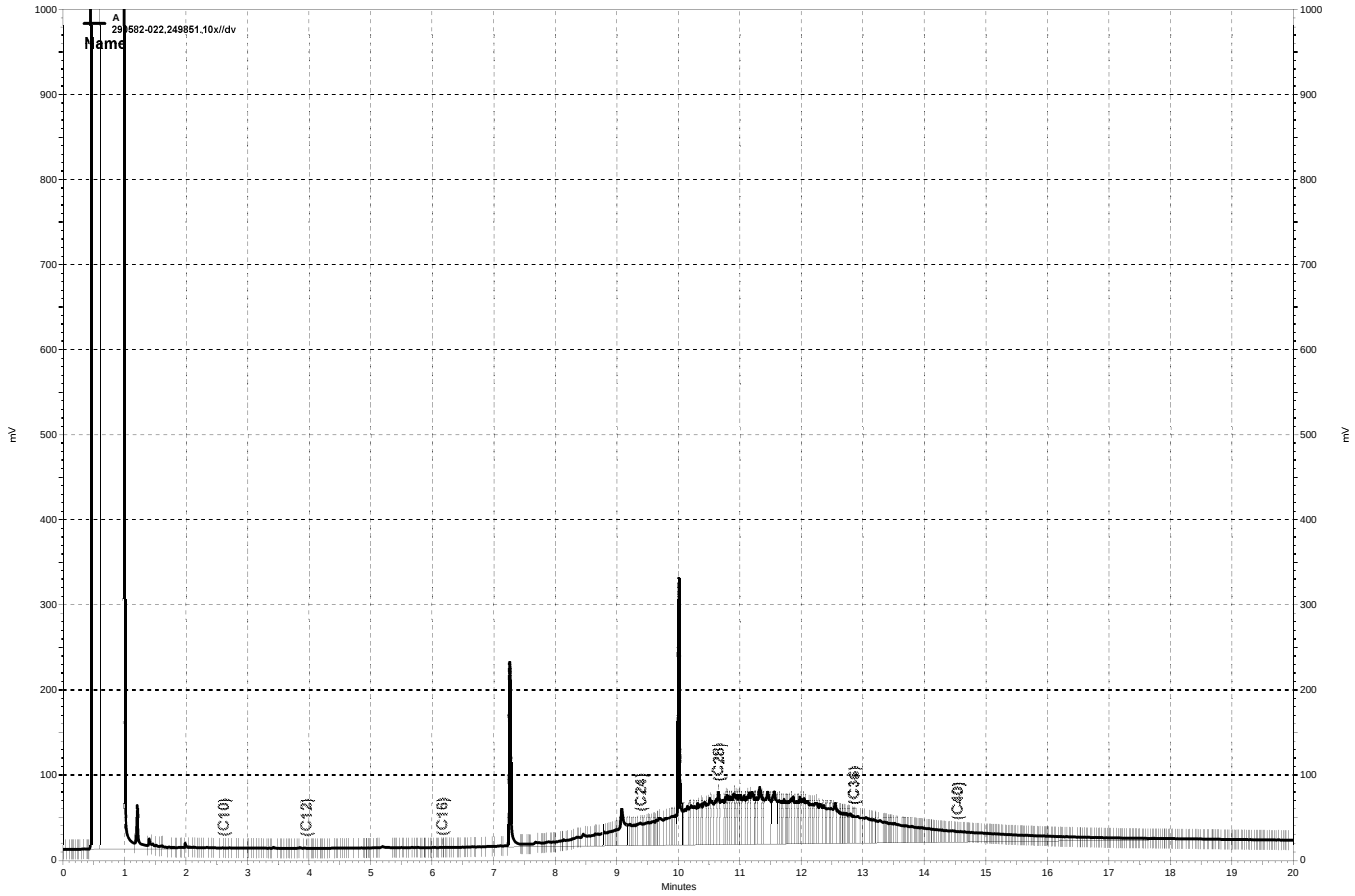

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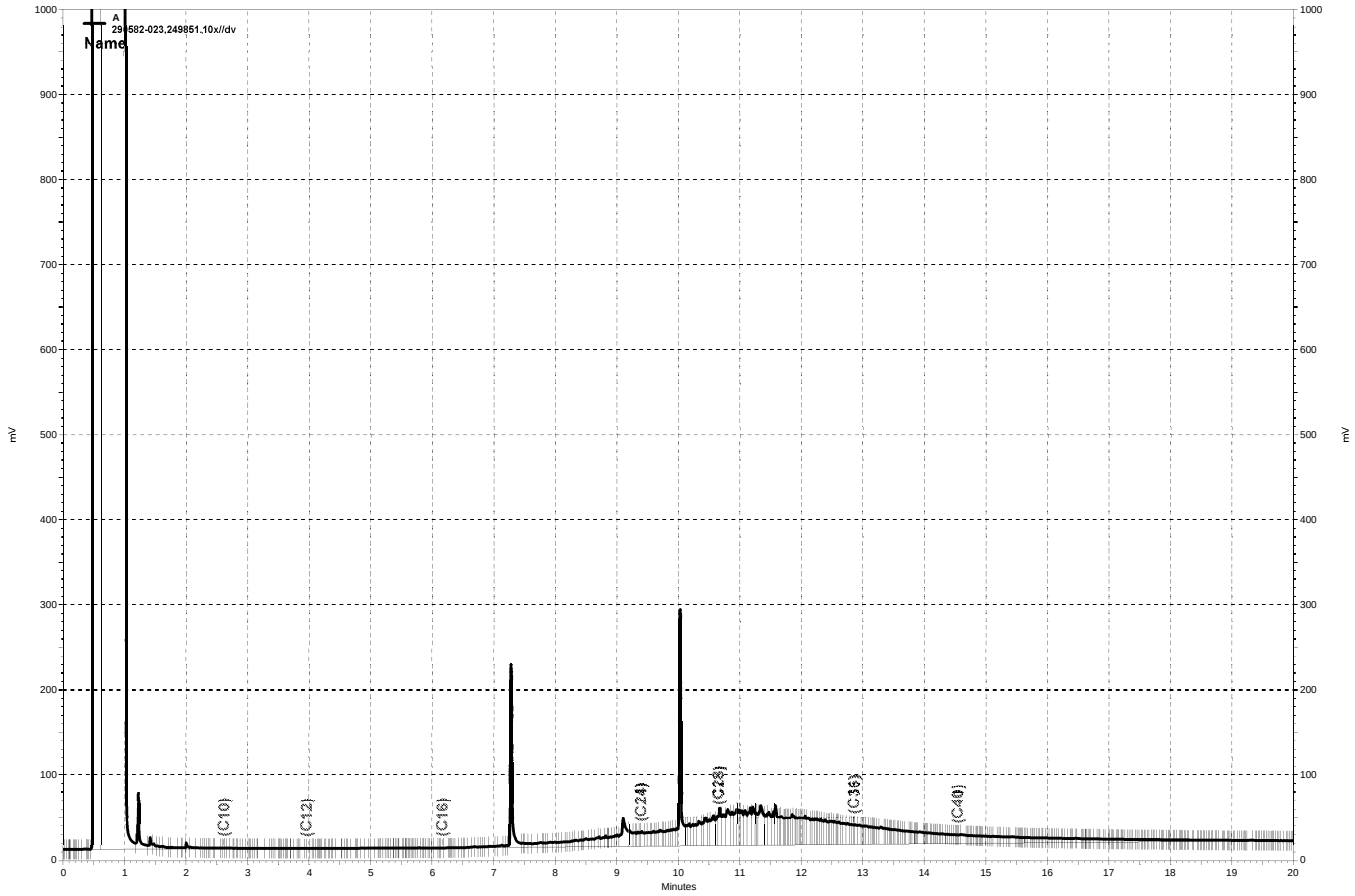

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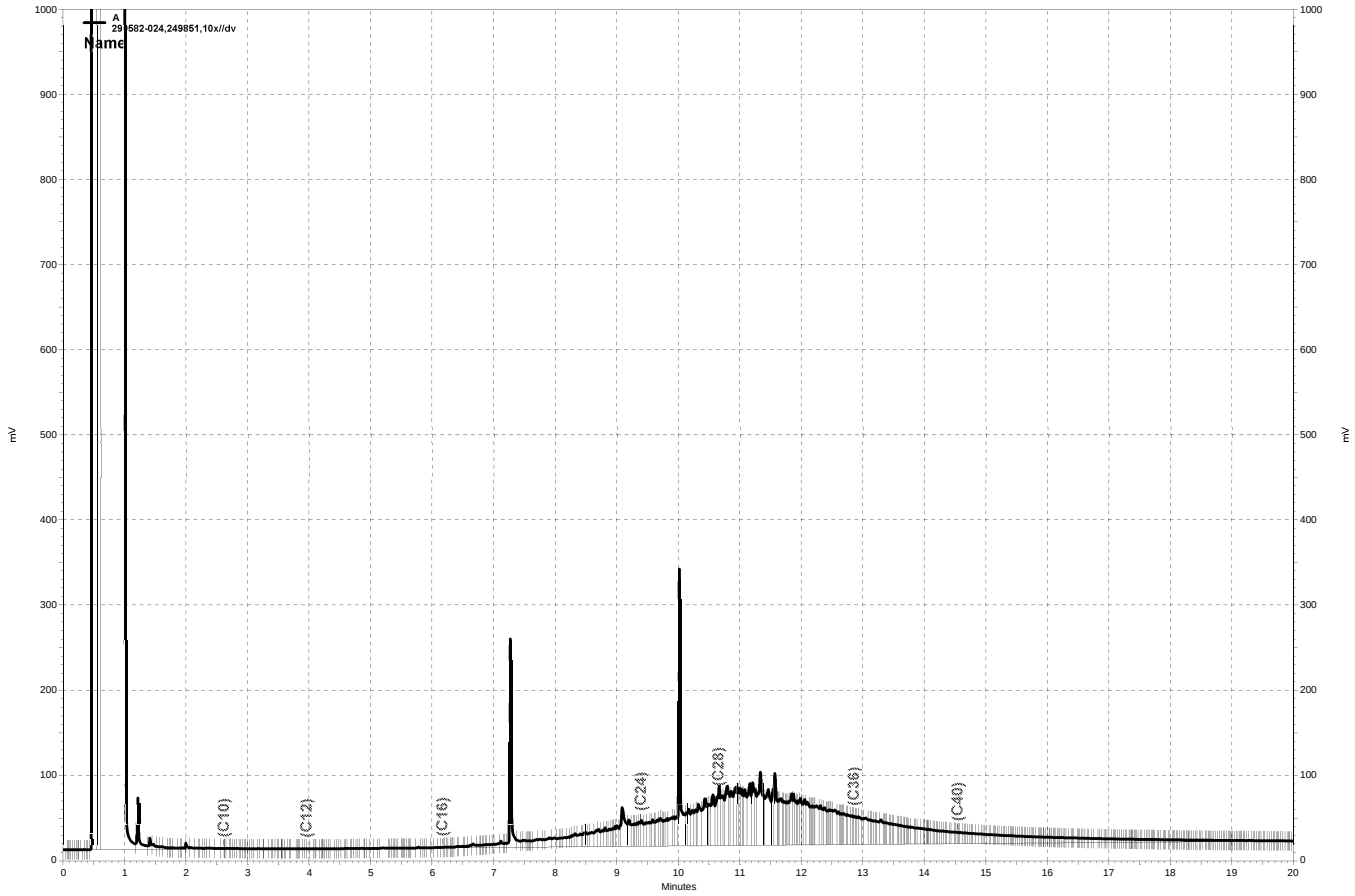

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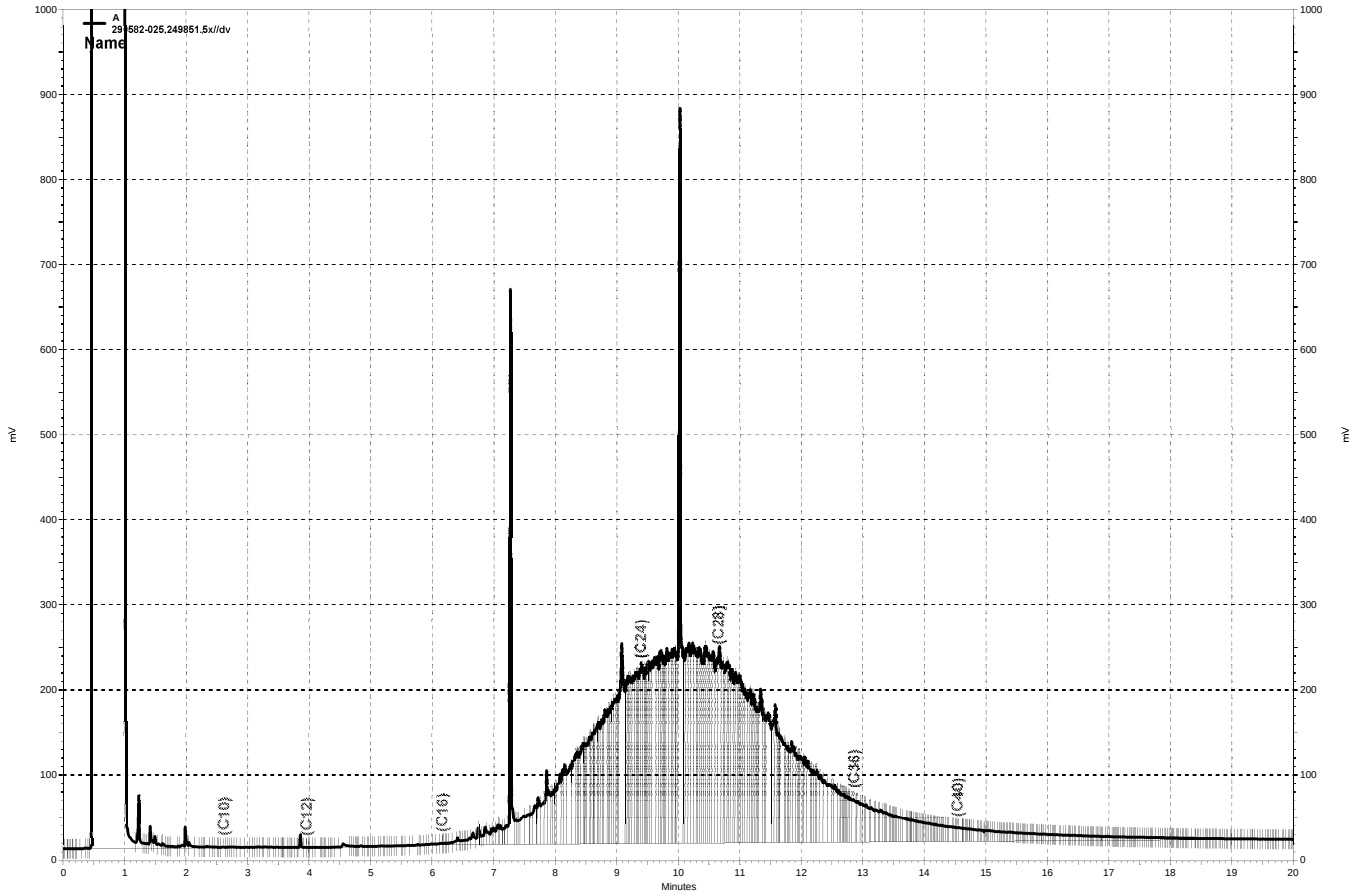

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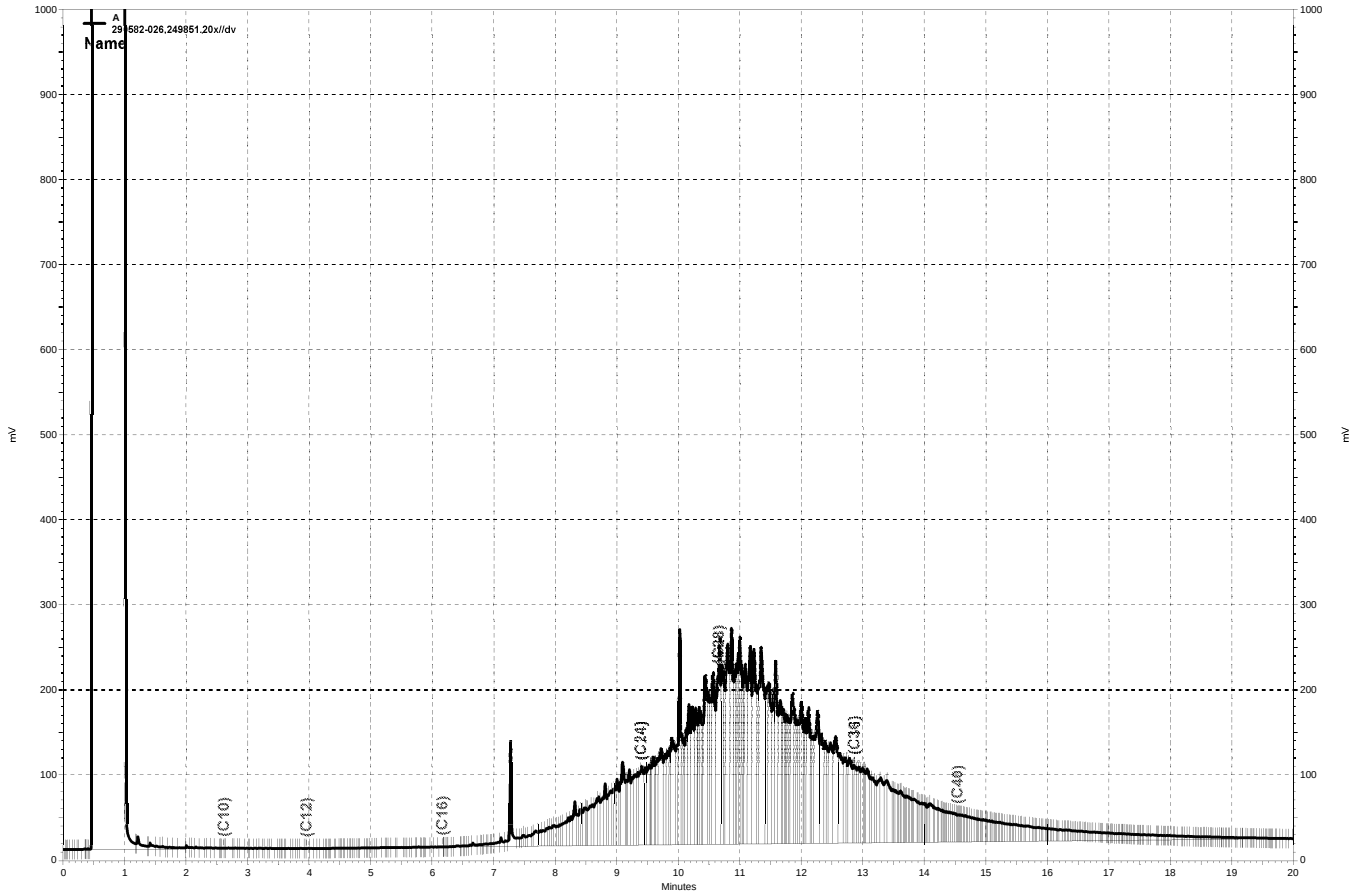

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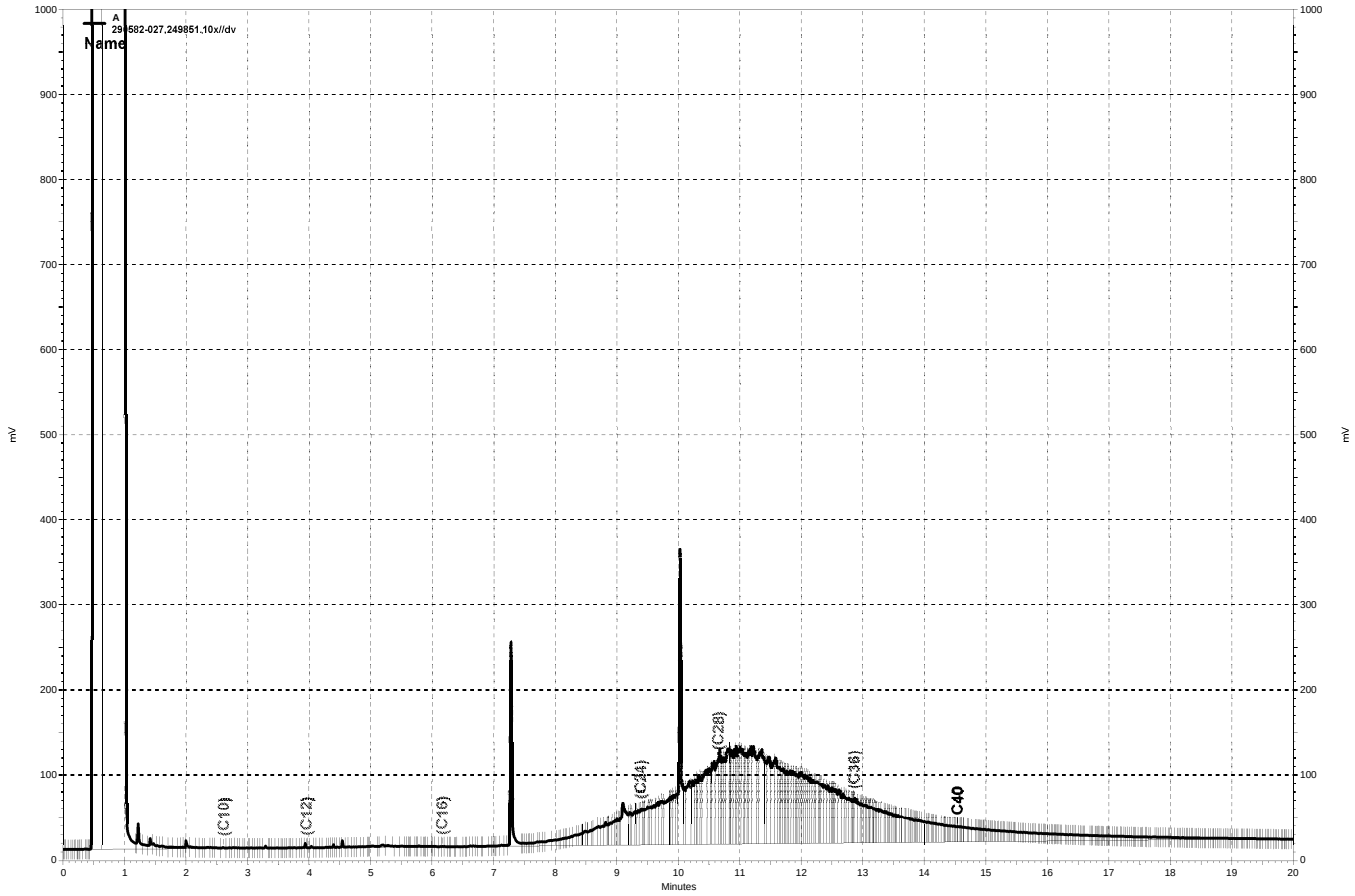

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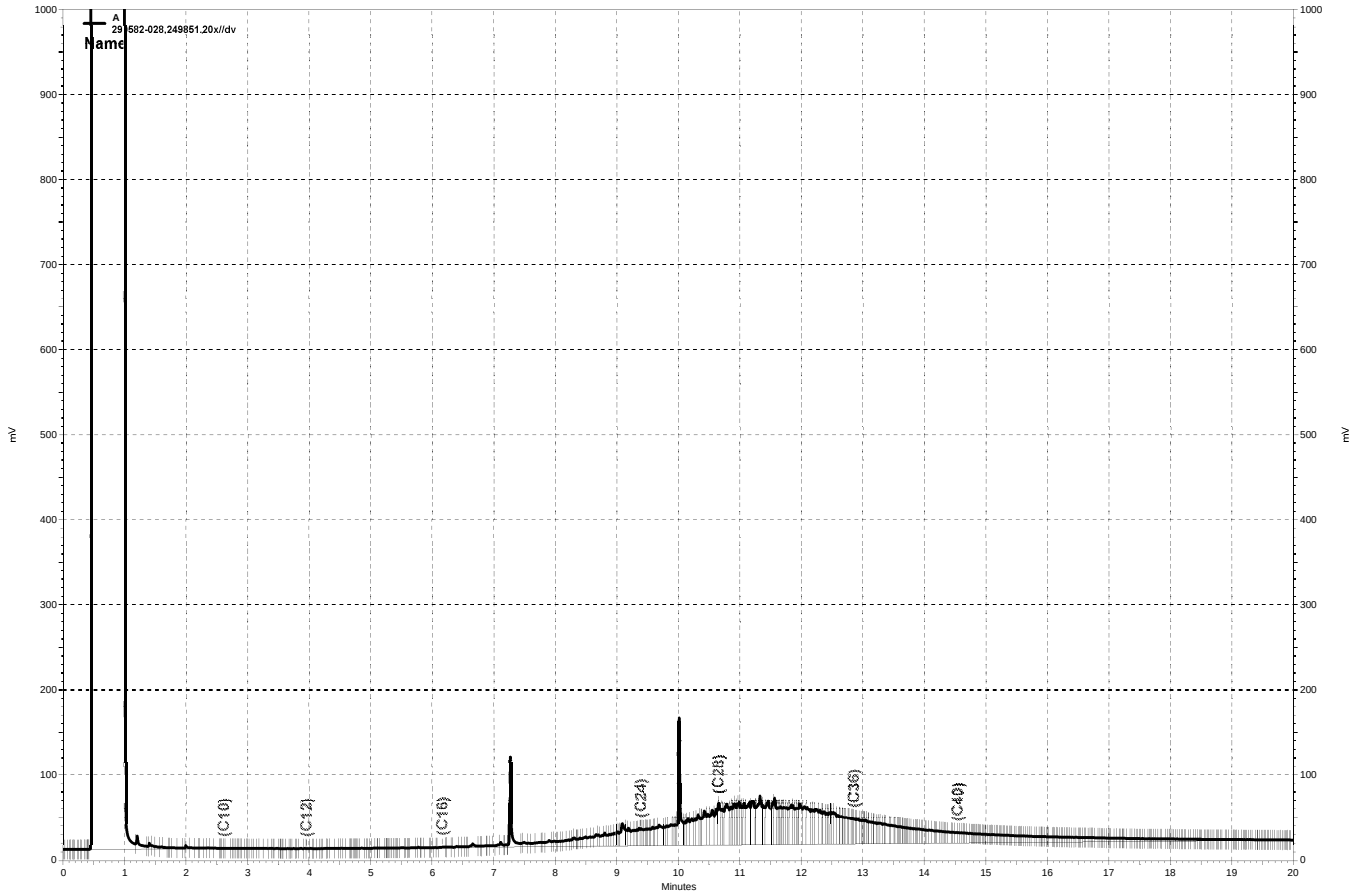

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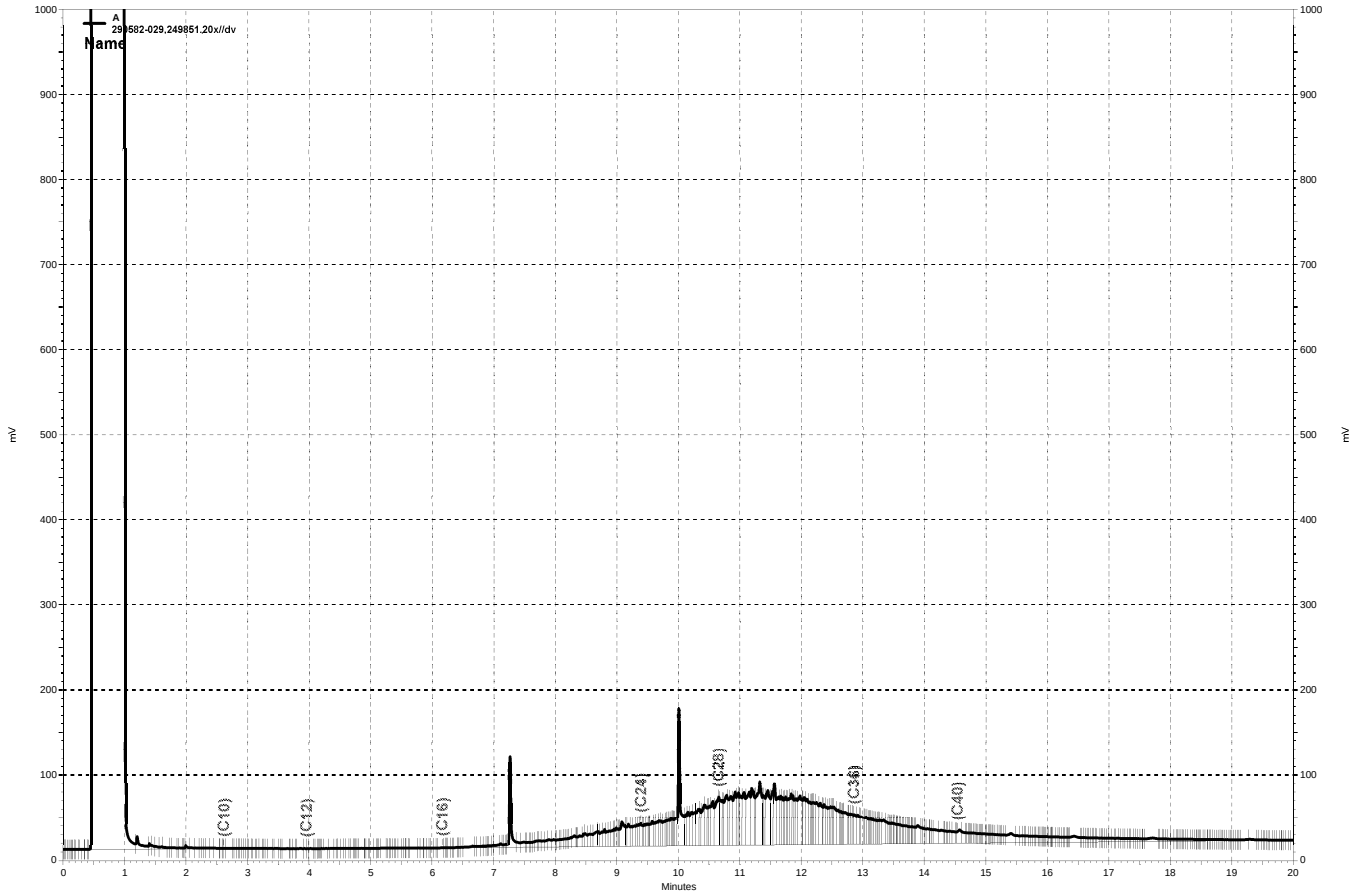

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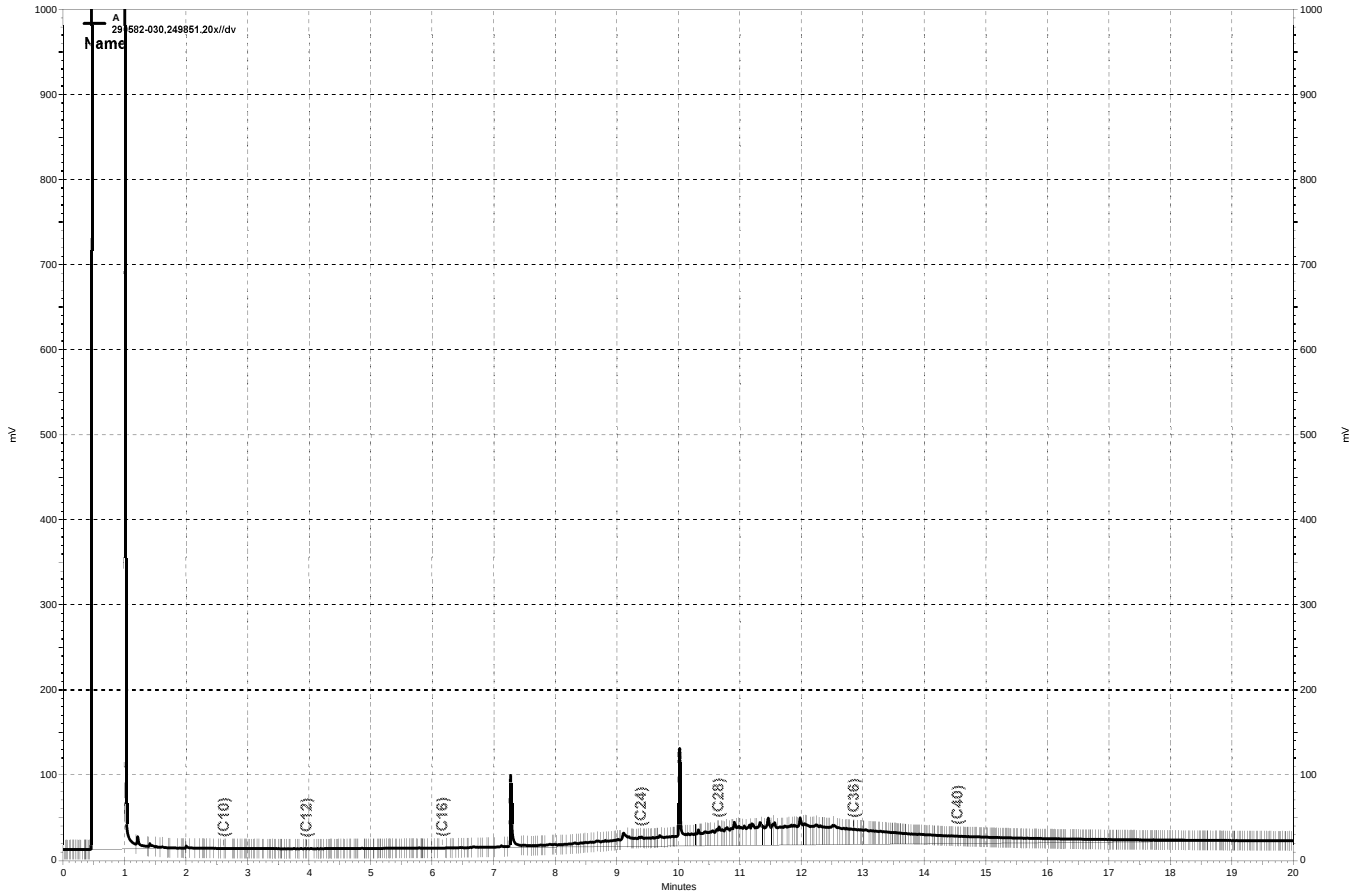

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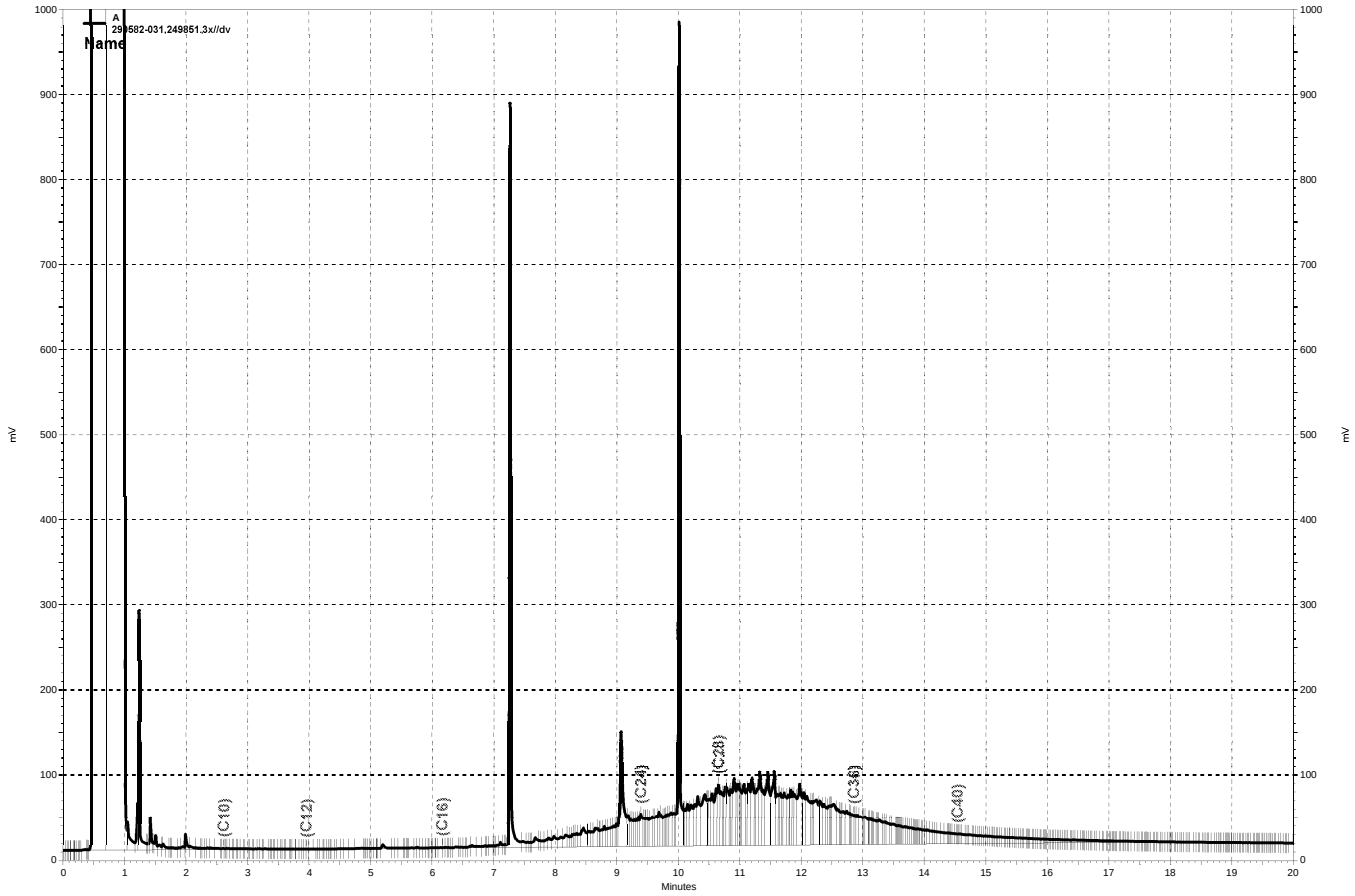

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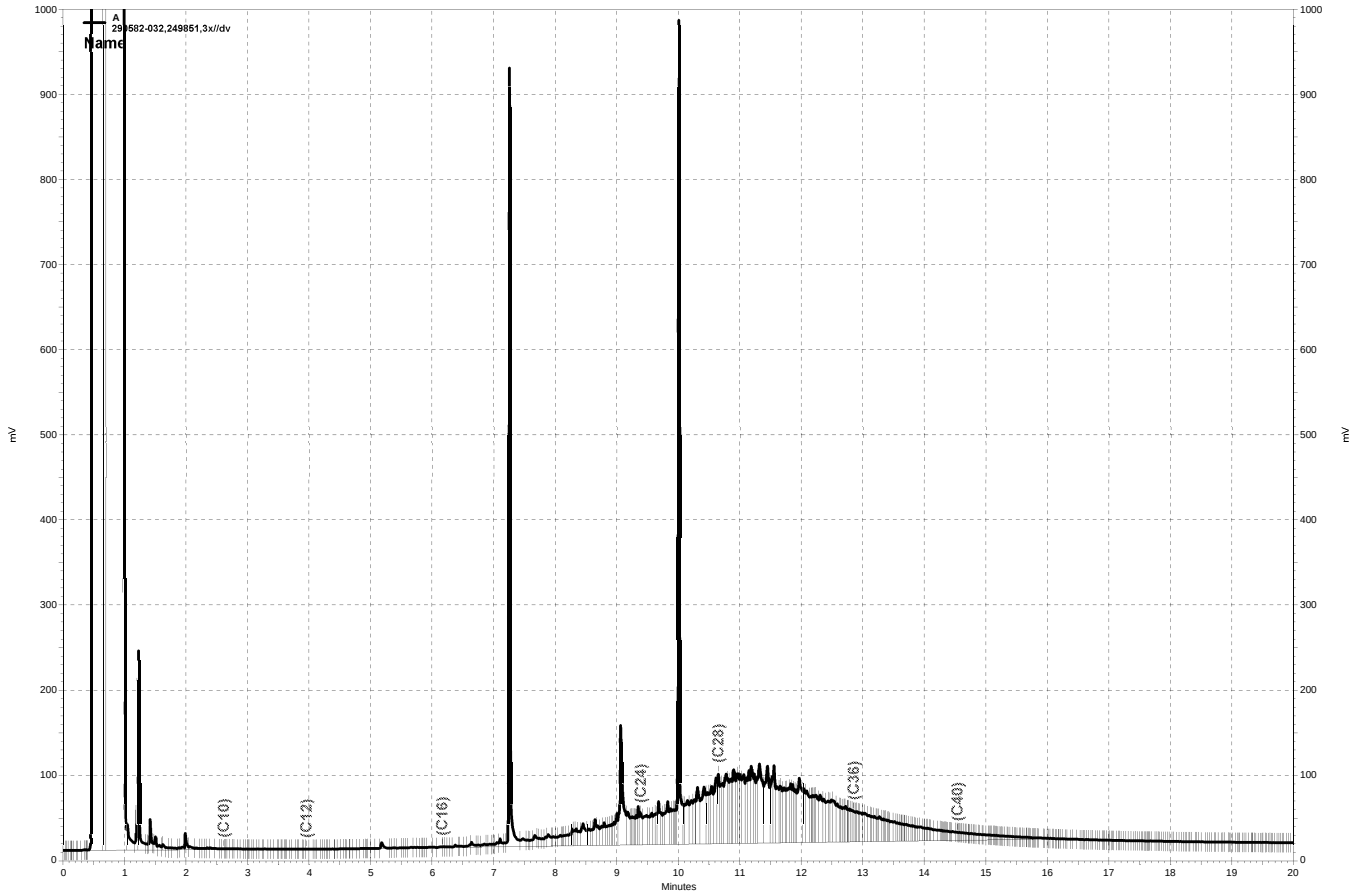

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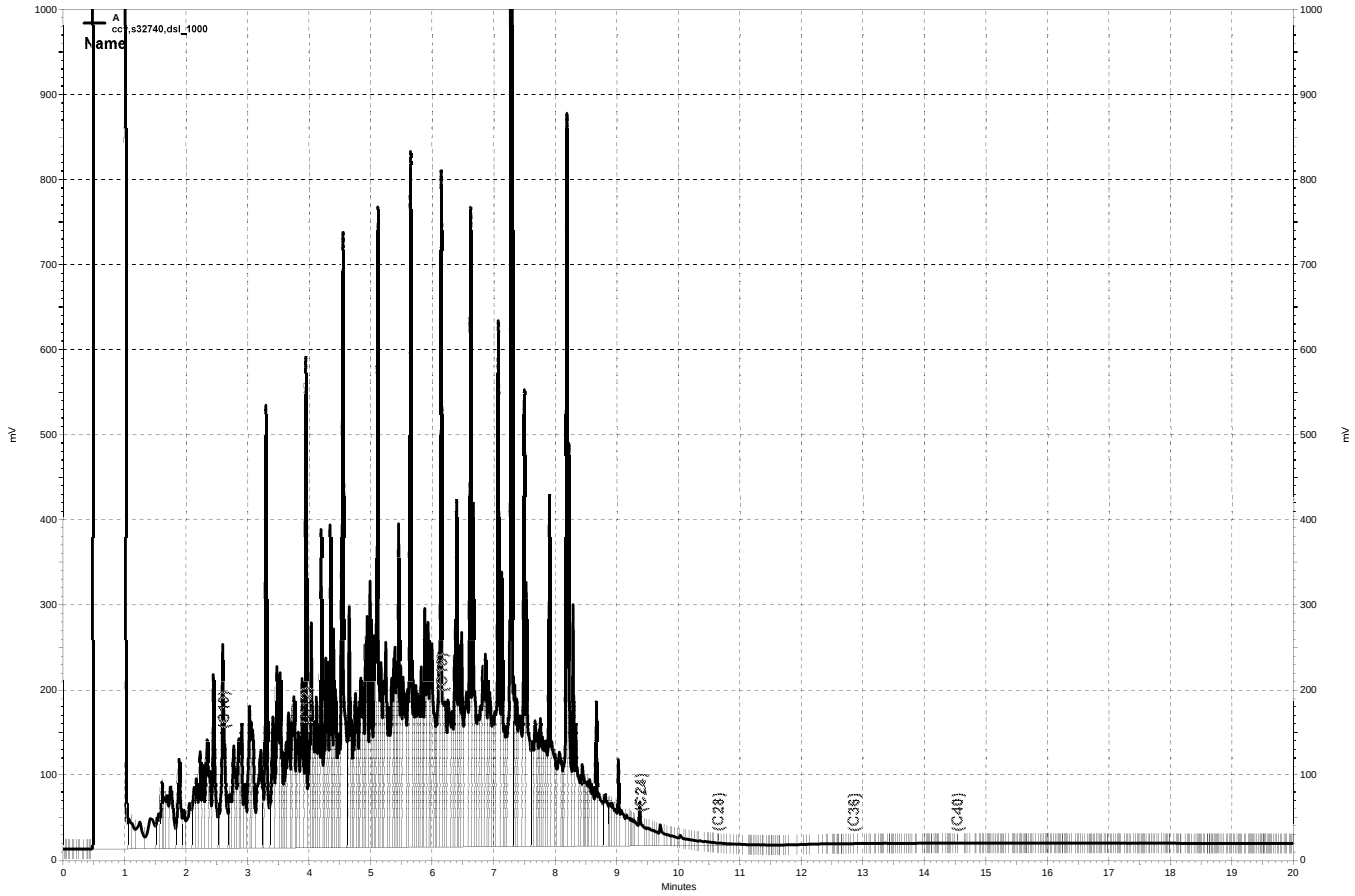

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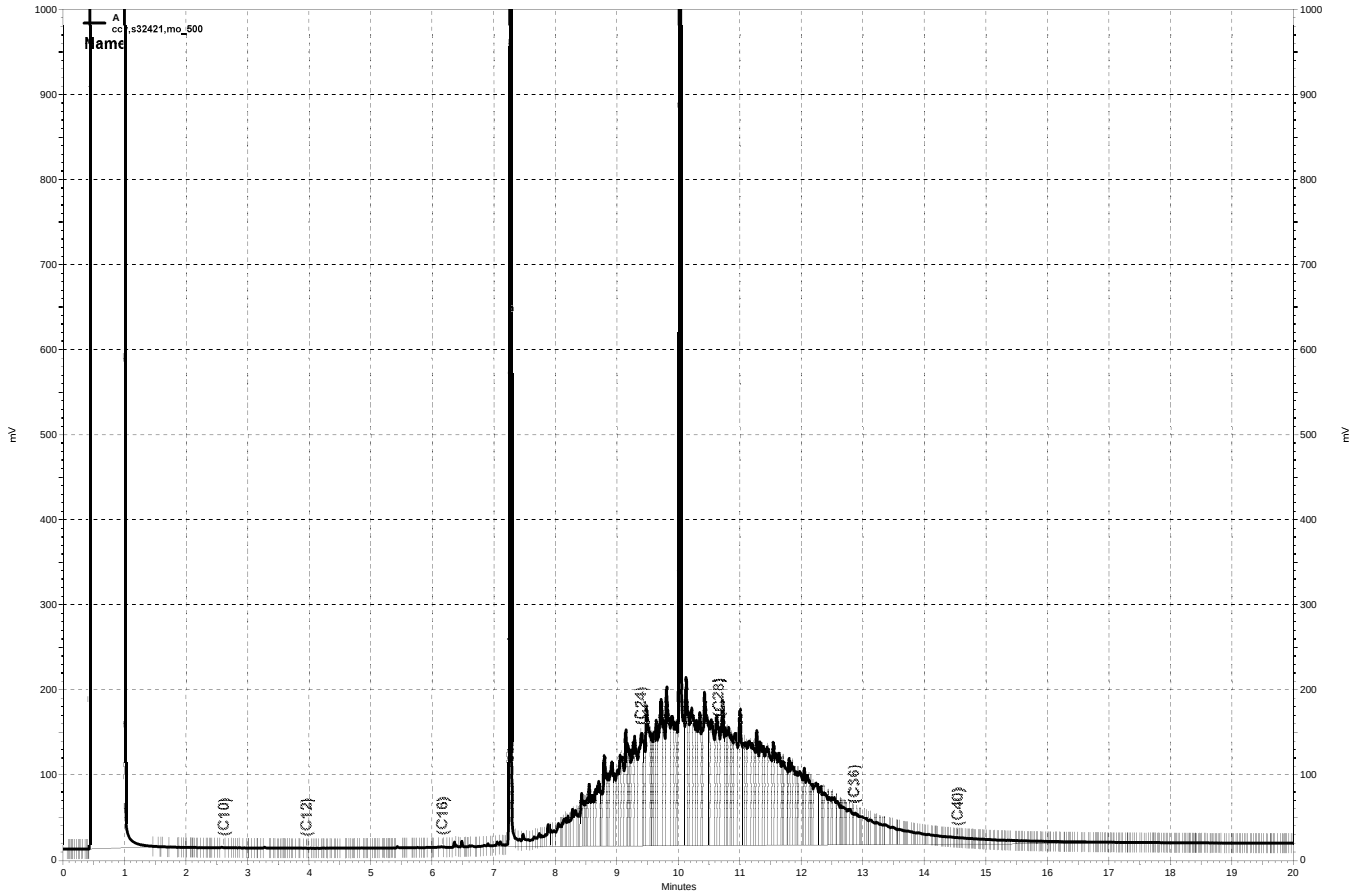

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ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 2	Basis:	dry
Lab ID:	290582-017	Diln Fac:	56.92
Matrix:	Soil	Sampled:	07/10/17
Units:	mg/Kg	Received:	07/14/17

Moisture: 12%

Analyte	Result	RL	MDL	Batch#	Analyzed
Freon 12	ND	0.65	0.065	249892	07/21/17
Chloromethane	ND	0.65	0.028	249769	07/18/17
Vinyl Chloride	ND	0.65	0.032	249769	07/18/17
Bromomethane	ND	0.65	0.065	249769	07/18/17
Chloroethane	ND	0.65	0.041	249769	07/18/17
Trichlorofluoromethane	ND	0.32	0.0091	249769	07/18/17
Freon 113	ND	0.32	0.0091	249769	07/18/17
1,1-Dichloroethene	ND	0.32	0.0088	249769	07/18/17
Methylene Chloride	ND	1.3	0.18	249769	07/18/17
MTBE	ND	0.32	0.017	249769	07/18/17
trans-1,2-Dichloroethene	ND	0.32	0.0091	249769	07/18/17
1,1-Dichloroethane	ND	0.32	0.0098	249769	07/18/17
cis-1,2-Dichloroethene	ND	0.32	0.011	249769	07/18/17
Chloroform	ND	0.32	0.017	249769	07/18/17
1,1,1-Trichloroethane	ND	0.32	0.0084	249769	07/18/17
Carbon Tetrachloride	ND	0.32	0.017	249769	07/18/17
1,2-Dichloroethane	ND	0.32	0.017	249769	07/18/17
Benzene	ND	0.32	0.0091	249769	07/18/17
Trichloroethene	ND	0.32	0.0091	249769	07/18/17
1,2-Dichloropropane	ND	0.32	0.0091	249769	07/18/17
Bromodichloromethane	ND	0.32	0.017	249769	07/18/17
Dibromomethane	ND	0.32	0.017	249769	07/18/17
cis-1,3-Dichloropropene	ND	0.32	0.017	249769	07/18/17
Toluene	ND	0.32	0.065	249769	07/18/17
trans-1,3-Dichloropropene	ND	0.32	0.017	249769	07/18/17
1,1,2-Trichloroethane	ND	0.32	0.032	249769	07/18/17
Tetrachloroethene	ND	0.32	0.0091	249769	07/18/17
Dibromochloromethane	ND	0.32	0.017	249769	07/18/17
Chlorobenzene	ND	0.32	0.0091	249769	07/18/17
1,1,1,2-Tetrachloroethane	ND	0.32	0.0091	249769	07/18/17
Ethylbenzene	ND	0.32	0.032	249769	07/18/17
m,p-Xylenes	ND	0.32	0.065	249769	07/18/17
o-Xylene	ND	0.32	0.032	249769	07/18/17
Bromoform	ND	0.32	0.032	249769	07/18/17
1,1,2,2-Tetrachloroethane	ND	0.32	0.017	249769	07/18/17
Bromobenzene	ND	0.32	0.0091	249769	07/18/17
1,3-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17
1,4-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17
1,2-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	101	80-128	249769	07/18/17
1,2-Dichloroethane-d4	99	80-136	249769	07/18/17
Toluene-d8	93	80-120	249769	07/18/17
Bromofluorobenzene	110	80-132	249769	07/18/17

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 1	Basis:	dry
Lab ID:	290582-018	Diln Fac:	53.21
Matrix:	Soil	Sampled:	07/10/17
Units:	mg/Kg	Received:	07/14/17

Moisture: 18%

Analyte	Result	RL	MDL	Batch#	Analyzed
Freon 12	ND	0.65	0.065	249892	07/21/17
Chloromethane	ND	0.65	0.028	249769	07/18/17
Vinyl Chloride	ND	0.65	0.032	249769	07/18/17
Bromomethane	ND	0.65	0.065	249769	07/18/17
Chloroethane	ND	0.65	0.041	249769	07/18/17
Trichlorofluoromethane	ND	0.32	0.0091	249769	07/18/17
Freon 113	ND	0.32	0.0091	249769	07/18/17
1,1-Dichloroethene	ND	0.32	0.0088	249769	07/18/17
Methylene Chloride	ND	1.3	0.18	249769	07/18/17
MTBE	ND	0.32	0.017	249769	07/18/17
trans-1,2-Dichloroethene	ND	0.32	0.0091	249769	07/18/17
1,1-Dichloroethane	ND	0.32	0.0098	249769	07/18/17
cis-1,2-Dichloroethene	ND	0.32	0.011	249769	07/18/17
Chloroform	ND	0.32	0.017	249769	07/18/17
1,1,1-Trichloroethane	ND	0.32	0.0084	249769	07/18/17
Carbon Tetrachloride	ND	0.32	0.017	249769	07/18/17
1,2-Dichloroethane	ND	0.32	0.017	249769	07/18/17
Benzene	ND	0.32	0.0091	249769	07/18/17
Trichloroethene	ND	0.32	0.0091	249769	07/18/17
1,2-Dichloropropane	ND	0.32	0.0091	249769	07/18/17
Bromodichloromethane	ND	0.32	0.017	249769	07/18/17
Dibromomethane	ND	0.32	0.017	249769	07/18/17
cis-1,3-Dichloropropene	ND	0.32	0.017	249769	07/18/17
Toluene	ND	0.32	0.065	249769	07/18/17
trans-1,3-Dichloropropene	ND	0.32	0.017	249769	07/18/17
1,1,2-Trichloroethane	ND	0.32	0.032	249769	07/18/17
Tetrachloroethene	ND	0.32	0.0091	249769	07/18/17
Dibromochloromethane	ND	0.32	0.017	249769	07/18/17
Chlorobenzene	ND	0.32	0.0091	249769	07/18/17
1,1,1,2-Tetrachloroethane	ND	0.32	0.0091	249769	07/18/17
Ethylbenzene	ND	0.32	0.032	249769	07/18/17
m,p-Xylenes	ND	0.32	0.065	249769	07/18/17
o-Xylene	ND	0.32	0.032	249769	07/18/17
Bromoform	ND	0.32	0.032	249769	07/18/17
1,1,2,2-Tetrachloroethane	ND	0.32	0.017	249769	07/18/17
Bromobenzene	ND	0.32	0.0091	249769	07/18/17
1,3-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17
1,4-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17
1,2-Dichlorobenzene	ND	0.32	0.017	249769	07/18/17

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	100	80-128	249769	07/18/17
1,2-Dichloroethane-d4	97	80-136	249769	07/18/17
Toluene-d8	93	80-120	249769	07/18/17
Bromofluorobenzene	109	80-132	249769	07/18/17

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 3	Basis:	dry
Lab ID:	290582-020	Diln Fac:	38.48
Matrix:	Soil	Sampled:	07/10/17
Units:	mg/Kg	Received:	07/14/17

Moisture: 15%

Analyte	Result	RL	MDL	Batch#	Analyzed
Freon 12	ND	0.45	0.045	249892	07/21/17
Chloromethane	ND	0.45	0.020	249769	07/18/17
Vinyl Chloride	ND	0.45	0.023	249769	07/18/17
Bromomethane	ND	0.45	0.045	249769	07/18/17
Chloroethane	ND	0.45	0.029	249769	07/18/17
Trichlorofluoromethane	ND	0.23	0.0063	249769	07/18/17
Freon 113	ND	0.23	0.0063	249769	07/18/17
1,1-Dichloroethene	ND	0.23	0.0061	249769	07/18/17
Methylene Chloride	ND	0.91	0.13	249769	07/18/17
MTBE	ND	0.23	0.012	249769	07/18/17
trans-1,2-Dichloroethene	ND	0.23	0.0063	249769	07/18/17
1,1-Dichloroethane	ND	0.23	0.0069	249769	07/18/17
cis-1,2-Dichloroethene	ND	0.23	0.0076	249769	07/18/17
Chloroform	ND	0.23	0.012	249769	07/18/17
1,1,1-Trichloroethane	ND	0.23	0.0059	249769	07/18/17
Carbon Tetrachloride	ND	0.23	0.012	249769	07/18/17
1,2-Dichloroethane	ND	0.23	0.012	249769	07/18/17
Benzene	ND	0.23	0.0063	249769	07/18/17
Trichloroethene	ND	0.23	0.0063	249769	07/18/17
1,2-Dichloropropane	ND	0.23	0.0063	249769	07/18/17
Bromodichloromethane	ND	0.23	0.012	249769	07/18/17
Dibromomethane	ND	0.23	0.012	249769	07/18/17
cis-1,3-Dichloropropene	ND	0.23	0.012	249769	07/18/17
Toluene	ND	0.23	0.046	249769	07/18/17
trans-1,3-Dichloropropene	ND	0.23	0.012	249769	07/18/17
1,1,2-Trichloroethane	ND	0.23	0.023	249769	07/18/17
Tetrachloroethene	ND	0.23	0.0063	249769	07/18/17
Dibromochloromethane	ND	0.23	0.012	249769	07/18/17
Chlorobenzene	ND	0.23	0.0063	249769	07/18/17
1,1,1,2-Tetrachloroethane	ND	0.23	0.0063	249769	07/18/17
Ethylbenzene	ND	0.23	0.023	249769	07/18/17
m,p-Xylenes	ND	0.23	0.045	249769	07/18/17
o-Xylene	ND	0.23	0.023	249769	07/18/17
Bromoform	ND	0.23	0.023	249769	07/18/17
1,1,2,2-Tetrachloroethane	ND	0.23	0.012	249769	07/18/17
Bromobenzene	ND	0.23	0.0063	249769	07/18/17
1,3-Dichlorobenzene	ND	0.23	0.012	249769	07/18/17
1,4-Dichlorobenzene	ND	0.23	0.012	249769	07/18/17
1,2-Dichlorobenzene	ND	0.23	0.012	249769	07/18/17

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	99	80-128	249769	07/18/17
1,2-Dichloroethane-d4	99	80-136	249769	07/18/17
Toluene-d8	93	80-120	249769	07/18/17
Bromofluorobenzene	104	80-132	249769	07/18/17

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 4	Basis:	dry
Lab ID:	290582-021	Diln Fac:	48.35
Matrix:	Soil	Sampled:	07/10/17
Units:	mg/Kg	Received:	07/14/17

Moisture: 13%

Analyte	Result	RL	MDL	Batch#	Analyzed
Freon 12	ND	0.56	0.056	249892	07/21/17
Chloromethane	ND	0.56	0.024	249769	07/18/17
Vinyl Chloride	ND	0.56	0.028	249769	07/18/17
Bromomethane	ND	0.56	0.056	249769	07/18/17
Chloroethane	ND	0.56	0.035	249769	07/18/17
Trichlorofluoromethane	ND	0.28	0.0078	249769	07/18/17
Freon 113	ND	0.28	0.0078	249769	07/18/17
1,1-Dichloroethene	ND	0.28	0.0075	249769	07/18/17
Methylene Chloride	ND	1.1	0.15	249769	07/18/17
MTBE	ND	0.28	0.014	249769	07/18/17
trans-1,2-Dichloroethene	ND	0.28	0.0078	249769	07/18/17
1,1-Dichloroethane	ND	0.28	0.0084	249769	07/18/17
cis-1,2-Dichloroethene	ND	0.28	0.0094	249769	07/18/17
Chloroform	ND	0.28	0.014	249769	07/18/17
1,1,1-Trichloroethane	ND	0.28	0.0072	249769	07/18/17
Carbon Tetrachloride	ND	0.28	0.014	249769	07/18/17
1,2-Dichloroethane	ND	0.28	0.014	249769	07/18/17
Benzene	ND	0.28	0.0078	249769	07/18/17
Trichloroethene	ND	0.28	0.0078	249769	07/18/17
1,2-Dichloropropane	ND	0.28	0.0078	249769	07/18/17
Bromodichloromethane	ND	0.28	0.014	249769	07/18/17
Dibromomethane	ND	0.28	0.014	249769	07/18/17
cis-1,3-Dichloropropene	ND	0.28	0.014	249769	07/18/17
Toluene	ND	0.28	0.056	249769	07/18/17
trans-1,3-Dichloropropene	ND	0.28	0.014	249769	07/18/17
1,1,2-Trichloroethane	ND	0.28	0.028	249769	07/18/17
Tetrachloroethene	ND	0.28	0.0078	249769	07/18/17
Dibromochloromethane	ND	0.28	0.014	249769	07/18/17
Chlorobenzene	ND	0.28	0.0078	249769	07/18/17
1,1,1,2-Tetrachloroethane	ND	0.28	0.0078	249769	07/18/17
Ethylbenzene	ND	0.28	0.028	249769	07/18/17
m,p-Xylenes	ND	0.28	0.056	249769	07/18/17
o-Xylene	ND	0.28	0.028	249769	07/18/17
Bromoform	ND	0.28	0.028	249769	07/18/17
1,1,2,2-Tetrachloroethane	ND	0.28	0.014	249769	07/18/17
Bromobenzene	ND	0.28	0.0078	249769	07/18/17
1,3-Dichlorobenzene	ND	0.28	0.014	249769	07/18/17
1,4-Dichlorobenzene	ND	0.28	0.014	249769	07/18/17
1,2-Dichlorobenzene	ND	0.28	0.014	249769	07/18/17

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	100	80-128	249769	07/18/17
1,2-Dichloroethane-d4	99	80-136	249769	07/18/17
Toluene-d8	92	80-120	249769	07/18/17
Bromofluorobenzene	98	80-132	249769	07/18/17

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 5	Dil'n Fac:	57.09
Lab ID:	290582-022	Batch#:	249769
Matrix:	Soil	Sampled:	07/10/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/18/17

Moisture: 16%

Analyte	Result	RL	MDL
Freon 12	ND	0.68	0.044
Chloromethane	ND	0.68	0.030
Vinyl Chloride	ND	0.68	0.034
Bromomethane	ND	0.68	0.068
Chloroethane	ND	0.68	0.043
Trichlorofluoromethane	ND	0.34	0.0095
Freon 113	ND	0.34	0.0095
1,1-Dichloroethene	ND	0.34	0.0092
Methylene Chloride	ND	1.4	0.19
MTBE	ND	0.34	0.018
trans-1,2-Dichloroethene	ND	0.34	0.0095
1,1-Dichloroethane	ND	0.34	0.010
cis-1,2-Dichloroethene	ND	0.34	0.011
Chloroform	ND	0.34	0.018
1,1,1-Trichloroethane	ND	0.34	0.0088
Carbon Tetrachloride	ND	0.34	0.018
1,2-Dichloroethane	ND	0.34	0.018
Benzene	ND	0.34	0.0095
Trichloroethene	ND	0.34	0.0095
1,2-Dichloropropane	ND	0.34	0.0095
Bromodichloromethane	ND	0.34	0.018
Dibromomethane	ND	0.34	0.018
cis-1,3-Dichloropropene	ND	0.34	0.018
Toluene	ND	0.34	0.069
trans-1,3-Dichloropropene	ND	0.34	0.018
1,1,2-Trichloroethane	ND	0.34	0.034
Tetrachloroethene	ND	0.34	0.0095
Dibromochloromethane	ND	0.34	0.018
Chlorobenzene	ND	0.34	0.0095
1,1,1,2-Tetrachloroethane	ND	0.34	0.0095
Ethylbenzene	ND	0.34	0.034
m,p-Xylenes	ND	0.34	0.068
o-Xylene	ND	0.34	0.034
Bromoform	ND	0.34	0.034
1,1,2,2-Tetrachloroethane	ND	0.34	0.018
Bromobenzene	ND	0.34	0.0095
1,3-Dichlorobenzene	ND	0.34	0.018
1,4-Dichlorobenzene	ND	0.34	0.018
1,2-Dichlorobenzene	ND	0.34	0.018

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-128
1,2-Dichloroethane-d4	91	80-136
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 6	Dil'n Fac:	43.11
Lab ID:	290582-023	Batch#:	249769
Matrix:	Soil	Sampled:	07/11/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/18/17

Moisture: 20%

Analyte	Result	RL	MDL
Freon 12	ND	0.54	0.035
Chloromethane	ND	0.54	0.024
Vinyl Chloride	ND	0.54	0.027
Bromomethane	ND	0.54	0.054
Chloroethane	ND	0.54	0.034
Trichlorofluoromethane	ND	0.27	0.0075
Freon 113	ND	0.27	0.0075
1,1-Dichloroethene	ND	0.27	0.0073
Methylene Chloride	ND	1.1	0.15
MTBE	ND	0.27	0.014
trans-1,2-Dichloroethene	ND	0.27	0.0075
1,1-Dichloroethane	ND	0.27	0.0082
cis-1,2-Dichloroethene	ND	0.27	0.0091
Chloroform	ND	0.27	0.014
1,1,1-Trichloroethane	ND	0.27	0.0070
Carbon Tetrachloride	ND	0.27	0.014
1,2-Dichloroethane	ND	0.27	0.014
Benzene	ND	0.27	0.0075
Trichloroethene	ND	0.27	0.0075
1,2-Dichloropropane	ND	0.27	0.0075
Bromodichloromethane	ND	0.27	0.014
Dibromomethane	ND	0.27	0.014
cis-1,3-Dichloropropene	ND	0.27	0.014
Toluene	ND	0.27	0.054
trans-1,3-Dichloropropene	ND	0.27	0.014
1,1,2-Trichloroethane	ND	0.27	0.027
Tetrachloroethene	ND	0.27	0.0075
Dibromochloromethane	ND	0.27	0.014
Chlorobenzene	ND	0.27	0.0075
1,1,1,2-Tetrachloroethane	ND	0.27	0.0075
Ethylbenzene	ND	0.27	0.027
m,p-Xylenes	ND	0.27	0.054
o-Xylene	ND	0.27	0.027
Bromoform	ND	0.27	0.027
1,1,2,2-Tetrachloroethane	ND	0.27	0.014
Bromobenzene	ND	0.27	0.0075
1,3-Dichlorobenzene	ND	0.27	0.014
1,4-Dichlorobenzene	ND	0.27	0.014
1,2-Dichlorobenzene	ND	0.27	0.014

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	94	80-136
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 7	Dil'n Fac:	45.09
Lab ID:	290582-024	Batch#:	249742
Matrix:	Soil	Sampled:	07/11/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/19/17

Moisture: 13%

Analyte	Result	RL	MDL
Freon 12	ND	0.52	0.052
Chloromethane	ND	0.52	0.052
Vinyl Chloride	ND	0.52	0.052
Bromomethane	ND	0.52	0.062
Chloroethane	ND	0.52	0.062
Trichlorofluoromethane	ND	0.26	0.052
Freon 113	ND	0.26	0.027
1,1-Dichloroethene	ND	0.26	0.033
Methylene Chloride	ND	1.0	0.054
MTBE	ND	0.26	0.054
trans-1,2-Dichloroethene	ND	0.26	0.048
1,1-Dichloroethane	ND	0.26	0.054
cis-1,2-Dichloroethene	ND	0.26	0.017
Chloroform	ND	0.26	0.025
1,1,1-Trichloroethane	ND	0.26	0.013
Carbon Tetrachloride	ND	0.26	0.014
1,2-Dichloroethane	ND	0.26	0.021
Benzene	ND	0.26	0.014
Trichloroethene	ND	0.26	0.018
1,2-Dichloropropane	ND	0.26	0.019
Bromodichloromethane	ND	0.26	0.013
Dibromomethane	ND	0.26	0.011
cis-1,3-Dichloropropene	ND	0.26	0.0086
Toluene	ND	0.26	0.0073
trans-1,3-Dichloropropene	ND	0.26	0.0088
1,1,2-Trichloroethane	ND	0.26	0.017
Tetrachloroethene	ND	0.26	0.011
Dibromochloromethane	ND	0.26	0.011
Chlorobenzene	ND	0.26	0.013
1,1,1,2-Tetrachloroethane	ND	0.26	0.012
Ethylbenzene	ND	0.26	0.012
m,p-Xylenes	ND	0.26	0.021
o-Xylene	ND	0.26	0.014
Bromoform	ND	0.26	0.013
1,1,2,2-Tetrachloroethane	ND	0.26	0.012
Bromobenzene	ND	0.26	0.0077
1,3-Dichlorobenzene	ND	0.26	0.014
1,4-Dichlorobenzene	ND	0.26	0.012
1,2-Dichlorobenzene	ND	0.26	0.014

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-128
1,2-Dichloroethane-d4	102	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	91	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 8	Dil'n Fac:	47.40
Lab ID:	290582-025	Batch#:	249742
Matrix:	Soil	Sampled:	07/11/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/19/17

Moisture: 17%

Analyte	Result	RL	MDL
Freon 12	ND	0.57	0.057
Chloromethane	ND	0.57	0.057
Vinyl Chloride	ND	0.57	0.057
Bromomethane	ND	0.57	0.069
Chloroethane	ND	0.57	0.069
Trichlorofluoromethane	ND	0.29	0.057
Freon 113	ND	0.29	0.030
1,1-Dichloroethene	ND	0.29	0.036
Methylene Chloride	ND	1.1	0.059
MTBE	ND	0.29	0.060
trans-1,2-Dichloroethene	ND	0.29	0.053
1,1-Dichloroethane	ND	0.29	0.060
cis-1,2-Dichloroethene	ND	0.29	0.019
Chloroform	ND	0.29	0.028
1,1,1-Trichloroethane	ND	0.29	0.014
Carbon Tetrachloride	ND	0.29	0.016
1,2-Dichloroethane	ND	0.29	0.024
Benzene	ND	0.29	0.015
Trichloroethene	ND	0.29	0.019
1,2-Dichloropropane	ND	0.29	0.020
Bromodichloromethane	ND	0.29	0.015
Dibromomethane	ND	0.29	0.012
cis-1,3-Dichloropropene	ND	0.29	0.0094
Toluene	ND	0.29	0.0080
trans-1,3-Dichloropropene	ND	0.29	0.0097
1,1,2-Trichloroethane	ND	0.29	0.019
Tetrachloroethene	ND	0.29	0.012
Dibromochloromethane	ND	0.29	0.012
Chlorobenzene	ND	0.29	0.014
1,1,1,2-Tetrachloroethane	ND	0.29	0.013
Ethylbenzene	ND	0.29	0.013
m,p-Xylenes	ND	0.29	0.023
o-Xylene	ND	0.29	0.015
Bromoform	ND	0.29	0.015
1,1,2,2-Tetrachloroethane	ND	0.29	0.013
Bromobenzene	ND	0.29	0.0085
1,3-Dichlorobenzene	ND	0.29	0.015
1,4-Dichlorobenzene	ND	0.29	0.013
1,2-Dichlorobenzene	ND	0.29	0.015

Surrogate	%REC	Limits
Dibromofluoromethane	122	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	94	80-120
Bromofluorobenzene	96	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 9	Dil'n Fac:	75.51
Lab ID:	290582-026	Batch#:	249742
Matrix:	Soil	Sampled:	07/11/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/19/17

Moisture: 14%

Analyte	Result	RL	MDL
Freon 12	ND	0.88	0.088
Chloromethane	ND	0.88	0.088
Vinyl Chloride	ND	0.88	0.088
Bromomethane	ND	0.88	0.11
Chloroethane	ND	0.88	0.11
Trichlorofluoromethane	ND	0.44	0.088
Freon 113	ND	0.44	0.046
1,1-Dichloroethene	ND	0.44	0.055
Methylene Chloride	ND	1.8	0.091
MTBE	ND	0.44	0.092
trans-1,2-Dichloroethene	ND	0.44	0.082
1,1-Dichloroethane	ND	0.44	0.092
cis-1,2-Dichloroethene	ND	0.44	0.029
Chloroform	ND	0.44	0.043
1,1,1-Trichloroethane	ND	0.44	0.022
Carbon Tetrachloride	ND	0.44	0.024
1,2-Dichloroethane	ND	0.44	0.036
Benzene	ND	0.44	0.024
Trichloroethene	ND	0.44	0.030
1,2-Dichloropropane	ND	0.44	0.031
Bromodichloromethane	ND	0.44	0.023
Dibromomethane	ND	0.44	0.018
cis-1,3-Dichloropropene	ND	0.44	0.015
Toluene	ND	0.44	0.012
trans-1,3-Dichloropropene	ND	0.44	0.015
1,1,2-Trichloroethane	ND	0.44	0.029
Tetrachloroethene	ND	0.44	0.019
Dibromochloromethane	ND	0.44	0.018
Chlorobenzene	ND	0.44	0.022
1,1,1,2-Tetrachloroethane	ND	0.44	0.020
Ethylbenzene	ND	0.44	0.021
m,p-Xylenes	ND	0.44	0.036
o-Xylene	ND	0.44	0.023
Bromoform	ND	0.44	0.023
1,1,2,2-Tetrachloroethane	ND	0.44	0.020
Bromobenzene	ND	0.44	0.013
1,3-Dichlorobenzene	ND	0.44	0.023
1,4-Dichlorobenzene	ND	0.44	0.020
1,2-Dichlorobenzene	ND	0.44	0.024

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-128
1,2-Dichloroethane-d4	106	80-136
Toluene-d8	94	80-120
Bromofluorobenzene	98	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 10	Dil'n Fac:	44.53
Lab ID:	290582-027	Batch#:	249742
Matrix:	Soil	Sampled:	07/11/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/19/17

Moisture: 11%

Analyte	Result	RL	MDL
Freon 12	ND	0.50	0.050
Chloromethane	ND	0.50	0.050
Vinyl Chloride	ND	0.50	0.050
Bromomethane	ND	0.50	0.060
Chloroethane	ND	0.50	0.060
Trichlorofluoromethane	ND	0.25	0.050
Freon 113	ND	0.25	0.026
1,1-Dichloroethene	ND	0.25	0.031
Methylene Chloride	ND	1.0	0.052
MTBE	ND	0.25	0.052
trans-1,2-Dichloroethene	ND	0.25	0.047
1,1-Dichloroethane	ND	0.25	0.053
cis-1,2-Dichloroethene	ND	0.25	0.016
Chloroform	ND	0.25	0.024
1,1,1-Trichloroethane	ND	0.25	0.013
Carbon Tetrachloride	ND	0.25	0.014
1,2-Dichloroethane	ND	0.25	0.021
Benzene	ND	0.25	0.013
Trichloroethene	ND	0.25	0.017
1,2-Dichloropropane	ND	0.25	0.018
Bromodichloromethane	ND	0.25	0.013
Dibromomethane	ND	0.25	0.010
cis-1,3-Dichloropropene	ND	0.25	0.0083
Toluene	ND	0.25	0.0070
trans-1,3-Dichloropropene	ND	0.25	0.0085
1,1,2-Trichloroethane	ND	0.25	0.017
Tetrachloroethene	ND	0.25	0.011
Dibromochloromethane	ND	0.25	0.010
Chlorobenzene	ND	0.25	0.013
1,1,1,2-Tetrachloroethane	ND	0.25	0.011
Ethylbenzene	ND	0.25	0.012
m,p-Xylenes	ND	0.25	0.021
o-Xylene	ND	0.25	0.013
Bromoform	ND	0.25	0.013
1,1,2,2-Tetrachloroethane	ND	0.25	0.011
Bromobenzene	ND	0.25	0.0075
1,3-Dichlorobenzene	ND	0.25	0.013
1,4-Dichlorobenzene	ND	0.25	0.011
1,2-Dichlorobenzene	ND	0.25	0.013

Surrogate	%REC	Limits
Dibromofluoromethane	121	80-128
1,2-Dichloroethane-d4	104	80-136
Toluene-d8	93	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 11	Dil'n Fac:	48.63
Lab ID:	290582-028	Batch#:	249742
Matrix:	Soil	Sampled:	07/12/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/20/17

Moisture: 19%

Analyte	Result	RL	MDL
Freon 12	ND	0.60	0.060
Chloromethane	ND	0.60	0.060
Vinyl Chloride	ND	0.60	0.060
Bromomethane	ND	0.60	0.072
Chloroethane	ND	0.60	0.072
Trichlorofluoromethane	ND	0.30	0.060
Freon 113	ND	0.30	0.031
1,1-Dichloroethene	ND	0.30	0.038
Methylene Chloride	ND	1.2	0.062
MTBE	ND	0.30	0.063
trans-1,2-Dichloroethene	ND	0.30	0.056
1,1-Dichloroethane	ND	0.30	0.063
cis-1,2-Dichloroethene	ND	0.30	0.020
Chloroform	ND	0.30	0.029
1,1,1-Trichloroethane	ND	0.30	0.015
Carbon Tetrachloride	ND	0.30	0.017
1,2-Dichloroethane	ND	0.30	0.025
Benzene	ND	0.30	0.016
Trichloroethene	ND	0.30	0.020
1,2-Dichloropropane	ND	0.30	0.021
Bromodichloromethane	ND	0.30	0.016
Dibromomethane	ND	0.30	0.012
cis-1,3-Dichloropropene	ND	0.30	0.0099
Toluene	ND	0.30	0.0084
trans-1,3-Dichloropropene	ND	0.30	0.010
1,1,2-Trichloroethane	ND	0.30	0.020
Tetrachloroethene	ND	0.30	0.013
Dibromochloromethane	ND	0.30	0.012
Chlorobenzene	ND	0.30	0.015
1,1,1,2-Tetrachloroethane	ND	0.30	0.014
Ethylbenzene	ND	0.30	0.014
m,p-Xylenes	ND	0.30	0.025
o-Xylene	ND	0.30	0.016
Bromoform	ND	0.30	0.016
1,1,2,2-Tetrachloroethane	ND	0.30	0.013
Bromobenzene	ND	0.30	0.0090
1,3-Dichlorobenzene	ND	0.30	0.016
1,4-Dichlorobenzene	ND	0.30	0.014
1,2-Dichlorobenzene	ND	0.30	0.016

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-128
1,2-Dichloroethane-d4	102	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 12	Dil'n Fac:	43.63
Lab ID:	290582-029	Batch#:	249868
Matrix:	Soil	Sampled:	07/12/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/20/17

Moisture: 10%

Analyte	Result	RL	MDL
Freon 12	ND	0.48	0.048
Chloromethane	ND	0.48	0.048
Vinyl Chloride	ND	0.48	0.048
Bromomethane	ND	0.48	0.058
Chloroethane	ND	0.48	0.058
Trichlorofluoromethane	ND	0.24	0.048
Freon 113	ND	0.24	0.025
1,1-Dichloroethene	ND	0.24	0.030
Methylene Chloride	ND	0.97	0.050
MTBE	ND	0.24	0.051
trans-1,2-Dichloroethene	ND	0.24	0.045
1,1-Dichloroethane	ND	0.24	0.051
cis-1,2-Dichloroethene	ND	0.24	0.016
Chloroform	ND	0.24	0.024
1,1,1-Trichloroethane	ND	0.24	0.012
Carbon Tetrachloride	ND	0.24	0.014
1,2-Dichloroethane	ND	0.24	0.020
Benzene	ND	0.24	0.013
Trichloroethene	ND	0.24	0.016
1,2-Dichloropropane	ND	0.24	0.017
Bromodichloromethane	ND	0.24	0.013
Dibromomethane	ND	0.24	0.010
cis-1,3-Dichloropropene	ND	0.24	0.0080
Toluene	ND	0.24	0.0068
trans-1,3-Dichloropropene	ND	0.24	0.0082
1,1,2-Trichloroethane	ND	0.24	0.016
Tetrachloroethene	ND	0.24	0.010
Dibromochloromethane	ND	0.24	0.0099
Chlorobenzene	ND	0.24	0.012
1,1,1,2-Tetrachloroethane	ND	0.24	0.011
Ethylbenzene	ND	0.24	0.011
m,p-Xylenes	ND	0.24	0.020
o-Xylene	ND	0.24	0.013
Bromoform	ND	0.24	0.013
1,1,2,2-Tetrachloroethane	ND	0.24	0.011
Bromobenzene	ND	0.24	0.0072
1,3-Dichlorobenzene	ND	0.24	0.013
1,4-Dichlorobenzene	ND	0.24	0.011
1,2-Dichlorobenzene	ND	0.24	0.013

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-128
1,2-Dichloroethane-d4	100	80-136
Toluene-d8	93	80-120
Bromofluorobenzene	98	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 13	Dil'n Fac:	46.62
Lab ID:	290582-030	Batch#:	249868
Matrix:	Soil	Sampled:	07/12/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/20/17

Moisture: 24%

Analyte	Result	RL	MDL
Freon 12	ND	0.61	0.061
Chloromethane	ND	0.61	0.061
Vinyl Chloride	ND	0.61	0.061
Bromomethane	ND	0.61	0.074
Chloroethane	ND	0.61	0.074
Trichlorofluoromethane	ND	0.31	0.061
Freon 113	ND	0.31	0.032
1,1-Dichloroethene	ND	0.31	0.039
Methylene Chloride	ND	1.2	0.063
MTBE	ND	0.31	0.064
trans-1,2-Dichloroethene	ND	0.31	0.057
1,1-Dichloroethane	ND	0.31	0.064
cis-1,2-Dichloroethene	ND	0.31	0.020
Chloroform	ND	0.31	0.030
1,1,1-Trichloroethane	ND	0.31	0.016
Carbon Tetrachloride	ND	0.31	0.017
1,2-Dichloroethane	ND	0.31	0.025
Benzene	ND	0.31	0.017
Trichloroethene	ND	0.31	0.021
1,2-Dichloropropane	ND	0.31	0.022
Bromodichloromethane	ND	0.31	0.016
Dibromomethane	ND	0.31	0.013
cis-1,3-Dichloropropene	ND	0.31	0.010
Toluene	ND	0.31	0.0086
trans-1,3-Dichloropropene	ND	0.31	0.010
1,1,2-Trichloroethane	ND	0.31	0.020
Tetrachloroethene	ND	0.31	0.013
Dibromochloromethane	ND	0.31	0.013
Chlorobenzene	ND	0.31	0.015
1,1,1,2-Tetrachloroethane	ND	0.31	0.014
Ethylbenzene	ND	0.31	0.014
m,p-Xylenes	ND	0.31	0.025
o-Xylene	ND	0.31	0.016
Bromoform	ND	0.31	0.016
1,1,2,2-Tetrachloroethane	ND	0.31	0.014
Bromobenzene	ND	0.31	0.0092
1,3-Dichlorobenzene	ND	0.31	0.016
1,4-Dichlorobenzene	ND	0.31	0.014
1,2-Dichlorobenzene	ND	0.31	0.016

Surrogate	%REC	Limits
Dibromofluoromethane	121	80-128
1,2-Dichloroethane-d4	105	80-136
Toluene-d8	91	80-120
Bromofluorobenzene	97	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 14	Dil'n Fac:	44.55
Lab ID:	290582-031	Batch#:	249956
Matrix:	Soil	Sampled:	07/12/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/24/17

Moisture: 12%

Analyte	Result	RL	MDL
Freon 12	ND	0.51	0.033
Chloromethane	ND	0.51	0.022
Vinyl Chloride	ND	0.51	0.025
Bromomethane	0.088 J	0.51	0.051
Chloroethane	ND	0.51	0.032
Trichlorofluoromethane	ND	0.25	0.0071
Freon 113	ND	0.25	0.0071
1,1-Dichloroethene	ND	0.25	0.0069
Methylene Chloride	ND	1.0	0.14
MTBE	ND	0.25	0.013
trans-1,2-Dichloroethene	ND	0.25	0.0071
1,1-Dichloroethane	ND	0.25	0.0077
cis-1,2-Dichloroethene	ND	0.25	0.0085
Chloroform	ND	0.25	0.013
1,1,1-Trichloroethane	ND	0.25	0.0066
Carbon Tetrachloride	ND	0.25	0.013
1,2-Dichloroethane	ND	0.25	0.013
Benzene	ND	0.25	0.0071
Trichloroethene	ND	0.25	0.0071
1,2-Dichloropropane	ND	0.25	0.0071
Bromodichloromethane	ND	0.25	0.013
Dibromomethane	ND	0.25	0.013
cis-1,3-Dichloropropene	ND	0.25	0.013
Toluene	ND	0.25	0.051
trans-1,3-Dichloropropene	ND	0.25	0.013
1,1,2-Trichloroethane	ND	0.25	0.025
Tetrachloroethene	ND	0.25	0.0071
Dibromochloromethane	ND	0.25	0.013
Chlorobenzene	ND	0.25	0.0071
1,1,1,2-Tetrachloroethane	ND	0.25	0.0071
Ethylbenzene	ND	0.25	0.025
m,p-Xylenes	ND	0.25	0.051
o-Xylene	ND	0.25	0.025
Bromoform	ND	0.25	0.025
1,1,2,2-Tetrachloroethane	ND	0.25	0.013
Bromobenzene	ND	0.25	0.0071
1,3-Dichlorobenzene	ND	0.25	0.013
1,4-Dichlorobenzene	ND	0.25	0.013
1,2-Dichlorobenzene	ND	0.25	0.013

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	104	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-132

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 15	Dil'n Fac:	50.34
Lab ID:	290582-032	Batch#:	249868
Matrix:	Soil	Sampled:	07/12/17
Units:	mg/Kg	Received:	07/14/17
Basis:	dry	Analyzed:	07/20/17

Moisture: 15%

Analyte	Result	RL	MDL
Freon 12	ND	0.59	0.059
Chloromethane	ND	0.59	0.059
Vinyl Chloride	ND	0.59	0.059
Bromomethane	ND	0.59	0.071
Chloroethane	ND	0.59	0.071
Trichlorofluoromethane	ND	0.30	0.059
Freon 113	ND	0.30	0.031
1,1-Dichloroethene	ND	0.30	0.037
Methylene Chloride	ND	1.2	0.061
MTBE	ND	0.30	0.062
trans-1,2-Dichloroethene	ND	0.30	0.055
1,1-Dichloroethane	ND	0.30	0.062
cis-1,2-Dichloroethene	ND	0.30	0.019
Chloroform	ND	0.30	0.029
1,1,1-Trichloroethane	ND	0.30	0.015
Carbon Tetrachloride	ND	0.30	0.017
1,2-Dichloroethane	ND	0.30	0.025
Benzene	ND	0.30	0.016
Trichloroethene	ND	0.30	0.020
1,2-Dichloropropane	ND	0.30	0.021
Bromodichloromethane	ND	0.30	0.015
Dibromomethane	ND	0.30	0.012
cis-1,3-Dichloropropene	ND	0.30	0.0098
Toluene	ND	0.30	0.0083
trans-1,3-Dichloropropene	ND	0.30	0.010
1,1,2-Trichloroethane	ND	0.30	0.020
Tetrachloroethene	ND	0.30	0.013
Dibromochloromethane	ND	0.30	0.012
Chlorobenzene	ND	0.30	0.015
1,1,1,2-Tetrachloroethane	ND	0.30	0.014
Ethylbenzene	ND	0.30	0.014
m,p-Xylenes	ND	0.30	0.024
o-Xylene	ND	0.30	0.016
Bromoform	ND	0.30	0.015
1,1,2,2-Tetrachloroethane	ND	0.30	0.013
Bromobenzene	ND	0.30	0.0088
1,3-Dichlorobenzene	ND	0.30	0.016
1,4-Dichlorobenzene	ND	0.30	0.013
1,2-Dichlorobenzene	ND	0.30	0.016

Surrogate	%REC	Limits
Dibromofluoromethane	121	80-128
1,2-Dichloroethane-d4	103	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	LCS	Dil'n Fac:	1.000
Lab ID:	QC893445	Batch#:	249742
Matrix:	Soil	Analyzed:	07/19/17
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.01000	0.01117	112	41-136
Chloromethane	0.01000	0.01068	107	58-148
Vinyl Chloride	0.01000	0.01070	107	64-136
Bromomethane	0.01000	0.01281	128	67-159
Chloroethane	0.01000	0.01001	100	69-139
Trichlorofluoromethane	0.01000	0.01201	120	66-142
Freon 113	0.01250	0.01653 b	132 *	62-129
1,1-Dichloroethene	0.01250	0.01427	114	65-127
Methylene Chloride	0.01250	0.01337	107	71-128
MTBE	0.01250	0.01170	94	68-123
trans-1,2-Dichloroethene	0.01250	0.01353	108	67-122
1,1-Dichloroethane	0.01250	0.01248	100	68-130
cis-1,2-Dichloroethene	0.01250	0.01252	100	77-128
Chloroform	0.01250	0.01268	101	72-127
1,1,1-Trichloroethane	0.01250	0.01366	109	68-135
Carbon Tetrachloride	0.01250	0.01443	115	66-133
1,2-Dichloroethane	0.01250	0.01264	101	73-129
Benzene	0.01250	0.01272	102	75-124
Trichloroethene	0.01250	0.01313	105	76-122
1,2-Dichloropropane	0.01250	0.01227	98	71-123
Bromodichloromethane	0.01250	0.01226	98	74-120
Dibromomethane	0.01250	0.01214	97	76-120
cis-1,3-Dichloropropene	0.01250	0.01251	100	80-126
Toluene	0.01250	0.01194	96	77-120
trans-1,3-Dichloropropene	0.01250	0.01107	89	72-120
1,1,2-Trichloroethane	0.01250	0.01220	98	76-120
Tetrachloroethene	0.01250	0.01256	100	73-128
Dibromochloromethane	0.01250	0.01128	90	71-120
Chlorobenzene	0.01250	0.01134	91	80-120
1,1,1,2-Tetrachloroethane	0.01250	0.01125	90	72-120
Ethylbenzene	0.01250	0.01232	99	78-120
m,p-Xylenes	0.02500	0.02458	98	77-123
o-Xylene	0.01250	0.01178	94	75-120
Bromoform	0.01250	0.01101	88	69-120
1,1,2,2-Tetrachloroethane	0.01250	0.01107	89	71-129
Bromobenzene	0.01250	0.01095	88	79-120
1,3-Dichlorobenzene	0.01250	0.01127	90	80-125
1,4-Dichlorobenzene	0.01250	0.01165	93	80-129
1,2-Dichlorobenzene	0.01250	0.01165	93	80-120
Naphthalene	0.01250	0.01037	83	71-125

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-128
1,2-Dichloroethane-d4	100	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-132

*= Value outside of QC limits; see narrative
b= See narrative

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC893446	Batch#:	249742
Matrix:	Soil	Analyzed:	07/19/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00050
Chloromethane	ND	0.010	0.0013
Vinyl Chloride	ND	0.010	0.00093
Bromomethane	ND	0.010	0.0012
Chloroethane	ND	0.010	0.00050
Trichlorofluoromethane	ND	0.0050	0.00070
Freon 113	ND	0.0050	0.00044
1,1-Dichloroethene	ND	0.0050	0.00094
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.0010
trans-1,2-Dichloroethene	ND	0.0050	0.00084
1,1-Dichloroethane	ND	0.0050	0.0012
cis-1,2-Dichloroethene	ND	0.0050	0.00087
Chloroform	ND	0.0050	0.0013
1,1,1-Trichloroethane	ND	0.0050	0.00081
Carbon Tetrachloride	ND	0.0050	0.00048
1,2-Dichloroethane	ND	0.0050	0.00093
Benzene	ND	0.0050	0.00090
Trichloroethene	ND	0.0050	0.00084
1,2-Dichloropropane	ND	0.0050	0.00078
Bromodichloromethane	ND	0.0050	0.00085
Dibromomethane	ND	0.0050	0.00077
cis-1,3-Dichloropropene	ND	0.0050	0.00061
Toluene	ND	0.0050	0.00071
trans-1,3-Dichloropropene	ND	0.0050	0.00065
1,1,2-Trichloroethane	ND	0.0050	0.00062
Tetrachloroethene	ND	0.0050	0.00052
Dibromochloromethane	ND	0.0050	0.00051
Chlorobenzene	ND	0.0050	0.00069
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00062
Ethylbenzene	ND	0.0050	0.00068
m,p-Xylenes	ND	0.0050	0.0013
o-Xylene	ND	0.0050	0.00063
Bromoform	ND	0.0050	0.00039
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00041
Bromobenzene	ND	0.0050	0.00053
1,3-Dichlorobenzene	ND	0.0050	0.00044
1,4-Dichlorobenzene	ND	0.0050	0.00054
1,2-Dichlorobenzene	ND	0.0050	0.00053
Naphthalene	ND	0.0050	0.0010

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	98	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249769
MSS Lab ID:	290585-001	Sampled:	07/14/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Analyzed:	07/18/17
Basis:	as received		

Type: MS
Lab ID: QC893535

Diln Fac: 0.9124

Analyte	MSS Result	Spiked	Result	%REC	Limits
Freon 12	<0.0005734	0.03650	0.01935 b	53 *	56-132
Chloromethane	<0.0004369	0.03650	0.02756	76	64-133
Vinyl Chloride	<0.0003665	0.03650	0.03446	94	69-127
Bromomethane	<0.0003217	0.03650	0.02602	71	62-140
Chloroethane	<0.0003535	0.03650	0.02778	76	72-131
Trichlorofluoromethane	<0.0002664	0.03650	0.03370	92	66-142
Freon 113	<0.0004661	0.04562	0.03363	74	62-133
1,1-Dichloroethene	<0.0005345	0.04562	0.03515	77	65-131
Methylene Chloride	<0.0009616	0.04562	0.03045	67	67-124
MTBE	<0.0004322	0.04562	0.04022	88	67-124
trans-1,2-Dichloroethene	<0.0006079	0.04562	0.03444	75	63-120
1,1-Dichloroethane	<0.0006824	0.04562	0.02860	63 *	69-127
cis-1,2-Dichloroethene	<0.0005071	0.04562	0.03229	71	70-126
Chloroform	<0.0006176	0.04562	0.03197	70	68-123
1,1,1-Trichloroethane	<0.0005850	0.04562	0.03533	77	67-134
Carbon Tetrachloride	<0.0005309	0.04562	0.03485	76	63-133
1,2-Dichloroethane	<0.0005576	0.04562	0.03191	70	66-124
Benzene	<0.0006228	0.04562	0.03334	73	68-123
Trichloroethene	<0.0006486	0.04562	0.03528	77	60-136
1,2-Dichloropropane	<0.0005228	0.04562	0.02951	65 *	66-122
Bromodichloromethane	<0.0004795	0.04562	0.03146	69	66-120
Dibromomethane	<0.0004464	0.04562	0.03064	67	67-120
cis-1,3-Dichloropropene	<0.0004464	0.04562	0.02832	62 *	63-127
Toluene	<0.0006821	0.04562	0.03057	67	64-120
trans-1,3-Dichloropropene	<0.0004464	0.04562	0.02667	58	55-120
1,1,2-Trichloroethane	<0.0004296	0.04562	0.03302	72	64-120
Tetrachloroethene	<0.0005698	0.04562	0.03243	71	58-127
Dibromochloromethane	<0.0004365	0.04562	0.03273	72	61-120
Chlorobenzene	<0.0005592	0.04562	0.02712	59	59-120
1,1,1,2-Tetrachloroethane	<0.0004716	0.04562	0.03242	71	61-120
Ethylbenzene	<0.0006371	0.04562	0.02641	58 *	60-120
m,p-Xylenes	<0.001231	0.09124	0.05194	57	57-120
o-Xylene	<0.0005315	0.04562	0.02631	58	57-120
Bromoform	<0.0004464	0.04562	0.02908	64	56-120
1,1,2,2-Tetrachloroethane	<0.0004641	0.04562	0.02558	56	44-122
Bromobenzene	<0.0004464	0.04562	0.02536	56	48-120
1,3-Dichlorobenzene	<0.0004703	0.04562	0.02051	45	44-120
1,4-Dichlorobenzene	<0.0004244	0.04562	0.02076	45	44-120
1,2-Dichlorobenzene	<0.0004213	0.04562	0.02025	44	43-120
Naphthalene	<0.0008788	0.04562	0.01655	36	27-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-128
1,2-Dichloroethane-d4	95	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	95	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249769
MSS Lab ID:	290585-001	Sampled:	07/14/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Analyzed:	07/18/17
Basis:	as received		

Type: MSD
Lab ID: QC893536

Diln Fac: 0.9728

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.03891	0.02028 b	52 *	56-132	2	28
Chloromethane	0.03891	0.02392	61 *	64-133	20	27
Vinyl Chloride	0.03891	0.03816	98	69-127	4	30
Bromomethane	0.03891	0.02904	75	62-140	5	31
Chloroethane	0.03891	0.03086	79	72-131	4	29
Trichlorofluoromethane	0.03891	0.03643	94	66-142	1	28
Freon 113	0.04864	0.04292	88	62-133	18	34
1,1-Dichloroethene	0.04864	0.04229	87	65-131	12	33
Methylene Chloride	0.04864	0.03586	74	67-124	10	25
MTBE	0.04864	0.04340	89	67-124	1	29
trans-1,2-Dichloroethene	0.04864	0.04080	84	63-120	11	27
1,1-Dichloroethane	0.04864	0.03350	69	69-127	9	25
cis-1,2-Dichloroethene	0.04864	0.03820	79	70-126	10	26
Chloroform	0.04864	0.03735	77	68-123	9	29
1,1,1-Trichloroethane	0.04864	0.04337	89	67-134	14	35
Carbon Tetrachloride	0.04864	0.04216	87	63-133	13	36
1,2-Dichloroethane	0.04864	0.03650	75	66-124	7	28
Benzene	0.04864	0.03961	81	68-123	11	30
Trichloroethene	0.04864	0.04258	88	60-136	12	34
1,2-Dichloropropane	0.04864	0.03563	73	66-122	12	27
Bromodichloromethane	0.04864	0.03757	77	66-120	11	28
Dibromomethane	0.04864	0.03485	72	67-120	6	26
cis-1,3-Dichloropropene	0.04864	0.03327	68	63-127	10	29
Toluene	0.04864	0.03760	77	64-120	14	31
trans-1,3-Dichloropropene	0.04864	0.03156	65	55-120	10	31
1,1,2-Trichloroethane	0.04864	0.03937	81	64-120	11	27
Tetrachloroethene	0.04864	0.04243	87	58-127	20	37
Dibromochloromethane	0.04864	0.03960	81	61-120	13	30
Chlorobenzene	0.04864	0.03357	69	59-120	15	33
1,1,1,2-Tetrachloroethane	0.04864	0.04050	83	61-120	16	32
Ethylbenzene	0.04864	0.03380	69	60-120	18	39
m,p-Xylenes	0.09728	0.06582	68	57-120	17	37
o-Xylene	0.04864	0.03364	69	57-120	18	36
Bromoform	0.04864	0.03513	72	56-120	12	34
1,1,2,2-Tetrachloroethane	0.04864	0.03057	63	44-122	11	41
Bromobenzene	0.04864	0.03118	64	48-120	14	39
1,3-Dichlorobenzene	0.04864	0.02677	55	44-120	20	39
1,4-Dichlorobenzene	0.04864	0.02652	55	44-120	18	39
1,2-Dichlorobenzene	0.04864	0.02572	53	43-120	17	38
Naphthalene	0.04864	0.02045	42	27-120	15	43

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-128
1,2-Dichloroethane-d4	91	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	95	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC893537	Batch#:	249769
Matrix:	Soil	Analyzed:	07/18/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00064
Chloromethane	ND	0.010	0.00049
Vinyl Chloride	ND	0.010	0.00041
Bromomethane	0.00040 J	0.010	0.00036
Chloroethane	ND	0.010	0.00040
Trichlorofluoromethane	ND	0.0050	0.00030
Freon 113	ND	0.0050	0.00052
1,1-Dichloroethene	ND	0.0050	0.00060
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.00048
trans-1,2-Dichloroethene	ND	0.0050	0.00068
1,1-Dichloroethane	ND	0.0050	0.00076
cis-1,2-Dichloroethene	ND	0.0050	0.00057
Chloroform	ND	0.0050	0.00069
1,1,1-Trichloroethane	ND	0.0050	0.00066
Carbon Tetrachloride	ND	0.0050	0.00059
1,2-Dichloroethane	ND	0.0050	0.00062
Benzene	ND	0.0050	0.00070
Trichloroethene	ND	0.0050	0.00073
1,2-Dichloropropane	ND	0.0050	0.00059
Bromodichloromethane	ND	0.0050	0.00054
Dibromomethane	ND	0.0050	0.00050
cis-1,3-Dichloropropene	ND	0.0050	0.00050
Toluene	ND	0.0050	0.00076
trans-1,3-Dichloropropene	ND	0.0050	0.00050
1,1,2-Trichloroethane	ND	0.0050	0.00048
Tetrachloroethene	ND	0.0050	0.00064
Dibromochloromethane	ND	0.0050	0.00049
Chlorobenzene	ND	0.0050	0.00063
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00053
Ethylbenzene	ND	0.0050	0.00071
m,p-Xylenes	ND	0.0050	0.0014
o-Xylene	ND	0.0050	0.00060
Bromoform	ND	0.0050	0.00050
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00052
Bromobenzene	ND	0.0050	0.00050
1,3-Dichlorobenzene	ND	0.0050	0.00053
1,4-Dichlorobenzene	ND	0.0050	0.00048
1,2-Dichlorobenzene	ND	0.0050	0.00047
Naphthalene	ND	0.0050	0.00098

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	90	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	113	80-132

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	LCS	Dil'n Fac:	1.000
Lab ID:	QC893649	Batch#:	249769
Matrix:	Soil	Analyzed:	07/18/17
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.02000	0.01144 b	57	41-136
Chloromethane	0.02000	0.01832	92	58-148
Vinyl Chloride	0.02000	0.02084	104	64-136
Bromomethane	0.02000	0.02121	106	67-159
Chloroethane	0.02000	0.01697	85	69-139
Trichlorofluoromethane	0.02000	0.02098	105	66-142
Freon 113	0.02500	0.02459	98	62-129
1,1-Dichloroethene	0.02500	0.02654	106	65-127
Methylene Chloride	0.02500	0.02495	100	71-128
MTBE	0.02500	0.02794	112	68-123
trans-1,2-Dichloroethene	0.02500	0.02749	110	67-122
1,1-Dichloroethane	0.02500	0.02189	88	68-130
cis-1,2-Dichloroethene	0.02500	0.02580	103	77-128
Chloroform	0.02500	0.02504	100	72-127
1,1,1-Trichloroethane	0.02500	0.02669	107	68-135
Carbon Tetrachloride	0.02500	0.02662	106	66-133
1,2-Dichloroethane	0.02500	0.02416	97	73-129
Benzene	0.02500	0.02441	98	75-124
Trichloroethene	0.02500	0.02642	106	76-122
1,2-Dichloropropane	0.02500	0.02107	84	71-123
Bromodichloromethane	0.02500	0.02482	99	74-120
Dibromomethane	0.02500	0.02626	105	76-120
cis-1,3-Dichloropropene	0.02500	0.02500	100	80-126
Toluene	0.02500	0.02559	102	77-120
trans-1,3-Dichloropropene	0.02500	0.02431	97	72-120
1,1,2-Trichloroethane	0.02500	0.02460	98	76-120
Tetrachloroethene	0.02500	0.02810	112	73-128
Dibromochloromethane	0.02500	0.02599	104	71-120
Chlorobenzene	0.02500	0.02546	102	80-120
1,1,1,2-Tetrachloroethane	0.02500	0.02627	105	72-120
Ethylbenzene	0.02500	0.02510	100	78-120
m,p-Xylenes	0.05000	0.05087	102	77-123
o-Xylene	0.02500	0.02571	103	75-120
Bromoform	0.02500	0.02290	92	69-120
1,1,2,2-Tetrachloroethane	0.02500	0.02282	91	71-129
Bromobenzene	0.02500	0.02690	108	79-120
1,3-Dichlorobenzene	0.02500	0.02731	109	80-125
1,4-Dichlorobenzene	0.02500	0.02790	112	80-129
1,2-Dichlorobenzene	0.02500	0.02617	105	80-120
Naphthalene	0.02500	0.02626	105	71-125

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	89	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-132

b= See narrative

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249742
MSS Lab ID:	290724-001	Sampled:	07/19/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/20/17
Basis:	as received		

Type: MS
Lab ID: QC893837

Diln Fac: 0.8726

Analyte	MSS Result	Spiked	Result	%REC	Limits
Freon 12	<0.0004604	0.03490	0.06037	173 *	56-132
Chloromethane	<0.001197	0.03490	0.04931	141 *	64-133
Vinyl Chloride	<0.0008588	0.03490	0.05533	159 *	69-127
Bromomethane	<0.001076	0.03490	0.05727	164 *	62-140
Chloroethane	<0.0004573	0.03490	0.05458	156 *	72-131
Trichlorofluoromethane	<0.0006410	0.03490	0.07334	210 *	66-142
Freon 113	<0.0004042	0.04363	0.06579 b	151 *	62-133
1,1-Dichloroethene	<0.0008652	0.04363	0.05542	127	65-131
Methylene Chloride	<0.001023	0.04363	0.04124	95	67-124
MTBE	<0.0009211	0.04363	0.05705	131 *	67-124
trans-1,2-Dichloroethene	<0.0007709	0.04363	0.04494	103	63-120
1,1-Dichloroethane	<0.001061	0.04363	0.04159	95	69-127
cis-1,2-Dichloroethene	<0.0008010	0.04363	0.04016	92	70-126
Chloroform	<0.001169	0.04363	0.04037	93	68-123
1,1,1-Trichloroethane	<0.0007434	0.04363	0.04962	114	67-134
Carbon Tetrachloride	<0.0004395	0.04363	0.04867	112	63-133
1,2-Dichloroethane	<0.0008529	0.04363	0.03470	80	66-124
Benzene	<0.0008308	0.04363	0.03961	91	68-123
Trichloroethene	<0.0007690	0.04363	0.05711	131	60-136
1,2-Dichloropropane	<0.0007143	0.04363	0.03724	85	66-122
Bromodichloromethane	<0.0007784	0.04363	0.03449	79	66-120
Dibromomethane	<0.0007100	0.04363	0.03407	78	67-120
cis-1,3-Dichloropropene	<0.0005579	0.04363	0.03189	73	63-127
Toluene	<0.0006550	0.04363	0.03728	85	64-120
trans-1,3-Dichloropropene	<0.0005976	0.04363	0.02728	63	55-120
1,1,2-Trichloroethane	<0.0005710	0.04363	0.03313	76	64-120
Tetrachloroethene	<0.0004820	0.04363	0.04212	97	58-127
Dibromochloromethane	<0.0004739	0.04363	0.03072	70	61-120
Chlorobenzene	<0.0006318	0.04363	0.03173	73	59-120
1,1,1,2-Tetrachloroethane	<0.0005708	0.04363	0.03316	76	61-120
Ethylbenzene	<0.0006251	0.04363	0.03686	84	60-120
m,p-Xylenes	<0.001152	0.08726	0.07112	82	57-120
o-Xylene	<0.0005765	0.04363	0.03405	78	57-120
Bromoform	<0.0003612	0.04363	0.02883	66	56-120
1,1,2,2-Tetrachloroethane	<0.0003772	0.04363	0.01257	29 *	44-122
Bromobenzene	<0.0004888	0.04363	0.02886	66	48-120
1,3-Dichlorobenzene	<0.0004069	0.04363	0.02523	58	44-120
1,4-Dichlorobenzene	<0.0004971	0.04363	0.02551	58	44-120
1,2-Dichlorobenzene	<0.0004881	0.04363	0.02442	56	43-120
Naphthalene	<0.0009208	0.04363	0.02064	47	27-120

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249742
MSS Lab ID:	290724-001	Sampled:	07/19/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/20/17
Basis:	as received		

Type: MSD
Lab ID: QC893838

Diln Fac: 0.8772

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.03509	0.04263	122	56-132	35 *	28
Chloromethane	0.03509	0.03741	107	64-133	28 *	27
Vinyl Chloride	0.03509	0.04065	116	69-127	31 *	30
Bromomethane	0.03509	0.03786	108	62-140	41 *	31
Chloroethane	0.03509	0.04053	116	72-131	30 *	29
Trichlorofluoromethane	0.03509	0.05173	147 *	66-142	35 *	28
Freon 113	0.04386	0.06543 b	149 *	62-133	1	34
1,1-Dichloroethene	0.04386	0.05829	133 *	65-131	5	33
Methylene Chloride	0.04386	0.04302	98	67-124	4	25
MTBE	0.04386	0.03705	84	67-124	43 *	29
trans-1,2-Dichloroethene	0.04386	0.04590	105	63-120	2	27
1,1-Dichloroethane	0.04386	0.04233	97	69-127	1	25
cis-1,2-Dichloroethene	0.04386	0.03991	91	70-126	1	26
Chloroform	0.04386	0.04072	93	68-123	0	29
1,1,1-Trichloroethane	0.04386	0.04893	112	67-134	2	35
Carbon Tetrachloride	0.04386	0.04766	109	63-133	3	36
1,2-Dichloroethane	0.04386	0.03791	86	66-124	8	28
Benzene	0.04386	0.04189	96	68-123	5	30
Trichloroethene	0.04386	0.05958	136	60-136	4	34
1,2-Dichloropropane	0.04386	0.04165	95	66-122	11	27
Bromodichloromethane	0.04386	0.03676	84	66-120	6	28
Dibromomethane	0.04386	0.03760	86	67-120	9	26
cis-1,3-Dichloropropene	0.04386	0.02573	59 *	63-127	22	29
Toluene	0.04386	0.03830	87	64-120	2	31
trans-1,3-Dichloropropene	0.04386	0.02341	53 *	55-120	16	31
1,1,2-Trichloroethane	0.04386	0.03519	80	64-120	6	27
Tetrachloroethene	0.04386	0.04112	94	58-127	3	37
Dibromochloromethane	0.04386	0.03203	73	61-120	4	30
Chlorobenzene	0.04386	0.03138	72	59-120	2	33
1,1,1,2-Tetrachloroethane	0.04386	0.03406	78	61-120	2	32
Ethylbenzene	0.04386	0.03603	82	60-120	3	39
m,p-Xylenes	0.08772	0.07001	80	57-120	2	37
o-Xylene	0.04386	0.03428	78	57-120	0	36
Bromoform	0.04386	0.03000	68	56-120	3	34
1,1,2,2-Tetrachloroethane	0.04386	0.01329	30 *	44-122	5	41
Bromobenzene	0.04386	0.02869	65	48-120	1	39
1,3-Dichlorobenzene	0.04386	0.02452	56	44-120	3	39
1,4-Dichlorobenzene	0.04386	0.02405	55	44-120	6	39
1,2-Dichlorobenzene	0.04386	0.02359	54	43-120	4	38
Naphthalene	0.04386	0.01851	42	27-120	11	43

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	101	80-136
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	LCS	Dil'n Fac:	1.000
Lab ID:	QC893942	Batch#:	249868
Matrix:	Soil	Analyzed:	07/20/17
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.02500	0.03305 b	132	41-136
Chloromethane	0.02500	0.02899	116	58-148
Vinyl Chloride	0.02500	0.02790	112	64-136
Bromomethane	0.02500	0.03263 b	131	67-159
Chloroethane	0.02500	0.02561	102	69-139
Trichlorofluoromethane	0.02500	0.03134	125	66-142
Freon 113	0.02500	0.03304 b	132 *	62-129
1,1-Dichloroethene	0.02500	0.03002	120	65-127
Methylene Chloride	0.02500	0.02677	107	71-128
MTBE	0.02500	0.02588	104	68-123
trans-1,2-Dichloroethene	0.02500	0.02716	109	67-122
1,1-Dichloroethane	0.02500	0.02614	105	68-130
cis-1,2-Dichloroethene	0.02500	0.02622	105	77-128
Chloroform	0.02500	0.02552	102	72-127
1,1,1-Trichloroethane	0.02500	0.02769	111	68-135
Carbon Tetrachloride	0.02500	0.02644	106	66-133
1,2-Dichloroethane	0.02500	0.02498	100	73-129
Benzene	0.02500	0.02461	98	75-124
Trichloroethene	0.02500	0.02491	100	76-122
1,2-Dichloropropane	0.02500	0.02448	98	71-123
Bromodichloromethane	0.02500	0.02364	95	74-120
Dibromomethane	0.02500	0.02493	100	76-120
cis-1,3-Dichloropropene	0.02500	0.02381	95	80-126
Toluene	0.02500	0.02394	96	77-120
trans-1,3-Dichloropropene	0.02500	0.02263	91	72-120
1,1,2-Trichloroethane	0.02500	0.02275	91	76-120
Tetrachloroethene	0.02500	0.02484	99	73-128
Dibromochloromethane	0.02500	0.02244	90	71-120
Chlorobenzene	0.02500	0.02290	92	80-120
1,1,1,2-Tetrachloroethane	0.02500	0.02322	93	72-120
Ethylbenzene	0.02500	0.02449	98	78-120
m,p-Xylenes	0.05000	0.04909	98	77-123
o-Xylene	0.02500	0.02458	98	75-120
Bromoform	0.02500	0.02256	90	69-120
1,1,2,2-Tetrachloroethane	0.02500	0.02160	86	71-129
Bromobenzene	0.02500	0.02240	90	79-120
1,3-Dichlorobenzene	0.02500	0.02405	96	80-125
1,4-Dichlorobenzene	0.02500	0.02395	96	80-129
1,2-Dichlorobenzene	0.02500	0.02373	95	80-120
Naphthalene	0.02500	0.02179	87	71-125

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-128
1,2-Dichloroethane-d4	96	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-132

*= Value outside of QC limits; see narrative
b= See narrative

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC893943	Batch#:	249868
Matrix:	Soil	Analyzed:	07/20/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00050
Chloromethane	ND	0.010	0.0013
Vinyl Chloride	ND	0.010	0.00093
Bromomethane	ND	0.010	0.0012
Chloroethane	ND	0.010	0.00050
Trichlorofluoromethane	ND	0.0050	0.00070
Freon 113	ND	0.0050	0.00044
1,1-Dichloroethene	ND	0.0050	0.00094
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.0010
trans-1,2-Dichloroethene	ND	0.0050	0.00084
1,1-Dichloroethane	ND	0.0050	0.0012
cis-1,2-Dichloroethene	ND	0.0050	0.00087
Chloroform	ND	0.0050	0.0013
1,1,1-Trichloroethane	ND	0.0050	0.00081
Carbon Tetrachloride	ND	0.0050	0.00048
1,2-Dichloroethane	ND	0.0050	0.00093
Benzene	ND	0.0050	0.00090
Trichloroethene	ND	0.0050	0.00084
1,2-Dichloropropane	ND	0.0050	0.00078
Bromodichloromethane	ND	0.0050	0.00085
Dibromomethane	ND	0.0050	0.00077
cis-1,3-Dichloropropene	ND	0.0050	0.00061
Toluene	ND	0.0050	0.00071
trans-1,3-Dichloropropene	ND	0.0050	0.00065
1,1,2-Trichloroethane	ND	0.0050	0.00062
Tetrachloroethene	ND	0.0050	0.00052
Dibromochloromethane	ND	0.0050	0.00051
Chlorobenzene	ND	0.0050	0.00069
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00062
Ethylbenzene	ND	0.0050	0.00068
m,p-Xylenes	ND	0.0050	0.0013
o-Xylene	ND	0.0050	0.00063
Bromoform	ND	0.0050	0.00039
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00041
Bromobenzene	ND	0.0050	0.00053
1,3-Dichlorobenzene	ND	0.0050	0.00044
1,4-Dichlorobenzene	ND	0.0050	0.00054
1,2-Dichlorobenzene	ND	0.0050	0.00053
Naphthalene	ND	0.0050	0.0010

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	98	80-136
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249868
MSS Lab ID:	290726-004	Sampled:	07/19/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/21/17
Basis:	as received		

Type: MS
Lab ID: QC894017

Diln Fac: 0.9470

Analyte	MSS Result	Spiked	Result	%REC	Limits
Freon 12	<0.0004960	0.03788	0.05358 b	141 *	56-132
Chloromethane	<0.001290	0.03788	0.03489	92	64-133
Vinyl Chloride	<0.0009252	0.03788	0.04247	112	69-127
Bromomethane	<0.001159	0.03788	0.01799 b	47 *	62-140
Chloroethane	<0.0004927	0.03788	0.04189	111	72-131
Trichlorofluoromethane	<0.0006907	0.03788	0.05631	149 *	66-142
Freon 113	<0.0004355	0.04735	0.06398 b	135 *	62-133
1,1-Dichloroethene	<0.0009322	0.04735	0.05579	118	65-131
Methylene Chloride	<0.001102	0.04735	0.04233	89	67-124
MTBE	<0.0009924	0.04735	0.04003	85	67-124
trans-1,2-Dichloroethene	<0.0008306	0.04735	0.04582	97	63-120
1,1-Dichloroethane	<0.001143	0.04735	0.04229	89	69-127
cis-1,2-Dichloroethene	<0.0008630	0.04735	0.03953	83	70-126
Chloroform	<0.001260	0.04735	0.04020	85	68-123
1,1,1-Trichloroethane	<0.0008010	0.04735	0.04917	104	67-134
Carbon Tetrachloride	<0.0004735	0.04735	0.05183	109	63-133
1,2-Dichloroethane	<0.0009189	0.04735	0.03588	76	66-124
Benzene	<0.0008951	0.04735	0.03991	84	68-123
Trichloroethene	<0.0008285	0.04735	0.04028	85	60-136
1,2-Dichloropropane	<0.0007696	0.04735	0.03941	83	66-122
Bromodichloromethane	<0.0008386	0.04735	0.03286	69	66-120
Dibromomethane	<0.0007650	0.04735	0.03520	74	67-120
cis-1,3-Dichloropropene	<0.0006011	0.04735	0.01185	25 *	63-127
Toluene	<0.0007057	0.04735	0.03466	73	64-120
trans-1,3-Dichloropropene	<0.0006439	0.04735	0.009665	20 *	55-120
1,1,2-Trichloroethane	<0.0006152	0.04735	0.03111	66	64-120
Tetrachloroethene	<0.0005193	0.04735	0.03830	81	58-127
Dibromochloromethane	<0.0005106	0.04735	0.02609	55 *	61-120
Chlorobenzene	<0.0006806	0.04735	0.02484	52 *	59-120
1,1,1,2-Tetrachloroethane	<0.0006150	0.04735	0.02715	57 *	61-120
Ethylbenzene	<0.0006734	0.04735	0.03111	66	60-120
m,p-Xylenes	<0.001241	0.09470	0.05890	62	57-120
o-Xylene	<0.0006211	0.04735	0.02650	56 *	57-120
Bromoform	<0.0003892	0.04735	0.02049	43 *	56-120
1,1,2,2-Tetrachloroethane	<0.0004064	0.04735	0.02158	46	44-122
Bromobenzene	<0.0005266	0.04735	0.01965	41 *	48-120
1,3-Dichlorobenzene	<0.0004384	0.04735	0.01525	32 *	44-120
1,4-Dichlorobenzene	<0.0005356	0.04735	0.01538	32 *	44-120
1,2-Dichlorobenzene	<0.0005259	0.04735	0.01345	28 *	43-120
Naphthalene	<0.0009921	0.04735	0.006391	13 *	27-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	105	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	249868
MSS Lab ID:	290726-004	Sampled:	07/19/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/21/17
Basis:	as received		

Type: MSD
Lab ID: QC894018

Diln Fac: 0.9191

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.03676	0.06239 b	170 *	56-132	18	28
Chloromethane	0.03676	0.04161	113	64-133	21	27
Vinyl Chloride	0.03676	0.05224	142 *	69-127	24	30
Bromomethane	0.03676	0.01599 b	43 *	62-140	9	31
Chloroethane	0.03676	0.04634	126	72-131	13	29
Trichlorofluoromethane	0.03676	0.06409	174 *	66-142	16	28
Freon 113	0.04596	0.06572 b	143 *	62-133	6	34
1,1-Dichloroethene	0.04596	0.06008	131	65-131	10	33
Methylene Chloride	0.04596	0.04762	104	67-124	15	25
MTBE	0.04596	0.04710	102	67-124	19	29
trans-1,2-Dichloroethene	0.04596	0.04911	107	63-120	10	27
1,1-Dichloroethane	0.04596	0.04594	100	69-127	11	25
cis-1,2-Dichloroethene	0.04596	0.04215	92	70-126	9	26
Chloroform	0.04596	0.04251	92	68-123	9	29
1,1,1-Trichloroethane	0.04596	0.05030	109	67-134	5	35
Carbon Tetrachloride	0.04596	0.05022	109	63-133	0	36
1,2-Dichloroethane	0.04596	0.03776	82	66-124	8	28
Benzene	0.04596	0.04021	88	68-123	4	30
Trichloroethene	0.04596	0.03893	85	60-136	0	34
1,2-Dichloropropane	0.04596	0.03699	80	66-122	3	27
Bromodichloromethane	0.04596	0.03264	71	66-120	2	28
Dibromomethane	0.04596	0.03673	80	67-120	7	26
cis-1,3-Dichloropropene	0.04596	0.007206	16 *	63-127	46 *	29
Toluene	0.04596	0.03392	74	64-120	1	31
trans-1,3-Dichloropropene	0.04596	0.006435	14 *	55-120	37 *	31
1,1,2-Trichloroethane	0.04596	0.03124	68	64-120	3	27
Tetrachloroethene	0.04596	0.03595	78	58-127	3	37
Dibromochloromethane	0.04596	0.02581	56 *	61-120	2	30
Chlorobenzene	0.04596	0.02384	52 *	59-120	1	33
1,1,1,2-Tetrachloroethane	0.04596	0.02494	54 *	61-120	6	32
Ethylbenzene	0.04596	0.03035	66	60-120	1	39
m,p-Xylenes	0.09191	0.05477	60	57-120	4	37
o-Xylene	0.04596	0.02481	54 *	57-120	4	36
Bromoform	0.04596	0.01883	41 *	56-120	5	34
1,1,2,2-Tetrachloroethane	0.04596	0.02050	45	44-122	2	41
Bromobenzene	0.04596	0.01814	39 *	48-120	5	39
1,3-Dichlorobenzene	0.04596	0.01496	33 *	44-120	1	39
1,4-Dichlorobenzene	0.04596	0.01414	31 *	44-120	5	39
1,2-Dichlorobenzene	0.04596	0.01221	27 *	43-120	7	38
Naphthalene	0.04596	0.005804	13 *	27-120	7	43

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	104	80-136
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC894040	Batch#:	249892
Matrix:	Soil	Analyzed:	07/21/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00050
Chloromethane	ND	0.010	0.0013
Vinyl Chloride	ND	0.010	0.00093
Bromomethane	ND	0.010	0.0012
Chloroethane	ND	0.010	0.00050
Trichlorofluoromethane	ND	0.0050	0.00070
Freon 113	ND	0.0050	0.00044
1,1-Dichloroethene	ND	0.0050	0.00094
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.0010
trans-1,2-Dichloroethene	ND	0.0050	0.00084
1,1-Dichloroethane	ND	0.0050	0.0012
cis-1,2-Dichloroethene	ND	0.0050	0.00087
Chloroform	ND	0.0050	0.0013
1,1,1-Trichloroethane	ND	0.0050	0.00081
Carbon Tetrachloride	ND	0.0050	0.00048
1,2-Dichloroethane	ND	0.0050	0.00093
Benzene	ND	0.0050	0.00090
Trichloroethene	ND	0.0050	0.00084
1,2-Dichloropropane	ND	0.0050	0.00078
Bromodichloromethane	ND	0.0050	0.00085
Dibromomethane	ND	0.0050	0.00077
cis-1,3-Dichloropropene	ND	0.0050	0.00061
Toluene	ND	0.0050	0.00071
trans-1,3-Dichloropropene	ND	0.0050	0.00065
1,1,2-Trichloroethane	ND	0.0050	0.00062
Tetrachloroethene	ND	0.0050	0.00052
Dibromochloromethane	ND	0.0050	0.00051
Chlorobenzene	ND	0.0050	0.00069
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00062
Ethylbenzene	ND	0.0050	0.00068
m,p-Xylenes	ND	0.0050	0.0013
o-Xylene	ND	0.0050	0.00063
Bromoform	ND	0.0050	0.00039
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00041
Bromobenzene	ND	0.0050	0.00053
1,3-Dichlorobenzene	ND	0.0050	0.00044
1,4-Dichlorobenzene	ND	0.0050	0.00054
1,2-Dichlorobenzene	ND	0.0050	0.00053
Naphthalene	ND	0.0050	0.0010

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	96	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249892
Units:	mg/Kg	Analyzed:	07/21/17
Diln Fac:	1.000		

Type: BS Lab ID: QC894041

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.01000	0.01467 b	147 *	41-136
Chloromethane	0.01000	0.01415 b	141	58-148
Vinyl Chloride	0.01000	0.01336 b	134	64-136
Bromomethane	0.01000	0.01340	134	67-159
Chloroethane	0.01000	0.01274	127	69-139
Trichlorofluoromethane	0.01000	0.01539 b	154 *	66-142
Freon 113	0.01250	0.01949 b	156 *	62-129
1,1-Dichloroethene	0.01250	0.01711 b	137 *	65-127
Methylene Chloride	0.01250	0.01444	116	71-128
MTBE	0.01250	0.01134	91	68-123
trans-1,2-Dichloroethene	0.01250	0.01504	120	67-122
1,1-Dichloroethane	0.01250	0.01416	113	68-130
cis-1,2-Dichloroethene	0.01250	0.01411	113	77-128
Chloroform	0.01250	0.01388	111	72-127
1,1,1-Trichloroethane	0.01250	0.01605	128	68-135
Carbon Tetrachloride	0.01250	0.01521	122	66-133
1,2-Dichloroethane	0.01250	0.01264	101	73-129
Benzene	0.01250	0.01373	110	75-124
Trichloroethene	0.01250	0.01351	108	76-122
1,2-Dichloropropane	0.01250	0.01336	107	71-123
Bromodichloromethane	0.01250	0.01186	95	74-120
Dibromomethane	0.01250	0.01246	100	76-120
cis-1,3-Dichloropropene	0.01250	0.01321	106	80-126
Toluene	0.01250	0.01292	103	77-120
trans-1,3-Dichloropropene	0.01250	0.01145	92	72-120
1,1,2-Trichloroethane	0.01250	0.01158	93	76-120
Tetrachloroethene	0.01250	0.01425	114	73-128
Dibromochloromethane	0.01250	0.01112	89	71-120
Chlorobenzene	0.01250	0.01217	97	80-120
1,1,1,2-Tetrachloroethane	0.01250	0.01168	93	72-120
Ethylbenzene	0.01250	0.01306	104	78-120
m,p-Xylenes	0.02500	0.02608	104	77-123
o-Xylene	0.01250	0.01238	99	75-120
Bromoform	0.01250	0.01116	89	69-120
1,1,2,2-Tetrachloroethane	0.01250	0.01123	90	71-129
Bromobenzene	0.01250	0.01173	94	79-120
1,3-Dichlorobenzene	0.01250	0.01227	98	80-125
1,4-Dichlorobenzene	0.01250	0.01292	103	80-129
1,2-Dichlorobenzene	0.01250	0.01205	96	80-120
Naphthalene	0.01250	0.01025	82	71-125

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	96	80-136
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249892
Units:	mg/Kg	Analyzed:	07/21/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC894042

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.01000	0.01478 b	148 *	41-136	1	38
Chloromethane	0.01000	0.01358 b	136	58-148	4	30
Vinyl Chloride	0.01000	0.01254 b	125	64-136	6	26
Bromomethane	0.01000	0.01242	124	67-159	8	26
Chloroethane	0.01000	0.01215	121	69-139	5	24
Trichlorofluoromethane	0.01000	0.01474 b	147 *	66-142	4	22
Freon 113	0.01250	0.01942 b	155 *	62-129	0	28
1,1-Dichloroethene	0.01250	0.01695 b	136 *	65-127	1	28
Methylene Chloride	0.01250	0.01395	112	71-128	3	26
MTBE	0.01250	0.01114	89	68-123	2	25
trans-1,2-Dichloroethene	0.01250	0.01535	123 *	67-122	2	27
1,1-Dichloroethane	0.01250	0.01388	111	68-130	2	25
cis-1,2-Dichloroethene	0.01250	0.01447	116	77-128	3	25
Chloroform	0.01250	0.01378	110	72-127	1	24
1,1,1-Trichloroethane	0.01250	0.01531	123	68-135	5	26
Carbon Tetrachloride	0.01250	0.01526	122	66-133	0	27
1,2-Dichloroethane	0.01250	0.01248	100	73-129	1	23
Benzene	0.01250	0.01384	111	75-124	1	25
Trichloroethene	0.01250	0.01312	105	76-122	3	26
1,2-Dichloropropane	0.01250	0.01299	104	71-123	3	25
Bromodichloromethane	0.01250	0.01186	95	74-120	0	24
Dibromomethane	0.01250	0.01247	100	76-120	0	24
cis-1,3-Dichloropropene	0.01250	0.01299	104	80-126	2	24
Toluene	0.01250	0.01294	104	77-120	0	25
trans-1,3-Dichloropropene	0.01250	0.01111	89	72-120	3	24
1,1,2-Trichloroethane	0.01250	0.01156	92	76-120	0	25
Tetrachloroethene	0.01250	0.01407	113	73-128	1	27
Dibromochloromethane	0.01250	0.01079	86	71-120	3	24
Chlorobenzene	0.01250	0.01176	94	80-120	3	24
1,1,1,2-Tetrachloroethane	0.01250	0.01148	92	72-120	2	24
Ethylbenzene	0.01250	0.01277	102	78-120	2	26
m,p-Xylenes	0.02500	0.02642	106	77-123	1	27
o-Xylene	0.01250	0.01236	99	75-120	0	26
Bromoform	0.01250	0.01091	87	69-120	2	25
1,1,2,2-Tetrachloroethane	0.01250	0.01072	86	71-129	5	25
Bromobenzene	0.01250	0.01144	91	79-120	3	24
1,3-Dichlorobenzene	0.01250	0.01235	99	80-125	1	25
1,4-Dichlorobenzene	0.01250	0.01244	100	80-129	4	24
1,2-Dichlorobenzene	0.01250	0.01178	94	80-120	2	24
Naphthalene	0.01250	0.01023	82	71-125	0	26

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-128
1,2-Dichloroethane-d4	97	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-132

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249956
Units:	mg/Kg	Analyzed:	07/24/17
Diln Fac:	1.000		

Type: BS Lab ID: QC894263

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.02000	0.01731	87	41-136
Chloromethane	0.02000	0.01882	94	58-148
Vinyl Chloride	0.02000	0.01922	96	64-136
Bromomethane	0.02000	0.02146	107	67-159
Chloroethane	0.02000	0.02151	108	69-139
Trichlorofluoromethane	0.02000	0.02194	110	66-142
Freon 113	0.02500	0.03047 b	122	62-129
1,1-Dichloroethene	0.02500	0.02619	105	65-127
Methylene Chloride	0.02500	0.02466	99	71-128
MTBE	0.02500	0.02267	91	68-123
trans-1,2-Dichloroethene	0.02500	0.02502	100	67-122
1,1-Dichloroethane	0.02500	0.02413	97	68-130
cis-1,2-Dichloroethene	0.02500	0.02391	96	77-128
Chloroform	0.02500	0.02425	97	72-127
1,1,1-Trichloroethane	0.02500	0.02527	101	68-135
Carbon Tetrachloride	0.02500	0.02711	108	66-133
1,2-Dichloroethane	0.02500	0.02464	99	73-129
Benzene	0.02500	0.02461	98	75-124
Trichloroethene	0.02500	0.02533	101	76-122
1,2-Dichloropropane	0.02500	0.02384	95	71-123
Bromodichloromethane	0.02500	0.02475	99	74-120
Dibromomethane	0.02500	0.02514	101	76-120
cis-1,3-Dichloropropene	0.02500	0.02601	104	80-126
Toluene	0.02500	0.02504	100	77-120
trans-1,3-Dichloropropene	0.02500	0.02521	101	72-120
1,1,2-Trichloroethane	0.02500	0.02460	98	76-120
Tetrachloroethene	0.02500	0.02764	111	73-128
Dibromochloromethane	0.02500	0.02480	99	71-120
Chlorobenzene	0.02500	0.02551	102	80-120
1,1,1,2-Tetrachloroethane	0.02500	0.02374	95	72-120
Ethylbenzene	0.02500	0.02592	104	78-120
m,p-Xylenes	0.05000	0.05215	104	77-123
o-Xylene	0.02500	0.02538	102	75-120
Bromoform	0.02500	0.02457	98	69-120
1,1,2,2-Tetrachloroethane	0.02500	0.02383	95	71-129
Bromobenzene	0.02500	0.02579	103	79-120
1,3-Dichlorobenzene	0.02500	0.02558	102	80-125
1,4-Dichlorobenzene	0.02500	0.02657	106	80-129
1,2-Dichlorobenzene	0.02500	0.02549	102	80-120
Naphthalene	0.02500	0.02577	103	71-125

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	93	80-136
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-132

b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249956
Units:	mg/Kg	Analyzed:	07/24/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC894264

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.02000	0.01575	79	41-136	9	38
Chloromethane	0.02000	0.01645	82	58-148	13	30
Vinyl Chloride	0.02000	0.01667	83	64-136	14	26
Bromomethane	0.02000	0.02014	101	67-159	6	26
Chloroethane	0.02000	0.01873	94	69-139	14	24
Trichlorofluoromethane	0.02000	0.02019	101	66-142	8	22
Freon 113	0.02500	0.02843 b	114	62-129	7	28
1,1-Dichloroethene	0.02500	0.02386	95	65-127	9	28
Methylene Chloride	0.02500	0.02310	92	71-128	7	26
MTBE	0.02500	0.02006	80	68-123	12	25
trans-1,2-Dichloroethene	0.02500	0.02257	90	67-122	10	27
1,1-Dichloroethane	0.02500	0.02145	86	68-130	12	25
cis-1,2-Dichloroethene	0.02500	0.02130	85	77-128	12	25
Chloroform	0.02500	0.02141	86	72-127	12	24
1,1,1-Trichloroethane	0.02500	0.02231	89	68-135	12	26
Carbon Tetrachloride	0.02500	0.02378	95	66-133	13	27
1,2-Dichloroethane	0.02500	0.02195	88	73-129	12	23
Benzene	0.02500	0.02105	84	75-124	16	25
Trichloroethene	0.02500	0.02104	84	76-122	18	26
1,2-Dichloropropane	0.02500	0.02086	83	71-123	13	25
Bromodichloromethane	0.02500	0.02146	86	74-120	14	24
Dibromomethane	0.02500	0.02346	94	76-120	7	24
cis-1,3-Dichloropropene	0.02500	0.02240	90	80-126	15	24
Toluene	0.02500	0.02192	88	77-120	13	25
trans-1,3-Dichloropropene	0.02500	0.02101	84	72-120	18	24
1,1,2-Trichloroethane	0.02500	0.02089	84	76-120	16	25
Tetrachloroethene	0.02500	0.02433	97	73-128	13	27
Dibromochloromethane	0.02500	0.02134	85	71-120	15	24
Chlorobenzene	0.02500	0.02225	89	80-120	14	24
1,1,1,2-Tetrachloroethane	0.02500	0.02027	81	72-120	16	24
Ethylbenzene	0.02500	0.02237	89	78-120	15	26
m,p-Xylenes	0.05000	0.04614	92	77-123	12	27
o-Xylene	0.02500	0.02263	91	75-120	11	26
Bromoform	0.02500	0.02080	83	69-120	17	25
1,1,2,2-Tetrachloroethane	0.02500	0.02070	83	71-129	14	25
Bromobenzene	0.02500	0.02206	88	79-120	16	24
1,3-Dichlorobenzene	0.02500	0.02242	90	80-125	13	25
1,4-Dichlorobenzene	0.02500	0.02300	92	80-129	14	24
1,2-Dichlorobenzene	0.02500	0.02257	90	80-120	12	24
Naphthalene	0.02500	0.02235	89	71-125	14	26

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-128
1,2-Dichloroethane-d4	92	80-136
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-132

b= See narrative
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC894265	Batch#:	249956
Matrix:	Soil	Analyzed:	07/24/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00064
Chloromethane	ND	0.010	0.00049
Vinyl Chloride	ND	0.010	0.00041
Bromomethane	ND	0.010	0.00036
Chloroethane	ND	0.010	0.00040
Trichlorofluoromethane	ND	0.0050	0.00030
Freon 113	ND	0.0050	0.00052
1,1-Dichloroethene	ND	0.0050	0.00060
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.00048
trans-1,2-Dichloroethene	ND	0.0050	0.00068
1,1-Dichloroethane	ND	0.0050	0.00076
cis-1,2-Dichloroethene	ND	0.0050	0.00057
Chloroform	ND	0.0050	0.00069
1,1,1-Trichloroethane	ND	0.0050	0.00066
Carbon Tetrachloride	ND	0.0050	0.00059
1,2-Dichloroethane	ND	0.0050	0.00062
Benzene	ND	0.0050	0.00070
Trichloroethene	ND	0.0050	0.00073
1,2-Dichloropropane	ND	0.0050	0.00059
Bromodichloromethane	ND	0.0050	0.00054
Dibromomethane	ND	0.0050	0.00050
cis-1,3-Dichloropropene	ND	0.0050	0.00050
Toluene	ND	0.0050	0.00076
trans-1,3-Dichloropropene	ND	0.0050	0.00050
1,1,2-Trichloroethane	ND	0.0050	0.00048
Tetrachloroethene	ND	0.0050	0.00064
Dibromochloromethane	ND	0.0050	0.00049
Chlorobenzene	ND	0.0050	0.00063
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00053
Ethylbenzene	ND	0.0050	0.00071
m,p-Xylenes	ND	0.0050	0.0014
o-Xylene	ND	0.0050	0.00060
Bromoform	ND	0.0050	0.00050
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00052
Bromobenzene	ND	0.0050	0.00050
1,3-Dichlorobenzene	ND	0.0050	0.00053
1,4-Dichlorobenzene	ND	0.0050	0.00048
1,2-Dichlorobenzene	ND	0.0050	0.00047
Naphthalene	ND	0.0050	0.00098

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-128
1,2-Dichloroethane-d4	82	80-136
Toluene-d8	96	80-120
Bromofluorobenzene	103	80-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 2	Batch#:	249863
Lab ID:	290582-017	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	25.00		

Moisture: 12%

Analyte	Result	RL	MDL
Naphthalene	ND	0.14	0.028
1-Methylnaphthalene	ND	0.14	0.028
2-Methylnaphthalene	ND	0.14	0.028
Acenaphthylene	ND	0.14	0.028
Acenaphthene	ND	0.14	0.028
Fluorene	ND	0.14	0.028
Phenanthrene	ND	0.14	0.028
Anthracene	ND	0.14	0.028
Fluoranthene	ND	0.14	0.028
Pyrene	ND	0.14	0.028
Benzo(a)anthracene	ND	0.14	0.028
Chrysene	ND	0.14	0.028
Benzo(b)fluoranthene	ND	0.14	0.028
Benzo(k)fluoranthene	ND	0.14	0.028
Benzo(a)pyrene	ND	0.14	0.028
Indeno(1,2,3-cd)pyrene	ND	0.14	0.028
Dibenz(a,h)anthracene	ND	0.14	0.028
Benzo(g,h,i)perylene	ND	0.14	0.028

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 1	Batch#:	249863
Lab ID:	290582-018	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	1.000		

Moisture: 18%

Analyte	Result	RL	MDL
Naphthalene	ND	0.0061	0.0012
1-Methylnaphthalene	ND	0.0061	0.0012
2-Methylnaphthalene	ND	0.0061	0.0012
Acenaphthylene	ND	0.0061	0.0012
Acenaphthene	ND	0.0061	0.0012
Fluorene	ND	0.0061	0.0012
Phenanthrene	ND	0.0061	0.0012
Anthracene	ND	0.0061	0.0012
Fluoranthene	ND	0.0061	0.0012
Pyrene	ND	0.0061	0.0012
Benzo(a)anthracene	ND	0.0061	0.0012
Chrysene	ND	0.0061	0.0012
Benzo(b)fluoranthene	ND	0.0061	0.0012
Benzo(k)fluoranthene	ND	0.0061	0.0012
Benzo(a)pyrene	ND	0.0061	0.0012
Indeno(1,2,3-cd)pyrene	ND	0.0061	0.0012
Dibenz(a,h)anthracene	ND	0.0061	0.0012
Benzo(g,h,i)perylene	0.0013 J	0.0061	0.0012

Surrogate	%REC	Limits
Nitrobenzene-d5	118	36-120
2-Fluorobiphenyl	75	42-120
Terphenyl-d14	75	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 2BP	Batch#:	249863
Lab ID:	290582-019	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	2.000		

Moisture: 32%

Analyte	Result	RL	MDL
Naphthalene	ND	0.015	0.0029
1-Methylnaphthalene	ND	0.015	0.0029
2-Methylnaphthalene	ND	0.015	0.0029
Acenaphthylene	ND	0.015	0.0029
Acenaphthene	ND	0.015	0.0029
Fluorene	ND	0.015	0.0029
Phenanthrene	0.0093 J	0.015	0.0029
Anthracene	ND	0.015	0.0029
Fluoranthene	0.016	0.015	0.0029
Pyrene	0.020	0.015	0.0029
Benzo(a)anthracene	0.0082 J	0.015	0.0029
Chrysene	0.016	0.015	0.0029
Benzo(b)fluoranthene	0.019	0.015	0.0029
Benzo(k)fluoranthene	0.0074 J	0.015	0.0029
Benzo(a)pyrene	0.013 J	0.015	0.0029
Indeno(1,2,3-cd)pyrene	0.0078 J	0.015	0.0029
Dibenz(a,h)anthracene	ND	0.015	0.0029
Benzo(g,h,i)perylene	0.012 J	0.015	0.0029

Surrogate	%REC	Limits
Nitrobenzene-d5	116	36-120
2-Fluorobiphenyl	82	42-120
Terphenyl-d14	77	44-120

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 3	Batch#:	249863
Lab ID:	290582-020	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	50.00		

Moisture: 15%

Analyte	Result	RL	MDL
Naphthalene	ND	0.29	0.059
1-Methylnaphthalene	ND	0.29	0.059
2-Methylnaphthalene	ND	0.29	0.059
Acenaphthylene	ND	0.29	0.059
Acenaphthene	ND	0.29	0.059
Fluorene	ND	0.29	0.059
Phenanthrene	ND	0.29	0.059
Anthracene	ND	0.29	0.059
Fluoranthene	ND	0.29	0.059
Pyrene	ND	0.29	0.059
Benzo(a)anthracene	ND	0.29	0.059
Chrysene	ND	0.29	0.059
Benzo(b)fluoranthene	ND	0.29	0.059
Benzo(k)fluoranthene	ND	0.29	0.059
Benzo(a)pyrene	ND	0.29	0.059
Indeno(1,2,3-cd)pyrene	ND	0.29	0.059
Dibenz(a,h)anthracene	ND	0.29	0.059
Benzo(g,h,i)perylene	ND	0.29	0.059

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 4	Batch#:	249863
Lab ID:	290582-021	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	25.00		

Moisture: 13%

Analyte	Result	RL	MDL
Naphthalene	ND	0.14	0.029
1-Methylnaphthalene	ND	0.14	0.029
2-Methylnaphthalene	ND	0.14	0.029
Acenaphthylene	ND	0.14	0.029
Acenaphthene	ND	0.14	0.029
Fluorene	ND	0.14	0.029
Phenanthrene	ND	0.14	0.029
Anthracene	ND	0.14	0.029
Fluoranthene	ND	0.14	0.029
Pyrene	ND	0.14	0.029
Benzo(a)anthracene	ND	0.14	0.029
Chrysene	ND	0.14	0.029
Benzo(b)fluoranthene	ND	0.14	0.029
Benzo(k)fluoranthene	ND	0.14	0.029
Benzo(a)pyrene	ND	0.14	0.029
Indeno(1,2,3-cd)pyrene	ND	0.14	0.029
Dibenz(a,h)anthracene	ND	0.14	0.029
Benzo(g,h,i)perylene	ND	0.14	0.029

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 5	Batch#:	249863
Lab ID:	290582-022	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	50.00		

Moisture: 16%

Analyte	Result	RL	MDL
Naphthalene	ND	0.30	0.059
1-Methylnaphthalene	ND	0.30	0.059
2-Methylnaphthalene	ND	0.30	0.059
Acenaphthylene	ND	0.30	0.059
Acenaphthene	ND	0.30	0.059
Fluorene	ND	0.30	0.059
Phenanthrene	ND	0.30	0.059
Anthracene	ND	0.30	0.059
Fluoranthene	ND	0.30	0.059
Pyrene	ND	0.30	0.059
Benzo(a)anthracene	ND	0.30	0.059
Chrysene	ND	0.30	0.059
Benzo(b)fluoranthene	ND	0.30	0.059
Benzo(k)fluoranthene	ND	0.30	0.059
Benzo(a)pyrene	ND	0.30	0.059
Indeno(1,2,3-cd)pyrene	ND	0.30	0.059
Dibenz(a,h)anthracene	ND	0.30	0.059
Benzo(g,h,i)perylene	ND	0.30	0.059

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 6	Batch#:	249863
Lab ID:	290582-023	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	25.00		

Moisture: 20%

Analyte	Result	RL	MDL
Naphthalene	ND	0.15	0.031
1-Methylnaphthalene	ND	0.15	0.031
2-Methylnaphthalene	ND	0.15	0.031
Acenaphthylene	ND	0.15	0.031
Acenaphthene	ND	0.15	0.031
Fluorene	ND	0.15	0.031
Phenanthrene	ND	0.15	0.031
Anthracene	ND	0.15	0.031
Fluoranthene	ND	0.15	0.031
Pyrene	ND	0.15	0.031
Benzo(a)anthracene	ND	0.15	0.031
Chrysene	ND	0.15	0.031
Benzo(b)fluoranthene	ND	0.15	0.031
Benzo(k)fluoranthene	ND	0.15	0.031
Benzo(a)pyrene	ND	0.15	0.031
Indeno(1,2,3-cd)pyrene	ND	0.15	0.031
Dibenz(a,h)anthracene	ND	0.15	0.031
Benzo(g,h,i)perylene	ND	0.15	0.031

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 7	Batch#:	249863
Lab ID:	290582-024	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/01/17
Diln Fac:	100.0		

Moisture: 13%

Analyte	Result	RL	MDL
Naphthalene	ND	0.58	0.12
1-Methylnaphthalene	ND	0.58	0.12
2-Methylnaphthalene	ND	0.58	0.12
Acenaphthylene	ND	0.58	0.12
Acenaphthene	ND	0.58	0.12
Fluorene	ND	0.58	0.12
Phenanthrene	ND	0.58	0.12
Anthracene	ND	0.58	0.12
Fluoranthene	ND	0.58	0.12
Pyrene	ND	0.58	0.12
Benzo(a)anthracene	ND	0.58	0.12
Chrysene	ND	0.58	0.12
Benzo(b)fluoranthene	ND	0.58	0.12
Benzo(k)fluoranthene	ND	0.58	0.12
Benzo(a)pyrene	ND	0.58	0.12
Indeno(1,2,3-cd)pyrene	ND	0.58	0.12
Dibenz(a,h)anthracene	ND	0.58	0.12
Benzo(g,h,i)perylene	ND	0.58	0.12

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 8	Batch#:	249863
Lab ID:	290582-025	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/02/17
Diln Fac:	25.00		

Moisture: 17%

Analyte	Result	RL	MDL
Naphthalene	ND	0.15	0.030
1-Methylnaphthalene	ND	0.15	0.030
2-Methylnaphthalene	ND	0.15	0.030
Acenaphthylene	ND	0.15	0.030
Acenaphthene	ND	0.15	0.030
Fluorene	ND	0.15	0.030
Phenanthrene	0.31	0.15	0.030
Anthracene	ND	0.15	0.030
Fluoranthene	0.17	0.15	0.030
Pyrene	0.42	0.15	0.030
Benzo(a)anthracene	0.14 J	0.15	0.030
Chrysene	0.17	0.15	0.030
Benzo(b)fluoranthene	0.13 J	0.15	0.030
Benzo(k)fluoranthene	0.035 J	0.15	0.030
Benzo(a)pyrene	0.13 J	0.15	0.030
Indeno(1,2,3-cd)pyrene	0.057 J	0.15	0.030
Dibenz(a,h)anthracene	ND	0.15	0.030
Benzo(g,h,i)perylene	0.11 J	0.15	0.030

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 9	Batch#:	249863
Lab ID:	290582-026	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/05/17
Diln Fac:	200.0		

Moisture: 14%

Analyte	Result	RL	MDL
Naphthalene	ND	1.2	0.23
1-Methylnaphthalene	ND	1.2	0.23
2-Methylnaphthalene	ND	1.2	0.23
Acenaphthylene	ND	1.2	0.23
Acenaphthene	ND	1.2	0.23
Fluorene	ND	1.2	0.23
Phenanthrene	ND	1.2	0.23
Anthracene	ND	1.2	0.23
Fluoranthene	ND	1.2	0.23
Pyrene	ND	1.2	0.23
Benzo(a)anthracene	ND	1.2	0.23
Chrysene	ND	1.2	0.23
Benzo(b)fluoranthene	ND	1.2	0.23
Benzo(k)fluoranthene	ND	1.2	0.23
Benzo(a)pyrene	ND	1.2	0.23
Indeno(1,2,3-cd)pyrene	ND	1.2	0.23
Dibenz(a,h)anthracene	ND	1.2	0.23
Benzo(g,h,i)perylene	ND	1.2	0.23

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 10	Batch#:	249863
Lab ID:	290582-027	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/05/17
Diln Fac:	50.00		

Moisture: 11%

Analyte	Result	RL	MDL
Naphthalene	ND	0.28	0.056
1-Methylnaphthalene	ND	0.28	0.056
2-Methylnaphthalene	ND	0.28	0.056
Acenaphthylene	ND	0.28	0.056
Acenaphthene	ND	0.28	0.056
Fluorene	ND	0.28	0.056
Phenanthrene	ND	0.28	0.056
Anthracene	ND	0.28	0.056
Fluoranthene	ND	0.28	0.056
Pyrene	ND	0.28	0.056
Benzo(a)anthracene	ND	0.28	0.056
Chrysene	ND	0.28	0.056
Benzo(b)fluoranthene	ND	0.28	0.056
Benzo(k)fluoranthene	ND	0.28	0.056
Benzo(a)pyrene	ND	0.28	0.056
Indeno(1,2,3-cd)pyrene	ND	0.28	0.056
Dibenz(a,h)anthracene	ND	0.28	0.056
Benzo(g,h,i)perylene	ND	0.28	0.056

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 11	Batch#:	249873
Lab ID:	290582-028	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/05/17
Diln Fac:	25.00		

Moisture: 19%

Analyte	Result	RL	MDL
Naphthalene	ND	0.16	0.031
1-Methylnaphthalene	ND	0.16	0.031
2-Methylnaphthalene	ND	0.16	0.031
Acenaphthylene	ND	0.16	0.031
Acenaphthene	ND	0.16	0.031
Fluorene	ND	0.16	0.031
Phenanthrene	ND	0.16	0.031
Anthracene	ND	0.16	0.031
Fluoranthene	0.069 J	0.16	0.031
Pyrene	0.076 J	0.16	0.031
Benzo(a)anthracene	0.070 J	0.16	0.031
Chrysene	0.071 J	0.16	0.031
Benzo(b)fluoranthene	0.083 J	0.16	0.031
Benzo(k)fluoranthene	ND	0.16	0.031
Benzo(a)pyrene	0.059 J	0.16	0.031
Indeno(1,2,3-cd)pyrene	ND	0.16	0.031
Dibenz(a,h)anthracene	ND	0.16	0.031
Benzo(g,h,i)perylene	0.059 J	0.16	0.031

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 12	Batch#:	249873
Lab ID:	290582-029	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/05/17
Diln Fac:	50.00		

Moisture: 10%

Analyte	Result	RL	MDL
Naphthalene	ND	0.28	0.055
1-Methylnaphthalene	ND	0.28	0.055
2-Methylnaphthalene	ND	0.28	0.055
Acenaphthylene	ND	0.28	0.055
Acenaphthene	ND	0.28	0.055
Fluorene	ND	0.28	0.055
Phenanthrene	ND	0.28	0.055
Anthracene	ND	0.28	0.055
Fluoranthene	ND	0.28	0.055
Pyrene	ND	0.28	0.055
Benzo(a)anthracene	ND	0.28	0.055
Chrysene	ND	0.28	0.055
Benzo(b)fluoranthene	ND	0.28	0.055
Benzo(k)fluoranthene	ND	0.28	0.055
Benzo(a)pyrene	ND	0.28	0.055
Indeno(1,2,3-cd)pyrene	ND	0.28	0.055
Dibenz(a,h)anthracene	ND	0.28	0.055
Benzo(g,h,i)perylene	ND	0.28	0.055

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 13	Batch#:	249873
Lab ID:	290582-030	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/05/17
Diln Fac:	50.00		

Moisture: 24%

Analyte	Result	RL	MDL
Naphthalene	ND	0.33	0.065
1-Methylnaphthalene	ND	0.33	0.065
2-Methylnaphthalene	ND	0.33	0.065
Acenaphthylene	ND	0.33	0.065
Acenaphthene	ND	0.33	0.065
Fluorene	ND	0.33	0.065
Phenanthrene	ND	0.33	0.065
Anthracene	ND	0.33	0.065
Fluoranthene	ND	0.33	0.065
Pyrene	ND	0.33	0.065
Benzo(a)anthracene	ND	0.33	0.065
Chrysene	ND	0.33	0.065
Benzo(b)fluoranthene	ND	0.33	0.065
Benzo(k)fluoranthene	ND	0.33	0.065
Benzo(a)pyrene	ND	0.33	0.065
Indeno(1,2,3-cd)pyrene	ND	0.33	0.065
Dibenz(a,h)anthracene	ND	0.33	0.065
Benzo(g,h,i)perylene	ND	0.33	0.065

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 14	Batch#:	249873
Lab ID:	290582-031	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/07/17
Diln Fac:	20.00		

Moisture: 12%

Analyte	Result	RL	MDL
Naphthalene	ND	0.11	0.023
1-Methylnaphthalene	ND	0.11	0.023
2-Methylnaphthalene	ND	0.11	0.023
Acenaphthylene	ND	0.11	0.023
Acenaphthene	ND	0.11	0.023
Fluorene	ND	0.11	0.023
Phenanthrene	ND	0.11	0.023
Anthracene	ND	0.11	0.023
Fluoranthene	0.034 J	0.11	0.023
Pyrene	0.039 J	0.11	0.023
Benzo(a)anthracene	0.025 J	0.11	0.023
Chrysene	0.033 J	0.11	0.023
Benzo(b)fluoranthene	0.050 J	0.11	0.023
Benzo(k)fluoranthene	ND	0.11	0.023
Benzo(a)pyrene	0.031 J	0.11	0.023
Indeno(1,2,3-cd)pyrene	0.023 J	0.11	0.023
Dibenz(a,h)anthracene	ND	0.11	0.023
Benzo(g,h,i)perylene	0.035 J	0.11	0.023

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 15	Batch#:	249873
Lab ID:	290582-032	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	08/07/17
Diln Fac:	10.00		

Moisture: 15%

Analyte	Result	RL	MDL
Naphthalene	ND	0.059	0.012
1-Methylnaphthalene	ND	0.059	0.012
2-Methylnaphthalene	ND	0.059	0.012
Acenaphthylene	ND	0.059	0.012
Acenaphthene	ND	0.059	0.012
Fluorene	ND	0.059	0.012
Phenanthrene	ND	0.059	0.012
Anthracene	ND	0.059	0.012
Fluoranthene	ND	0.059	0.012
Pyrene	ND	0.059	0.012
Benzo(a)anthracene	ND	0.059	0.012
Chrysene	ND	0.059	0.012
Benzo(b)fluoranthene	ND	0.059	0.012
Benzo(k)fluoranthene	ND	0.059	0.012
Benzo(a)pyrene	ND	0.059	0.012
Indeno(1,2,3-cd)pyrene	ND	0.059	0.012
Dibenz(a,h)anthracene	ND	0.059	0.012
Benzo(g,h,i)perylene	ND	0.059	0.012

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	36-120
2-Fluorobiphenyl	DO	42-120
Terphenyl-d14	DO	44-120

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893922	Batch#:	249863
Matrix:	Soil	Prepared:	07/20/17
Units:	mg/Kg	Analyzed:	07/26/17

Analyte	Result	RL	MDL
Naphthalene	ND	0.0050	0.0010
1-Methylnaphthalene	ND	0.0050	0.0010
2-Methylnaphthalene	ND	0.0050	0.0010
Acenaphthylene	ND	0.0050	0.0010
Acenaphthene	ND	0.0050	0.0010
Fluorene	ND	0.0050	0.0010
Phenanthrene	ND	0.0050	0.0010
Anthracene	ND	0.0050	0.0010
Fluoranthene	ND	0.0050	0.0010
Pyrene	ND	0.0050	0.0010
Benzo(a)anthracene	ND	0.0050	0.0010
Chrysene	ND	0.0050	0.0010
Benzo(b)fluoranthene	ND	0.0050	0.0010
Benzo(k)fluoranthene	ND	0.0050	0.0010
Benzo(a)pyrene	ND	0.0050	0.0010
Indeno(1,2,3-cd)pyrene	ND	0.0050	0.0010
Dibenz(a,h)anthracene	ND	0.0050	0.0010
Benzo(g,h,i)perylene	ND	0.0050	0.0010

Surrogate	%REC	Limits
Nitrobenzene-d5	92	36-120
2-Fluorobiphenyl	110	42-120
Terphenyl-d14	80	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893923	Batch#:	249863
Matrix:	Soil	Prepared:	07/20/17
Units:	mg/Kg	Analyzed:	07/26/17

Analyte	Spiked	Result	%REC	Limits
Naphthalene	0.03361	0.02867	85	63-120
1-Methylnaphthalene	0.03361	0.02722	81	61-120
2-Methylnaphthalene	0.03361	0.02774	83	60-120
Acenaphthylene	0.03361	0.03467	103	60-120
Acenaphthene	0.03361	0.02685	80	61-120
Fluorene	0.03361	0.03497	104	64-121
Phenanthrene	0.03361	0.03115	93	59-120
Anthracene	0.03361	0.03038	90	56-121
Fluoranthene	0.03361	0.03107	92	61-129
Pyrene	0.03361	0.02952	88	54-132
Benzo(a)anthracene	0.03361	0.03092	92	62-127
Chrysene	0.03361	0.02275	68	52-120
Benzo(b)fluoranthene	0.03361	0.03081	92	55-129
Benzo(k)fluoranthene	0.03361	0.03024	90	54-134
Benzo(a)pyrene	0.03361	0.03094	92	56-123
Indeno(1,2,3-cd)pyrene	0.03361	0.02702	80	51-125
Dibenz(a,h)anthracene	0.03361	0.02362	70	47-121
Benzo(g,h,i)perylene	0.03361	0.02541	76	47-129

Surrogate	%REC	Limits
Nitrobenzene-d5	84	36-120
2-Fluorobiphenyl	99	42-120
Terphenyl-d14	70	44-120

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	249863
MSS Lab ID:	290628-005	Sampled:	07/15/17
Matrix:	Soil	Received:	07/17/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	as received	Analyzed:	07/26/17
Diln Fac:	1.000		

Type: MS Lab ID: QC893924

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	0.008423	0.03382	0.03553	80	43-120
1-Methylnaphthalene	0.003012	0.03382	0.03090	82	44-120
2-Methylnaphthalene	0.003035	0.03382	0.03146	84	44-120
Acenaphthylene	<0.0009983	0.03382	0.03844	114	46-120
Acenaphthene	<0.0009983	0.03382	0.03027	90	47-120
Fluorene	0.008792	0.03382	0.04785	116	49-120
Phenanthrene	0.004845	0.03382	0.03885	101	40-120
Anthracene	<0.0009983	0.03382	0.03345	99	42-125
Fluoranthene	0.001837	0.03382	0.03227	90	39-132
Pyrene	0.002043	0.03382	0.03620	101	34-138
Benzo(a)anthracene	<0.0009983	0.03382	0.03294	97	45-128
Chrysene	0.001341	0.03382	0.02470	69	32-120
Benzo(b)fluoranthene	<0.0009983	0.03382	0.03553	105	34-132
Benzo(k)fluoranthene	0.004592	0.03382	0.04205	111	37-126
Benzo(a)pyrene	<0.0009983	0.03382	0.03383	100	38-127
Indeno(1,2,3-cd)pyrene	0.003098	0.03382	0.02697	71	26-124
Dibenz(a,h)anthracene	0.003255	0.03382	0.02392	61	27-120
Benzo(g,h,i)perylene	<0.0009983	0.03382	0.03344	99	21-131

Surrogate	%REC	Limits
Nitrobenzene-d5	91	36-120
2-Fluorobiphenyl	109	42-120
Terphenyl-d14	84	44-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	249863
MSS Lab ID:	290628-005	Sampled:	07/15/17
Matrix:	Soil	Received:	07/17/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	as received	Analyzed:	07/26/17
Diln Fac:	1.000		

Type: MSD Lab ID: QC893925

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	0.03348	0.03638	84	43-120	3	51
1-Methylnaphthalene	0.03348	0.03145	85	44-120	3	48
2-Methylnaphthalene	0.03348	0.03223	87	44-120	3	50
Acenaphthylene	0.03348	0.03892	116	46-120	2	53
Acenaphthene	0.03348	0.03057	91	47-120	2	42
Fluorene	0.03348	0.04833	118	49-120	2	44
Phenanthrene	0.03348	0.03931	103	40-120	2	43
Anthracene	0.03348	0.03460	103	42-125	4	56
Fluoranthene	0.03348	0.03232	91	39-132	1	43
Pyrene	0.03348	0.03732	105	34-138	4	45
Benzo(a)anthracene	0.03348	0.03367	101	45-128	3	46
Chrysene	0.03348	0.02495	71	32-120	2	51
Benzo(b)fluoranthene	0.03348	0.03704	111	34-132	5	47
Benzo(k)fluoranthene	0.03348	0.04168	111	37-126	0	56
Benzo(a)pyrene	0.03348	0.03409	102	38-127	2	46
Indeno(1,2,3-cd)pyrene	0.03348	0.02822	75	26-124	5	47
Dibenz(a,h)anthracene	0.03348	0.02495	65	27-120	5	60
Benzo(g,h,i)perylene	0.03348	0.03418	102	21-131	3	48

Surrogate	%REC	Limits
Nitrobenzene-d5	94	36-120
2-Fluorobiphenyl	113	42-120
Terphenyl-d14	87	44-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893960	Batch#:	249873
Matrix:	Soil	Prepared:	07/20/17
Units:	mg/Kg	Analyzed:	07/21/17

Analyte	Result	RL	MDL
Naphthalene	ND	0.0051	0.0010
1-Methylnaphthalene	ND	0.0051	0.0010
2-Methylnaphthalene	ND	0.0051	0.0010
Acenaphthylene	ND	0.0051	0.0010
Acenaphthene	ND	0.0051	0.0010
Fluorene	ND	0.0051	0.0010
Phenanthrene	ND	0.0051	0.0010
Anthracene	ND	0.0051	0.0010
Fluoranthene	ND	0.0051	0.0010
Pyrene	ND	0.0051	0.0010
Benzo(a)anthracene	ND	0.0051	0.0010
Chrysene	ND	0.0051	0.0010
Benzo(b)fluoranthene	ND	0.0051	0.0010
Benzo(k)fluoranthene	ND	0.0051	0.0010
Benzo(a)pyrene	ND	0.0051	0.0010
Indeno(1,2,3-cd)pyrene	ND	0.0051	0.0010
Dibenz(a,h)anthracene	ND	0.0051	0.0010
Benzo(g,h,i)perylene	ND	0.0051	0.0010

Surrogate	%REC	Limits
Nitrobenzene-d5	99	36-120
2-Fluorobiphenyl	115	42-120
Terphenyl-d14	82	44-120

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893961	Batch#:	249873
Matrix:	Soil	Prepared:	07/20/17
Units:	mg/Kg	Analyzed:	07/21/17

Analyte	Spiked	Result	%REC	Limits
Naphthalene	0.03344	0.03285	98	63-120
1-Methylnaphthalene	0.03344	0.03120	93	61-120
2-Methylnaphthalene	0.03344	0.03163	95	60-120
Acenaphthylene	0.03344	0.03777	113	60-120
Acenaphthene	0.03344	0.03533	106	61-120
Fluorene	0.03344	0.03757	112	64-121
Phenanthrene	0.03344	0.03459	103	59-120
Anthracene	0.03344	0.03288	98	56-121
Fluoranthene	0.03344	0.03341	100	61-129
Pyrene	0.03344	0.03426	102	54-132
Benzo(a)anthracene	0.03344	0.03435	103	62-127
Chrysene	0.03344	0.02487	74	52-120
Benzo(b)fluoranthene	0.03344	0.03272	98	55-129
Benzo(k)fluoranthene	0.03344	0.03382	101	54-134
Benzo(a)pyrene	0.03344	0.03390	101	56-123
Indeno(1,2,3-cd)pyrene	0.03344	0.03462	104	51-125
Dibenz(a,h)anthracene	0.03344	0.02975	89	47-121
Benzo(g,h,i)perylene	0.03344	0.03498	105	47-129

Surrogate	%REC	Limits
Nitrobenzene-d5	97	36-120
2-Fluorobiphenyl	112	42-120
Terphenyl-d14	82	44-120

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Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	249873
MSS Lab ID:	290744-001	Sampled:	07/17/17
Matrix:	Soil	Received:	07/20/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	07/22/17
Diln Fac:	1.000		

Type: MS Moisture: 6%
Lab ID: QC893962

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	0.001073	0.03533	0.03120	85	43-120
1-Methylnaphthalene	<0.001066	0.03533	0.02939	83	44-120
2-Methylnaphthalene	<0.001066	0.03533	0.03014	85	44-120
Acenaphthylene	<0.001066	0.03533	0.03220	91	46-120
Acenaphthene	<0.001066	0.03533	0.02852	81	47-120
Fluorene	<0.001066	0.03533	0.03626	103	49-120
Phenanthrene	<0.001066	0.03533	0.03347	95	40-120
Anthracene	<0.001066	0.03533	0.03070	87	42-125
Fluoranthene	<0.001066	0.03533	0.03196	90	39-132
Pyrene	<0.001066	0.03533	0.03230	91	34-138
Benzo(a)anthracene	<0.001066	0.03533	0.03182	90	45-128
Chrysene	<0.001066	0.03533	0.02364	67	32-120
Benzo(b)fluoranthene	<0.001066	0.03533	0.03183	90	34-132
Benzo(k)fluoranthene	<0.001066	0.03533	0.03330	94	37-126
Benzo(a)pyrene	<0.001066	0.03533	0.03203	91	38-127
Indeno(1,2,3-cd)pyrene	<0.001066	0.03533	0.03585	101	26-124
Dibenz(a,h)anthracene	<0.001066	0.03533	0.03066	87	27-120
Benzo(g,h,i)perylene	<0.001066	0.03533	0.03632	103	21-131

Surrogate	%REC	Limits
Nitrobenzene-d5	89	36-120
2-Fluorobiphenyl	98	42-120
Terphenyl-d14	71	44-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	249873
MSS Lab ID:	290744-001	Sampled:	07/17/17
Matrix:	Soil	Received:	07/20/17
Units:	mg/Kg	Prepared:	07/20/17
Basis:	dry	Analyzed:	07/22/17
Diln Fac:	1.000		

Type: MSD Moisture: 6%
Lab ID: QC893963

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	0.03528	0.03196	88	43-120	3	51
1-Methylnaphthalene	0.03528	0.03048	86	44-120	4	48
2-Methylnaphthalene	0.03528	0.03102	88	44-120	3	50
Acenaphthylene	0.03528	0.03410	97	46-120	6	53
Acenaphthene	0.03528	0.03635	103	47-120	24	42
Fluorene	0.03528	0.03718	105	49-120	3	44
Phenanthrene	0.03528	0.03485	99	40-120	4	43
Anthracene	0.03528	0.03202	91	42-125	4	56
Fluoranthene	0.03528	0.03315	94	39-132	4	43
Pyrene	0.03528	0.03303	94	34-138	2	45
Benzo(a)anthracene	0.03528	0.03323	94	45-128	4	46
Chrysene	0.03528	0.02484	70	32-120	5	51
Benzo(b)fluoranthene	0.03528	0.03338	95	34-132	5	47
Benzo(k)fluoranthene	0.03528	0.03346	95	37-126	1	56
Benzo(a)pyrene	0.03528	0.03374	96	38-127	5	46
Indeno(1,2,3-cd)pyrene	0.03528	0.03715	105	26-124	4	47
Dibenz(a,h)anthracene	0.03528	0.03221	91	27-120	5	60
Benzo(g,h,i)perylene	0.03528	0.03793	107	21-131	4	48

Surrogate	%REC	Limits
Nitrobenzene-d5	89	36-120
2-Fluorobiphenyl	101	42-120
Terphenyl-d14	74	44-120

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 2	Batch#:	249828
Lab ID:	290582-001	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	20.00		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.017	0.0025
beta-BHC	ND	0.017	0.0047
gamma-BHC	ND	0.017	0.0022
delta-BHC	ND	0.017	0.0024
Heptachlor	ND	0.017	0.0025
Aldrin	0.0054 C J	0.017	0.0026
Heptachlor epoxide	0.0052 J	0.017	0.0026
Endosulfan I	0.0073 C J	0.017	0.0019
Dieldrin	ND	0.033	0.0043
4,4'-DDE	ND	0.033	0.0046
Endrin	ND	0.033	0.0049
Endosulfan II	0.0071 J	0.033	0.0043
Endosulfan sulfate	ND	0.033	0.0050
4,4'-DDD	0.0077 C J	0.033	0.0034
Endrin ketone	0.0094 J	0.033	0.0032
Endrin aldehyde	0.0099 J	0.033	0.0056
4,4'-DDT	0.0072 J	0.033	0.0032
Chlordane (Technical)	ND	0.30	0.026
alpha-Chlordane	ND	0.017	0.0024
gamma-Chlordane	0.0090 J	0.017	0.0017
Methoxychlor	ND	0.17	0.025
Toxaphene	ND	0.59	0.12

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 1	Batch#:	249828
Lab ID:	290582-002	Sampled:	07/10/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	5.000		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.0042	0.00063
beta-BHC	ND	0.0042	0.0012
gamma-BHC	ND	0.0042	0.00054
delta-BHC	0.0021 C J	0.0042	0.00061
Heptachlor	ND	0.0042	0.00062
Aldrin	ND	0.0042	0.00065
Heptachlor epoxide	0.0045 C b	0.0042	0.00054
Endosulfan I	ND	0.0042	0.00063
Dieldrin	ND	0.0082	0.0011
4,4'-DDE	ND	0.0082	0.0012
Endrin	ND	0.0082	0.0012
Endosulfan II	0.0093 C b	0.0082	0.0011
Endosulfan sulfate	ND	0.0082	0.0013
4,4'-DDD	ND	0.0082	0.00085
Endrin ketone	0.0023 J	0.0082	0.00080
Endrin aldehyde	0.0035 C J	0.0082	0.0014
4,4'-DDT	0.0020 J	0.0082	0.00080
Chlordane (Technical)	ND	0.075	0.0065
alpha-Chlordane	0.026 b	0.0042	0.00045
gamma-Chlordane	0.025 b	0.0042	0.00043
Methoxychlor	ND	0.042	0.0063
Toxaphene	ND	0.15	0.029

Surrogate	%REC	Limits
TCMX	90	39-127
Decachlorobiphenyl	97	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 6	Batch#:	249828
Lab ID:	290582-007	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	20.00		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.017	0.0025
beta-BHC	ND	0.017	0.0047
gamma-BHC	ND	0.017	0.0022
delta-BHC	0.0047 J	0.017	0.0024
Heptachlor	0.0050 J	0.017	0.0025
Aldrin	ND	0.017	0.0026
Heptachlor epoxide	0.0049 J	0.017	0.0026
Endosulfan I	ND	0.017	0.0025
Dieldrin	ND	0.033	0.0043
4,4'-DDE	ND	0.033	0.0047
Endrin	ND	0.033	0.0049
Endosulfan II	ND	0.033	0.0043
Endosulfan sulfate	0.0092 J	0.033	0.0033
4,4'-DDD	0.0075 C J	0.033	0.0034
Endrin ketone	0.0095 C J	0.033	0.0032
Endrin aldehyde	ND	0.033	0.0057
4,4'-DDT	0.0073 J	0.033	0.0032
Chlordane (Technical)	ND	0.30	0.026
alpha-Chlordane	0.012 J	0.017	0.0018
gamma-Chlordane	0.012 J	0.017	0.0030
Methoxychlor	ND	0.17	0.025
Toxaphene	ND	0.60	0.12

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 9	Batch#:	249828
Lab ID:	290582-010	Sampled:	07/11/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	100.0		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.086	0.013
beta-BHC	ND	0.086	0.024
gamma-BHC	0.083 C J	0.086	0.015
delta-BHC	0.022 J	0.086	0.012
Heptachlor	0.025 C J	0.086	0.012
Aldrin	ND	0.086	0.013
Heptachlor epoxide	0.025 J	0.086	0.013
Endosulfan I	ND	0.086	0.013
Dieldrin	ND	0.17	0.022
4,4'-DDE	ND	0.17	0.024
Endrin	ND	0.17	0.025
Endosulfan II	0.038 C J	0.17	0.022
Endosulfan sulfate	ND	0.17	0.025
4,4'-DDD	ND	0.17	0.017
Endrin ketone	ND	0.17	0.016
Endrin aldehyde	0.050 J	0.17	0.029
4,4'-DDT	0.036 J	0.17	0.016
Chlordane (Technical)	ND	1.5	0.13
alpha-Chlordane	0.025 J	0.086	0.012
gamma-Chlordane	0.031 J	0.086	0.015
Methoxychlor	ND	0.86	0.13
Toxaphene	ND	3.0	0.59

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 11	Batch#:	249828
Lab ID:	290582-012	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	50.00		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.042	0.0063
beta-BHC	ND	0.042	0.012
gamma-BHC	ND	0.042	0.0054
delta-BHC	0.011 J	0.042	0.0061
Heptachlor	0.012 C J	0.042	0.0062
Aldrin	ND	0.042	0.0065
Heptachlor epoxide	ND	0.042	0.0066
Endosulfan I	ND	0.042	0.0063
Dieldrin	ND	0.082	0.011
4,4'-DDE	ND	0.082	0.012
Endrin	ND	0.082	0.012
Endosulfan II	ND	0.082	0.011
Endosulfan sulfate	ND	0.082	0.013
4,4'-DDD	ND	0.082	0.0085
Endrin ketone	0.025 C J	0.082	0.0080
Endrin aldehyde	ND	0.082	0.014
4,4'-DDT	0.018 J	0.082	0.0080
Chlordane (Technical)	ND	0.75	0.065
alpha-Chlordane	0.016 C J	0.042	0.0060
gamma-Chlordane	0.017 C J	0.042	0.0075
Methoxychlor	ND	0.42	0.063
Toxaphene	ND	1.5	0.29

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 12	Batch#:	249828
Lab ID:	290582-013	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	50.00		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.043	0.0063
beta-BHC	ND	0.043	0.012
gamma-BHC	0.055 C b	0.043	0.0075
delta-BHC	ND	0.043	0.0062
Heptachlor	0.013 C J	0.043	0.0062
Aldrin	ND	0.043	0.0066
Heptachlor epoxide	0.012 J	0.043	0.0066
Endosulfan I	ND	0.043	0.0064
Dieldrin	ND	0.083	0.011
4,4'-DDE	ND	0.083	0.012
Endrin	ND	0.083	0.012
Endosulfan II	ND	0.083	0.011
Endosulfan sulfate	ND	0.083	0.013
4,4'-DDD	ND	0.083	0.0086
Endrin ketone	ND	0.083	0.0080
Endrin aldehyde	ND	0.083	0.014
4,4'-DDT	0.018 J	0.083	0.0081
Chlordane (Technical)	ND	0.75	0.065
alpha-Chlordane	0.026 J	0.043	0.0045
gamma-Chlordane	0.028 J	0.043	0.0076
Methoxychlor	ND	0.43	0.063
Toxaphene	ND	1.5	0.29

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
b= See narrative
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Field ID:	TRENCH 14	Batch#:	249828
Lab ID:	290582-015	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	20.00		

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.017	0.0025
beta-BHC	ND	0.017	0.0047
gamma-BHC	ND	0.017	0.0022
delta-BHC	ND	0.017	0.0025
Heptachlor	0.0055 C J	0.017	0.0025
Aldrin	ND	0.017	0.0026
Heptachlor epoxide	0.0050 J	0.017	0.0027
Endosulfan I	0.0056 J	0.017	0.0019
Dieldrin	ND	0.033	0.0043
4,4'-DDE	ND	0.033	0.0047
Endrin	ND	0.033	0.0049
Endosulfan II	ND	0.033	0.0043
Endosulfan sulfate	ND	0.033	0.0051
4,4'-DDD	ND	0.033	0.0034
Endrin ketone	0.0098 C J	0.033	0.0032
Endrin aldehyde	0.013 J	0.033	0.0057
4,4'-DDT	0.0073 J	0.033	0.0032
Chlordane (Technical)	ND	0.30	0.026
alpha-Chlordane	0.0046 J	0.017	0.0024
gamma-Chlordane	0.0055 J	0.017	0.0030
Methoxychlor	ND	0.17	0.025
Toxaphene	ND	0.60	0.12

Surrogate	%REC	Limits
TCMX	DO	39-127
Decachlorobiphenyl	DO	39-133

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893774	Batch#:	249828
Matrix:	Soil	Prepared:	07/19/17
Units:	mg/Kg	Analyzed:	07/20/17

Cleanup Method: EPA 3620C

Analyte	Result	RL	MDL
alpha-BHC	ND	0.00085	0.00022
beta-BHC	ND	0.00085	0.00022
gamma-BHC	ND	0.00085	0.00023
delta-BHC	ND	0.00085	0.00020
Heptachlor	ND	0.00085	0.00025
Aldrin	ND	0.00085	0.00025
Heptachlor epoxide	ND	0.00085	0.00019
Endosulfan I	ND	0.00085	0.00022
Dieldrin	ND	0.0016	0.00014
4,4'-DDE	ND	0.0016	0.00037
Endrin	ND	0.0016	0.00046
Endosulfan II	ND	0.0016	0.00040
Endosulfan sulfate	ND	0.0016	0.00048
4,4'-DDD	ND	0.0016	0.00037
Endrin ketone	ND	0.0016	0.00042
Endrin aldehyde	ND	0.0016	0.00037
4,4'-DDT	ND	0.0016	0.00042
Chlordane (Technical)	ND	0.015	0.0039
alpha-Chlordane	ND	0.00085	0.00020
gamma-Chlordane	ND	0.00085	0.00027
Methoxychlor	ND	0.0085	0.0025
Toxaphene	ND	0.030	0.0083

Surrogate	%REC	Limits
TCMX	82	39-127
Decachlorobiphenyl	96	39-133

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Organochlorine Pesticides

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893778	Batch#:	249828
Matrix:	Soil	Prepared:	07/19/17
Units:	mg/Kg	Analyzed:	07/20/17

Cleanup Method: EPA 3620C

Analyte	Spiked	Result	%REC	Limits
alpha-BHC	0.006676	0.006209 b	93	43-128
beta-BHC	0.006676	0.007322 b	110	39-130
gamma-BHC	0.006676	0.006344 b	95	43-127
delta-BHC	0.006676	0.006801 b	102	44-129
Heptachlor	0.006676	0.007033 b	105	42-128
Aldrin	0.006676	0.006383 b	96	43-127
Heptachlor epoxide	0.006676	0.006600 b	99	46-130
Endosulfan I	0.006676	0.006373	95	45-125
Dieldrin	0.006676	0.006900 b	103	49-135
4,4'-DDE	0.006676	0.007169 b	107	47-140
Endrin	0.006676	0.006908 b	103	38-143
Endosulfan II	0.006676	0.005633 b	84	46-130
Endosulfan sulfate	0.006676	0.006343 # b	95	38-125
4,4'-DDD	0.006676	0.006863 b	103	45-135
Endrin ketone	0.006676	0.007376 # b	110	41-138
Endrin aldehyde	0.006676	0.003853 b	58	15-120
4,4'-DDT	0.006676	0.006902 b	103	42-135
alpha-Chlordane	0.006676	0.006562	98	44-128
gamma-Chlordane	0.006676	0.006717 b	101	46-128
Methoxychlor	0.07343	0.08389 # b	114	39-123

Surrogate	%REC	Limits
TCMX	91	39-127
Decachlorobiphenyl	107	39-133

#= CCV drift outside limits; average CCV drift within limits per method requirements
b= See narrative

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 2	Sampled:	07/10/17
Type:	SAMPLE	Analyzed:	07/28/17
Lab ID:	290582-001	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0047	0.0012
Aroclor-1221	ND	0.0095	0.0031
Aroclor-1232	ND	0.0047	0.0015
Aroclor-1242	ND	0.0047	0.0014
Aroclor-1248	ND	0.0047	0.0015
Aroclor-1254	ND	0.0047	0.0012
Aroclor-1260	0.0023 J	0.0047	0.00076

Surrogate	%REC	Limits
TCMX	100	51-145
Decachlorobiphenyl	107	38-158

Field ID:	TRENCH 1	Sampled:	07/10/17
Type:	SAMPLE	Analyzed:	08/02/17
Lab ID:	290582-002	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	125	51-145
Decachlorobiphenyl	156	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 2BP	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-003	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0016
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	85	51-145
Decachlorobiphenyl	82	38-158

Field ID:	TRENCH 3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-004	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	0.0085	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	88	51-145
Decachlorobiphenyl	106	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 4	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-005	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0077
Aroclor-1242	ND	0.017	0.0071
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	ND	0.017	0.0039

Surrogate	%REC	Limits
TCMX	93	51-145
Decachlorobiphenyl	123	38-158

Field ID:	TRENCH 5	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/10/17
Lab ID:	290582-006	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0077
Aroclor-1242	ND	0.017	0.0071
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.014 J	0.017	0.0039

Surrogate	%REC	Limits
TCMX	114	51-145
Decachlorobiphenyl	115	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 6	Sampled:	07/11/17
Type:	SAMPLE	Analyzed:	07/29/17
Lab ID:	290582-007	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	0.0021 J	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	115	51-145
Decachlorobiphenyl	135	38-158

Field ID:	TRENCH 7	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-008	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0078
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.0044 J	0.017	0.0039

Surrogate	%REC	Limits
TCMX	104	51-145
Decachlorobiphenyl	127	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 8	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-009	Analyzed:	08/02/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	0.017 b	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	116	51-145
Decachlorobiphenyl	133	38-158

Field ID:	TRENCH 9	Sampled:	07/11/17
Type:	SAMPLE	Analyzed:	08/02/17
Lab ID:	290582-010	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0097	0.0032
Aroclor-1232	ND	0.0048	0.0016
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	0.026 b	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	120	51-145
Decachlorobiphenyl	122	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 10	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/11/17
Lab ID:	290582-011	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0060
Aroclor-1221	ND	0.034	0.016
Aroclor-1232	ND	0.017	0.0078
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0077
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.092	0.017	0.0039

Surrogate	%REC	Limits
TCMX	107	51-145
Decachlorobiphenyl	141	38-158

Field ID:	TRENCH 11	Sampled:	07/12/17
Type:	SAMPLE	Analyzed:	07/29/17
Lab ID:	290582-012	Cleanup Method:	EPA 3620C
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0077
Aroclor-1242	ND	0.017	0.0071
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.0089 J	0.017	0.0039

Surrogate	%REC	Limits
TCMX	93	51-145
Decachlorobiphenyl	124	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 12	Sampled:	07/12/17
Type:	SAMPLE	Analyzed:	07/29/17
Lab ID:	290582-013	Cleanup Method:	EPA 3620C
Diln Fac:	5.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0078
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.0063 J	0.017	0.0039

Surrogate	%REC	Limits
TCMX	95	51-145
Decachlorobiphenyl	102	38-158

Field ID:	TRENCH 13	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-014	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0059
Aroclor-1221	ND	0.033	0.016
Aroclor-1232	ND	0.017	0.0078
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0076
Aroclor-1254	ND	0.017	0.0061
Aroclor-1260	0.0042 J	0.017	0.0039

Surrogate	%REC	Limits
TCMX	105	51-145
Decachlorobiphenyl	141	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Field ID:	TRENCH 14	Sampled:	07/12/17
Type:	SAMPLE	Analyzed:	07/29/17
Lab ID:	290582-015	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0016
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	112	51-145
Decachlorobiphenyl	125	38-158

Field ID:	TRENCH 15	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/12/17
Lab ID:	290582-016	Analyzed:	07/29/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0016
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	93	51-145
Decachlorobiphenyl	100	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	249828
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/19/17

Type:	BLANK	Analyzed:	07/20/17
Lab ID:	QC893774	Cleanup Method:	EPA 3620C
Diln Fac:	1.000		

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	91	51-145
Decachlorobiphenyl	113	38-158

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893775	Batch#:	249828
Matrix:	Soil	Prepared:	07/19/17
Units:	mg/Kg	Analyzed:	07/20/17

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	0.08401	0.1079	128	61-152
Aroclor-1260	0.08401	0.08991	107	62-158

Surrogate	%REC	Limits
TCMX	55	51-145
Decachlorobiphenyl	95	38-158

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	249828
MSS Lab ID:	290621-001	Sampled:	07/17/17
Matrix:	Soil	Received:	07/17/17
Units:	mg/Kg	Prepared:	07/19/17
Basis:	as received	Analyzed:	07/20/17
Diln Fac:	1.000		

Type: MS Lab ID: QC893776

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<0.001179	0.08331	0.1268 b	152	56-167
Aroclor-1260	0.008450	0.08331	0.1114	124	46-167

Surrogate	%REC	Limits
TCMX	93	51-145
Decachlorobiphenyl	96	38-158

Type: MSD Lab ID: QC893777

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	0.08381	0.1380 b	165	56-167	8	50
Aroclor-1260	0.08381	0.1148	127	46-167	2	39

Surrogate	%REC	Limits
TCMX	90	51-145
Decachlorobiphenyl	98	38-158

b= See narrative
RPD= Relative Percent Difference

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RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID: TRENCH 2 Lab ID: 290582-001
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Dln Fac	Analyzed
Arsenic	2.3	1.5	0.20	1.000	07/24/17
Barium	710 b	24	2.9	100.0	07/25/17
Cadmium	0.85	0.24	0.049	1.000	07/24/17
Chromium	40	0.24	0.049	1.000	07/24/17
Lead	58	0.97	0.12	1.000	07/24/17
Selenium	0.34 J	1.9	0.22	1.000	07/25/17
Silver	ND	0.24	0.049	1.000	07/24/17

Field ID: TRENCH 1 Lab ID: 290582-002
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Dln Fac	Analyzed
Arsenic	1.8	1.5	0.20	1.000	07/24/17
Barium	920	25	2.9	100.0	08/04/17
Cadmium	0.80	0.25	0.050	1.000	07/24/17
Chromium	28	0.25	0.050	1.000	07/24/17
Lead	6.2	1.0	0.13	1.000	07/24/17
Selenium	2.2	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

Field ID: TRENCH 2BP Lab ID: 290582-003
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Dln Fac	Analyzed
Arsenic	4.7	1.5	0.20	1.000	07/24/17
Barium	460 b	25	2.9	100.0	07/25/17
Cadmium	2.1	0.25	0.050	1.000	07/24/17
Chromium	97	0.25	0.050	1.000	07/24/17
Lead	160	1.0	0.13	1.000	07/24/17
Selenium	4.7	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID: TRENCH 3 Lab ID: 290582-004
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	4.0	1.5	0.20	1.000	07/24/17
Barium	590 b	25	2.9	100.0	07/25/17
Cadmium	1.0	0.25	0.050	1.000	07/24/17
Chromium	55	0.25	0.050	1.000	07/24/17
Lead	120	1.0	0.13	1.000	07/24/17
Selenium	ND	2.0	0.22	1.000	07/25/17
Silver	ND	0.25	0.050	1.000	07/24/17

Field ID: TRENCH 4 Lab ID: 290582-005
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	2.6	1.4	0.19	1.000	07/24/17
Barium	870 b	24	2.8	100.0	07/25/17
Cadmium	0.92	0.24	0.048	1.000	07/24/17
Chromium	40	0.24	0.048	1.000	07/24/17
Lead	19	0.97	0.12	1.000	07/24/17
Selenium	1.1 J	1.9	0.22	1.000	07/25/17
Silver	ND	0.24	0.048	1.000	07/24/17

Field ID: TRENCH 5 Lab ID: 290582-006
Type: SAMPLE Sampled: 07/10/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	4.1	1.4	0.19	1.000	07/24/17
Barium	580 b	24	2.8	100.0	07/25/17
Cadmium	1.1	0.24	0.048	1.000	07/24/17
Chromium	51	0.24	0.048	1.000	07/24/17
Lead	200	0.96	0.12	1.000	07/24/17
Selenium	1.4 J	1.9	0.21	1.000	07/24/17
Silver	ND	0.24	0.048	1.000	07/24/17

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID: TRENCH 6 Lab ID: 290582-007
Type: SAMPLE Sampled: 07/11/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	1.7	1.4	0.19	1.000	07/24/17
Barium	770 b	24	2.8	100.0	07/25/17
Cadmium	0.70	0.24	0.048	1.000	07/24/17
Chromium	29	0.24	0.048	1.000	07/24/17
Lead	6.0	0.96	0.12	1.000	07/24/17
Selenium	0.91 J	1.9	0.22	1.000	07/25/17
Silver	ND	0.24	0.048	1.000	07/24/17

Field ID: TRENCH 7 Lab ID: 290582-008
Type: SAMPLE Sampled: 07/11/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	3.8	1.5	0.20	1.000	07/24/17
Barium	610 b	25	2.9	100.0	07/25/17
Cadmium	0.93	0.25	0.050	1.000	07/24/17
Chromium	64	0.25	0.050	1.000	07/24/17
Lead	64	1.0	0.13	1.000	07/24/17
Selenium	0.79 J	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

Field ID: TRENCH 8 Lab ID: 290582-009
Type: SAMPLE Sampled: 07/11/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	1.4 J	1.5	0.20	1.000	07/24/17
Barium	740 b	25	2.9	100.0	07/25/17
Cadmium	0.86	0.25	0.050	1.000	07/24/17
Chromium	43	0.25	0.050	1.000	07/24/17
Lead	73	1.0	0.13	1.000	07/24/17
Selenium	1.2 J	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID: TRENCH 9 Lab ID: 290582-010
Type: SAMPLE Sampled: 07/11/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	1.8	1.5	0.20	1.000	07/24/17
Barium	750 b	25	2.9	100.0	07/25/17
Cadmium	0.92	0.25	0.050	1.000	07/24/17
Chromium	49	0.25	0.050	1.000	07/24/17
Lead	71	0.99	0.13	1.000	07/24/17
Selenium	0.34 J	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

Field ID: TRENCH 10 Diln Fac: 1.000
Type: SAMPLE Sampled: 07/11/17
Lab ID: 290582-011 Analyzed: 07/24/17

Analyte	Result	RL	MDL
Arsenic	7.7	1.5	0.20
Barium	380 b	0.24	0.029
Cadmium	1.7	0.24	0.049
Chromium	130	0.24	0.049
Lead	340	0.98	0.13
Selenium	1.7 J	2.0	0.22
Silver	ND	0.24	0.049

Field ID: TRENCH 11 Lab ID: 290582-012
Type: SAMPLE Sampled: 07/12/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	4.7	1.5	0.20	1.000	07/24/17
Barium	380 b	25	2.9	100.0	07/25/17
Cadmium	1.4	0.25	0.050	1.000	07/24/17
Chromium	60	0.25	0.050	1.000	07/24/17
Lead	760	50	13	100.0	07/25/17
Selenium	0.44 J	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.050	1.000	07/24/17

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID: TRENCH 12 Lab ID: 290582-013
Type: SAMPLE Sampled: 07/12/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	2.5	1.4	0.19	1.000	07/24/17
Barium	570 b	24	2.8	100.0	07/25/17
Cadmium	0.88	0.24	0.047	1.000	07/24/17
Chromium	49	0.24	0.047	1.000	07/24/17
Lead	16	0.94	0.12	1.000	07/25/17
Selenium	0.85 J	1.9	0.21	1.000	07/24/17
Silver	ND	0.24	0.047	1.000	07/24/17

Field ID: TRENCH 13 Diln Fac: 1.000
Type: SAMPLE Sampled: 07/12/17
Lab ID: 290582-014

Analyte	Result	RL	MDL	Analyzed
Arsenic	6.1	1.4	0.19	07/24/17
Barium	390 b	0.24	0.028	07/24/17
Cadmium	1.1	0.24	0.048	07/24/17
Chromium	110	0.24	0.048	07/24/17
Lead	47	0.96	0.12	07/24/17
Selenium	1.5 J	1.9	0.22	07/25/17
Silver	ND	0.24	0.048	07/24/17

Field ID: TRENCH 14 Lab ID: 290582-015
Type: SAMPLE Sampled: 07/12/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	2.7	1.4	0.18	1.000	07/24/17
Barium	890 b	23	2.7	100.0	07/25/17
Cadmium	0.96	0.23	0.046	1.000	07/24/17
Chromium	41	0.23	0.046	1.000	07/24/17
Lead	59	0.92	0.12	1.000	07/24/17
Selenium	1.8 J	1.8	0.21	1.000	07/25/17
Silver	ND	0.23	0.046	1.000	07/24/17

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	249942
Units:	mg/Kg	Received:	07/14/17
Basis:	as received	Prepared:	07/23/17

Field ID:	TRENCH 15	Lab ID:	290582-016
Type:	SAMPLE	Sampled:	07/12/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	3.0	1.5	0.20	1.000	07/24/17
Barium	700	25	2.9	100.0	07/25/17
Cadmium	0.90	0.25	0.049	1.000	07/24/17
Chromium	55	0.25	0.049	1.000	07/24/17
Lead	18	0.98	0.13	1.000	07/24/17
Selenium	2.4	2.0	0.22	1.000	07/24/17
Silver	ND	0.25	0.049	1.000	07/24/17

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC894212	Analyzed:	07/24/17

Analyte	Result	RL	MDL
Arsenic	ND	1.5	0.20
Barium	0.13 J	0.25	0.029
Cadmium	ND	0.25	0.050
Chromium	0.12 J	0.25	0.050
Lead	ND	0.99	0.13
Selenium	ND	2.0	0.22
Silver	0.056 J	0.25	0.050

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Mercury by Cold Vapor AA

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	dry
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Received:	07/14/17

Field ID	Type	Lab ID	Result	RL	MDL	Moisture	Batch#	Sampled	Prepared	Analyzed
TRENCH 2	SAMPLE	290582-017	0.020	0.018	0.0055	12%	249984	07/10/17	07/24/17	07/24/17
TRENCH 1	SAMPLE	290582-018	ND	0.019	0.0057	18%	249984	07/10/17	07/24/17	07/24/17
TRENCH 2BP	SAMPLE	290582-019	0.29	0.024	0.0072	32%	249984	07/10/17	07/24/17	07/24/17
TRENCH 3	SAMPLE	290582-020	0.072	0.019	0.0057	15%	249984	07/10/17	07/24/17	07/24/17
TRENCH 4	SAMPLE	290582-021	0.020	0.019	0.0056	13%	249984	07/10/17	07/24/17	07/24/17
TRENCH 5	SAMPLE	290582-022	0.041	0.020	0.0061	16%	249984	07/10/17	07/24/17	07/24/17
TRENCH 6	SAMPLE	290582-023	0.0075 J	0.022	0.0065	20%	250019	07/11/17	07/25/17	07/25/17
TRENCH 7	SAMPLE	290582-024	0.030	0.019	0.0058	13%	250019	07/11/17	07/25/17	07/25/17
TRENCH 8	SAMPLE	290582-025	0.0099 J	0.019	0.0056	17%	250019	07/11/17	07/25/17	07/25/17
TRENCH 9	SAMPLE	290582-026	0.082	0.018	0.0055	14%	250019	07/11/17	07/25/17	07/25/17
TRENCH 10	SAMPLE	290582-027	0.021	0.019	0.0056	11%	250019	07/11/17	07/25/17	07/25/17
TRENCH 11	SAMPLE	290582-028	0.079	0.021	0.0064	19%	250019	07/12/17	07/25/17	07/25/17
TRENCH 12	SAMPLE	290582-029	ND	0.018	0.0054	10%	250019	07/12/17	07/25/17	07/25/17
TRENCH 13	SAMPLE	290582-030	0.12	0.022	0.0067	24%	250019	07/12/17	07/25/17	07/25/17
TRENCH 14	SAMPLE	290582-031	0.050	0.019	0.0057	12%	250019	07/12/17	07/25/17	07/25/17
TRENCH 15	SAMPLE	290582-032	0.039	0.021	0.0062	15%	250019	07/12/17	07/25/17	07/25/17
	BLANK	QC894362	ND	0.016	0.0047		249984		07/24/17	07/24/17
	BLANK	QC894496	ND	0.015	0.0045		250019		07/25/17	07/25/17

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC894213	Batch#:	249942
Matrix:	Soil	Prepared:	07/23/17
Units:	mg/Kg	Analyzed:	07/24/17

Analyte	Spiked	Result	%REC	Limits
Arsenic	49.95	51.60	103	80-120
Barium	49.95	48.47	97	80-120
Cadmium	49.95	49.89	100	80-120
Chromium	49.95	51.70	104	80-120
Lead	49.95	46.66	93	80-120
Selenium	49.95	49.45	99	80-120
Silver	4.995	4.972	100	80-120

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Batch QC Report

RCRA Metals

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Field ID:	TRENCH 15	Batch#:	249942
MSS Lab ID:	290582-016	Sampled:	07/12/17
Matrix:	Soil	Received:	07/14/17
Units:	mg/Kg	Prepared:	07/23/17
Basis:	as received	Analyzed:	07/24/17
Diln Fac:	1.000		

Type: MS Lab ID: QC894214

Analyte	MSS Result	Spiked	Result	%REC	Limits
Arsenic	2.993	49.36	45.89	87	69-129
Barium	695.1	49.36	804.3 >LR	221 NM	43-156
Cadmium	0.9017	49.36	47.84	95	73-122
Chromium	55.14	49.36	89.24	69	63-135
Lead	17.68	49.36	55.35	76	50-131
Selenium	2.381	49.36	39.05	74	57-123
Silver	<0.04916	4.936	-2.732	0 *	34-136

Type: MSD Lab ID: QC894215

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	48.50	44.13	85	69-129	2	30
Barium	48.50	735.2 >LR	83 NM	43-156	NC	40
Cadmium	48.50	45.98	93	73-122	2	28
Chromium	48.50	78.39	48 *	63-135	12	34
Lead	48.50	51.79	70	50-131	5	48
Selenium	48.50	37.29	72	57-123	3	29
Silver	4.850	-1.462	0 *	34-136	59 *	39

*= Value outside of QC limits; see narrative
NC= Not Calculated
NM= Not Meaningful: Sample concentration > 4X spike concentration
>LR= Response exceeds instrument's linear range
RPD= Relative Percent Difference

Batch QC Report

Mercury by Cold Vapor AA

Lab #:	290582	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Units:	mg/Kg
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Matrix:	Soil		

Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Basis	Moisture	RPD	Lim	Batch#	Sampled	Received	Prepared	Analyzed
BS		QC894363		0.2016	0.2207	109	79-129					249984			07/24/17	07/24/17
BSD		QC894364		0.1923	0.2150	112	79-129			2	40	249984			07/24/17	07/24/17
MS	290447-044	QC894365	0.5267	0.2449	2.134 >LR b	656 *	63-149	dry	12%			249984	07/10/17	07/10/17	07/24/17	07/24/17
MSD	290447-044	QC894366		0.2367	0.9288	170 *	63-149	dry	12%	NC	69	249984	07/10/17	07/10/17	07/24/17	07/24/17
BS		QC894497		0.2083	0.2094	101	79-129					250019			07/25/17	07/25/17
BSD		QC894498		0.2083	0.2077	100	79-129			1	40	250019			07/25/17	07/25/17
MS	290595-004	QC894499	0.03053	0.2083	0.2550	108	63-149	as received				250019	07/13/17	07/14/17	07/25/17	07/25/17
MSD	290595-004	QC894500		0.1923	0.2480	113	63-149	as received		4	69	250019	07/13/17	07/14/17	07/25/17	07/25/17

*= Value outside of QC limits; see narrative
b= See narrative
NC= Not Calculated
>LR= Response exceeds instrument's linear range
RPD= Relative Percent Difference

Laboratory Job Number 290582

Subcontracted Products

Cape Fear Analytical

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

August 24, 2017

Ms. Dina Ali
Curtis & Tompkins, LTD
2323 Fifth Street
Berkeley, California 94710

Re: Subcontract DXN / PCB's
Work Order: 11094
SDG: 290582

Dear Ms. Ali:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 22, 2017. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Enclosures

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900
(510) 486-0532

CFA NO #11094

Project Number: 290582
Site: 820 Eisenberg Phase II

Subcontract Laboratory:
Cape Fear Analytical
3306 Kitty Hawk Road, Suite 120
Wilmington, NC 28405
(910) 795-0421
ATTN: Cynde Larkins

Results due: Report Level: II

Please send report to: Dina Ali (dina.ali@ctberk.com)
*** Please report using Sample ID rather than C&T Lab #.

Sample ID	Sampled	Matrix	Analysis	C&T Lab #	Comments
TRENCH 2BP	07/10 09:45	Soil	8290	290582-003	MIS-DRY
TRENCH 5	07/10 13:40	Soil	8290	290582-006	MIS-DRY

1.9

Notes:	Relinquished By:	Received By:
	Date/Time: 7.20.17, 14:42	Date/Time: 7/22/17 1100
	Date/Time:	Date/Time:

Signature on this form constitutes a firm Purchase Order for the services requested above.

Page 1 of 1

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: CURL	Work Order: 11094
Shipping Company: FedEx	Date/Time Received: 22 JUL 17 1100

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			
Samples identified as Foreign Soil?	✓		

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 1.9°
4	Aqueous samples found to have visible solids?		✓		Sample IDs, containers affected:
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?		✓		Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?			✓	Sample IDs, containers affected: No collection dates or times noted on sample labels
10	Number of containers received match number indicated on COC?			✓	List type and number of containers / Sample IDs, containers affected: Not noted on COC 2 (or equiv) 2oz clear soil jar per sample
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CJ Date: 24 JUL 17

CF-UD-F-7

High Resolution Dioxins and Furans Analysis

Case Narrative

HDOX Case Narrative
Curtis & Tompkins, LTD (CURL)
SDG 290582
Work Order 11094

Method/Analysis Information

Product:	**Dioxins/Furans by SW846 Method 8290A in Solids**
Analytical Method:	SW846 8290A
Extraction Method:	SW846 3540C
Analytical Batch Number:	35209
Clean Up Batch Number:	35207
Extraction Batch Number:	35206

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8290A:

Sample ID	Client ID
11094001	TRENCH 2BP
11094002	TRENCH 5
12019144	Method Blank (MB)
12019145	Laboratory Control Sample (LCS)
12019146	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 14.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
Sample 11094002 (TRENCH 5) was diluted due to the presence of over-range target analytes.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP763_1	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

CURL001 Curtis & Tompkins, LTD

Client SDG: 290582 CFA Work Order: 11094

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature:  **Name: Heather Patterson**

Date: 24 AUG 2017 **Title: Group Leader**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**11094001**	**Date Collected:**	**07/10/2017 09:45**	**Matrix:**	**SOIL**
Client Sample:	**8290 Soil**	**Date Received:**	**07/22/2017 11:00**		
Client ID:	**TRENCH 2BP**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/18/2017 21:52**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b18aug17b-9**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10.07 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.134		pg/g	0.134	0.993
40321-76-4	1,2,3,7,8-PeCDD	J	0.195		pg/g	0.0939	4.97
39227-28-6	1,2,3,4,7,8-HxCDD	U	0.182		pg/g	0.182	4.97
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.375		pg/g	0.164	4.97
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.399		pg/g	0.175	4.97
35822-46-9	1,2,3,4,6,7,8-HpCDD		6.92		pg/g	0.197	4.97
3268-87-9	1,2,3,4,6,7,8,9-OCDD		57.9		pg/g	0.316	9.93
51207-31-9	2,3,7,8-TCDF	J	0.445		pg/g	0.169	0.993
57117-41-6	1,2,3,7,8-PeCDF	J	0.234		pg/g	0.0872	4.97
57117-31-4	2,3,4,7,8-PeCDF	J	0.943		pg/g	0.0781	4.97
70648-26-9	1,2,3,4,7,8-HxCDF	JK		0.244	pg/g	0.101	4.97
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.471	pg/g	0.0935	4.97
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.638		pg/g	0.0997	4.97
72918-21-9	1,2,3,7,8,9-HxCDF	U	0.118		pg/g	0.118	4.97
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.06		pg/g	0.0725	4.97
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	0.0904		pg/g	0.0904	4.97
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	1.99		pg/g	0.226	9.93
3333-30-0	TEQ WHO2005 ND=0		0.778	0.850	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.870	0.932	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		115	199	pg/g	58.1	(40%-135%)
13C-1,2,3,7,8-PeCDD		137	199	pg/g	68.9	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		140	199	pg/g	70.7	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		146	199	pg/g	73.4	(40%-135%)
13C-OCDD		264	397	pg/g	66.5	(40%-135%)
13C-2,3,7,8-TCDF		143	199	pg/g	72.1	(40%-135%)
13C-1,2,3,7,8-PeCDF		144	199	pg/g	72.3	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		145	199	pg/g	73.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		158	199	pg/g	79.7	(40%-135%)

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**11094002**	**Date Collected:**	**07/10/2017 13:40**	**Matrix:**	**SOIL**
Client Sample:	**8290 Soil**	**Date Received:**	**07/22/2017 11:00**		
Client ID:	**TRENCH 5**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/22/2017 18:11**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b22aug17a-12**			**Dilution:**	**5**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10.74 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.92		pg/g	1.92	4.66
40321-76-4	1,2,3,7,8-PeCDD	J	5.15		pg/g	1.82	23.3
39227-28-6	1,2,3,4,7,8-HxCDD	JK		11.2	pg/g	2.57	23.3
57653-85-7	1,2,3,6,7,8-HxCDD		73.3		pg/g	2.31	23.3
19408-74-3	1,2,3,7,8,9-HxCDD	K		26.7	pg/g	2.46	23.3
35822-46-9	1,2,3,4,6,7,8-HpCDD		4260		pg/g	11.0	23.3
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	54500		pg/g	18.1	46.6
51207-31-9	2,3,7,8-TCDF	U	1.72		pg/g	1.72	4.66
57117-41-6	1,2,3,7,8-PeCDF	U	1.06		pg/g	1.06	23.3
57117-31-4	2,3,4,7,8-PeCDF	J	4.85		pg/g	0.944	23.3
70648-26-9	1,2,3,4,7,8-HxCDF	J	13.2		pg/g	1.88	23.3
57117-44-9	1,2,3,6,7,8-HxCDF	J	16.7		pg/g	1.73	23.3
60851-34-5	2,3,4,6,7,8-HxCDF	J	22.5		pg/g	1.85	23.3
72918-21-9	1,2,3,7,8,9-HxCDF	U	2.2		pg/g	2.20	23.3
67562-39-4	1,2,3,4,6,7,8-HpCDF		980		pg/g	3.85	23.3
55673-89-7	1,2,3,4,7,8,9-HpCDF		45.8		pg/g	4.79	23.3
39001-02-0	1,2,3,4,6,7,8,9-OCDF		5930		pg/g	9.63	46.6
3333-30-0	TEQ WHO2005 ND=0		90.1	93.9	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		91.6	95.1	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		124	186	pg/g	66.5	(40%-135%)
13C-1,2,3,7,8-PeCDD		152	186	pg/g	81.8	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		147	186	pg/g	78.8	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		157	186	pg/g	84.3	(40%-135%)
13C-OCDD		270	372	pg/g	72.5	(40%-135%)
13C-2,3,7,8-TCDF		161	186	pg/g	86.5	(40%-135%)
13C-1,2,3,7,8-PeCDF		167	186	pg/g	89.6	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		162	186	pg/g	86.9	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		162	186	pg/g	86.9	(40%-135%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 290582

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
11094001	TRENCH 2BP	13C-2,3,7,8-TCDD		58.1	(40%-135%)
		13C-1,2,3,7,8-PeCDD		68.9	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		70.7	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		73.4	(40%-135%)
		13C-OCDD		66.5	(40%-135%)
		13C-2,3,7,8-TCDF		72.1	(40%-135%)
		13C-1,2,3,7,8-PeCDF		72.3	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		73.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		79.7	(40%-135%)
12019145	LCS for batch 35206	13C-2,3,7,8-TCDD		62.2	(40%-135%)
		13C-1,2,3,7,8-PeCDD		73.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		75.4	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		82.9	(40%-135%)
		13C-OCDD		73.9	(40%-135%)
		13C-2,3,7,8-TCDF		79.4	(40%-135%)
		13C-1,2,3,7,8-PeCDF		79.0	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		80.6	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		85.2	(40%-135%)
12019146	LCSD for batch 35206	13C-2,3,7,8-TCDD		60.0	(40%-135%)
		13C-1,2,3,7,8-PeCDD		76.5	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		72.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		74.8	(40%-135%)
		13C-OCDD		65.4	(40%-135%)
		13C-2,3,7,8-TCDF		79.2	(40%-135%)
		13C-1,2,3,7,8-PeCDF		78.7	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		78.7	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		81.4	(40%-135%)
12019144	MB for batch 35206	13C-2,3,7,8-TCDD		61.4	(40%-135%)
		13C-1,2,3,7,8-PeCDD		73.9	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		71.5	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		81.4	(40%-135%)
		13C-OCDD		70.1	(40%-135%)
		13C-2,3,7,8-TCDF		78.1	(40%-135%)
		13C-1,2,3,7,8-PeCDF		77.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		78.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		82.4	(40%-135%)
11094002	TRENCH 5	13C-2,3,7,8-TCDD	D	66.5	(40%-135%)
		13C-1,2,3,7,8-PeCDD	D	81.8	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD	D	78.8	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD	D	84.3	(40%-135%)
		13C-OCDD	D	72.5	(40%-135%)
		13C-2,3,7,8-TCDF	D	86.5	(40%-135%)
		13C-1,2,3,7,8-PeCDF	D	89.6	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF	D	86.9	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF	D	86.9	(40%-135%)

* Recovery outside Acceptance Limits

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 290582

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 290582 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 35206 **Matrix:** SOIL

Lab Sample ID: 12019145

Instrument: HRP763 **Analysis Date:** 08/19/2017 08:34 **Dilution:** 1

Analyst: CLP **Prep Batch ID:** 35206

Batch ID: 35209

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	20.0	24.6	123	70-130
40321-76-4	LCS	1,2,3,7,8-PeCDD	100	105	105	70-130
39227-28-6	LCS	1,2,3,4,7,8-HxCDD	100	105	105	70-130
57653-85-7	LCS	1,2,3,6,7,8-HxCDD	100	122	122	70-130
19408-74-3	LCS	1,2,3,7,8,9-HxCDD	100	121	121	70-130
35822-46-9	LCS	1,2,3,4,6,7,8-HpCDD	100	99.3	99.3	70-130
3268-87-9	LCS	1,2,3,4,6,7,8,9-OCDD	200	208	104	70-130
51207-31-9	LCS	2,3,7,8-TCDF	20.0	19.6	98.2	70-130
57117-41-6	LCS	1,2,3,7,8-PeCDF	100	103	103	70-130
57117-31-4	LCS	2,3,4,7,8-PeCDF	100	103	103	70-130
70648-26-9	LCS	1,2,3,4,7,8-HxCDF	100	102	102	70-130
57117-44-9	LCS	1,2,3,6,7,8-HxCDF	100	120	120	70-130
60851-34-5	LCS	2,3,4,6,7,8-HxCDF	100	112	112	70-130
72918-21-9	LCS	1,2,3,7,8,9-HxCDF	100	105	105	70-130
67562-39-4	LCS	1,2,3,4,6,7,8-HpCDF	100	104	104	70-130
55673-89-7	LCS	1,2,3,4,7,8,9-HpCDF	100	102	102	70-130
39001-02-0	LCS	1,2,3,4,6,7,8,9-OCDF	200	229	114	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 290582 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 35206 **Matrix:** SOIL

Lab Sample ID: 12019146

Instrument: HRP763 **Analysis Date:** 08/19/2017 09:22 **Dilution:** 1

Analyst: CLP **Prep Batch ID:** 35206

Batch ID: 35209

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	20.0	24.7	124	70-130	0.365	0-20
40321-76-4	LCSD	1,2,3,7,8-PeCDD	100	104	104	70-130	1.44	0-20
39227-28-6	LCSD	1,2,3,4,7,8-HxCDD	100	110	110	70-130	4.76	0-20
57653-85-7	LCSD	1,2,3,6,7,8-HxCDD	100	121	121	70-130	0.796	0-20
19408-74-3	LCSD	1,2,3,7,8,9-HxCDD	100	121	121	70-130	0.383	0-20
35822-46-9	LCSD	1,2,3,4,6,7,8-HpCDD	100	106	106	70-130	6.46	0-20
3268-87-9	LCSD	1,2,3,4,6,7,8,9-OCDD	200	208	104	70-130	0.103	0-20
51207-31-9	LCSD	2,3,7,8-TCDF	20.0	19.4	96.8	70-130	1.47	0-20
57117-41-6	LCSD	1,2,3,7,8-PeCDF	100	101	101	70-130	2.35	0-20
57117-31-4	LCSD	2,3,4,7,8-PeCDF	100	102	102	70-130	0.555	0-20
70648-26-9	LCSD	1,2,3,4,7,8-HxCDF	100	102	102	70-130	0.151	0-20
57117-44-9	LCSD	1,2,3,6,7,8-HxCDF	100	119	119	70-130	0.857	0-20
60851-34-5	LCSD	2,3,4,6,7,8-HxCDF	100	113	113	70-130	0.847	0-20
72918-21-9	LCSD	1,2,3,7,8,9-HxCDF	100	105	105	70-130	0.0667	0-20
67562-39-4	LCSD	1,2,3,4,6,7,8-HpCDF	100	104	104	70-130	0.192	0-20
55673-89-7	LCSD	1,2,3,4,7,8,9-HpCDF	100	98.4	98.4	70-130	4.02	0-20
39001-02-0	LCSD	1,2,3,4,6,7,8,9-OCDF	200	234	117	70-130	2.37	0-20

Method Blank Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Matrix:**	**SOIL**
Client ID:	**MB for batch 35206**	**Instrument ID:**	**HRP763**	**Data File:**	**b19aug17a-4**
Lab Sample ID:	**12019144**	**Prep Date:**	**28-JUL-17**	**Analyzed:**	**08/19/17 10:11**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	TRENCH 2BP	11094001	b18aug17b-9	08/18/17	2152
02	LCS for batch 35206	12019145	b19aug17a-2	08/19/17	0834
03	LCSD for batch 35206	12019146	b19aug17a-3	08/19/17	0922
04	TRENCH 5	11094002	b22aug17a-12	08/22/17	1811

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019144**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**MB for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 10:11**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.394		pg/g	0.394	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	0.228		pg/g	0.228	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	0.286		pg/g	0.286	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	0.258		pg/g	0.258	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	0.276		pg/g	0.276	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	0.38		pg/g	0.380	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		1.08	pg/g	0.546	10.0
51207-31-9	2,3,7,8-TCDF	U	0.412		pg/g	0.412	1.00
57117-41-6	1,2,3,7,8-PeCDF	JK		0.240	pg/g	0.196	5.00
57117-31-4	2,3,4,7,8-PeCDF	U	0.175		pg/g	0.175	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	0.248		pg/g	0.248	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	0.228		pg/g	0.228	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	0.244		pg/g	0.244	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	0.29		pg/g	0.290	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.286		pg/g	0.173	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	0.216		pg/g	0.216	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	0.698		pg/g	0.698	10.0
3333-30-0	TEQ WHO2005 ND=0		0.00286	0.0104	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.458	0.463	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		123	200	pg/g	61.4	(40%-135%)
13C-1,2,3,7,8-PeCDD		148	200	pg/g	73.9	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		143	200	pg/g	71.5	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		163	200	pg/g	81.4	(40%-135%)
13C-OCDD		280	400	pg/g	70.1	(40%-135%)
13C-2,3,7,8-TCDF		156	200	pg/g	78.1	(40%-135%)
13C-1,2,3,7,8-PeCDF		154	200	pg/g	77.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		156	200	pg/g	78.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		165	200	pg/g	82.4	(40%-135%)

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019145**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**LCS for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 08:34**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-2**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		24.6		pg/g	0.472	1.00
40321-76-4	1,2,3,7,8-PeCDD		105		pg/g	0.336	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		105		pg/g	0.564	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		122		pg/g	0.508	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.542	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		99.3		pg/g	0.880	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		208		pg/g	1.49	10.0
51207-31-9	2,3,7,8-TCDF		19.6		pg/g	0.474	1.00
57117-41-6	1,2,3,7,8-PeCDF		103		pg/g	0.382	5.00
57117-31-4	2,3,4,7,8-PeCDF		103		pg/g	0.340	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		102		pg/g	0.738	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		120		pg/g	0.682	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		112		pg/g	0.726	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		105		pg/g	0.862	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		104		pg/g	0.558	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		102		pg/g	0.694	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		229		pg/g	1.96	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		124	200	pg/g	62.2	(40%-135%)
13C-1,2,3,7,8-PeCDD		146	200	pg/g	73.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.4	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		166	200	pg/g	82.9	(40%-135%)
13C-OCDD		296	400	pg/g	73.9	(40%-135%)
13C-2,3,7,8-TCDF		159	200	pg/g	79.4	(40%-135%)
13C-1,2,3,7,8-PeCDF		158	200	pg/g	79.0	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		161	200	pg/g	80.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		170	200	pg/g	85.2	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290582**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019146**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**LCSD for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 09:22**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-3**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		24.7		pg/g	0.576	1.00
40321-76-4	1,2,3,7,8-PeCDD		104		pg/g	0.420	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		110		pg/g	0.672	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		121		pg/g	0.606	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.644	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		106		pg/g	0.840	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		208		pg/g	1.57	10.0
51207-31-9	2,3,7,8-TCDF		19.4		pg/g	0.528	1.00
57117-41-6	1,2,3,7,8-PeCDF		101		pg/g	0.544	5.00
57117-31-4	2,3,4,7,8-PeCDF		102		pg/g	0.486	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		102		pg/g	0.888	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		119		pg/g	0.820	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		113		pg/g	0.874	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		105		pg/g	1.03	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		104		pg/g	0.634	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		98.4		pg/g	0.790	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		234		pg/g	1.45	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		120	200	pg/g	60.0	(40%-135%)
13C-1,2,3,7,8-PeCDD		153	200	pg/g	76.5	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		144	200	pg/g	72.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		150	200	pg/g	74.8	(40%-135%)
13C-OCDD		262	400	pg/g	65.4	(40%-135%)
13C-2,3,7,8-TCDF		158	200	pg/g	79.2	(40%-135%)
13C-1,2,3,7,8-PeCDF		157	200	pg/g	78.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		157	200	pg/g	78.7	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		163	200	pg/g	81.4	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 290650
ANALYTICAL REPORT

Element Environmental, LLC	Project : 170039
98-030 Hekaha Street	Location : 820 Eisenberg Phase II
Aiea, HI 96701	Level : II

Sample ID	Lab ID
TRENCH 16	290650-001
TRENCH 17	290650-002
TRENCH 18	290650-003
TRENCH 19	290650-004
TRENCH 20	290650-005
TRENCH 21	290650-006
TRENCH 22	290650-007
TRENCH 23	290650-008
TRENCH 23 SLAG	290650-009
TRENCH 16	290650-010
TRENCH 17	290650-011
TRENCH 18	290650-012
TRENCH 19	290650-013
TRENCH 20	290650-014
TRENCH 21	290650-015
TRENCH 22	290650-016
TRENCH 23	290650-017
TRENCH 23 SLAG	290650-018

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 08/25/2017

Dina Ali
Project Manager
dina.ali@enthalpy.com
(510) 204-2223 Ext 13105

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**290650**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**07/18/17**
Samples Received:	**07/18/14**

This data package contains sample and QC results for eight soil samples, requested for the above referenced project on 07/18/17. The samples were received on ice and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
Gasoline C6-C12 was detected between the MDL and the RL in the method blank for batch 249818. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
Diesel C12-C28 was detected between the MDL and the RL in the method blank for batch 249994; this analyte was detected in samples at a level at least 10 times that of the blank. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
High response was observed for Freon 113 in the ICV analyzed 07/22/17 03:49; affected data was qualified with "b". Matrix spikes were not performed for this analysis in batch 249956 due to insufficient sample amount. Matrix spikes were not performed for this analysis in batch 250002 due to insufficient sample amount. Low recoveries were observed for 1,1,2,2-tetrachloroethane in the BS/BSD for batch 250041; the associated RPD was within limits. High recoveries were observed for Freon 113 in the MS/MSD for batch 250041; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
Matrix spikes QC894272,QC894273 (batch 249958) were not analyzed because the parent sample required a dilution that would have diluted out the spikes. Low recoveries were observed for 1-methylnaphthalene and 2-methylnaphthalene in the MS/MSD for batch 250011; the parent sample was not a project sample, the LCS was within limits, and the associated RPDs were within limits. High recoveries were observed for many analytes; the LCS was within limits, and the associated RPDs were within limits. Low surrogate recoveries were observed for nitrobenzene-d5 in the MS/MSD for batch 250011; the parent sample was not a project sample. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**290650**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**07/18/17**
Samples Received:	**07/18/14**

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High response was observed for Aroclor-1260 in the CCV analyzed 08/04/17 01:34; affected data was qualified with "b". Matrix spikes QC894520,QC894521 (batch 250024) were not reported because the parent sample required a dilution that would have diluted out the spikes. TRENCH 16 (lab # 290650-001), TRENCH 18 (lab # 290650-003), and TRENCH 21 (lab # 290650-006) were diluted due to the color of the sample extracts. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Low recoveries were observed for silver in the MS/MSD for batch 250200; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits. High recoveries were observed for chromium; the LCS was within limits, and the associated RPD was within limits. Silver and barium were detected between the MDL and the RL in the method blank for batch 250200; these analytes were either not detected in samples at or above the RL, or detected at a level at least 10 times that of the blank. No other analytical problems were encountered.

Moisture (ASTM D2216-98/CLP):
No analytical problems were encountered.

Dioxins and Furans (EPA 8290):
Cape Fear Analytical in Wilmington, NC performed the analysis (NELAP certified). Please see the Cape Fear Analytical case narrative.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
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CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 290650

Project No: 170039
Project Name: 820 Isenberg
EDD Format: Non-DoD Rpt Level: x II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals (Hold for further instruction)						
	Trench 16	7/13/2017	0930 ~~0910~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 17	7/13/2017	1000 ~~0925~~	x			1																							
	Trench 18	7/13/2017	0943 ~~0945~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 19	7/13/2017	1151 ~~1145~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 20	7/13/2017	1400 ~~1200~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 21	7/14/2017	0915 ~~1340~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 22	7/14/2017	0855 ~~0855~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 23	7/14/2017	1330 ~~0840~~	x			2				x		x	x	x	x	x		x	x	x									
	Trench 23 "Slag"	7/14/2017	1230 ~~0945~~	x			1						x			x	x		x	x	x		x							

Notes:

Hold sample "*Trench 17*". Not sure this sample requires analysis.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

7/17/17 1490 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

07/18/2017 12:45 DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 290650 Date Received 7.18.17 Number of coolers 1
Client Element Environmental Project 820 Isenberg

Date Opened 7.18.17 By (print) DC (sign)
Date Logged in By (print) EHS (sign)
Date Labelled By (print) EHS (sign)

1. Did cooler come with a shipping slip (airbill, etc) Fed Ex YES NO
Shipping info 7796 6779 8199

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☐ NO
How many 2 Name Signature Date 7.17.17
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☑ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☒ Blue/Gel ☐ None Temp(°C) 2.0

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? 15:20
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Rev 13, 6/01/16

Curtis & Tompkins, Ltd.

Detections Summary for 290650

Results for any subcontracted analyses are not included in this summary.

Client : Element Environmental, LLC
Project : 170039
Location : 820 Eisenberg Phase II

Client Sample ID : TRENCH 16 Laboratory Sample ID : 290650-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.069		0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550B
Arsenic	9.7		0.57	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	470		24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	1.3		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	100		0.24	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	320		0.47	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.7		0.63	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 18 Laboratory Sample ID : 290650-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.020		0.017	0.0039	mg/Kg	As Recd	5.000	EPA 8082	EPA 3550B
Arsenic	6.7		0.56	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	130		0.23	0.027	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.77		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	99		0.23	0.047	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	120		0.47	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	1.1		0.63	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 19 Laboratory Sample ID : 290650-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.011		0.0048	0.00077	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550B
Arsenic	12		0.60	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	440		0.25	0.029	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	84		0.25	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	310		0.49	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	3.3		0.67	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Curtis & Tompkins, Ltd.

Client Sample ID : TRENCH 20 Laboratory Sample ID : 290650-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.093		0.067	0.016	mg/Kg	As Recd	20.00	EPA 8082	EPA 3550B
Arsenic	9.5		0.57	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	490		24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.76		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	62		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	190		0.48	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	2.4		0.64	0.21	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 21 Laboratory Sample ID : 290650-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	8.2		0.58	0.19	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	1,000		24	2.8	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.85		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	38		0.24	0.048	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	51		0.48	0.12	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	3.2		0.65	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 22 Laboratory Sample ID : 290650-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	9.1		0.59	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	1,100		24	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.89		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	40		0.49	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	5.8		0.66	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 23 Laboratory Sample ID : 290650-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	7.9		0.59	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	970		24	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.84		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	28		0.24	0.049	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	17		0.49	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	3.9		0.66	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : TRENCH 23 SLAG Laboratory Sample ID : 290650-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	7.3		0.60	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	550		25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Cadmium	0.67		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	43		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	18		0.50	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Selenium	7.9		0.67	0.22	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 16 Laboratory Sample ID : 290650-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	37	Y	6.2	0.23	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	1,500	Y	12	3.6	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
Motor Oil C28-C40	3,500		58	18	mg/Kg	Dry	10.00	EPA 8015B	EPA 3550B
o-Xylene	0.050	J	0.31	0.031	mg/Kg	Dry	53.41	EPA 8260B	EPA 5035
1,2-Dichlorobenzene	0.033	J	0.31	0.016	mg/Kg	Dry	53.41	EPA 8260B	EPA 5035
Naphthalene	0.21	J	0.31	0.016	mg/Kg	Dry	53.41	EPA 8260B	EPA 5035
Fluoranthene	0.069	J	0.29	0.058	mg/Kg	Dry	50.00	EPA 8270C-SIM	EPA 3550B
Pyrene	0.12	J	0.29	0.058	mg/Kg	Dry	50.00	EPA 8270C-SIM	EPA 3550B
Benzo(g,h,i)perylene	0.13	J	0.29	0.058	mg/Kg	Dry	50.00	EPA 8270C-SIM	EPA 3550B
Mercury	0.042		0.020	0.0059	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 18 Laboratory Sample ID : 290650-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	3.4	J	5.4	0.20	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	250	Y	6.0	1.8	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	780		30	9.1	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Naphthalene	0.044	J	0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Acenaphthylene	0.036	J	0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Acenaphthene	0.057	J	0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Fluorene	0.065	J	0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Phenanthrene	0.87		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Anthracene	0.16		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Fluoranthene	1.3		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Pyrene	1.1		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Benzo(a)anthracene	0.41		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Chrysene	0.48		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Benzo(b)fluoranthene	0.68		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Benzo(k)fluoranthene	0.23		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Benzo(a)pyrene	0.46		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Indeno(1,2,3-cd)pyrene	0.32		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Dibenz(a,h)anthracene	0.091	J	0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Benzo(g,h,i)perylene	0.39		0.12	0.024	mg/Kg	Dry	20.00	EPA 8270C-SIM	EPA 3550B
Mercury	0.054		0.020	0.0059	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : TRENCH 19 Laboratory Sample ID : 290650-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	1.2	J	5.7	0.21	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	210	Y	6.5	2.0	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	920		32	9.8	mg/Kg	Dry	5.000	EPA 8015B	EPA 3550B
Mercury	0.26		0.022	0.0065	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 20 Laboratory Sample ID : 290650-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	14	Y	5.7	0.21	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	1,100	Y	27	8.2	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
Motor Oil C28-C40	3,500		130	41	mg/Kg	Dry	20.00	EPA 8015B	EPA 3550B
Mercury	0.016	J	0.022	0.0066	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 21 Laboratory Sample ID : 290650-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	3.4	J	4.7	0.17	mg/Kg	As Recd	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	66	Y	3.0	0.91	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	260		15	4.5	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550B
Mercury	0.019		0.016	0.0048	mg/Kg	As Recd	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 22 Laboratory Sample ID : 290650-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	3.9	J	5.7	0.21	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	29	Y	3.5	1.1	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	140		17	5.3	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Mercury	0.078		0.020	0.0059	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 23 Laboratory Sample ID : 290650-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Gasoline C6-C12	4.0	J	5.7	0.21	mg/Kg	Dry	25.00	EPA 8015B	EPA 5035
Diesel C12-C28	22	Y	3.3	1.0	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	100		16	5.0	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Mercury	0.017	J	0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD

Client Sample ID : TRENCH 23 SLAG Laboratory Sample ID : 290650-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C12-C28	8,200	Y	4,100	1,200	mg/Kg	Dry	1000	EPA 8015B	EPA 3550B
Motor Oil C28-C40	85,000		20,000	6,200	mg/Kg	Dry	1000	EPA 8015B	EPA 3550B
Mercury	0.016	J	0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD

J = Estimated value
Y = Sample exhibits chromatographic pattern which does not resemble standard

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Analyzed:	07/19/17
Batch#:	249818		

Field ID:	TRENCH 16	Moisture:	14%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-010	Sampled:	07/13/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	37 Y	6.2	0.23

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	121	67-137

Field ID:	TRENCH 18	Moisture:	17%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-012	Sampled:	07/13/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	3.4 J	5.4	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	84	67-137

Field ID:	TRENCH 19	Moisture:	23%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-013	Sampled:	07/13/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	1.2 J	5.7	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	67-137

Field ID:	TRENCH 20	Moisture:	25%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-014	Sampled:	07/13/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	14 Y	5.7	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	117	67-137

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID (5035 Prep)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Analyzed:	07/19/17
Batch#:	249818		

Field ID:	TRENCH 21	Basis:	as received
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-015	Sampled:	07/14/17

Analyte	Result	RL	MDL
Gasoline C6-C12	3.4 J	4.7	0.17

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	67-137

Field ID:	TRENCH 22	Moisture:	14%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-016	Sampled:	07/14/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	3.9 J	5.7	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	67-137

Field ID:	TRENCH 23	Moisture:	9%
Type:	SAMPLE	Diln Fac:	25.00
Lab ID:	290650-017	Sampled:	07/14/17
Basis:	dry		

Analyte	Result	RL	MDL
Gasoline C6-C12	4.0 J	5.7	0.21

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	83	67-137

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC893734		

Analyte	Result	RL	MDL
Gasoline C6-C12	0.075 J	0.20	0.012

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	67-137

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC893731	Batch#:	249818
Matrix:	Soil	Analyzed:	07/19/17
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C6-C12	1.000	1.029	103	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	98	67-137

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/FID (5035 Prep)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	290679-001	Batch#:	249818
Matrix:	Soil	Sampled:	07/18/17
Units:	mg/Kg	Received:	07/18/17
Basis:	as received	Analyzed:	07/19/17

Type: MS Lab ID: QC893732

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C6-C12	0.2188	9.709	8.761	88	43-120

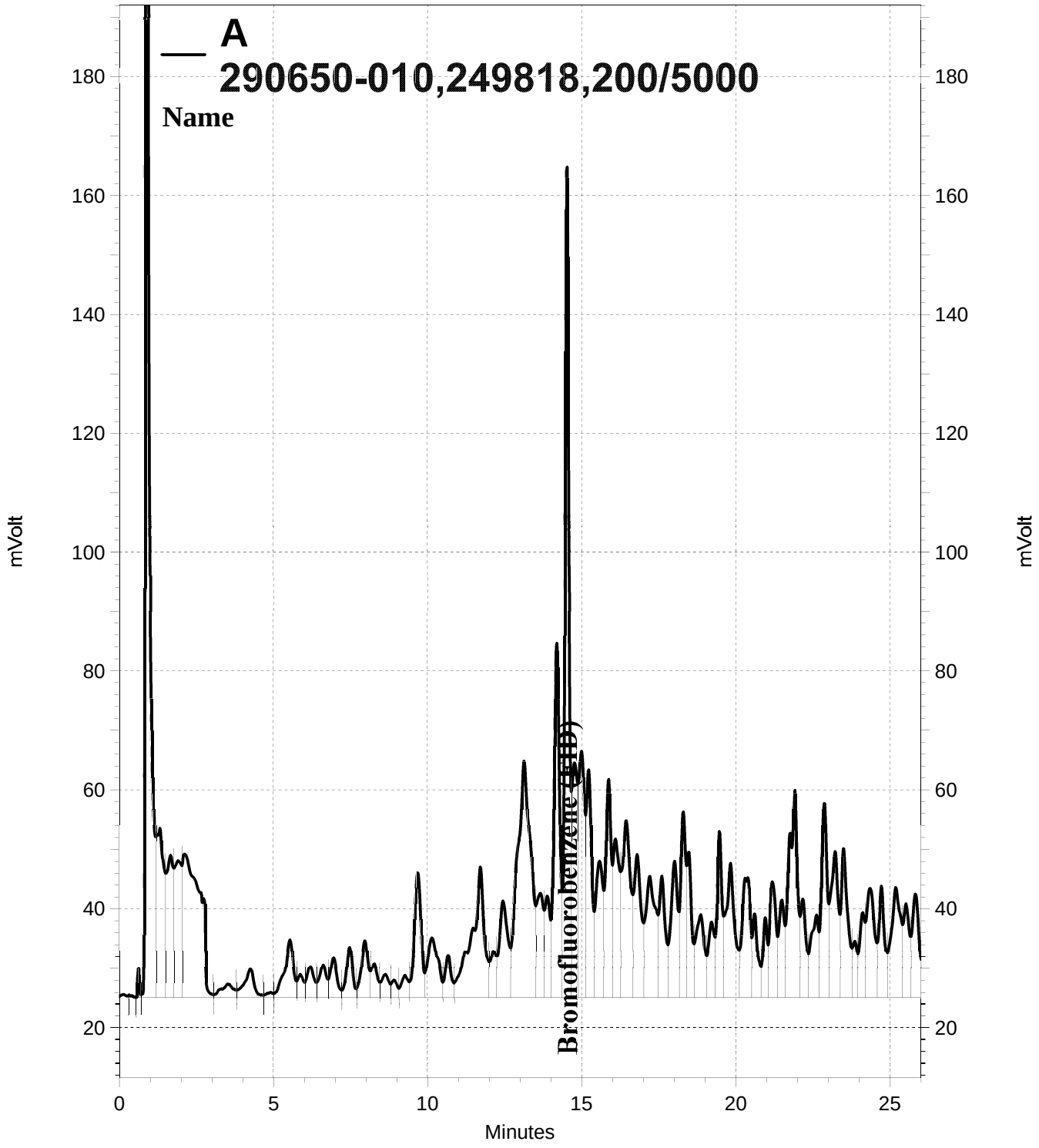
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	120	67-137

Type: MSD Lab ID: QC893733

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C6-C12	10.42	8.890	83	43-120	5	42

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	67-137

RPD= Relative Percent Difference


A
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mVolt
mVolt
Minutes
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140
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80
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15
20
25
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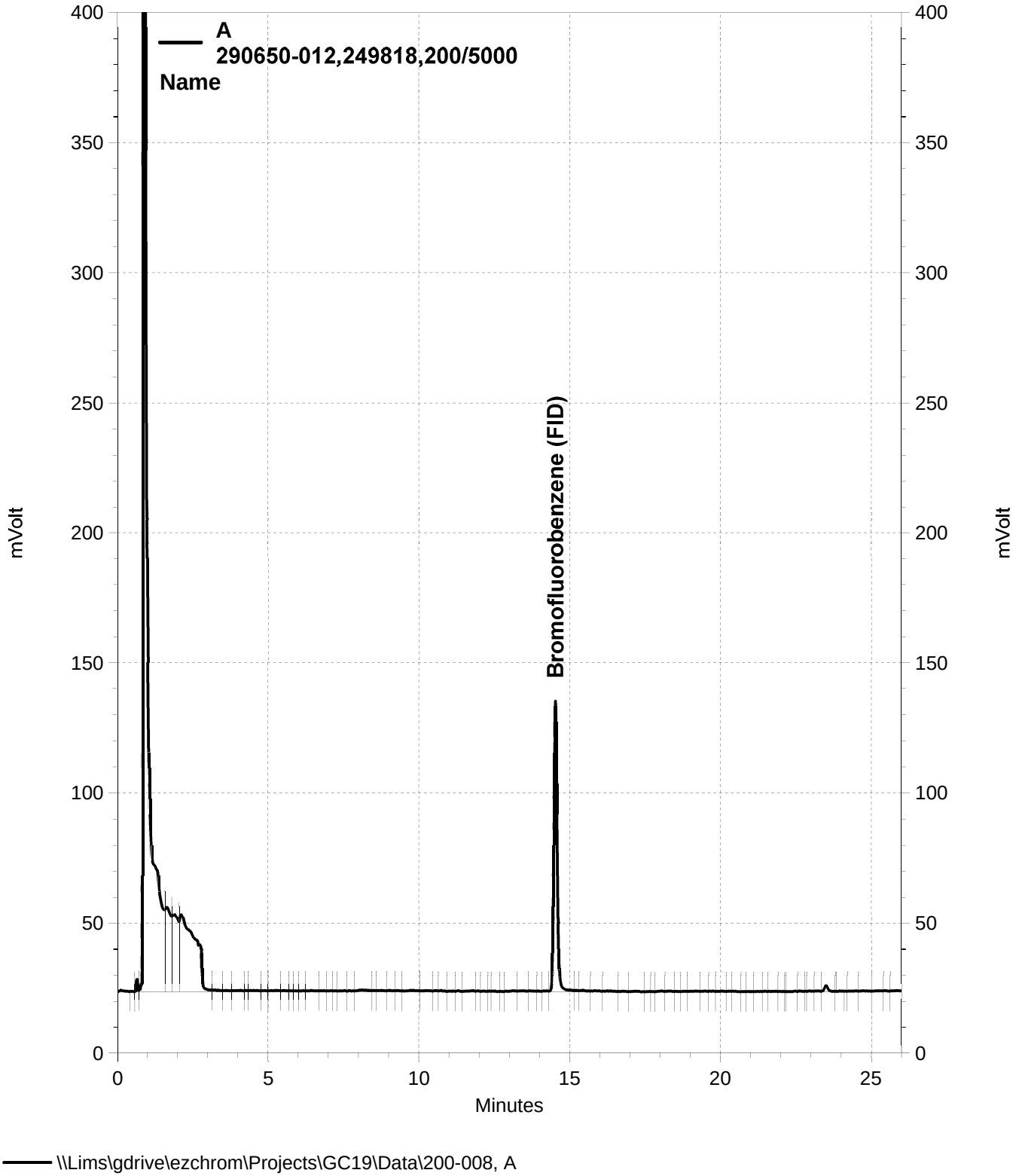
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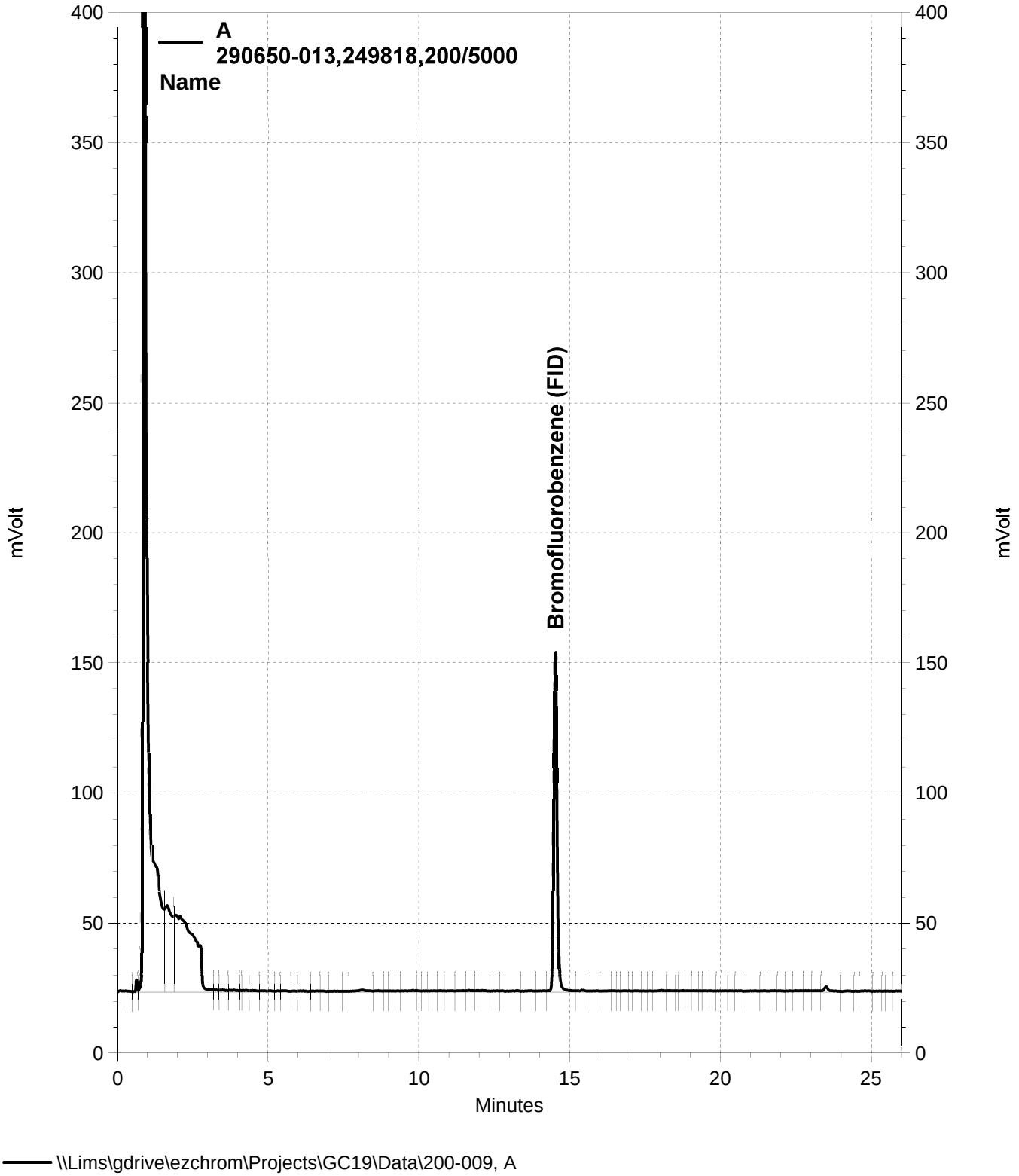
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mVolt
Minutes
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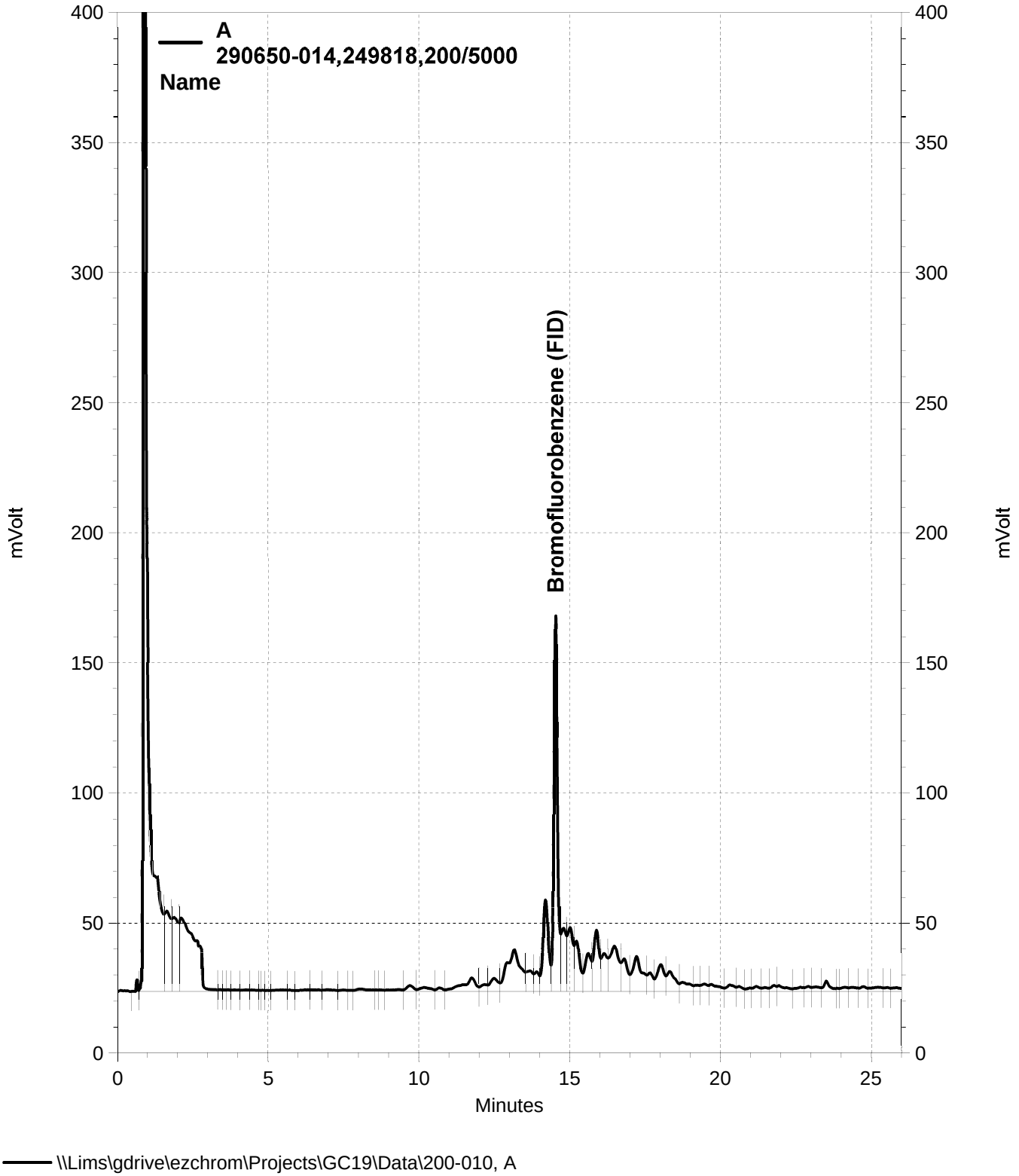
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10
15
20
25
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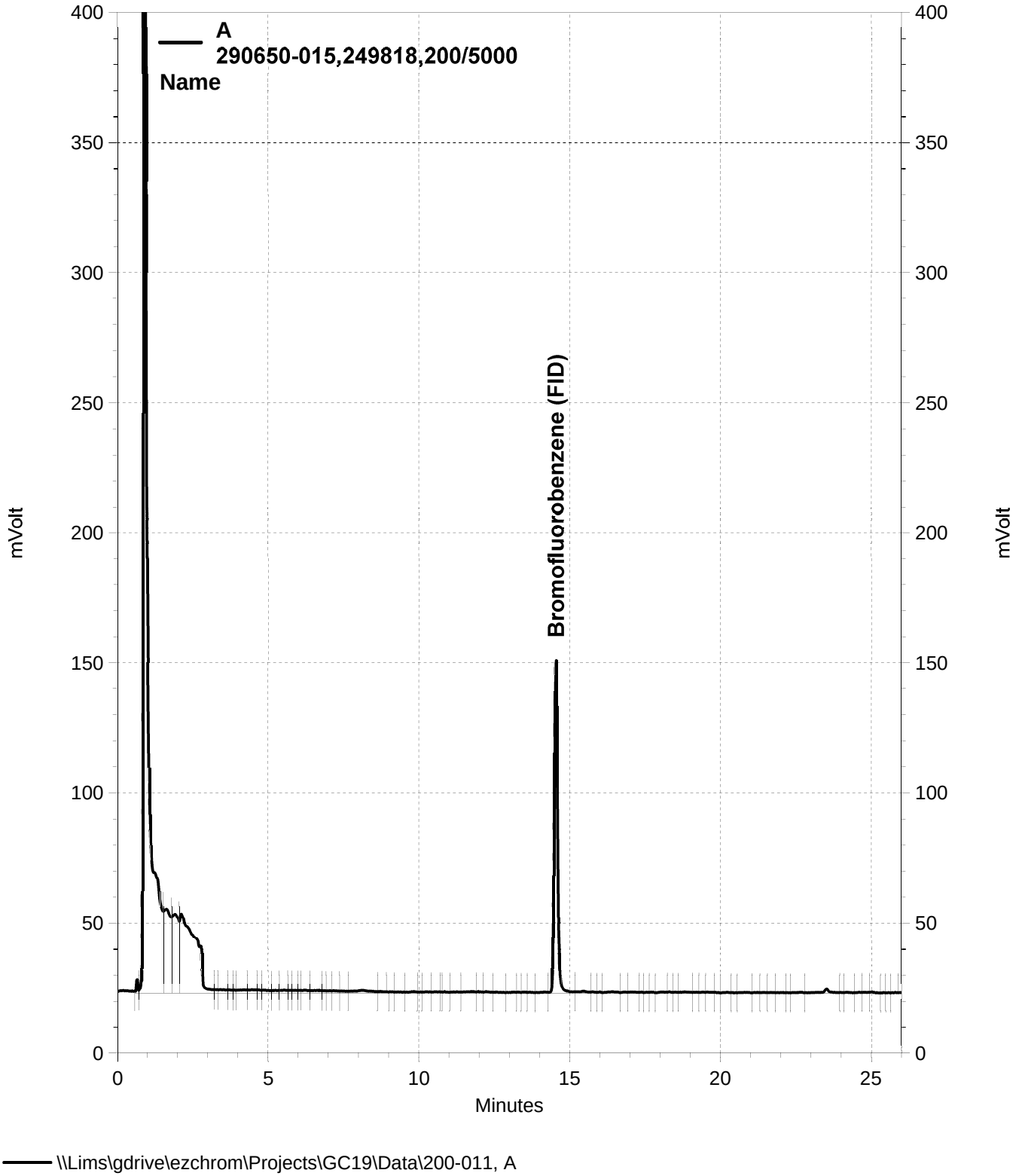
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mVolt
Minutes
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50
100
150
200
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400
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5
10
15
20
25
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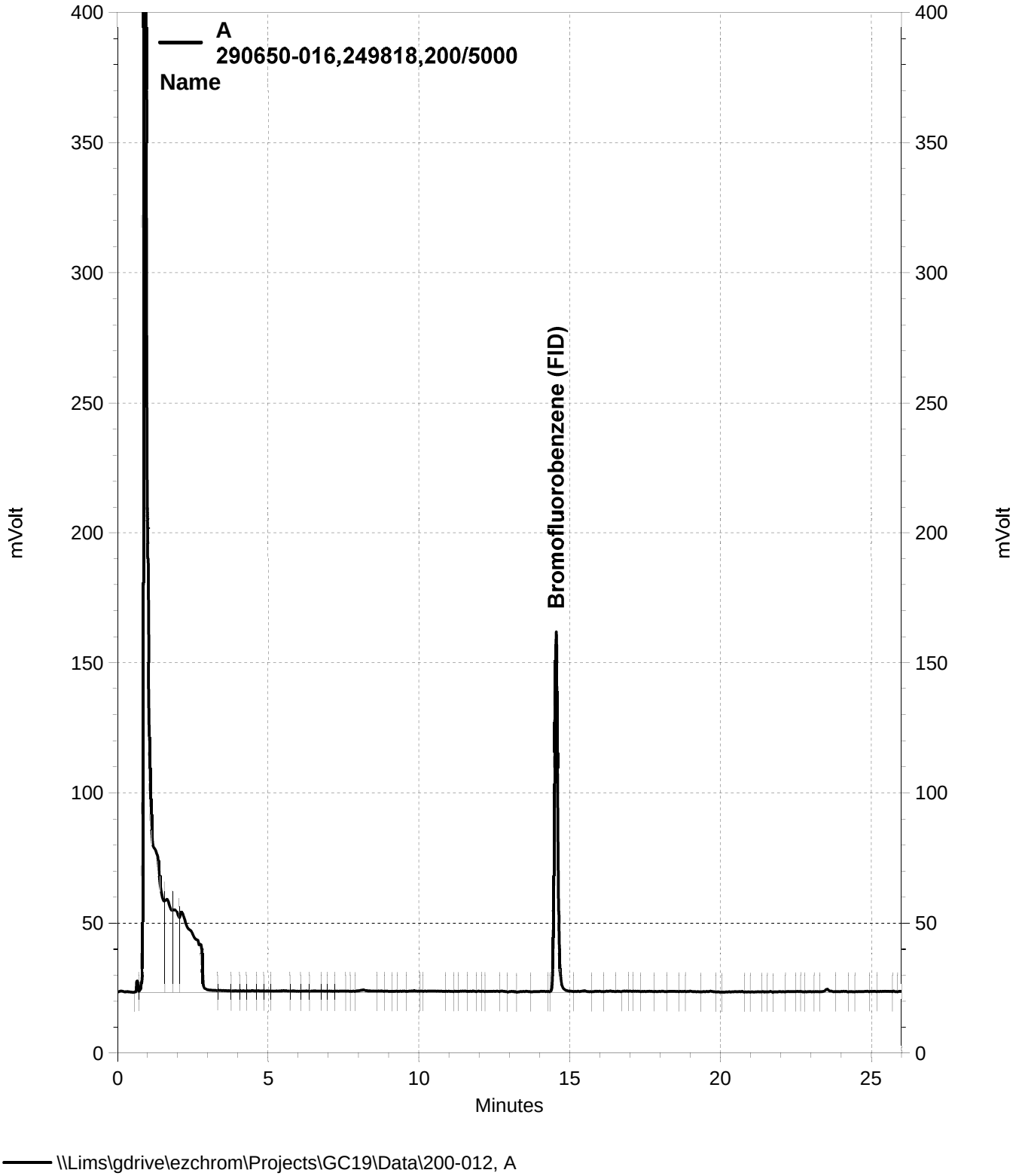
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Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
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100
150
200
250
300
350
400
0
5
10
15
20
25
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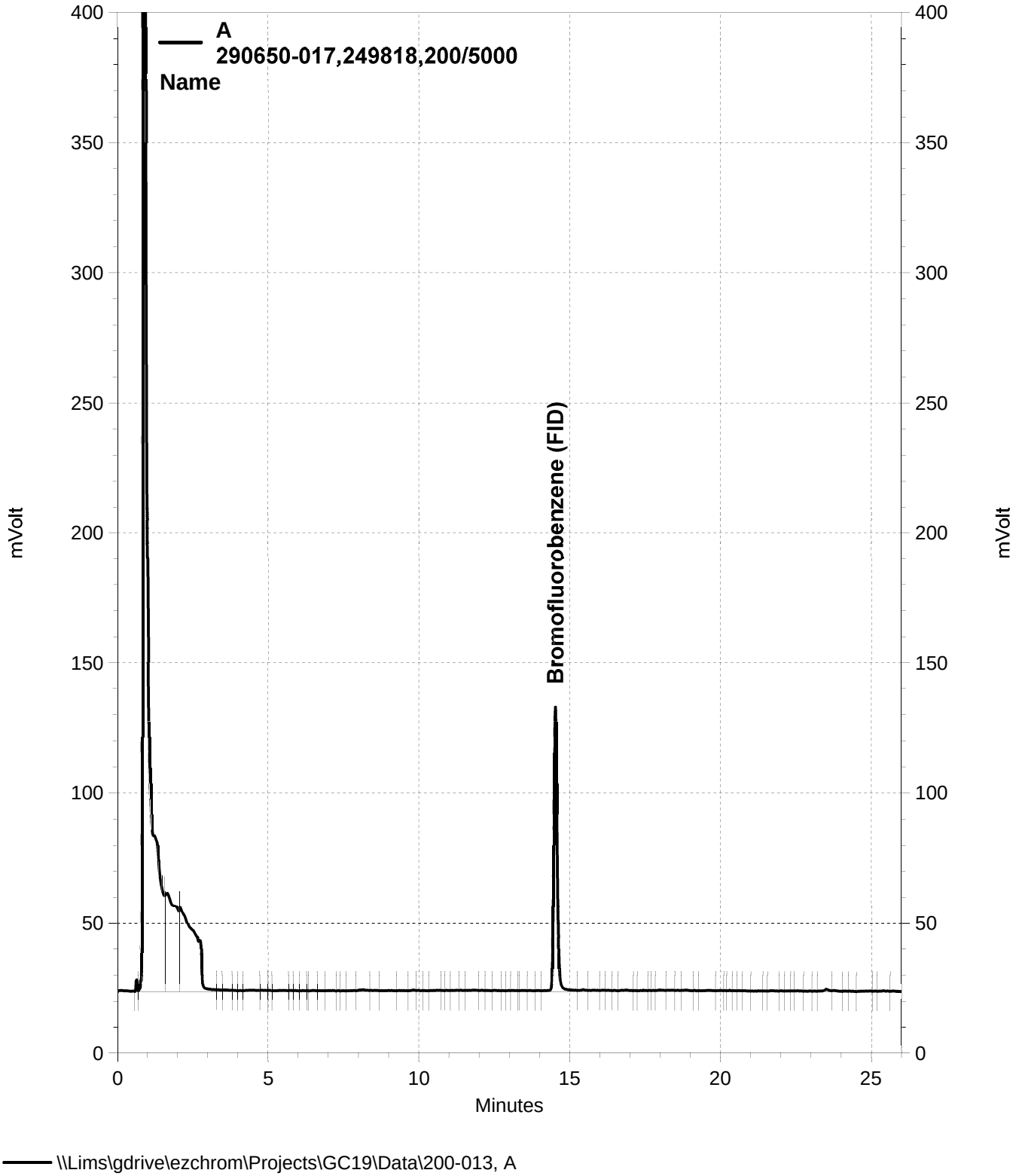
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Bromofluorobenzene (FID)
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mVolt
Minutes
0
50
100
150
200
250
300
350
400
0
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10
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20
25
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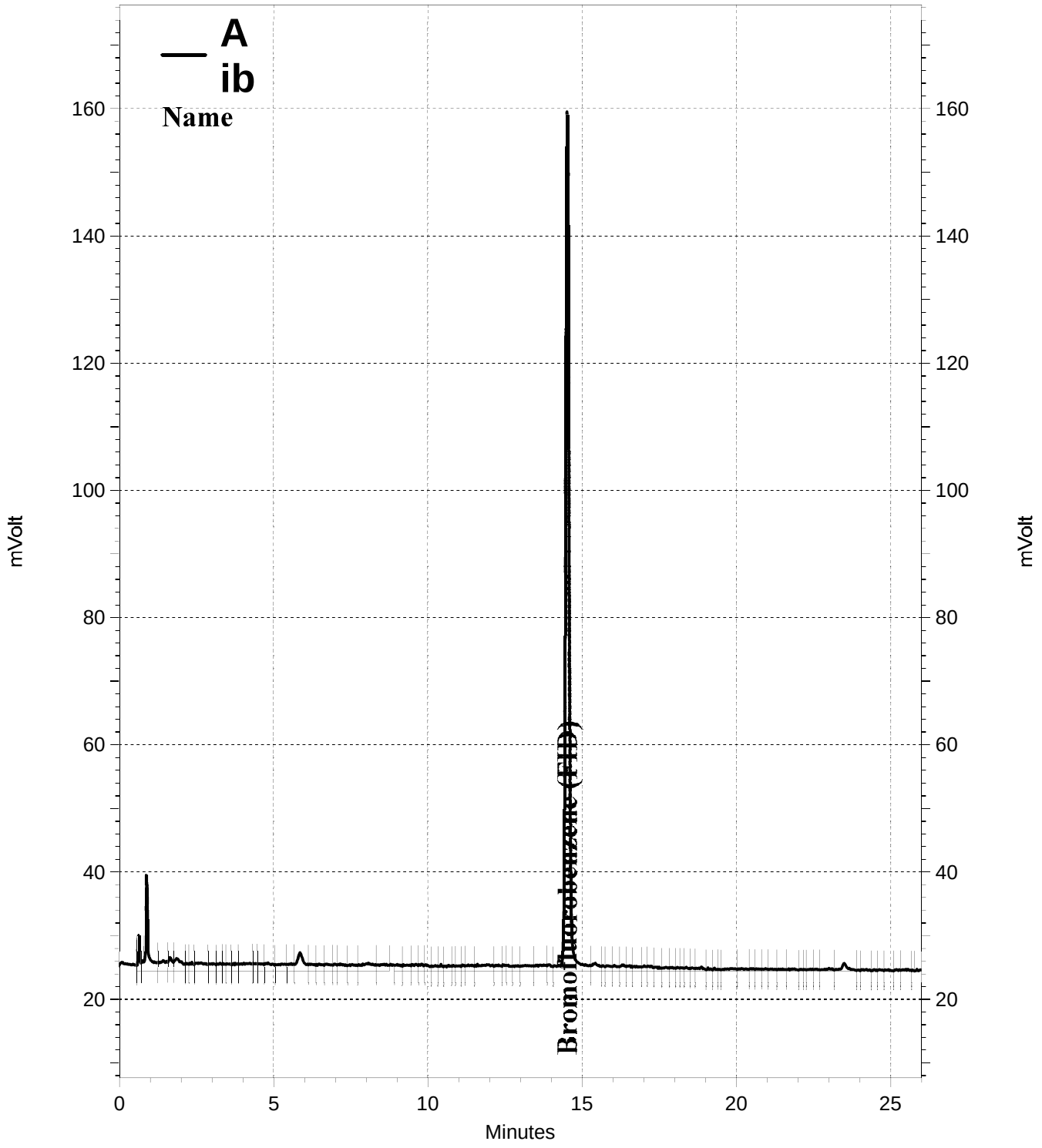
A
ib
Name
160
140
120
100
80
60
40
20
mVolt
0
5
10
15
20
25
Minutes
Bromofluorobenzene (FID)
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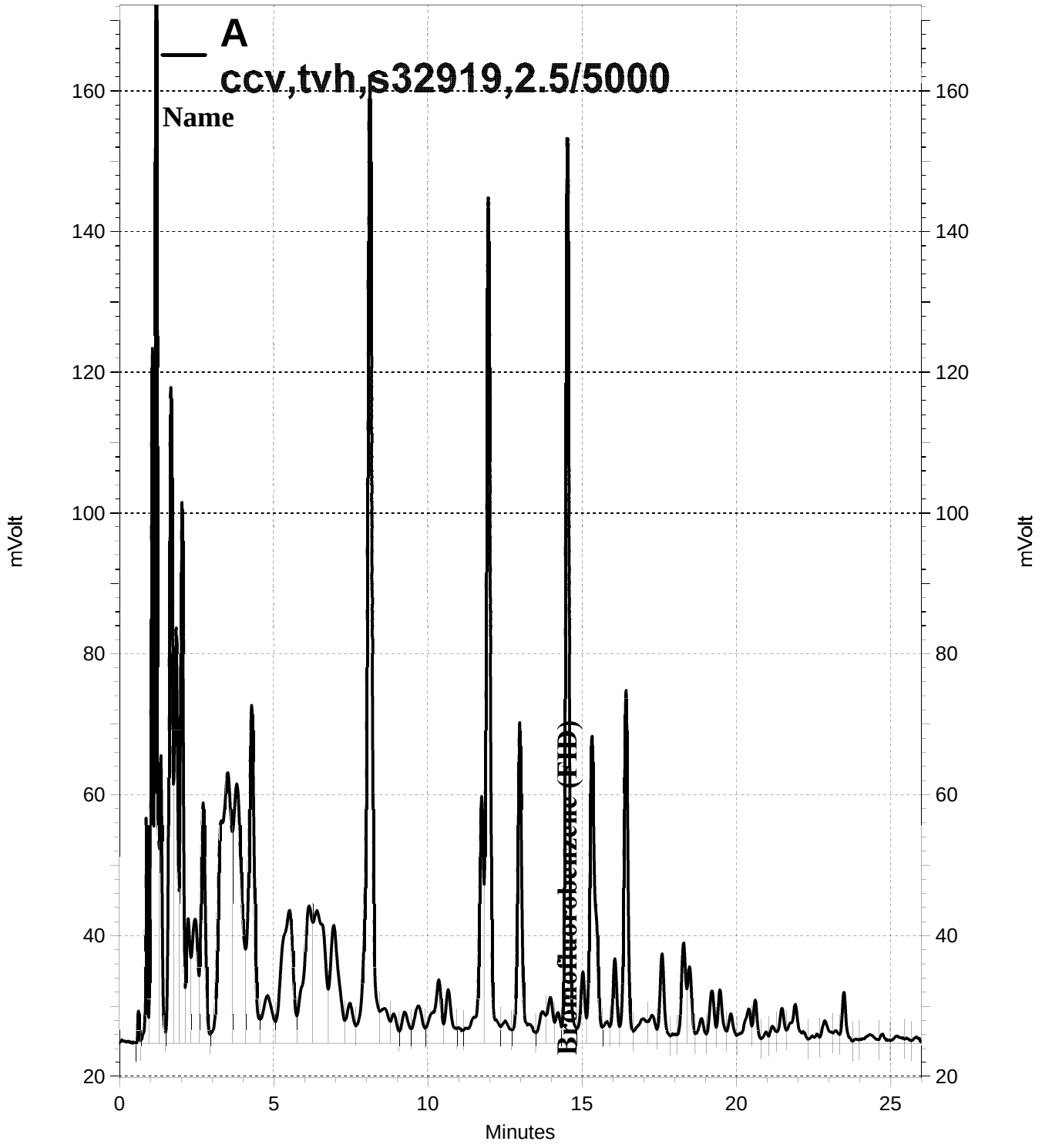
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Name
Bromofluorobenzene (FID)
mVolt
mVolt
Minutes
0
5
10
15
20
25
20
40
60
80
100
120
140
160
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Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/24/17
Batch#:	249994		

Field ID:	TRENCH 16	Moisture:	14%
Type:	SAMPLE	Diln Fac:	10.00
Lab ID:	290650-010	Sampled:	07/13/17
Basis:	dry	Analyzed:	07/26/17

Analyte	Result	RL	MDL
Diesel C12-C28	1,500 Y	12	3.6
Motor Oil C28-C40	3,500	58	18

Surrogate	%REC	Limits
o-Terphenyl	DO	64-136

Field ID:	TRENCH 18	Moisture:	17%
Type:	SAMPLE	Diln Fac:	5.000
Lab ID:	290650-012	Sampled:	07/13/17
Basis:	dry	Analyzed:	07/26/17

Analyte	Result	RL	MDL
Diesel C12-C28	250 Y	6.0	1.8
Motor Oil C28-C40	780	30	9.1

Surrogate	%REC	Limits
o-Terphenyl	97	64-136

Field ID:	TRENCH 19	Moisture:	23%
Type:	SAMPLE	Diln Fac:	5.000
Lab ID:	290650-013	Sampled:	07/13/17
Basis:	dry	Analyzed:	07/27/17

Analyte	Result	RL	MDL
Diesel C12-C28	210 Y	6.5	2.0
Motor Oil C28-C40	920	32	9.8

Surrogate	%REC	Limits
o-Terphenyl	88	64-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/24/17
Batch#:	249994		

Field ID:	TRENCH 20	Moisture:	25%
Type:	SAMPLE	Diln Fac:	20.00
Lab ID:	290650-014	Sampled:	07/13/17
Basis:	dry	Analyzed:	07/27/17

Analyte	Result	RL	MDL
Diesel C12-C28	1,100 Y	27	8.2
Motor Oil C28-C40	3,500	130	41

Surrogate	%REC	Limits
o-Terphenyl	DO	64-136

Field ID:	TRENCH 21	Diln Fac:	3.000
Type:	SAMPLE	Sampled:	07/14/17
Lab ID:	290650-015	Analyzed:	07/27/17
Basis:	as received		

Analyte	Result	RL	MDL
Diesel C12-C28	66 Y	3.0	0.91
Motor Oil C28-C40	260	15	4.5

Surrogate	%REC	Limits
o-Terphenyl	97	64-136

Field ID:	TRENCH 22	Moisture:	14%
Type:	SAMPLE	Diln Fac:	3.000
Lab ID:	290650-016	Sampled:	07/14/17
Basis:	dry	Analyzed:	07/27/17

Analyte	Result	RL	MDL
Diesel C12-C28	29 Y	3.5	1.1
Motor Oil C28-C40	140	17	5.3

Surrogate	%REC	Limits
o-Terphenyl	82	64-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8015B
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/24/17
Batch#:	249994		

Field ID:	TRENCH 23	Moisture:	9%
Type:	SAMPLE	Diln Fac:	3.000
Lab ID:	290650-017	Sampled:	07/14/17
Basis:	dry	Analyzed:	07/27/17

Analyte	Result	RL	MDL
Diesel C12-C28	22 Y	3.3	1.0
Motor Oil C28-C40	100	16	5.0

Surrogate	%REC	Limits
o-Terphenyl	88	64-136

Field ID:	TRENCH 23 SLAG	Moisture:	2%
Type:	SAMPLE	Diln Fac:	1,000
Lab ID:	290650-018	Sampled:	07/14/17
Basis:	dry	Analyzed:	07/25/17

Analyte	Result	RL	MDL
Diesel C12-C28	8,200 Y	4,100	1,200
Motor Oil C28-C40	85,000	20,000	6,200

Surrogate	%REC	Limits
o-Terphenyl	DO	64-136

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC894410	Analyzed:	07/25/17

Analyte	Result	RL	MDL
Diesel C12-C28	0.48 J	0.99	0.30
Motor Oil C28-C40	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	110	64-136

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC894411	Batch#:	249994
Matrix:	Soil	Prepared:	07/24/17
Units:	mg/Kg	Analyzed:	07/25/17

Analyte	Spiked	Result	%REC	Limits
Diesel C12-C28	49.80	54.48	109	61-128

Surrogate	%REC	Limits
o-Terphenyl	112	64-136

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	249994
MSS Lab ID:	290734-001	Sampled:	07/19/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Prepared:	07/24/17
Basis:	as received	Analyzed:	07/25/17
Diln Fac:	1.000		

Type: MS Lab ID: QC894412

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C12-C28	6.351	49.83	62.57	113	25-159

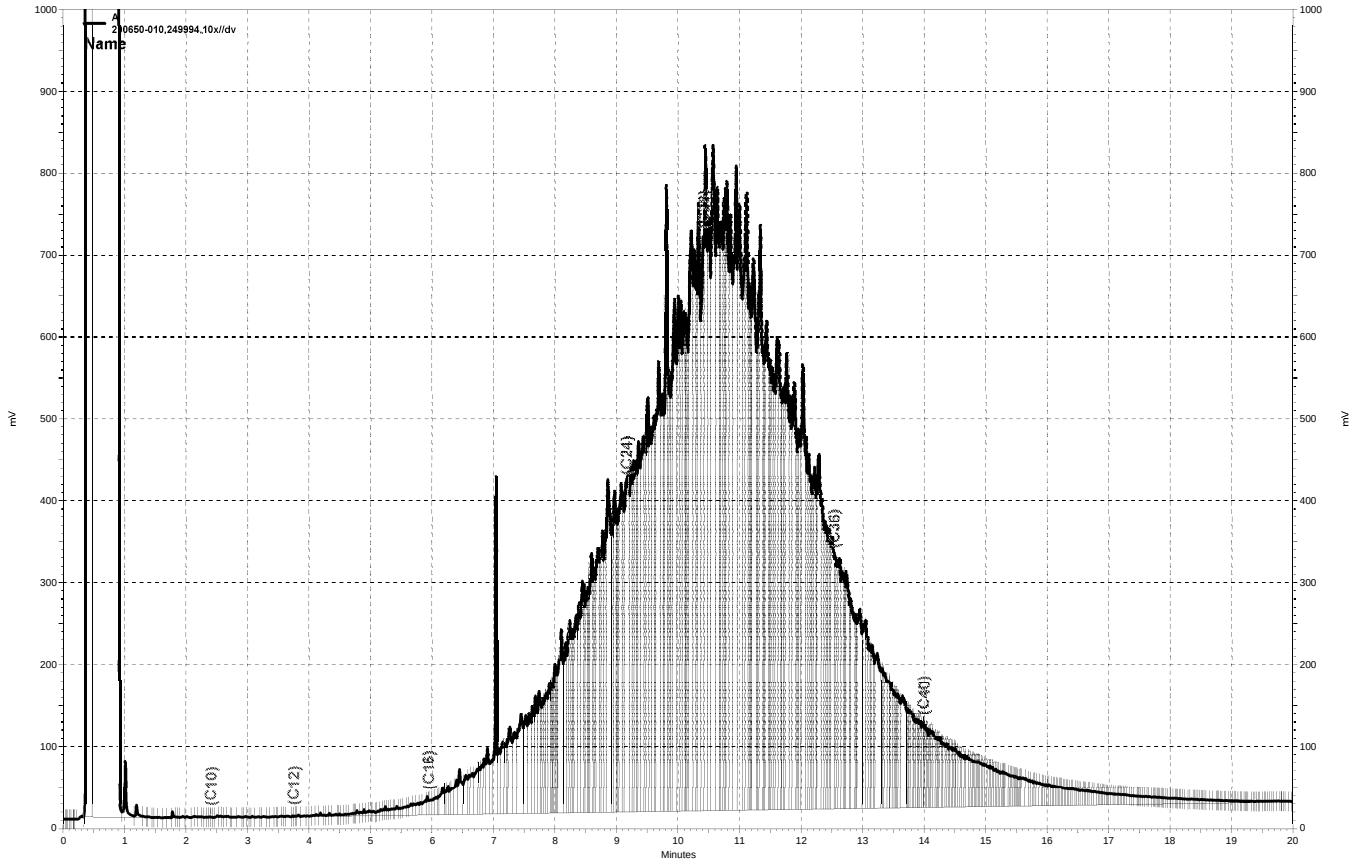
Surrogate	%REC	Limits
o-Terphenyl	99	64-136

Type: MSD Lab ID: QC894413

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C12-C28	49.66	57.34	103	25-159	8	60

Surrogate	%REC	Limits
o-Terphenyl	98	64-136

RPD= Relative Percent Difference



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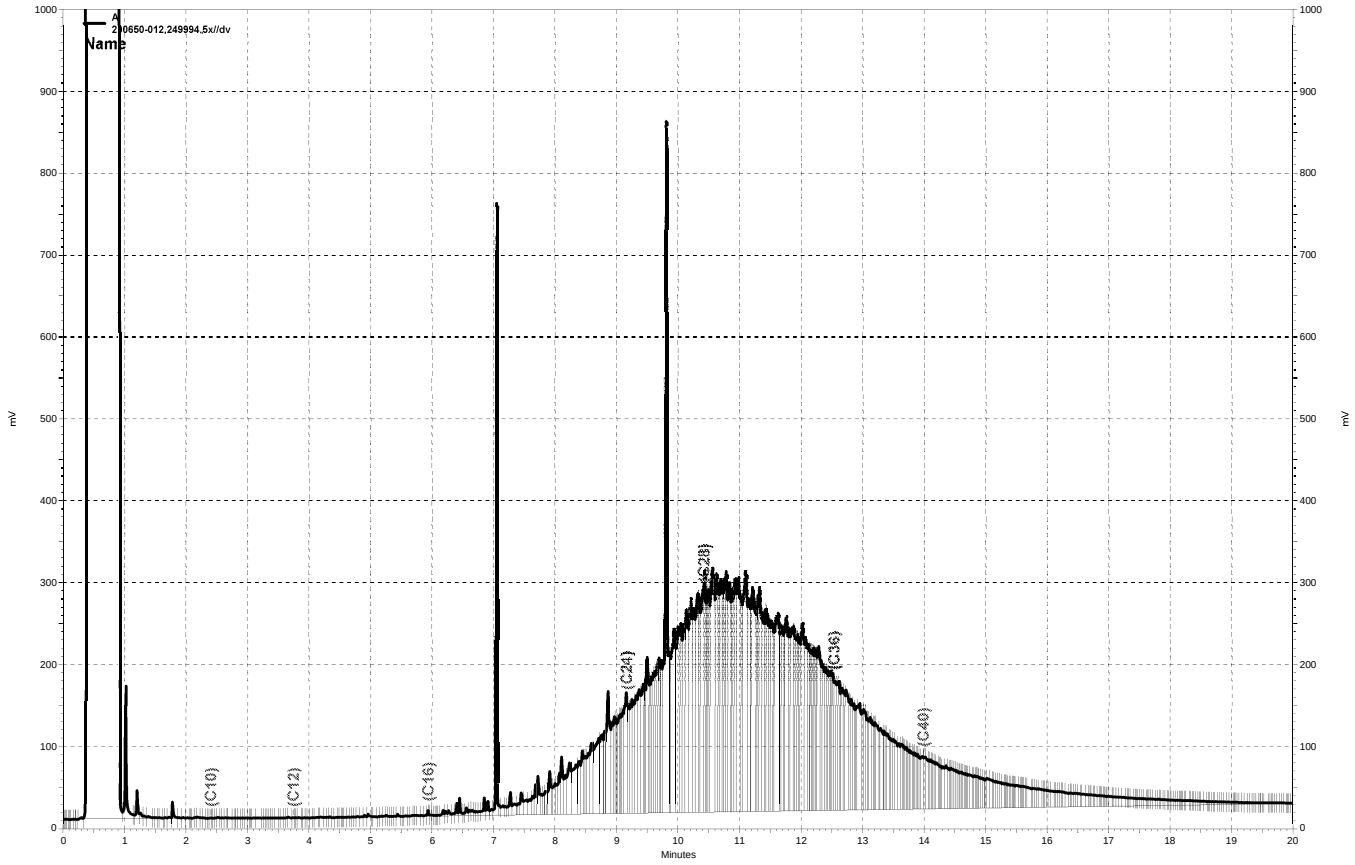

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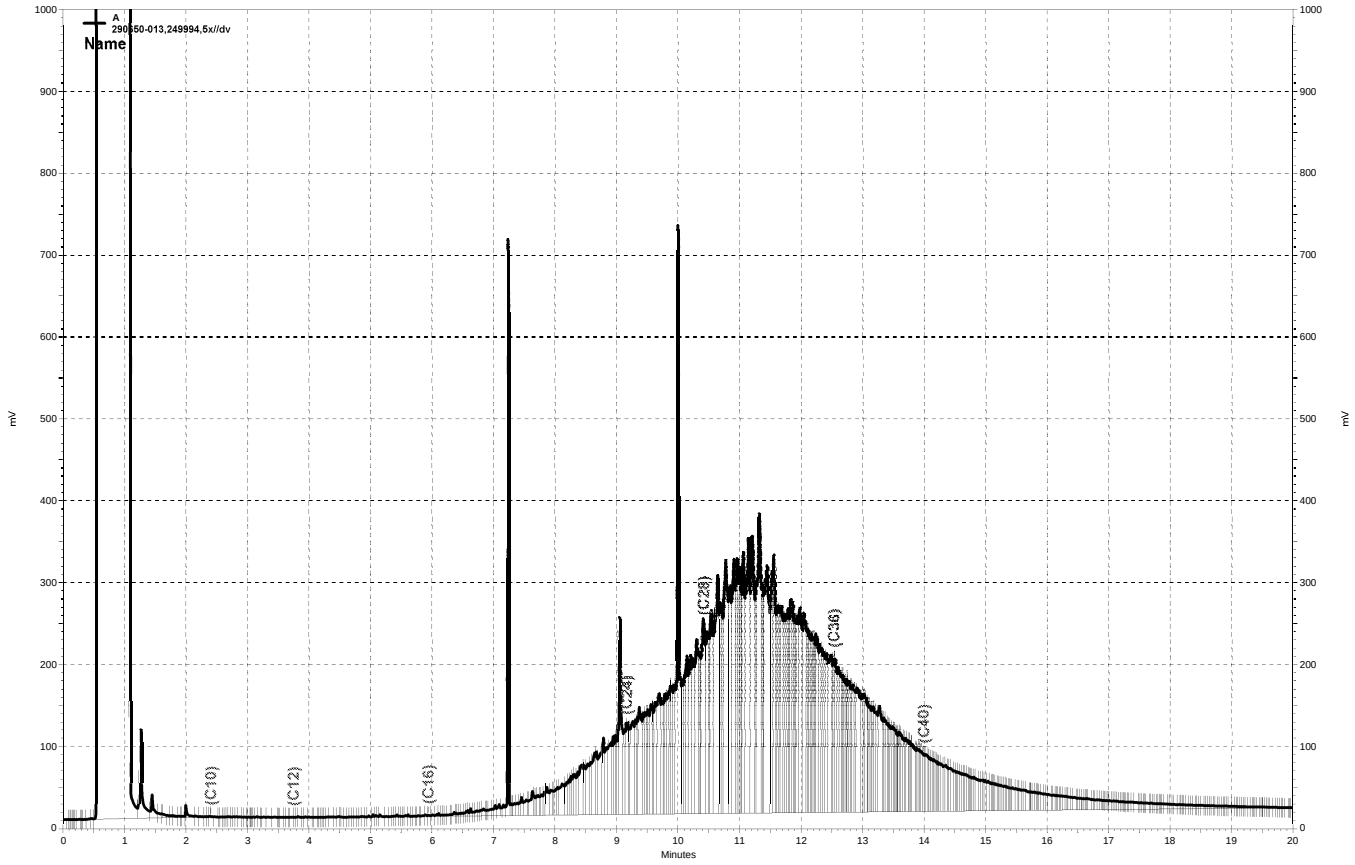

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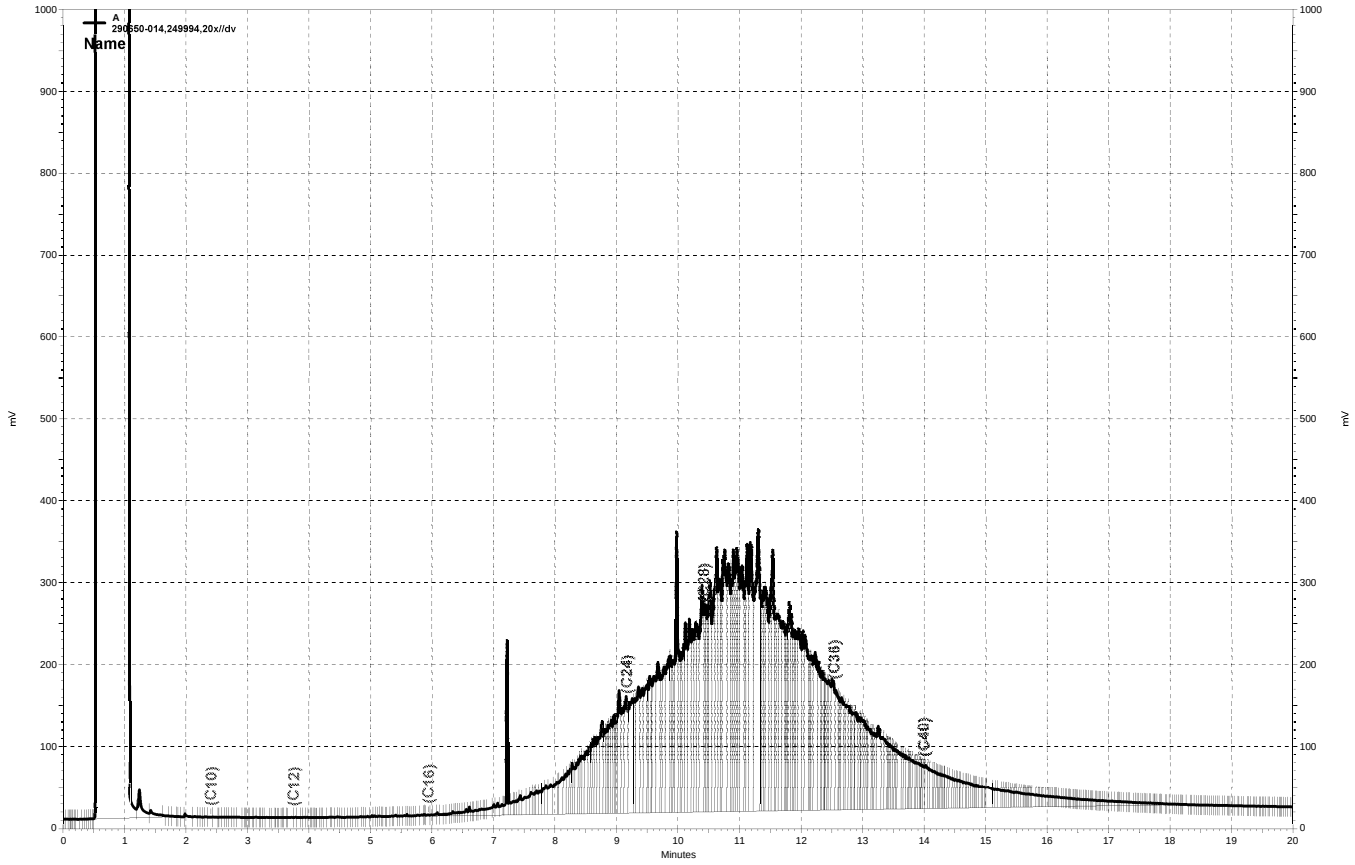

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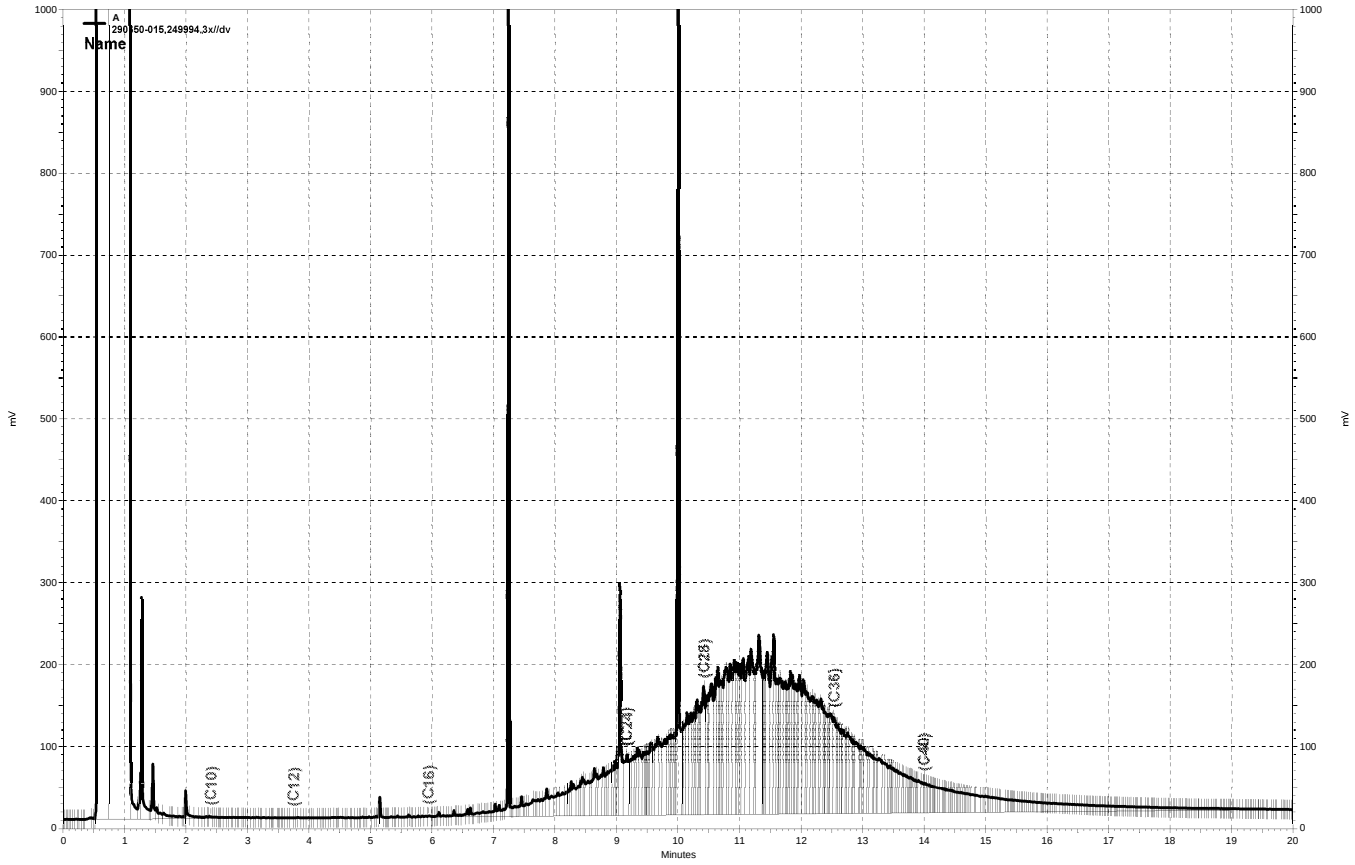

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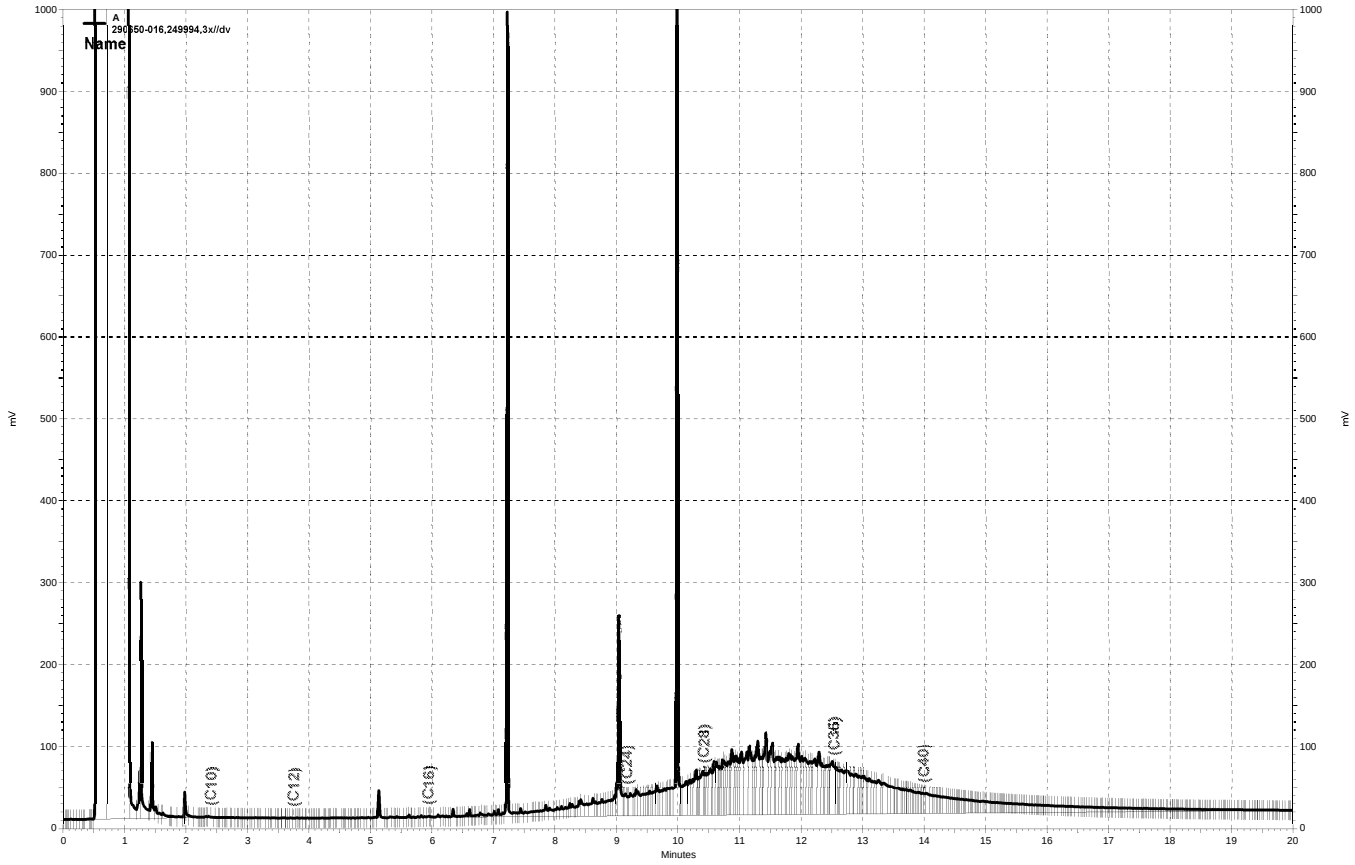

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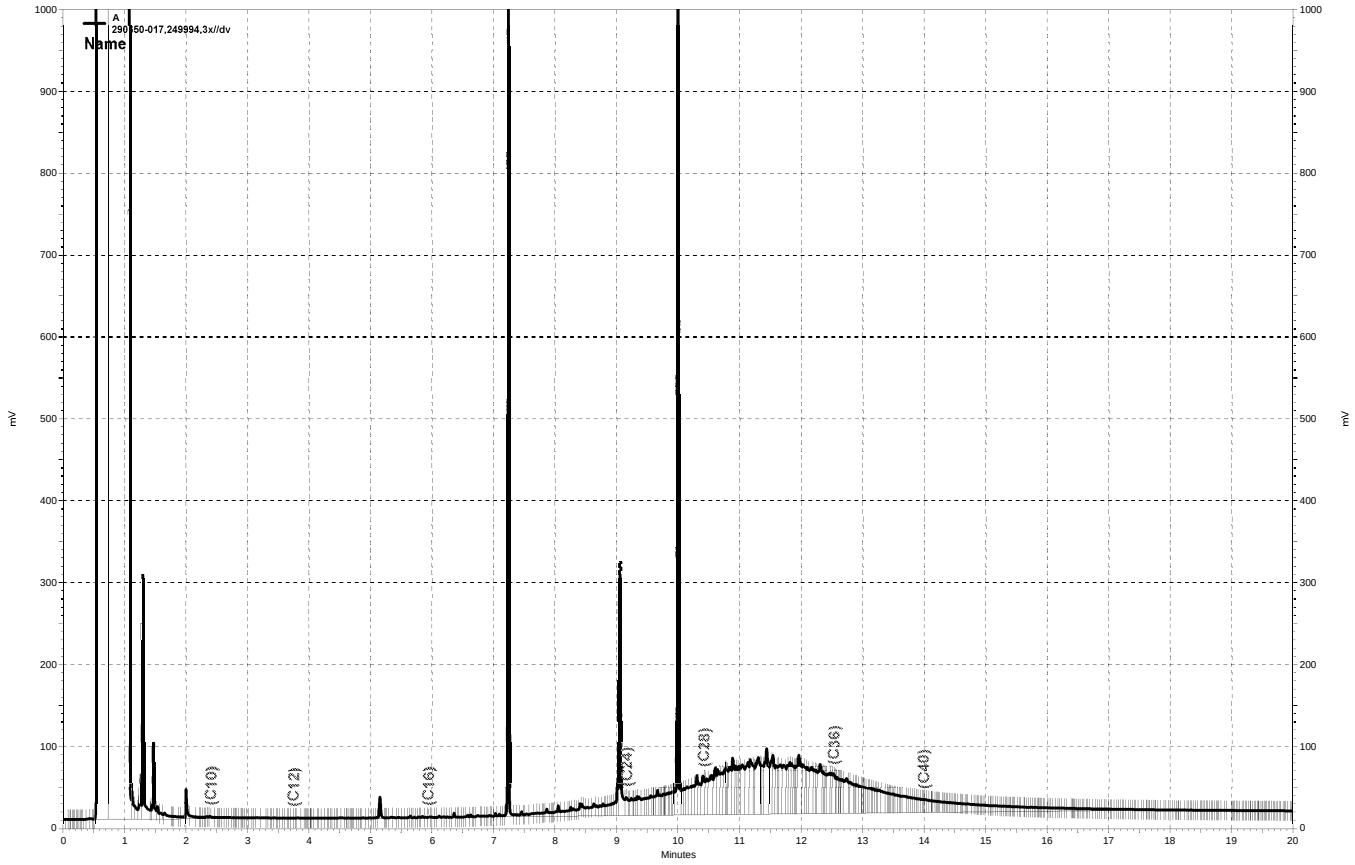

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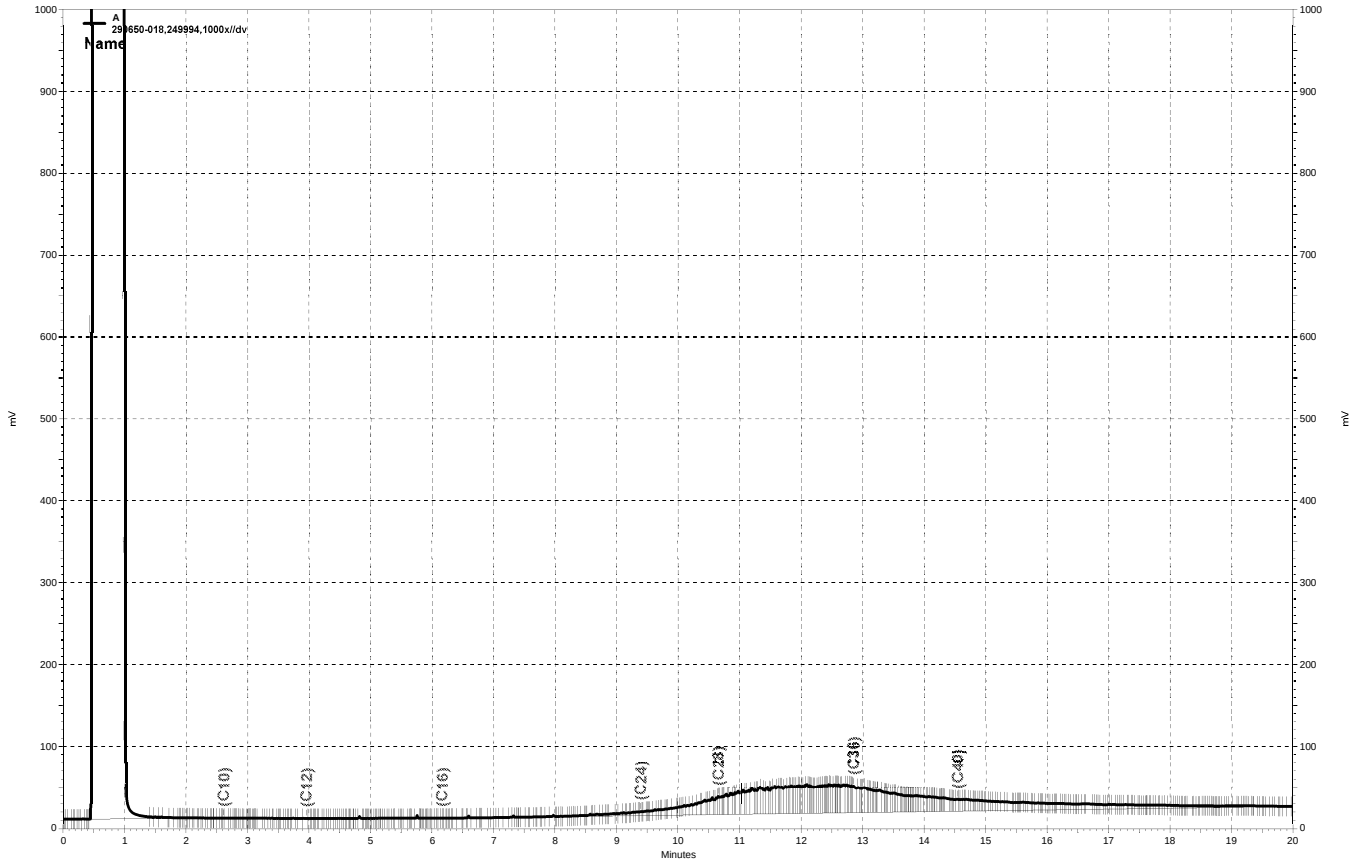

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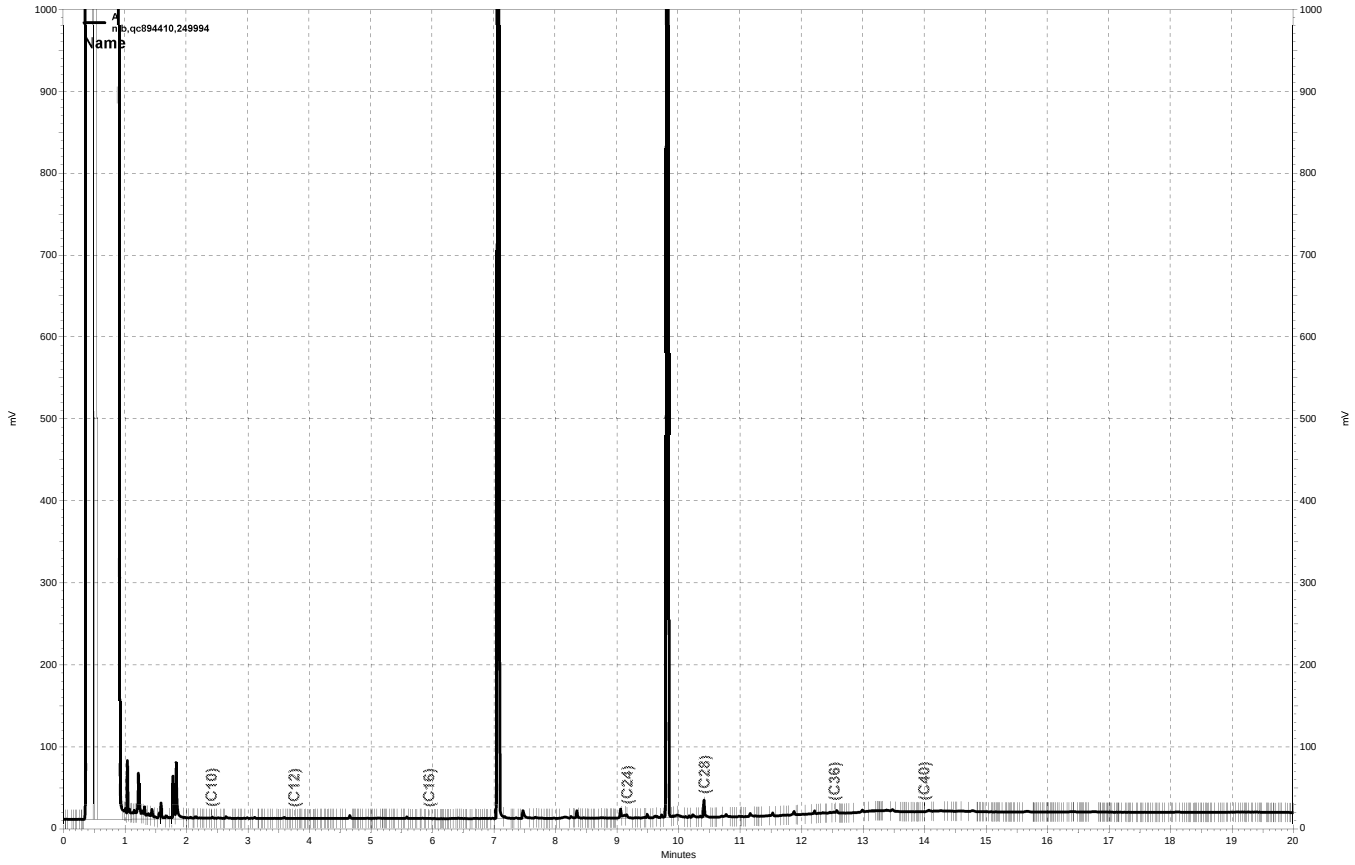

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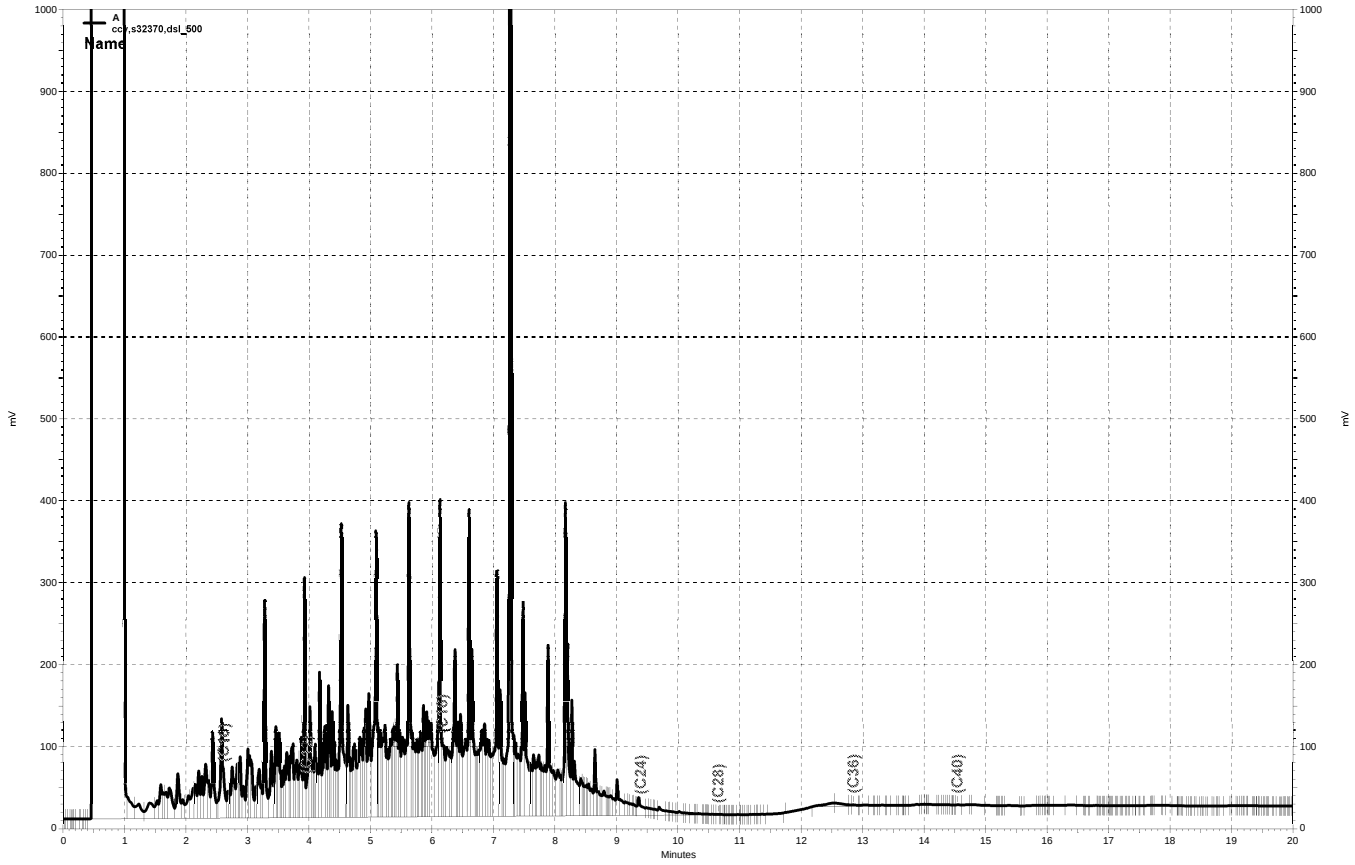

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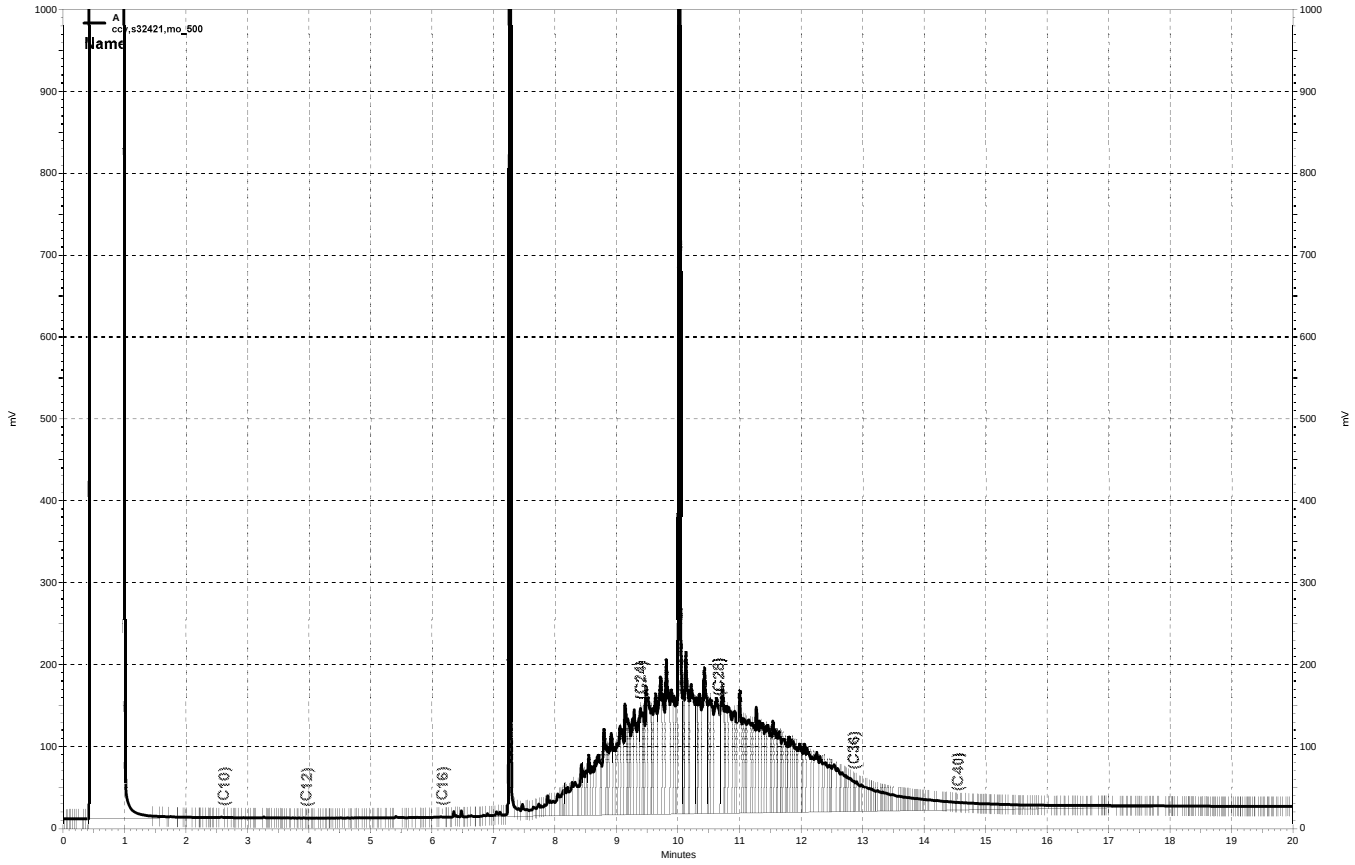

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Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 16	Dil'n Fac:	53.41
Lab ID:	290650-010	Batch#:	249956
Matrix:	Soil	Sampled:	07/13/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/24/17

Moisture: 14%

Analyte	Result	RL	MDL
Freon 12	ND	0.62	0.041
Chloromethane	ND	0.62	0.027
Vinyl Chloride	ND	0.62	0.031
Bromomethane	ND	0.62	0.062
Chloroethane	ND	0.62	0.039
Trichlorofluoromethane	ND	0.31	0.0087
Freon 113	ND	0.31	0.0087
1,1-Dichloroethene	ND	0.31	0.0084
Methylene Chloride	ND	1.2	0.17
MTBE	ND	0.31	0.016
trans-1,2-Dichloroethene	ND	0.31	0.0087
1,1-Dichloroethane	ND	0.31	0.0094
cis-1,2-Dichloroethene	ND	0.31	0.010
Chloroform	ND	0.31	0.016
1,1,1-Trichloroethane	ND	0.31	0.0081
Carbon Tetrachloride	ND	0.31	0.016
1,2-Dichloroethane	ND	0.31	0.016
Benzene	ND	0.31	0.0087
Trichloroethene	ND	0.31	0.0087
1,2-Dichloropropane	ND	0.31	0.0087
Bromodichloromethane	ND	0.31	0.016
Dibromomethane	ND	0.31	0.016
cis-1,3-Dichloropropene	ND	0.31	0.016
Toluene	ND	0.31	0.063
trans-1,3-Dichloropropene	ND	0.31	0.016
1,1,2-Trichloroethane	ND	0.31	0.031
Tetrachloroethene	ND	0.31	0.0087
Dibromochloromethane	ND	0.31	0.016
Chlorobenzene	ND	0.31	0.0087
1,1,1,2-Tetrachloroethane	ND	0.31	0.0087
Ethylbenzene	ND	0.31	0.031
m,p-Xylenes	ND	0.31	0.062
o-Xylene	0.050 J	0.31	0.031
Bromoform	ND	0.31	0.031
1,1,2,2-Tetrachloroethane	ND	0.31	0.016
Bromobenzene	ND	0.31	0.0087
1,3-Dichlorobenzene	ND	0.31	0.016
1,4-Dichlorobenzene	ND	0.31	0.016
1,2-Dichlorobenzene	0.033 J	0.31	0.016
Naphthalene	0.21 J	0.31	0.016

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-128
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	100	79-128

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 18	Dil'n Fac:	44.90
Lab ID:	290650-012	Batch#:	249956
Matrix:	Soil	Sampled:	07/13/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/24/17

Moisture: 17%

Analyte	Result	RL	MDL
Freon 12	ND	0.54	0.035
Chloromethane	ND	0.54	0.024
Vinyl Chloride	ND	0.54	0.027
Bromomethane	ND	0.54	0.054
Chloroethane	ND	0.54	0.034
Trichlorofluoromethane	ND	0.27	0.0076
Freon 113	ND	0.27	0.0076
1,1-Dichloroethene	ND	0.27	0.0073
Methylene Chloride	ND	1.1	0.15
MTBE	ND	0.27	0.014
trans-1,2-Dichloroethene	ND	0.27	0.0076
1,1-Dichloroethane	ND	0.27	0.0082
cis-1,2-Dichloroethene	ND	0.27	0.0091
Chloroform	ND	0.27	0.014
1,1,1-Trichloroethane	ND	0.27	0.0070
Carbon Tetrachloride	ND	0.27	0.014
1,2-Dichloroethane	ND	0.27	0.014
Benzene	ND	0.27	0.0076
Trichloroethene	ND	0.27	0.0076
1,2-Dichloropropane	ND	0.27	0.0076
Bromodichloromethane	ND	0.27	0.014
Dibromomethane	ND	0.27	0.014
cis-1,3-Dichloropropene	ND	0.27	0.014
Toluene	ND	0.27	0.055
trans-1,3-Dichloropropene	ND	0.27	0.014
1,1,2-Trichloroethane	ND	0.27	0.027
Tetrachloroethene	ND	0.27	0.0076
Dibromochloromethane	ND	0.27	0.014
Chlorobenzene	ND	0.27	0.0076
1,1,1,2-Tetrachloroethane	ND	0.27	0.0076
Ethylbenzene	ND	0.27	0.027
m,p-Xylenes	ND	0.27	0.054
o-Xylene	ND	0.27	0.027
Bromoform	ND	0.27	0.027
1,1,2,2-Tetrachloroethane	ND	0.27	0.014
Bromobenzene	ND	0.27	0.0076
1,3-Dichlorobenzene	ND	0.27	0.014
1,4-Dichlorobenzene	ND	0.27	0.014
1,2-Dichlorobenzene	ND	0.27	0.014
Naphthalene	ND	0.27	0.014

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-128
1,2-Dichloroethane-d4	96	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	100	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 19	Dil'n Fac:	43.64
Lab ID:	290650-013	Batch#:	250002
Matrix:	Soil	Sampled:	07/13/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/25/17

Moisture: 23%

Analyte	Result	RL	MDL
Freon 12	ND	0.57	0.037
Chloromethane	ND	0.57	0.025
Vinyl Chloride	ND	0.57	0.028
Bromomethane	ND	0.57	0.057
Chloroethane	ND	0.57	0.036
Trichlorofluoromethane	ND	0.28	0.0079
Freon 113	ND	0.28	0.0079
1,1-Dichloroethene	ND	0.28	0.0077
Methylene Chloride	ND	1.1	0.16
MTBE	ND	0.28	0.015
trans-1,2-Dichloroethene	ND	0.28	0.0079
1,1-Dichloroethane	ND	0.28	0.0086
cis-1,2-Dichloroethene	ND	0.28	0.0095
Chloroform	ND	0.28	0.015
1,1,1-Trichloroethane	ND	0.28	0.0074
Carbon Tetrachloride	ND	0.28	0.015
1,2-Dichloroethane	ND	0.28	0.015
Benzene	ND	0.28	0.0079
Trichloroethene	ND	0.28	0.0079
1,2-Dichloropropane	ND	0.28	0.0079
Bromodichloromethane	ND	0.28	0.015
Dibromomethane	ND	0.28	0.015
cis-1,3-Dichloropropene	ND	0.28	0.015
Toluene	ND	0.28	0.057
trans-1,3-Dichloropropene	ND	0.28	0.015
1,1,2-Trichloroethane	ND	0.28	0.028
Tetrachloroethene	ND	0.28	0.0079
Dibromochloromethane	ND	0.28	0.015
Chlorobenzene	ND	0.28	0.0079
1,1,1,2-Tetrachloroethane	ND	0.28	0.0079
Ethylbenzene	ND	0.28	0.028
m,p-Xylenes	ND	0.28	0.057
o-Xylene	ND	0.28	0.028
Bromoform	ND	0.28	0.028
1,1,2,2-Tetrachloroethane	ND	0.28	0.015
Bromobenzene	ND	0.28	0.0079
1,3-Dichlorobenzene	ND	0.28	0.015
1,4-Dichlorobenzene	ND	0.28	0.015
1,2-Dichlorobenzene	ND	0.28	0.015
Naphthalene	ND	0.28	0.015

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-128
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	98	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 20	Dil'n Fac:	42.42
Lab ID:	290650-014	Batch#:	250002
Matrix:	Soil	Sampled:	07/13/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/25/17

Moisture: 25%

Analyte	Result	RL	MDL
Freon 12	ND	0.57	0.037
Chloromethane	ND	0.57	0.025
Vinyl Chloride	ND	0.57	0.028
Bromomethane	ND	0.57	0.057
Chloroethane	ND	0.57	0.036
Trichlorofluoromethane	ND	0.28	0.0079
Freon 113	ND	0.28	0.0079
1,1-Dichloroethene	ND	0.28	0.0077
Methylene Chloride	ND	1.1	0.16
MTBE	ND	0.28	0.015
trans-1,2-Dichloroethene	ND	0.28	0.0079
1,1-Dichloroethane	ND	0.28	0.0086
cis-1,2-Dichloroethene	ND	0.28	0.0095
Chloroform	ND	0.28	0.015
1,1,1-Trichloroethane	ND	0.28	0.0073
Carbon Tetrachloride	ND	0.28	0.015
1,2-Dichloroethane	ND	0.28	0.015
Benzene	ND	0.28	0.0079
Trichloroethene	ND	0.28	0.0079
1,2-Dichloropropane	ND	0.28	0.0079
Bromodichloromethane	ND	0.28	0.015
Dibromomethane	ND	0.28	0.015
cis-1,3-Dichloropropene	ND	0.28	0.015
Toluene	ND	0.28	0.057
trans-1,3-Dichloropropene	ND	0.28	0.015
1,1,2-Trichloroethane	ND	0.28	0.028
Tetrachloroethene	ND	0.28	0.0079
Dibromochloromethane	ND	0.28	0.015
Chlorobenzene	ND	0.28	0.0079
1,1,1,2-Tetrachloroethane	ND	0.28	0.0079
Ethylbenzene	ND	0.28	0.028
m,p-Xylenes	ND	0.28	0.057
o-Xylene	ND	0.28	0.028
Bromoform	ND	0.28	0.028
1,1,2,2-Tetrachloroethane	ND	0.28	0.015
Bromobenzene	ND	0.28	0.0079
1,3-Dichlorobenzene	ND	0.28	0.015
1,4-Dichlorobenzene	ND	0.28	0.015
1,2-Dichlorobenzene	ND	0.28	0.015
Naphthalene	ND	0.28	0.015

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-128
1,2-Dichloroethane-d4	99	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	97	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 21	Dil'n Fac:	46.61
Lab ID:	290650-015	Batch#:	250002
Matrix:	Soil	Sampled:	07/14/17
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Analyzed:	07/25/17

Analyte	Result	RL	MDL
Freon 12	ND	0.47	0.030
Chloromethane	ND	0.47	0.020
Vinyl Chloride	ND	0.47	0.023
Bromomethane	ND	0.47	0.047
Chloroethane	ND	0.47	0.029
Trichlorofluoromethane	ND	0.23	0.0065
Freon 113	ND	0.23	0.0065
1,1-Dichloroethene	ND	0.23	0.0063
Methylene Chloride	ND	0.93	0.13
MTBE	ND	0.23	0.012
trans-1,2-Dichloroethene	ND	0.23	0.0065
1,1-Dichloroethane	ND	0.23	0.0071
cis-1,2-Dichloroethene	ND	0.23	0.0078
Chloroform	ND	0.23	0.012
1,1,1-Trichloroethane	ND	0.23	0.0060
Carbon Tetrachloride	ND	0.23	0.012
1,2-Dichloroethane	ND	0.23	0.012
Benzene	ND	0.23	0.0065
Trichloroethene	ND	0.23	0.0065
1,2-Dichloropropane	ND	0.23	0.0065
Bromodichloromethane	ND	0.23	0.012
Dibromomethane	ND	0.23	0.012
cis-1,3-Dichloropropene	ND	0.23	0.012
Toluene	ND	0.23	0.047
trans-1,3-Dichloropropene	ND	0.23	0.012
1,1,2-Trichloroethane	ND	0.23	0.023
Tetrachloroethene	ND	0.23	0.0065
Dibromochloromethane	ND	0.23	0.012
Chlorobenzene	ND	0.23	0.0065
1,1,1,2-Tetrachloroethane	ND	0.23	0.0065
Ethylbenzene	ND	0.23	0.023
m,p-Xylenes	ND	0.23	0.047
o-Xylene	ND	0.23	0.023
Bromoform	ND	0.23	0.023
1,1,2,2-Tetrachloroethane	ND	0.23	0.012
Bromobenzene	ND	0.23	0.0065
1,3-Dichlorobenzene	ND	0.23	0.012
1,4-Dichlorobenzene	ND	0.23	0.012
1,2-Dichlorobenzene	ND	0.23	0.012
Naphthalene	ND	0.23	0.012

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-128
1,2-Dichloroethane-d4	98	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	95	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 22	Dil'n Fac:	49.42
Lab ID:	290650-016	Batch#:	250041
Matrix:	Soil	Sampled:	07/14/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/26/17

Moisture: 14%

Analyte	Result	RL	MDL
Freon 12	ND	0.57	0.037
Chloromethane	ND	0.57	0.025
Vinyl Chloride	ND	0.57	0.029
Bromomethane	ND	0.57	0.057
Chloroethane	ND	0.57	0.036
Trichlorofluoromethane	ND	0.29	0.0080
Freon 113	ND	0.29	0.0080
1,1-Dichloroethene	ND	0.29	0.0078
Methylene Chloride	ND	1.1	0.16
MTBE	ND	0.29	0.015
trans-1,2-Dichloroethene	ND	0.29	0.0080
1,1-Dichloroethane	ND	0.29	0.0087
cis-1,2-Dichloroethene	ND	0.29	0.0097
Chloroform	ND	0.29	0.015
1,1,1-Trichloroethane	ND	0.29	0.0075
Carbon Tetrachloride	ND	0.29	0.015
1,2-Dichloroethane	ND	0.29	0.015
Benzene	ND	0.29	0.0080
Trichloroethene	ND	0.29	0.0080
1,2-Dichloropropane	ND	0.29	0.0080
Bromodichloromethane	ND	0.29	0.015
Dibromomethane	ND	0.29	0.015
cis-1,3-Dichloropropene	ND	0.29	0.015
Toluene	ND	0.29	0.058
trans-1,3-Dichloropropene	ND	0.29	0.015
1,1,2-Trichloroethane	ND	0.29	0.029
Tetrachloroethene	ND	0.29	0.0080
Dibromochloromethane	ND	0.29	0.015
Chlorobenzene	ND	0.29	0.0080
1,1,1,2-Tetrachloroethane	ND	0.29	0.0080
Ethylbenzene	ND	0.29	0.029
m,p-Xylenes	ND	0.29	0.057
o-Xylene	ND	0.29	0.029
Bromoform	ND	0.29	0.029
1,1,2,2-Tetrachloroethane	ND	0.29	0.015
Bromobenzene	ND	0.29	0.0080
1,3-Dichlorobenzene	ND	0.29	0.015
1,4-Dichlorobenzene	ND	0.29	0.015
1,2-Dichlorobenzene	ND	0.29	0.015
Naphthalene	ND	0.29	0.015

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	98	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	93	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Field ID:	TRENCH 23	Dil'n Fac:	52.31
Lab ID:	290650-017	Batch#:	250041
Matrix:	Soil	Sampled:	07/14/17
Units:	mg/Kg	Received:	07/18/14
Basis:	dry	Analyzed:	07/26/17

Moisture: 9%

Analyte	Result	RL	MDL
Freon 12	ND	0.57	0.038
Chloromethane	ND	0.57	0.025
Vinyl Chloride	ND	0.57	0.029
Bromomethane	ND	0.57	0.057
Chloroethane	ND	0.57	0.036
Trichlorofluoromethane	ND	0.29	0.0080
Freon 113	ND	0.29	0.0080
1,1-Dichloroethene	ND	0.29	0.0078
Methylene Chloride	ND	1.1	0.16
MTBE	ND	0.29	0.015
trans-1,2-Dichloroethene	ND	0.29	0.0080
1,1-Dichloroethane	ND	0.29	0.0087
cis-1,2-Dichloroethene	ND	0.29	0.0097
Chloroform	ND	0.29	0.015
1,1,1-Trichloroethane	ND	0.29	0.0075
Carbon Tetrachloride	ND	0.29	0.015
1,2-Dichloroethane	ND	0.29	0.015
Benzene	ND	0.29	0.0080
Trichloroethene	ND	0.29	0.0080
1,2-Dichloropropane	ND	0.29	0.0080
Bromodichloromethane	ND	0.29	0.015
Dibromomethane	ND	0.29	0.015
cis-1,3-Dichloropropene	ND	0.29	0.015
Toluene	ND	0.29	0.058
trans-1,3-Dichloropropene	ND	0.29	0.015
1,1,2-Trichloroethane	ND	0.29	0.029
Tetrachloroethene	ND	0.29	0.0080
Dibromochloromethane	ND	0.29	0.015
Chlorobenzene	ND	0.29	0.0080
1,1,1,2-Tetrachloroethane	ND	0.29	0.0080
Ethylbenzene	ND	0.29	0.029
m,p-Xylenes	ND	0.29	0.057
o-Xylene	ND	0.29	0.029
Bromoform	ND	0.29	0.029
1,1,2,2-Tetrachloroethane	ND	0.29	0.015
Bromobenzene	ND	0.29	0.0080
1,3-Dichlorobenzene	ND	0.29	0.015
1,4-Dichlorobenzene	ND	0.29	0.015
1,2-Dichlorobenzene	ND	0.29	0.015
Naphthalene	ND	0.29	0.015

Surrogate	%REC	Limits
Dibromofluoromethane	112	76-128
1,2-Dichloroethane-d4	104	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	93	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249956
Units:	mg/Kg	Analyzed:	07/24/17
Diln Fac:	1.000		

Type: BS Lab ID: QC894263

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.02000	0.01731	87	49-139
Chloromethane	0.02000	0.01882	94	52-135
Vinyl Chloride	0.02000	0.01922	96	67-134
Bromomethane	0.02000	0.02146	107	60-180
Chloroethane	0.02000	0.02151	108	66-132
Trichlorofluoromethane	0.02000	0.02194	110	66-140
Freon 113	0.02500	0.03047 b	122	65-137
1,1-Dichloroethene	0.02500	0.02619	105	68-135
Methylene Chloride	0.02500	0.02466	99	70-136
MTBE	0.02500	0.02267	91	64-126
trans-1,2-Dichloroethene	0.02500	0.02502	100	74-135
1,1-Dichloroethane	0.02500	0.02413	97	72-129
cis-1,2-Dichloroethene	0.02500	0.02391	96	77-129
Chloroform	0.02500	0.02425	97	76-130
1,1,1-Trichloroethane	0.02500	0.02527	101	75-138
Carbon Tetrachloride	0.02500	0.02711	108	69-148
1,2-Dichloroethane	0.02500	0.02464	99	73-139
Benzene	0.02500	0.02461	98	80-127
Trichloroethene	0.02500	0.02533	101	77-129
1,2-Dichloropropane	0.02500	0.02384	95	74-123
Bromodichloromethane	0.02500	0.02475	99	75-128
Dibromomethane	0.02500	0.02514	101	78-128
cis-1,3-Dichloropropene	0.02500	0.02601	104	80-131
Toluene	0.02500	0.02504	100	79-125
trans-1,3-Dichloropropene	0.02500	0.02521	101	71-121
1,1,2-Trichloroethane	0.02500	0.02460	98	78-125
Tetrachloroethene	0.02500	0.02764	111	76-137
Dibromochloromethane	0.02500	0.02480	99	74-124
Chlorobenzene	0.02500	0.02551	102	78-120
1,1,1,2-Tetrachloroethane	0.02500	0.02374	95	78-126
Ethylbenzene	0.02500	0.02592	104	80-127
m,p-Xylenes	0.05000	0.05215	104	78-126
o-Xylene	0.02500	0.02538	102	73-120
Bromoform	0.02500	0.02457	98	76-135
1,1,2,2-Tetrachloroethane	0.02500	0.02383	95	77-128
Bromobenzene	0.02500	0.02579	103	80-123
1,3-Dichlorobenzene	0.02500	0.02558	102	78-120
1,4-Dichlorobenzene	0.02500	0.02657	106	80-125
1,2-Dichlorobenzene	0.02500	0.02549	102	79-120
Naphthalene	0.02500	0.02577	103	72-128

Surrogate	%REC	Limits
Dibromofluoromethane	97	76-128
1,2-Dichloroethane-d4	93	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	98	79-128

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	249956
Units:	mg/Kg	Analyzed:	07/24/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC894264

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.02000	0.01575	79	49-139	9	40
Chloromethane	0.02000	0.01645	82	52-135	13	39
Vinyl Chloride	0.02000	0.01667	83	67-134	14	25
Bromomethane	0.02000	0.02014	101	60-180	6	30
Chloroethane	0.02000	0.01873	94	66-132	14	27
Trichlorofluoromethane	0.02000	0.02019	101	66-140	8	26
Freon 113	0.02500	0.02843 b	114	65-137	7	26
1,1-Dichloroethene	0.02500	0.02386	95	68-135	9	35
Methylene Chloride	0.02500	0.02310	92	70-136	7	33
MTBE	0.02500	0.02006	80	64-126	12	28
trans-1,2-Dichloroethene	0.02500	0.02257	90	74-135	10	29
1,1-Dichloroethane	0.02500	0.02145	86	72-129	12	23
cis-1,2-Dichloroethene	0.02500	0.02130	85	77-129	12	23
Chloroform	0.02500	0.02141	86	76-130	12	21
1,1,1-Trichloroethane	0.02500	0.02231	89	75-138	12	24
Carbon Tetrachloride	0.02500	0.02378	95	69-148	13	23
1,2-Dichloroethane	0.02500	0.02195	88	73-139	12	23
Benzene	0.02500	0.02105	84	80-127	16	20
Trichloroethene	0.02500	0.02104	84	77-129	18	20
1,2-Dichloropropane	0.02500	0.02086	83	74-123	13	21
Bromodichloromethane	0.02500	0.02146	86	75-128	14	22
Dibromomethane	0.02500	0.02346	94	78-128	7	21
cis-1,3-Dichloropropene	0.02500	0.02240	90	80-131	15	23
Toluene	0.02500	0.02192	88	79-125	13	23
trans-1,3-Dichloropropene	0.02500	0.02101	84	71-121	18	20
1,1,2-Trichloroethane	0.02500	0.02089	84	78-125	16	21
Tetrachloroethene	0.02500	0.02433	97	76-137	13	21
Dibromochloromethane	0.02500	0.02134	85	74-124	15	20
Chlorobenzene	0.02500	0.02225	89	78-120	14	20
1,1,1,2-Tetrachloroethane	0.02500	0.02027	81	78-126	16	20
Ethylbenzene	0.02500	0.02237	89	80-127	15	22
m,p-Xylenes	0.05000	0.04614	92	78-126	12	22
o-Xylene	0.02500	0.02263	91	73-120	11	21
Bromoform	0.02500	0.02080	83	76-135	17	21
1,1,2,2-Tetrachloroethane	0.02500	0.02070	83	77-128	14	22
Bromobenzene	0.02500	0.02206	88	80-123	16	20
1,3-Dichlorobenzene	0.02500	0.02242	90	78-120	13	20
1,4-Dichlorobenzene	0.02500	0.02300	92	80-125	14	20
1,2-Dichlorobenzene	0.02500	0.02257	90	79-120	12	23
Naphthalene	0.02500	0.02235	89	72-128	14	23

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-128
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	96	79-128

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC894265	Batch#:	249956
Matrix:	Soil	Analyzed:	07/24/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00064
Chloromethane	ND	0.010	0.00049
Vinyl Chloride	ND	0.010	0.00041
Bromomethane	ND	0.010	0.00036
Chloroethane	ND	0.010	0.00040
Trichlorofluoromethane	ND	0.0050	0.00030
Freon 113	ND	0.0050	0.00052
1,1-Dichloroethene	ND	0.0050	0.00060
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.00048
trans-1,2-Dichloroethene	ND	0.0050	0.00068
1,1-Dichloroethane	ND	0.0050	0.00076
cis-1,2-Dichloroethene	ND	0.0050	0.00057
Chloroform	ND	0.0050	0.00069
1,1,1-Trichloroethane	ND	0.0050	0.00066
Carbon Tetrachloride	ND	0.0050	0.00059
1,2-Dichloroethane	ND	0.0050	0.00062
Benzene	ND	0.0050	0.00070
Trichloroethene	ND	0.0050	0.00073
1,2-Dichloropropane	ND	0.0050	0.00059
Bromodichloromethane	ND	0.0050	0.00054
Dibromomethane	ND	0.0050	0.00050
cis-1,3-Dichloropropene	ND	0.0050	0.00050
Toluene	ND	0.0050	0.00076
trans-1,3-Dichloropropene	ND	0.0050	0.00050
1,1,2-Trichloroethane	ND	0.0050	0.00048
Tetrachloroethene	ND	0.0050	0.00064
Dibromochloromethane	ND	0.0050	0.00049
Chlorobenzene	ND	0.0050	0.00063
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00053
Ethylbenzene	ND	0.0050	0.00071
m,p-Xylenes	ND	0.0050	0.0014
o-Xylene	ND	0.0050	0.00060
Bromoform	ND	0.0050	0.00050
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00052
Bromobenzene	ND	0.0050	0.00050
1,3-Dichlorobenzene	ND	0.0050	0.00053
1,4-Dichlorobenzene	ND	0.0050	0.00048
1,2-Dichlorobenzene	ND	0.0050	0.00047
Naphthalene	ND	0.0050	0.00098

Surrogate	%REC	Limits
Dibromofluoromethane	88	76-128
1,2-Dichloroethane-d4	82	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	103	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	250002
Units:	mg/Kg	Analyzed:	07/25/17
Diln Fac:	1.000		

Type: BS Lab ID: QC894437

Analyte	Spiked	Result		%REC	Limits
Freon 12	0.02000	0.01493		75	49-139
Chloromethane	0.02000	0.01507		75	52-135
Vinyl Chloride	0.02000	0.01666		83	67-134
Bromomethane	0.02000	0.01805		90	60-180
Chloroethane	0.02000	0.01814		91	66-132
Trichlorofluoromethane	0.02000	0.02069		103	66-140
Freon 113	0.02500	0.02763	b	111	65-137
1,1-Dichloroethene	0.02500	0.02303		92	68-135
Methylene Chloride	0.02500	0.02224		89	70-136
MTBE	0.02500	0.01865		75	64-126
trans-1,2-Dichloroethene	0.02500	0.02134		85	74-135
1,1-Dichloroethane	0.02500	0.01934		77	72-129
cis-1,2-Dichloroethene	0.02500	0.02047		82	77-129
Chloroform	0.02500	0.02038		82	76-130
1,1,1-Trichloroethane	0.02500	0.02108		84	75-138
Carbon Tetrachloride	0.02500	0.02413		97	69-148
1,2-Dichloroethane	0.02500	0.02140		86	73-139
Benzene	0.02500	0.02065		83	80-127
Trichloroethene	0.02500	0.02105		84	77-129
1,2-Dichloropropane	0.02500	0.01989		80	74-123
Bromodichloromethane	0.02500	0.02105		84	75-128
Dibromomethane	0.02500	0.02340		94	78-128
cis-1,3-Dichloropropene	0.02500	0.02209		88	80-131
Toluene	0.02500	0.02108		84	79-125
trans-1,3-Dichloropropene	0.02500	0.01966		79	71-121
1,1,2-Trichloroethane	0.02500	0.01970		79	78-125
Tetrachloroethene	0.02500	0.02415		97	76-137
Dibromochloromethane	0.02500	0.02101		84	74-124
Chlorobenzene	0.02500	0.02239		90	78-120
1,1,1,2-Tetrachloroethane	0.02500	0.01944		78	78-126
Ethylbenzene	0.02500	0.02194		88	80-127
m,p-Xylenes	0.05000	0.04608		92	78-126
o-Xylene	0.02500	0.02226		89	73-120
Bromoform	0.02500	0.02139		86	76-135
1,1,2,2-Tetrachloroethane	0.02500	0.02031		81	77-128
Bromobenzene	0.02500	0.02237		89	80-123
1,3-Dichlorobenzene	0.02500	0.02350		94	78-120
1,4-Dichlorobenzene	0.02500	0.02371		95	80-125
1,2-Dichlorobenzene	0.02500	0.02360		94	79-120
Naphthalene	0.02500	0.02368		95	72-128

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-128
1,2-Dichloroethane-d4	89	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	92	79-128

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	250002
Units:	mg/Kg	Analyzed:	07/25/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC894438

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.02000	0.01553	78	49-139	4	40
Chloromethane	0.02000	0.01493	75	52-135	1	39
Vinyl Chloride	0.02000	0.01674	84	67-134	0	25
Bromomethane	0.02000	0.01831	92	60-180	1	30
Chloroethane	0.02000	0.01822	91	66-132	0	27
Trichlorofluoromethane	0.02000	0.02153	108	66-140	4	26
Freon 113	0.02500	0.03040 b	122	65-137	10	26
1,1-Dichloroethene	0.02500	0.02350	94	68-135	2	35
Methylene Chloride	0.02500	0.02212	88	70-136	1	33
MTBE	0.02500	0.02215	89	64-126	17	28
trans-1,2-Dichloroethene	0.02500	0.02234	89	74-135	5	29
1,1-Dichloroethane	0.02500	0.02016	81	72-129	4	23
cis-1,2-Dichloroethene	0.02500	0.02132	85	77-129	4	23
Chloroform	0.02500	0.02152	86	76-130	5	21
1,1,1-Trichloroethane	0.02500	0.02295	92	75-138	9	24
Carbon Tetrachloride	0.02500	0.02533	101	69-148	5	23
1,2-Dichloroethane	0.02500	0.02293	92	73-139	7	23
Benzene	0.02500	0.02168	87	80-127	5	20
Trichloroethene	0.02500	0.02278	91	77-129	8	20
1,2-Dichloropropane	0.02500	0.02149	86	74-123	8	21
Bromodichloromethane	0.02500	0.02307	92	75-128	9	22
Dibromomethane	0.02500	0.02406	96	78-128	3	21
cis-1,3-Dichloropropene	0.02500	0.02342	94	80-131	6	23
Toluene	0.02500	0.02223	89	79-125	5	23
trans-1,3-Dichloropropene	0.02500	0.02270	91	71-121	14	20
1,1,2-Trichloroethane	0.02500	0.02300	92	78-125	15	21
Tetrachloroethene	0.02500	0.02653	106	76-137	9	21
Dibromochloromethane	0.02500	0.02360	94	74-124	12	20
Chlorobenzene	0.02500	0.02285	91	78-120	2	20
1,1,1,2-Tetrachloroethane	0.02500	0.02207	88	78-126	13	20
Ethylbenzene	0.02500	0.02250	90	80-127	3	22
m,p-Xylenes	0.05000	0.04617	92	78-126	0	22
o-Xylene	0.02500	0.02242	90	73-120	1	21
Bromoform	0.02500	0.02330	93	76-135	9	21
1,1,2,2-Tetrachloroethane	0.02500	0.02233	89	77-128	9	22
Bromobenzene	0.02500	0.02311	92	80-123	3	20
1,3-Dichlorobenzene	0.02500	0.02335	93	78-120	1	20
1,4-Dichlorobenzene	0.02500	0.02435	97	80-125	3	20
1,2-Dichlorobenzene	0.02500	0.02390	96	79-120	1	23
Naphthalene	0.02500	0.02415	97	72-128	2	23

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-128
1,2-Dichloroethane-d4	91	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	92	79-128

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC894468	Batch#:	250002
Matrix:	Soil	Analyzed:	07/25/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00064
Chloromethane	ND	0.010	0.00049
Vinyl Chloride	ND	0.010	0.00041
Bromomethane	ND	0.010	0.00036
Chloroethane	ND	0.010	0.00040
Trichlorofluoromethane	ND	0.0050	0.00030
Freon 113	ND	0.0050	0.00052
1,1-Dichloroethene	ND	0.0050	0.00060
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.00048
trans-1,2-Dichloroethene	ND	0.0050	0.00068
1,1-Dichloroethane	ND	0.0050	0.00076
cis-1,2-Dichloroethene	ND	0.0050	0.00057
Chloroform	ND	0.0050	0.00069
1,1,1-Trichloroethane	ND	0.0050	0.00066
Carbon Tetrachloride	ND	0.0050	0.00059
1,2-Dichloroethane	ND	0.0050	0.00062
Benzene	ND	0.0050	0.00070
Trichloroethene	ND	0.0050	0.00073
1,2-Dichloropropane	ND	0.0050	0.00059
Bromodichloromethane	ND	0.0050	0.00054
Dibromomethane	ND	0.0050	0.00050
cis-1,3-Dichloropropene	ND	0.0050	0.00050
Toluene	ND	0.0050	0.00076
trans-1,3-Dichloropropene	ND	0.0050	0.00050
1,1,2-Trichloroethane	ND	0.0050	0.00048
Tetrachloroethene	ND	0.0050	0.00064
Dibromochloromethane	ND	0.0050	0.00049
Chlorobenzene	ND	0.0050	0.00063
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00053
Ethylbenzene	ND	0.0050	0.00071
m,p-Xylenes	ND	0.0050	0.0014
o-Xylene	ND	0.0050	0.00060
Bromoform	ND	0.0050	0.00050
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00052
Bromobenzene	ND	0.0050	0.00050
1,3-Dichlorobenzene	ND	0.0050	0.00053
1,4-Dichlorobenzene	ND	0.0050	0.00048
1,2-Dichlorobenzene	ND	0.0050	0.00047
Naphthalene	ND	0.0050	0.00098

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-128
1,2-Dichloroethane-d4	83	80-137
Toluene-d8	98	80-120
Bromofluorobenzene	97	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	250041
Units:	mg/Kg	Analyzed:	07/26/17
Diln Fac:	1.000		

Type: BS Lab ID: QC894573

Analyte	Spiked	Result	%REC	Limits
Freon 12	0.02000	0.01774	89	49-139
Chloromethane	0.02000	0.01716	86	52-135
Vinyl Chloride	0.02000	0.01800	90	67-134
Bromomethane	0.02000	0.01900	95	60-180
Chloroethane	0.02000	0.01680	84	66-132
Trichlorofluoromethane	0.02000	0.01831	92	66-140
Freon 113	0.02500	0.02906 b	116	65-137
1,1-Dichloroethene	0.02500	0.02342	94	68-135
Methylene Chloride	0.02500	0.02102	84	70-136
MTBE	0.02500	0.01917	77	64-126
trans-1,2-Dichloroethene	0.02500	0.02154	86	74-135
1,1-Dichloroethane	0.02500	0.01859	74	72-129
cis-1,2-Dichloroethene	0.02500	0.02071	83	77-129
Chloroform	0.02500	0.02050	82	76-130
1,1,1-Trichloroethane	0.02500	0.02155	86	75-138
Carbon Tetrachloride	0.02500	0.02327	93	69-148
1,2-Dichloroethane	0.02500	0.01987	79	73-139
Benzene	0.02500	0.02083	83	80-127
Trichloroethene	0.02500	0.02149	86	77-129
1,2-Dichloropropane	0.02500	0.01864	75	74-123
Bromodichloromethane	0.02500	0.02060	82	75-128
Dibromomethane	0.02500	0.02141	86	78-128
cis-1,3-Dichloropropene	0.02500	0.02060	82	80-131
Toluene	0.02500	0.02108	84	79-125
trans-1,3-Dichloropropene	0.02500	0.02042	82	71-121
1,1,2-Trichloroethane	0.02500	0.02092	84	78-125
Tetrachloroethene	0.02500	0.02448	98	76-137
Dibromochloromethane	0.02500	0.02092	84	74-124
Chlorobenzene	0.02500	0.02169	87	78-120
1,1,1,2-Tetrachloroethane	0.02500	0.02088	84	78-126
Ethylbenzene	0.02500	0.02148	86	80-127
m,p-Xylenes	0.05000	0.04368	87	78-126
o-Xylene	0.02500	0.02087	83	73-120
Bromoform	0.02500	0.01928	77	76-135
1,1,2,2-Tetrachloroethane	0.02500	0.01847	74 *	77-128
Bromobenzene	0.02500	0.02157	86	80-123
1,3-Dichlorobenzene	0.02500	0.02097	84	78-120
1,4-Dichlorobenzene	0.02500	0.02249	90	80-125
1,2-Dichlorobenzene	0.02500	0.02132	85	79-120
Naphthalene	0.02500	0.01999	80	72-128

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-128
1,2-Dichloroethane-d4	86	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	88	79-128

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	250041
Units:	mg/Kg	Analyzed:	07/26/17
Diln Fac:	1.000		

Type: BSD Lab ID: QC894574

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.02000	0.01885	94	49-139	6	40
Chloromethane	0.02000	0.01760	88	52-135	3	39
Vinyl Chloride	0.02000	0.01947	97	67-134	8	25
Bromomethane	0.02000	0.01919	96	60-180	1	30
Chloroethane	0.02000	0.01776	89	66-132	6	27
Trichlorofluoromethane	0.02000	0.01877	94	66-140	2	26
Freon 113	0.02500	0.03055 b	122	65-137	5	26
1,1-Dichloroethene	0.02500	0.02439	98	68-135	4	35
Methylene Chloride	0.02500	0.02262	90	70-136	7	33
MTBE	0.02500	0.02064	83	64-126	7	28
trans-1,2-Dichloroethene	0.02500	0.02306	92	74-135	7	29
1,1-Dichloroethane	0.02500	0.01961	78	72-129	5	23
cis-1,2-Dichloroethene	0.02500	0.02132	85	77-129	3	23
Chloroform	0.02500	0.02122	85	76-130	3	21
1,1,1-Trichloroethane	0.02500	0.02220	89	75-138	3	24
Carbon Tetrachloride	0.02500	0.02396	96	69-148	3	23
1,2-Dichloroethane	0.02500	0.02080	83	73-139	5	23
Benzene	0.02500	0.02071	83	80-127	1	20
Trichloroethene	0.02500	0.02099	84	77-129	2	20
1,2-Dichloropropane	0.02500	0.01952	78	74-123	5	21
Bromodichloromethane	0.02500	0.02110	84	75-128	2	22
Dibromomethane	0.02500	0.02174	87	78-128	2	21
cis-1,3-Dichloropropene	0.02500	0.02150	86	80-131	4	23
Toluene	0.02500	0.02087	83	79-125	1	23
trans-1,3-Dichloropropene	0.02500	0.02058	82	71-121	1	20
1,1,2-Trichloroethane	0.02500	0.02058	82	78-125	2	21
Tetrachloroethene	0.02500	0.02473	99	76-137	1	21
Dibromochloromethane	0.02500	0.02084	83	74-124	0	20
Chlorobenzene	0.02500	0.02168	87	78-120	0	20
1,1,1,2-Tetrachloroethane	0.02500	0.02067	83	78-126	1	20
Ethylbenzene	0.02500	0.02065	83	80-127	4	22
m,p-Xylenes	0.05000	0.04175	83	78-126	5	22
o-Xylene	0.02500	0.02031	81	73-120	3	21
Bromoform	0.02500	0.02095	84	76-135	8	21
1,1,2,2-Tetrachloroethane	0.02500	0.01856	74 *	77-128	0	22
Bromobenzene	0.02500	0.02126	85	80-123	1	20
1,3-Dichlorobenzene	0.02500	0.02034	81	78-120	3	20
1,4-Dichlorobenzene	0.02500	0.02130	85	80-125	5	20
1,2-Dichlorobenzene	0.02500	0.02022	81	79-120	5	23
Naphthalene	0.02500	0.02018	81	72-128	1	23

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-128
1,2-Dichloroethane-d4	89	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	89	79-128

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5035
Project#:	170039	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC894575	Batch#:	250041
Matrix:	Soil	Analyzed:	07/26/17
Units:	mg/Kg		

Analyte	Result	RL	MDL
Freon 12	ND	0.010	0.00064
Chloromethane	ND	0.010	0.00049
Vinyl Chloride	ND	0.010	0.00041
Bromomethane	ND	0.010	0.00036
Chloroethane	ND	0.010	0.00040
Trichlorofluoromethane	ND	0.0050	0.00030
Freon 113	ND	0.0050	0.00052
1,1-Dichloroethene	ND	0.0050	0.00060
Methylene Chloride	ND	0.020	0.0011
MTBE	ND	0.0050	0.00048
trans-1,2-Dichloroethene	ND	0.0050	0.00068
1,1-Dichloroethane	ND	0.0050	0.00076
cis-1,2-Dichloroethene	ND	0.0050	0.00057
Chloroform	ND	0.0050	0.00069
1,1,1-Trichloroethane	ND	0.0050	0.00066
Carbon Tetrachloride	ND	0.0050	0.00059
1,2-Dichloroethane	ND	0.0050	0.00062
Benzene	ND	0.0050	0.00070
Trichloroethene	ND	0.0050	0.00073
1,2-Dichloropropane	ND	0.0050	0.00059
Bromodichloromethane	ND	0.0050	0.00054
Dibromomethane	ND	0.0050	0.00050
cis-1,3-Dichloropropene	ND	0.0050	0.00050
Toluene	ND	0.0050	0.00076
trans-1,3-Dichloropropene	ND	0.0050	0.00050
1,1,2-Trichloroethane	ND	0.0050	0.00048
Tetrachloroethene	ND	0.0050	0.00064
Dibromochloromethane	ND	0.0050	0.00049
Chlorobenzene	ND	0.0050	0.00063
1,1,1,2-Tetrachloroethane	ND	0.0050	0.00053
Ethylbenzene	ND	0.0050	0.00071
m,p-Xylenes	ND	0.0050	0.0014
o-Xylene	ND	0.0050	0.00060
Bromoform	ND	0.0050	0.00050
1,1,2,2-Tetrachloroethane	ND	0.0050	0.00052
Bromobenzene	ND	0.0050	0.00050
1,3-Dichlorobenzene	ND	0.0050	0.00053
1,4-Dichlorobenzene	ND	0.0050	0.00048
1,2-Dichlorobenzene	ND	0.0050	0.00047
Naphthalene	ND	0.0050	0.00098

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-128
1,2-Dichloroethane-d4	83	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	93	79-128

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	250041
MSS Lab ID:	290718-007	Sampled:	07/18/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/27/17
Basis:	dry		

Type:	MS	Moisture:	11%
Lab ID:	QC894740	Diln Fac:	0.9881

Analyte	MSS Result	Spiked	Result	%REC	Limits
Freon 12	<0.0006966	0.04441	0.05015	113	39-142
Chloromethane	<0.0005306	0.04441	0.03718	84	40-128
Vinyl Chloride	<0.0004451	0.04441	0.04472	101	49-137
Bromomethane	<0.0003908	0.04441	0.03910	88	38-151
Chloroethane	<0.0004294	0.04441	0.03917	88	44-132
Trichlorofluoromethane	<0.0003236	0.04441	0.04886	110	47-140
Freon 113	<0.0005662	0.05551	0.07834 b	141 *	40-139
1,1-Dichloroethene	<0.0006493	0.05551	0.05757	104	46-138
Methylene Chloride	<0.001168	0.05551	0.04584	83	46-130
MTBE	<0.0005249	0.05551	0.05384	97	47-123
trans-1,2-Dichloroethene	<0.0007384	0.05551	0.05075	91	48-132
1,1-Dichloroethane	<0.0008290	0.05551	0.04466	80	48-124
cis-1,2-Dichloroethene	<0.0006160	0.05551	0.04773	86	51-124
Chloroform	<0.0007502	0.05551	0.04779	86	49-126
1,1,1-Trichloroethane	<0.0007106	0.05551	0.05599	101	50-135
Carbon Tetrachloride	<0.0006449	0.05551	0.06007	108	44-144
1,2-Dichloroethane	<0.0006773	0.05551	0.04487	81	48-129
Benzene	<0.0007565	0.05551	0.04960	89	51-125
Trichloroethene	<0.0007879	0.05551	0.05324	96	41-146
1,2-Dichloropropane	<0.0006350	0.05551	0.04757	86	49-120
Bromodichloromethane	<0.0005825	0.05551	0.04936	89	45-124
Dibromomethane	<0.0005423	0.05551	0.04672	84	50-121
cis-1,3-Dichloropropene	<0.0005423	0.05551	0.05115	92	44-129
Toluene	<0.0008286	0.05551	0.04838	87	45-123
trans-1,3-Dichloropropene	<0.0005423	0.05551	0.05104	92	39-120
1,1,2-Trichloroethane	<0.0005218	0.05551	0.05454	98	45-122
Tetrachloroethene	0.007299	0.05551	0.06461	103	40-130
Dibromochloromethane	<0.0005303	0.05551	0.05475	99	43-120
Chlorobenzene	<0.0006793	0.05551	0.04629	83	39-120
1,1,1,2-Tetrachloroethane	<0.0005729	0.05551	0.05273	95	43-123
Ethylbenzene	<0.0007738	0.05551	0.04630	83	40-124
m,p-Xylenes	<0.001496	0.1110	0.09534	86	37-122
o-Xylene	<0.0006456	0.05551	0.04575	82	37-120
Bromoform	<0.0005423	0.05551	0.05011	90	42-128
1,1,2,2-Tetrachloroethane	<0.0005637	0.05551	0.04688	84	23-130
Bromobenzene	<0.0005423	0.05551	0.04505	81	35-120
1,3-Dichlorobenzene	<0.0005713	0.05551	0.04056	73	25-120
1,4-Dichlorobenzene	<0.0005155	0.05551	0.04131	74	26-120
1,2-Dichlorobenzene	<0.0005118	0.05551	0.04125	74	26-120
Naphthalene	<0.001067	0.05551	0.03591	65	15-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-128
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	98	80-120
Bromofluorobenzene	91	79-128

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 5030B
Project#:	170039	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	250041
MSS Lab ID:	290718-007	Sampled:	07/18/17
Matrix:	Soil	Received:	07/19/17
Units:	mg/Kg	Analyzed:	07/27/17
Basis:	dry		

Type:	MSD	Moisture:	11%
Lab ID:	QC894741	Diln Fac:	0.9634

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Freon 12	0.04330	0.05111	118	39-142	4	57
Chloromethane	0.04330	0.03607	83	40-128	1	46
Vinyl Chloride	0.04330	0.04308	100	49-137	1	45
Bromomethane	0.04330	0.04044	93	38-151	6	44
Chloroethane	0.04330	0.03909	90	44-132	2	48
Trichlorofluoromethane	0.04330	0.04962	115	47-140	4	50
Freon 113	0.05412	0.08008 b	148 *	40-139	5	57
1,1-Dichloroethene	0.05412	0.05799	107	46-138	3	51
Methylene Chloride	0.05412	0.04664	86	46-130	4	47
MTBE	0.05412	0.04738	88	47-123	10	46
trans-1,2-Dichloroethene	0.05412	0.04983	92	48-132	1	52
1,1-Dichloroethane	0.05412	0.04537	84	48-124	4	45
cis-1,2-Dichloroethene	0.05412	0.04864	90	51-124	4	47
Chloroform	0.05412	0.04758	88	49-126	2	46
1,1,1-Trichloroethane	0.05412	0.05516	102	50-135	1	50
Carbon Tetrachloride	0.05412	0.05898	109	44-144	1	54
1,2-Dichloroethane	0.05412	0.04438	82	48-129	1	43
Benzene	0.05412	0.04816	89	51-125	0	46
Trichloroethene	0.05412	0.05088	94	41-146	2	55
1,2-Dichloropropane	0.05412	0.04563	84	49-120	2	47
Bromodichloromethane	0.05412	0.04674	86	45-124	3	49
Dibromomethane	0.05412	0.04753	88	50-121	4	45
cis-1,3-Dichloropropene	0.05412	0.04759	88	44-129	5	52
Toluene	0.05412	0.04577	85	45-123	3	59
trans-1,3-Dichloropropene	0.05412	0.04465	82	39-120	11	49
1,1,2-Trichloroethane	0.05412	0.04815	89	45-122	10	47
Tetrachloroethene	0.05412	0.06609	109	40-130	5	57
Dibromochloromethane	0.05412	0.04949	91	43-120	8	49
Chlorobenzene	0.05412	0.04356	80	39-120	4	54
1,1,1,2-Tetrachloroethane	0.05412	0.04729	87	43-123	8	54
Ethylbenzene	0.05412	0.04461	82	40-124	1	54
m,p-Xylenes	0.1082	0.09128	84	37-122	2	54
o-Xylene	0.05412	0.04370	81	37-120	2	52
Bromoform	0.05412	0.04633	86	42-128	5	55
1,1,2,2-Tetrachloroethane	0.05412	0.04072	75	23-130	12	61
Bromobenzene	0.05412	0.04334	80	35-120	1	51
1,3-Dichlorobenzene	0.05412	0.03811	70	25-120	4	58
1,4-Dichlorobenzene	0.05412	0.03895	72	26-120	3	56
1,2-Dichlorobenzene	0.05412	0.03961	73	26-120	2	57
Naphthalene	0.05412	0.03629	67	15-120	4	60

Surrogate	%REC	Limits
Dibromofluoromethane	108	76-128
1,2-Dichloroethane-d4	92	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	91	79-128

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 16	Batch#:	249958
Lab ID:	290650-010	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/24/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	50.00		

Moisture: 14%

Analyte	Result	RL	MDL
Naphthalene	ND	0.29	0.058
1-Methylnaphthalene	ND	0.29	0.058
2-Methylnaphthalene	ND	0.29	0.058
Acenaphthylene	ND	0.29	0.058
Acenaphthene	ND	0.29	0.058
Fluorene	ND	0.29	0.058
Phenanthrene	ND	0.29	0.058
Anthracene	ND	0.29	0.058
Fluoranthene	0.069 J	0.29	0.058
Pyrene	0.12 J	0.29	0.058
Benzo(a)anthracene	ND	0.29	0.058
Chrysene	ND	0.29	0.058
Benzo(b)fluoranthene	ND	0.29	0.058
Benzo(k)fluoranthene	ND	0.29	0.058
Benzo(a)pyrene	ND	0.29	0.058
Indeno(1,2,3-cd)pyrene	ND	0.29	0.058
Dibenz(a,h)anthracene	ND	0.29	0.058
Benzo(g,h,i)perylene	0.13 J	0.29	0.058

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 18	Batch#:	250011
Lab ID:	290650-012	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	20.00		

Moisture: 17%

Analyte	Result	RL	MDL
Naphthalene	0.044 J	0.12	0.024
1-Methylnaphthalene	ND	0.12	0.024
2-Methylnaphthalene	ND	0.12	0.024
Acenaphthylene	0.036 J	0.12	0.024
Acenaphthene	0.057 J	0.12	0.024
Fluorene	0.065 J	0.12	0.024
Phenanthrene	0.87	0.12	0.024
Anthracene	0.16	0.12	0.024
Fluoranthene	1.3	0.12	0.024
Pyrene	1.1	0.12	0.024
Benzo(a)anthracene	0.41	0.12	0.024
Chrysene	0.48	0.12	0.024
Benzo(b)fluoranthene	0.68	0.12	0.024
Benzo(k)fluoranthene	0.23	0.12	0.024
Benzo(a)pyrene	0.46	0.12	0.024
Indeno(1,2,3-cd)pyrene	0.32	0.12	0.024
Dibenz(a,h)anthracene	0.091 J	0.12	0.024
Benzo(g,h,i)perylene	0.39	0.12	0.024

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 19	Batch#:	250011
Lab ID:	290650-013	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	100.0		

Moisture: 23%

Analyte	Result	RL	MDL
Naphthalene	ND	0.65	0.13
1-Methylnaphthalene	ND	0.65	0.13
2-Methylnaphthalene	ND	0.65	0.13
Acenaphthylene	ND	0.65	0.13
Acenaphthene	ND	0.65	0.13
Fluorene	ND	0.65	0.13
Phenanthrene	ND	0.65	0.13
Anthracene	ND	0.65	0.13
Fluoranthene	ND	0.65	0.13
Pyrene	ND	0.65	0.13
Benzo(a)anthracene	ND	0.65	0.13
Chrysene	ND	0.65	0.13
Benzo(b)fluoranthene	ND	0.65	0.13
Benzo(k)fluoranthene	ND	0.65	0.13
Benzo(a)pyrene	ND	0.65	0.13
Indeno(1,2,3-cd)pyrene	ND	0.65	0.13
Dibenz(a,h)anthracene	ND	0.65	0.13
Benzo(g,h,i)perylene	ND	0.65	0.13

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 20	Batch#:	250011
Lab ID:	290650-014	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	400.0		

Moisture: 25%

Analyte	Result	RL	MDL
Naphthalene	ND	2.7	0.54
1-Methylnaphthalene	ND	2.7	0.54
2-Methylnaphthalene	ND	2.7	0.54
Acenaphthylene	ND	2.7	0.54
Acenaphthene	ND	2.7	0.54
Fluorene	ND	2.7	0.54
Phenanthrene	ND	2.7	0.54
Anthracene	ND	2.7	0.54
Fluoranthene	ND	2.7	0.54
Pyrene	ND	2.7	0.54
Benzo(a)anthracene	ND	2.7	0.54
Chrysene	ND	2.7	0.54
Benzo(b)fluoranthene	ND	2.7	0.54
Benzo(k)fluoranthene	ND	2.7	0.54
Benzo(a)pyrene	ND	2.7	0.54
Indeno(1,2,3-cd)pyrene	ND	2.7	0.54
Dibenz(a,h)anthracene	ND	2.7	0.54
Benzo(g,h,i)perylene	ND	2.7	0.54

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 21	Batch#:	250011
Lab ID:	290650-015	Sampled:	07/14/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	as received	Analyzed:	08/09/17
Diln Fac:	50.00		

Analyte	Result	RL	MDL
Naphthalene	ND	0.25	0.051
1-Methylnaphthalene	ND	0.25	0.051
2-Methylnaphthalene	ND	0.25	0.051
Acenaphthylene	ND	0.25	0.051
Acenaphthene	ND	0.25	0.051
Fluorene	ND	0.25	0.051
Phenanthrene	ND	0.25	0.051
Anthracene	ND	0.25	0.051
Fluoranthene	ND	0.25	0.051
Pyrene	ND	0.25	0.051
Benzo(a)anthracene	ND	0.25	0.051
Chrysene	ND	0.25	0.051
Benzo(b)fluoranthene	ND	0.25	0.051
Benzo(k)fluoranthene	ND	0.25	0.051
Benzo(a)pyrene	ND	0.25	0.051
Indeno(1,2,3-cd)pyrene	ND	0.25	0.051
Dibenz(a,h)anthracene	ND	0.25	0.051
Benzo(g,h,i)perylene	ND	0.25	0.051

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 22	Batch#:	250011
Lab ID:	290650-016	Sampled:	07/14/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	25.00		

Moisture: 14%

Analyte	Result	RL	MDL
Naphthalene	ND	0.15	0.029
1-Methylnaphthalene	ND	0.15	0.029
2-Methylnaphthalene	ND	0.15	0.029
Acenaphthylene	ND	0.15	0.029
Acenaphthene	ND	0.15	0.029
Fluorene	ND	0.15	0.029
Phenanthrene	ND	0.15	0.029
Anthracene	ND	0.15	0.029
Fluoranthene	ND	0.15	0.029
Pyrene	ND	0.15	0.029
Benzo(a)anthracene	ND	0.15	0.029
Chrysene	ND	0.15	0.029
Benzo(b)fluoranthene	ND	0.15	0.029
Benzo(k)fluoranthene	ND	0.15	0.029
Benzo(a)pyrene	ND	0.15	0.029
Indeno(1,2,3-cd)pyrene	ND	0.15	0.029
Dibenz(a,h)anthracene	ND	0.15	0.029
Benzo(g,h,i)perylene	ND	0.15	0.029

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 23	Batch#:	250011
Lab ID:	290650-017	Sampled:	07/14/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/25/17
Basis:	dry	Analyzed:	08/09/17
Diln Fac:	10.00		

Moisture: 9%

Analyte	Result	RL	MDL
Naphthalene	ND	0.055	0.011
1-Methylnaphthalene	ND	0.055	0.011
2-Methylnaphthalene	ND	0.055	0.011
Acenaphthylene	ND	0.055	0.011
Acenaphthene	ND	0.055	0.011
Fluorene	ND	0.055	0.011
Phenanthrene	ND	0.055	0.011
Anthracene	ND	0.055	0.011
Fluoranthene	ND	0.055	0.011
Pyrene	ND	0.055	0.011
Benzo(a)anthracene	ND	0.055	0.011
Chrysene	ND	0.055	0.011
Benzo(b)fluoranthene	ND	0.055	0.011
Benzo(k)fluoranthene	ND	0.055	0.011
Benzo(a)pyrene	ND	0.055	0.011
Indeno(1,2,3-cd)pyrene	ND	0.055	0.011
Dibenz(a,h)anthracene	ND	0.055	0.011
Benzo(g,h,i)perylene	ND	0.055	0.011

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	46-120
2-Fluorobiphenyl	DO	52-120
Terphenyl-d14	DO	54-132

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC894270	Batch#:	249958
Matrix:	Soil	Prepared:	07/24/17
Units:	mg/Kg	Analyzed:	07/24/17

Analyte	Result	RL	MDL
Naphthalene	ND	0.0050	0.00099
1-Methylnaphthalene	ND	0.0050	0.00099
2-Methylnaphthalene	ND	0.0050	0.00099
Acenaphthylene	ND	0.0050	0.00099
Acenaphthene	ND	0.0050	0.00099
Fluorene	ND	0.0050	0.00099
Phenanthrene	ND	0.0050	0.00099
Anthracene	ND	0.0050	0.00099
Fluoranthene	ND	0.0050	0.00099
Pyrene	ND	0.0050	0.00099
Benzo(a)anthracene	ND	0.0050	0.00099
Chrysene	ND	0.0050	0.00099
Benzo(b)fluoranthene	ND	0.0050	0.00099
Benzo(k)fluoranthene	ND	0.0050	0.00099
Benzo(a)pyrene	ND	0.0050	0.00099
Indeno(1,2,3-cd)pyrene	ND	0.0050	0.00099
Dibenz(a,h)anthracene	ND	0.0050	0.00099
Benzo(g,h,i)perylene	ND	0.0050	0.00099

Surrogate	%REC	Limits
Nitrobenzene-d5	77	46-120
2-Fluorobiphenyl	94	52-120
Terphenyl-d14	67	54-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC894271	Batch#:	249958
Matrix:	Soil	Prepared:	07/24/17
Units:	mg/Kg	Analyzed:	07/25/17

Analyte	Spiked	Result	%REC	Limits
Naphthalene	0.03293	0.02571	78	52-120
1-Methylnaphthalene	0.03293	0.02448	74	49-120
2-Methylnaphthalene	0.03293	0.02492	76	52-120
Acenaphthylene	0.03293	0.02952	90	39-120
Acenaphthene	0.03293	0.02374	72	43-120
Fluorene	0.03293	0.03098	94	46-120
Phenanthrene	0.03293	0.02913	88	42-120
Anthracene	0.03293	0.02672	81	37-120
Fluoranthene	0.03293	0.02844	86	38-120
Pyrene	0.03293	0.02878	87	39-120
Benzo(a)anthracene	0.03293	0.02815	85	36-120
Chrysene	0.03293	0.02070	63	35-120
Benzo(b)fluoranthene	0.03293	0.02721	83	39-120
Benzo(k)fluoranthene	0.03293	0.02798	85	36-120
Benzo(a)pyrene	0.03293	0.02810	85	38-120
Indeno(1,2,3-cd)pyrene	0.03293	0.03069	93	35-120
Dibenz(a,h)anthracene	0.03293	0.02626	80	31-120
Benzo(g,h,i)perylene	0.03293	0.03146	96	39-120

Surrogate	%REC	Limits
Nitrobenzene-d5	73	46-120
2-Fluorobiphenyl	88	52-120
Terphenyl-d14	67	54-132

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC894464	Batch#:	250011
Matrix:	Soil	Prepared:	07/25/17
Units:	mg/Kg	Analyzed:	07/25/17

Analyte	Result	RL	MDL
Naphthalene	ND	0.0050	0.00099
1-Methylnaphthalene	ND	0.0050	0.00099
2-Methylnaphthalene	ND	0.0050	0.00099
Acenaphthylene	ND	0.0050	0.00099
Acenaphthene	ND	0.0050	0.00099
Fluorene	ND	0.0050	0.00099
Phenanthrene	ND	0.0050	0.00099
Anthracene	ND	0.0050	0.00099
Fluoranthene	ND	0.0050	0.00099
Pyrene	ND	0.0050	0.00099
Benzo(a)anthracene	ND	0.0050	0.00099
Chrysene	ND	0.0050	0.00099
Benzo(b)fluoranthene	ND	0.0050	0.00099
Benzo(k)fluoranthene	ND	0.0050	0.00099
Benzo(a)pyrene	ND	0.0050	0.00099
Indeno(1,2,3-cd)pyrene	ND	0.0050	0.00099
Dibenz(a,h)anthracene	ND	0.0050	0.00099
Benzo(g,h,i)perylene	ND	0.0050	0.00099

Surrogate	%REC	Limits
Nitrobenzene-d5	82	46-120
2-Fluorobiphenyl	103	52-120
Terphenyl-d14	73	54-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC894465	Batch#:	250011
Matrix:	Soil	Prepared:	07/25/17
Units:	mg/Kg	Analyzed:	07/25/17

Analyte	Spiked	Result	%REC	Limits
Naphthalene	0.03323	0.03105	93	52-120
1-Methylnaphthalene	0.03323	0.02897	87	49-120
2-Methylnaphthalene	0.03323	0.02974	89	52-120
Acenaphthylene	0.03323	0.03540	107	39-120
Acenaphthene	0.03323	0.03354	101	43-120
Fluorene	0.03323	0.03611	109	46-120
Phenanthrene	0.03323	0.03272	98	42-120
Anthracene	0.03323	0.03168	95	37-120
Fluoranthene	0.03323	0.03184	96	38-120
Pyrene	0.03323	0.02905	87	39-120
Benzo(a)anthracene	0.03323	0.03152	95	36-120
Chrysene	0.03323	0.02344	71	35-120
Benzo(b)fluoranthene	0.03323	0.03014	91	39-120
Benzo(k)fluoranthene	0.03323	0.03087	93	36-120
Benzo(a)pyrene	0.03323	0.03144	95	38-120
Indeno(1,2,3-cd)pyrene	0.03323	0.03559	107	35-120
Dibenz(a,h)anthracene	0.03323	0.03046	92	31-120
Benzo(g,h,i)perylene	0.03323	0.03710	112	39-120

Surrogate	%REC	Limits
Nitrobenzene-d5	85	46-120
2-Fluorobiphenyl	104	52-120
Terphenyl-d14	70	54-132

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	250011
MSS Lab ID:	290847-002	Sampled:	07/11/17
Matrix:	Soil	Received:	07/11/17
Units:	mg/Kg	Prepared:	07/25/17
Basis:	as received	Analyzed:	07/27/17
Diln Fac:	3.000		

Type: MS Lab ID: QC894466

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	0.05292	0.03321	0.07128	55	51-120
1-Methylnaphthalene	0.001981	0.03321	0.01591	42 *	51-120
2-Methylnaphthalene	0.001941	0.03321	0.01428	37 *	50-121
Acenaphthylene	0.01509	0.03321	0.04566	92	46-120
Acenaphthene	0.03614	0.03321	0.07850	128 *	47-120
Fluorene	0.009392	0.03321	0.04469	106	43-120
Phenanthrene	0.1475	0.03321	0.2564	328 NM	27-139
Anthracene	0.02277	0.03321	0.07149	147 *	34-130
Fluoranthene	0.1492	0.03321	0.3378	568 NM	18-141
Pyrene	0.2755	0.03321	0.4005	376 NM	21-143
Benzo(a)anthracene	0.05092	0.03321	0.1191	205 *	18-128
Chrysene	0.07393	0.03321	0.1428	207 *	16-126
Benzo(b)fluoranthene	0.1039	0.03321	0.1681	193 *	18-134
Benzo(k)fluoranthene	0.02043	0.03321	0.07711	171 *	15-135
Benzo(a)pyrene	0.1009	0.03321	0.1788	234 *	21-135
Indeno(1,2,3-cd)pyrene	0.09268	0.03321	0.1482	167 *	3-121
Dibenz(a,h)anthracene	0.01611	0.03321	0.04859	98	6-120
Benzo(g,h,i)perylene	0.1345	0.03321	0.1911	170 NM	1-120

Surrogate	%REC	Limits
Nitrobenzene-d5	27 *	46-120
2-Fluorobiphenyl	57	52-120
Terphenyl-d14	74	54-132

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	250011
MSS Lab ID:	290847-002	Sampled:	07/11/17
Matrix:	Soil	Received:	07/11/17
Units:	mg/Kg	Prepared:	07/25/17
Basis:	as received	Analyzed:	07/27/17
Diln Fac:	3.000		

Type: MSD Lab ID: QC894467

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	0.03373	0.07440	64	51-120	4	50
1-Methylnaphthalene	0.03373	0.01778	47 *	51-120	10	42
2-Methylnaphthalene	0.03373	0.01623	42 *	50-121	11	43
Acenaphthylene	0.03373	0.04676	94	46-120	1	35
Acenaphthene	0.03373	0.08893	157 *	47-120	12	54
Fluorene	0.03373	0.04593	108	43-120	2	42
Phenanthrene	0.03373	0.2106	187 NM	27-139	20	78
Anthracene	0.03373	0.05921	108	34-130	20	74
Fluoranthene	0.03373	0.2433	279 NM	18-141	33	63
Pyrene	0.03373	0.3009	75 NM	21-143	29	67
Benzo(a)anthracene	0.03373	0.09782	139 *	18-128	20	55
Chrysene	0.03373	0.1162	125	16-126	21	58
Benzo(b)fluoranthene	0.03373	0.1453	123	18-134	15	75
Benzo(k)fluoranthene	0.03373	0.06536	133	15-135	17	52
Benzo(a)pyrene	0.03373	0.1562	164 *	21-135	14	61
Indeno(1,2,3-cd)pyrene	0.03373	0.1343	123 *	3-121	10	56
Dibenz(a,h)anthracene	0.03373	0.04546	87	6-120	8	58
Benzo(g,h,i)perylene	0.03373	0.1724	112	1-120	11	64

Surrogate	%REC	Limits
Nitrobenzene-d5	45 *	46-120
2-Fluorobiphenyl	68	52-120
Terphenyl-d14	77	54-132

*= Value outside of QC limits; see narrative
NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	250024
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/25/17

Field ID:	TRENCH 16	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/13/17
Lab ID:	290650-001	Analyzed:	08/05/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0060
Aroclor-1221	ND	0.034	0.016
Aroclor-1232	ND	0.017	0.0079
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0077
Aroclor-1254	ND	0.017	0.0062
Aroclor-1260	0.069	0.017	0.0039

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	48	36-133

Field ID:	TRENCH 18	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/13/17
Lab ID:	290650-003	Analyzed:	08/05/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0060
Aroclor-1221	ND	0.034	0.016
Aroclor-1232	ND	0.017	0.0078
Aroclor-1242	ND	0.017	0.0072
Aroclor-1248	ND	0.017	0.0077
Aroclor-1254	ND	0.017	0.0062
Aroclor-1260	0.020	0.017	0.0039

Surrogate	%REC	Limits
TCMX	130	60-140
Decachlorobiphenyl	131	36-133

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	250024
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/25/17

Field ID:	TRENCH 19	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/13/17
Lab ID:	290650-004	Analyzed:	08/05/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	0.011	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	98	60-140
Decachlorobiphenyl	72	36-133

Field ID:	TRENCH 20	Diln Fac:	20.00
Type:	SAMPLE	Sampled:	07/13/17
Lab ID:	290650-005	Analyzed:	08/05/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.067	0.024
Aroclor-1221	ND	0.13	0.064
Aroclor-1232	ND	0.067	0.031
Aroclor-1242	ND	0.067	0.029
Aroclor-1248	ND	0.067	0.031
Aroclor-1254	ND	0.067	0.024
Aroclor-1260	0.093	0.067	0.016

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	250024
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/25/17

Field ID:	TRENCH 21	Diln Fac:	5.000
Type:	SAMPLE	Sampled:	07/14/17
Lab ID:	290650-006	Analyzed:	08/04/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.017	0.0060
Aroclor-1221	ND	0.034	0.016
Aroclor-1232	ND	0.017	0.0079
Aroclor-1242	ND	0.017	0.0073
Aroclor-1248	ND	0.017	0.0077
Aroclor-1254	ND	0.017	0.0062
Aroclor-1260	ND	0.017	0.0039

Surrogate	%REC	Limits
TCMX	115	60-140
Decachlorobiphenyl	112	36-133

Field ID:	TRENCH 22	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/14/17
Lab ID:	290650-007	Analyzed:	08/04/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0096	0.0032
Aroclor-1232	ND	0.0048	0.0016
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	110	60-140
Decachlorobiphenyl	81	36-133

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	250024
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/25/17

Field ID:	TRENCH 23	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/14/17
Lab ID:	290650-008	Analyzed:	08/04/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	109	60-140
Decachlorobiphenyl	82	36-133

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC894518	Analyzed:	08/03/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0049	0.0012
Aroclor-1221	ND	0.0097	0.0032
Aroclor-1232	ND	0.0049	0.0016
Aroclor-1242	ND	0.0049	0.0014
Aroclor-1248	ND	0.0049	0.0015
Aroclor-1254	ND	0.0049	0.0012
Aroclor-1260	ND	0.0049	0.00078

Surrogate	%REC	Limits
TCMX	138	60-140
Decachlorobiphenyl	118	36-133

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550B
Project#:	170039	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC894519	Batch#:	250024
Matrix:	Soil	Prepared:	07/25/17
Units:	mg/Kg	Analyzed:	08/03/17

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	0.08412	0.1072	127	58-144
Aroclor-1260	0.08412	0.09718 b	116	55-146

Surrogate	%REC	Limits
TCMX	128	60-140
Decachlorobiphenyl	99	36-133

b= See narrative

Curtis & Tompkins, Ltd.

RCRA Metals

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	250200
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/31/17

Field ID: TRENCH 16 Lab ID: 290650-001
Type: SAMPLE Sampled: 07/13/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	9.7	0.57	0.19	1.000	07/31/17
Barium	470	24	2.8	100.0	08/05/17
Cadmium	1.3	0.24	0.047	1.000	07/31/17
Chromium	100	0.24	0.047	1.000	07/31/17
Lead	320	0.47	0.12	1.000	07/31/17
Selenium	2.7	0.63	0.21	1.000	08/05/17
Silver	ND	0.24	0.047	1.000	07/31/17

Field ID: TRENCH 18 Diln Fac: 1.000
Type: SAMPLE Sampled: 07/13/17
Lab ID: 290650-003

Analyte	Result	RL	MDL	Analyzed
Arsenic	6.7	0.56	0.19	07/31/17
Barium	130	0.23	0.027	07/31/17
Cadmium	0.77	0.23	0.047	07/31/17
Chromium	99	0.23	0.047	07/31/17
Lead	120	0.47	0.12	07/31/17
Selenium	1.1	0.63	0.21	08/05/17
Silver	ND	0.23	0.047	07/31/17

Field ID: TRENCH 19 Diln Fac: 1.000
Type: SAMPLE Sampled: 07/13/17
Lab ID: 290650-004

Analyte	Result	RL	MDL	Analyzed
Arsenic	12	0.60	0.20	07/31/17
Barium	440	0.25	0.029	07/31/17
Cadmium	1.2	0.25	0.049	07/31/17
Chromium	84	0.25	0.049	07/31/17
Lead	310	0.49	0.13	07/31/17
Selenium	3.3	0.67	0.22	08/05/17
Silver	ND	0.25	0.049	07/31/17

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

RCRA Metals

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	250200
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/31/17

Field ID: TRENCH 20 Lab ID: 290650-005
Type: SAMPLE Sampled: 07/13/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	9.5	0.57	0.19	1.000	07/31/17
Barium	490	24	2.8	100.0	08/05/17
Cadmium	0.76	0.24	0.048	1.000	07/31/17
Chromium	62	0.24	0.048	1.000	07/31/17
Lead	190	0.48	0.12	1.000	07/31/17
Selenium	2.4	0.64	0.21	1.000	07/31/17
Silver	ND	0.24	0.048	1.000	07/31/17

Field ID: TRENCH 21 Lab ID: 290650-006
Type: SAMPLE Sampled: 07/14/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	8.2	0.58	0.19	1.000	07/31/17
Barium	1,000	24	2.8	100.0	08/07/17
Cadmium	0.85	0.24	0.048	1.000	07/31/17
Chromium	38	0.24	0.048	1.000	07/31/17
Lead	51	0.48	0.12	1.000	07/31/17
Selenium	3.2	0.65	0.22	1.000	08/05/17
Silver	ND	0.24	0.048	1.000	07/31/17

Field ID: TRENCH 22 Lab ID: 290650-007
Type: SAMPLE Sampled: 07/14/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	9.1	0.59	0.20	1.000	07/31/17
Barium	1,100	24	2.9	100.0	08/07/17
Cadmium	0.89	0.24	0.049	1.000	07/31/17
Chromium	40	0.24	0.049	1.000	07/31/17
Lead	40	0.49	0.13	1.000	07/31/17
Selenium	5.8	0.66	0.22	1.000	07/31/17
Silver	ND	0.24	0.049	1.000	07/31/17

Field ID: TRENCH 23 Lab ID: 290650-008
Type: SAMPLE Sampled: 07/14/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	7.9	0.59	0.20	1.000	07/31/17
Barium	970	24	2.9	100.0	08/07/17
Cadmium	0.84	0.24	0.049	1.000	07/31/17
Chromium	28	0.24	0.049	1.000	07/31/17
Lead	17	0.49	0.13	1.000	07/31/17
Selenium	3.9	0.66	0.22	1.000	08/05/17
Silver	ND	0.24	0.049	1.000	07/31/17

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

RCRA Metals

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	250200
Units:	mg/Kg	Received:	07/18/14
Basis:	as received	Prepared:	07/31/17

Field ID:	TRENCH 23 SLAG	Lab ID:	290650-009
Type:	SAMPLE	Sampled:	07/14/17

Analyte	Result	RL	MDL	Diln Fac	Analyzed
Arsenic	7.3	0.60	0.20	1.000	07/31/17
Barium	550	25	2.9	100.0	08/05/17
Cadmium	0.67	0.25	0.050	1.000	07/31/17
Chromium	43	0.25	0.050	1.000	07/31/17
Lead	18	0.50	0.13	1.000	07/31/17
Selenium	7.9	0.67	0.22	1.000	08/07/17
Silver	ND	0.25	0.050	1.000	07/31/17

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC895183	Analyzed:	07/31/17

Analyte	Result	RL	MDL
Arsenic	ND	0.59	0.20
Barium	0.087 J	0.25	0.029
Cadmium	ND	0.25	0.049
Chromium	ND	0.25	0.049
Lead	ND	0.49	0.13
Selenium	ND	0.66	0.22
Silver	0.060 J	0.25	0.049

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Mercury by Cold Vapor AA

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	250168
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/28/17
Diln Fac:	1.000	Analyzed:	07/28/17

Field ID	Type	Lab ID	Result	RL	MDL	Basis	Moisture	Sampled
TRENCH 16	SAMPLE	290650-010	0.042	0.020	0.0059	dry	14%	07/13/17
TRENCH 18	SAMPLE	290650-012	0.054	0.020	0.0059	dry	17%	07/13/17
TRENCH 19	SAMPLE	290650-013	0.26	0.022	0.0065	dry	23%	07/13/17
TRENCH 20	SAMPLE	290650-014	0.016 J	0.022	0.0066	dry	25%	07/13/17
TRENCH 21	SAMPLE	290650-015	0.019	0.016	0.0048	as received		07/14/17
TRENCH 22	SAMPLE	290650-016	0.078	0.020	0.0059	dry	14%	07/14/17
TRENCH 23	SAMPLE	290650-017	0.017 J	0.017	0.0051	dry	9%	07/14/17
TRENCH 23 SLAG	SAMPLE	290650-018	0.016 J	0.017	0.0051	dry	2%	07/14/17
	BLANK	QC895061	ND	0.016	0.0048			

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Mercury by Cold Vapor AA

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	TRENCH 16	Batch#:	250168
MSS Lab ID:	290650-010	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	07/28/17
Basis:	dry	Analyzed:	07/28/17

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
BS	QC895062		0.2016	0.2102	104	80-120			
BSD	QC895063		0.2155	0.2242	104	80-120		0	20
MS	QC895064	0.04215	0.2596	0.3156	105	69-136	14%		
MSD	QC895065		0.2464	0.2983	104	69-136	14%	1	35

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

RCRA Metals

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC895184	Batch#:	250200
Matrix:	Soil	Prepared:	07/31/17
Units:	mg/Kg	Analyzed:	07/31/17

Analyte	Spiked	Result	%REC	Limits
Arsenic	49.16	51.31	104	80-120
Barium	49.16	48.50	99	80-120
Cadmium	49.16	47.65	97	80-120
Chromium	49.16	49.81	101	80-120
Lead	49.16	46.22	94	80-120
Selenium	49.16	49.85	101	80-120
Silver	4.916	4.541	92	80-120

Curtis & Tompkins, Ltd.

Batch QC Report

RCRA Metals

Lab #:	290650	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	250200
MSS Lab ID:	290638-001	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/17
Units:	mg/Kg	Prepared:	07/31/17
Basis:	as received	Analyzed:	07/31/17
Diln Fac:	1.000		

Type: MS Lab ID: QC895185

Analyte	MSS Result	Spiked	Result	%REC	Limits
Arsenic	4.949	49.46	53.96	99	72-120
Barium	156.0	49.46	216.5	122	50-133
Cadmium	1.326	49.46	53.49	105	72-120
Chromium	161.4	49.46	243.6	166 *	61-120
Lead	12.89	49.46	65.25	106	52-122
Selenium	1.835	49.46	45.54	88	70-120
Silver	<0.04794	4.946	-3.128	0 *	67-120

Type: MSD Lab ID: QC895186

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	49.16	51.06	94	72-120	5	30
Barium	49.16	208.1	106	50-133	4	43
Cadmium	49.16	49.62	98	72-120	7	22
Chromium	49.16	233.4	146 *	61-120	4	31
Lead	49.16	63.33	103	52-122	3	49
Selenium	49.16	39.61	77	70-120	13	26
Silver	4.916	-2.753	0 *	67-120	12	25

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Laboratory Job Number 290650

Subcontracted Products

Cape Fear Analytical

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

August 24, 2017

Ms. Dina Ali
Curtis & Tompkins, LTD
2323 Fifth Street
Berkeley, California 94710

Re: Subcontract DXN / PCB's
Work Order: 11095
SDG: 290650

Dear Ms. Ali:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 22, 2017. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynde Larkins

Cynde Larkins
Project Manager

Enclosures

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900
(510) 486-0532

CFA WO# 11095

Project Number: 290650
Site: 820 Eisenberg Phase II

Subcontract Laboratory:
Cape Fear Analytical
3306 Kitty Hawk Road, Suite 120
Wilmington, NC 28405
(910) 795-0421
ATTN: Cynde Larkins

Results due: Report Level: II

Please send report to: Dina Ali (dina.ali@ctberk.com)
*** Please report using Sample ID rather than C&T Lab #.

Sample ID	Sampled	Matrix	Analysis	C&T Lab #	Comments
TRENCH 23 SLAG	07/14 12:30	Soil	8290	290650-009	MIS-DRY

1.9

Notes:	Relinquished By:	Received By:
	Date/Time: 7-20-17, 14:42	Date/Time: 7/22/17 1100
	Date/Time:	Date/Time:

Signature on this form constitutes a firm Purchase Order for the services requested above.

Page 1 of 1

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: CHRL	Work Order: 11095
Shipping Company: FedEx	Date/Time Received: 22 JUL 17 1100

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?		✓	✓
Samples identified as Foreign Soil?	✓		✓ CL 24JUL17

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		✓	
Samples < 2x background?		✓	

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			✓

Air Witness: _____

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓	✓		Preservation Method: (ice bags) blue ice dry ice none other (describe) 1.9°C
4	Aqueous samples found to have visible solids?		✓		Sample IDs, containers affected:
5	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?		✓		Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	✓			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?			✓	Sample IDs, containers affected: No collection date or time noted on sample label.
10	Number of containers received match number indicated on COC?			✓	List type and number of containers / Sample IDs, containers affected: 1 - 2oz clear soil jar
11	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CL Date: 24 JUL 17

CF-UD-F-7

High Resolution Dioxins and Furans Analysis

Case Narrative

HDOX Case Narrative
Curtis & Tompkins, LTD (CURL)
SDG 290650
Work Order 11095

Method/Analysis Information

Product:	**Dioxins/Furans by SW846 Method 8290A in Solids**
Analytical Method:	SW846 8290A
Extraction Method:	SW846 3540C
Analytical Batch Number:	35209
Clean Up Batch Number:	35207
Extraction Batch Number:	35206

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8290A:

Sample ID	Client ID
11095001	TRENCH 23 SLAG
12019144	Method Blank (MB)
12019145	Laboratory Control Sample (LCS)
12019146	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 14.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
One surrogate recovered outside the acceptance limit. 11095001 (TRENCH 23 SLAG).

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
Due to the appearance of the matrix, a 1 gram aliquot was used for extraction. 11095001 (TRENCH 23 SLAG).

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

System Configuration
This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP763_1	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

CURL001 Curtis & Tompkins, LTD

Client SDG: 290650 CFA Work Order: 11095

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: 

Name: Heather Patterson

Date: 24 AUG 2017

Title: Group Leader

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290650**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**11095001**	**Date Collected:**	**07/14/2017 12:30**	**Matrix:**	**SOIL**
Client Sample:	**8290 Soil**	**Date Received:**	**07/22/2017 11:00**		
Client ID:	**TRENCH 23 SLAG**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/21/2017 17:37**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b21aug17a-12**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**1.02 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	4.39		pg/g	4.39	9.80
40321-76-4	1,2,3,7,8-PeCDD	U	3.1		pg/g	3.10	49.0
39227-28-6	1,2,3,4,7,8-HxCDD	U	3.61		pg/g	3.61	49.0
57653-85-7	1,2,3,6,7,8-HxCDD	U	3.25		pg/g	3.25	49.0
19408-74-3	1,2,3,7,8,9-HxCDD	U	3.47		pg/g	3.47	49.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	7.67		pg/g	7.67	49.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		25.3	pg/g	18.3	98.0
51207-31-9	2,3,7,8-TCDF	U	4.29		pg/g	4.29	9.80
57117-41-6	1,2,3,7,8-PeCDF	U	2.53		pg/g	2.53	49.0
57117-31-4	2,3,4,7,8-PeCDF	U	2.25		pg/g	2.25	49.0
70648-26-9	1,2,3,4,7,8-HxCDF	U	2.94		pg/g	2.94	49.0
57117-44-9	1,2,3,6,7,8-HxCDF	U	2.71		pg/g	2.71	49.0
60851-34-5	2,3,4,6,7,8-HxCDF	U	2.9		pg/g	2.90	49.0
72918-21-9	1,2,3,7,8,9-HxCDF	U	3.43		pg/g	3.43	49.0
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	4.45		pg/g	4.45	49.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	5.55		pg/g	5.55	49.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	22.2		pg/g	22.2	98.0
3333-30-0	TEQ WHO2005 ND=0		0.00	0.00759	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		5.55	5.55	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%		Acceptable Limits
13C-2,3,7,8-TCDD		870	1960	pg/g	44.4		(40%-135%)
13C-1,2,3,7,8-PeCDD		933	1960	pg/g	47.6		(40%-135%)
13C-1,2,3,6,7,8-HxCDD		1280	1960	pg/g	65.4		(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		1270	1960	pg/g	64.9		(40%-135%)
13C-OCDD		1160	3920	pg/g	29.5	*	(40%-135%)
13C-2,3,7,8-TCDF		1170	1960	pg/g	59.8		(40%-135%)
13C-1,2,3,7,8-PeCDF		1010	1960	pg/g	51.5		(40%-135%)
13C-1,2,3,6,7,8-HxCDF		1440	1960	pg/g	73.6		(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		1270	1960	pg/g	64.8		(40%-135%)

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans

Surrogate Recovery Report

SDG Number: 290650

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12019145	LCS for batch 35206	13C-2,3,7,8-TCDD		62.2	(40%-135%)
		13C-1,2,3,7,8-PeCDD		73.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		75.4	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		82.9	(40%-135%)
		13C-OCDD		73.9	(40%-135%)
		13C-2,3,7,8-TCDF		79.4	(40%-135%)
		13C-1,2,3,7,8-PeCDF		79.0	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		80.6	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		85.2	(40%-135%)
12019146	LCSD for batch 35206	13C-2,3,7,8-TCDD		60.0	(40%-135%)
		13C-1,2,3,7,8-PeCDD		76.5	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		72.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		74.8	(40%-135%)
		13C-OCDD		65.4	(40%-135%)
		13C-2,3,7,8-TCDF		79.2	(40%-135%)
		13C-1,2,3,7,8-PeCDF		78.7	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		78.7	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		81.4	(40%-135%)
12019144	MB for batch 35206	13C-2,3,7,8-TCDD		61.4	(40%-135%)
		13C-1,2,3,7,8-PeCDD		73.9	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		71.5	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		81.4	(40%-135%)
		13C-OCDD		70.1	(40%-135%)
		13C-2,3,7,8-TCDF		78.1	(40%-135%)
		13C-1,2,3,7,8-PeCDF		77.2	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		78.1	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		82.4	(40%-135%)
11095001	TRENCH 23 SLAG	13C-2,3,7,8-TCDD		44.4	(40%-135%)
		13C-1,2,3,7,8-PeCDD		47.6	(40%-135%)
		13C-1,2,3,6,7,8-HxCDD		65.4	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDD		64.9	(40%-135%)
		13C-OCDD		29.5 *	(40%-135%)
		13C-2,3,7,8-TCDF		59.8	(40%-135%)
		13C-1,2,3,7,8-PeCDF		51.5	(40%-135%)
		13C-1,2,3,6,7,8-HxCDF		73.6	(40%-135%)
		13C-1,2,3,4,6,7,8-HpCDF		64.8	(40%-135%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 290650 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 35206 **Matrix:** SOIL

Lab Sample ID: 12019145

Instrument: HRP763 **Analysis Date:** 08/19/2017 08:34 **Dilution:** 1

Analyst: CLP **Prep Batch ID:** 35206

Batch ID: 35209

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	20.0	24.6	123	70-130
40321-76-4	LCS	1,2,3,7,8-PeCDD	100	105	105	70-130
39227-28-6	LCS	1,2,3,4,7,8-HxCDD	100	105	105	70-130
57653-85-7	LCS	1,2,3,6,7,8-HxCDD	100	122	122	70-130
19408-74-3	LCS	1,2,3,7,8,9-HxCDD	100	121	121	70-130
35822-46-9	LCS	1,2,3,4,6,7,8-HpCDD	100	99.3	99.3	70-130
3268-87-9	LCS	1,2,3,4,6,7,8,9-OCDD	200	208	104	70-130
51207-31-9	LCS	2,3,7,8-TCDF	20.0	19.6	98.2	70-130
57117-41-6	LCS	1,2,3,7,8-PeCDF	100	103	103	70-130
57117-31-4	LCS	2,3,4,7,8-PeCDF	100	103	103	70-130
70648-26-9	LCS	1,2,3,4,7,8-HxCDF	100	102	102	70-130
57117-44-9	LCS	1,2,3,6,7,8-HxCDF	100	120	120	70-130
60851-34-5	LCS	2,3,4,6,7,8-HxCDF	100	112	112	70-130
72918-21-9	LCS	1,2,3,7,8,9-HxCDF	100	105	105	70-130
67562-39-4	LCS	1,2,3,4,6,7,8-HpCDF	100	104	104	70-130
55673-89-7	LCS	1,2,3,4,7,8,9-HpCDF	100	102	102	70-130
39001-02-0	LCS	1,2,3,4,6,7,8,9-OCDF	200	229	114	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 290650 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 35206 **Matrix:** SOIL

Lab Sample ID: 12019146

Instrument: HRP763 **Analysis Date:** 08/19/2017 09:22 **Dilution:** 1

Analyst: CLP **Prep Batch ID:** 35206

Batch ID: 35209

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	20.0	24.7	124	70-130	0.365	0-20
40321-76-4	LCSD	1,2,3,7,8-PeCDD	100	104	104	70-130	1.44	0-20
39227-28-6	LCSD	1,2,3,4,7,8-HxCDD	100	110	110	70-130	4.76	0-20
57653-85-7	LCSD	1,2,3,6,7,8-HxCDD	100	121	121	70-130	0.796	0-20
19408-74-3	LCSD	1,2,3,7,8,9-HxCDD	100	121	121	70-130	0.383	0-20
35822-46-9	LCSD	1,2,3,4,6,7,8-HpCDD	100	106	106	70-130	6.46	0-20
3268-87-9	LCSD	1,2,3,4,6,7,8,9-OCDD	200	208	104	70-130	0.103	0-20
51207-31-9	LCSD	2,3,7,8-TCDF	20.0	19.4	96.8	70-130	1.47	0-20
57117-41-6	LCSD	1,2,3,7,8-PeCDF	100	101	101	70-130	2.35	0-20
57117-31-4	LCSD	2,3,4,7,8-PeCDF	100	102	102	70-130	0.555	0-20
70648-26-9	LCSD	1,2,3,4,7,8-HxCDF	100	102	102	70-130	0.151	0-20
57117-44-9	LCSD	1,2,3,6,7,8-HxCDF	100	119	119	70-130	0.857	0-20
60851-34-5	LCSD	2,3,4,6,7,8-HxCDF	100	113	113	70-130	0.847	0-20
72918-21-9	LCSD	1,2,3,7,8,9-HxCDF	100	105	105	70-130	0.0667	0-20
67562-39-4	LCSD	1,2,3,4,6,7,8-HpCDF	100	104	104	70-130	0.192	0-20
55673-89-7	LCSD	1,2,3,4,7,8,9-HpCDF	100	98.4	98.4	70-130	4.02	0-20
39001-02-0	LCSD	1,2,3,4,6,7,8,9-OCDF	200	234	117	70-130	2.37	0-20

Method Blank Summary

SDG Number:	**290650**	**Client:**	**CURL001**	**Matrix:**	**SOIL**
Client ID:	**MB for batch 35206**	**Instrument ID:**	**HRP763**	**Data File:**	**b19aug17a-4**
Lab Sample ID:	**12019144**	**Prep Date:**	**28-JUL-17**	**Analyzed:**	**08/19/17 10:11**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 35206	12019145	b19aug17a-2	08/19/17	0834
02	LCSD for batch 35206	12019146	b19aug17a-3	08/19/17	0922
03	TRENCH 23 SLAG	11095001	b21aug17a-12	08/21/17	1737

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290650**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019144**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**MB for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 10:11**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-4**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.394		pg/g	0.394	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	0.228		pg/g	0.228	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	0.286		pg/g	0.286	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	0.258		pg/g	0.258	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	0.276		pg/g	0.276	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	0.38		pg/g	0.380	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		1.08	pg/g	0.546	10.0
51207-31-9	2,3,7,8-TCDF	U	0.412		pg/g	0.412	1.00
57117-41-6	1,2,3,7,8-PeCDF	JK		0.240	pg/g	0.196	5.00
57117-31-4	2,3,4,7,8-PeCDF	U	0.175		pg/g	0.175	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	0.248		pg/g	0.248	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	0.228		pg/g	0.228	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	0.244		pg/g	0.244	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	0.29		pg/g	0.290	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.286		pg/g	0.173	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	0.216		pg/g	0.216	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	0.698		pg/g	0.698	10.0
3333-30-0	TEQ WHO2005 ND=0		0.00286	0.0104	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.458	0.463	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		123	200	pg/g	61.4	(40%-135%)
13C-1,2,3,7,8-PeCDD		148	200	pg/g	73.9	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		143	200	pg/g	71.5	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		163	200	pg/g	81.4	(40%-135%)
13C-OCDD		280	400	pg/g	70.1	(40%-135%)
13C-2,3,7,8-TCDF		156	200	pg/g	78.1	(40%-135%)
13C-1,2,3,7,8-PeCDF		154	200	pg/g	77.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		156	200	pg/g	78.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		165	200	pg/g	82.4	(40%-135%)

Comments:

J Value is estimated

K Estimated Maximum Possible Concentration

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290650**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019145**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**LCS for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 08:34**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-2**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		24.6		pg/g	0.472	1.00
40321-76-4	1,2,3,7,8-PeCDD		105		pg/g	0.336	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		105		pg/g	0.564	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		122		pg/g	0.508	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.542	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		99.3		pg/g	0.880	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		208		pg/g	1.49	10.0
51207-31-9	2,3,7,8-TCDF		19.6		pg/g	0.474	1.00
57117-41-6	1,2,3,7,8-PeCDF		103		pg/g	0.382	5.00
57117-31-4	2,3,4,7,8-PeCDF		103		pg/g	0.340	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		102		pg/g	0.738	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		120		pg/g	0.682	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		112		pg/g	0.726	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		105		pg/g	0.862	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		104		pg/g	0.558	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		102		pg/g	0.694	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		229		pg/g	1.96	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		124	200	pg/g	62.2	(40%-135%)
13C-1,2,3,7,8-PeCDD		146	200	pg/g	73.2	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.4	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		166	200	pg/g	82.9	(40%-135%)
13C-OCDD		296	400	pg/g	73.9	(40%-135%)
13C-2,3,7,8-TCDF		159	200	pg/g	79.4	(40%-135%)
13C-1,2,3,7,8-PeCDF		158	200	pg/g	79.0	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		161	200	pg/g	80.6	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		170	200	pg/g	85.2	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**290650**	**Client:**	**CURL001**	**Project:**	**CURL00312**
Lab Sample ID:	**12019146**			**Matrix:**	**SOIL**
Client Sample:	**QC for batch 35206**				
Client ID:	**LCSD for batch 35206**			**Prep Basis:**	**As Received**
Batch ID:	**35209**	**Method:**	**SW846 8290A**		
Run Date:	**08/19/2017 09:22**	**Analyst:**	**CLP**	**Instrument:**	**HRP763**
Data File:	**b19aug17a-3**			**Dilution:**	**1**
Prep Batch:	**35206**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**28-JUL-17**	**Prep Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		24.7		pg/g	0.576	1.00
40321-76-4	1,2,3,7,8-PeCDD		104		pg/g	0.420	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		110		pg/g	0.672	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		121		pg/g	0.606	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		121		pg/g	0.644	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		106		pg/g	0.840	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		208		pg/g	1.57	10.0
51207-31-9	2,3,7,8-TCDF		19.4		pg/g	0.528	1.00
57117-41-6	1,2,3,7,8-PeCDF		101		pg/g	0.544	5.00
57117-31-4	2,3,4,7,8-PeCDF		102		pg/g	0.486	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		102		pg/g	0.888	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		119		pg/g	0.820	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		113		pg/g	0.874	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		105		pg/g	1.03	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		104		pg/g	0.634	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		98.4		pg/g	0.790	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		234		pg/g	1.45	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		120	200	pg/g	60.0	(40%-135%)
13C-1,2,3,7,8-PeCDD		153	200	pg/g	76.5	(40%-135%)
13C-1,2,3,6,7,8-HxCDD		144	200	pg/g	72.1	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDD		150	200	pg/g	74.8	(40%-135%)
13C-OCDD		262	400	pg/g	65.4	(40%-135%)
13C-2,3,7,8-TCDF		158	200	pg/g	79.2	(40%-135%)
13C-1,2,3,7,8-PeCDF		157	200	pg/g	78.7	(40%-135%)
13C-1,2,3,6,7,8-HxCDF		157	200	pg/g	78.7	(40%-135%)
13C-1,2,3,4,6,7,8-HpCDF		163	200	pg/g	81.4	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 293120
ANALYTICAL REPORT

Element Environmental, LLC	Project : 170039
98-030 Hekaha Street	Location : 820 Eisenberg Phase II
Aiea, HI 96701	Level : II

Sample ID	Lab ID
TRENCH 11	293120-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 10/06/2017

Dina Ali
Project Manager
dina.ali@enthalpy.com
(510) 204-2223 Ext 13105

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**293120**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**10/03/17**
Samples Received:	**07/14/17**

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 10/03/17. The sample was received on ice and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

293120

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # _____

Project No: 170039
Project Name: 820 Eisenberg
EDD Format: Non-DoD Rpt Level: x II III IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals Lead						
	Trench 2	7/10/2017	0910		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 1	7/10/2017	0925		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 2BP	7/10/2017	0945		x		1						x	x	x	x	x		x	x	x		x							
	Trench 3	7/10/2017	1145		x		2				x		x	x	x	x	x		x	x	x									
	Trench 4	7/10/2017	1200		x		2				x		x	x	x	x	x		x	x	x									
	Trench 5	7/10/2017	1340		x		2				x		x	x	x	x	x		x	x	x		x							
	Trench 6	7/11/2017	0855		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 7	7/11/2017	0840		x		2				x		x	x	x	x	x		x	x	x									
	Trench 8	7/11/2017	0945		x		2				x		x	x	x	x	x		x	x	x									
	Trench 9	7/11/2017	1515		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 10	7/11/2017	1355		x		2				x		x	x	x	x	x		x	x	x									
	Trench 11	7/12/2017	0930		x		2				x		x	x	x	x	x	x	x	x	x			x						
	Trench 12	7/12/2017	0915		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 13	7/12/2017	1130		x		2				x		x	x	x	x	x		x	x	x									
	Trench 14	7/12/2017	1405		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 15	7/12/2017	1445		x		2				x		x	x	x	x	x		x	x	x									

Notes:
Rush TAT for TCLP Lead for Trench 11 Sample

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
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CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 290582

Project No: 170039
Project Name: 820 Eisenberg
EDD Format: Non-DoD Rpt Level: x II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals (Hold for further instruction)						
	Trench 2	7/10/2017	0910		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 1	7/10/2017	0925		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 2BP	7/10/2017	0945		x		1						x	x	x	x	x		x	x	x		x							
	Trench 3	7/10/2017	1145		x		2				x		x	x	x	x	x		x	x	x									
	Trench 4	7/10/2017 ~~1330~~ 1200			x		2				x		x	x	x	x	x		x	x	x									
	Trench 5	7/10/2017	1340		x		2				x		x	x	x	x	x		x	x	x		x							
	Trench 6	7/11/2017	0855		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 7	7/11/2017	0840		x		2				x		x	x	x	x	x		x	x	x									
	Trench 8	7/11/2017	0945		x		2				x		x	x	x	x	x		x	x	x									
	Trench 9	7/11/2017	1515		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 10	7/11/2017	1355		x		2				x		x	x	x	x	x		x	x	x									
	Trench 11	7/12/2017	0930		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 12	7/12/2017	0915		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 13	7/12/2017	1130		x		2				x		x	x	x	x	x		x	x	x									
	Trench 14	7/12/2017	1405		x		2				x		x	x	x	x	x	x	x	x	x									
	Trench 15	7/12/2017	1445		x		2				x		x	x	x	x	x		x	x	x									

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Eric C. Kwock 7/13/17 14:30 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Kevin Pyon 7-14-17 / 10:28 DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 290582 Date Received 7-14-17 Number of coolers 2
Client Element Env., LLC Project ~~T0039~~ 820 Eisenberg
kp 7-14-17

Date Opened 7-14-17 By (print) kp (sign) kp
Date Logged in ↓ By (print) DTN (sign) dtn
Date Labelled ↓ By (print) ann (sign) ann

1. Did cooler come with a shipping slip (airbill, etc) Fedex YES NO
Shipping info 7796 2983 6940, 7796 2983 7111

2A. Were custody seals present? .... ☑ YES (circle) on cooler on samples ☐ NO
How many 2 Name Signature Date 7-13-17
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☑ Blue/Gel ☐ None Temp(°C) 1.2, 2.9

☐ Temperature blank(s) included? ☐ Thermometer# ☑ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? @ 18:00
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#_____) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS
11. Did not receive MeOH container for sample 3

Rev 13, 6/01/16

ENTHALPY ANALYTICAL

Detections Summary for 293120

Results for any subcontracted analyses are not included in this summary.

Client : Element Environmental, LLC
Project : 170039
Location : 820 Eisenberg Phase II

Client Sample ID : TRENCH 11 Laboratory Sample ID : 293120-001

No Detections

ENTHALPY ANALYTICAL

Lead

Lab #:	293120	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3010A
Project#:	170039	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	252356
Field ID:	TRENCH 11	Sampled:	07/12/17
Matrix:	TCLP Leachate	Received:	07/14/17
Units:	mg/L	Prepared:	10/05/17
Diln Fac:	10.00	Analyzed:	10/05/17

Type	Lab ID	Result	RL	MDL
SAMPLE	293120-001	ND	0.050	0.012
BLANK	QC903667	ND	0.050	0.012

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Lead

Lab #:	293120	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3010A
Project#:	170039	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	252356
Field ID:	TRENCH 11	Sampled:	07/12/17
MSS Lab ID:	293120-001	Received:	07/14/17
Matrix:	TCLP Leachate	Prepared:	10/05/17
Units:	mg/L	Analyzed:	10/05/17

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln Fac
BS	QC903668		0.1000	0.1041	104	77-120			1.000
BSD	QC903669		0.1000	0.1071	107	77-120	3	20	1.000
MS	QC903670	<0.01185	0.1000	0.08094	81	56-127			10.00
MSD	QC903671		0.1000	0.06939	69	56-127	15	33	10.00

RPD= Relative Percent Difference

ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292775
ANALYTICAL REPORT

Element Environmental, LLC	Project : 170039
98-030 Hekaha Street	Location : 820 Eisenberg Phase II
Aiea, HI 96701	Level : II

Sample ID	Lab ID
TRENCH 17	292775-001
TRENCH 17	292775-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 09/28/2017

Dina Ali
Project Manager
dina.ali@enthalpy.com
(510) 204-2223 Ext 13105

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292775**
Client:	**Element Environmental, LLC**
Project:	**170039**
Location:	**820 Eisenberg Phase II**
Request Date:	**09/25/17**
Samples Received:	**07/18/14**

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 09/25/17. The samples were received on ice and intact. Multi-Increment Sampling (ISM) was performed on all samples in accordance per HDOH. Revised report 9/28/17.

TPH-Extractables by GC (EPA 8015B):
292775-002 was prepared outside of hold time; affected data was qualified with "b". TRENCH 17 (lab # 292775-002) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):
High surrogate recovery was observed for 2-fluorobiphenyl in the LCS for batch 252030. 292775-002 was prepared outside of hold time; affected data was qualified with "b". TRENCH 17 (lab # 292775-002) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. 292775-001 was prepared outside of hold time; affected data was qualified with "b". No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Low recoveries were observed for silver and lead in the MS/MSD of TRENCH 17 (lab # 292775-001); the BS/BSD were within limits, and the associated RPDs were within limits. Barium and chromium were detected between the MDL and the RL in the method blank for batch 252061; these analytes were detected in the sample at a level at least 10 times that of the blank. Mercury was analyzed outside of hold time; affected data was qualified with "b". No other analytical problems were encountered.

Moisture (ASTM D2216-98/CLP):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

292715

C&T LOGIN # _____

Project No: 170039
Project Name: 820 Isenberg
EDD Format: Non-DoD Rpt Level: x II III IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals (Hold for further instruction)						
	Trench 16	7/13/2017	0910		x		2				x		x	x	x	x	x		x	x	x									
	Trench 17	**7/13/2017**	**0925**		**x**		**1**						**x**			**x**	**x**		**x**	**x**	**x**									
	Trench 18	7/13/2017	0945		x		2				x		x	x	x	x	x		x	x	x									
	Trench 19	7/13/2017	1145		x		2				x		x	x	x	x	x		x	x	x									
	Trench 20	7/13/2017	1200		x		2				x		x	x	x	x	x		x	x	x									
	Trench 21	7/14/2017	1340		x		2				x		x	x	x	x	x		x	x	x									
	Trench 22	7/14/2017	0855		x		2				x		x	x	x	x	x		x	x	x									
	Trench 23	7/14/2017	0840		x		2				x		x	x	x	x	x		x	x	x									
	Trench 23 "Slag"	7/14/2017	0945		x		1						x			x	x		x	x	x		x							

Notes:
Please analyze sample *Trench 17* as indicated on a Rush basis.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
DATE/TIME
DATE/TIME
DATE/TIME

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Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # :

C&T LOGIN # 290650

Project No: 170039
Project Name: 820 Isenberg
EDD Format: Non-DoD Rpt Level: x II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ✓ Standard

Sampler: : J Ellis, A Campbell
Report To: A Campbell, A Peltier
Company : Element Env., LLC
Telephone: 808-551-9552
Email: acampbell@e2hi.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil	Charred	# of Container	HCl	H_2SO_4	HNO_3	MEOH	None	TPH-DRO/RRO	TPH-GRO	VOCs	Priority Pollutant 18 PAHs - 8270	PCBs (8082)	OCl Pesticides - Including Tech Chlordane	RCRA 8 Metals	Moisture	Multi Increment Subsampling		Dioxins/Furans	TCLP Metals (Hold for further instruction)						
	Trench 16	7/13/2017	~~0910~~ 0930	x			2				x		x	x	x	x	x		x	x	x									
	Trench 17	7/13/2017	~~0925~~ 1000	x			1																							
	Trench 18	7/13/2017	~~0945~~ 1043	x			2				x		x	x	x	x	x		x	x	x									
	Trench 19	7/13/2017	~~1145~~ 1151	x			2				x		x	x	x	x	x		x	x	x									
	Trench 20	7/13/2017	~~1200~~ 1400	x			2				x		x	x	x	x	x		x	x	x									
	Trench 21	7/14/2017	~~1340~~ 0915	x			2				x		x	x	x	x	x		x	x	x									
	Trench 22	7/14/2017	~~0855~~ 0850	x			2				x		x	x	x	x	x		x	x	x									
	Trench 23	7/14/2017	~~0840~~ 1130	x			2				x		x	x	x	x	x		x	x	x									
	Trench 23 "Slag"	7/14/2017	~~0945~~ 1130	x			1						x			x	x		x	x	x		x							

Notes:

Hold sample "*Trench 17*". Not sure this sample requires analysis.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
7/17/17 1490 DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
07/18/2017 12:45 DATE/TIME
DATE/TIME
DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 290650 Date Received 7-18-17 Number of coolers 1
Client Element Environmental Project 820 Isenberg

Date Opened 7-18-17 By (print) DK (sign)
Date Logged in ↓ By (print) EHS (sign)
Date Labelled ↓ By (print) EHS (sign)

1. Did cooler come with a shipping slip (airbill, etc) Fed Ex YES NO
Shipping info 7796 6779 8199

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☐ NO
How many 2 Name Signature Date 7-17-17
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☑ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☒ Blue/Gel ☐ None Temp(°C) 2.0

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer? 15:20
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#_____) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Rev 13, 6/01/16

ENTHALPY ANALYTICAL

Detections Summary for 292775

Results for any subcontracted analyses are not included in this summary.

Client : Element Environmental, LLC
Project : 170039
Location : 820 Eisenberg Phase II

Client Sample ID : TRENCH 17 Laboratory Sample ID : 292775-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	0.013	b	0.0048	0.00078	mg/Kg	As Recd	1.000	EPA 8082	EPA 3550C
Arsenic	1.6		0.60	0.20	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	780		25	2.9	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B
Chromium	42		0.25	0.050	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	120		0.50	0.13	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : TRENCH 17 Laboratory Sample ID : 292775-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C12-C28	520	Y,b	20	6.2	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Motor Oil C28-C40	1,200	b	100	30	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Anthracene	0.17	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Fluoranthene	0.11	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Pyrene	0.35	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	0.46	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Benzo(k)fluoranthene	0.11	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Benzo(a)pyrene	0.23	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Indeno(1,2,3-cd)pyrene	0.14	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Benzo(g,h,i)perylene	0.24	J,b	0.51	0.10	mg/Kg	As Recd	100.0	EPA 8270C-SIM	EPA 3550C
Mercury	0.078	b	0.016	0.0028	mg/Kg	As Recd	1.000	EPA 7471A	METHOD

J = Estimated value
Y = Sample exhibits chromatographic pattern which does not resemble standard
b = See narrative

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Field ID:	TRENCH 17	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	09/25/17
Basis:	as received	Analyzed:	09/26/17
Batch#:	251999		

Type: SAMPLE Diln Fac: 10.00
Lab ID: 292775-002

Analyte	Result	RL	MDL
Diesel C12-C28	520 Y b	20	6.2
Motor Oil C28-C40	1,200 b	100	30

Surrogate	%REC	Limits
o-Terphenyl	DO b	64-136

Type: BLANK Diln Fac: 1.000
Lab ID: QC902252

Analyte	Result	RL	MDL
Diesel C12-C28	ND	1.0	0.31
Motor Oil C28-C40	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	115	64-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
b= See narrative
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902253	Batch#:	251999
Matrix:	Soil	Prepared:	09/25/17
Units:	mg/Kg	Analyzed:	09/26/17

Analyte	Spiked	Result	%REC	Limits
Diesel C12-C28	50.16	56.24	112	61-128

Surrogate	%REC	Limits
o-Terphenyl	118	64-136

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251999
MSS Lab ID:	292737-001	Sampled:	09/22/17
Matrix:	Soil	Received:	09/22/17
Units:	mg/Kg	Prepared:	09/25/17
Basis:	as received	Analyzed:	09/26/17
Diln Fac:	3.000		

Type: MS Lab ID: QC902254

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C12-C28	23.83	50.22	56.48	65	25-159

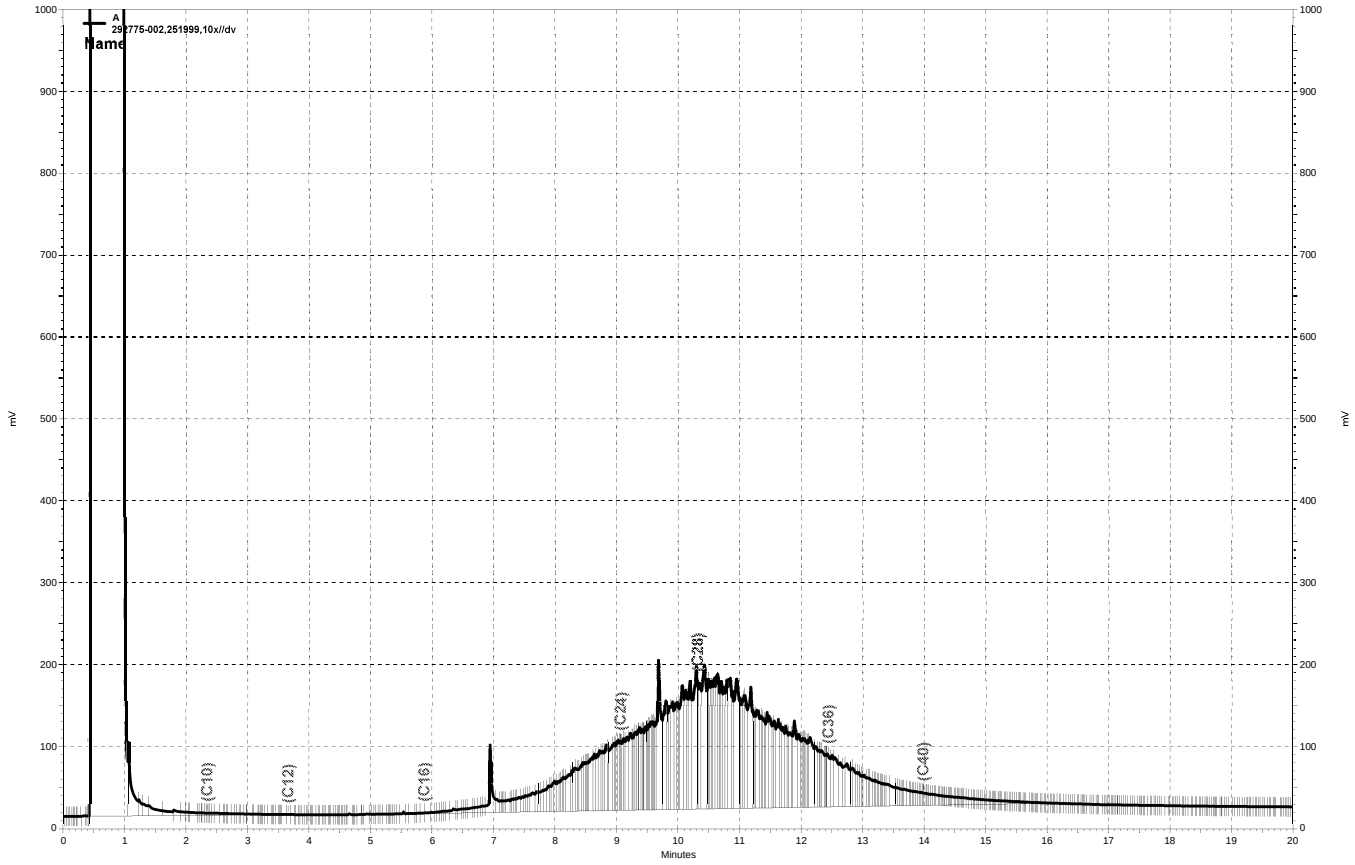
Surrogate	%REC	Limits
o-Terphenyl	92	64-136

Type: MSD Lab ID: QC902255

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C12-C28	49.92	67.99	88	25-159	19	60

Surrogate	%REC	Limits
o-Terphenyl	96	64-136

RPD= Relative Percent Difference



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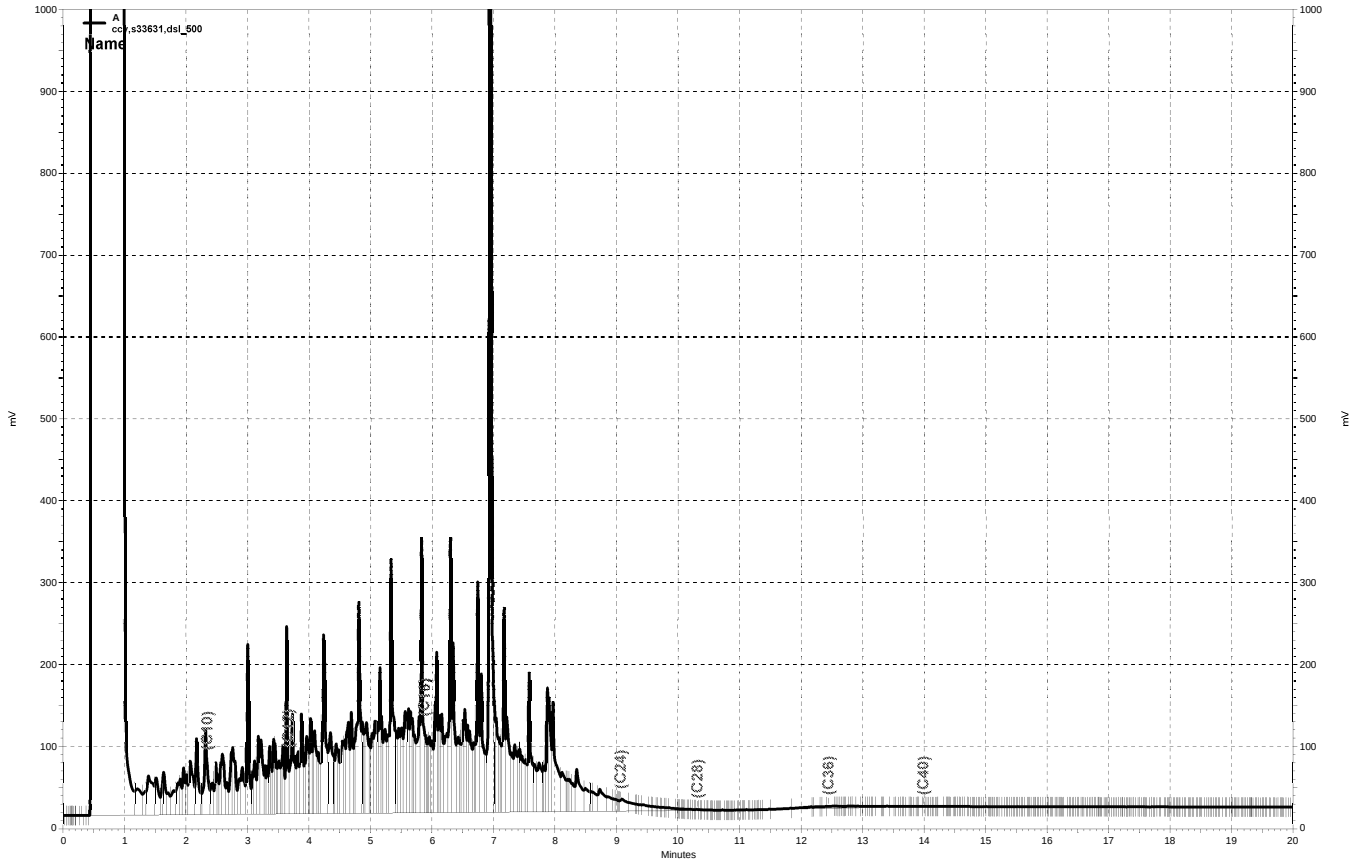

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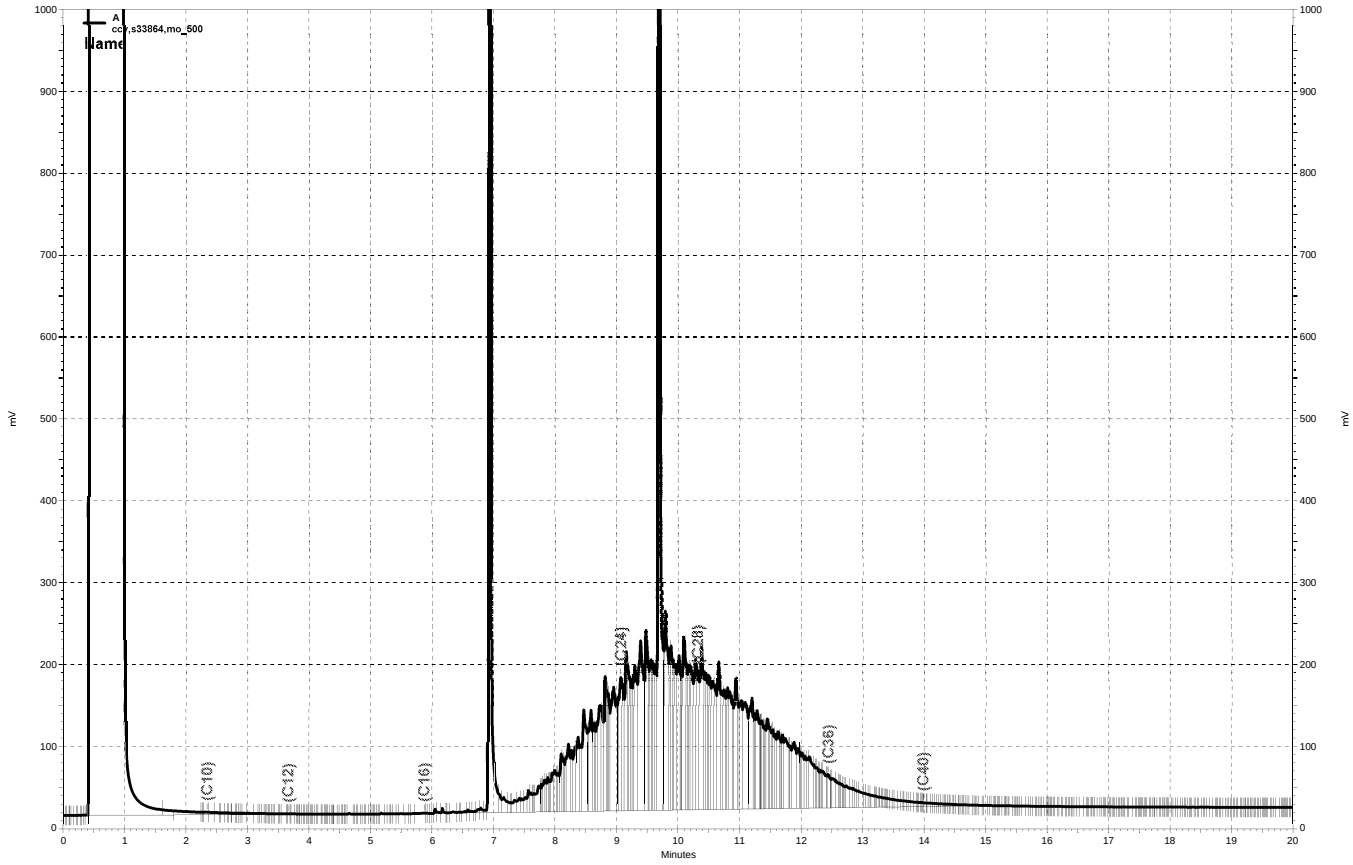

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ENTHALPY ANALYTICAL

Semivolatile Organics by GC/MS SIM

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	TRENCH 17	Batch#:	252030
Lab ID:	292775-002	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	09/26/17
Basis:	as received	Analyzed:	09/27/17
Diln Fac:	100.0		

Analyte	Result	RL	MDL
Naphthalene	ND b	0.51	0.10
1-Methylnaphthalene	ND b	0.51	0.10
2-Methylnaphthalene	ND b	0.51	0.10
Acenaphthylene	ND b	0.51	0.10
Acenaphthene	ND b	0.51	0.10
Fluorene	ND b	0.51	0.10
Phenanthrene	ND b	0.51	0.10
Anthracene	0.17 J b	0.51	0.10
Fluoranthene	0.11 J b	0.51	0.10
Pyrene	0.35 J b	0.51	0.10
Benzo(a)anthracene	ND b	0.51	0.10
Chrysene	ND b	0.51	0.10
Benzo(b)fluoranthene	0.46 J b	0.51	0.10
Benzo(k)fluoranthene	0.11 J b	0.51	0.10
Benzo(a)pyrene	0.23 J b	0.51	0.10
Indeno(1,2,3-cd)pyrene	0.14 J b	0.51	0.10
Dibenz(a,h)anthracene	ND b	0.51	0.10
Benzo(g,h,i)perylene	0.24 J b	0.51	0.10

Surrogate	%REC	Limits
Nitrobenzene-d5	DO b	46-120
2-Fluorobiphenyl	DO b	52-120
Terphenyl-d14	DO b	54-132

J= Estimated value
b= See narrative
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC902353	Batch#:	252030
Matrix:	Soil	Prepared:	09/26/17
Units:	mg/Kg	Analyzed:	09/26/17

Analyte	Result	RL	MDL
Naphthalene	ND	0.0051	0.0010
1-Methylnaphthalene	ND	0.0051	0.0010
2-Methylnaphthalene	ND	0.0051	0.0010
Acenaphthylene	ND	0.0051	0.0010
Acenaphthene	ND	0.0051	0.0010
Fluorene	ND	0.0051	0.0010
Phenanthrene	ND	0.0051	0.0010
Anthracene	ND	0.0051	0.0010
Fluoranthene	ND	0.0051	0.0010
Pyrene	ND	0.0051	0.0010
Benzo(a)anthracene	ND	0.0051	0.0010
Chrysene	ND	0.0051	0.0010
Benzo(b)fluoranthene	ND	0.0051	0.0010
Benzo(k)fluoranthene	ND	0.0051	0.0010
Benzo(a)pyrene	ND	0.0051	0.0010
Indeno(1,2,3-cd)pyrene	ND	0.0051	0.0010
Dibenz(a,h)anthracene	ND	0.0051	0.0010
Benzo(g,h,i)perylene	ND	0.0051	0.0010

Surrogate	%REC	Limits
Nitrobenzene-d5	78	46-120
2-Fluorobiphenyl	84	52-120
Terphenyl-d14	77	54-132

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902354	Batch#:	252030
Matrix:	Soil	Prepared:	09/26/17
Units:	mg/Kg	Analyzed:	09/26/17

Analyte	Spiked	Result	%REC	Limits
Naphthalene	0.03340	0.02681	80	52-120
1-Methylnaphthalene	0.03340	0.02897	87	49-120
2-Methylnaphthalene	0.03340	0.02988	89	52-120
Acenaphthylene	0.03340	0.02845	85	39-120
Acenaphthene	0.03340	0.03281	98	43-120
Fluorene	0.03340	0.03139	94	46-120
Phenanthrene	0.03340	0.03218	96	42-120
Anthracene	0.03340	0.03162	95	37-120
Fluoranthene	0.03340	0.03476	104	38-120
Pyrene	0.03340	0.03383	101	39-120
Benzo(a)anthracene	0.03340	0.03236	97	36-120
Chrysene	0.03340	0.01876	56	35-120
Benzo(b)fluoranthene	0.03340	0.03194	96	39-120
Benzo(k)fluoranthene	0.03340	0.03145	94	36-120
Benzo(a)pyrene	0.03340	0.03316	99	38-120
Indeno(1,2,3-cd)pyrene	0.03340	0.02998	90	35-120
Dibenz(a,h)anthracene	0.03340	0.02581	77	31-120
Benzo(g,h,i)perylene	0.03340	0.03112	93	39-120

Surrogate	%REC	Limits
Nitrobenzene-d5	97	46-120
2-Fluorobiphenyl	123 *	52-120
Terphenyl-d14	90	54-132

*= Value outside of QC limits; see narrative

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	252030
MSS Lab ID:	292765-001	Sampled:	09/21/17
Matrix:	Soil	Received:	09/22/17
Units:	mg/Kg	Prepared:	09/26/17
Basis:	as received	Analyzed:	09/26/17
Diln Fac:	1.000		

Type: MS Lab ID: QC902355

Analyte	MSS Result	Spiked	Result	%REC	Limits
Naphthalene	<0.0009987	0.03288	0.01966	60	51-120
1-Methylnaphthalene	<0.0009987	0.03288	0.02232	68	51-120
2-Methylnaphthalene	<0.0009987	0.03288	0.02253	69	50-121
Acenaphthylene	<0.0009987	0.03288	0.02447	74	46-120
Acenaphthene	<0.0009987	0.03288	0.02241	68	47-120
Fluorene	<0.0009987	0.03288	0.02764	84	43-120
Phenanthrene	<0.0009987	0.03288	0.02920	89	27-139
Anthracene	<0.0009987	0.03288	0.02893	88	34-130
Fluoranthene	<0.0009987	0.03288	0.03159	96	18-141
Pyrene	<0.0009987	0.03288	0.03153	96	21-143
Benzo(a)anthracene	<0.0009987	0.03288	0.02947	90	18-128
Chrysene	<0.0009987	0.03288	0.01757	53	16-126
Benzo(b)fluoranthene	<0.0009987	0.03288	0.02889	88	18-134
Benzo(k)fluoranthene	<0.0009987	0.03288	0.02977	91	15-135
Benzo(a)pyrene	<0.0009987	0.03288	0.03049	93	21-135
Indeno(1,2,3-cd)pyrene	<0.0009987	0.03288	0.02758	84	3-121
Dibenz(a,h)anthracene	<0.0009987	0.03288	0.02379	72	6-120
Benzo(g,h,i)perylene	<0.0009987	0.03288	0.02869	87	1-120

Surrogate	%REC	Limits
Nitrobenzene-d5	84	46-120
2-Fluorobiphenyl	82	52-120
Terphenyl-d14	86	54-132

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

Semivolatile Organics by GC/MS SIM

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8270C-SIM
Field ID:	ZZZZZZZZZZ	Batch#:	252030
MSS Lab ID:	292765-001	Sampled:	09/21/17
Matrix:	Soil	Received:	09/22/17
Units:	mg/Kg	Prepared:	09/26/17
Basis:	as received	Analyzed:	09/26/17
Diln Fac:	1.000		

Type: MSD Lab ID: QC902356

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Naphthalene	0.03362	0.01887	56	51-120	6	50
1-Methylnaphthalene	0.03362	0.02146	64	51-120	6	42
2-Methylnaphthalene	0.03362	0.02175	65	50-121	6	43
Acenaphthylene	0.03362	0.02329	69	46-120	7	35
Acenaphthene	0.03362	0.02529	75	47-120	10	54
Fluorene	0.03362	0.02597	77	43-120	8	42
Phenanthrene	0.03362	0.02697	80	27-139	10	78
Anthracene	0.03362	0.02710	81	34-130	9	74
Fluoranthene	0.03362	0.02940	87	18-141	9	63
Pyrene	0.03362	0.02987	89	21-143	8	67
Benzo(a)anthracene	0.03362	0.02835	84	18-128	6	55
Chrysene	0.03362	0.01659	49	16-126	8	58
Benzo(b)fluoranthene	0.03362	0.02797	83	18-134	5	75
Benzo(k)fluoranthene	0.03362	0.02813	84	15-135	8	52
Benzo(a)pyrene	0.03362	0.02914	87	21-135	7	61
Indeno(1,2,3-cd)pyrene	0.03362	0.02669	79	3-121	6	56
Dibenz(a,h)anthracene	0.03362	0.02290	68	6-120	6	58
Benzo(g,h,i)perylene	0.03362	0.02749	82	1-120	6	64

Surrogate	%REC	Limits
Nitrobenzene-d5	79	46-120
2-Fluorobiphenyl	77	52-120
Terphenyl-d14	81	54-132

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Polychlorinated Biphenyls (PCBs)

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Field ID:	TRENCH 17	Diln Fac:	1.000
Matrix:	Soil	Batch#:	252009
Units:	mg/Kg	Sampled:	07/13/17
Basis:	as received	Received:	07/18/14

Type:	SAMPLE	Prepared:	09/26/17
Lab ID:	292775-001	Analyzed:	09/27/17

Analyte	Result	RL	MDL
Aroclor-1016	ND b	0.0048	0.0012
Aroclor-1221	ND b	0.0097	0.0032
Aroclor-1232	ND b	0.0048	0.0016
Aroclor-1242	ND b	0.0048	0.0014
Aroclor-1248	ND b	0.0048	0.0015
Aroclor-1254	ND b	0.0048	0.0012
Aroclor-1260	0.013 b	0.0048	0.00078

Surrogate	%REC	Limits
TCMX	105 b	60-140
Decachlorobiphenyl	112 b	36-133

Type:	BLANK	Prepared:	09/25/17
Lab ID:	QC902290	Analyzed:	09/26/17

Analyte	Result	RL	MDL
Aroclor-1016	ND	0.0048	0.0012
Aroclor-1221	ND	0.0095	0.0032
Aroclor-1232	ND	0.0048	0.0015
Aroclor-1242	ND	0.0048	0.0014
Aroclor-1248	ND	0.0048	0.0015
Aroclor-1254	ND	0.0048	0.0012
Aroclor-1260	ND	0.0048	0.00077

Surrogate	%REC	Limits
TCMX	93	60-140
Decachlorobiphenyl	90	36-133

b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902291	Batch#:	252009
Matrix:	Soil	Prepared:	09/25/17
Units:	mg/Kg	Analyzed:	09/26/17

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	0.08275	0.08719	105	58-144
Aroclor-1260	0.08275	0.09115	110	55-146

Surrogate	%REC	Limits
TCMX	89	60-140
Decachlorobiphenyl	87	36-133

ENTHALPY ANALYTICAL

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3550C
Project#:	170039	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	252009
MSS Lab ID:	292695-001	Sampled:	09/21/17
Matrix:	Soil	Received:	09/21/17
Units:	mg/Kg	Prepared:	09/25/17
Basis:	as received	Analyzed:	09/26/17
Diln Fac:	1.000		

Type: MS Lab ID: QC902292

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<0.001197	0.08199	0.09315	114	51-155
Aroclor-1260	0.005508	0.08199	0.08932	102	38-155

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	78	36-133

Type: MSD Lab ID: QC902293

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	0.08463	0.1091	129	51-155	13	38
Aroclor-1260	0.08463	0.1041	116	38-155	12	55

Surrogate	%REC	Limits
TCMX	113	60-140
Decachlorobiphenyl	86	36-133

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

RCRA Metals

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Field ID:	TRENCH 17	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	09/27/17
Basis:	as received	Analyzed:	09/27/17
Batch#:	252061		

Type: SAMPLE Lab ID: 292775-001

Analyte	Result	RL	MDL	Diln Fac
Arsenic	1.6	0.60	0.20	1.000
Barium	780	25	2.9	100.0
Cadmium	ND	0.25	0.050	1.000
Chromium	42	0.25	0.050	1.000
Lead	120	0.50	0.13	1.000
Selenium	ND	0.67	0.22	1.000
Silver	ND	0.25	0.050	1.000

Type: BLANK Diln Fac: 1.000
Lab ID: QC902478

Analyte	Result	RL	MDL
Arsenic	ND	0.59	0.20
Barium	0.17 J	0.25	0.029
Cadmium	ND	0.25	0.049
Chromium	0.056 J	0.25	0.049
Lead	ND	0.49	0.13
Selenium	ND	0.66	0.22
Silver	ND	0.25	0.049

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Mercury by Cold Vapor AA

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	252042
Field ID:	TRENCH 17	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	09/26/17
Basis:	as received	Analyzed:	09/26/17
Diln Fac:	1.000		

Type	Lab ID	Result	RL	MDL
SAMPLE	292775-002	0.078 b	0.016	0.0028
BLANK	QC902407	ND	0.016	0.0027

b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

ENTHALPY ANALYTICAL

Batch QC Report

Mercury by Cold Vapor AA

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	METHOD
Project#:	170039	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	252042
Field ID:	ZZZZZZZZZZ	Sampled:	09/13/17
MSS Lab ID:	292393-006	Received:	09/13/17
Matrix:	Soil	Prepared:	09/26/17
Units:	mg/Kg	Analyzed:	09/26/17
Basis:	as received		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln Fac
BS	QC902408		0.1538	0.1624	106	80-120			1.000
BSD	QC902409		0.1613	0.1671	104	80-120	2	20	1.000
MS	QC902410	122.1	0.1754	123.1	NM	69-136			500.0
MSD	QC902411		0.1695	113.9	NM	69-136	8	35	500.0

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

RCRA Metals

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	252061
Units:	mg/Kg	Prepared:	09/27/17
Diln Fac:	1.000	Analyzed:	09/27/17

Type: BS Lab ID: QC902479

Analyte	Spiked	Result	%REC	Limits
Arsenic	49.16	48.78	99	80-120
Barium	49.16	49.73	101	80-120
Cadmium	49.16	47.77	97	80-120
Chromium	49.16	49.25	100	80-120
Lead	49.16	50.41	103	80-120
Selenium	49.16	49.58	101	80-120
Silver	4.916	4.288	87	80-120

Type: BSD Lab ID: QC902480

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	48.64	46.53	96	80-120	4	20
Barium	48.64	47.45	98	80-120	4	20
Cadmium	48.64	45.74	94	80-120	3	20
Chromium	48.64	47.06	97	80-120	3	20
Lead	48.64	48.03	99	80-120	4	20
Selenium	48.64	47.25	97	80-120	4	20
Silver	4.864	4.155	85	80-120	2	20

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

Batch QC Report

RCRA Metals

Lab #:	292775	Location:	820 Eisenberg Phase II
Client:	Element Environmental, LLC	Prep:	EPA 3050B
Project#:	170039	Analysis:	EPA 6010B
Field ID:	TRENCH 17	Batch#:	252061
MSS Lab ID:	292775-001	Sampled:	07/13/17
Matrix:	Soil	Received:	07/18/14
Units:	mg/Kg	Prepared:	09/27/17
Basis:	as received	Analyzed:	09/27/17
Diln Fac:	1.000		

Type: MS Lab ID: QC902481

Analyte	MSS Result	Spiked	Result	%REC	Limits
Arsenic	1.563	49.55	44.56	87	72-120
Barium	779.4	49.55	863.4 >LR	169 NM	50-133
Cadmium	<0.04960	49.55	47.63	96	72-120
Chromium	42.42	49.55	85.61	87	61-120
Lead	120.8	49.55	140.4	40 *	52-122
Selenium	<0.2229	49.55	41.04	83	70-120
Silver	<0.04960	4.955	2.016	41 *	67-120

Type: MSD Lab ID: QC902482

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	49.07	43.64	86	72-120	1	30
Barium	49.07	837.6 >LR	119 NM	50-133	NC	43
Cadmium	49.07	47.38	97	72-120	0	22
Chromium	49.07	82.38	81	61-120	3	31
Lead	49.07	147.7	55	52-122	5	49
Selenium	49.07	39.97	81	70-120	2	26
Silver	4.907	2.238	46 *	67-120	11	25

*= Value outside of QC limits; see narrative
NC= Not Calculated
NM= Not Meaningful: Sample concentration > 4X spike concentration
>LR= Response exceeds instrument's linear range
RPD= Relative Percent Difference

ADVANCED ANALYTICAL LABORATORY INC

July 28, 2017

Pacific Commercial Services, LLC
PO Box 235117
Honolulu, HI
96823

Dear Wendi Zheng:

Please find enclosed the analytical report for:

Project Name:	820 Isenberg St.
AAL Project #:	S397
Date Received:	07/24/2017
MIS Prep:	No

The results, applicable reporting limits, QA/QC data, invoice, and copy of COC are included.

Advanced Analytical Laboratory appreciates the opportunity to provide analytical services for this project. If you have any questions regarding this project, please don't hesitate to contact AAL.

Thank you for your business and continuing support.

Sincerely,

Uwe Baumgartner, Ph.D
Owner

Elisa M. Young
Owner

544 Ohohia Street #10 HONOLULU HAWAII 96819
tel (808) 836-2252 fax (808) 836-2250

ADVANCED ANALYTICAL LABORATORY-CHAIN OF CUSTODY RECORD

Phone: (808) 836 2252 Fax:(808) 836 2250 Address: 544 Ohohia Street #10 Honolulu, HI 96819

TURNAROUND TIME: 5 day AAL PROJECT#: 5397

CLIENT: Pacific Commerical Services, LLC	PROJECT NAME: 820 Isenberg St.
ADDRESS: 91-254 Olai Street, Kapolei, HI 96707	COLLECTOR: Wendi Zheng
PHONE: 808-545-4599 EMAIL: wendi.zheng@pcshi.com	DATE OF COLLECTION: 7/24/2017
CLIENT PROJECT#: 300175-16	PROJECT MANAGER: Wendi Zheng

Sample Number	Time	Sample type	Container Type	ANALYSES: Multi-Incremental Volatile	Multi-Incremental Non Volatile	8015M TPH Fuel Scan	8015M TPH Gasoline	8015M TPH Diesel	8015M TPH Oil	8260B Volatiles	8260 BTEX	8021B MtBE	HVOC	8100 PAH DOH 4	8270 PAH 17 analytes	8270 Semi Volatiles	8082 PCB	TCLP 8081 OrganoChlorind Pes	8081 Organochlorine Pesticides	8081 Technical Chlordane	TCLP Chromium	Ph	Flash Point	TCLP RCRA 8 Metals	Total RCRA 8 Metals	Field Notes	Number of containers	Number containers received
300175-16-liquid																						X	X	X			1	1

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	7-24-17 9:05	[signature] 7/24/17	9:05
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	1
CHAIN OF CUSTODY SEALS INTACT	
RECEIVED IN GOOD CONDITION	Y
TEMPERATURE	25.3°C
PAGE 1 OF 1	

LABORATORY NOTES:

ACCU LABORATORY

12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**17-AL0725-4**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	7/24/2017
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	7/25/2017
Project Name	**820 Isenberg St.**	Date Reported	7/27/2017
Client Project#	**300175-16**		
Project#	**S397**		

TCLP Metals in Liquid by EPA 6020A/EPA1311/EPA 3010A

Accu Lab Analytical Batch# AL072517-7

Client sample ID					**TCLP 300175-16-liquid**	**MS TCLP 302326-01-soil**	**MSD TCLP 302326-01-soil**	**RPD TCLP 302326-01-soil**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	17-AL0725-5-1	17-AL0725-4-1	17-AL0725-4-1	17-AL0725-4-1
Matrix			TCLP Extract	TCLP Extract	TCLP Extract	TCLP Extract	TCLP Extract	TCLP Extract
Date Extracted			7/25/2017	7/25/2017	7/25/2017	7/25/2017	7/25/2017	7/25/2017
Date Analyzed			7/26/2017	7/26/2017	7/26/2017	7/26/2017	7/26/2017	7/26/2017
Arsenic (As)	0.05	mg/L	nd	99%	nd	104%	107%	3%
Barium (Ba)	0.05	mg/L	nd	94%	nd	100%	99%	1%
Cadmium (Cd)	0.05	mg/L	nd	104%	nd	106%	106%	0.3%
Chromium (Cr)	0.05	mg/L	nd	104%	nd	102%	105%	2%
Lead (Pb)	0.05	mg/L	nd	94%	nd	103%	107%	4%
Selenium (Se)	0.05	mg/L	nd	98%	nd	97%	99%	2%
Silver (Ag)	0.05	mg/L	nd	89%	nd	96%	95%	1%
Mercury (Hg)	0.05	mg/L	nd	104%	nd	96%	98%	2%

Acceptable Recovery Limits:

LCS 80-120%
MS/MSD 75-125%
Acceptable RPD limit: 20%

ACCU LABORATORY

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Analytical Report

Client	Advanced Analytical Laboratory	**Acculab WO#**	**17-AL0725-4**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	7/24/2017
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	7/25/2017
Project Name	**820 Isenberg St.**	Date Reported	7/27/2017
Client Project#	**300175-16**		
AAL Project#	**S397**		

Data Qualifiers and Comments:

MRL- Method Reporting Limit
nd- Indicates the analyte is not detected at the listing reporting limit.
C- Coelution with other compounds.
M- % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.
B- Indicates the analyte is detected in the method blank associated with the sample.
J- The analyte is detected at below the reporting limit.
E- The result reported exceeds the calibration range, and is an estimate.
D- Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.
H- Sample was received or analyzed past holding time
Q- Sample was received with head space, improper preserved or above recommended temperature.

[1]Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2016, rev Nov 2016)

Site Name:	820 Isenberg
Site Address:	
Site ID Number:	
Date of EAL Search:	October 4, 2017

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Drinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	**TPH (middle distillates)**

Input Site Concentrations	
Soil (mg/kg):	1500
Groundwater (ug/L):	-
Soil Vapor (ug/m^3):	-

Soil Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Direct Exposure:	mg/kg	2.6E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	5.0E+02	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.0E+02	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	**mg/kg**	**1.0E+02**		
Basis:	**Leaching**			

Groundwater Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Drinking Water (Toxicity):	ug/L	1.6E+02	-	Table D-1b
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	1.0E+02	-	Table G-1
Final Groundwater Tier 1 EAL:	**ug/L**	**1.0E+02**		
Basis:	**Gross Contamination**			

Other Tier 1 EALs:	**Units**	**EAL**	**[2]Potential Hazard?**	**[3]Referenced Table**
Shallow Soil Vapor:	ug/m^3	2.6E+05	-	Table C-2
Indoor Air:	ug/m^3	1.3E+02	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist of concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document.

Reference: HDOH 2016, Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater (Summer 2016): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, http://hawaii.gov/health/environmental/hazard/index.html

[1]Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2016, rev Nov 2016)

Site Name:	820 Isenberg
Site Address:	
Site ID Number:	
Date of EAL Search:	October 4, 2017

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Drinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	**TPH (residual fuels)**

Input Site Concentrations	
Soil (mg/kg):	3500
Groundwater (ug/L):	-
Soil Vapor (ug/m^3):	-

Soil Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Direct Exposure:	mg/kg	9.4E+03	No	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	5.0E+02	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.0E+03	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	**mg/kg**	**5.0E+02**		
Basis:	**Gross Contamination**			

Groundwater Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Drinking Water (Toxicity):	ug/L	2.4E+03	-	Table D-1b
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	1.0E+02	-	Table G-1
Final Groundwater Tier 1 EAL:	**ug/L**	**1.0E+02**		
Basis:	**Gross Contamination**			

Other Tier 1 EALs:	**Units**	**EAL**	**[2]Potential Hazard?**	**[3]Referenced Table**
Shallow Soil Vapor:	ug/m^3	-	-	Table C-2
Indoor Air:	ug/m^3	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
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[1]Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2016, rev Nov 2016)

Site Name:	820 Isenberg
Site Address:	
Site ID Number:	
Date of EAL Search:	October 4, 2017

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Drinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern: **HEXACHLOROCYCLOHEXANE (gamma) LINDANE**

Input Site Concentrations	
Soil (mg/kg):	0.105
Groundwater (ug/L):	-
Soil Vapor (ug/m^3):	-

Soil Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Direct Exposure:	mg/kg	5.7E-01	No	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	7.5E-02	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	**mg/kg**	**7.5E-02**		
Basis:	**Leaching**			

Groundwater Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Drinking Water (Toxicity):	ug/L	2.0E-01	-	Table D-1b
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	1.6E-01	-	Table D-4a
Gross Contamination:	ug/L	3.7E+03	-	Table G-1
Final Groundwater Tier 1 EAL:	**ug/L**	**1.6E-01**		
Basis:	**Aquatic Ecotoxicity**			

Other Tier 1 EALs:	**Units**	**EAL**	**[2]Potential Hazard?**	**[3]Referenced Table**
Shallow Soil Vapor:	ug/m^3	-	-	Table C-2
Indoor Air:	ug/m^3	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist of concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document.

Reference: HDOH 2016, Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater (Summer 2016): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, http://hawaii.gov/health/environmental/hazard/index.html

[1]Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2016, rev Nov 2016)

Site Name:	820 Isenberg
Site Address:	
Site ID Number:	
Date of EAL Search:	October 4, 2017

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Drinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	**BARIUM**

Input Site Concentrations	
Soil (mg/kg):	1100
Groundwater (ug/L):	-
Soil Vapor (ug/m^3):	-

Soil Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Direct Exposure:	mg/kg	3.1E+03	No	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	6.9E+02		
Final Soil Tier 1 EAL:	**mg/kg**	**1.0E+03**		
Basis:	**Gross Contamination**			

Groundwater Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Drinking Water (Toxicity):	ug/L	2.0E+03	-	Table D-1b
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.0E+03	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-1
Final Groundwater Tier 1 EAL:	**ug/L**	**2.0E+03**		
Basis:	**Drinking Water Toxicity**			

Other Tier 1 EALs:	**Units**	**EAL**	**[2]Potential Hazard?**	**[3]Referenced Table**
Shallow Soil Vapor:	ug/m^3	-	-	Table C-2
Indoor Air:	ug/m^3	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist of concentration of contaminant exceeds action level.
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[1]Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2016, rev Nov 2016)

Site Name:	820 Isenberg
Site Address:	
Site ID Number:	
Date of EAL Search:	October 4, 2017

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Drinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	**LEAD**

Input Site Concentrations	
Soil (mg/kg):	760
Groundwater (ug/L):	-
Soil Vapor (ug/m^3):	-

Soil Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Direct Exposure:	mg/kg	2.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	7.3E+01		
Final Soil Tier 1 EAL:	**mg/kg**	**2.0E+02**		
	Basis:	**Direct Exposure**		

Groundwater Environmental Hazards	**Units**	**Tier 1 Action Level**	**[2]Potential Hazard?**	**[3]Referenced Table**
Drinking Water (Toxicity):	ug/L	1.5E+01	-	Table D-1b
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-1
Final Groundwater Tier 1 EAL:	**ug/L**	**1.5E+01**		
	Basis:	**Drinking Water Toxicity**		

Other Tier 1 EALs:	**Units**	**EAL**	**[2]Potential Hazard?**	**[3]Referenced Table**
Shallow Soil Vapor:	ug/m^3	-	-	Table C-2
Indoor Air:	ug/m^3	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
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