SoundEarth Strategies, Inc.
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Seattle, Washington 98102

Draft – Issued for Client Review

March 22, 2018

Ms. Kim Kuhl
Kane Properties, LLC
19427 136th Place Southeast
Renton, Washington 98058

SUBJECT: SUBSURFACE INVESTIGATION SUMMARY REPORT
Rainier Mall South Property
4208 Rainier Avenue South
Project Number: 0611-017

Dear Ms. Kuhl:

SoundEarth Strategies, Inc. (SoundEarth) is pleased to provide this Subsurface Investigation Summary Report for the Rainier Mall South Property, located at 4208 Rainier Avenue South, in Seattle, Washington (the Property). The Property location is depicted on Figure 1. The purpose of the subsurface investigation on this Property was to delineate impacts to soil and groundwater from the former dry cleaner operations at different locations on the southwestern portion of the Property. The work was conducted on behalf of IS Property Investments LLC, as part of their due diligence during property acquisition.

The Property is part of one irregularly shaped tax parcel (King County Parcel #795030-1480) that covers approximately 101,537 square feet (2.33 acres) of land. As part of the Property acquisition, the parcel will be split into two parcels: Rainier Mall North and Rainier Mall South (Figure 2). This report focuses only on the subsurface conditions on the Rainier Mall South Property (the Property).

BACKGROUND

The Property was previously developed with three separate dry cleaners on the southwestern portion of the Property with several other commercial retail spaces (Figure 2). In addition, several residences were present on the eastern portion of the Property in the 1929 Sanborn Fire Insurance Map. Based on aerial photographs, the residences were removed by 1943. The dry cleaners operated between approximately 1930 and 1968. All the buildings associated with the former dry cleaning operations were removed between 1985 and 1990. The Property is currently developed with an asphalt-paved parking lot.

A one-story retail building occupies 36,071 square feet of the Rainier Mall North Property. The retail building is currently vacant and was previously occupied by a Safeway grocery store and a mixed-use retail mall.

PREVIOUS INVESTIGATIONS

A Phase II Environmental Site Assessment was conducted at the Property by Hahn and Associates, Inc. in June 2000. This investigation was conducted to assess potential impacts to soil and groundwater related

to the former dry cleaning operations at the Property. The field investigation consisted of eight hollow-stem auger borings (B-1 through B-8) in locations shown on Figure 2. Soil borings were advanced to a maximum depth of 41 feet below ground surface (bgs). Discontinuous moist soil conditions were encountered in borings B-1, B-3, B-4, B-5, and B-7 at depths ranging from 24.5 to 29.5 feet bgs. Moist soil conditions were not observed in borings B-2, B-6, or B-8.

Select soil samples from borings B-1, B-3, B-6, and B-8 were analyzed for volatile organic compounds (VOCs). A sample collected from boring B-1 at 19.5 feet bgs contained a tetrachloroethene (PCE) concentration of 83.3 milligrams per kilogram (mg/kg), compared to the Washington State Model Toxics Control Act (MTCA) Method A cleanup level (CUL) of 0.05 mg/kg for this compound. Trichloroethene (TCE) was also detected in this sample at a concentration above the MTCA Method A CUL of 0.03 mg/kg.

SoundEarth conducted a supplemental subsurface investigation in 2017 to evaluate the extent of identified chlorinated solvent impacts to soil and groundwater beneath the Property associated with historical dry cleaner operations. SoundEarth advanced eight direct-push soil borings (SB01 through SB08) to depths between 16 and 24.5 feet bgs. SoundEarth also advanced four hollow-stem auger borings (B01 through B04) to depths between 31.5 and 41.5 feet bgs and completed one as a monitoring well. SoundEarth also advanced one sonic soil boring (BO5) to a depth of 90 feet bgs.

Groundwater was not encountered during drilling in any of the direct-push borings. Discontinuous intervals of moist soil conditions were encountered at depths ranging from 10 to 35 feet bgs in hollow-stem auger borings B01 through B04 and sonic boring B05. Below 35 feet bgs in boring B05, soil was observed to be dry to moist, with no water-bearing intervals encountered to the maximum depth of exploration.

Select soil samples from each boring were analyzed for chlorinated VOCs (CVOCs). PCE, TCE, and vinyl chloride were detected in soil borings SB01, SB02, SB08, and B01 through B04 in the southwestern portion of the Property at concentrations exceeding MTCA Method A CULs at depths ranging from 12.5 to 32.5 feet bgs. PCE concentrations exceeding the Washington State hazardous waste criteria of 14 mg/kg were detected in borings SB01 and B01 at depths ranging from 17.5 to 22.5 feet bgs. In boring B01, a PCE concentration exceeding the land ban waste criteria of 60 mg/kg was detected at a depth of 20 feet bgs.

SITE GEOLOGY AND HYDROLOGY

Based on *The Geologic Map of Seattle—A Progress Report*, subsurface soils in the vicinity of the Property are primarily Vashon recessional lacustrine deposits, which are typically composed of laminated silt and clay with low to high plasticity, with local sand layers, peat, and other organic sediments. Previous investigations at the Property and properties in the immediate vicinity have generally encountered fill material consisting of gravel, sand, and silt to depths ranging from 1 to 14 feet bgs, overlying soft to stiff silt and clay with interbedded sand lenses to approximately 30 to 35 feet bgs. In sonic boring B05, medium dense to dense silt with varying amounts of clay and trace amounts of fine sand was observed from approximately 35 feet to the maximum depth of exploration (90 feet bgs).

Discontinuous intervals of moist soil conditions were encountered at depths ranging from 10 to 35 feet bgs in several previous on-Property borings. Below 35 feet bgs in sonic boring B05, soil was observed to be dry to moist, with no water-bearing intervals encountered to the maximum depth explored of 90 feet

bgs. Due to the discontinuous nature of the sand lenses and low productivity of these intervals, the observed saturated intervals were interpreted as perched groundwater limited to thin sand lenses and are not representative of regional groundwater beneath the Property.

Static groundwater levels in the vicinity of the Property range from approximately 27 to 195 feet bgs, with an inferred groundwater flow direction to the southeast toward Lake Washington. Groundwater was observed at approximately 28 feet bgs in boring B01, completed by SoundEarth in 2017.

SOUNDEARTH 2017 AND 2018 SUBSURFACE FIELD INVESTIGATION

To further assess the extent of chlorinated solvents in soil and groundwater and define the lateral boundary of the site, SoundEarth completed a multi-phase subsurface investigation on the Property. Field work included completing a soil vapor survey, advancing multiple hollow-stem auger soil borings, and installing and sampling the on-Property monitoring wells. All field work was observed by a SoundEarth licensed geologist. Private and public utility locates were completed prior to each phase of field work to determine the presence of any underground utilities. Details of the field work are outlined below.

Passive Soil Vapor Assessment

The purpose of the passive soil vapor assessment was to gain a better understanding of the lateral extent of CVOCs in shallow soil in the vicinity of the former dry cleaner operations in the southwestern portion of the Property. The results of the passive soil vapor assessment were used to determine where future borings and monitoring wells should be advanced to characterize the source, nature, and extent of hazardous substances associated with the former dry cleaning facility.

The passive vapor sample locations were selected to cover a broad area of the Property and adjacent rights-of-way (ROWs). Sample locations were laid out in a grid on approximately 25-square-foot centers (Figure 2). Four sample locations were completed within the sidewalk ROWs of the southwest corner of the Property. SoundEarth marked all sample locations and completed public and private utility locates before installing the sampling equipment.

On December 29, 2017, SoundEarth installed 56 passive soil vapor samples on the Property, as shown on Figure 2. The samplers, which were manufactured by Amplified Geochemical Imaging, LLC (AGI), were installed using a rotary hammer to a depth of approximately 3 feet below ground surface at each location and attached to string to allow for their retrieval. Samplers were put in place with an insertion rod and then sealed with a cork. Samplers were retrieved on January 5, 2018.

The AGI Universal samplers were then submitted to AGI for analysis of VOCs and total petroleum hydrocarbons (TPH) by modified U.S. Environmental Protection Agency (EPA) Method 8260.

Monitoring Well Installation and Soil Borings

On January 24 through 26, 2018, Cascade Drilling (Cascade), under the direction of a licensed SoundEarth geologist, advanced four soil borings (B06 through B09), completing borings B07 and B09 as monitoring wells. Borings locations were selected to delineate the lateral extent of CVOC impacts in soil and groundwater on the Property. SoundEarth also observed eight soil borings (TB01 through TB08) advanced by Terra Associates (Terra), as part of the geotechnical evaluation of the Property. Two of the Terra

borings (TB07/MW04 and TB08/MW05) were also completed as monitoring wells to evaluate perched groundwater. SoundEarth and Terra soil borings were advanced using a hollow-stem auger drill rig. The hollow-stem auger borings were advanced to depths ranging from 30 to 51.5 feet bgs at the locations shown on Figure 2, and discrete soil samples were collected from each boring at 2.5- to 5-foot depth intervals.

Based on boring locations, field screening results, sampling depths, and observed soil characteristics, soil samples were selected from each soil boring, placed on ice in a cooler, and delivered to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington, under standard chain-of-custody protocol for chemical analysis of CVOCs.

SoundEarth soil borings B07 and B09 were completed as a 2-inch-diameter monitoring wells MW03 and MW02, respectively, with 15 feet of 0.010-inch slotted well screen extending from 15 to 30 feet below the top of well casing. Terra soil borings TB07 and TB08 were completed as 2-inch-diameter monitoring wells MW04 and MW05, respectively, with 20 feet of 0.010-inch slotted well screen extending from 15 to 35 feet below the top of well casing. The bottom of each well was fitted with a threaded PVC bottom cap, and the top of each well was fitted with a slip cap. The annuli of the monitoring wells were filled with 2/12 sand from the bottom of the well to approximately 6 inches above the well screen, and sealed with approximately 2 feet of bentonite and a concrete cap. The wells were completed at the surface with flush-mounted, traffic-rated well boxes set in concrete. Each monitoring well was developed following installation by pumping with a submersible development pump until low turbidity was achieved. Between 15 and 40 gallons of water was removed from each monitoring well during development.

Soil cuttings, decontamination water, and purge water generated during drilling and well development activities were contained on the Property in labeled 55-gallon drums pending analytical results.

Supplemental Soil Borings

On February 7, 2018, Cascade, under the direction of a licensed SoundEarth geologist, advanced three additional hollow-stem auger soil borings (B12 through B14) to further delineate the lateral extent of CVOCs in soil at the Property. Boring B12 was advanced along the western Property boundary to a depth of 25 feet bgs. This boring was advanced 36.5 linear feet at an angle of 48 degrees to evaluate soil conditions beneath the west-adjoining sidewalk ROW. Borings B13 and B14 were advanced to a depth of 21.5 feet bgs along the western side of the Property to the north and south of boring B12 (Figure 2). Discrete soil samples were collected from each boring at 2.5- to 5-foot depth intervals.

Based on boring locations, field screening results, sampling depths, and observed soil characteristics, soil samples were selected from each soil boring, placed on ice in a cooler, and delivered to F&BI under standard chain-of-custody protocol for chemical analysis of CVOCs.

Soil cuttings and decontamination water generated during drilling activities were contained on the Property in labeled 55-gallon drums, pending analytical results.

Groundwater Sampling

SoundEarth collected groundwater samples from monitoring wells MW01 through MW05. A single groundwater sample was collected from MW01 on January 2, 2018. Groundwater samples from the

remaining wells were collected on January 29, 2018. On January 29, 2018, SoundEarth opened all five wells and permitted groundwater levels to equilibrate with atmospheric pressure for a minimum of 20 minutes before obtaining depth-to-water measurements. Groundwater levels were measured to an accuracy of 0.01 feet, relative to the top of well casing, using an electronic water level indicator.

Groundwater samples were collected using low-flow sampling methods. Purging and sampling of each well was performed using a peristaltic pump and dedicated polyethylene tubing at rates ranging from approximately 100 to 180 milliliters per minute. The tubing intake was placed the middle of the submerged well screen intervals. Water quality was monitored during purging using a YSI 556 water quality system, or equivalent, equipped with a flow-through cell. Turbidity was monitored using either a separate turbidimeter or a turbidimeter-equipped water quality system. Water quality parameters monitored and recorded included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential.

Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into clean, laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported to F&BI under standard chain-of-custody protocols for laboratory analysis. Samples were analyzed for CVOCs by EPA Method 8260C.

INVESTIGATION RESULTS

Soil, soil vapor, and groundwater results generated during the subsurface investigation are discussed below. Analytical data is depicted on Figures 3 and 4 and presented on Tables 1 through 3. Laboratory analytical results are included in Attachment A.

Soil Vapor Assessment

Vapor analytical results for PCE are presented on Figure 3, prepared by AGI. Additional figures depicting TCE, TPH, BTEX, and naphthalene and raw analytical data are included in Attachment B. AGI provided the contour results for selected chemicals of concern. A summary of the soil vapor analytical results is provided below:

- Relatively low concentrations of tetrachloroethene (PCE) were detected in 5 sample locations, with a mass ranging from 0.04 to 5.12 micrograms (µg), relative mass value. The highest detection of PCE was located in sample location G0 at 5.12 µg, located on the northwest corner of the Property.
- TCE was detected in only one sample (sample D0) with 0.04 µg relative mass value.
- Degradation products trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride were not detected in any of the soil vapor sample locations. Cis-1,2-dichloroethene (cis-1,2-DCE) was detected in one sample location (sample H4) with 0.03 µg relative mass value.
- TPH was detected in 12 of the 56 samples, with a mass ranging from 0.53 to 8.29 µg relative mass value, all at relatively low trace values.

- Benzene, toluene, total xylenes, naphthalene, 2-methylnaphthalene, acenaphthylene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene were detected in two or more samples. The relative mass values for all these constituents was less than 0.4 µg and is considered negligible.

Soil Observations and Analytical Results

Soil observed during drilling activities typically consisted of fill and/or reworked native soils consisting of silty sand to sandy silt with gravel and trace amounts of brick to depths of approximately 10 feet bgs. The fill material was underlain by soft to medium dense silt and silty clay with variable amounts of sand and thin sand lenses to a depth of approximately 30 to 40 feet bgs. Soil conditions below this depth generally consisted of medium dense to dense silt, sand, and silty sand to the maximum depth of exploration (51.5 feet bgs). Soil analytical results are depicted on Figure 4.

Soil analytical results indicated the following:

- Concentrations of PCE exceeding the MTCA Method A CUL were detected in borings B12 and TB08, located in the southwestern portion of the Property, at depths of 10.5 to 20 feet bgs. PCE concentrations were not detected above laboratory reporting limits in any other samples submitted for analysis.
- Concentrations of TCE exceeding the MTCA Method A CUL were detected in borings B12 and TB08, located in the southwestern portion of the Property, and in borings B06 and B14, located in the northwestern portion of the Property, at depths between 10.5 and 20 feet bgs.
- Degradation product cis-1,2-DCE was detected at concentrations below the applicable MTCA Method B CUL in borings B06, B12, B14, and TB08 at depths of 10.5 to 20 feet bgs.
- Trans-1,2-DCE, 1,1-dichloroethene (1,1-DCE), and vinyl chloride were not detected above laboratory reporting limits in any of the samples submitted for analysis.
- Concentrations of arsenic, chromium, and lead were detected in all soil samples submitted for analysis at concentrations below the applicable MTCA Method A CULs.

Groundwater Results

Depths to groundwater measured in wells MW01 through MW05 ranged from 5.55 feet (well MW03) to 13.65 feet (well MW04). Calculated groundwater elevation contours indicate that groundwater beneath the Property is generally flowing in a south–southeast direction at a gradient of 0.03 feet per foot (Figure 5). Groundwater analytical results from monitoring wells MW01 through MW05 indicated the following:

- Concentrations of PCE exceeding the MTCA Method A CUL were detected in monitoring wells MW01 and MW05.
- A concentration of TCE exceeding the MTCA Method A CUL was detected in monitoring well MW05. TCE in monitoring well MW01 was below the laboratory reporting limit; however, the reporting limit was raised above the CUL due to sample dilution by the laboratory.
- Concentrations of vinyl chloride exceeding the MTCA Method B CUL were detected in monitoring wells MW02 and MW05. Vinyl chloride was below the laboratory reporting limit in well MW01; however, the reporting limit was raised above the CUL due to sample dilution by the laboratory.

- A concentration of cis-1,2-DCE exceeding the MTCA Method B CUL was detected in monitoring well MW05. Cis-1,2-DCE was below the laboratory reporting limit in well MW01; however, the reporting limit was raised above the CUL due to sample dilution by the laboratory.
- Concentrations of trans-1,2-DCE and 1,1-DCE below the applicable MTCA Method B CULs were detected in monitoring well MW05.

CONCLUSIONS

Based on the results of soil sampling, concentrations of PCE and TCE were detected in soil throughout the identified area in the southwestern portion of the Property at concentrations exceeding MTCA Method A CULs at depths between 10.5 and 20 feet bgs. PCE exceeds the applicable soil CULs in an isolated area near B-1, SB01, and B01 to a depth of 32.5 feet bgs, as illustrated on Figures 4, 6, and 7. The present results, combined with the results of previous investigations, indicate that PCE exceeds the hazardous waste limit (14 mg/kg) in the areas near B-1, SB02, B01, and TB08, and exceeds the land ban limit (60 mg/kg) in borings B-1 and B01 between 17.5 and 22.5 feet bgs.

Soil samples collected along the northern and southern Property boundaries and in angled boring B12 beneath the west-adjacent sidewalk ROW indicate that PCE and TCE impacts in soil are bounded laterally. Angled boring B12 indicates that soil impacts may extend close to or just beyond the Property boundary; however, those impacts appear limited to soils between 10 to 14 feet bgs. Deeper soil samples at B06, B12, and B14 below 15 feet bgs indicate soil below the CULs. Soil impacts also do not appear to extend beyond borings B08 and B09 to the east (Figures 6 and 7).

Although the lateral extents of CVOC impacts in soil on the Property are not fully defined, PCE and TCE concentrations decrease moving to the north and east from the vicinity of SB01 and B01, where the highest concentrations were detected. Soil impacts do not appear to extend beyond the Property's southern boundary into the adjacent South Genesee Street ROW. The vertical extent of CVOC impacts above MTCA Method A CULs in boring B01 is approximately 32.5 feet bgs. A sample collected from boring B05 at 40 feet bgs, directly adjacent to boring B01, did not contain detectable concentrations of CVOCs, confirming the vertical extent of CVOC impacts in soil.

Groundwater sampling results indicate that PCE, TCE, cis-1,2-DCE, and vinyl chloride concentrations exceeding the applicable MTCA cleanup levels are present in monitoring wells MW01, MW02, and MW05. These CVOCs were not detected in monitoring wells MW03, located on the northern Property boundary, or MW04, located near the southern Property boundary, indicating that groundwater impacts are bounded to the north and south and do not extend beyond these Property boundaries. However, groundwater conditions along the western Property boundary, beneath the west-adjacent sidewalk ROW, and the southeastern extent along South Genesee Street have not been fully evaluated.

RECOMMENDATIONS

Based on the cumulative soil and groundwater data, SoundEarth recommends resolving existing data gaps to define the full extent of the contamination. We recommend additional subsurface investigation to (1) fully delineate the lateral extent of PCE concentrations above the land ban criteria of 60 mg/kg and above the hazardous waste level of 14 mg/kg; and (2) fully delineate the lateral extent of groundwater contamination to the west and southeast. Soil with PCE concentrations above 14 mg/kg is very expensive

to dispose of, with costs between $250 to $600 per ton. Consequently, we recommend advancing up to 20 direct-push soil borings to precisely delineate PCE impacts above 14 mg/kg and above 60 mg/kg in soil in the vicinity of B01. Subsurface investigation work would also include installation of up to three monitoring wells, with the contingency to install either one well within the Rainier Avenue arterial or one deep monitoring well. Proposed exploration locations are shown on Figure 8.

In addition to supplemental investigation, SoundEarth has prepared rough order of magnitude (ROM) costs for the remediation of the Property and pathway to a No Further Action determination for the Site (defined as the full vertical and lateral extent of PCE contamination). Based on available data, either soil excavation coupled with groundwater treatment, or electrical resistive heating (ERH) may be feasible remediation alternatives for the Property. Estimated costs for remediation alternatives are included in Tables 4 and 5.

The timeline for cleanup for the two remediation options, excavation with backfill and ERH treatment, are comparable. The excavation option assumes 1 year of preparation, which would include permitting, shoring design, and Washington State Department of Ecology (Ecology) reporting. Excavation activities are assumed to be 3 to 4 months, with 6 months to 1 year of residual groundwater treatment. A minimum 1 year of quarterly monitoring would be required post-remediation. The ERH option assumes one year of preparation, design, reporting to Ecology, and system installation. The critical path time component for the use of ERH would be securing a power drop from Seattle City Light, which can take up to 1 year to coordinate. System operation for ERH is assumed to be approximately 4.5 to 6.5 months, followed by a minimum 1 year of quarterly post-remediation groundwater monitoring.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report are derived, in part, from data gathered by others, and from conditions evaluated when services were performed, and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We do not warrant and are not responsible for the accuracy or validity of work performed by others, nor from the impacts of changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the use of segregated portions of this report.

Respectfully,

SoundEarth Strategies, Inc.

DRAFT

Liz Forbes, LG
Associate Geologist

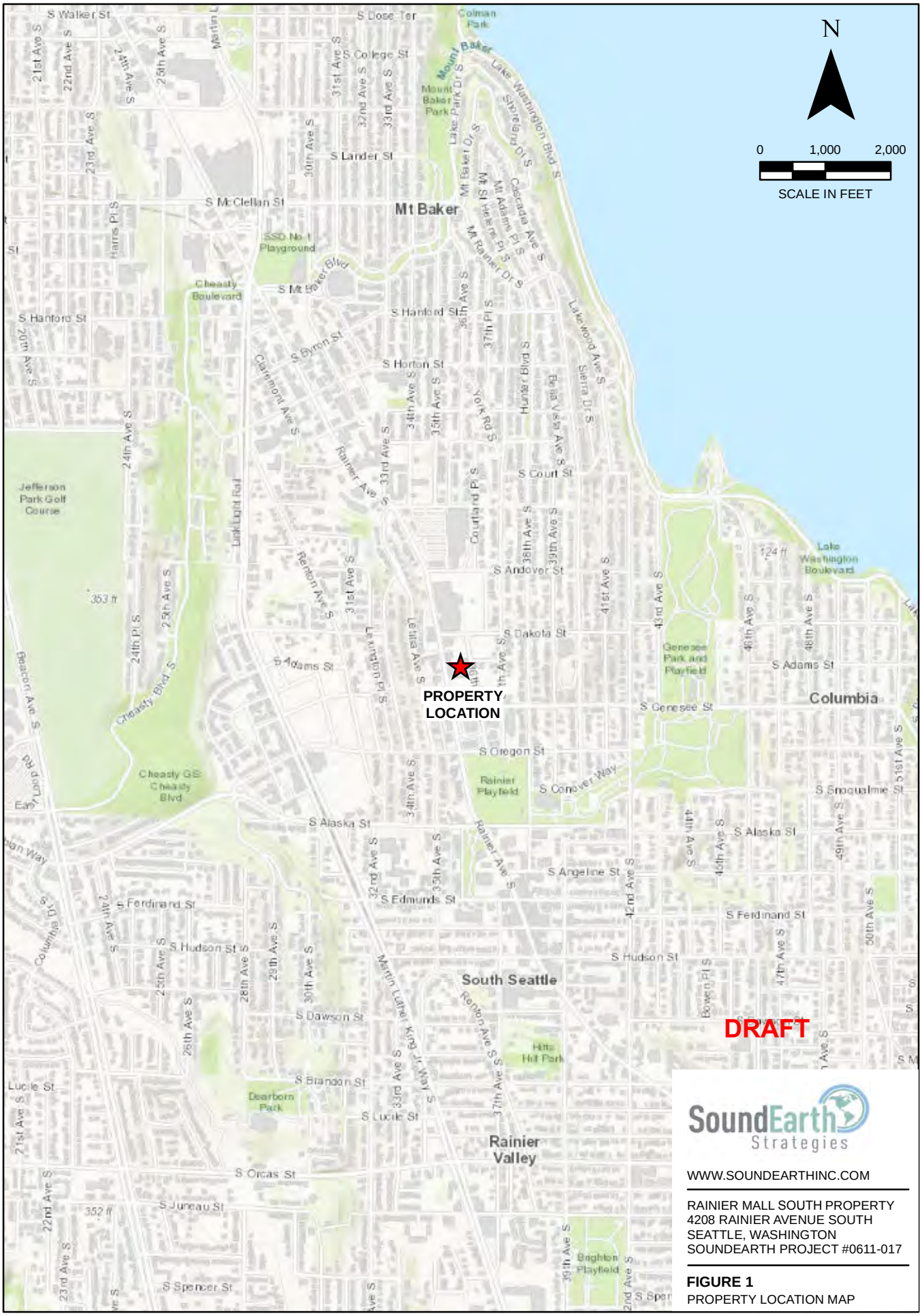
DRAFT

John Funderburk, MSPH
Principal

Attachments: Figure 1, Property Location Map
Figure 2, Exploration Location Plan
Figure 3, Tetrachloroethene
Figure 4, Soil Analytical Results
Figure 5, Groundwater Analytical Results
Figure 6, Geologic Cross Section A–A'
Figure 7, Geologic Cross Section B–B'
Figure 8, Proposed Exploration Location Plan
Table 1, Summary of Soil Analytical Results for CVOCs
Table 2, Soil Analytical Results for Total Metals
Table 3, Summary of Groundwater Analytical Results for CVOCs
Table 4, Preliminary Cleanup Estimate, Cost Estimate for MTCA Cleanup—Soil Removal
Table 5, Preliminary Cleanup Estimate, Cost Estimate for MTCA Cleanup—ERH Treatment
A, Laboratory Analytical Results
Friedman & Bruya, Inc #801003
Friedman & Bruya, Inc #801404
Friedman & Bruya, Inc #801364 and Additional
Friedman & Bruya, Inc #801365
Friedman & Bruya, Inc #801366 and Additional
Friedman & Bruya, Inc #801370 and Additional
Friedman & Bruya, Inc #801371 and Additional
Friedman & Bruya, Inc #801363
B, AGI Report

EBF/JRF:dnm

FIGURES



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RAINIER MALL SOUTH PROPERTY
4208 RAINIER AVENUE SOUTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0611-017

FIGURE 1
PROPERTY LOCATION MAP

3/2/2018

P:\0611 INTRACORP PROPERTIES\0611-017 RAINIER MALL\TECHNICAL\CAD\2018\0611-017_2018_EL.DWG

N

0 15 30

APPROXIMATE SCALE IN FEET

RAINIER MALL NORTH PROPERTY

RAINIER MALL SOUTH PROPERTY

RAINIER AVENUE SOUTH

36TH AVENUE SOUTH

SOUTH GENESEE STREET

PARKING LOT

ESTIMATED LOCATION OF FORMER DRY CLEANERS

ESTIMATED LOCATION OF FORMER DRY CLEANERS

A

A'

B

B'

TB05 TB03 TB06

B10 B-7 SB07 G0 SB06 B11 G1 B-8 B-6 G2 H2 H3 H4 H6 G3 B07/MW03 G4 G5 G6 B08 B-5 F0 F1 B14 F2 F3 F4 F5 F6 B06 B04 E0 E1 E2 E3 E4 E5 E6 B02 ROW03 D0 D1 D2 D3 D4 B03 D5 D6 SB08 B09/MW02 TB08/MW05 B12 ROW02 C0 C1 C2 SB02 C3 C4 C5 C6 MW01 SB01 SB03 B01/ MW01 B05 B0 B1 B2 B-1 B3 B4 B5 SB04 B6 B13 ROW01 TB07/MW04 B-2 B-4 A1 A2 SB05 B-3 A3 A4 A5 A6 ROW04

LEGEND

	CATCH BASIN
B07/MW03	GROUNDWATER MONITORING WELL
TB08/MW05	TERRA MONITORING WELL
SB08	PUSH-PROBE SOIL BORING
B04	HOLLOW-STEM AUGER SOIL BORING
B12	ANGLED HOLLOW-STEM AUGER SOIL BORING
B-8	SOIL BORING (HAHN AND ASSOCIATES, INC, 2000)
B05	SONIC SOIL BORING
T6	TERRA GEOTECHNICAL BORING
H6	PASSIVE SAMPLE SURVEY LOCATION
	PROPERTY BOUNDARY
	PROPOSED PROPERTY BOUNDARY
E E	UNDERGROUND ELECTRIC LINE
GAS GAS	GAS LINE
SS SS	SEWER LINE
SW SW	STORMWATER LINE
COM COM	COMMUNICATION LINE
	CROSS SECTION LOCATION

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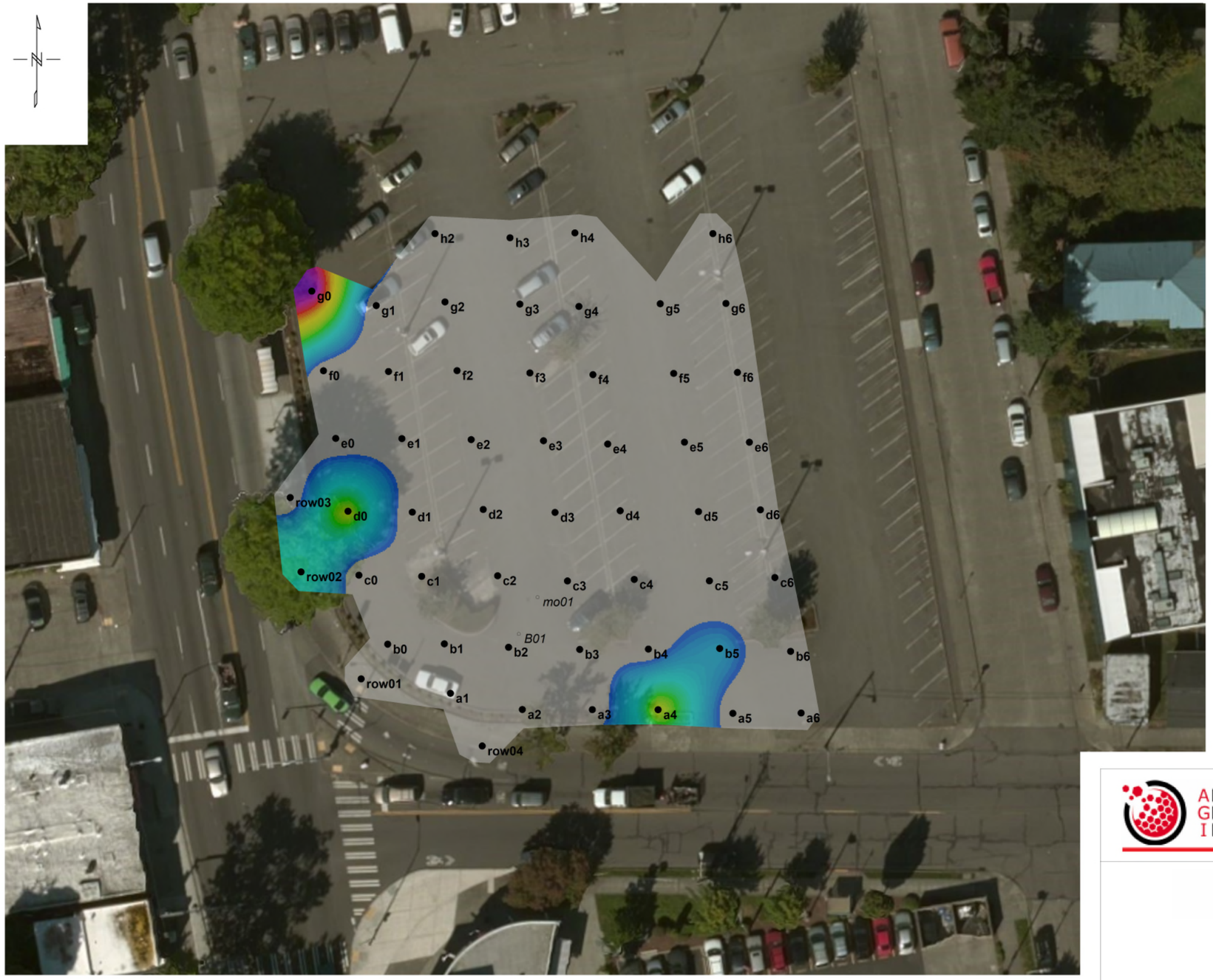
4208 RAINIER AVENUE SOUTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0611-017

FIGURE 2
EXPLORATION LOCATION PLAN

DRAFT



5.120
3.880
2.941
2.229
1.689
1.280
0.970
0.735
0.557
0.422
0.320
0.243
0.184
0.139
0.106
0.080
0.061
0.046
0.035
0.026
0.020

PCE
[µg]

Scale 1:480

25 0 25 50 75

US survey foot

NAD83 / Washington North (ftUS)

DRAFT

AMPLIFIED GEOCHEMICAL IMAGING, LLC
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PHONE: +1-302-266-2428
FAX: +1-302-266-2429
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FIGURE 3

Rainier Mall
Tetrachloroethene

DATE DRAWN: 22 JAN 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 01935	

Well/Boring ID	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram) PCE	TCE
B-1	06/28/00	19.5	83.3	0.272
B-3	06/28/00	4.5	<0.005	<0.005
B-6	06/29/00	7.0	<0.005	<0.005
B-8	06/29/00	4.5	<0.005	<0.005
SB01	01/18/17	5.0	<0.025	<0.02
		10.0	<0.025	<0.02
		20.0	29	0.31
		22.5	1.8	<0.02
		24.5	<0.025	<0.02
SB02	01/18/17	5.0	<0.025	<0.02
		10.0	<0.025	<0.02
		12.5	<0.025	<0.02
		16.0	4.1	2.2
SB03	01/18/17	12.5	<0.025	<0.02
		16.0	<0.025	<0.02
SB04	01/18/17	5.0	<0.025	<0.02
		12.5	<0.025	<0.02
		16.0	<0.025	<0.02
SB05	01/18/17	5.0	<0.025	<0.02
		12.5	<0.025	<0.02
		16.0	<0.025	<0.02
SB06	01/18/17	10.0	<0.025	<0.02
		24.0	<0.025	<0.02
SB07	01/18/17	10.0	<0.025	<0.02
		16.0	<0.025	<0.02
SB08	01/18/17	5.0	<0.025	<0.02
		10.0	<0.025	<0.02
		12.5	<0.025	0.29
		16.0	7.1	8.6
B01/MW01	02/09/17	12.5	<0.025	<0.02
		17.5	58	0.45
		20.0	510	0.33
		22.5	20	0.28
		27.5	0.40	0.073
		32.5	0.31	<0.02
		35.0	0.049	<0.02
B02	02/09/17	10.0	<0.025	<0.02
		15.0	0.085	4.9
		20.0	<0.025	<0.02
B03	02/10/17	12.5	<0.025	<0.02
		15.0	<0.025	<0.02
		17.5	0.36	1.5
		20.0	0.67	0.57
		22.5	<0.025	<0.02
B04	02/10/17	10.0	<0.025	<0.02
		12.5	<0.025	0.10
		17.5	<0.025	<0.02
B05	03/22/17	40.0	<0.025	<0.02
B06	01/26/18	13	<0.025	0.097
		15	<0.025	0.19
		20	<0.025	<0.02
		50	<0.025	<0.02
B07	01/25/18	12.5	<0.025	<0.02
		20	<0.025	<0.02
B08	01/25/18	15	<0.025	<0.02
		20	<0.025	<0.02
B09	01/25/18	17.5	<0.025	<0.02
		20	<0.025	<0.02
B11	01/26/18	15	<0.025	<0.02
B12	02/07/18	10.5-11.5	1.2	3.1
		14-15	0.097	0.023
		17-18	<0.025	<0.02
		20-21	<0.025	<0.02
B13	02/07/18	15	<0.025	<0.02
B14	02/07/18	15	<0.025	0.13
TB01	01/24/18	15	<0.025	<0.02
TB02	01/24/18	15	<0.025	<0.02
TB07	01/26/18	15.0	<0.025	<0.02
		20	<0.025	<0.02
TB08	01/26/18	10.0	<0.025	<0.02
		12.5	0.46	0.55
		17.5	24	1.7
		20.0	2.0	0.17
		25	<0.025	<0.02
MTCA Cleanup Level for Soil			0.05	0.03

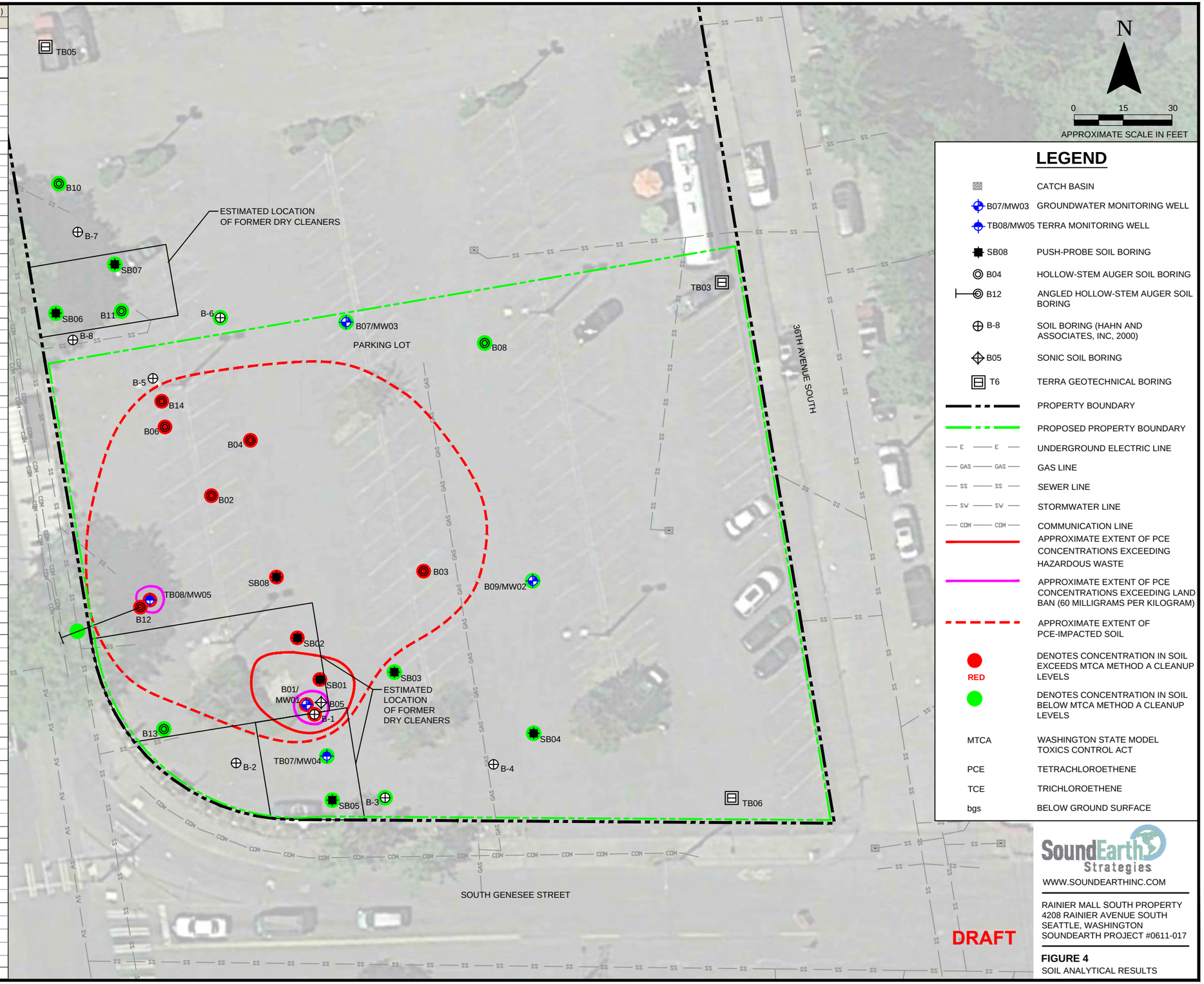

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FIGURE 4
SOIL ANALYTICAL RESULTS

3/2/2018
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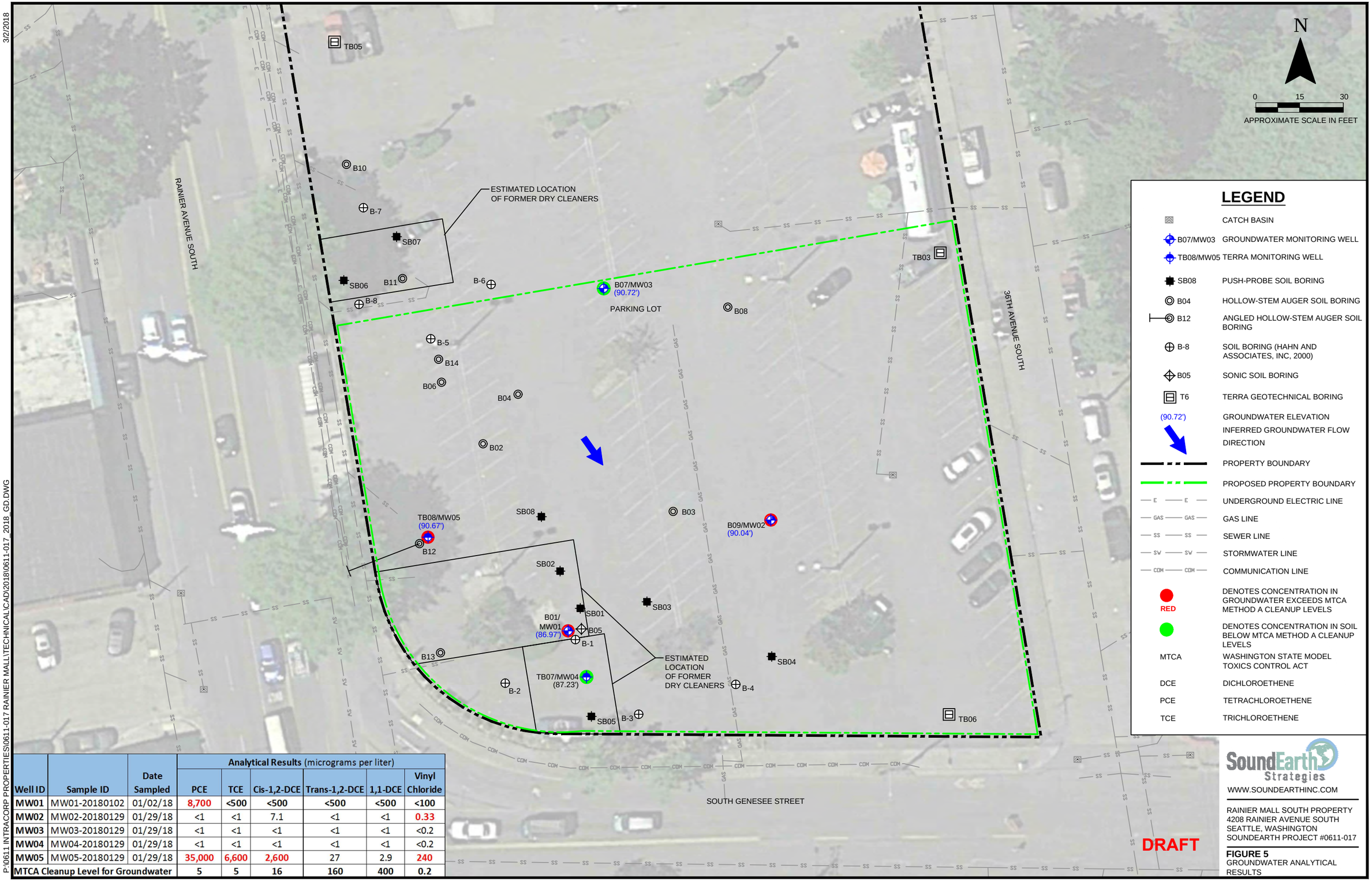

LEGEND

	CATCH BASIN
B07/MW03	GROUNDWATER MONITORING WELL
TB08/MW05	TERRA MONITORING WELL
SB08	PUSH-PROBE SOIL BORING
B04	HOLLOW-STEM AUGER SOIL BORING
B12	ANGLED HOLLOW-STEM AUGER SOIL BORING
B-8	SOIL BORING (HAHN AND ASSOCIATES, INC, 2000)
B05	SONIC SOIL BORING
T6	TERRA GEOTECHNICAL BORING
(90.72')	GROUNDWATER ELEVATION
	INFERRED GROUNDWATER FLOW DIRECTION
	PROPERTY BOUNDARY
	PROPOSED PROPERTY BOUNDARY
	UNDERGROUND ELECTRIC LINE
	GAS LINE
	SEWER LINE
	STORMWATER LINE
	COMMUNICATION LINE
RED	DENOTES CONCENTRATION IN GROUNDWATER EXCEEDS MTCA METHOD A CLEANUP LEVELS
	DENOTES CONCENTRATION IN SOIL BELOW MTCA METHOD A CLEANUP LEVELS
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
DCE	DICHLOROETHENE
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE

Well ID	Sample ID	Date Sampled	Analytical Results (micrograms per liter) PCE	TCE	Cis-1,2-DCE	Trans-1,2-DCE	1,1-DCE	Vinyl Chloride
MW01	MW01-20180102	01/02/18	8,700	<500	<500	<500	<500	<100
MW02	MW02-20180129	01/29/18	<1	<1	7.1	<1	<1	0.33
MW03	MW03-20180129	01/29/18	<1	<1	<1	<1	<1	<0.2
MW04	MW04-20180129	01/29/18	<1	<1	<1	<1	<1	<0.2
MW05	MW05-20180129	01/29/18	35,000	6,600	2,600	27	2.9	240
MTCA Cleanup Level for Groundwater			5	5	16	160	400	0.2

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FIGURE 5
GROUNDWATER ANALYTICAL RESULTS

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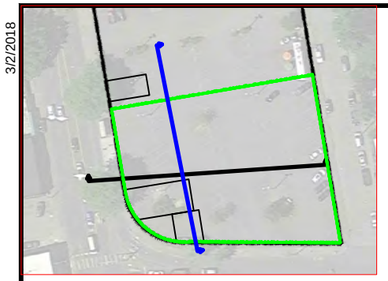

RAINIER MALL PROPERTY

PROPERTY LINE

SOUTH GENESEE STREET

A NORTH — A' SOUTH

B-6 (6' WEST) | B07/MW03 (26' EAST) | B06 (34' WEST) | B04 (4' WEST) | B02 (19' WEST) | SB08 (4' WEST) | SB02 (1' WEST) | SB01 (1' EAST) | B01/ MW01 (2' WEST) | B05 (2' EAST) | B-1 (1' WEST) | B-2 (27' WEST) | TB07/MW04 | SB05 | B-3 (15' EAST)

FEET BELOW GROUND SURFACE (bgs)

FILL

CL/ML

SM

ML

BORING TERMINATED AT 90' BELOW GROUND SURFACE

LEGEND

(6' WEST) OFFSET 6' WEST

MONITORING WELL

SCREEN INTERVAL

GROUNDWATER LEVEL

APPROXIMATE SCALE IN FEET

FILL - SILTY SAND WITH GRAVEL

CL/ML - CLAY/SILT WITH THIN SAND LENSES

SM - SILTY/ FINE TO COARSE SAND

ML - DENSE SILT

APPROXIMATE EXTENT OF PCE CONCENTRATION EXCEEDING HAZARDOUS WASTE (14 mg/kg)

APPROXIMATE EXTENT OF PCE-IMPACTED SOIL

CONCENTRATIONS OF CHEMICALS OF CONCERN IN SOIL (mg/kg):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

SOIL RESULTS (mg/Kg):

<0.025 PCE
<0.02 TCE

APPROXIMATE EXTENT OF PCE CONCENTRATION EXCEEDING LAND BAN LIMITS (60 mg/kg)

CONCENTRATIONS OF CHEMICALS OF CONCERN IN PERCHED RECONNAISSANCE GROUNDWATER SAMPLES (µg/L):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

PERCHED RECONNAISSANCE GROUNDWATER RESULTS (µg/L):

1,980 PCE
288 TCE

mg/kg	MILLIGRAMS PER KILOGRAM
µg/L	MICROGRAMS PER LITER
RED	DENOTES CONCENTRATIONS EXCEEDING MTCA METHOD A CLEANUP LEVELS
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
bgs	BELOW GROUND SURFACE

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FIGURE 6
GEOLOGIC CROSS SECTION A-A'

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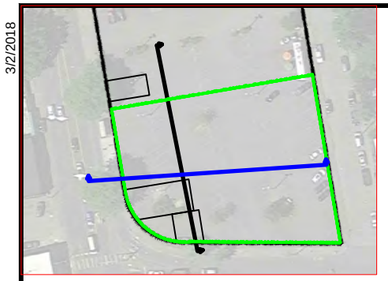

RAINIER MALL PROPERTY

B — **WEST** | **B'** — **EAST**

RAINIER AVENUE SOUTH | SIDEWALK | PROPERTY LINE

B12 | TB08/MW05 (1' SOUTH) | SB08 (3' NORTH) | SB02 (16' SOUTH) | B03 (2' NORTH) | B09/MW02 (3' SOUTH)

FEET BELOW GROUND SURFACE (bgs)

0' | 10' | 20' | 30' | 40' | 50'

APPROXIMATE SIDE SEWER LOCATION

APPROXIMATE GAS LINE LOCATION

FILL

CL/ML

SM

SM

<0.025 <0.02 | 1.2 2.1 | 0.097 0.023 | 0.48 0.55 | 24 1.7 | 2.0 0.17 | 35,000 6,600 | 0.29 | 7.1 8.6 | VC: 0.29 | 4.1 2.2 | 0.36 1.5 | 0.67 0.57 | <1 <1 | VC: 0.33

APPROXIMATE SCALE IN FEET: 0, 5, 10 | 10, 20

LEGEND

(1' SOUTH) OFFSET 1' SOUTH

MONITORING WELL

SCREEN INTERVAL

GROUNDWATER LEVEL

FILL - SILTY SAND WITH GRAVEL

CL/ML - CLAY/SILT WITH THIN SAND LENSES

SM - SILTY/ FINE TO COARSE SAND

APPROXIMATE EXTENT OF PCE CONCENTRATION EXCEEDING HAZARDOUS WASTE (14 mg/kg)

APPROXIMATE EXTENT OF PCE-IMPACTED SOIL

CONCENTRATIONS OF CHEMICALS OF CONCERN IN SOIL (mg/kg):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

SOIL RESULTS (mg/Kg):

<0.025 PCE
<0.02 TCE

CONCENTRATIONS OF CHEMICALS OF CONCERN IN PERCHED RECONNAISSANCE GROUNDWATER SAMPLES (µg/L):

- CONCENTRATION BELOW MTCA METHOD A CLEANUP LEVEL
- CONCENTRATION ABOVE MTCA METHOD A CLEANUP LEVEL

PERCHED RECONNAISSANCE GROUNDWATER RESULTS (µg/L):

1,980 PCE
288 TCE

mg/kg	MILLIGRAMS PER KILOGRAM
µg/L	MICROGRAMS PER LITER
RED	DENOTES CONCENTRATIONS EXCEEDING MTCA METHOD A CLEANUP LEVELS
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
bgs	BELOW GROUND SURFACE
VC	VINYL CHLORIDE

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FIGURE 7
GEOLOGIC CROSS SECTION B-B'

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N

0 15 30

APPROXIMATE SCALE IN FEET

TB05
B10
B-7
ESTIMATED LOCATION OF FORMER DRY CLEANERS
SB07
SB06
B11
B-6
B-8
B07/MW03
PARKING LOT
B08
TB03
B-5
B14
B06
B04
B02
RAINIER AVENUE SOUTH
36TH AVENUE SOUTH
TB08/MW05
B12
SB08
B03
B09/MW02
SB02
SB03
ESTIMATED LOCATION OF FORMER DRY CLEANERS
B01/MW01
SB01
B05
B-1
B13
SB04
B-2
TB07/MW04
B-4
SB05
B-3
TB06
SOUTH GENESEE STREET

LEGEND

- CATCH BASIN
- PROPOSED MONITORING WELL
- PROPOSED CONTINGENCY MONITORING WELL
- PROPOSED SOIL BORING
- B07/MW03 GROUNDWATER MONITORING WELL
- TB08/MW05 TERRA MONITORING WELL
- SB08 PUSH-PROBE SOIL BORING
- B04 HOLLOW-STEM AUGER SOIL BORING
- B12 ANGLED HOLLOW-STEM AUGER SOIL BORING
- B-8 SOIL BORING (HAHN AND ASSOCIATES, INC, 2000)
- B05 SONIC SOIL BORING
- T6 TERRA GEOTECHNICAL BORING
- PROPERTY BOUNDARY
- PROPOSED PROPERTY BOUNDARY
- E — E — UNDERGROUND ELECTRIC LINE
- GAS — GAS — GAS LINE
- SS — SS — SEWER LINE
- SW — SW — STORMWATER LINE
- CDM — CDM — COMMUNICATION LINE

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SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0611-017

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FIGURE 8
PROPOSED EXPLORATION LOCATION PLAN

TABLES

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Table 1
Summary of Soil Analytical Results for CVOCs
Rainier Mall South Property
Seattle, Washington

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Well/Boring ID	Sample ID	Date Sampled	Depth (feet bgs)	Analytical Results[1] (milligrams per kilogram)					
				Tetrachloroethene	Trichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl Chloride
TB01	TB01-15	01/24/18	15	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
TB02	TB02-15	01/24/18	15	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
TB07	TB07-05	01/26/18	5	<0.025	<0.02	<0.05	--	<0.05	<0.05
	TB07-15		15.0	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	TB07-20		20	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	TB07-30		30	<0.025	<0.02	<0.05	--	<0.05	<0.05
TB08	TB08-10	01/26/18	10.0	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	TB02-12.5		12.5	**0.46**	**0.55**	0.21	--	<0.05	<0.05
	TB08-17.5		17.5	**24**	**1.7**	0.45	--	<0.05	<0.05
	TB08-20		20.0	**2.0**	**0.17**	0.06	--	<0.05	<0.05
	TB08-25		25	<0.025	<0.02	<0.05	--	<0.05	<0.05
B06	B06-12.5	01/26/18	13	<0.025	**0.097**	0.15	--	<0.05	<0.05
	B06-15		15	<0.025	**0.19**	0.47	<0.05	<0.05	<0.05
	B06-20		20	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	B06-50		50	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
B07	B07-12.5	01/25/18	12.5	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	B07-20		20	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
B08	B08-15	01/25/18	15	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	B08-20		20	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
B09	B09-17.5	01/25/18	17.5	<0.025	<0.02	<0.05	--	<0.05	<0.05
	B09-20		20	<0.025	<0.02	<0.05	--	<0.05	<0.05
B10	B10-2.5	01/26/18	2.5	<0.025	<0.02	--	--	<0.05	<0.05
B11	B11-15	01/26/18	15	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
B12	B12-10.5	02/07/18	10.5-11.5	**1.2**	**3.1**	0.88	<0.05	<0.05	<0.05
	B12-14		14-15	**0.097**	**0.023**	<0.05	<0.05	<0.05	<0.05
	B12-17		17-18	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
	B12-20		20-21	<0.025	<0.02	<0.05	--	<0.05	<0.05
B13	B13-15	02/07/18	15	<0.025	<0.02	<0.05	<0.05	<0.05	<0.05
B14	B14-15	02/07/18	15	<0.025	**0.13**	0.40	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil				**0.05**[2]	**0.03**[2]	**160**[3]	**1,600**[3]	**4,000**[3]	**0.67**[4]

NOTES:

Red denotes concentration exceeds MTCA cleanup level for soil.

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

[1]Samples analyzed by EPA Method 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Noncancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Cancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed/not applicable

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

MTCA = Washington State Model Toxics Control Act

VOC = volatile organic compound

WAC = Washington Administrative Code

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Table 2
Summary of Soil Analytical Results for Total Metals
Rainier Mall South Property
Seattle, Washington

DRAFT

Well/Boring ID	Sample ID	Date Sampled	Depth (feet bgs)	Analytical Results[1] (milligrams per kilogram)							
				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
TB01	TB01-05	01/24/18	5	2.54	--	<1	18.8	4.82	<1	--	--
TB03	TB03-05	01/24/18	5	2.39	--	<1	28.2	4.26	<1	--	--
TB04	TB04-05	01/26/18	5	1.79	--	<1	12.1	8.10	<1	--	--
B06	B06-05	01/26/18	5	6.73	--	<1	18.0	8.81	<1	--	--
B09	B09-05	01/26/18	5	3.17	--	<1	26.8	4.06	<1	--	--
MTCA Cleanup Level for Soil				**20**[2]	**16,000**[3]	**2**[2]	**2,000**[2]	**250**[2]	**2**[2]	**400**[3]	**400**[3]

NOTES:

Sample analyses conducted by Friedman & Bruya, Inc. of Seattle, Washington.

Red denotes concentration exceeds MTCA cleanup level for soil.

[1]Samples analyzed by EPA Method 6020A.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Noncancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed/not applicable

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = United States Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

RCRA = Resource Conservation and Recovery Act

WAC = Washington Administrative Code

SoundEarth Strategies

Table 3
Summary of Groundwater Analytical Results for CVOCs
Rainier Mall South Property
Seattle, Washington

DRAFT

Well ID	Sample ID	Date Sampled	Analytical Results[1] (micrograms per liter)					
			Tetrachloroethene	Trichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl Chloride
MW01	MW01-20180102	01/02/18	**8,700**	**<500**	**<500**	**<500**	**<500**	**<100**
MW02	MW02-20180129	01/29/18	<1	<1	7.1	<1	<1	**0.33**
MW03	MW03-20180129	01/29/18	<1	<1	<1	<1	<1	<0.2
MW04	MW04-20180129	01/29/18	<1	<1	<1	<1	<1	<0.2
MW05	MW05-20180129	01/29/18	**35,000**	**6,600**	**2,600**	27	2.9	**240**
MTCA Cleanup Level for Groundwater			**5**[2]	**5**[2]	**16**[3]	**160**[3]	**400**[3]	**0.2**[2]

NOTES:

Sample analyses conducted by Friedman and Buyra, Inc. of Seattle, Washington.

Red denotes concentration exceeds MTCA cleanup level for groundwater.

[1]Samples analyzed by U.S. Environmental Protection Agency Method 8260C.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 720-1 Method A Cleanup Levels for Groundwater, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non cancer, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

< = not detected at a concentration exceeding the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

MTCA = Washington State Model Toxics Control Act

VOC = volatile organic compound

WAC = Washington Administrative Code

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Table 4
Preliminary Cleanup Estimate
Cost Estimate for MTCA Cleanup - Soil Removal
Rainier Mall South Property
4208 Rainier Avenue South
Seattle, Washington

REMEDIATION PLAN DESCRIPTION AND MAJOR COMPONENTS

Base Remediation Plan assumes that extent of PCE contained-in soil to be further defined; includes partially shored excavation to remove PCE-impacted soil to an approximate depth of 25 feet; additional depth of removal in source area with backfill, dewater, treat, and dispose of impacted groundwater during construction excavation; design and installation of groundwater treatment system as part of footing drain, and foundation drainage, to collect and treat residual PCE/TCE contaminated groundwater with activated charcoal through filtering, testing, and discharge to Storm Sewer Main via NPDES Permit. Main components are:

- Install shoring along the southwest corner of Property to facilitate impacted soil removal from 15 to 25 feet or to 35 feet in source area around B-1.
- Segregate top 10 to 12 feet as non-impacted soil for disposal or reuse; prepare Ecology contained-in determination to manage PCE concentrations from 0.05-14 mg/kg for disposal as Class 3 at Subtitle D landfill; segregate dangerous waste soil (PCE concentrations from 14-60 mg/kg) from land banned waste (PCE concentration > 60 mg/kg) to be disposed of at a Subtitle C landfill.
- Dewater perched groundwater at depths of 10 to 35 feet below ground surface (bgs) during remedial excavation work. Convert permanent drainage into collection/treatment system.
- Backfill and compact areas of overexcavation to development subgrade with imported structural fill.
- Horizontal Vapor Barrier (Vapor Block™ Plus 20) to prevent vapor intrusion from residual chlorinated solvents in groundwater.

	TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS	TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
TASK 1 - Analysis, Investigation, Pre-Remedial Design and Engineering					
1.1	Additional Delineation of Groundwater - Installation of 3 Monitoring Wells	$17,910	$50,500	$68,410	Potential for Ecology closure to require additional deep borings to attempt to find regional groundwater. Assumes 1 groundwater monitoring wells installed to depth of 30 ft bgs, 3 deep wells.
1.2	Additional Soil Delineation - Lateral Extent - 4 Days with Push-Probe	$12,330	$24,360	$36,690	Assumes advancing up to 20 soil borings to 25 feet bgs.
1.3	Contained-In Determination Process with Ecology	$3,610	$0	$3,610	
1.4	Data Evaluation and System Design for Hazardous Waste	$8,500	$0	$8,500	Cost benefit analysis of AS/SVE to treat land ban PCE soil area.
1.5	Preliminary Remedial Eng. Design for Remedial Excavation, Dewatering and Residual GW Treatment	$10,000	$0	$10,000	Remediation is independent from development, structural input.
1.6	Permit Application Support and DCI Fees - Environmental Component	$8,000	$3,000	$11,000	
1.7	Geotechnical Analysis, Structural Analysis, and Survey Update for Excavation and Shoring Design	$2,500	$20,000	$22,500	
1.8	Grading Permit and DCI Bond and Fees for ROW Easement and Permitting	$16,000	$24,000	$40,000	Grading permit may take 6 to 9 months, depending on DCI.
1.90	Project Management and Administrative Support for Task - For 3 Months	$6,000	$0	$6,000	
1.10	Interface with General Contractor and Architect, DPD/Permit Issues & Follow Ups	$6,662	$8,025	$14,687	
	TASK 1 TOTAL:	**$91,512**	**$129,885**	**$221,397**	
TASK 2 - Regulatory Documents - Requirements under MTCA					
2.1	Remedial Investigation (RI) Report	$15,000	$0	$15,000	RI using existing data for characterization of Property issues, not Site.
2.2	Feasibility Study (FS) / Disproportionate Cost Analysis (DCA)	$20,000	$0	$20,000	
2.3	Cleanup Action Plan (CAP)	$18,000	$0	$18,000	Soil excavation with shoring, excavation dewatering, and post excavation groundwater treatment.
2.4	Project Management and Administrative Support for Task (Initial Submittals)	$6,000	$0	$6,000	
	TASK 2 TOTAL:	**$59,000**	**$0**	**$59,000**	

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Table 4
Preliminary Cleanup Estimate
Cost Estimate for MTCA Cleanup - Soil Removal
Rainier Mall South Property
4208 Rainier Avenue South
Seattle, Washington

TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS		TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
TASK 3 - Ecology Regulatory Process - VCP Approval of RI - CAP For Source Removal					
3.1	Voluntary Cleanup Program (VCP) Application & Support Documents	$3,500	$0	$3,500	
3.2	Ecology Correspondence, Meetings, and Regulatory Review Fees	$4,000	$8,000	$12,000	
3.3	Project Management and Administrative Support for Task (3 Months)	$5,500	$0	$5,500	
	TASK 3 TOTAL:	**$13,000**	**$8,000**	**$21,000**	
TASK 4 - Remedial Action Planning, Preparation, Permitting, & Contracting (2018)					
4.1	Health and Safety Plan	$1,500	$0	$1,500	
4.2	Contaminated Soil Management and Water Treatment Plan (CSMP)	$6,000	$0	$6,000	
4.3	Excavation Dewatering Engineering Design and Treatment Plan	$5,500	$0	$5,500	
4.4	King County Discharge Authorization for Contaminated GW to Metro Sewer	$3,000	$2,200	$5,200	
4.5	DPD Side Sewer Permit	$2,000	$1,000	$3,000	
4.6	Traffic Control Plan / Truck Route Plan	$1,000	$1,500	$2,500	
4.7	Temporary Erosion Control and Stormwater Management Plan, Construction SWPPP	$7,500	$0	$7,500	
4.8	Street Use Permit & DPD Fees for Loading PCS from Deep Excavation	$2,500	$4,000	$6,500	
4.9	Air Discharge Permit for AS/SVE from PSCAA	$4,000	$2,000	$6,000	
4.1	Project Management and Administrative Support for Task (1 Months)	$3,000	$0	$3,000	
	TASK 4 TOTAL:	**$36,000**	**$10,700**	**$46,700**	
TASK 5 - Remedial Action - Field Components (2019; 2 Months)					
5.1	Installation and Operation of AS/SVE System to treat Land Ban/Hazardous Waste PCE	$30,000	$65,000	$95,000	AS/SVE to treat soil, with goal to achieve PCE concentrations below 14 mg/kg. System contingent upon final estimated volumes of PCE concentrations above 14 mg/kg.
5.2	Mobilization, Demobilization, and Site Security for Remediation Period	$5,000	$10,000	$15,000	
5.3	Traffic Control, Flaggers and Signage for Remediation Period	$1,000	$6,500	$7,500	
5.4	Utility Locates, Disconnects & Capping	$1,500	$5,000	$6,500	
5.5	Asphalt Parking Cap Removal - Disposal/Recycle	$0	$10,000	$10,000	
5.6	Shoring Costs - 100 Linear ft W Property Boundary - To a depth of 25; cost w/ no mark up at $85/exposed facing sf	$0	$212,500	$212,500	Assumed that 100 linear feet will extend to a depth of 25 feet bgs; with slope cut for deeper impacts; resulting in 2,500 exposed facing square feet.
5.7	Non-Impacted Overburden Soil Removal within Remediation Area Unit Cost Assumed for handling and stockpiling at $5/ton	$0	$64,800	$64,800	Approximately 7,200 cu yards or 12,960 tons of soil. Assumes soil can be reused.
5.8	Remedial Excavation from approximate depth of 0 feet to 32 feet	$181,760	$47,760	$229,520	Field Labor, Equipment, Laboratory Expenses for 3.5 Months (14 weeks).

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Seattle, Washington

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		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
5.9	Remedial Excavation - Soil Handling from 12 to 32 feet Unit Cost Assumed for excavation, handling, loading of soil at $12/ton	$0	$124,800	$124,800	Contractor costs; no mark up. If redevelopment is deeper than a portion of this would be attributed to redevelopment costs. Assumes **12/ton** handling.
5.10	Contained-In Soil - PCE Concentrations 0.05 to 14 mg/kg Unit Cost Assumed for transport and disposal at $75/ton (no mark up/direct bill owner) Approximate Volume: **7,000** tons	$0	$450,000	$450,000	No incremental cost assumed; if redevelopment is deeper then the cost of $17/ton for transport and disposal would be deducted and remaining $58/ton would be the incremental cost to owner.
5.11	Hazardous Waste Soil - PCE Concentrations 14 to 60 mg/kg Unit Cost Assumed for transport and disposal at $250/ton (no mark up/direct bill owner) Approximate Volume: **400** tons	$0	$100,000	$100,000	No incremental cost assumed; if redevelopment is deeper then the cost of $17/ton for transport and disposal would be deducted and remaining $233/ton would be the incremental cost to owner.
5.12	Land Banned Soil - PCE Concentrations > 60 mg/kg Unit Cost Assumed for transport and disposal at $600/ton (no mark up/direct bill owner) Approximate Volume: **200** tons	$0	$120,000	$120,000	No incremental cost assumed; if redevelopment is deeper then the cost of $17/ton for transport and disposal would be deducted and remaining $583/ton would be the incremental cost to owner.
5.13	Temporary Construction Excavation Dewatering, Treatment & Disposal of Perched GW (4 Weeks)	$9,600	$65,000	$74,600	GW encountered below planned redevelopment is considered a remedial cost.
5.14	Geotechnical Inspection, Surveying and Oversight for Deep Excavation and Shoring	$0	$20,000	$20,000	Pro-Rata portion for Remedial Excavation (12' to 25' bgs).
5.15	Backfill Remedial Excavation - from 12 to 30 feet bgs w/ Structural Backfill @ $35/ton (no mark up), reusing clean overburden soil in upper 0 to 12 feet at $5/ton handling	$3,500	$359,600	$363,100	Assumed area to backfill is equivalent to remedial plus overburden tonnage removed = 20,560 tons. Assumes upper 12,000 tons at $5/ton for handling, no compaction.
5.16	Groundwater Treatment System - Injection system installation and injection events	$40,000	$80,000	$120,000	Injecton system for residual groundwater treatment.
5.17	Install Vapor Intrusion (VI) Barrier Membrane Below Building Slab(s) @ $7/SF; Inspect	$6,000	$140,000	$146,000	Entire lot coverage - 101,550 sf; assumes partial coverage in SW corner of Property for 20,000 sf; direct cost does not include mark up.
5.18	Project Management and Administrative Support for Task (2 Months Remedial Period)	$8,000	$0	$8,000	
	TASK 5 TOTAL:	**$286,360**	**$1,880,960**	**$2,167,320**	
TASK 6 - Post Remedial Action Monitoring Reporting (2019)					
6.1	Install 4 Post-Excavation Groundwater Monitoring Wells	$18,000	$29,000	$47,000	
6.2	Report GW Quarterly Monitoring (1 Year) to Ecology and provide Interim Cleanup Action Report	$22,400	$6,400	$28,800	
6.2	Project Management and Administrative Support for Task	$5,000	$0	$5,000	Quarterly for 2 years (8 Events).
	TASK 6 TOTAL:	**$45,400**	**$35,400**	**$80,800**	
TASK 7 - Contingency for Additional Groundwater Compliance Monitoring (2 Years: 2020 –2021)					
7.1	Semiannual Groundwater Monitoring (5 Wells over 2 Years) 4 Events	$22,000	$6,400	$28,400	
7.2	Project Management and Administrative Support for Task (Semi Annual for 2 Years) 4 Events	$6,000	$1,200	$7,200	
	TASK 7 TOTAL:	**$28,000**	**$7,600**	**$35,600**	

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Rainier Mall South Property
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Seattle, Washington

TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS		TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
TASK 8 - Project Documentation, Management and Closeout2 Years: 2020 - 2021)					
8.1	Request for Opinion from Ecology MTCA Program	$3,200	$4,000	$7,200	
8.2	Well Decommissioning (5 Wells) @ $1,000/well	$1,000	$5,000	$6,000	
8.3	Project Management and Administrative Support for Task (2 Years)	$12,000	$600	$12,600	
	TASK 8 TOTAL:	**$16,200**	**$9,600**	**$25,800**	

SUMMARY OF COST ESTIMATE - PROFESSIONAL FEES	**Subtotal Professional Fees and Lab Costs:**		$580,000
CONTRACTORS AND DIRECT COSTS	**Subcontractors, Analytical, Field Equipment, and ODCs:**		$2,080,000
	ESTIMATED SUBTOTAL (ROUNDED):		**$2,700,000**
	CONTINGENCY FOR GROUNDWATER ACTION AND DISCOVERY/DISPOSAL, AND INFLATION (10%)		**$300,000**
	ESTIMATED TOTAL (ROUNDED):		**$3,000,000**

COST AND BUDGET ASSUMPTIONS/LIMITATIONS	
•	Cost estimate is preliminary engineer's estimate based on experience with similar properties, using typical unit rates for similar activities.
•	Additional investigation, engineering and design work is needed, and results may produce different volumes or classes of contaminated soil material for disposal.
•	Permitting costs and fees for DCI approval will be dependent upon engineering design methods selection, and may change from indicated fees.
•	Ecology approval through VCP will be dependent upon Case Manager assignment, and on the approval of the indicated remedial alternative.
•	Budget estimated costs for transport and disposal assume owner/developer pays these costs directly, and unit rates contain no markup for General Contractor or Excavation Subcontractor.
•	Budget estimated costs for dirt transport and disposal are based on 2017 average unit rates for indicated soil classes, and Contingency covers discoveries and contractor/disposal price inflation.
•	Budget estimate contains no cost assignment against potential 3rd party liability for possible impacts in the City right-of-way (ROW).

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Table 5
Preliminary Cleanup Estimate
Cost Estimate for MTCA Cleanup - ERH Treatment
Rainier Mall South Property
4208 Rainier Avenue South
Seattle, Washington

REMEDIATION PLAN DESCRIPTION AND MAJOR COMPONENTS

Base Remediation Plan assumes treatment of 11,600 square feet of contaminated soil using electrical resistive heating (ERH). Assumes installation of 54 electrodes and system operation between 144 to 192 days. Assumes confirmation soil samples and groundwater samples collected post-treatment.

- Assumes a total treatment volume of 5,600 cubic yards of soil.
- Includes 99.9% mass PCE removal, with 120 pounds of mass removed.
- Groundwater treated during ERH and no additional groundwater remediation necessary.
- A minimum one year of groundwater monitoring post-remediation.

	TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS	TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
TASK 1 - Analysis, Investigation, Pre-Remedial Design and Engineering					
1.1	Additional Delineation of Groundwater - Installation of 3 to 4 Monitoring Wells	$17,910	$50,500	$68,410	Potential for Ecology closure to require additional deep borings to attempt to find regional groundwater. Assumes up to 3 groundwater monitoring wells installed to depth of 30 ft bgs, 1 deep well.
1.2	Additional Soil Delineation - Lateral Extent - 2 Days with Push-Probe	$12,330	$19,360	$31,690	Assumes advancing up to 10 soil borings to 25 feet bgs.
1.3	Data Evaluation and Preliminary ERH Design	$8,500	$0	$8,500	
1.4	Permit Application Support and DPD Fees	$15,000	$5,000	$20,000	
1.50	Project Management and Administrative Support for Task - For 3 Months	$9,000	$0	$9,000	
	TASK 1 TOTAL:	**$62,740**	**$74,860**	**$137,600**	
TASK 2 - Regulatory Documents - Requirements under MTCA					
2.1	Remedial Investigation (RI) Report	$18,000	$0	$18,000	RI using existing data for characterization of Property issues.
2.2	Feasibility Study (FS) / Disproportionate Cost Analysis (DCA)	$24,000	$0	$24,000	
2.3	Cleanup Action Plan (CAP)	$18,000	$0	$18,000	Electrical resistive heating with confirmation sampling.
2.4	Project Management and Administrative Support for Task (Initial Submittals)	$6,000	$0	$6,000	
	TASK 2 TOTAL:	**$66,000**	**$0**	**$66,000**	
TASK 3 - Ecology Regulatory Process - VCP Approval of RI - CAP For Source Removal					
3.1	Voluntary Cleanup Program (VCP) Application & Support Documents	$3,500	$0	$3,500	
3.2	Ecology Correspondence, Meetings, and Regulatory Review Fees	$4,000	$8,000	$12,000	
3.3	Project Management and Administrative Support for Task (3 Months)	$5,500	$0	$5,500	
	TASK 3 TOTAL:	**$13,000**	**$8,000**	**$21,000**	

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Table 5
Preliminary Cleanup Estimate
Cost Estimate for MTCA Cleanup - ERH Treatment
Rainier Mall South Property
4208 Rainier Avenue South
Seattle, Washington

TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS		TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
TASK 4 - Remedial Action Planning, Preparation, Permitting, & Contracting (2018)					
4.1	Health and Safety Plan	$1,500	$0	$1,500	
4.2	Contaminated Media Management Plan (CMMP)	$6,000	$0	$6,000	Management plan for soil, water, and vapors generated during remediation.
4.3	Remediation System Design	$5,000	$75,000	$80,000	
4.4	Power Connection, Permits, and Associated Work	$2,000	$40,000	$42,000	Power connection may take up to 1 year, depending on local power company.
4.5	PSCAA Notice of Construction	$2,500	$0	$2,500	
4.6	Underground Injection Control Notification (Ecology)	$2,500	$0	$2,500	Notification to Ecology.
4.9	Project Management and Administrative Support for Task (1 Month)	$3,000	$0	$3,000	
	TASK 4 TOTAL:	**$22,500**	**$115,000**	**$137,500**	
TASK 5 - Remedial Action - Field Components (2019; 2 Months)					
5.1	Mobilization, Demobilization, and Site Security for Remediation Period	$5,000	$20,000	$25,000	
5.2	Electrode Materials	$0	$200,000	$200,000	Payment due before starting field work.
5.3	Subsurface System Installation	$38,000	$275,000	$313,000	Assumes installation of 54 electrodes takes 22 days to complete, includes driller costs, TRS costs, and sampling.
5.4	Installation Soil Cuttings Disposal	$7,500	$25,000	$32,500	Assumes up to 100 tons disposed of at $250/ton.
5.5	Surface Installation and System Startup	$12,500	$265,000	$277,500	Includes piping, electrical work, system set-up.
5.6	System Operation and Equipment Rentals	$45,000	$570,000	$615,000	Assumes system operation for 144 to 192 days, with average electrical heating power input of 528 kW.
5.7	Electrical Energy Usage	$0	$150,000	$150,000	Assumes for up to 2,140,000 kWh.
5.8	Off-Gas Treatment Equipment, Condensate Water Disposal, and Consumables	$0	$40,000	$40,000	Includes costs of granular activated carbon.
5.9	Equipment Demobilization and Final TRS Report	$2,500	$75,000	$77,500	
5.10	Compliance Soil Sampling	$35,000	$45,000	$80,000	
5.11	Project Management and Administrative Support for Task (8 Months Remedial Period)	$25,000	$0	$25,000	

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TASK AND NUMBER - WORK SUBTASK DESCRIPTIONS		TASK SUMMARY COSTS			ASSUMPTIONS & VOLUMES
		Professional Labor and Equipment Fees	Subcontractor Costs, Laboratory Fees, Other Direct Costs	Subtask and Task Totals	
	TASK 5 TOTAL:	**$170,500**	**$1,515,000**	**$1,835,500**	
TASK 6 - Post Remedial Action Monitoring Reporting (2019)					
6.1	Report GW Quarterly Monitoring (1 Year) to Ecology and provide Interim Cleanup Action Report	$28,400	$8,200	$36,600	
6.2	Project Management and Administrative Support for Task	$5,000	$0	$5,000	Quarterly for 2 years (8 Events).
	TASK 6 TOTAL:	**$33,400**	**$8,200**	**$41,600**	
TASK 7 - Contingency for Additional Groundwater Compliance Monitoring (2 Years: 2020 - 2022)					
7.1	Semi Annual Groundwater Monitoring (8 Wells over 2 Years) 4 Events	$23,200	$6,600	$29,800	
7.2	Project Management and Administrative Support for Task (Semi Annual for 2 Years) 4 Events	$6,000	$1,200	$7,200	
	TASK 7 TOTAL:	**$29,200**	**$7,800**	**$37,000**	
TASK 8 - Project Documentation, Management and Closeout (2 Years: 2020 - 2022)					
8.1	Request for Opinion from Ecology MTCA Program	$3,200	$4,000	$7,200	
8.2	Well Decommissioning (6 Wells) @ $1,000/well	$1,000	$6,000	$7,000	
8.3	Project Management and Administrative Support for Task (2 Years)	$12,000	$600	$12,600	
	TASK 8 TOTAL:	**$16,200**	**$10,600**	**$26,800**	

SUMMARY OF COST ESTIMATE - PROFESSIONAL FEES	**Subtotal Professional Fees and Lab Costs:**	$410,000
CONTRACTORS AND DIRECT COSTS	**Subcontractors, Analytical, Field Equipment, and ODCs:**	$1,740,000
	ESTIMATED SUBTOTAL (ROUNDED):	**$2,200,000**
NTINGENCY FOR TRS 'GUARANTEE', SUPPLEMENTAL GROUNDWATER ACTION AND SYSTEM DURATION, AND INFLATION (20%)		**$400,000**
	ESTIMATED TOTAL (ROUNDED):	**$2,600,000**

COST AND BUDGET ASSUMPTIONS/LIMITATIONS
• ERH total costs are dependent upon electrode spacing, groundwater flow, and remedial end point goals for final soil and groundwater concentrations which are not yet defined.
• Cost estimate is preliminary engineer's estimate based on experience with similar properties, using typical unit rates for similar activities.
• Additional investigation, engineering and design work is needed, and results may produce different volumes or system specifications.
• Permitting costs and fees for DCI approval will be dependent upon engineering design methods selection, and may change from indicated fees.
• Ecology approval through VCP will be dependent upon Case Manager assignment, and on the approval of the selected remedial alternative.
• Budget estimated costs for system installation assumes the owner/developer pays the TRS costs directly.
• Budget estimated costs are based on 2017 average unit rates.
• Budget estimate contains no cost assignment against potential 3rd party liability for possible impacts in the City right-of-way (ROW).

ATTACHMENT A
LABORATORY ANALYTICAL REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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January 10, 2018

Suzy Stumpf, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Stumpf:

Included are the results from the testing of material submitted on January 2, 2018 from the SOU_0611-017_ 20180102, F&BI 801003 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish
SOU0110R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 2, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180102, F&BI 801003 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801003 -01	MW01-20180102

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW01-20180102	Client:	SoundEarth Strategies
Date Received:	01/02/18	Project:	SOU_0611-017_ 20180102
Date Extracted:	01/05/18	Lab ID:	801003-01 1/500
Date Analyzed:	01/05/18	Data File:	010517.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	98	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<100
Chloroethane	<500
1,1-Dichloroethene	<500
Methylene chloride	<2,500
trans-1,2-Dichloroethene	<500
1,1-Dichloroethane	<500
cis-1,2-Dichloroethene	<500
1,2-Dichloroethane (EDC)	<500
1,1,1-Trichloroethane	<500
Trichloroethene	<500
Tetrachloroethene	8,700

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180102
Date Extracted:	01/05/18	Lab ID:	08-045 mb
Date Analyzed:	01/05/18	Data File:	010516.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	98	91	108
4-Bromofluorobenzene	101	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 01/10/18
Date Received: 01/02/18
Project: SOU_0611-017_ 20180102, F&BI 801003

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801053-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	89	61-139
Chloroethane	ug/L (ppb)	50	<1	86	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	86	71-123
Methylene chloride	ug/L (ppb)	50	<5	92	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	90	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	93	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	91	75-121
Trichloroethene	ug/L (ppb)	50	<1	92	73-122
Tetrachloroethene	ug/L (ppb)	50	<1	94	72-113

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	92	91	70-128	1
Chloroethane	ug/L (ppb)	50	89	89	66-149	0
1,1-Dichloroethene	ug/L (ppb)	50	88	88	75-119	0
Methylene chloride	ug/L (ppb)	50	97	97	63-132	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	92	93	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	93	94	77-119	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	92	76-119	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	93	78-114	1
1,1,1-Trichloroethane	ug/L (ppb)	50	91	93	80-116	2
Trichloroethene	ug/L (ppb)	50	91	93	72-119	2
Tetrachloroethene	ug/L (ppb)	50	91	93	78-109	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801003

SAMPLE CHAIN OF CUSTODY

ME 01/02/18

VW1

Page # 1 of 1

Send Report to **Suzy Stumpf, Grayson Fish**

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS *(signature)*

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #

REMARKS

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270				Notes
MW01-20180102	MW01	–	01A-G	1/2/18	1225	H_2O	7				X					
				LDS 1/2/18												

Samples received at 4 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Logan Schumacher	SES	1/2/18	1535
Received by:		Michael Erdahl	FedEx	↓	↓
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 5, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 30, 2018 from the SOU_0611-017_ 20180130, F&BI 801404 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish, Jonathan Loeffler
SOU0205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 30, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180130, F&BI 801404 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801404 -01	MW02-20180129
801404 -02	MW03-20180129
801404 -03	MW04-20180129
801404 -04	MW05-20180129

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW02-20180129	Client:	SoundEarth Strategies
Date Received:	01/30/18	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	801404-01
Date Analyzed:	01/31/18	Data File:	013112.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.33
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	7.1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW03-20180129	Client:	SoundEarth Strategies
Date Received:	01/30/18	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	801404-02
Date Analyzed:	01/31/18	Data File:	013113.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW04-20180129	Client:	SoundEarth Strategies
Date Received:	01/30/18	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	801404-03
Date Analyzed:	01/31/18	Data File:	013114.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW05-20180129	Client:	SoundEarth Strategies
Date Received:	01/30/18	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	801404-04
Date Analyzed:	01/31/18	Data File:	013115.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	92	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	200 ve
Chloroethane	<1
1,1-Dichloroethene	2.9
Methylene chloride	<5
trans-1,2-Dichloroethene	27
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1,700 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2,500 ve
Tetrachloroethene	7,500 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW05-20180129	Client:	SoundEarth Strategies
Date Received:	01/30/18	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	801404-04 1/1000
Date Analyzed:	02/01/18	Data File:	020112.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	240
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	2,600
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	6,600
Tetrachloroethene	35,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180130
Date Extracted:	01/31/18	Lab ID:	08-0213 mb
Date Analyzed:	01/31/18	Data File:	013108.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 02/05/18
Date Received: 01/30/18
Project: SOU_0611-017_ 20180130, F&BI 801404

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801398-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	104	36-166
Chloroethane	ug/L (ppb)	50	<1	117	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	103	60-136
Methylene chloride	ug/L (ppb)	50	<5	101	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	60-146
Trichloroethene	ug/L (ppb)	50	<1	98	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	99	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	106	110	50-154	4
Chloroethane	ug/L (ppb)	50	113	118	58-146	4
1,1-Dichloroethene	ug/L (ppb)	50	112	112	67-136	0
Methylene chloride	ug/L (ppb)	50	105	106	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	106	107	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	103	105	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	105	107	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	104	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	106	107	83-130	1
Trichloroethene	ug/L (ppb)	50	104	105	80-120	1
Tetrachloroethene	ug/L (ppb)	50	101	101	76-121	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801404
LIZ FORBES

SAMPLE CHAIN OF CUSTODY

ME 01/30/18

Page # 1 of 1 UW1

Send Report to ~~Suzy Stumpf~~, Grayson Fish, JON LOEFFLER

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #

REMARKS: CVOCs : PCE, TCE, 1,1-DCE, CIS-1,2-DCE, VC

TURNAROUND TIME
Standard (2 Weeks)
X RUSH 3 day TAT
Rush charges authorized by: LIZ FORBES

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	CVOCs by 8260	SVOCs by 8270				Notes
MW02-20180129	MW02	—	01	1/29/18	1400	WATER	3				X					
MW03-20180129	MW03	—	02	1/29/18	1453	WATER	3				X					
MW04-20180129	MW04	—	03	1/29/18	1601	WATER	3				X					
MW05-20180129	MW05	—	04	1/29/18	1700	WATER	3				X					

Samples received at 4 °C

1/29/18

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	JONATHAN LOEFFLER	SOUNDEARTH	1/30/18	1040
Received by:	DAVID NICACIO	FEDEX	1/30/18	1050
Relinquished by:				
Received by:	Nhan Phan	FEB I	1/30/18	1230

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 13, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801363 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher, Grayson Fish
SOU0213R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801363 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801363 -01	TB04-05
801363 -02	TB04-10
801363 -03	TB04-15
801363 -04	TB05-05
801363 -05	TB05-10
801363 -06	TB05-15
801363 -07	TB06-05
801363 -08	TB06-10
801363 -09	TB06-15

The 8260C matrix spike and matrix spike duplicate failed the relative percent difference for hexachlorobutadiene. The analyte was not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363
Date Extracted: 02/05/18
Date Analyzed: 02/05/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
TB05-05 801363-04	<5	98
Method Blank 08-231 MB	<5	99

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363
Date Extracted: 02/02/18
Date Analyzed: 02/02/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
TB05-05 801363-04	190 x	5,100	122
Method Blank 08-271 MB	<50	<250	108

Analysis For Total Metals By EPA Method 6020A

Client ID:	TB04-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/09/18	Lab ID:	801363-01
Date Analyzed:	02/09/18	Data File:	801363-01.070
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.79
Cadmium	<1
Chromium	12.1
Lead	8.10
Mercury	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/09/18	Lab ID:	I8-095 mb
Date Analyzed:	02/09/18	Data File:	I8-095 mb.050
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TB04-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	801363-01 1/5
Date Analyzed:	02/07/18	Data File:	020717.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	31	163
Benzo(a)anthracene-d12	106	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.046
Anthracene	<0.01
Fluoranthene	0.058
Pyrene	0.073
Benz(a)anthracene	0.015
Chrysene	0.028
Benzo(a)pyrene	0.022
Benzo(b)fluoranthene	0.031
Benzo(k)fluoranthene	0.012
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	08-290 mb2 1/5
Date Analyzed:	02/07/18	Data File:	020713.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	105	31	163
Benzo(a)anthracene-d12	108	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB05-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/05/18	Lab ID:	801363-04
Date Analyzed:	02/05/18	Data File:	020511.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/05/18	Lab ID:	08-218 mb2
Date Analyzed:	02/05/18	Data File:	020508.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 802022-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 802032-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	102	73-135	15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	86	74-139

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020A

Laboratory Code: 802102-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.30	88	87	75-125	1
Cadmium	mg/kg (ppm)	10	<1	88	84	75-125	5
Chromium	mg/kg (ppm)	50	8.24	81	80	75-125	1
Lead	mg/kg (ppm)	50	2.92	82	78	75-125	5
Mercury	mg/kg (ppm	5	<1	79	81	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120
Cadmium	mg/kg (ppm)	10	106	80-120
Chromium	mg/kg (ppm)	50	105	80-120
Lead	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	100	80-120

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 802035-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	88	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	86	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	87	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	86	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	86	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	81	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	87	16-160
Pyrene	mg/kg (ppm)	0.17	<0.01	89	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	91	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	94	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	91	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	97	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	85	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	87	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	86	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	83	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	88	91	58-121	3
Acenaphthylene	mg/kg (ppm)	0.17	85	88	54-121	3
Acenaphthene	mg/kg (ppm)	0.17	87	91	54-123	4
Fluorene	mg/kg (ppm)	0.17	86	89	56-127	3
Phenanthrene	mg/kg (ppm)	0.17	87	90	55-122	3
Anthracene	mg/kg (ppm)	0.17	84	86	50-120	2
Fluoranthene	mg/kg (ppm)	0.17	86	92	54-129	7
Pyrene	mg/kg (ppm)	0.17	84	91	53-127	8
Benz(a)anthracene	mg/kg (ppm)	0.17	90	95	51-115	5
Chrysene	mg/kg (ppm)	0.17	93	97	55-129	4
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	94	100	56-123	6
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	94	100	54-131	6
Benzo(a)pyrene	mg/kg (ppm)	0.17	82	84	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	86	86	49-148	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	89	50-141	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	84	84	52-131	0

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801363

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801364-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	81	69	10-138	16
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	95	79	10-160	18
Trichloroethene	mg/kg (ppm)	2.5	<0.02	103	86	21-139	18
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	111	95	20-133	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	82	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	89	47-128
Trichloroethene	mg/kg (ppm)	2.5	91	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	101	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

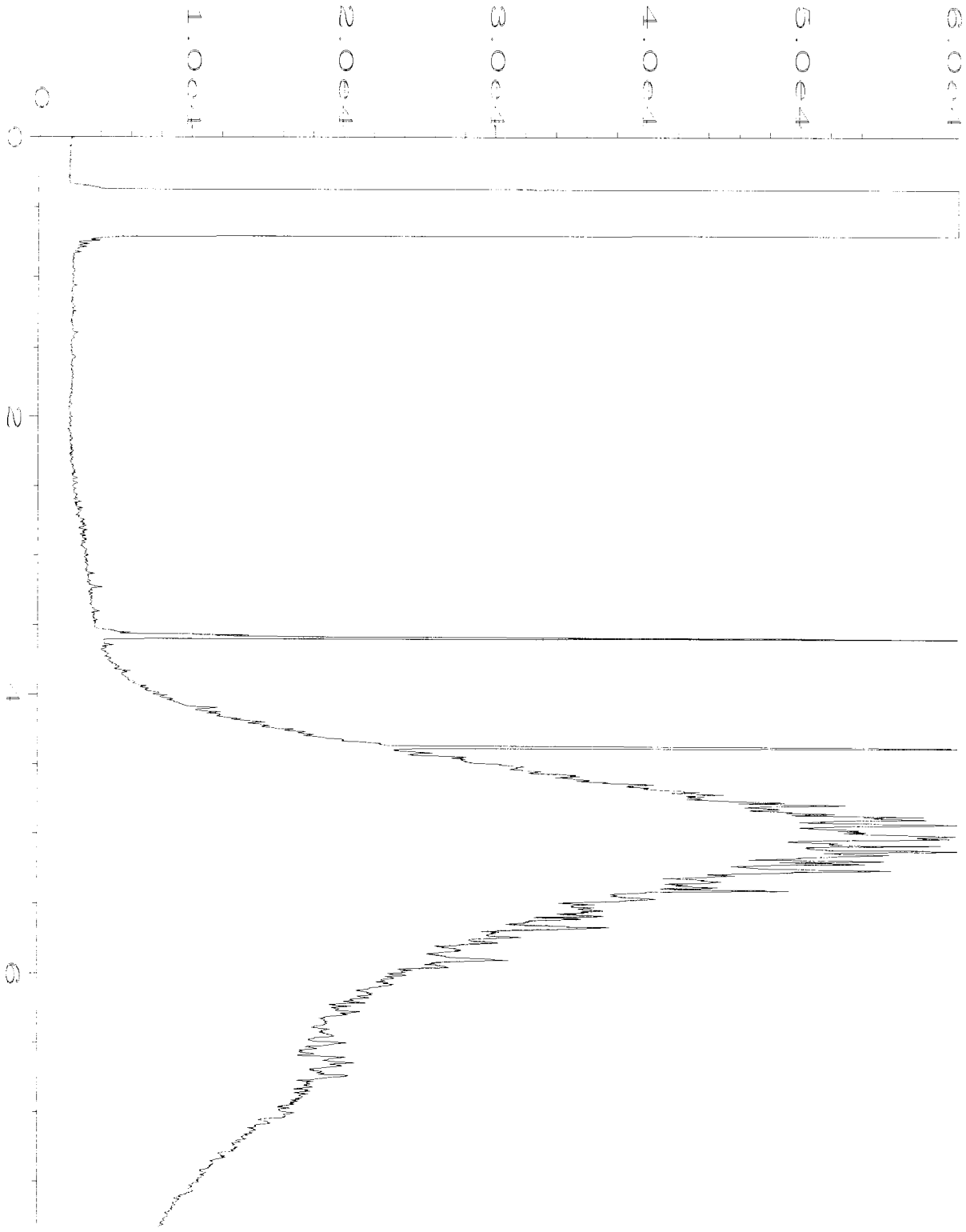
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

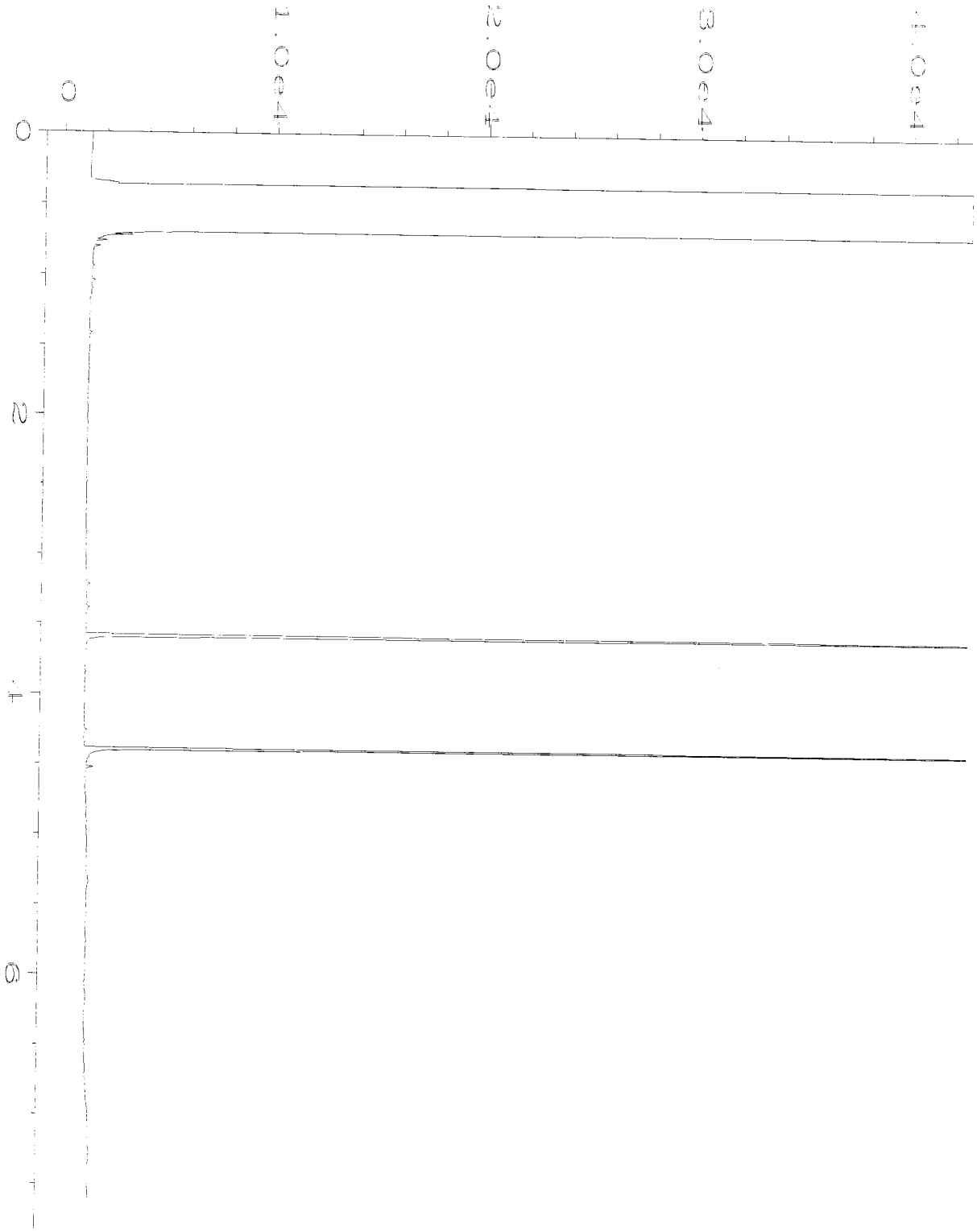
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



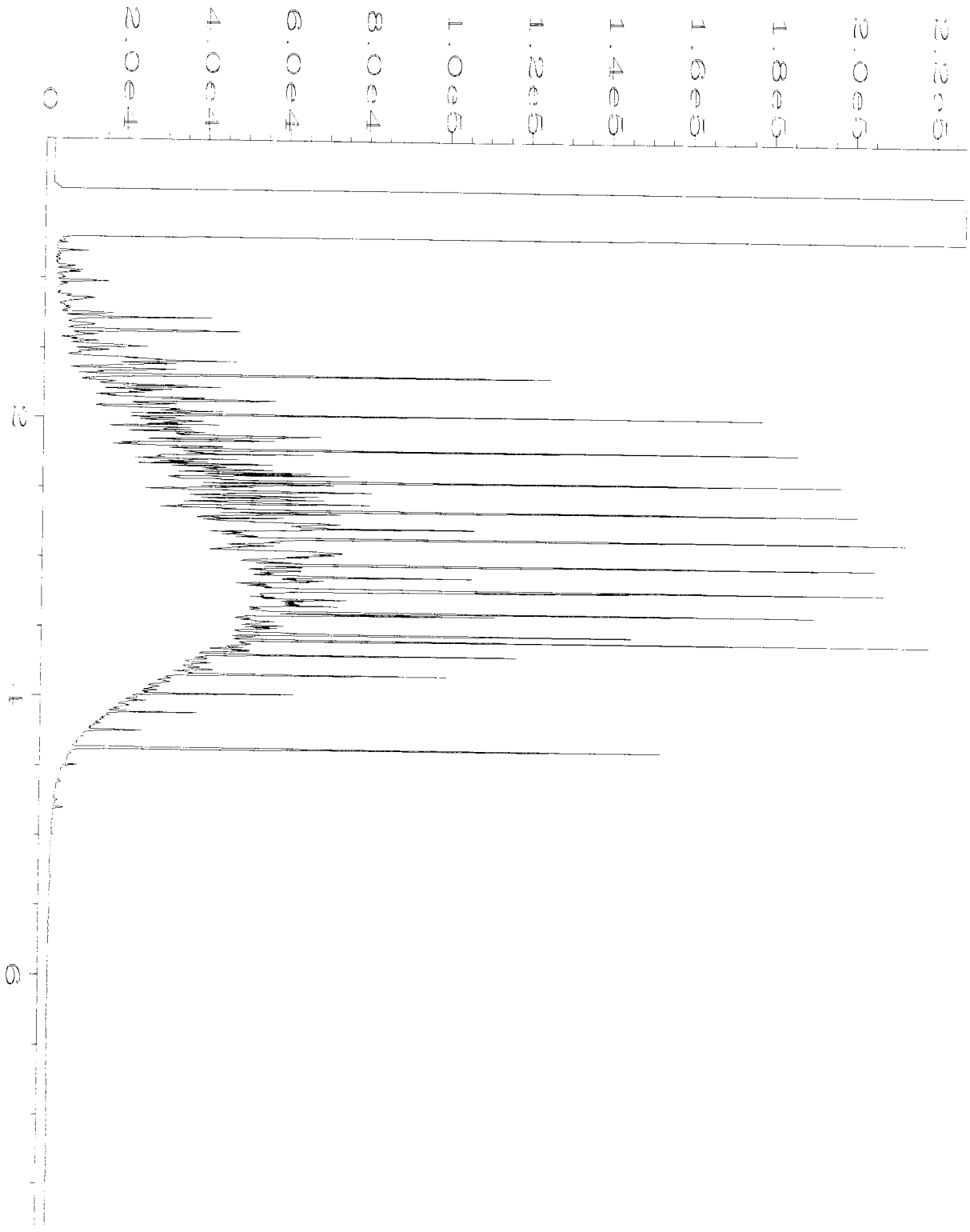
Data File Name : C:\HPCHEM\4\DATA\02-02-18\018F0301.D
Operator : mwdl
Instrument : GC#4
Sample Name : 801363-04
Run Time Bar Code:
Acquired on : 02 Feb 18 02:36 PM
Report Created on: 05 Feb 18 07:54 AM

Page Number : 1
Vial Number : 18
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\4\DATA\02-02-18\006F0301.D
Operator : mwdl
Instrument : GC#4
Sample Name : 08-271 mb
Run Time Bar Code:
Acquired on : 02 Feb 18 12:06 PM
Report Created on: 05 Feb 18 07:54 AM

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\4\DATA\02-02-18\005F0501.D
Operator : mwdl
Instrument : GC#4
Sample Name : 1000 Dx 52-185B
Run Time Bar Code:
Acquired on : 02 Feb 18 03:23 PM
Report Created on: 05 Feb 18 07:55 AM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH

801363
[redacted]

SAMPLE CHAIN OF CUSTODY

ME 01/26/18
[redacted]

B2/A03

Send Report to ~~Gary Stumpf~~ Liz Forbes, Logan Schumacher, Grayson Fish

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue E, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone #: 206-306-1900 Fax #: 206-306-1907

SAMPLERS (signature): [signature]

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #:

REMARKS: ~~Hold all~~ • Std TAT PCE, TCE, 1,1DCE, cis 1,2DCE, VC

Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	cVOCs by 8260	SVOCs by 8270	MTCA 5 Metals	PAHs		Notes
TB04-05	TB04	5	01 A-E	1/25/18	0805	Soil	5						⊗	⊗		Per BSP 2/7 Run 5-Day Turn
TB04-10	↓	10	02	↓	0810	↓	↓									
TB04-15	↓	15	03	↓	0815	↓	↓									
TB05-05	TB05	5	04	↓	0945	↓	↓	•	•		•					
TB05-10	↓	10	05	↓	0950	↓	↓									• per LS
TB05-15	↓	15	06	↓	0955	↓	↓									2/2/18
TB06-05	TB06	5	07	↓	1110	↓	↓									ME
TB06-10	↓	10	08	↓	1115	↓	↓									
TB06-15	↓	15	09	↓	1120	↓	↓									

~~CMS 1/25/18~~

Samples received at 4 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Logan Schumacher	SoundEarth	1/26/18	1020
Received by: [signature]	VIN H	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 6, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the additional results from the testing of material submitted on January 26, 2018 from the SOU_ 0611-017_ 20180126, F&BI 801364 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher, Grayson Fish
SOU0206R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_ 0611-017_ 20180126, F&BI 801364 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801364 -01	TB07-05
801364 -02	TB07-10
801364 -03	TB07-12.5
801364 -04	TB07-15
801364 -05	TB07-17.5
801364 -06	TB07-20
801364 -07	TB07-25
801364 -08	TB07-30
801364 -09	TB07-35
801364 -10	TB07-40

Tetrachloroethene was detected in method blank associated with the samples due to carryover from a previous sample. The data were flagged accordingly. No tetrachloroethene was detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB07-15	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_ 0611-017_ 20180126
Date Extracted:	02/02/18	Lab ID:	801364-04
Date Analyzed:	02/02/18	Data File:	020216.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB07-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_ 0611-017_ 20180126
Date Extracted:	02/02/18	Lab ID:	801364-06
Date Analyzed:	02/02/18	Data File:	020217.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_ 0611-017_ 20180126
Date Extracted:	02/02/18	Lab ID:	08-0215 mb2
Date Analyzed:	02/02/18	Data File:	020205.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	0.061 c

Date of Report: 02/06/18
Date Received: 01/26/18
Project: SOU_ 0611-017_ 20180126, F&BI 801364

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	40	39	10-138	3
Chloroethane	mg/kg (ppm)	2.5	<0.5	50	52	10-176	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	58	56	10-160	4
Methylene chloride	mg/kg (ppm)	2.5	<0.5	70	69	10-156	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	66	64	14-137	3
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	70	67	19-140	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	71	25-135	4
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	74	72	12-160	3
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	69	67	10-156	3
Trichloroethene	mg/kg (ppm)	2.5	<0.02	73	70	21-139	4
Tetrachloroethene	mg/kg (ppm)	2.5	0.024	71	67	20-133	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	79	22-139
Chloroethane	mg/kg (ppm)	2.5	84	10-163
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	47-128
Methylene chloride	mg/kg (ppm)	2.5	99	42-132
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	98	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	98	68-115
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	72-113
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	98	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	97	62-131
Trichloroethene	mg/kg (ppm)	2.5	98	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	95	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801364
LR ~~Fisher~~, Logan S.

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSO4 / A0:

Send Report to: ~~Suzy Stumpf~~, Grayson Fish

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue E, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone #: 206-306-1900 Fax #: 206-306-1907

SAMPLERS (signature):

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #:

REMARKS: Hold AM
* CVOCs = (PCE, TCE, 1,1-DCE, Cis-1,2-DCE, VC)
● = Results by 8 AM on Mon, 2/5/18

Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH B, 8am 2/5/18
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* (VOCs by 8260	SVOCs by 8270				Notes
TB07-05	TB07	5	01 A-E	1/26/18	0810	Soil	5									
TB07-10	↓	10	02	↓	0815	↓	↓									● per LS
TB07-12.5		12.5	03		0820											2/2/18
TB07-15		15	04		0825						●					AA
TB07-17.5		17.5	05		0830											
TB07-20		20	06		0835						●					
TB07-25		25	07		0840											
TB07-30		30	08		0845											
TB07-35		35	09		0850											Samples received at 3 °C
TB07-40	↓	40	10	↓	0900	↓	↓									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Logan Schmuck	SoundEarth	1/26/18	1020
Received by: [signature]	VINH	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 12, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the additional results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801364 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish, Logan Schumacher
SOU0212R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_ 0611-017_ 20180126, F&BI 801364 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801364 -01	TB07-05
801364 -02	TB07-10
801364 -03	TB07-12.5
801364 -04	TB07-15
801364 -05	TB07-17.5
801364 -06	TB07-20
801364 -07	TB07-25
801364 -08	TB07-30
801364 -09	TB07-35
801364 -10	TB07-40

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB07-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	801364-01
Date Analyzed:	02/07/18	Data File:	020712.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	95	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB07-30	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	801364-08
Date Analyzed:	02/07/18	Data File:	020718.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	95	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	08-0283 mb
Date Analyzed:	02/07/18	Data File:	020710.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	95	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/12/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801364

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801364-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	81	69	10-138	16
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	95	79	10-160	18
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	102	85	25-135	18
Trichloroethene	mg/kg (ppm)	2.5	<0.02	103	86	21-139	18
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	111	95	20-133	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	82	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	89	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	91	72-113
Trichloroethene	mg/kg (ppm)	2.5	91	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	101	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogen eity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

( ) 80364 ME 01/26/18

SAMPLE CHAIN OF CUSTODY

Send Report to: ~~LSZ~~, Logan & ~~[illegible]~~, Grayson Fish

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue E, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone #: 206-306-1900 Fax #: 206-306-1907

SAMPLERS (signature):

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO#:

REMARKS: Hold All
* CVOCs = (PCE, TCE, 1,1-DCE, cis-1,2-DCE, VC)
● = Results by 8 AM on Mon. 2/5/18

Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH By 8am 2/5/18
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* C VOCs by 8260	SVOCs by 8270				Notes
																① per EBF 2/7
TB07-05	TB07	5	01 A-E	1/26/18	0810	Soil	5				⊗					
TB07-10	↓	10	02	↓	0815	↓	↓									● per LS
TB07-12.5		12.5	03		0820											2/2/18
TB07-15		15	04		0825											ME
TB07-17.5		17.5	05		0830						●					
TB07-20		20	06		0835						●					
TB07-25		25	07		0840											
TB07-30		30	08		0845						⊗					
TB07-35		35	09		0850											
TB07-40	↓	40	10	↓	0900	↓	↓									

Samples received at 3 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044
FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Logan Schumacher	SoundEarth	1/26/18	1020
Received by:	[signature]	VINH	FBI	1/26/18	10:20
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 12, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801365 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish, Logan Schumacher
SOU0212R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801365 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801365 -01	B10-2.5
801365 -02	B10-05
801365 -03	B10-10
801365 -04	B10-15
801365 -05	B10-20

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B10-2.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	801365-01
Date Analyzed:	02/07/18	Data File:	020719.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	94	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	08-0283 mb
Date Analyzed:	02/07/18	Data File:	020710.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	95	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/12/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801365

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801364-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	81	69	10-138	16
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	95	79	10-160	18
Trichloroethene	mg/kg (ppm)	2.5	<0.02	103	86	21-139	18
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	111	95	20-133	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	82	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	89	47-128
Trichloroethene	mg/kg (ppm)	2.5	91	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	101	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Liz Farbs 801365 [redacted]

SAMPLE CHAIN OF CUSTODY

ME 01/26/18 VS2/A02

Send Report to ~~Suzy Stumpf,~~ Grayson Fish Lucas S.

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS ~~Hold all, contact PM~~
CVOCs = PCE, TCE, DCE, VC

[redacted] Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	CVOCs by 8260c	SVOCs by 8270	MTCA 5 Metals			Notes
B10-02.5	B10	2.5	01 A-E	1/26/18	0825	Soil	5				⊗					RUN PER EBF 2/7 STANDARD 5-DAY
B10-05	↓	05	02		0831	↓	↓									
B10-10		10	03		0835											
B10-15		15	04		0840											
B10-20		20	05	↓	0845											

GCF 1/26/18

Samples received at [illegible]

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Grayson Fish	SoundEarth	1/26/18	1020
Received by:		VINH	FBI	1/26/18	1020
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

February 1, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801366 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish, Logan Schumacher
SOU0201R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801366 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801366 -01	B09-05
801366 -02	B09-10
801366 -03	B09-12.5
801366 -04	B09-15
801366 -05	B09-17.5
801366 -06	B09-20
801366 -07	B09-25
801366 -08	B09-30
801366 -09	B07-05
801366 -10	B07-10
801366 -11	B07-12.5
801366 -12	B07-15
801366 -13	B07-17.5
801366 -14	B07-20
801366 -15	B07-25
801366 -16	B07-30
801366 -17	B08-05
801366 -18	B08-10
801366 -19	B08-12.5
801366 -20	B08-15
801366 -21	B08-17.5
801366 -22	B08-20
801366 -23	B08-25
801366 -24	B08-30
801366 -25	B08-35
801366 -26	B08-45
801366 -27	B08-50

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B09-17.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-05
Date Analyzed:	01/29/18	Data File:	012918.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B09-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-06
Date Analyzed:	01/29/18	Data File:	012919.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B07-12.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-11
Date Analyzed:	01/29/18	Data File:	012920.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B07-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-14
Date Analyzed:	01/29/18	Data File:	012921.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B08-15	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-20
Date Analyzed:	01/29/18	Data File:	012922.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B08-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801366-22
Date Analyzed:	01/29/18	Data File:	012923.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	08-0209 mb
Date Analyzed:	01/29/18	Data File:	012908.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/01/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801366

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	67	61	10-138	9
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	89	84	10-160	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	99	98	25-135	1
Trichloroethene	mg/kg (ppm)	2.5	<0.02	99	99	21-139	0
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	97	98	20-133	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	77	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	72-113
Trichloroethene	mg/kg (ppm)	2.5	95	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	94	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801366

Liz Forbes

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSS 3/404

Send Report to Suzy Stumpf, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS
cVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE, and VC

Page # 1 of 3

TURNAROUND TIME
Standard (2 Weeks)
RUSH 3 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	cVOCs by 8260C	SVOCs by 8270					Notes
								ANALYSES REQUESTED									
B09-05	B09	5	01AE	1/25/18	0820	Soil	5										
B09-10		10	02		0825												
B09-12.5		12.5	03		0835												
B09-15		15	04		0840												
B09-17.5		17.5	05		0845						X						
B09-20		20	06		0850						X						
B09-25		25	07		0855												
B09-30		30	08		0900												
B07-05	B07	5	09		1025												
B07-10		10	10		1030												

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Grayson Fish	SoundEarth	1/25/18	1020
Received by:	VWH	EBI	1/26/18	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

801366

Liz Fobes Logan Schumacher

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSS/A04

Send Report to: ~~Suzy Stumpf~~, Grayson Fish

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue E, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone #: 206-306-1900 Fax #: 206-306-1907

SAMPLERS (signature):

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #:

REMARKS: * CVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE and VC

TURNAROUND TIME: Standard (2 Weeks) RUSH 3 DAY

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days / Return samples / Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* VOCs by 8260C	SVOCs by 8270				Notes
B07-12.5	B07	12.5	11	1/25/18	1035	Soil	5				X					
B07-15		15	12		1100											
B07-17.5		17.5	13		1105											
B07-20		20	14		1110						X					
B07-25		25	15		1115											
B07-30		30	16		1120											
B08-05	B08	5	17		1335											
B08-10		10	18		1345											
B08-12.5		12.5	19		1355											
B08-15		15	20		1400						X					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		SoundEarth	1/25/18	1500
Received by:	JNH	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

Liz Forbes 801366

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSS/A04

Send Report to Suzy Stumpf, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS
* cVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE and VC

Page # 3 of 3

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260 *	SVOCs by 8270				Notes
B08-12.5	B08	12.5	21	1/25/18	1405	Soil	5									
B08-20		20	22		1410						X					
B08-25		25	23		1420											
B08-30		30	24		1425											
B08-35		35	25		1430											
B08-45		45	26		1505											
B08-50		50	27		1530											
									Send 1/29/18							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:				
Received by:	VIN LY	EBI	1/26/18	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 13, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the additional results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801366 project. There are 8 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Grayson Fish, Logan Schumacher
SOU0213R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801366 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801366 -01	B09-05
801366 -02	B09-10
801366 -03	B09-12.5
801366 -04	B09-15
801366 -05	B09-17.5
801366 -06	B09-20
801366 -07	B09-25
801366 -08	B09-30
801366 -09	B07-05
801366 -10	B07-10
801366 -11	B07-12.5
801366 -12	B07-15
801366 -13	B07-17.5
801366 -14	B07-20
801366 -15	B07-25
801366 -16	B07-30
801366 -17	B08-05
801366 -18	B08-10
801366 -19	B08-12.5
801366 -20	B08-15
801366 -21	B08-17.5
801366 -22	B08-20
801366 -23	B08-25
801366 -24	B08-30
801366 -25	B08-35
801366 -26	B08-45
801366 -27	B08-50

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 6020A

Client ID:	B09-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/09/18	Lab ID:	801366-01
Date Analyzed:	02/09/18	Data File:	801366-01.071
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.17
Cadmium	<1
Chromium	26.8
Lead	4.06
Mercury	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/09/18	Lab ID:	I8-095 mb
Date Analyzed:	02/09/18	Data File:	I8-095 mb.050
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B09-05	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	801366-01 1/5
Date Analyzed:	02/07/18	Data File:	020716.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	163
Benzo(a)anthracene-d12	105	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/07/18	Lab ID:	08-290 mb2 1/5
Date Analyzed:	02/07/18	Data File:	020713.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	105	31	163
Benzo(a)anthracene-d12	108	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801366

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020A

Laboratory Code: 802102-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.30	88	87	75-125	1
Cadmium	mg/kg (ppm)	10	<1	88	84	75-125	5
Chromium	mg/kg (ppm)	50	8.24	81	80	75-125	1
Lead	mg/kg (ppm)	50	2.92	82	78	75-125	5
Mercury	mg/kg (ppm	5	<1	79	81	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120
Cadmium	mg/kg (ppm)	10	106	80-120
Chromium	mg/kg (ppm)	50	105	80-120
Lead	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	100	80-120

Date of Report: 02/13/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801366

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 802035-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	88	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	86	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	87	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	86	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	86	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	81	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	87	16-160
Pyrene	mg/kg (ppm)	0.17	<0.01	89	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	91	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	94	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	91	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	97	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	85	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	87	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	86	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	83	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	88	91	58-121	3
Acenaphthylene	mg/kg (ppm)	0.17	85	88	54-121	3
Acenaphthene	mg/kg (ppm)	0.17	87	91	54-123	4
Fluorene	mg/kg (ppm)	0.17	86	89	56-127	3
Phenanthrene	mg/kg (ppm)	0.17	87	90	55-122	3
Anthracene	mg/kg (ppm)	0.17	84	86	50-120	2
Fluoranthene	mg/kg (ppm)	0.17	86	92	54-129	7
Pyrene	mg/kg (ppm)	0.17	84	91	53-127	8
Benz(a)anthracene	mg/kg (ppm)	0.17	90	95	51-115	5
Chrysene	mg/kg (ppm)	0.17	93	97	55-129	4
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	94	100	56-123	6
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	94	100	54-131	6
Benzo(a)pyrene	mg/kg (ppm)	0.17	82	84	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	86	86	49-148	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	87	89	50-141	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	84	84	52-131	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801366

Liz Forbes

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSS/A04

Page # 1 of 3

Send Report to Suzy Stumpf, Grayson Fish, Logan S.

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS

cVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE, and VC

TURNAROUND TIME

Standard (2 Weeks)

RUSH 3 day

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	cVOCs by 8260	SVOCs by 8270	MTCA-5 Metals	PAHs		Notes
B09-05	B09	5	01AE	1/25/18	0820	Soil	5						X	X		
B09-10		10	02		0825											RUN PER EDF 1/17 5-DAY TURN
B09-12.5		12.5	03		0835											
B09-15		15	04		0840											
B09-17.5		17.5	05		0845											
B09-20		20	06		0850						X					
B09-25		25	07		0855						X					
B09-30		30	08		0900											
B07-05	B07	5	09		1025											
B07-10		10	10		1030											

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Grayson Fish	SoundEarth	1/25/18	1020
Received by:	VWH	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

801366
Liz Fobes Logan Schumacher

SAMPLE CHAIN OF CUSTODY ME 01/26/18

VSS/A04

Send Report to ~~Suzy Stumpf~~ Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS
* cVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE and VC

Page # 2 of 3

TURNAROUND TIME
Standard (2 Weeks)
RUSH 3 days
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	cVOCs by 8260C *	SVOCs by 8270				Notes
B07-12.5	B07	12.5	11	1/25/18	1035	Soil	5				X					
B07-15		15	12		1100											
B07-17.5		17.5	13		1105											
B07-20		20	14		1110						X					
B07-25		25	15		1115											
B07-30		30	16		1120											
B08-05	B08	5	17		1335											
B08-10		10	18		1345											
B08-12.5		12.5	19		1353											
B08-15		15	20		1400						X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		SoundEarth	1/26/18	1030
Received by:	VNH	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

Liz Forbes 801366

SAMPLE CHAIN OF CUSTODY

ME 01/26/18

VSS/A04

Page # 3 of 3

Send Report to ~~Suzy Stumpf~~, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS
* CVOCs = PCE, TCE, 1,1-DCE, cis-1,2-DCE and VC

TURNAROUND TIME
Standard (2 Weeks)
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	CVOCs by 8260C *	SVOCs by 8270				Notes
B08-17.5	B08	17.5	21	1/25/18	1405	Soil	5									
B08-20		20	22		1410						X					
B08-25		25	23		1420											
B08-30		30	24		1425											
B08-35		35	25		1430											
B08-45		45	26		1505											
B08-50		50	27		1530											
									Cancel 1/25/18							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		SoundEarth	1/26/18	1000
Received by:	VIN LY	FBI	1/26/18	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 1, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801370 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher, Grayson Fish
SOU0201R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801370 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801370 -01	B06-05
801370 -02	B06-10
801370 -03	B06-12.5
801370 -04	B06-15
801370 -05	B06-17.5
801370 -06	B06-20
801370 -07	B06-25
801370 -08	B06-30
801370 -09	B06-35
801370 -10	B06-40
801370 -11	B06-45
801370 -12	B06-50
801370 -13	B11-10
801370 -14	B11-15
801370 -15	B11-20
801370 -16	B11-25
801370 -17	B06-B11-Comp

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B06-15	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801370-04
Date Analyzed:	01/29/18	Data File:	012924.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	0.47
Trichloroethene	0.19
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B06-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801370-06
Date Analyzed:	01/29/18	Data File:	012914.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	08-0209 mb
Date Analyzed:	01/29/18	Data File:	012908.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/01/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801370

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	67	61	10-138	9
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	89	84	10-160	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	99	98	25-135	1
Trichloroethene	mg/kg (ppm)	2.5	<0.02	99	99	21-139	0
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	97	98	20-133	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	77	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	72-113
Trichloroethene	mg/kg (ppm)	2.5	95	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	94	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

801370 | ME 01/26/18

~~Lz Forbes~~, Logan S

SAMPLE CHAIN OF CUSTODY

Page # 1 of 2

Send Report to ~~Suzy Stumpf~~, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature) [signature]

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS * CVOCs = (PCE, TCE, 1,1-DCE, cis-1,2-DCE, VC)

TURNAROUND TIME
Standard (2 Weeks)
RUSH (circled) 3 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	C VOCs by 8260 *	SVOCs by 8270				Notes
B06-05	B06	5	01 A-E	1/26/18	0945	Soil	5									
B06-10	↓	10	02	↓	0950	↓	↓									
B06-12.5	↓	12.5	03	↓	0955	↓	↓				(X)					RUN PER EBF 1/31
B06-15	↓	15	04	↓	1005	↓	↓				X					
B06-17.5	↓	17.5	05	↓	1010	↓	↓									
B06-20	↓	20	06	↓	1015	↓	↓				X					
B06-25	↓	25	07	↓	1030	↓	↓									
B06-30	↓	30	08	↓	1040	↓	↓									Samples received at 2 °C
B06-35	↓	35	09	↓	1050	↓	↓									
B06-40	↓	40	10	↓	1105	↓	↓									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Logan Schwenk	SoundEarth	1/26/18	1425
Received by:	[signature]	VINH	FBI	1/26/18	1425
Relinquished by:					
Received by:					

801370
LC Forbes, Logan S

SAMPLE CHAIN OF CUSTODY ME 1/26/18

Page # 2 of 2 1/04/18

Send Report to ~~Suzy Stumpf~~ Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E. Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS See Page 1 for *

TURNAROUND TIME
Standard (2 Weeks)
RUSH 1 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* VOCs by 8260	SVOCs by 8270					Notes
B06-45	B06	45	11	1/26/18	1115	Soil	5										
B06-50	↓	50	12		1120						X						RUN PER EDF 1131
B11-10	B11	10	13		1250												
B11-15		15	14		1255												
B11-20		20	15		1305												
B11-25		25	16		1310		1										
B06-B11-COMP	B06-B11		17	1/26/18	1330		1										
							EDF	1/26/18									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Logan Schumacher	SoundEarth	1/26/18	1425
Received by:	VINH	FBI	1/26/18	1425
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

MS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 7, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the additional results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801370 project. There are 8 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher
SOU0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801370 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801370 -01	B06-05
801370 -02	B06-10
801370 -03	B06-12.5
801370 -04	B06-15
801370 -05	B06-17.5
801370 -06	B06-20
801370 -07	B06-25
801370 -08	B06-30
801370 -09	B06-35
801370 -10	B06-40
801370 -11	B06-45
801370 -12	B06-50
801370 -13	B11-10
801370 -14	B11-15
801370 -15	B11-20
801370 -16	B11-25
801370 -17	B06-B11-Comp

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B06-12.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	801370-03
Date Analyzed:	02/02/18	Data File:	020221.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	0.15
Trichloroethene	0.097
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B06-50	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	801370-12
Date Analyzed:	02/02/18	Data File:	020222.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B11-15	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/02/18	Lab ID:	801370-14
Date Analyzed:	02/02/18	Data File:	020218.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	ClientID
Date Received:	Not Applicable	Project:	ProjectID
Date Extracted:	02/02/18	Lab ID:	08-0215 mb2
Date Analyzed:	02/02/18 10:35	Data File:	020205.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	08-0215 mb
Date Analyzed:	02/01/18	Data File:	020121.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/07/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801370

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	40	39	10-138	3
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	58	56	10-160	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	71	25-135	4
Trichloroethene	mg/kg (ppm)	2.5	<0.02	73	70	21-139	4
Tetrachloroethene	mg/kg (ppm)	2.5	0.024	71	67	20-133	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	79	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	72-113
Trichloroethene	mg/kg (ppm)	2.5	98	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	95	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

80137O
LL Forbes, Logan S

SAMPLE CHAIN OF CUSTODY

MTG 01/26/18

Page # 1 of 2

Send Report to: ~~Suzy Stumpf~~, Grayson Fish

Company: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue E, Suite 2000

City, State, ZIP: Seattle, Washington 98102

Phone #: 206-306-1900 Fax #: 206-306-1907

SAMPLERS (signature):

PROJECT NAME/NO.: Rainier Mall / 0611-017

PO #:

REMARKS: * CVOCs = (PCE, TCE, 1,1-DCE, cis-1,2-DCE, VC)

TURNAROUND TIME
Standard (2 Weeks)
(RUSH) 3 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* CVOCs by 8260	SVOCs by 8270				Notes
B06-05	B06	5	01	1/26/18	0945	Soil	5									
B06-10		10	02		0950											
B06-12.5		12.5	03		0955						X					RUN PER EDF 1/31
B06-15		15	04		1005						X					
B06-17.5		17.5	05		1010											
B06-20		20	06		1015						X					
B06-25		25	07		1030											
B06-30		30	08		1040											Samples received at 2 °C
B06-35		35	09		1050											
B06-40	↓	40	10	↓	1105	↓	↓									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Logan Schumacher	SoundEarth	1/26/18	1428
Received by:	VINH	FBI	1/26/18	1425
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

COC.DOC

801370
La Fortuna, Logan S

SAMPLE CHAIN OF CUSTODY MO 1/26/18

Page # 2 of 2 1/04/18

Send Report to ~~Stacy Stumbf~~ Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS See Page 1 for *

TURNAROUND TIME
Standard (2 Weeks)
RUSH 1 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* VOCs by 8260	SVOCs by 8270				Notes
B06-45	B06	45	11	1/26/18	1115	Soil	5									
B06-50	↓	50	12		1120						X					RUN PER EGF 1/31
B11-10	B11	10	13		1250											
B11-15		15	14		1255						X					
B11-20		20	15		1305											
B11-25		25	16		1310											
B06-B11-COMP	B06-B11		17	1/26/18	1330		1									
							EGF	1/26/18								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Logan Sakamachi	SoundEarth	1/26/18	1425
Received by:	VINH	FBI	1/26/18	1425
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

MS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 1, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801371 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher, Grayson Fish
SOU0201R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801371 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801371 -01	TB08-05
801371 -02	TB08-10
801371 -03	TB08-12.5
801371 -04	TB08-15
801371 -05	TB08-17.5
801371 -06	TB08-20
801371 -07	TB08-25
801371 -08	TB08-30
801371 -09	TB08-35
801371 -10	TB08-40

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB08-12.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801371-03
Date Analyzed:	01/29/18	Data File:	012915.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	89	113
Toluene-d8	101	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	0.21
Trichloroethene	0.55
Tetrachloroethene	0.46

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB08-17.5	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801371-05
Date Analyzed:	01/29/18	Data File:	012917.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	101	64	137
4-Bromofluorobenzene	100	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	0.45
Trichloroethene	1.7
Tetrachloroethene	24

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB08-25	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	801371-07
Date Analyzed:	01/29/18	Data File:	012916.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	89	113
Toluene-d8	100	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	01/29/18	Lab ID:	08-0209 mb
Date Analyzed:	01/29/18	Data File:	012908.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/01/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801371

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	67	61	10-138	9
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	89	84	10-160	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	99	98	25-135	1
Trichloroethene	mg/kg (ppm)	2.5	<0.02	99	99	21-139	0
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	97	98	20-133	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	77	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	72-113
Trichloroethene	mg/kg (ppm)	2.5	95	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	94	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

( ) 801371 [redacted]

LZ Forbes, [redacted] Logan S

SAMPLE CHA F CUSTODY

ME 01/26/18) VS5/A03

[redacted] Page # 1 of 1

Send Report to ~~Suzy Stumpf~~, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS * cVOCs (PCE, TCE, 1,1-DCE, cis-1,2-DCE + VC) ⊗ Run per EBF 2/1

TURNAROUND TIME
Standard (2 Weeks)
RUSH 3 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* cVOCs by 8260	SVOCs by 8270				Notes
TB08-05	TB08	5	01 A-E	1/26/18	1100	Soil	5									
TB08-10	↓	10	02	↓	1105	↓	↓				⊗					
TB08-12.5		12.5	03		1110						X					
TB08-15		15	04		1115											
TB08-17.5		17.5	05		1120						X					
TB08-20		20	06		1125						⊗					
TB08-25		25	07		1130						X					
TB08-30		30	08		1135											
TB08-35		35	09		1145											Samples received at 2 °C
TB08-40		40	10		1155											

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Logan Schmuckler	SoundEarth	1/26/18	1423
Received by: [signature]	VINH	FBI	1/26/18	1425
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 7, 2018

Liz Forbes, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Ms Forbes:

Included are the additional results from the testing of material submitted on January 26, 2018 from the SOU_0611-017_ 20180126, F&BI 801371 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Logan Schumacher, Grayson Fish
SOU0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 26, 2018 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0611-017_ 20180126, F&BI 801371 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
801371 -01	TB08-05
801371 -02	TB08-10
801371 -03	TB08-12.5
801371 -04	TB08-15
801371 -05	TB08-17.5
801371 -06	TB08-20
801371 -07	TB08-25
801371 -08	TB08-30
801371 -09	TB08-35
801371 -10	TB08-40

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB08-10	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	801371-02
Date Analyzed:	02/02/18	Data File:	020223.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TB08-20	Client:	SoundEarth Strategies
Date Received:	01/26/18	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	801371-06
Date Analyzed:	02/01/18	Data File:	020127.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	0.064
Trichloroethene	0.17
Tetrachloroethene	2.0

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0611-017_ 20180126
Date Extracted:	02/01/18	Lab ID:	08-0215 mb
Date Analyzed:	02/01/18	Data File:	020121.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
1,1-Dichloroethene	<0.05
cis-1,2-Dichloroethene	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

Date of Report: 02/07/18
Date Received: 01/26/18
Project: SOU_0611-017_ 20180126, F&BI 801371

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 801370-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	40	39	10-138	3
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	58	56	10-160	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	74	71	25-135	4
Trichloroethene	mg/kg (ppm)	2.5	<0.02	73	70	21-139	4
Tetrachloroethene	mg/kg (ppm)	2.5	0.024	71	67	20-133	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2.5	79	22-139
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	47-128
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	72-113
Trichloroethene	mg/kg (ppm)	2.5	98	64-117
Tetrachloroethene	mg/kg (ppm)	2.5	95	72-114

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

( ) 801371

LZ Fo[redacted], Logan S

SAMPLE CHAIN OF CUSTODY

ME 01/26/18) VS3/A03

Send Report to ~~Suzy Stumpf~~, Grayson Fish

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. Rainier Mall / 0611-017

PO #

REMARKS * CVOCs (PCE, TCE, 1,1-DCE, cis-1,2-DCE + VC) ⊗ Run per EBF 2/1

[redacted] Page # 1 of 1

TURNAROUND TIME
Standard (2 Weeks)
RUSH 3 day
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	* cVOCs by 8260	SVOCs by 8270				Notes
TB08-05	TB08	5	01 A-E	1/26/18	1100	Soil	5									
TB08-10	↓	10	02	↓	1105	↓	↓				⊗					
TB08-12.5		12.5	03		1110						X					
TB08-15		15	04		1115											
TB08-17.5		17.5	05		1120						X					
TB08-20		20	06		1125						⊗					
TB08-25		25	07		1130						X					
TB08-30		30	08		1135											
TB08-35		35	09		1145											Samples received at 2 °C
TB08-40	↓	40	10	↓	1155	↓	↓									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Logan Schumacher	SoundEarth	1/26/18	1423
Received by:	VINH	FBI	1/26/18	1425
Relinquished by:				
Received by:				

ATTACHMENT B
AGI REPORT

AMPLIFIED GEOCHEMICAL IMAGING, LLC

Laboratory Report

Site: Rainier Mall

Prepared for:

SoundEarth Strategies
2811 Fairview Avenue East
Suite 2000
Seattle, WA

Prepared on:
January 19, 2018

Project Summary and Objective

Amplified Geochemical Imaging, LLC (AGI) provided the AGI Environmental Survey used at:

Rainier Mall

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Kelly J Stringham

Project Manager

Reviewed/approved by:

Jasmine Smith

Chemist

Analytical data approved by:

Jasmine Smith

Chemist

Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [√] fall within the scope of AGI's ISO 17025 accreditation.

Screening/Concentration Method

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

Note: Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

Media Sampled:	SOIL GAS
Chemist - sample analysis:	Fatima Niazi
Chemist - data processor:	Fatima Niazi
Chemist - data review:	Jasmine Smith

Method deviations: A four point calibration curve was used for MtBE and pentadecane in order to maintain linearity.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Total Ion Chromatograms

Project Specific Comments

All samplers were returned and analyzed including trip blanks 00794065, 00794066, 00794077, and 00794078.

Survey period [1]	Samplers were installed on December 29, 2017 and retrieved on January 5, 2018 for an exposure period of seven days.	
Tamper seal intact:	Yes	
Date received:	1/8/18 10:05 am	By: Darlene Yellowdy
COC returned:	Yes	
Comments:	None	

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbers" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbers not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field . The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations (µg/L) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

Laboratory Sample Report

AGI Sample ID	Field ID	Sample Type
00794013	ROW01	FIELD SAMPLE
00794014	ROW02	FIELD SAMPLE
00794015	ROW03	FIELD SAMPLE
00794016	ROW04	FIELD SAMPLE
00794017	F0	FIELD SAMPLE
00794018	E0	FIELD SAMPLE
00794019	D0	FIELD SAMPLE
00794020	C0	FIELD SAMPLE
00794021	R0	FIELD SAMPLE
00794022	A1	FIELD SAMPLE
00794023	A2	FIELD SAMPLE
00794024	A3	FIELD SAMPLE
00794025	A4	FIELD SAMPLE
00794026	A5	FIELD SAMPLE
00794027	A6	FIELD SAMPLE
00794028	D1	FIELD SAMPLE
00794029	E1	FIELD SAMPLE
00794030	F1	FIELD SAMPLE
00794031	G1	FIELD SAMPLE
00794032	H2	FIELD SAMPLE
00794033	G2	FIELD SAMPLE
00794034	F2	FIELD SAMPLE
00794035	E2	FIELD SAMPLE
00794036	D2	FIELD SAMPLE
00794037	C2	FIELD SAMPLE
00794038	C1	FIELD SAMPLE
00794039	B1	FIELD SAMPLE
00794040	B2	FIELD SAMPLE
00794041	B3	FIELD SAMPLE
00794042	C3	FIELD SAMPLE
00794043	D3	FIELD SAMPLE
00794044	E3	FIELD SAMPLE
00794045	F3	FIELD SAMPLE
00794046	G3	FIELD SAMPLE
00794047	H3	FIELD SAMPLE
00794048	H4	FIELD SAMPLE
00794049	G4	FIELD SAMPLE
00794050	F4	FIELD SAMPLE
00794051	E4	FIELD SAMPLE
00794052	D4	FIELD SAMPLE
00794053	C4	FIELD SAMPLE

AGI Sample ID	Field ID	Sample Type
00794054	B4	FIELD SAMPLE
00794055	B5	FIELD SAMPLE
00794062	C5	FIELD SAMPLE
00794063	D5	FIELD SAMPLE
00794064	E5	FIELD SAMPLE
00794065		TRIP BLANK
00794066		TRIP BLANK
00794067	F5	FIELD SAMPLE
00794068	G5	FIELD SAMPLE
00794069	H6	FIELD SAMPLE
00794070	G6	FIELD SAMPLE
00794071	F6	FIELD SAMPLE
00794072	E6	FIELD SAMPLE
00794073	D6	FIELD SAMPLE
00794074	C6	FIELD SAMPLE
00794075	B6	FIELD SAMPLE
00794076	G0	FIELD SAMPLE
00794077		TRIP BLANK
00794078		TRIP BLANK

Total # Field Samples: 56
Total # Trip Blanks: 4
Total # Unused: 0

AMPLIFIED GEOCHEMICAL IMAGING LLC

210 Executive Drive
Newark, Delaware 19702 USA
ph: +1-302-266-2428
www.agisurveys.net

AGI Universal Passive Sampler Chain of Custody
Soil gas and/or Air Sampling

Production Order #: ENV 01935

Customer Name: SoundEarth Strategies, Inc.

Address: 2811 Fairview Avenue East
Suite 2000
Seatle, WA 98102
USA

Site Name: Rainer Mall

Site Address:

Project Manager:

Serial # of Samplers Shipped			# of Samplers for Installation	56	# of Trip Blanks	4
00794013	-	00794055	Total Samplers Shipped	60	Pieces	
00794062	-	00794078	Total Samplers Received	60	Pieces	
			Total Samplers Installed	56	Pieces	

Insertion Rods

Tips Shipped: 1

Rod Bodies Shipped 4

Serial # of Trip Blanks (Client Decides)

00794066	00794077	

Prepared By: [signature]

Verified By: Darlene Galloway

Installation Method: (Circle those that apply)
Slide Hammer (Hammer Drill) Auger
Other

Installation Performed By:
Name: Grayson Fish
Company: SoundEarth Strategies Inc.

Retrieval Performed By:
Name: Grayson Fish
Company: SoundEarth

Installation Start Date / Time: 12/29/17 / 0740
Installation Complete Date / Time: 12/29/17 / 1246

Retrieval Start Date / Time: 1/5/18 / 0820
Retrieval Complete Date / Time: 1/5/18 / 1001

Total Samplers Retrieved: 56
Total Samplers Lost In Field: 0
Total Unused Samplers Returned: 4 (tripblanks)
Insertion Rod Sections Returned: 5

		Date/Time			Date/Time
Relinquished By:	[signature]	12/28/17	Received By:	Grayson Fish	12/28/17
Company:	AGI	11:55 AM	Company:	SoundEarth	1410
Relinquished By:	Grayson Fish	1/5/18	Received By:	Darlene Galloway	1/8/18
Company:	SoundEarth	1135	Company:	AGI	10:05 AM

AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1
Newark, DE USA 19702-3335
ph: 302-266-2428

AGI Project No.
Site Name: Rainier Mall
Site Location: 4208 Rainier Ave South, Seattle, WA

AGI Soil Gas Sampling Installation & Retrieval Log

Company Name: SoundEarth Strategies, Inc.
Location: Seattle, WA
Samples collected by: GCF and LDS

*** Optional or as needed**

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)
00794013	ROW01	FIELD_SAMPLE	12/29/17 7:40	1/5/18 8:20	
00794014	ROW02	FIELD_SAMPLE	12/29/17 7:50	1/5/18 8:23	
00794015	ROW03	FIELD_SAMPLE	12/29/17 7:57	1/5/18 8:26	
00794016	ROW04	FIELD_SAMPLE	12/29/17 8:05	1/5/18 8:30	
00794017	F0	FIELD_SAMPLE	12/29/17 8:37	1/5/18 8:33	
00794018	E0	FIELD_SAMPLE	12/29/17 8:40	1/5/18 8:36	
00794019	D0	FIELD_SAMPLE	12/29/17 8:44	1/5/18 8:39	Water in borehole
00794020	C0	FIELD_SAMPLE	12/29/17 8:48	1/5/18 8:44	
00794021	R0	FIELD_SAMPLE	12/29/17 8:52	1/5/18 8:46	
00794022	A1	FIELD_SAMPLE	12/29/17 8:55	1/5/18 8:47	
00794023	A2	FIELD_SAMPLE	12/29/17 8:59	1/5/18 8:48	
00794024	A3	FIELD_SAMPLE	12/29/17 9:03	1/5/18 8:49	
00794025	A4	FIELD_SAMPLE	12/29/17 9:07	1/5/18 8:50	
00794026	A5	FIELD_SAMPLE	12/29/17 9:11	1/5/18 8:51	
00794027	A6	FIELD_SAMPLE	12/29/17 9:17	1/5/18 8:52	
00794028	D1	FIELD_SAMPLE	12/29/17 9:31	1/5/18 8:54	Water in borehole
00794029	E1	FIELD_SAMPLE	12/29/17 9:34	1/5/18 8:56	
00794030	F1	FIELD_SAMPLE	12/29/17 9:58	1/5/18 8:59	
00794031	G1	FIELD_SAMPLE	12/29/17 9:40	1/5/18 9:01	
00794032	H2	FIELD_SAMPLE	12/29/17 9:51	1/5/18 9:03	
00794033	G2	FIELD_SAMPLE	12/29/17 9:55	1/5/18 9:04	
00794034	F2	FIELD_SAMPLE	12/29/17 9:58	1/5/18 9:05	
00794035	E2	FIELD_SAMPLE	12/29/17 10:00	1/5/18 9:06	
00794036	D2	FIELD_SAMPLE	12/29/17 10:03	1/5/18 9:08	Water in borehole
00794037	C2	FIELD_SAMPLE	12/29/17 10:06	1/5/18 9:09	
00794038	C1	FIELD_SAMPLE	12/29/17 10:09	1/5/18 9:10	Water in borehole
00794039	B1	FIELD_SAMPLE	12/29/17 10:13	1/5/18 9:12	
00794040	B2	FIELD_SAMPLE	12/29/17 10:17	1/5/18 9:14	
00794041	B3	FIELD_SAMPLE	12/29/17 10:20	1/5/18 9:15	
00794042	C3	FIELD_SAMPLE	12/29/17 10:23	1/5/18 9:17	Water in borehole
00794043	D3	FIELD_SAMPLE	12/29/17 10:26	1/5/18 9:18	
00794044	E3	FIELD_SAMPLE	12/29/17 10:29	1/5/18 9:19	
00794045	F3	FIELD_SAMPLE	12/29/17 10:34	1/5/18 9:21	
00794046	G3	FIELD_SAMPLE	12/29/17 10:37	1/5/18 9:23	Water in borehole
00794047	H3	FIELD_SAMPLE	12/29/17 10:40	1/5/18 9:25	Water in borehole
00794048	H4	FIELD_SAMPLE	12/29/17 11:07	1/5/18 9:27	
00794049	G4	FIELD_SAMPLE	12/29/17 11:10	1/5/18 9:28	Water in borehole
00794050	F4	FIELD_SAMPLE	12/29/17 11:14	1/5/18 9:29	Water in borehole
00794051	E4	FIELD_SAMPLE	12/29/17 11:17	1/5/18 9:30	Water in borehole

AMPLIFIED GEOCHEMICAL IMAGING, LLC

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Newark, DE USA 19702-3335
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AGI Project No.
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Site Location: 4208 Rainier Ave South, Seattle, WA

AGI Soil Gas Sampling
Installation & Retrieval Log

Company Name: SoundEarth Strategies, Inc.
Location: Seattle, WA
Samples collected by: GCF and LDS

*** Optional or as needed**

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)
00794052	D4	FIELD_SAMPLE	12/29/17 11:20	1/5/18 9:32	Water in borehole
00794053	C4	FIELD_SAMPLE	12/29/17 11:23	1/5/18 9:34	Water in borehole
00794054	B4	FIELD_SAMPLE	12/29/17 11:26	1/5/18 9:36	Water in borehole
00794055	B5	FIELD_SAMPLE	12/29/17 11:29	1/5/18 9:37	Water in borehole
00794062	C5	FIELD_SAMPLE	12/29/17 11:41	1/5/18 9:41	Water in borehole
00794063	D5	FIELD_SAMPLE	12/29/17 11:45	1/5/18 9:42	Water in borehole
00794064	E5	FIELD_SAMPLE	12/29/17 11:49	1/5/18 9:44	Water in borehole
00794065		TRIP_BLANK			
00794066		TRIP_BLANK			
00794067	F5	FIELD_SAMPLE	12/29/17 11:52	1/5/18 9:45	Water in borehole
00794068	G5	FIELD_SAMPLE	12/29/17 11:55	1/5/18 9:47	Water in borehole
00794069	H6	FIELD_SAMPLE	12/29/17 11:58	1/5/18 9:49	Water in borehole
00794070	G6	FIELD_SAMPLE	12/29/17 12:05	1/5/18 9:51	Water in borehole
00794071	F6	FIELD_SAMPLE	12/29/17 12:15	1/5/18 9:53	Water in borehole
00794072	E6	FIELD_SAMPLE	12/29/17 12:17	1/5/18 9:55	Water in borehole
00794073	D6	FIELD_SAMPLE	12/29/17 12:23	1/5/18 9:57	Water in borehole
00794074	C6	FIELD_SAMPLE	12/29/17 12:29	1/5/18 9:59	Water in borehole
00794075	B6	FIELD_SAMPLE	12/29/17 12:32	1/5/18 10:00	Water in borehole
00794076	G0	FIELD_SAMPLE	12/29/17 12:46	1/5/18 10:01	
00794077		TRIP_BLANK			
00794078		TRIP_BLANK			

AGI Soil Gas Sampling
Installation & Retrieval Log

* Optional or as needed

SAMPLER SERIAL NO.	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			AT MINIMUM PROVIDE SOIL TYPE			
		EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	PROJECTED COORDINATES X (EASTING)
00794013	Through asphalt	No	No		SANDY_LOAM			
00794014	Through asphalt	No	No		SANDY_LOAM			
00794015	Through asphalt	No	No		SANDY_LOAM			
00794016	Through asphalt	No	No		SANDY_LOAM			
00794017	Through asphalt	No	No		SANDY_LOAM			
00794018	Through asphalt	No	No		SANDY_LOAM			
00794019	Through asphalt	No	No	Yes	SANDY_LOAM			
00794020	Through asphalt	No	No		SANDY_LOAM			
00794021	Through asphalt	No	No		SANDY_LOAM			
00794022	Through asphalt	No	No		SANDY_LOAM			
00794023	Through asphalt	No	No		SANDY_LOAM			
00794024	Through asphalt	No	No		SANDY_LOAM			
00794025	Through asphalt	No	No		SANDY_LOAM			
00794026	Through asphalt	No	No		SANDY_LOAM			
00794027	Through asphalt	No	No		SANDY_LOAM			
00794028	Through asphalt	No	No	Yes	SANDY_LOAM			
00794029	Through asphalt	No	No		SANDY_LOAM			
00794030	Through asphalt	No	No		SANDY_LOAM			
00794031	Through asphalt	No	No		SANDY_LOAM			
00794032	Through asphalt	No	No		SANDY_LOAM			
00794033	Through asphalt	No	No		SANDY_LOAM			
00794034	Through asphalt	No	No		SANDY_LOAM			
00794035	Through asphalt	No	No		SANDY_LOAM			
00794036	Through asphalt	No	No	Yes	SANDY_LOAM			
00794037	Through asphalt	No	No		SANDY_LOAM			
00794038	Through asphalt	No	No	Yes	SANDY_LOAM			
00794039	Through asphalt	No	No		SANDY_LOAM			
00794040	Through asphalt	No	No		SANDY_LOAM			
00794041	Through asphalt	No	No		SANDY_LOAM			
00794042	Through asphalt	No	No	Yes	SANDY_LOAM			
00794043	Through asphalt	No	No		SANDY_LOAM			
00794044	Through asphalt	No	No		SANDY_LOAM			
00794045	Through asphalt	No	No		SANDY_LOAM			
00794046	Through asphalt	No	No	Yes	SANDY_LOAM			
00794047	Through asphalt	No	No	Yes	SANDY_LOAM			
00794048	Through asphalt	No	No		SANDY_LOAM			
00794049	Through asphalt	No	No	Yes	SANDY_LOAM			
00794050	Through asphalt	No	No	Yes	SANDY_LOAM			
00794051	Through asphalt	No	No	Yes	SANDY_LOAM			

AGI Soil Gas Sampling
Installation & Retrieval Log

*** Optional or as needed**

SAMPLER SERIAL NO.	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			AT MINIMUM PROVIDE SOIL TYPE			
		EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)	PROJECTED COORDINATES X (EASTING)
00794052	Through asphalt	No	No	Yes	SANDY_LOAM			
00794053	Through asphalt	No	No	Yes	SANDY_LOAM			
00794054	Through asphalt	No	No	Yes	SANDY_LOAM			
00794055	Through asphalt	No	No	Yes	SANDY_LOAM			
00794062	Through asphalt	No	No	Yes	SANDY_LOAM			
00794063	Through asphalt	No	No	Yes	SANDY_LOAM			
00794064	Through asphalt	No	No	Yes	SANDY_LOAM			
00794065								
00794066								
00794067	Through asphalt	No	No	Yes	SANDY_LOAM			
00794068	Through asphalt	No	No	Yes	SANDY_LOAM			
00794069	Through asphalt	No	No	Yes	SANDY_LOAM			
00794070	Through asphalt	No	No	Yes	SANDY_LOAM			
00794071	Through asphalt	No	No	Yes	SANDY_LOAM			
00794072	Through asphalt	No	No	Yes	SANDY_LOAM			
00794073	Through asphalt	No	No	Yes	SANDY_LOAM			
00794074	Through asphalt	No	No	Yes	SANDY_LOAM			
00794075	Through asphalt	No	No	Yes	SANDY_LOAM			
00794076	Through asphalt	No	No		SANDY_LOAM			
00794077								
00794078								

AGI Soil Gas Sampling
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*** Optional or as needed**

SAMPLER SERIAL NO.	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00794013			
00794014			
00794015			
00794016			
00794017			
00794018			
00794019			
00794020			
00794021			
00794022			
00794023			
00794024			
00794025			
00794026			
00794027			
00794028			
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00794047			
00794048			
00794049			
00794050			
00794051			

AGI Soil Gas Sampling
Installation & Retrieval Log

*** Optional or as needed**

SAMPLER SERIAL NO.	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
00794052			
00794053			
00794054			
00794055			
00794062			
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00794074			
00794075			
00794076			
00794077			
00794078			

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE 19702
SOUNDEARTH STRATEGIES, INC., WA
STANDARD TARGET VOCs/SVOCs
RAINIER MALL
ORDER # 01935

DATAFILE NAME	FIELD ID	DATE/ TIME ANALYZED	DF	TPH, ug	VC, ug	MTBE, ug	11DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	BENZ, ug	CCl4, ug
RL =				0.50	0.20	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
00794013	ROW01	1/11/18 12:17	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794014	ROW02	1/10/18 22:49	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794015	ROW03	1/11/18 19:59	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02
00794016	ROW04	1/11/18 8:35	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794017R	F0	1/16/18 15:15	1	0.74	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794018	E0	1/11/18 3:13	1	0.87	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794019	D0	1/12/18 1:51	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794020	C0	1/12/18 3:48	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794021	R0	1/11/18 20:59	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794022	A1	1/11/18 21:57	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794023	A2	1/10/18 17:28	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794024	A3	1/11/18 22:27	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794025	A4	1/11/18 8:05	1	0.90	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
00794026	A5	1/12/18 2:20	1	5.49	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794027R	A6	1/16/18 13:48	1	2.89	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
00794028	D1	1/11/18 23:25	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794029	E1	1/11/18 21:28	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794030R	F1	1/16/18 14:17	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794031	G1	1/11/18 7:35	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794032	H2	1/11/18 4:40	1	0.53	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794033	G2	1/12/18 3:19	1	3.51	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
00794034R	F2	1/16/18 15:44	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794035R	E2	1/16/18 17:12	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794036	D2	1/10/18 19:54	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794037	C2	1/11/18 12:47	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794038	C1	1/10/18 16:59	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794039	B1	1/11/18 11:36	1	0.71	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
00794040R	B2	1/16/18 17:41	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794041	B3	1/12/18 12:53	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794042R	C3	1/16/18 13:19	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794043	D3	1/10/18 19:25	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794044	E3	1/11/18 22:56	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794045	F3	1/11/18 2:43	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794046R	G3	1/16/18 14:46	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794047	H3	1/10/18 23:48	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794048	H4	1/11/18 1:16	1	8.29	<0.20	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.07	<0.02
00794049	G4	1/11/18 19:30	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794050	F4	1/11/18 5:10	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794051	E4	1/11/18 7:06	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

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RAINIER MALL
ORDER # 01935

DATAFILE NAME	FIELD ID	DATE/ TIME ANALYZED	DF	TPH, ug	VC, ug	MTBE, ug	11DCE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug	12DCA, ug	BENZ, ug	CCl4, ug
RL =				0.50	0.20	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
00794052	D4	1/10/18 20:23	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794053	C4	1/10/18 20:52	1	0.59	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794054	B4	1/11/18 5:39	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794055	B5	1/11/18 6:37	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794062R	C5	1/16/18 16:13	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794063	D5	1/10/18 18:55	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794064	E5	1/12/18 2:50	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
00794065	Trip Blank	1/11/18 1:45	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794066	Trip Blank	1/10/18 21:22	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794067R	F5	1/16/18 16:43	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794068	G5	1/12/18 1:22	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794069	H6	1/10/18 17:57	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794070	G6	1/12/18 4:17	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794071	F6	1/11/18 20:29	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794072	E6	1/11/18 6:08	1	3.72	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794073	D6	1/10/18 18:26	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794074	C6	1/11/18 2:14	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794075	B6	1/11/18 9:04	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794076	G0	1/10/18 23:19	1	1.69	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794077	Trip Blank	1/12/18 4:47	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794078	Trip Blank	1/12/18 5:16	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	Method Blank	1/10/18 16:30	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-2	Method Blank	1/11/18 10:09	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-3	Method Blank	1/12/18 6:14	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-4	Method Blank	1/16/18 12:49	1	<0.50	<0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

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ORDER # 01935

DATAFILE NAME	TCE, ug	112TCA, ug	TOL, ug	OCT, ug	PCE, ug	ClBENZ, ug	1112TetCA, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	1122TetCA, ug	135TMB, ug	124TMB, ug	13DCB, ug
RL =	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
00794013	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794014	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794015	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794016	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794017R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794019	0.04	<0.02	<0.02	<0.02	0.44	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794023	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794024	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794025	<0.02	<0.02	0.05	<0.02	0.40	<0.02	<0.02	0.03	0.15	0.08	<0.02	<0.02	<0.02	<0.02
00794026	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	<0.02	0.03	0.07	<0.02
00794027R	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794028	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794029	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794030R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794031	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794032	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794033	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	0.04	<0.02	0.03	0.05	<0.02
00794034R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	0.30	0.36	<0.02
00794035R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794036	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794037	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794038	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794039	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794040R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794041	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794042R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794043	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794044	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794045	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794046R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794047	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794048	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794049	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794050	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794051	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

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STANDARD TARGET VOCs/SVOCs
RAINIER MALL
ORDER # 01935

DATAFILE NAME	TCE, ug	112TCA, ug	TOL, ug	OCT, ug	PCE, ug	ClBENZ, ug	1112TetCA, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	1122TetCA, ug	135TMB, ug	124TMB, ug	13DCB, ug
RL =	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
00794052	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794053	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794054	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794055	<0.02	<0.02	0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
00794062R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794063	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794064	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794065	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794066	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794067R	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794068	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794069	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794071	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794072	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02
00794073	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794074	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794075	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.03	<0.02
00794076	<0.02	<0.02	0.23	0.04	5.12	<0.02	<0.02	0.08	0.22	0.09	<0.02	<0.02	<0.02	<0.02
00794077	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00794078	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

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RAINIER MALL
ORDER # 01935

DATAFILE NAME	14DCB, ug	12DCB, ug	UNDEC, ug	NAPH, ug	TRIDEC, ug	2MeNAPH, ug	Acenaphthylene, ug	PENTADEC, ug	Acenaphthene, ug	Fluorene, ug
RL =	0.02	0.02	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
00794013	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794014	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794015	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794016	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794017R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794018	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794019	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794020	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794021	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794022	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794023	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794024	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794025	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794026	<0.02	<0.02	<0.05	<0.05	0.10	0.08	<0.05	<0.05	<0.05	<0.05
00794027R	<0.02	<0.02	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
00794028	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794029	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794030R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794031	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794032	<0.02	<0.02	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
00794033	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794034R	<0.02	<0.02	<0.05	0.10	<0.05	0.10	<0.05	<0.05	<0.05	<0.05
00794035R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794036	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794037	<0.02	<0.02	<0.05	0.28	<0.05	0.15	<0.05	<0.05	0.07	<0.05
00794038	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794039	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.07	0.06
00794040R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794041	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794042R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794043	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794044	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794045	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794046R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794047	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794048	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794049	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794050	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794051	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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RAINIER MALL
ORDER # 01935

DATAFILE NAME	14DCB, ug	12DCB, ug	UNDEC, ug	NAPH, ug	TRIDEC, ug	2MeNAPH, ug	Acenaphthylene, ug	PENTADEC, ug	Acenaphthene, ug	Fluorene, ug
RL =	0.02	0.02	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
00794052	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794053	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794054	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794055	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794062R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794063	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794064	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794065	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794066	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794067R	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794068	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794069	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794070	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.20	0.14
00794071	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794072	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794073	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794074	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794075	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794076	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794077	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00794078	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-1	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-2	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-3	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-4	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

KEY TO DATA TABLE

UNITS

µg	micrograms, relative mass value
µg/m^3	micrograms per cubic meter; estimated soil gas concentration
µg/L	micrograms per Liter; calculated water concentration

DATA QUALIFIERS

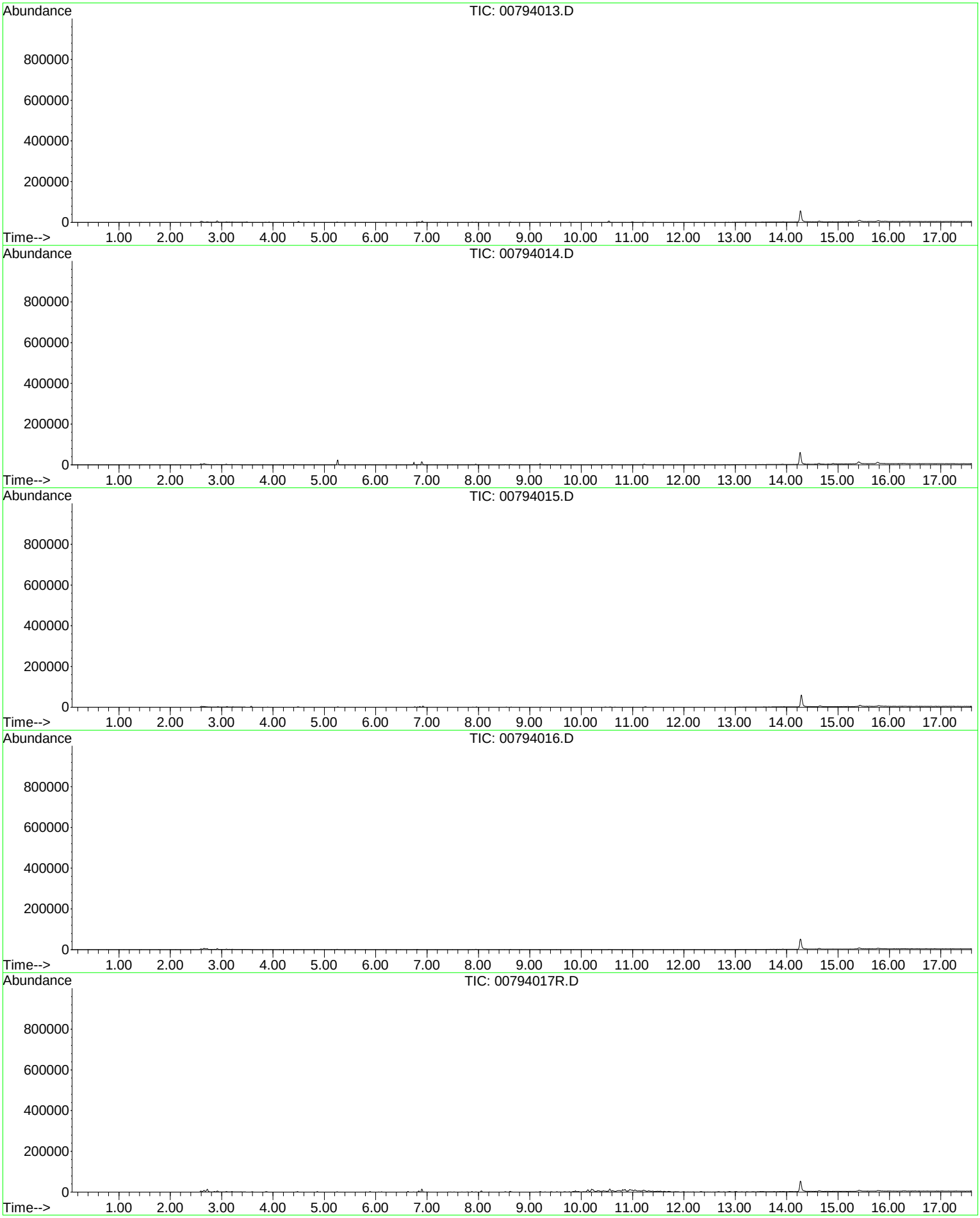
>	greater than; value exceeds calibration range, estimated value
<	less than; compound value is below the LOD and RL
J	mass value below LOQ or RL, but above LOD, estimated mass value
E	mass value exceeds upper calibration level, estimated mass value
Q	one or more quality control parameters failed for the compound

ABBREVIATIONS

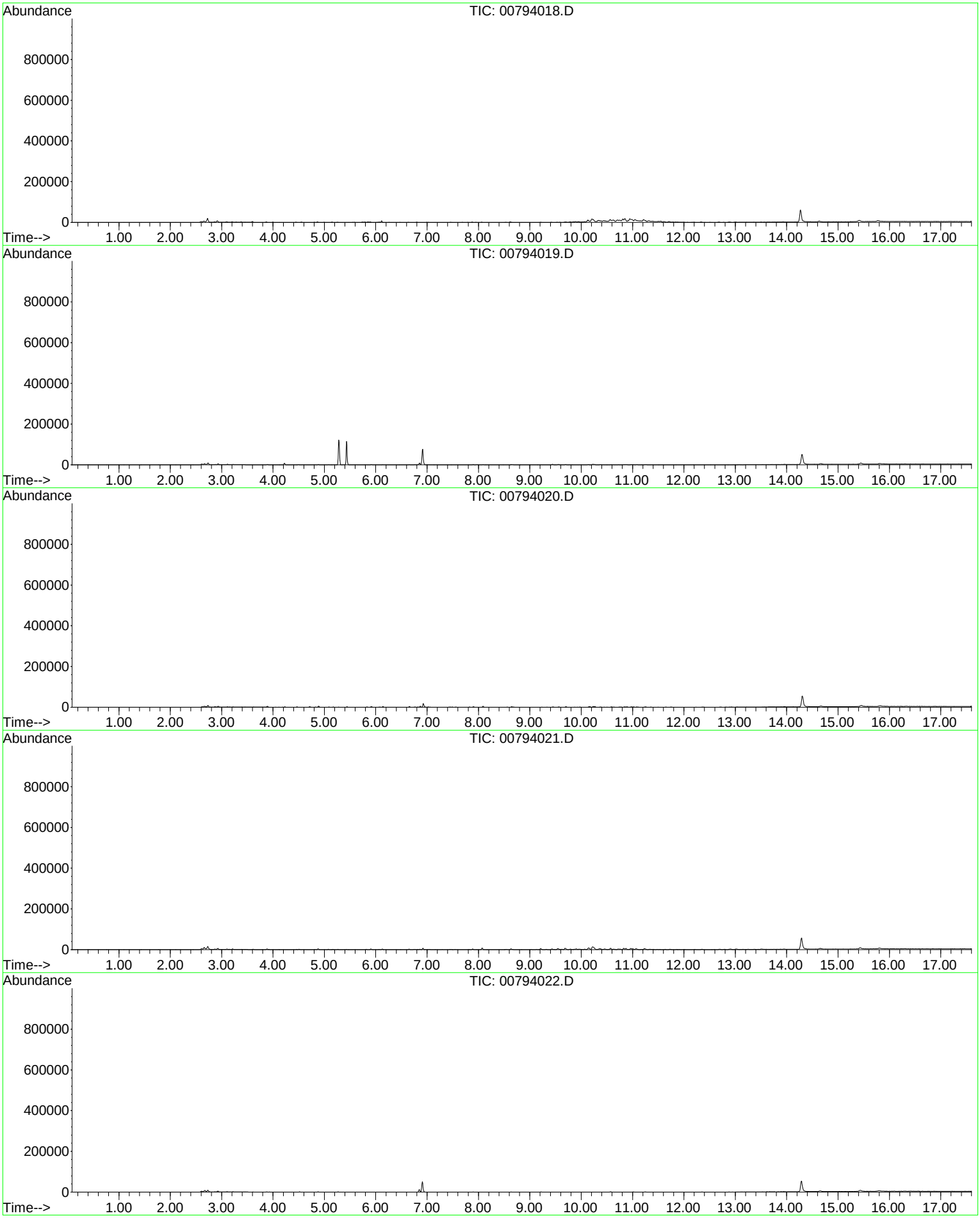
AVG RL	average reporting limit; calculated based on individual field sample RLs
LOD	limit of detection
LOQ	limit of quantification
MDL	method detection limit
RL	reporting limit

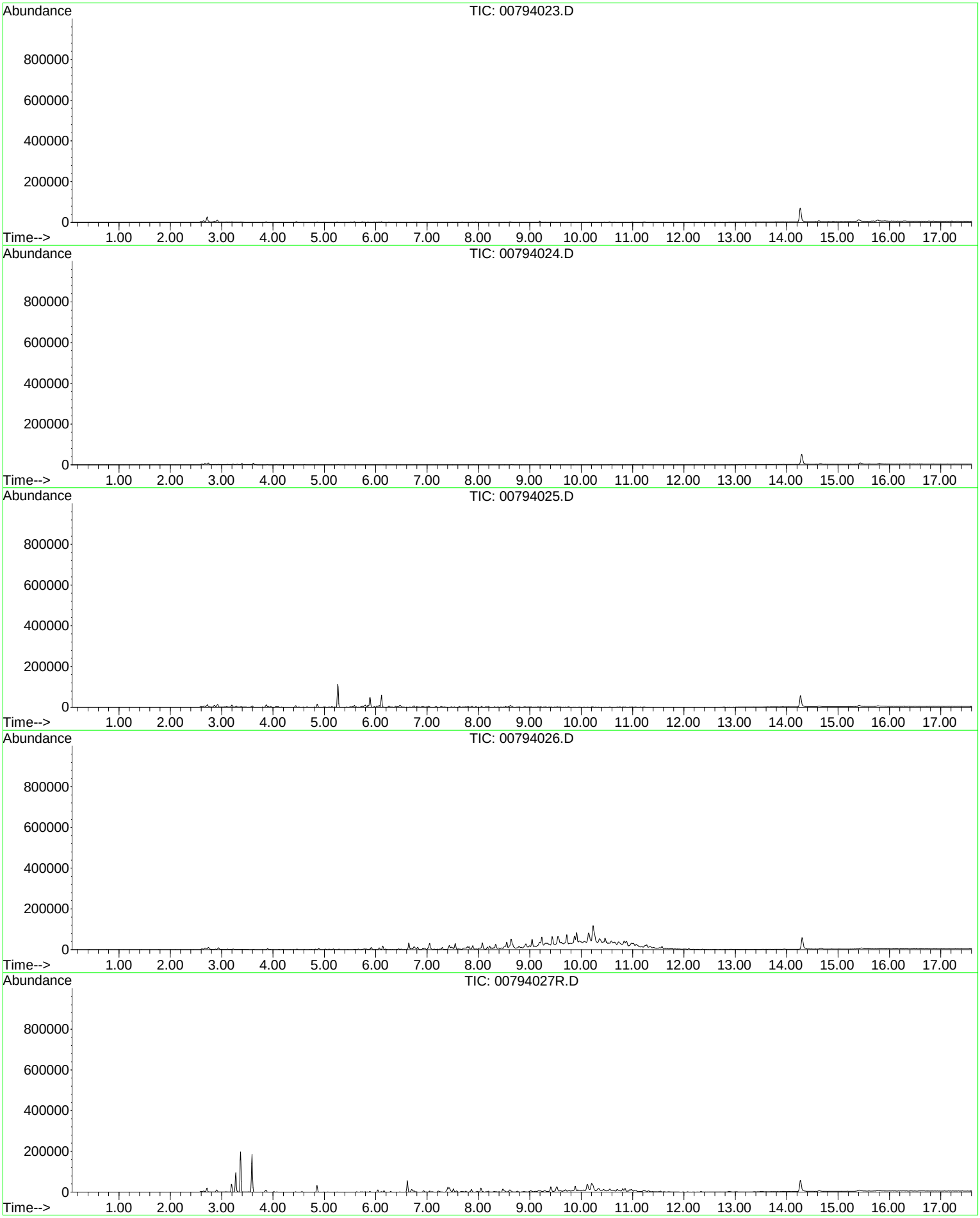
1112TetCA	1,1,1,2-tetrachloroethane
111TCA	1,1,1-trichloroethane
1122TetCA	1,1,2,2-tetrachloroethane
112TCA	1,1,2-trichloroethane
11DCA	1,1-dichloroethane
11DCE	1,1-dichloroethene
124TMB	1,2,4-trimethylbenzene
12DCA	1,2-dichloroethane
12DCB	1,2-dichlorobenzene
135TMB	1,3,5-trimethylbenzene
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
2MeNAPH	2-methyl naphthalene
BENZ	benzene
BTEX	combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics)
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
c12DCE	cis-1,2-dichloroethene
CCl4	carbon tetrachloride
CHC13	chloroform
ClBENZ	chlorobenzene
ct12DCE	cis- & trans-1,2-dichloroethene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
MTBE	methyl t-butyl ether
NAPH	naphthalene
OCT	octane
oXYL	o-xylene
PCE	tetrachloroethene
PENTADEC	pentadecane
SSRPH	Stoddard solvent range petroleum hydrocarbons
t12DCE	trans-1,2-dichloroethene
TCE	trichloroethene
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
TOL	toluene
TPH	total petroleum hydrocarbons
TRIDEC	tridecane
UNDEC	undecane
VC	vinyl chloride

TICS - 01935
IN NUMERICAL ORDER



TICS - 01935
IN NUMERICAL ORDER

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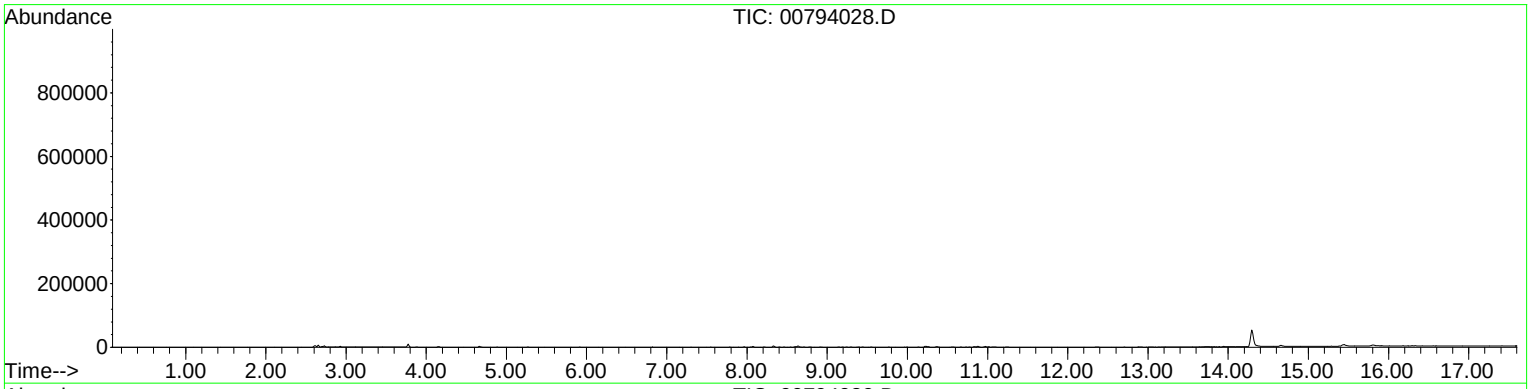

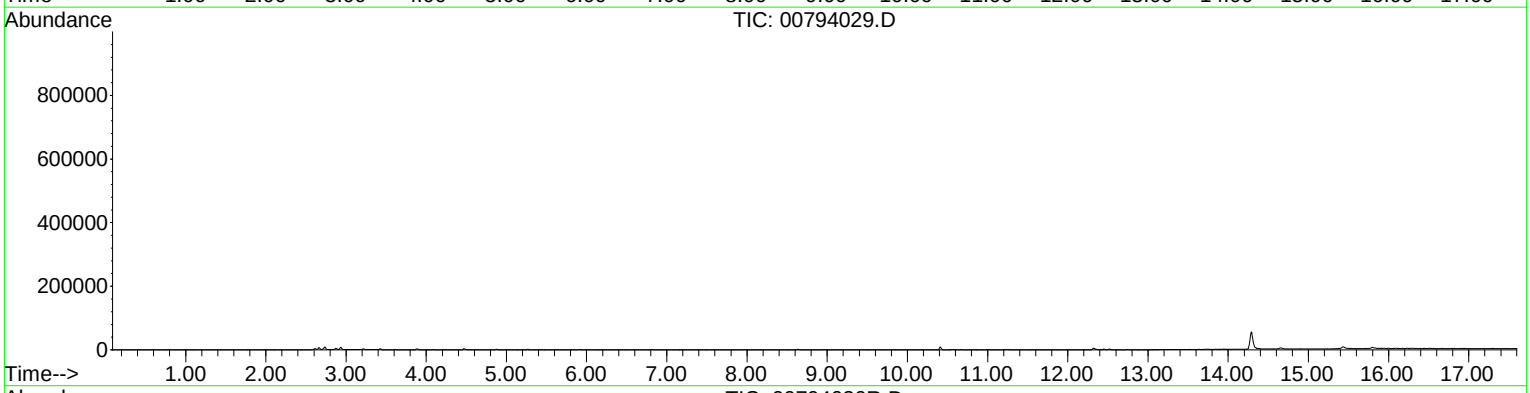

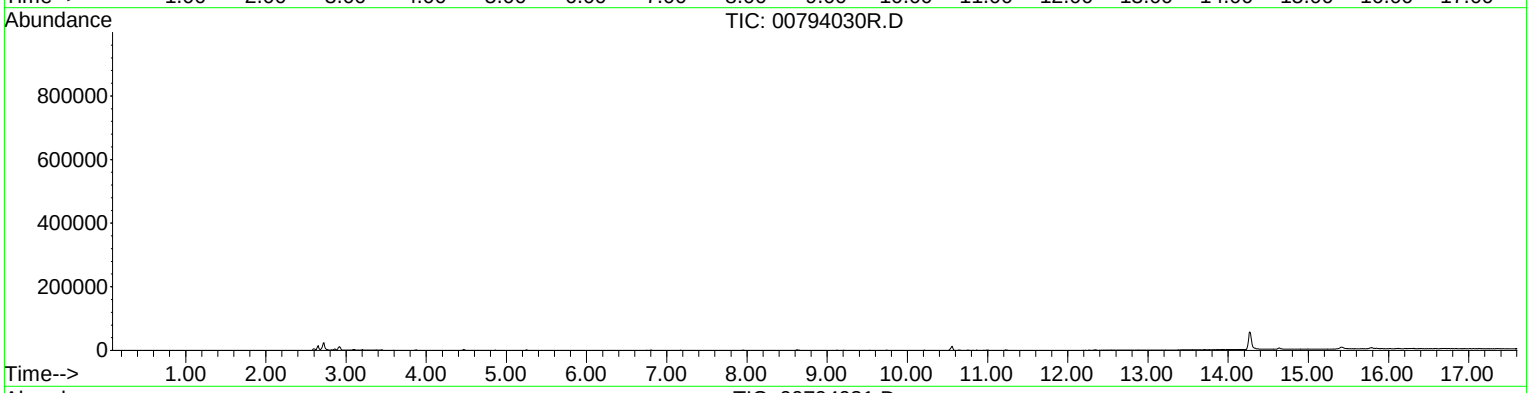

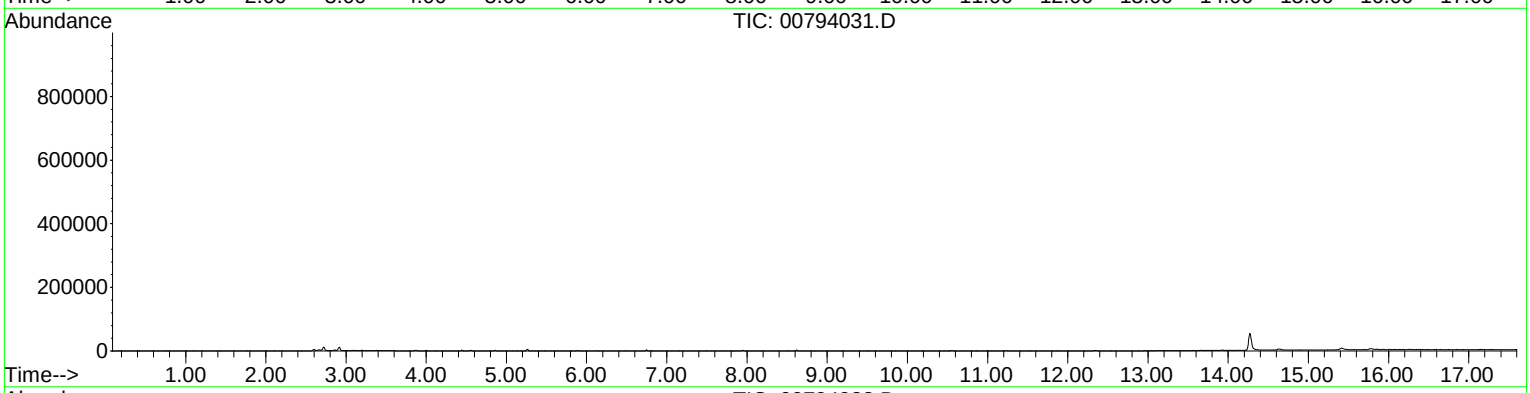

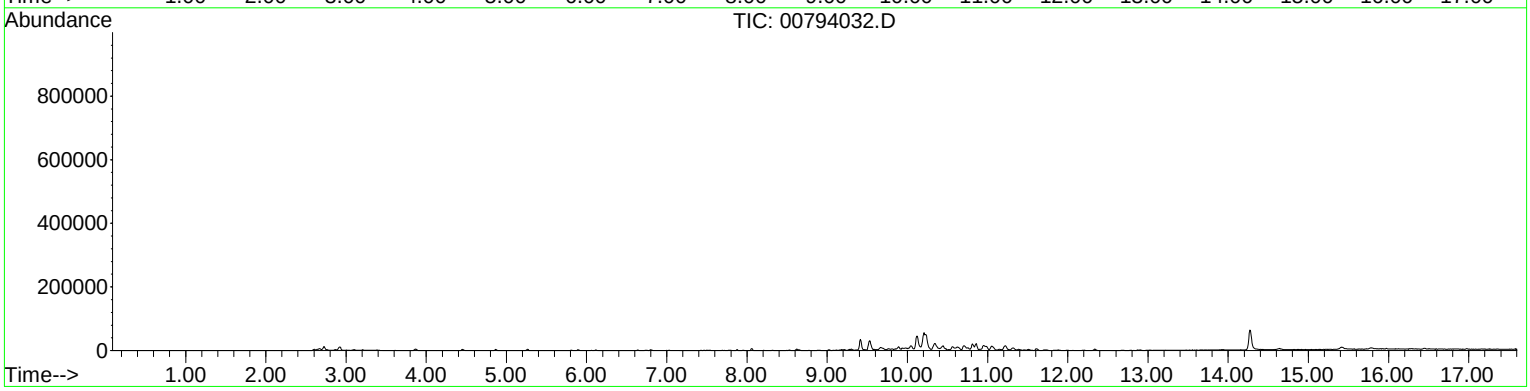

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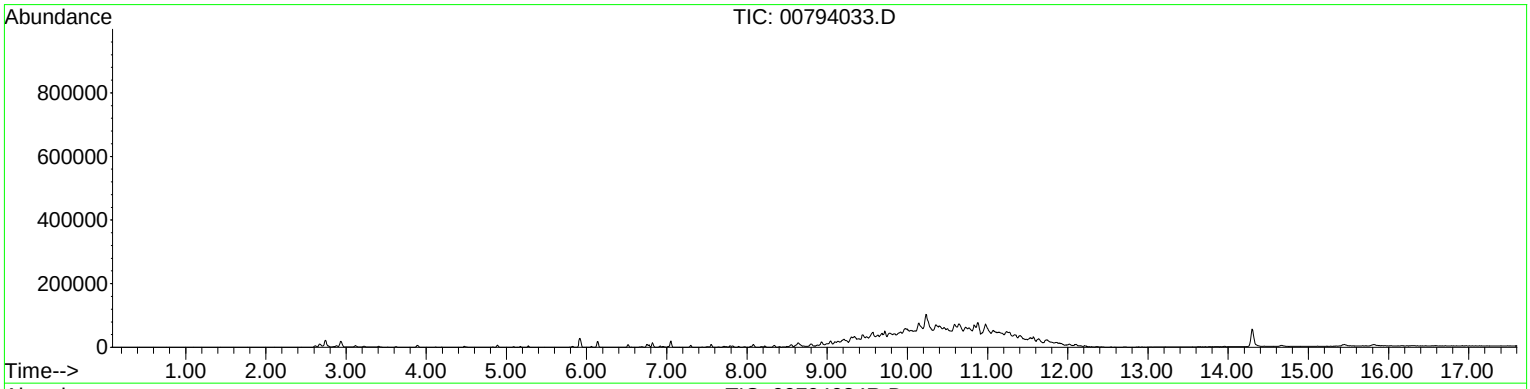

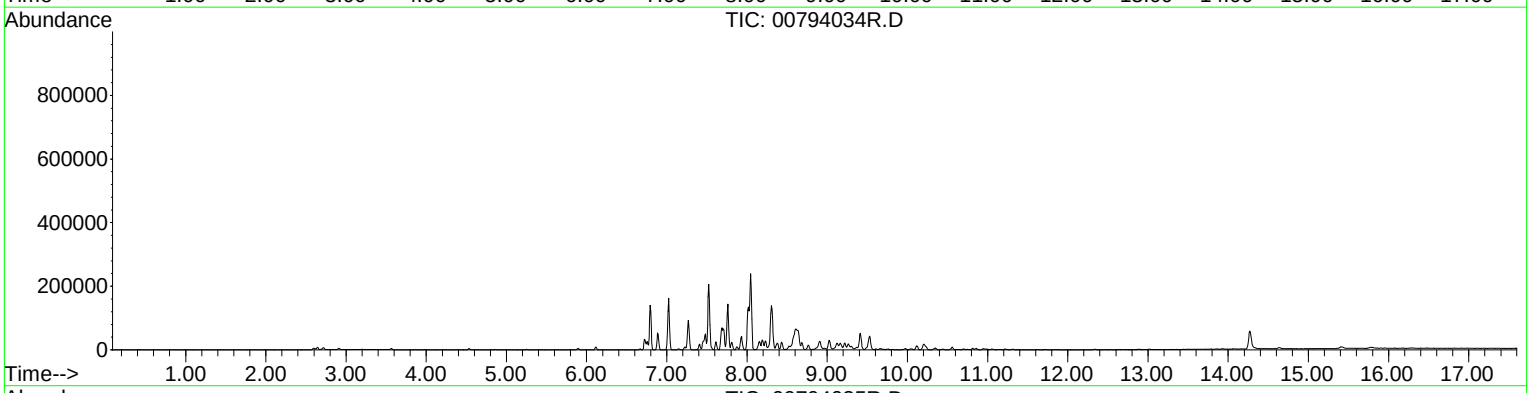

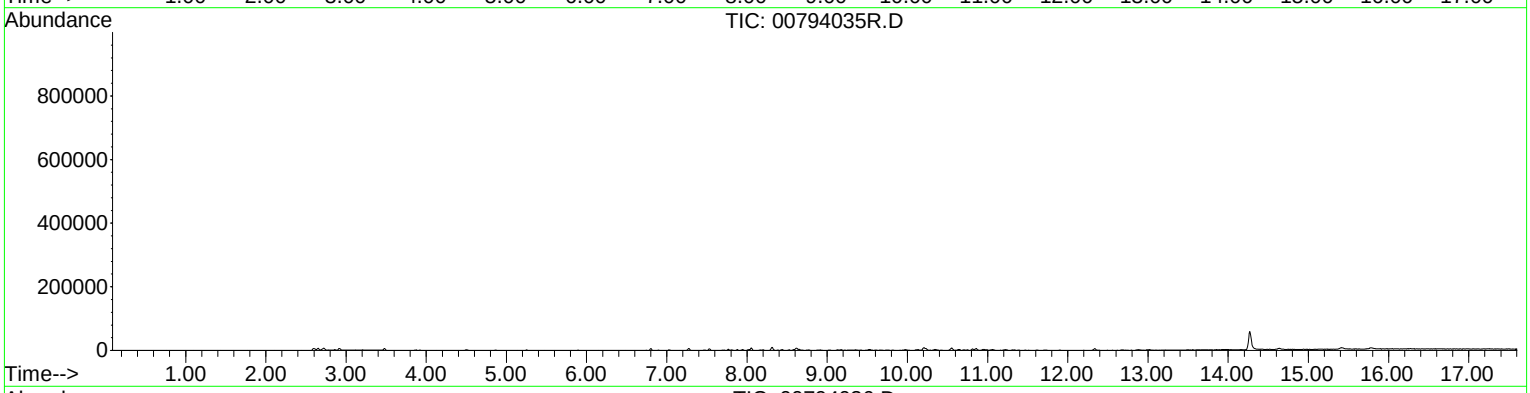

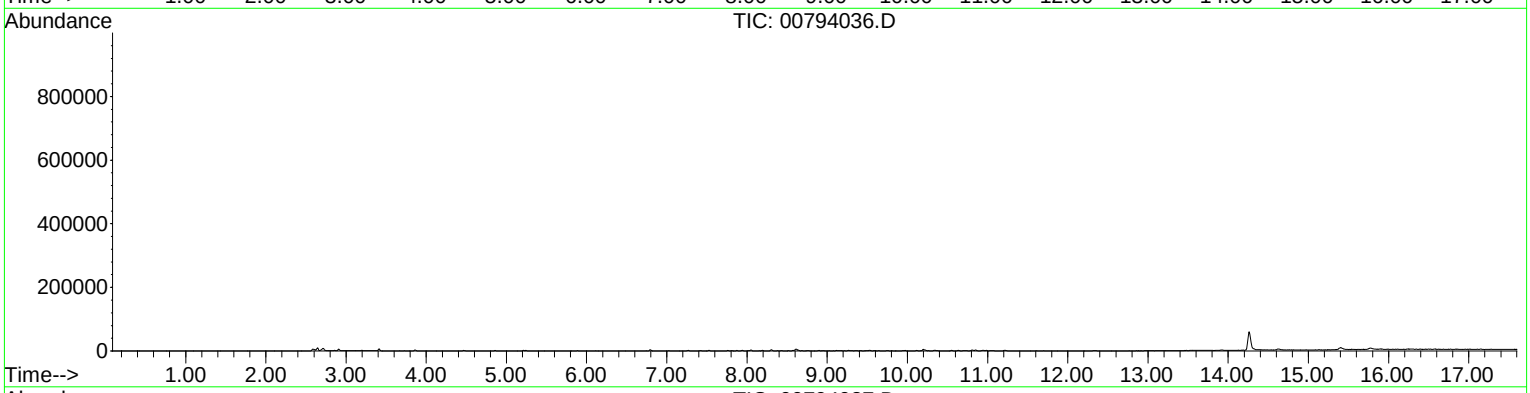

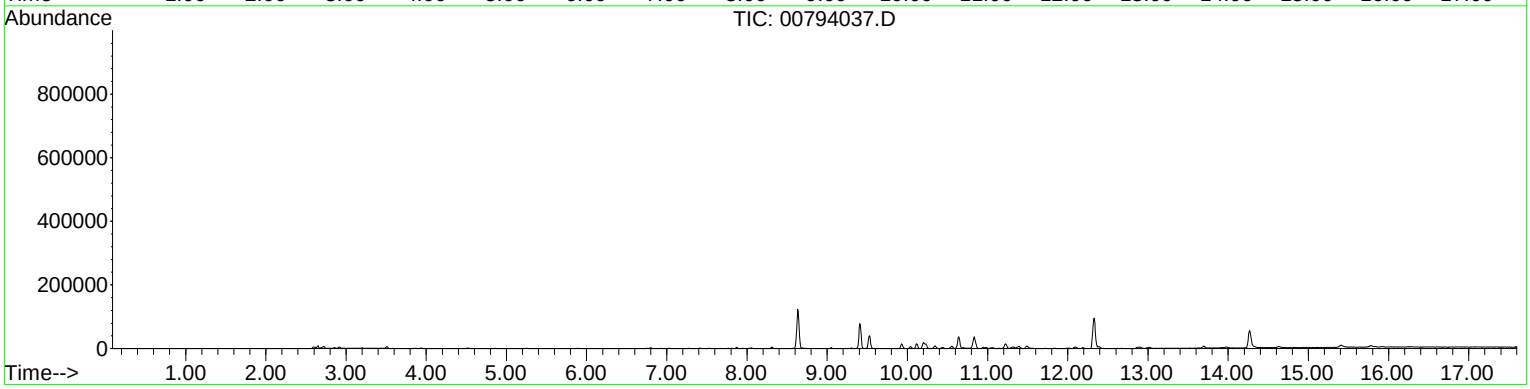

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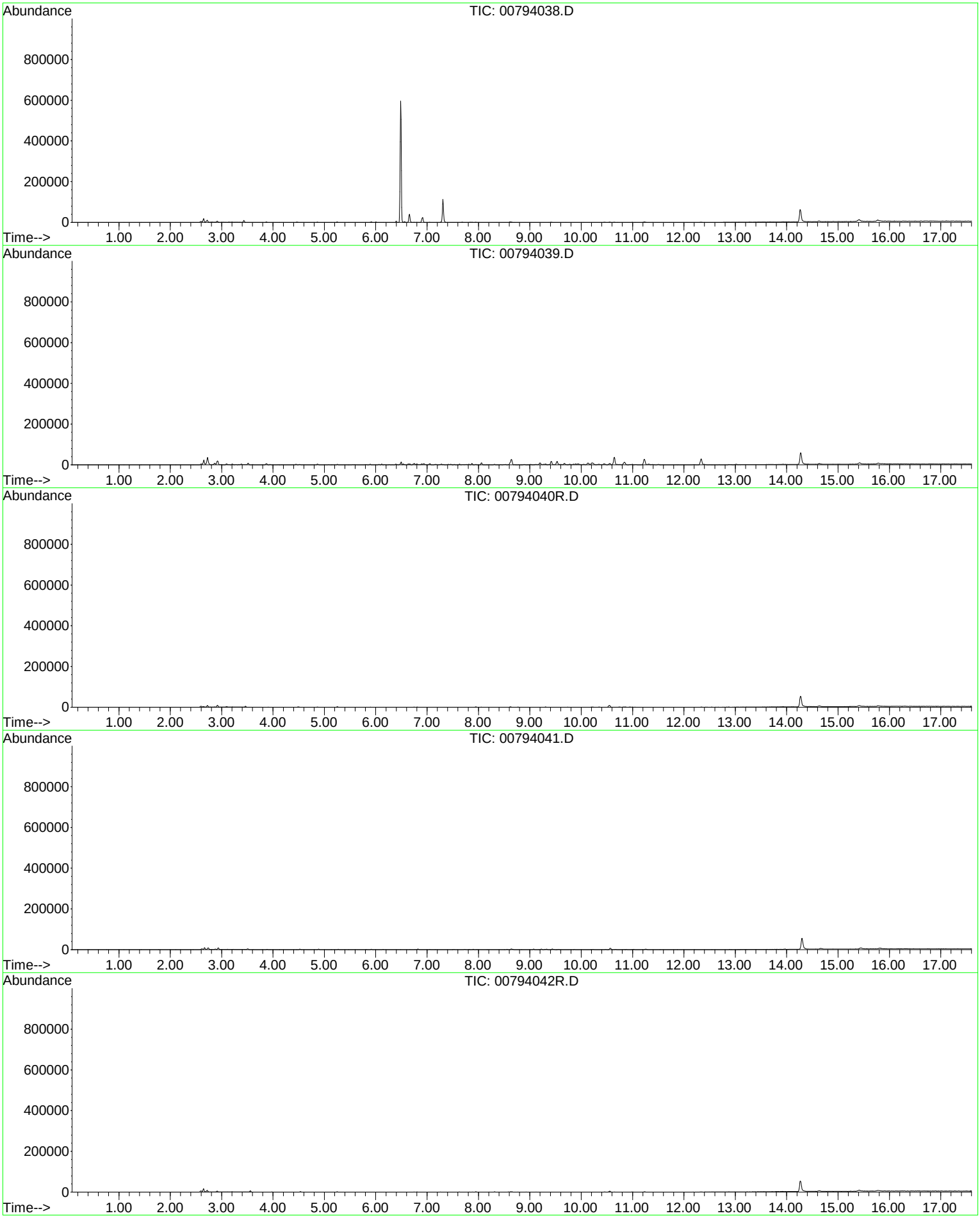

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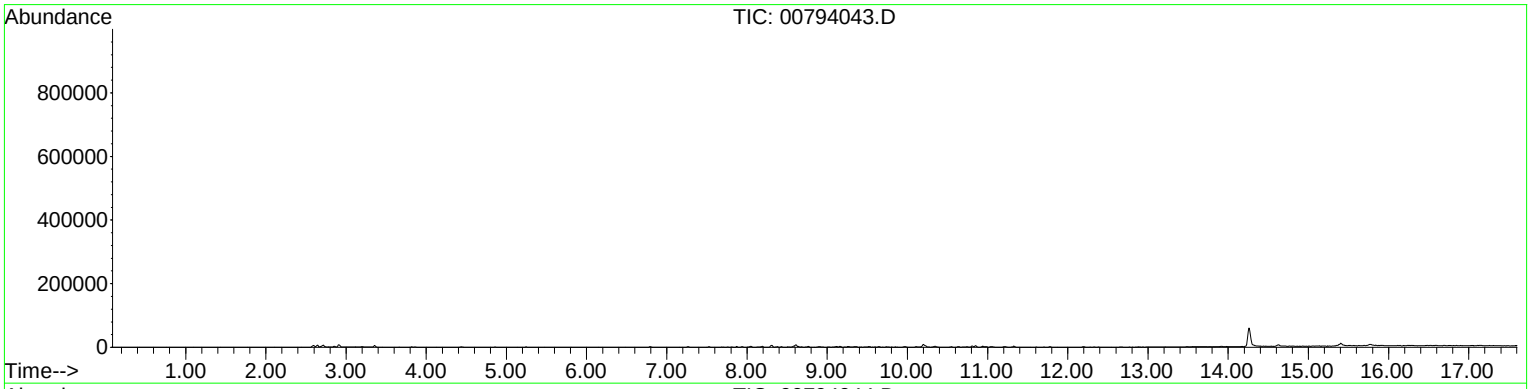

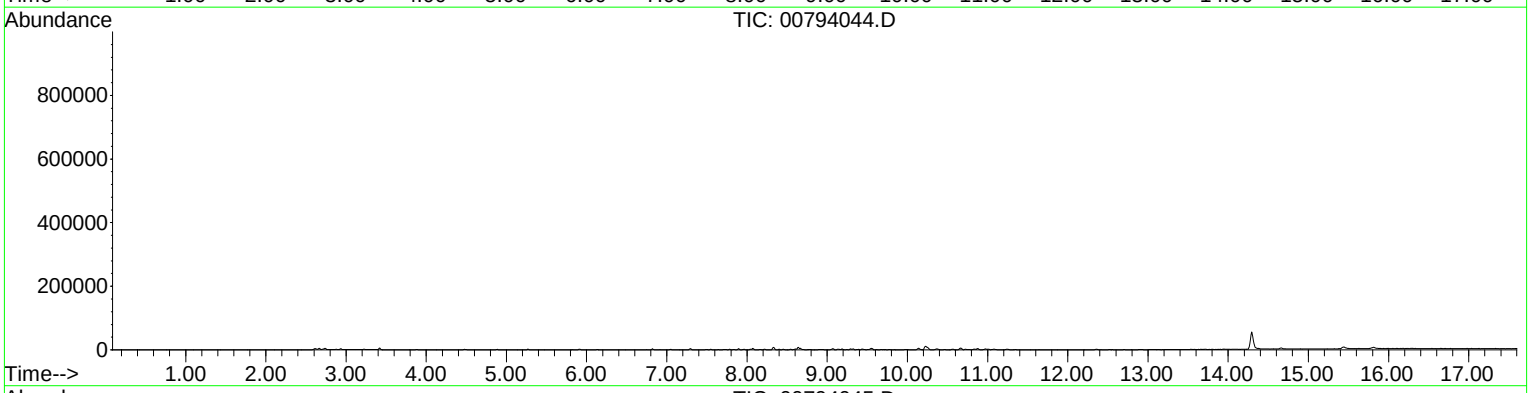

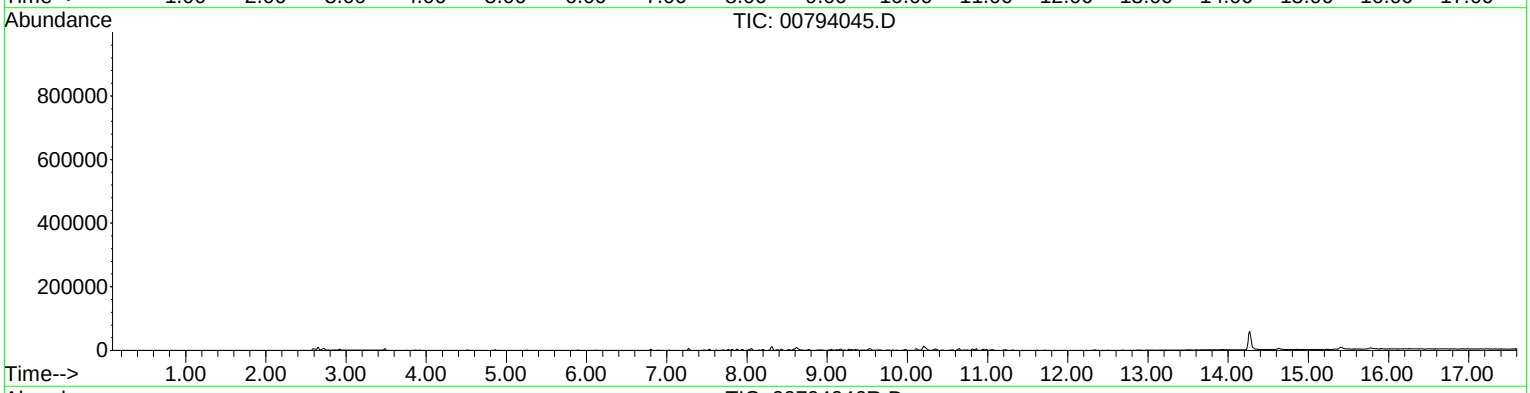

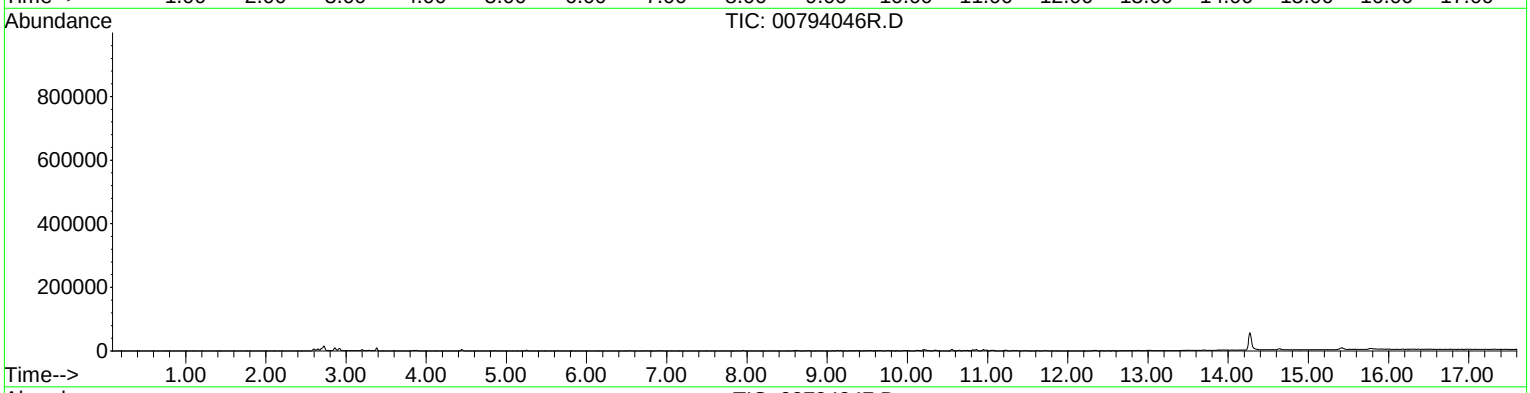

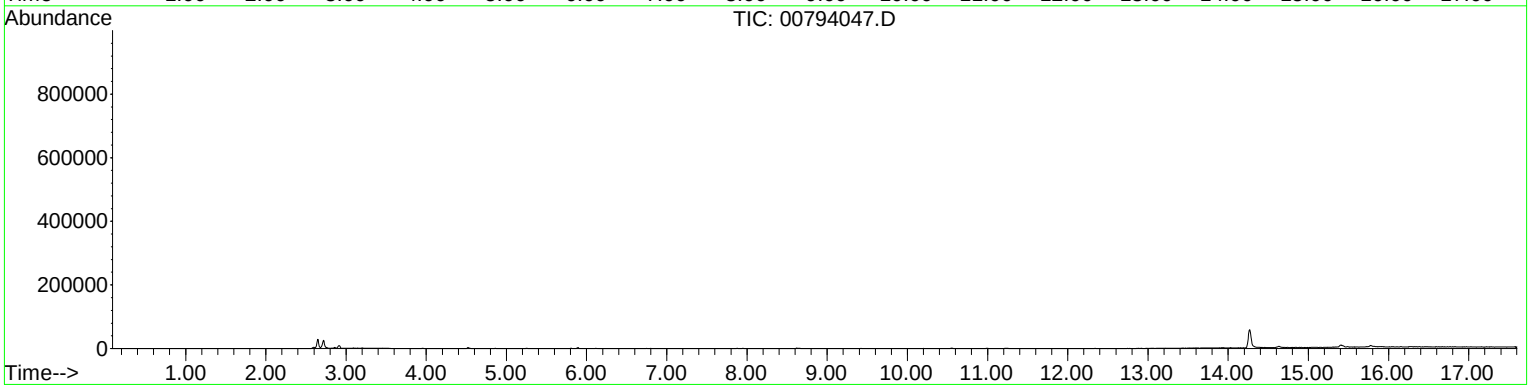

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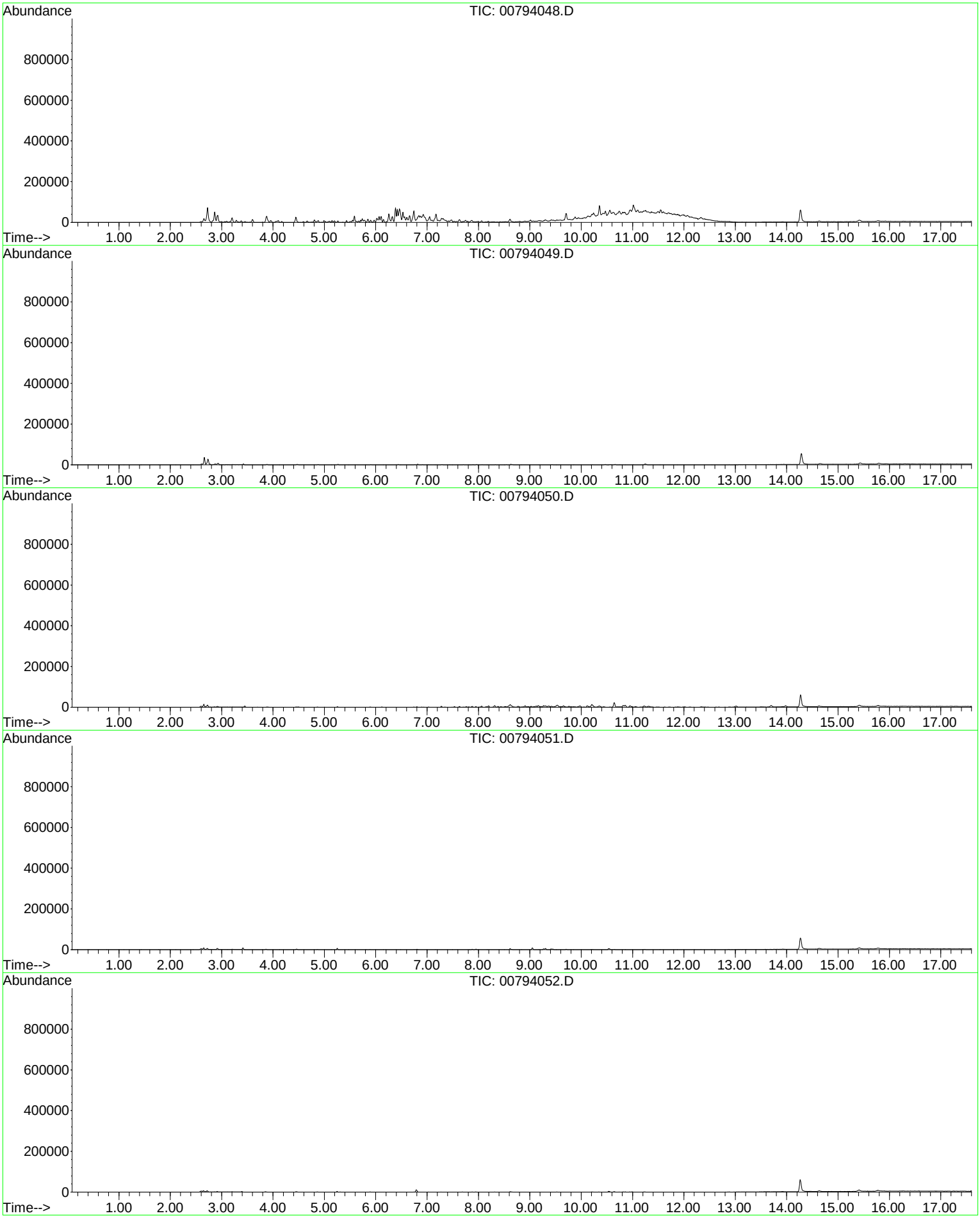

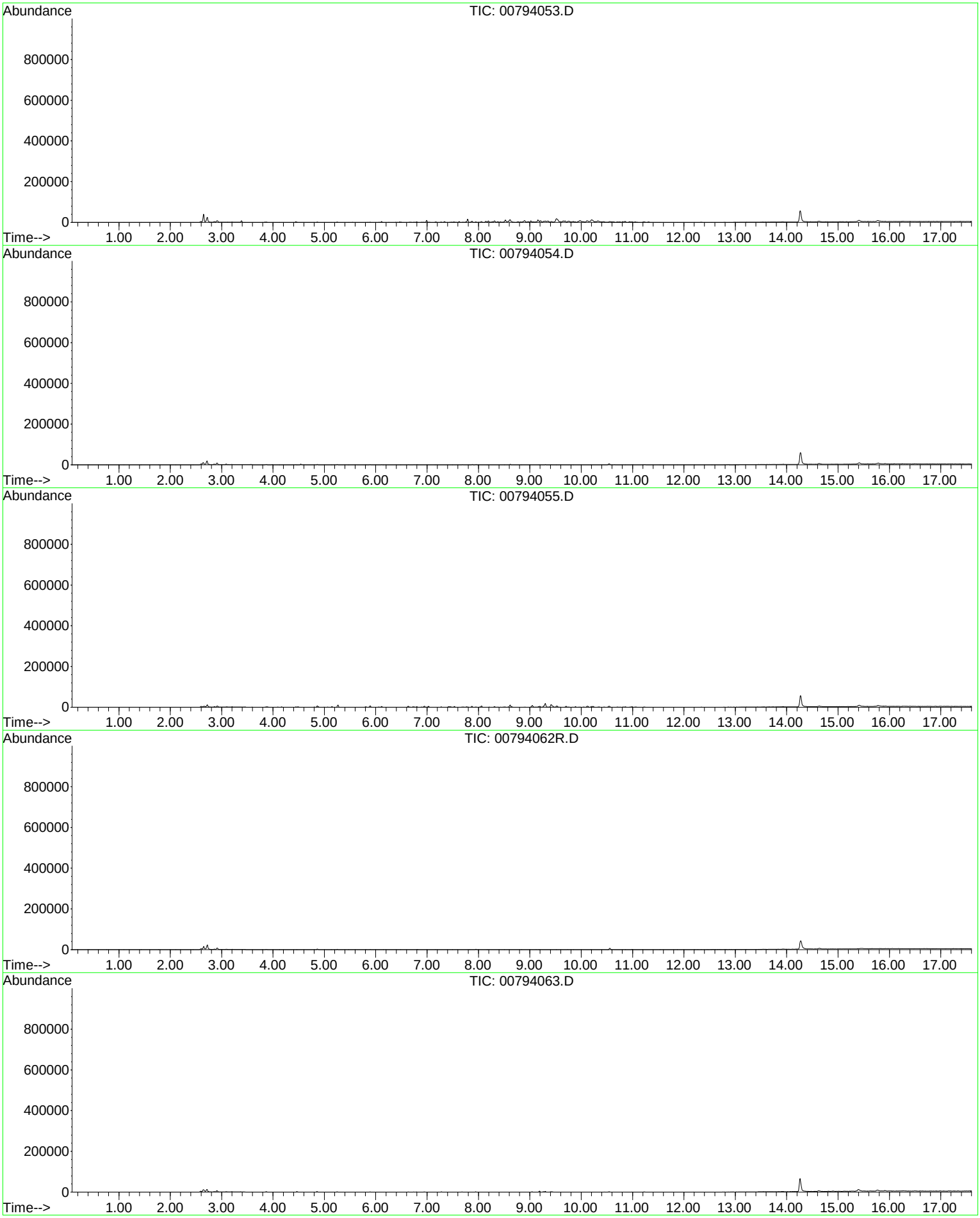
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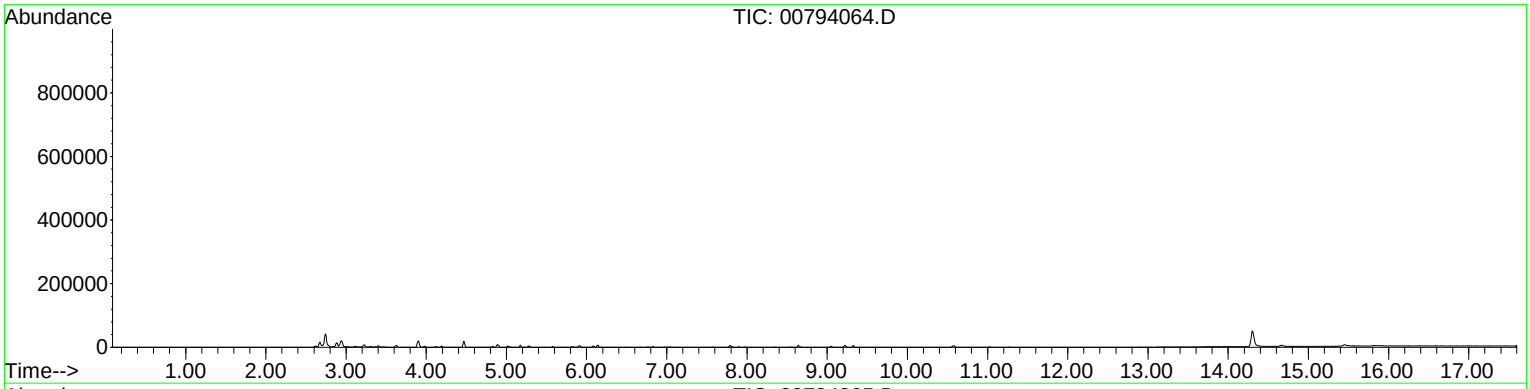

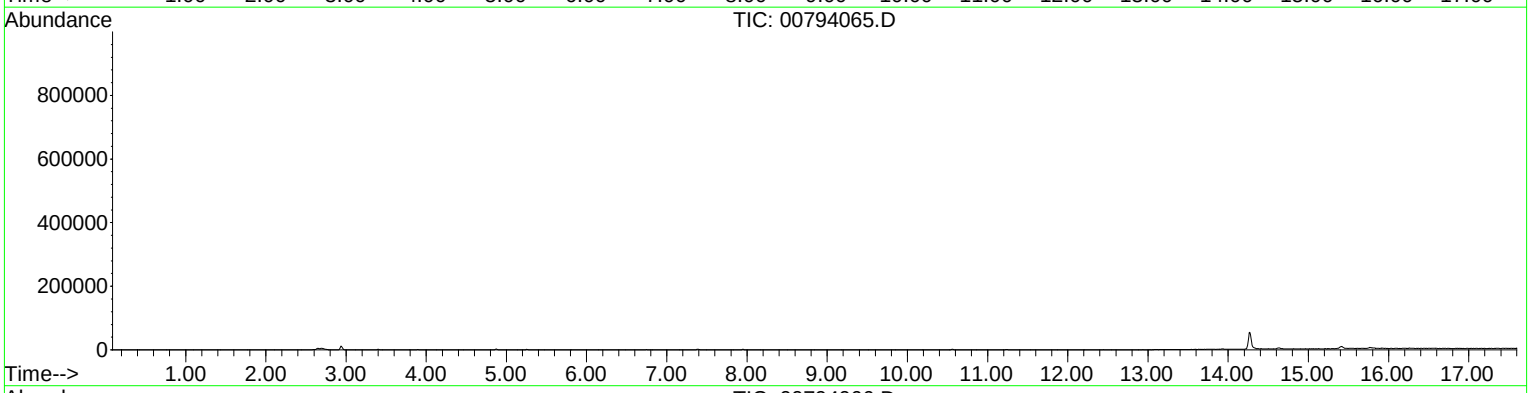

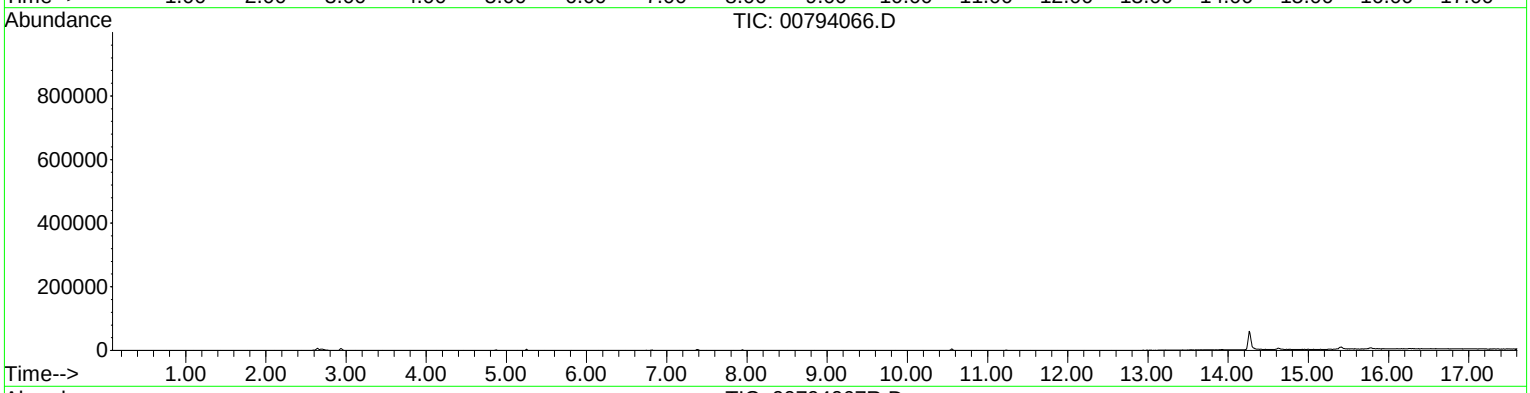

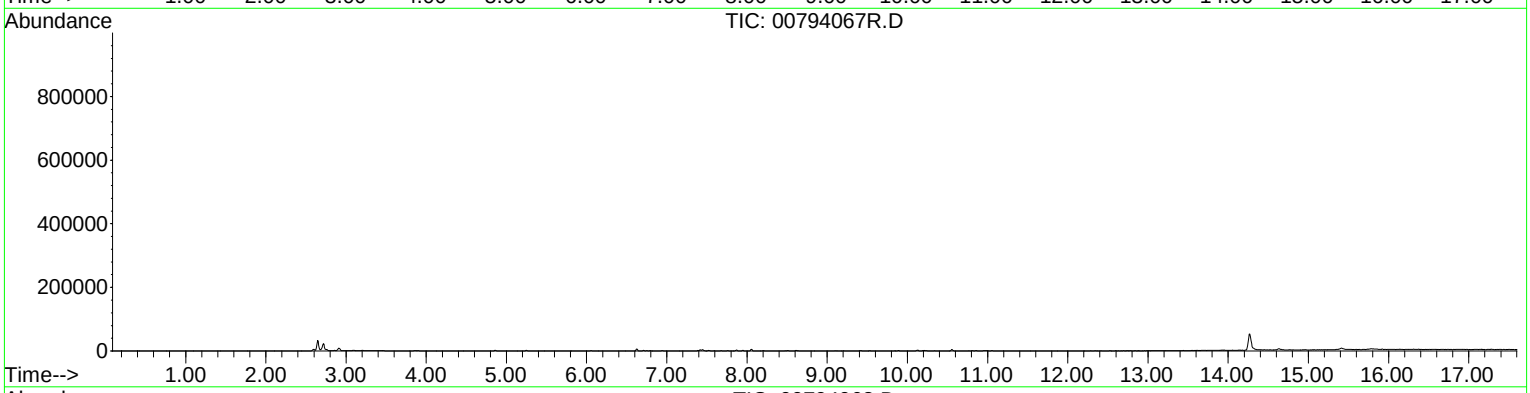

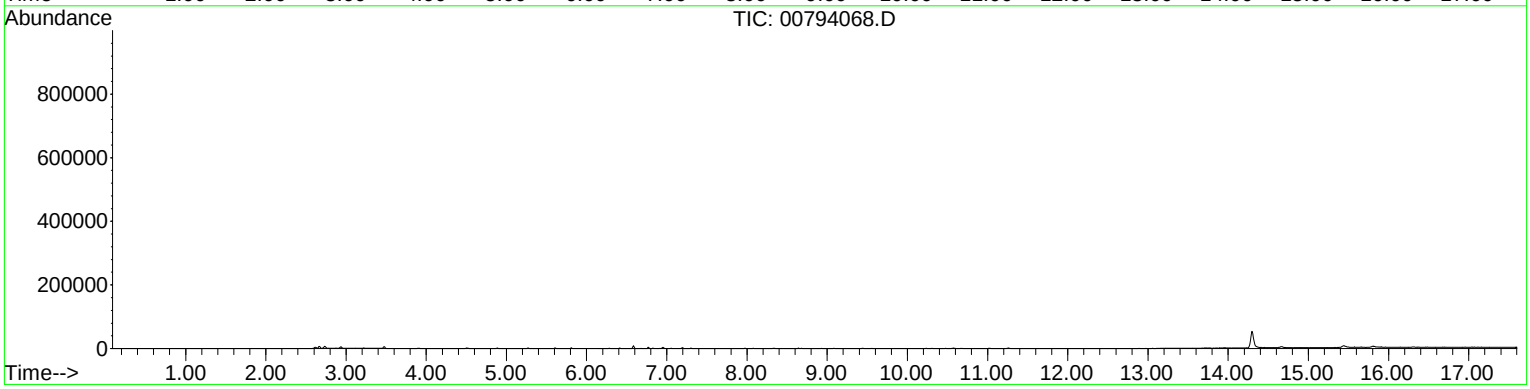

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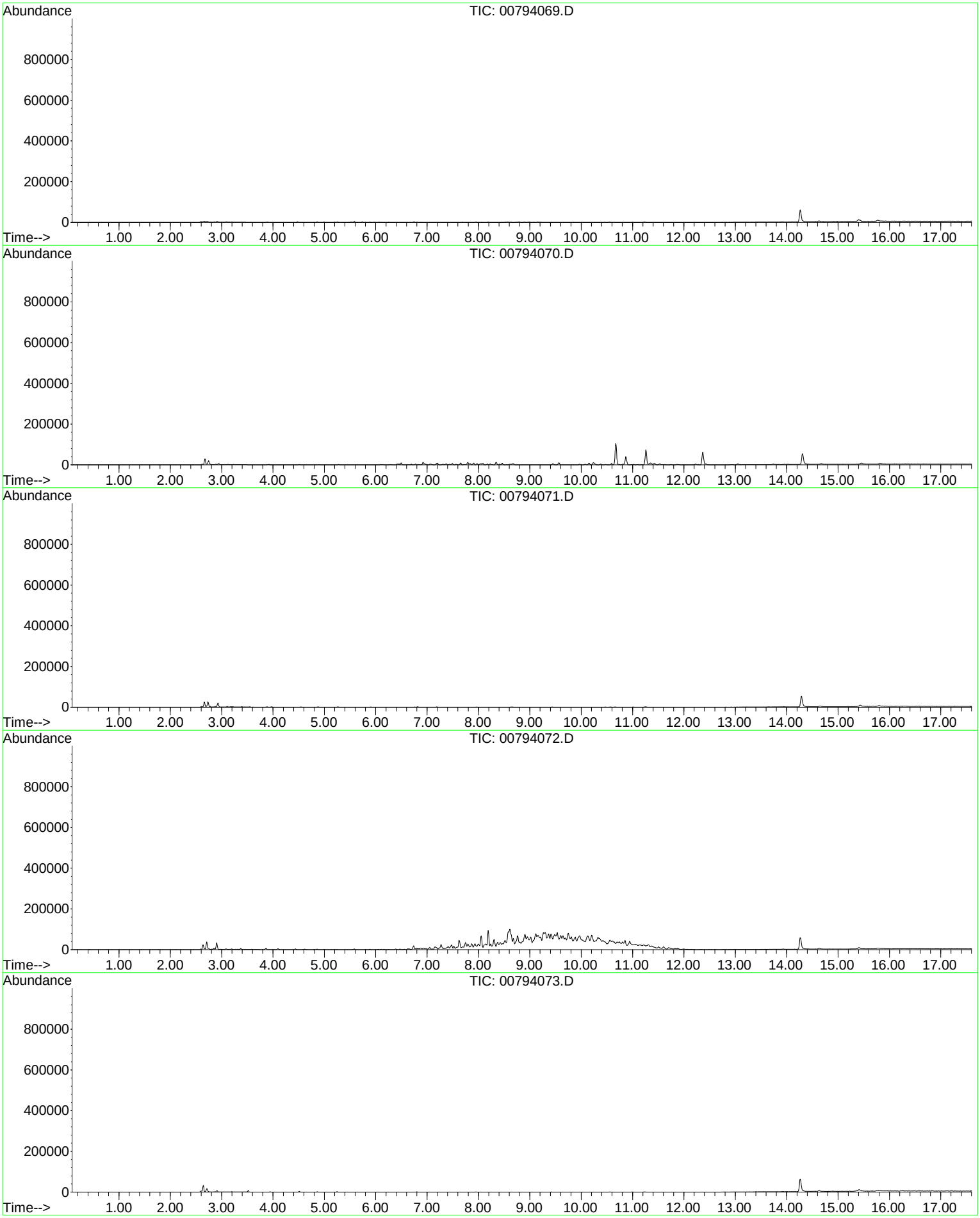

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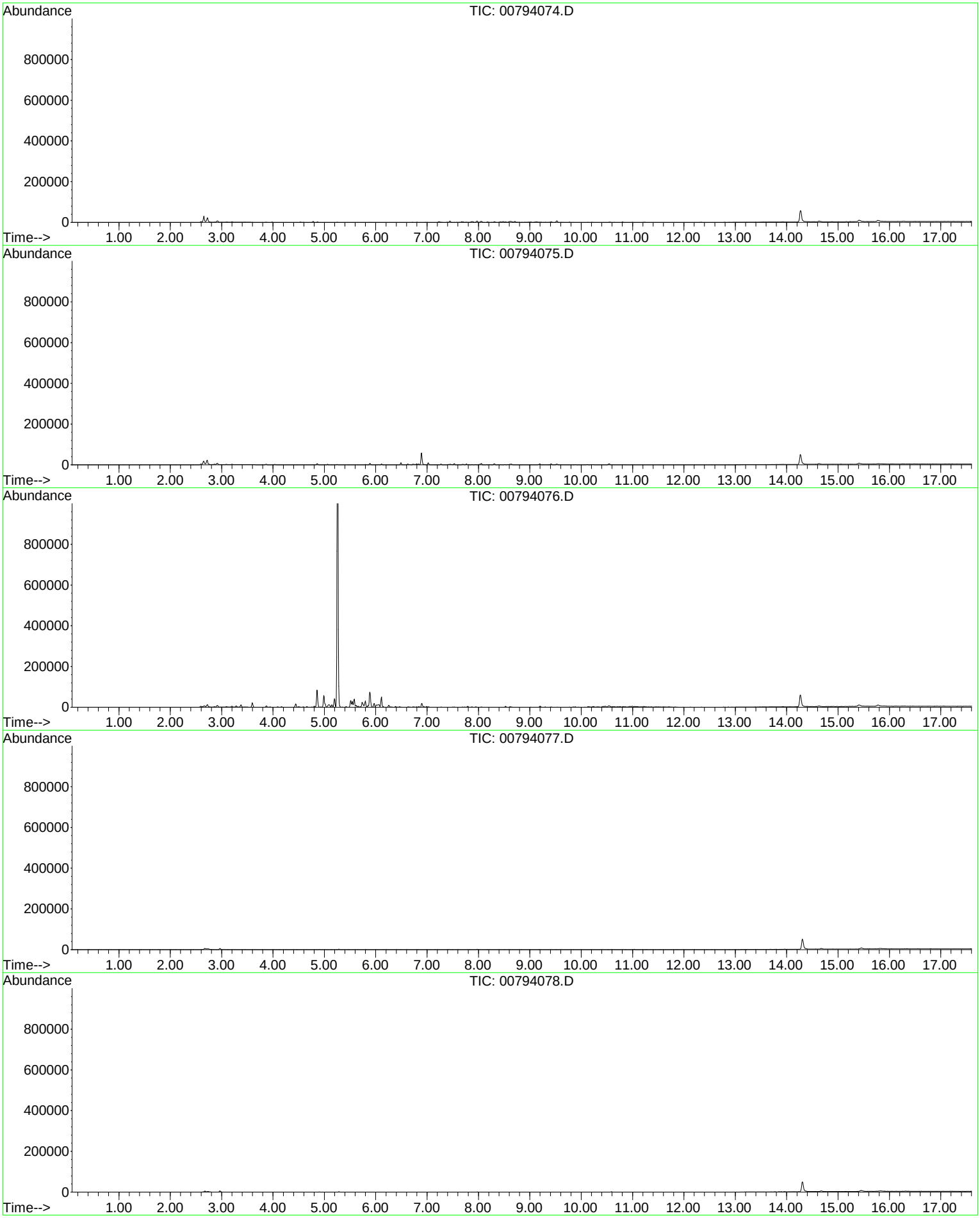

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Newark, Delaware 19702-3335 USA
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Fax: +1-302-266-2429

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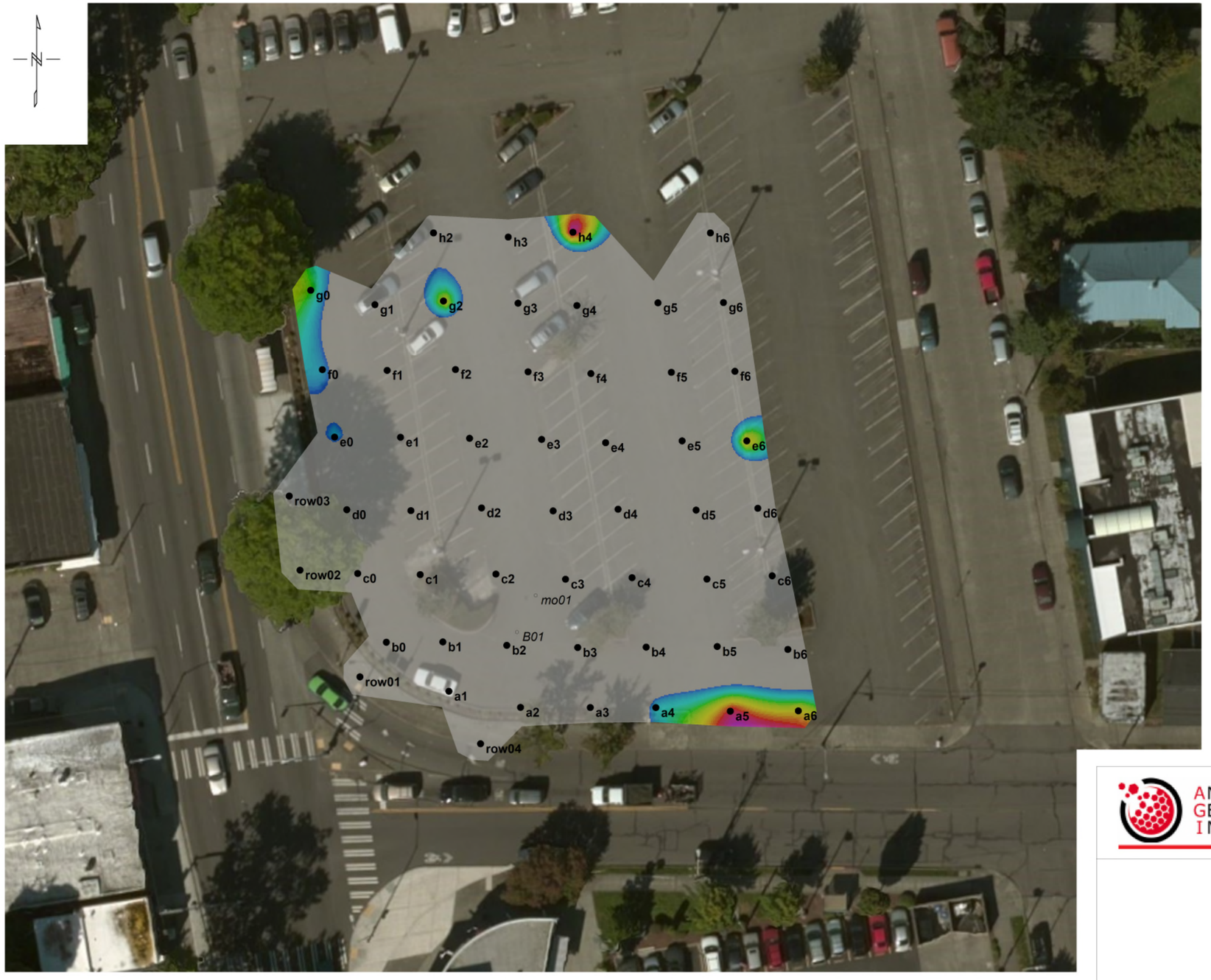
7112 W. Jefferson Avenue, Suite 106
Lakewood, CO 80235 USA
Phone: +1-303-988-1968
Fax: +1-303-986-2898

www.agisurveys.net



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0.500

TPH
[µg]

Scale 1:480

25 0 25 50 75

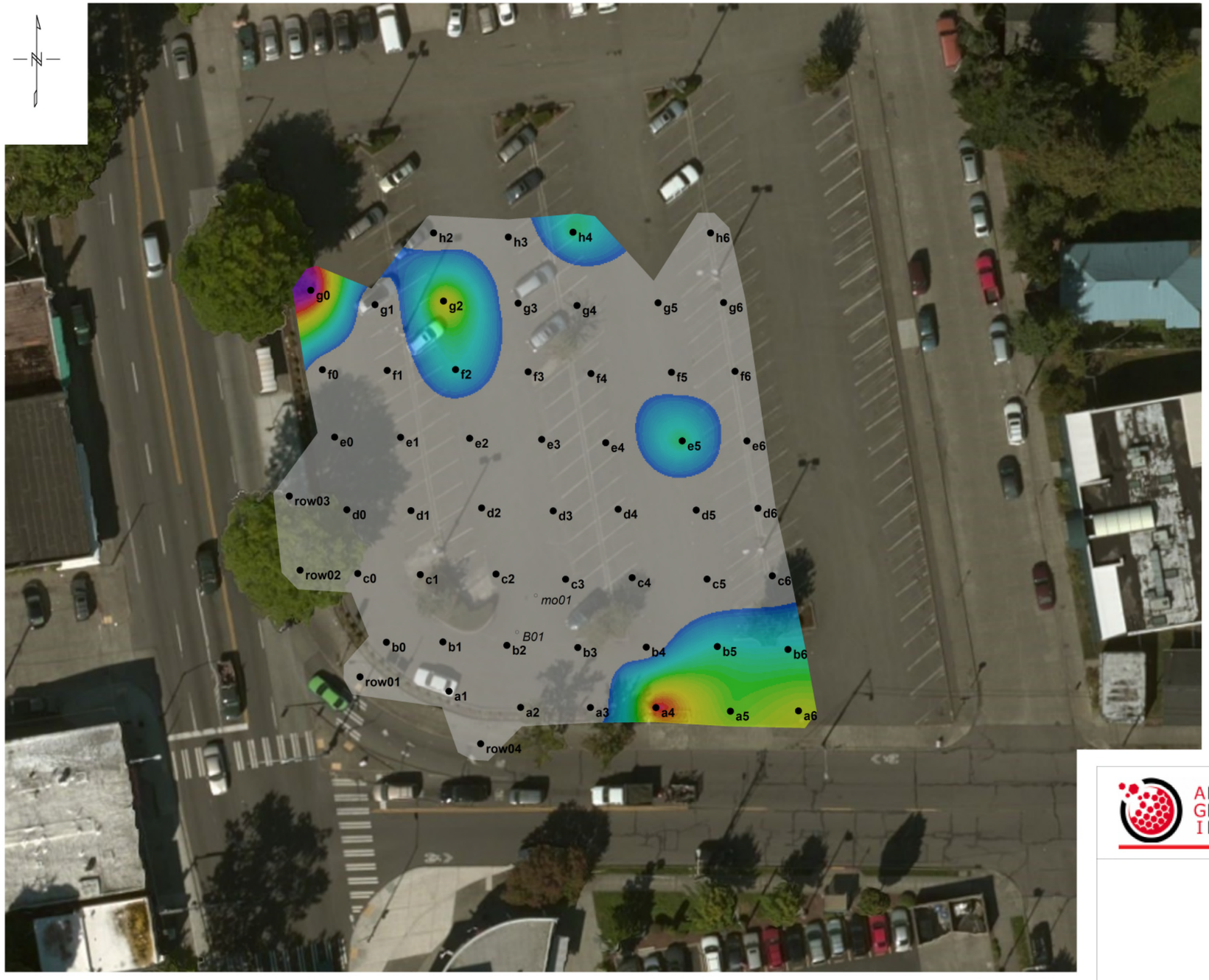
US survey foot

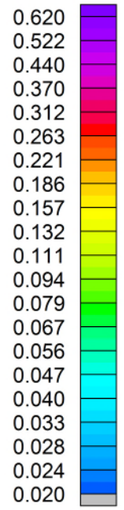
NAD83 / Washington North (ftUS)

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1
NEWARK, DELAWARE 19702-3335 USA
PHONE: +1-302-266-2428
FAX: +1-302-266-2429
WWW.AGISURVEYS.NET

SoundEarth Strategies, Inc.
Rainier Mall
Total Petroleum Hydrocarbons

DATE DRAWN: 1 MAR 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 01935	





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US survey foot

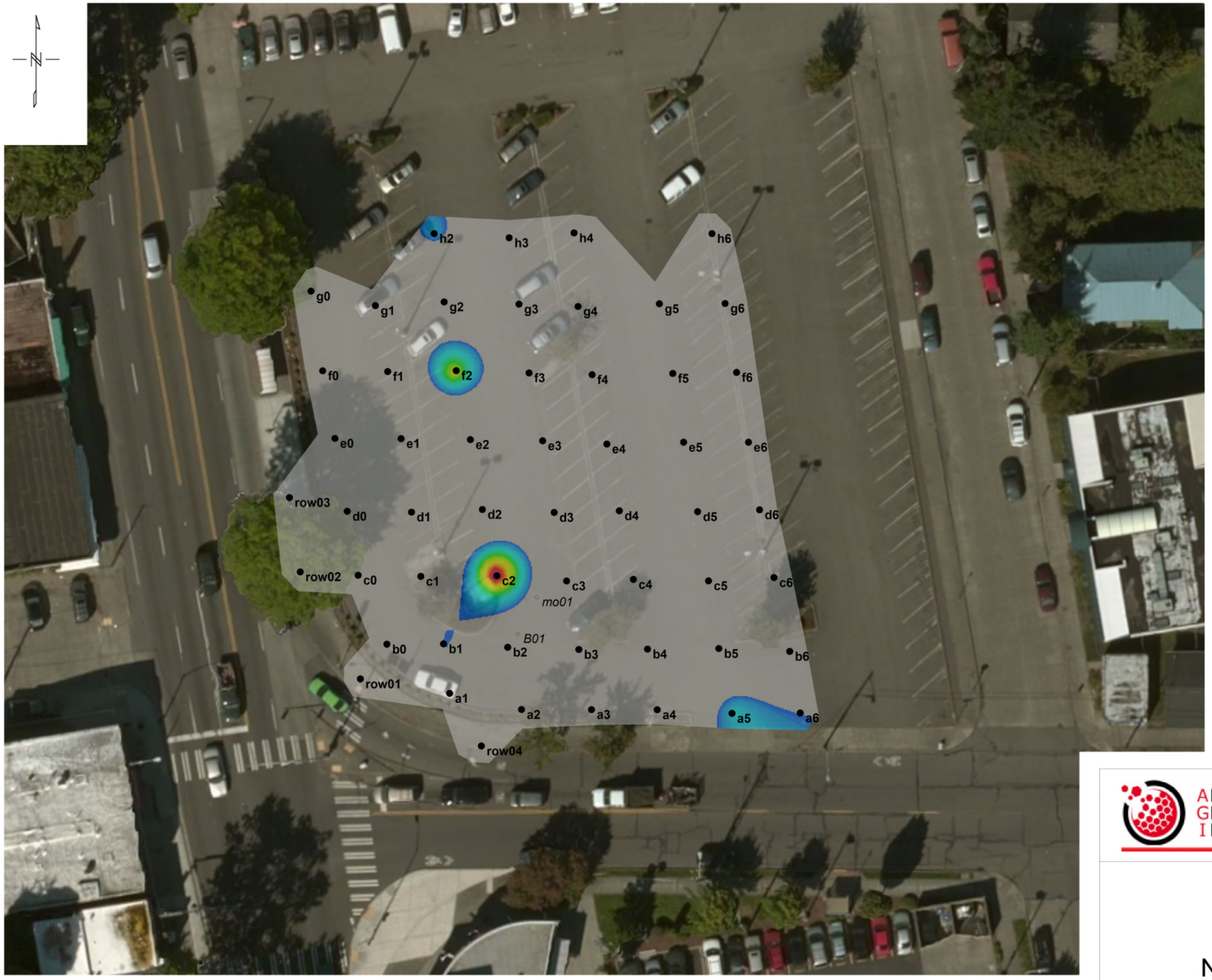
NAD83 / Washington North (ftUS)

AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 EXECUTIVE DRIVE, SUITE 1
NEWARK, DELAWARE 19702-3335 USA
PHONE: +1-302-266-2428
FAX: +1-302-266-2429
WWW.AGISURVEYS.NET

SoundEarth Strategies, Inc.
Rainier Mall
BTEX

DATE DRAWN: 1 MAR 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 01935	



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0.050

NAPH + 2-MeNAPH
[µg]

Scale 1:480

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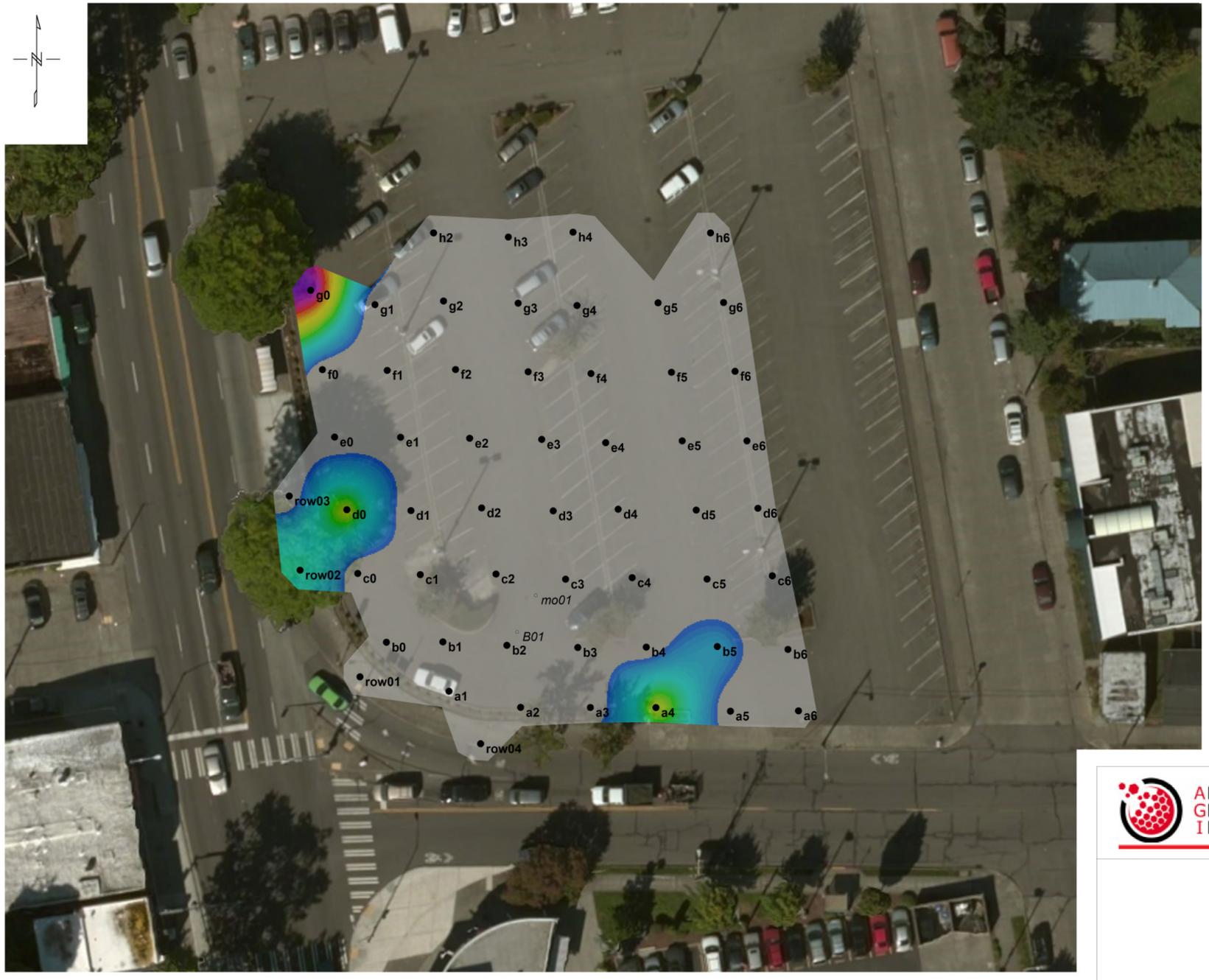
US survey foot

NAD83 / Washington North (ftUS)

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1
NEWARK, DELAWARE 19702-3335 USA
PHONE: +1-302-266-2428
FAX: +1-302-266-2429
WWW.AGISURVEYS.NET

SoundEarth Strategies, Inc.
Rainier Mall
Naphthalene & 2-Methylnaphthalene

DATE DRAWN: 1 MAR 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 01935	



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0.020

PCE
[µg]

Scale 1:480

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US survey foot

NAD83 / Washington North (ftUS)

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1
NEWARK, DELAWARE 19702-3335 USA
PHONE: +1-302-266-2428
FAX: +1-302-266-2429
WWW.AGISURVEYS.NET

SoundEarth Strategies, Inc.
Rainier Mall
Tetrachloroethene

DATE DRAWN: 22 JAN 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
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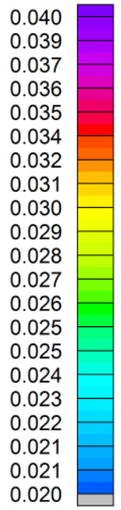

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US survey foot

NAD83 / Washington North (ftUS)

AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 EXECUTIVE DRIVE, SUITE 1
NEWARK, DELAWARE 19702-3335 USA
PHONE: +1-302-266-2428
FAX: +1-302-266-2429
WWW.AGISURVEYS.NET

SoundEarth Strategies, Inc.
Rainier Mall
Trichloroethene

DATE DRAWN: 22 JAN 2018	DRAWN BY: KJS	ORIG. CAD: Point_ge.shp	SITE CODE:
REV. DATE:	REV. #:	PROJECT NUMBER: 01935	