June 22, 2020

Robert Hayes
Sagamore Spokane, LLC
One East Camelback Road, Suite 200
Phoenix, Arizona 85012

Re: Supplemental Soil and Soil Gas Investigation Summary
District on the River Redevelopment (formerly Riverbend) Spokane
Project No. 190210

Dear Mr. Hayes:

Aspect Consulting, LLC (Aspect) submits this Summary for supplemental soil and soil gas investigations completed at the properties located at 111 North Erie Street in Spokane, Washington (herein referred to collectively as the Subject Property or District on the River Redevelopment). The purpose of this investigation was to support redevelopment of the Subject Property which includes portions of the Hamilton Street Bridge Site (Site) and property outside of the MTCA Site.

Historical operations at the Site led to the investigation and cleanup of hazardous substances in soil and groundwater under the Washington State Model Toxics Control Act (MTCA) cleanup regulation, Chapter 173-340 of the Washington Administrative Code (WAC 173-340). A cleanup action plan (CAP) prepared under a Consent Decree by liable parties, Avista and BNSF, has been implemented at the Site (Ecology, 2001) and is documented in the Cleanup Action Completion Report dated February 2, 2006 (Landau, 2006). The Washington State Department of Ecology (Ecology)-selected cleanup action at the Site consisted of streambank bioengineering, limited soil cap, natural attenuation, groundwater monitoring, institutional controls, and stormwater management.

Investigation Scope

The basis of investigations included Ecology's request to (1) evaluate the former gas works locations where concrete slabs remain, and (2) conduct soil vapor sampling to evaluate the potential for vapor intrusion risk associated with the proposed residential structures. Other basis of investigation was to collect additional environmental and geotechnical information necessary for redevelopment planning. The scope of Aspect's supplemental investigations were submitted to Ecology for review in two work plans: (1) Work Plan for Test Pit Explorations; and (2) Test Pit and Vapor Sampling Work Plan Ecology provided comments on the draft work plans, and their comments are incorporated into the final work plans (Aspect, 2020a; Aspect 2020b).

The investigations were completed in accordance with the final work plans - all completed explorations, historical features, and proposed buildings are shown on Figure 1. Preliminary results in the form of data tables, exploration location figure, laboratory reports, draft test pit logs, and soil vapor point as-builts were transmitted to Ecology on May 7, 2020 to support Ecology's effort in preparing a CAP Amendment. A subsequent videoconference technical meeting between Aspect

and Ecology was conducted on May 12, 2020, to discuss the preliminary results. The final results are presented in this Summary.

Test Pit Explorations

The investigation objectives of test pit explorations in three areas on the Subject Property included:

1) Evaluating the presence/absence of historical manufactured gas plant (MGP) concrete slabs at the Site (test pit locations ATP-01 through ATP-07).
2) Understanding the potential for contaminated fill soil (if any) at the off-Site northern stormwater swale (test pit locations ATP-09 through ATP-13).
3) Evaluating on-Site riverbank stability for geotechnical engineering purposes (test pit locations ATP-08 and ATP- 14 through ATP-16).

Former MGP Slab Test Pits

Ecology identified the need for test pits in the former gas works locations to evaluate if the former below-grade gas holder concrete slabs remained (ATP-01 through ATP-07). Aspect completed a total of eight test pits to the depths of the concrete slabs in the locations indicated on Figure 1. The test pit locations were selected to verify the location of concrete slabs, assess condition of concrete slabs, and to identify whether free-phase contamination was pooled on the slabs. The reason for this evaluation was to understand if deep foundations completed as part of redevelopment would be drilled through free-phase liquids that might cause vertical migration of contaminates (drag down). The footprints of the two buildings fronting Martin Luther King Jr. Way, shown on Figure 1, represent the preliminary aerial extent of pilings required for deep foundations.

Northern Stormwater Swale Test Pits

Polycyclic aromatic hydrocarbons (PAHs) were detected in at least one soil sample during the City of Spokane's (City) riverfront trail extension which was constructed near the existing swale. The objective of the test pit explorations was to evaluate soil quality in the stormwater swale in the northeast portion of the Subject Property and off-Site (ATP-09 through ATP-13).

Riverbank Stability Test Pits

Additional test pit explorations (ATP-08 and ATP-13 through ATP-16) were conducted to evaluate geotechnical conditions and stability adjacent to the existing riverbank. Data will be used for the expansion of a pedestrian trail to also serve as emergency access for the proposed redevelopment. All test pits were evaluated for environmental and geotechnical parameters.

Summary of Test Pit Excavation and Field Screening

Field screening of select soil samples was completed at all test pit explorations. Field screening of soil included measuring volatilization using a photoionization detector (PID), sheen testing, and observing soil for staining and odors. Soil was classified in accordance with the ASTM International, Inc. (ASTM) Method D2488 *Standard Practice for Description and Identification of Soils* (Visual-Manual Procedure) by an Aspect field engineer. Soil descriptions, field screening results, and other relevant details (e.g., staining, debris, odors, etc.) are reported in the attached test pit logs. Each completed test pit was also photo documented, see Attachment D for the photographic log.

Environmental soil samples were analyzed for gasoline and diesel-range hydrocarbons by method NWTPH-Gx and NWTPH-Dx, semi-volatile organic compounds (SVOCs) and low-level polycyclic aromatic hydrocarbons (PAHs) by method Environmental Protection Agency (EPA) 8270D SIM. Select samples were also analyzed for polychlorinated biphenyls (PCBs) by method EPA 8082, metals (arsenic, barium, lead, mercury, selenium) by EPA method 6020, and WAD cyanide by method SM 4500CN where field screening indicated possible contamination. Samples were collected from undisturbed soil and handled according to industry-standard, chain-of-custody protocols until delivered to the analytical laboratory, Friedman & Bruya, Inc, for analysis.

On April 21 and 22, 2020, Aspect completed a total of 17 test pits in the locations indicated on Figure 1 and summarized in Table 1 below.

Table 1. Test Pit Locations

Test Pit No.	Location
Former MGP Slab Test Pits	
ATP-01	Former condensing room slab
ATP-02	Former gas holder slab
ATP-03	Former pump house and gas vaporizer slab
ATP-04	Former gas holder slab
ATP-05	Former compressor and pump building slab
ATP-05B	Former compressor and pump building slab
ATP-06	Former gas holder slab
ATP-07	Former pump house and gas vaporizer slab
ATP-08	Filled former riverbank
Stormwater Infrastructure Test Pits	
ATP-09	Northern Swale Depression
ATP-10	Northern Swale Depression
ATP-11	Northern Swale Riverbank
ATP-12	Northern Swale Riverbank
ATP-13	Northern Swale Riverbank
Riverbank Stability Test Pits	
ATP-14	Northeast Riverbank
ATP-15	Central Riverbank

Test Pit No.	Location
ATP-16	Southwest Riverbank

Soil management of soil excavated from each test pit was conducted in accordance with the final work plans (Aspect, 2020a; Aspect, 2020b) and summarized here. Soil from test pits was segregated into two stockpiles during excavation 1) clean cover material (with no field indicators of contamination), and 2) soil suspected to be contaminated based on field screening. All contaminated material was stockpiled on a layer of visqueen sheeting. Once a test pit was completed, the stockpiled material was used to backfill the test pit in roughly 12-inch lifts and compacted with a vibratory compactor up to 2 feet below ground surface (bgs). Then, clean overburden placement and compaction occurred as test pits were completed. No test pits remained open when work was not being actively performed.

Soil Vapor Sampling

Soil vapor sampling was completed to evaluate whether volatile fractions of common MGP contaminants – primarily naphthalene and benzene, ethylbenzene, toluene, xylenes - existed in the subsurface soil vapor at the Subject Property. The purpose for this sampling and testing was to evaluate the potential vapor intrusion risk associated with the proposed residential structures to be constructed at the Site. The results of this sampling will also be used to identify the need for any vapor mitigation or institutional controls necessary for the proposed redevelopment.

Four soil vapor points were installed on April 20, 2020 in the locations shown on Figure 1. The locations ASVP-01 through ASVP-05 were selected to evaluate soil vapor conditions with respect to the limits of the contamination and each of the four preliminary proposed building footprints. A sixth location ASVP-06 was identified in the final work plan to evaluate soil vapor away from the limits of contamination for comparison. Due to difficult drilling conditions in the oversized fill materials (drill rig repeated refusal less than 5 feet bgs), the ASVP-02 and ASVP-06 locations in the final work plan were not completed.

For soil vapor probe installation, borings were advanced using hollow stem auger drilling techniques to approximately 10 feet bgs. Soil vapor probe construction consisted of a 6-inch-long by 0.5-inch-outer-diameter stainless-steel slotted soil vapor implant, attached to 0.25-inch-outer-diameter Teflon tubing to the surface. The screen filter pack consists of 10/20 sand with a hydrated bentonite seal to grade. The bottom of the screens were set at approximately 9.5 feet. Soil vapor probes were completed as permanent with an 8-inch flush-mount monument and concrete apron. See Attachment C for Soil Vapor Point As-Builts.

Prior to soil vapor sampling, the soil vapor probes were allowed to equilibrate overnight and sampled in accordance to the final work plan. All soil vapor probes were sampled under falling or stable barometric conditions when volatile contaminants are most likely to be present in soil gas and migrating towards the ground surface because of the pressure gradient from the subsurface to ambient air.

Upon completion of vapor sampling, the SUMMA canisters were maintained under chain-of-custody procedures until they were delivered to Friedman & Bruya Laboratories in Seattle,

Washington. Vapor samples were analyzed using EPA Method TO-15 for Benzene, Toluene, Ethylbenzene, Total Xylenes, Naphthalene, and aromatic polycyclic hydrocarbons (APHs).

Investigation Results

Former MGP Slab Test Pits

Each former MGP slab test pit was advanced to the depth of the concrete slab or to the maximum practical depth when no slab was encountered. The concrete slab features were located for each of the completed test pits ATP-01 through ATP-07. ATP-05 was an exception, as a concrete slab was not encountered to a depth of 7-feet bgs. The test pit was repeated as ATP-05B to the south (Figure 1), and the concrete slab was located at a depth of 5-feet bgs.

No free product was observed or indicated by field screening on the concrete slabs in any of the test pits. PID readings, slight sheen, and hydrocarbon like-odors were noted in ATP-01, ATP-04, and ATP-05. Additionally, MGP related infrastructure such as pipes, tar, and woody debris were observed in many of these test pits. Test pit logs can be found in Attachment A. Environmental analytical samples were not collected at any of these test pits.

Northern Stormwater Swale Test Pits

Each test pit completed at the northern stormwater swale was advanced to 12-feet, or to the depth at which the water table was encountered, at which point the test pit was terminated. Analytical results for all soil samples can be found in Table 2 and laboratory data reports are available in Attachment B. Results were compared with the 2001 Cleanup Action Plan (Ecology, 2001) cleanup levels for the Site.

Base Samples. Test pits ATP-09 and ATP-10 were located in the base of the existing stormwater swale and one analytical sample was analyzed from the bottom of the test pit. The surface of these test pits were five to seven feet lower than the surface of the Northern Berm Samples, there were no field indicators (in the form of sheen, odor, or elevated PID) of contamination present in these test pits. There were no cleanup level exceedances of PAHs or TPH constituents at ATP-09 and ATP-10.

North Berm Samples. Three test pits located on the northern berm between the stormwater swale and the Spokane River (ATP-11 through ATP-13) had field indicators of clinker-like material (black, low density, high organic fine sand) as well as some metallic debris in the upper fill layers. Two soil samples were taken from each test pit (6 samples total) for chemical analytical testing, one at a depth determined by field screening (between 5 and 7.5-feet bgs), and one at the bottom of the test pit (11 to 12 feet bgs). Contaminants of concern either were not detected or detected at concentrations less than MTCA cleanup levels in the six samples from the north berm test pits with the exception of arsenic, barium, lead, cyanide and cPAHs in fill soil at depths less than 7.5 feet (Table 1). There were no exceedances from soil samples tested at 11.5 to 12.5-feet bgs in these test pits.

There were no elevated PID readings, sheens, or strong hydrocarbon odors in any of the northern swale test pits. Analytical results are presented in Table 2 and test pit logs can be found in Attachment A.

Riverbank Stability Test Pits

Each riverbank stability test pit (ATP-14 through ATP-16) was advanced to 9.5-feet bgs, or until excavation became impractical due to the presence of basalt boulder fill. ATP-14 was advanced to a depth of 9.5-feet bgs, various fill layers were observed to a depth of 5.5-feet bgs and were composed of silty sand to basalt spalls (2-6" diameter). ATP-15 was advanced to a depth of 6.5-feet bgs, with basalt boulders encountered beginning at 4.5 feet-bgs and various other fill layers above. ATP-16 was advanced to a depth of 3-feet bgs, with basalt cobbles and boulders encountered beginning at 2-feet bgs and various fill layers above. Field screening did not indicate contamination at any of these test pits, therefore no analytical samples were taken. The riverbank stability geotechnical analysis and associated recommendations will be incorporated into the geotechnical report for redevelopment design purposes. Test pit logs can be found in Attachment A

Soil Vapor Results

The results of the four soil vapor samples (ASVP-01, 03, 04 and 05) collected on April 20, 2020 are presented in Table 3. ASVP-01 and ASVP-04 had an exceedance of the MTCA Method B Sub-Slab Soil Gas Screening Level (Ecology, 2020) for benzene. ASVP-01 also had an exceedance of the MTCA Method B Sub-Slab Soil Gas Screening level (Ecology, 2020) for naphthalene. Locations ASVP-03 and ASVP-05 had no exceedances. These results indicate that vapor intrusion mitigation will be necessary for the proposed residential redevelopment. Ecology agreed with this conclusion during the May 17, 2020, technical meeting.

In order to mitigate for the possibility of benzene and naphthalene vapor intrusion into the future at-grade residential buildings, two vapor mitigation options are currently under consideration: (1) a passive sub-slab venting system designed to allow for contingent active vapor extraction (if necessary), or (2) a chemical vapor barrier installed beneath slab on grade foundations. The redevelopment design team is planning to implement Option 1 pending concurrence from Ecology.

References

Aspect Consulting LLC (Aspect), 2020a, Riverbend Spokane – Work Plan for Test Pit Explorations, April 23, 2020.

Aspect Consulting LLC (Aspect), 2020b, Riverbend Spokane – Test Pit and Soil Vapor Sampling Work Plan, April 23, 2020.

ASTM International (ASTM), 2018, 2018 Annual Book of ASTM Standards, West Conshohocken, Pennsylvania.

Landau Associates, Inc. (Landau), 2006, Cleanup Action Completion Report: Hamilton Street Bridge Site, Spokane, Washington, February 2, 2006.

Washington State Department of Ecology (Ecology), 2001, Final Cleanup Action Plan, Hamilton Street Bridge Site, Spokane, Washington, August 10, 2001.

Washington State Department of Ecology (Ecology), 2020, Cleanup Levels and Risk Calculation Tables, January 2020.

Limitations

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

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

Sincerely,

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Attachments:
Table 1 – Test Pit Locations (in-text)
Table 2 – Soil Analytical Results
Table 3 – Soil Gas Analytical Results
Figure 1 – Design Investigation Exploration Map
Attachment A – Test Pit Logs
Attachment B – Laboratory Certificates of Analytical Data
Attachment C – Soil Vapor As-Built Construction Diagrams
Attachment D – Test Pit Photo Log
Attachment E – Report Limitations and Guidelines for Use

cc: Christer Loftenius, Department of Ecology, Eastern Regional Office
Chuck Dubroff, Sagamore Spokane, LLC
Michael Dunning, Perkins Coie LLP

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TABLES

Table 2. Soil Analytical Results

Project No. 190210, 111 N Erie Street, Spokane, WA

Analyte	Unit	Cleanup Level[1]	ATP-09 04/22/2020 11.5 ft	ATP-10 04/22/2020 9 ft	ATP-11 04/22/2020 6 ft	ATP-11 04/22/2020 12.5 ft	ATP-12 04/21/2020 7.5 ft	ATP-12 04/21/2020 11.5 ft	ATP-13 04/21/2020 5 ft	ATP-13 04/21/2020 11.5 ft
TPH										
Gasoline Range Organics	mg/kg		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel Range Organics	mg/kg	200	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor Oil Range Organics	mg/kg	200	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Other										
Cyanide, (WAD)	mg/kg	0.52	--	--	**0.07**	--	**1.1**	--	**0.34**	--
Metals										
Arsenic	mg/kg	7	--	--	**12.7**	--	**11.8**	--	**7.77**	--
Barium	mg/kg	112	--	--	**197**	--	**120**	--	**205**	--
Lead	mg/kg	17	--	--	**63.4**	--	**14.2**	--	**281**	--
Mercury	mg/kg	0.07	--	--	1 U	--	1 U	--	1 U	--
Selenium	mg/kg	0.92	--	--	1 U	--	1 U	--	1 U	--
PAHs										
Acenaphthene	mg/kg	64.3	0.002 U	0.01 U	0.05 U	0.05 U	**0.065**	0.01 U	**0.078**	0.01 U
Anthracene	mg/kg	480	0.002 U	0.01 U	**0.051**	**0.063**	**0.91**	0.01 U	**0.2**	0.01 U
Fluoranthene	mg/kg	9.02	**0.005**	0.01 U	**0.29**	**0.25**	**6.9**	**0.03**	**2.2**	0.01 U
Fluorene	mg/kg	64	0.002 U	0.01 U	0.05 U	0.05 U	**0.17**	0.01 U	**0.082**	0.01 U
Naphthalene	mg/kg	32	0.002 U	0.01 U	**0.21**	**0.051**	**0.44**	0.01 U	**0.22**	0.01 U
Pyrene	mg/kg	48	**0.0059**	0.01 U	**0.28**	**0.28**	**6.9**	**0.024**	**1.9**	0.01 U
Total cPAHs TEQ	mg/kg	1	**0.0043**	0.0075	**0.36**	**0.36**	**5.27**	**0.024**	**1.50**	0.00755 U
SVOCs										
Carbazole	mg/kg	0.437	0.01 U	0.05 U	0.25 U	0.25 U	0.25 U	0.05 U	0.25 U	0.05 U
PCBs										
Aroclor 1016	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1221	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1232	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1242	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1248	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1254	mg/kg		--	--	0.02 U	--	**0.081**	--	0.05 U	--
Aroclor 1260	mg/kg		--	--	0.02 U	--	**0.055**	--	0.05 U	--
Aroclor 1262	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Aroclor 1268	mg/kg		--	--	0.02 U	--	0.02 U	--	0.05 U	--
Total PCBs (Sum of Aroclors)	mg/kg		--	--	0.02 U	--	**0.136**	--	0.05 U	--

Notes:

(1) Hamilton Street Bridge Site Cleanup Levels (2001 Cleanup Action Plan)

Bold - detected

Blue Fill - Detected result exceeds Cleanup Level

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

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

BTEX = benzene, toleuene, ethylbenzene, and total xylenes

PAHs = polycyclic aromatic hydrocarbons

VOCs = volatile organic compounds

WAD - Weak Acid Dissolvable

Table 3. Soil Gas Analytical Results

Project No. 190210, 111 N Erie Street, Spokane, WA

Analyte	Unit	Risk Driver	MTCA Method B Subslab Screening Level (Unrestricted)[1,3]	Location	ASVP-01	ASVP-03	ASVP-04	ASVP-05
				Date	4/21/2020	4/21/2020	4/21/2020	4/21/2020
				Sample	AVP-01-042120	AVP-03-042120	AVP-04-042120	AVP-05-042120
BTEX								
Benzene	ug/m3	C	11		**17 J**	1.1 U	**16**	**1.7**
Toluene	ug/m3	NC	76,000		66 U	66 U	64 U	66 U
Ethylbenzene	ug/m3	NC	15,000		**26 J**	1.5 U	1.5 U	1.5 U
Total Xylenes	ug/m3	NC	1,500		**87 J**	3 U	3 U	3 U
PAHs								
Naphthalene	ug/m3	C	2.5		**3**	0.92 U	0.89 U	0.92 U
APH								
C5 - C8 Aliphatic Hydrocarbons	ug/m3	--	--		**560 J**	100 U	**100**	100 U
C9 - C12 Aliphatic Hydrocarbons	ug/m3	--	--		**760 J**	120 U	**160**	120 U
C9 - C10 Aromatic Hydrocarbons	ug/m3	--	--		**140 J**	87 U	85 U	87 U
Total Petroleum Hydrocarbons[2,3] (ND = 1/2 RL)	ug/m3	NC	4,700		**1626**	153 U	**354**	153 U

Notes

(1) Model Toxic Control Act (MTCA) Method B Subslab Soil Gas Screening Levels (SLs).

(2) Total petroleum hydrocarbon concentration is calculated as the sum of BTEX and APHs, one-half of the laboratory detection limit was used for non-detects.

(3) Generic sub-slab TPH screening level based on generic TPH indoor air cleanup level of 140 ug/m3 and an attenuation factor of 0.03 (Ecology Implementation Memo #18)

Bold - Analyte Detected

Blue Shading - Detected result exceeds screening level

BTEX = benzene, toleuene, ethylbenzene, and xylene

PAHs = polycyclic aromatic hydrocarbons

VOCs = volatile organic compounds

APH = Aliphatic hydrocarbons

µg/m^3 = micrograms per cubic meter

-- = not applicable

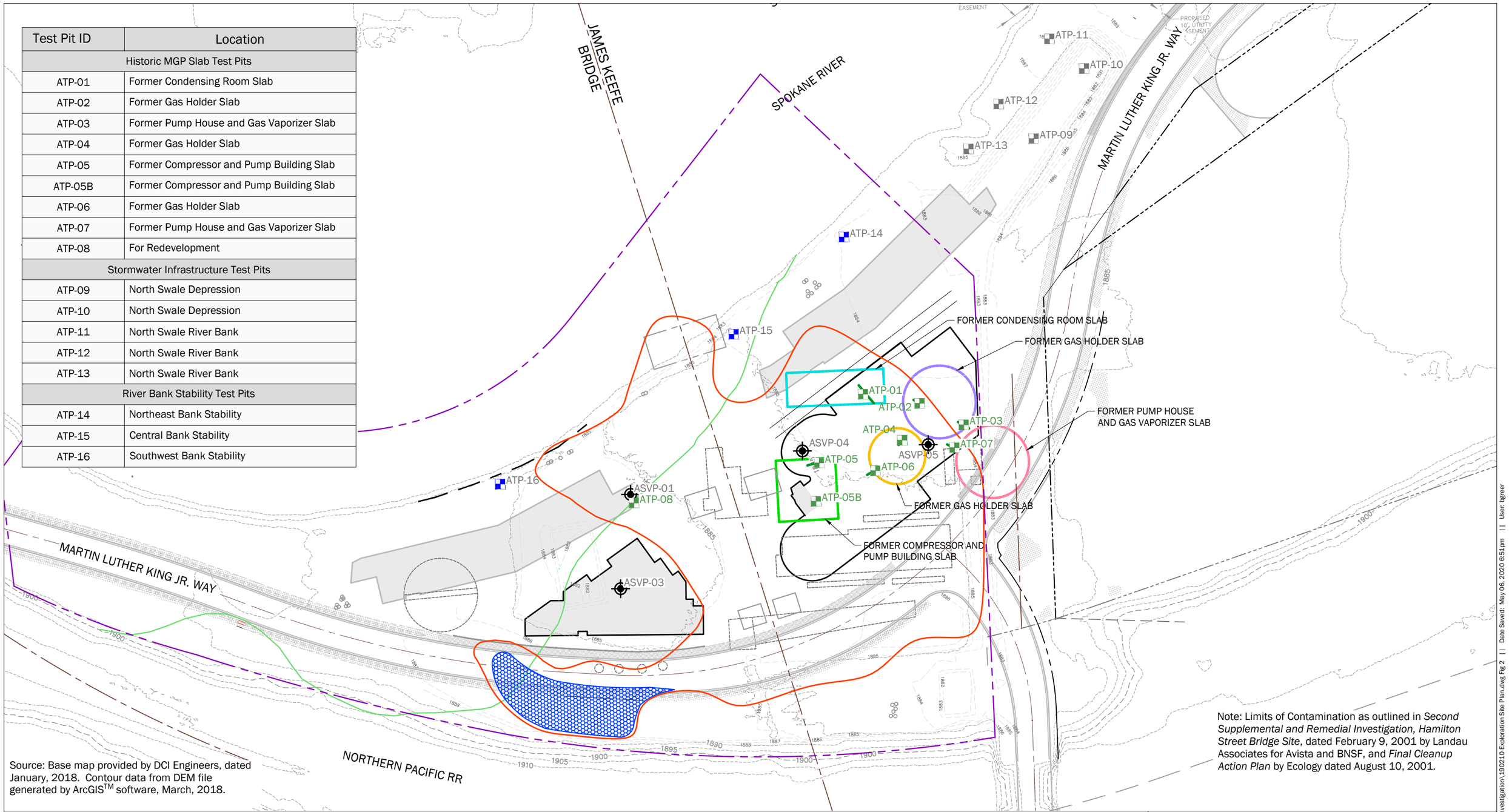
U = analyte was not detected at or above the reported result.

J = Result was estimated

C = Carcinogenic; NC = Non carcinogenic

FIGURE

Test Pit ID	Location
Historic MGP Slab Test Pits	
ATP-01	Former Condensing Room Slab
ATP-02	Former Gas Holder Slab
ATP-03	Former Pump House and Gas Vaporizer Slab
ATP-04	Former Gas Holder Slab
ATP-05	Former Compressor and Pump Building Slab
ATP-05B	Former Compressor and Pump Building Slab
ATP-06	Former Gas Holder Slab
ATP-07	Former Pump House and Gas Vaporizer Slab
ATP-08	For Redevelopment
Stormwater Infrastructure Test Pits	
ATP-09	North Swale Depression
ATP-10	North Swale Depression
ATP-11	North Swale River Bank
ATP-12	North Swale River Bank
ATP-13	North Swale River Bank
River Bank Stability Test Pits	
ATP-14	Northeast Bank Stability
ATP-15	Central Bank Stability
ATP-16	Southwest Bank Stability



Source: Base map provided by DCI Engineers, dated January, 2018. Contour data from DEM file generated by ArcGIS™ software, March, 2018.

Note: Limits of Contamination as outlined in *Second Supplemental and Remedial Investigation, Hamilton Street Bridge Site*, dated February 9, 2001 by Landau Associates for Avista and BNSF, and *Final Cleanup Action Plan* by Ecology dated August 10, 2001.

Legend

- Existing Bridge Footings
- Historic Foundations
- Limits of Contamination
- Historic Riverbank (1910)
- Existing Riverbank
- Preliminary Building Footprints
- Right-of-Way
- Easement
- 1920 Existing Contours
- Historic Contour Data
- Hamilton Street Bridge Site
- Aspect Test Pit, Former MGP Slab, 2020
- Aspect Test Pit, Stormwater Infrastructure, 2020
- Aspect Test Pit for River Bank Stability, 2020
- Soil Vapor Point, Aspect, 2020

DRAFT

0 100 200 Feet

Design Investigation Exploration Map

Riverbend Development
Spokane, Washington

Aspect Consulting	5/6/2020	BY: MOO/CMV	FIGURE NO. 01
	PROJECT NO. 190210	REVISED BY: BMG	

ATTACHMENT A

Test Pit Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines	GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines	SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%		ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
			CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
			OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More		MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils			PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
GS	=	Grain Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, Former Condensing Room		*Coordinates (SPN NAD83 ft)* E:2487500 N:259430 (est)	*Exploration Number* **ATP-01**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/22/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; fine to coarse sand, fine subangular gravel, no odor.	0
1	1883						GRAVEL WITH SILT AND SAND (GP-GM); dark gray; fine to coarse subangular gravel, fine to coarse sand, no odor.	1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=Slight		GRAVEL (GP); brick and ash material; crushed and whole, no odor.	2
3	1881						SAND WITH GRAVEL (SP); slightly moist, black; fine to coarse sand, fine to coarse, subrounded gravel, trace clinker, no odor.	3
4	1880				PID=0.2 Sheen=Slight			4
5	1879				PID=330 Sheen=Moderate		GRAVEL WITH SAND (GW); black; debris including wood, tar, asphalt, trace metal debris, tar-like odor.	5
6	1878						Bottom of exploration at 6 ft. bgs. Note: End of test pit at slab	6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-01

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING

River Bend Development - 190210

Test Pit Log

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
111 North Erie Street, Spokane, Washington, Gas Holder Slab	E:2487500 N:259420 (est)	**ATP-02**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883				PID=0.0 Sheen=Slight		GRAVEL WITH SILT (GP-GM); dark gray; fine subrounded gravel, fine to coarse gravel, no odor.	1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=Slight		GRAVEL WITH SAND (GP); bricks and ash.	2
3	1881						Bottom of exploration at 3 ft. bgs. Note: End of test pit at slab	3
4	1880							4
5	1879							5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-02

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Pump House/Vaporizer		E:2487600 N:259400 (est)	**ATP-03**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883				PID=0.2 Sheen=Slight		GRAVEL WITH SILT (GP-GM); dark gray; fine subrounded gravel, fine to coarse gravel, no odor.	1
2	1882	Test pit backfilled with slough					GRAVEL WITH SAND (GP); bricks and ash.	2
3	1881						Bottom of exploration at 3 ft. bgs. Note: End of test pit at slab	3
4	1880							4
5	1879							5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-03

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Former Gas Holder Slab		E:2487500 N:259380 (est)	**ATP-04**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SAND WITH SILT AND GRAVEL (SP-SM); light brown; fine to coarse sand, fine subangular gravel, no odor.	0
1	1883				PID=0.0 Sheen=Slight		GRAVEL (GP); brown; fine to coarse sand, trace silt, no odor.	1
2	1882	Test pit backfilled with slough					GRAVEL WITH SAND (GP); brick debris, basalt spalls; trace concrete debris, tar, woody debris, rebar, strong tar-like odor.	2
3	1881				PID=1 Sheen=Slight		SILTY SAND (SM); light brown to black; fine sand, strong tar-like odor.	3
4	1880				PID=178 Sheen=Slight			4
5	1879				PID=52 Sheen=Slight			5
6	1878							6
7	1877						Bottom of exploration at 6.5 ft. bgs. Note: Test pit centered over two slabs--west slab at 3.5 ft. bgs, east slab at 3 ft. bgs	7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-04

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, Former Compressor (no slab)		*Coordinates (SPN NAD83 ft)* E:2487400 N:259360 (est)	*Exploration Number* **ATP-05**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/22/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883				PID=0.0 Sheen=Slight		GRAVEL WITH SILT (GP-GM); dark gray; fine subrounded gravel, fine to coarse gravel, no odor.	1
					PID=0.5 Sheen=Slight		GRAVEL WITH SAND (GP); bricks and ash.	
2	1882	Test pit backfilled with slough					SILTY SAND (SM); brown; fine to coarse sand, fine subrounded gravel, no odor.	2
3	1881				PID=89 Sheen=Slight		SANDY SILT WITH GRAVEL (ML); black; pipes, tar-like material, and concrete debris, some basalt spalls, strong tar-like odor.	3
4	1880							4
					PID=180 Sheen=Slight			
5	1879						**FLOODPLAIN DEPOSITS** SILTY SAND (SM); dark brown; fine sand, no odor.	5
6	1878							6
					PID=2 Sheen=Slight			
7	1877						Bottom of exploration at 7 ft. bgs. Note: Many pipes 2 to 15 inches in diameter from 4 to 7 feet bgs	7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-05

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Former Compressor (slab)		E:2487400 N:259330 (est)	**ATP-05B**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883						GRAVEL WITH SAND (GP); bricks and ash.	1
2	1882	Test pit backfilled with slough					SILTY SAND (SM); brown; fine to coarse sand, fine subrounded gravel, no odor.	2
3	1881							3
4	1880						SAND (SP); black clinker. Bottom of exploration at 4 ft. bgs. Note: End of test pit at slab	4
5	1879							5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-05B

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Former Gas Holder Slab		E:2487500 N:259350 (est)	**ATP-06**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883				PID=0.0 Sheen=Slight		GRAVEL WITH SILT (GP-GM); dark gray; fine subrounded gravel, fine to coarse gravel, no odor.	1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=Slight		GRAVEL WITH SAND (GP); bricks and ash.	2
3	1881				PID=0.0 Sheen=Slight			3
4	1880							4
5	1879						Bottom of exploration at 4.5 ft. bgs. Note: Slab at 4 ft. bgs on west end, slab at 4.5 ft. bgw on east end	5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-06

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Near SE Property Boundary		E:2487600 N:259370 (est)	**ATP-07**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SAND WITH SILT AND GRAVEL (SP-SM); slightly moist, brown; medium sand, fine, subangular gravel, no odor.	0
1	1883						GRAVEL WITH SILT (GP-GM); dark gray; fine subrounded gravel, fine to coarse gravel, no odor.	1
2	1882	Test pit backfilled with slough					GRAVEL WITH SAND (GP); bricks and ash.	2
3	1881				PID=0.0 Sheen=None			3
4	1880						SAND (SP); moist, black; fine to coarse clinker, no odor.	4
5	1879				PID=0.5 Sheen=Slight		Bottom of exploration at 5 ft. bgs.	5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-07
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, West Side, Building 1B		E:2487200 N:259320 (est)	**ATP-08**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/21/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SAND (SP); brown; medium to coarse sand, fine to coarse subangular gravel, no odor.	0
1	1883						GRAVEL WITH SAND (GP); bricks and ash.	1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=None			2
3	1881						SILT WITH SAND (ML); black; with gravel and cobbles, no odor.	3
4	1880							4
5	1879				PID=2 Sheen=None			5
6	1878						GRAVEL WITH SILT AND SAND (GP-GM); slightly moist, black; fine to coarse gravel, fine to coarse sand, trace cobbles, tar-like odor.	6
7	1877				PID=45 Sheen=None			7
8	1876				PID=35 Sheen=None		GRAVEL WITH COBBLES (GP); black; with boulders and trace silt.	8
9	1875						Bottom of exploration at 9 ft. bgs.	9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-08
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, Central Bottom of NE Swale		E:2487600 N:259710 (est)	**ATP-09**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** GRAVEL (GP); basalt spalls with sand and gravel.	0
1	1883						**FLOODPLAIN DEPOSITS** SILTY SAND (SM); slightly moist, dark brown; fine sand, no odor.	1
2	1882	Test pit backfilled with slough						2
3	1881			ATP-09-3.0	PID=0.0 Sheen=None			3
4	1880							4
5	1879						SAND (SP); moist, tan; fine sand, no odor.	5
6	1878							6
7	1877							7
8	1876				PID=0.0 Sheen=None			8
9	1875							9
10	1874							10
11	1873			ATP-09-11.5	PID=0.0 Sheen=None		Bottom of exploration at 11.5 ft. bgs.	11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-09

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	111 North Erie Street, Spokane, Washington, E Side in North Swale		E:2487700 N:259790 (est)	**ATP-10**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface Elev. (NAVD88)*	
SES	Excavator or Backhoe	Grab	1884.2' (est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
	Backhoe or trackhoe	4/22/2020	NA	9' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SILTY GRAVEL WITH SAND (GM); slightly moist, dark brown; fine to coarse sand, trace basalt spalls, no odor.	0
1	1883						SAND (SW); slightly moist, light brown; fine to coarse sand, fine to coarse gravel, trace silt, no odor.	1
2	1882	Test pit backfilled with slough					SAND (SP); slightly moist, light brown; coarse sand, fine to coarse rounded gravel, no odor.	2
3	1881							3
4	1880							4
5	1879			ATP-10-4.5	PID=0.0 Sheen=None			5
6	1878							6
7	1877							7
8	1876						GRAVEL (GW); wet; fine to coarse gravel, coarse sand, no odor.	8
9	1875	▽ 4/22/2020		ATP-10-9.0	PID=0.0 Sheen=None		Bottom of exploration at 9 ft. bgs.	9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-10

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, NE Side of NE Swale		*Coordinates (SPN NAD83 ft)* E:2487700 N:259820 (est)	*Exploration Number* **ATP-11**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/22/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** GRAVEL (GW); slightly moist, black; basalt spalls with fine to coarse sand, trace bricks, trace boulders.	0
1	1883							1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=None			2
3	1881							3
4	1880						SILTY SAND (SM); slightly moist, brown; medium to coarse sand, fine to coarse subrounded gravel, no odor.	4
5	1879				PID=0.0 Sheen=None			5
6	1878			ATP-11-6.0	PID=0.0 Sheen=None		**FLOODPLAIN DEPOSITS** SILTY SAND (SM); slightly moist, dark brown; fine sand, no odor.	6
7	1877							7
8	1876							8
9	1875							9
10	1874				PID=0.0 Sheen=None			10
11	1873							11
12	1872			ATP-11-12.5	PID=0.0 Sheen=None			12
13	1871						Bottom of exploration at 13 ft. bgs.	13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-11
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, N of Stormwater Structure (NE)		*Coordinates (SPN NAD83 ft)* E:2487600 N:259750 (est)	*Exploration Number* **ATP-12**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/21/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** GRAVEL WITH SAND (GW); fine to coarse, subrounded gravel, fine to coarse sand; trace silt.	0
1	1883				PID=0.1 Sheen=None			1
2	1882	Test pit backfilled with slough						2
3	1881							3
4	1880							4
5	1879							5
6	1878						SILTY SAND WITH GRAVEL (SM); dark brown; fine to coarse subrounded gravel, abundant woody, metal, and plastic debris, no odor.	6
7	1877			ATP-12-7.5	PID=0.1 Sheen=None		**FLOODPLAIN DEPOSITS** SILTY SAND (SM); dark brown; fine sand, no odor.	7
8	1876							8
9	1875							9
10	1874							10
11	1873						SAND (SP); moist, light brown; fine sand, trace silt.	11
				ATP-12-11.5	PID=0.1 Sheen=None		Bottom of exploration at 11.5 ft. bgs.	
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-12

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, N of Stormwater Structure (W)		*Coordinates (SPN NAD83 ft)* E:2487500 N:259680 (est)	*Exploration Number* **ATP-13**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/21/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** SILTY GRAVEL WITH SAND (GM); slightly moist, dark brown; basalt spalls, fine to coarse gravel, fine to coarse sand, trace clinker from 4 ft. to 5 ft. bgs, no odor.	0
1	1883							1
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=None			2
3	1881							3
4	1880							4
5	1879			ATP-13-5.0	PID=0.0 Sheen=None		**FLOODPLAIN DEPOSITS** SILTY SAND (SM); brown; fine sand, no odor.	5
6	1878							6
7	1877			ATP-13-7.0	PID=0.0 Sheen=None			7
8	1876							8
9	1875				PID=0.0 Sheen=None		SAND (SP); light brown; fine to medium sand, trace silt.	9
10	1874						GRAVEL WITH SAND (GW); light brown; fine to coarse rounded gravel, medium sand, trace silt, no odor.	10
11	1873			ATP-13-11.5	PID=0.0 Sheen=None			11
12	1872						Bottom of exploration at 12 ft. bgs.	12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-13
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, E Side, N of Path		*Coordinates (SPN NAD83 ft)* E:2487400 N:259600 (est)	*Exploration Number* **ATP-14**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/20/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** GRAVEL WITH SAND (GP); brown-gray; medium to coarse sand, fine angular gravel, trace silt, no odor.	0
1	1883						SILTY SAND WITH GRAVEL (SM); dark brown.	1
							GRAVEL (GP); crushed brick.	
2	1882	Test pit backfilled with slough			PID=0.0 Sheen=Sheen		SILTY SAND WITH GRAVEL (SM); dark brown; fine to coarse sand, no odor.	2
3	1881						GRAVEL WITH SAND (GW); dark brown; medium to coarse sand, no odor.	3
4	1880				PID=0.0 Sheen=Sheen		GRAVEL WITH SILT (GP-GM); brown; coarse, rounded gravel, trace cobbles, no odor.	4
5	1879							5
6	1878				PID=0.0 Sheen=Sheen		**FLOODPLAIN DEPOSITS** SILTY SAND (SM); black; fine sand, abundant organics, no odor.	6
7	1877				PID=0.0 Sheen=Sheen		GRAVEL WITH SAND (GP); light brown; fine to coarse rounded gravel, fine sand, trace silt, no odor.	7
8	1876							8
9	1875							9
10	1874						Bottom of exploration at 9.5 ft. bgs.	10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-14
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, E of Bridge, N of Path		*Coordinates (SPN NAD83 ft)* E:2487300 N:259500 (est)	*Exploration Number* **ATP-15**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/21/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884						**FILL** GRAVEL WITH SAND (GP); brown; fine subangular gravel, medium to coarse sand, no odor.	0
							CONCRETE; with underlying fabric.	
1	1883				PID=0.0 Sheen=None		GRAVEL WITH SAND (GW); slightly moist, brown; fine to coarse, subrounded gravel, medium to coarse sand, trace silt, no odor.	1
2	1882	Test pit backfilled with slough						2
3	1881						GRAVEL (GP); crushed brick.	3
							SANDY SILT WITH GRAVEL (ML); moist, brown; fine to coarse sand, fine to coarse gravel, no odor.	
4	1880				PID=0.0 Sheen=None			4
							GRAVEL (GW); basalt spalls and boulders.	
5	1879							5
6	1878				PID=0.0 Sheen=None			6
							Bottom of exploration at 6.5 ft. bgs.	
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level — No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-15

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

Aspect CONSULTING	River Bend Development - 190210		Test Pit Log	
	Project Address & Site Specific Location 111 North Erie Street, Spokane, Washington, N of Path, W Side		*Coordinates (SPN NAD83 ft)* E:2487100 N:259330 (est)	*Exploration Number* **ATP-16**
Contractor SES	*Equipment* Excavator or Backhoe	*Sampling Method* Grab	*Ground Surface Elev. (NAVD88)* 1884.2' (est)	
Operator	*Exploration Method(s)* Backhoe or trackhoe	*Work Start/Completion Dates* 4/21/2020	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	1884				PID=0.0 Sheen=None		**FILL** SAND WITH GRAVEL (SW); fine sand, fine to coarse gravel, trace silt; no odor.	0
							GRAVEL (GW); crushed brick.	
1	1883			ATP-16-1.5	PID=0.0 Sheen=None		SILTY SAND WITH GRAVEL (SM); dark brown; fine to coarse sand, fine to coarse subrounded gravel, no odor.	1
2	1882	Test pit backfilled with slough					GRAVEL (GW); basalt spalls with cobbles and boulders.	2
3	1881				PID=0.0 Sheen=None		Bottom of exploration at 3 ft. bgs.	3
4	1880							4
5	1879							5
6	1878							6
7	1877							7
8	1876							8
9	1875							9
10	1874							10
11	1873							11
12	1872							12
13	1871							13
14	1870							14

Legend

Sample Type

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: BMG
Approved by: SJA 2020.05.21

Exploration Log ATP-16
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\RIVERBEND 190210.GPJ May 21, 2020

ATTACHMENT B

Laboratory Certificates of Analytical Data

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

May 4 2020
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your 004278 project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
ATP_11-6.0	Soil	20-A005450	CN-s-WAD
ATP_12-7.5	Soil	20-A005451	CN-s-WAD
ATP_13-5.0	Soil	20-A005452	CN-s-WAD

Your samples were received on Friday, April 24, 2020. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.

Sincerely,

Aaron W. Young
Laboratory Manager

PO Number: B-175

BACT = Bacteriological
CONV = Conventionals
MET = Metals
ORG = Organics
NUT=Nutrients
DEM=Demand
MIN=Minerals

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: 004278
PO Number: B-175
All results reported on an as received basis.

Date Received: 04/24/20
Date Reported: 5/ 4/20

AMTEST Identification Number **20-A005450**
Client Identification **ATP_11-6.0**
Sampling Date **04/22/20, 08:00**

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	0.07	ug/g		0.05	SM 4500 CN	AW	05/01/20

AMTEST Identification Number **20-A005451**
Client Identification **ATP_12-7.5**
Sampling Date **04/21/20, 15:00**

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	1.1	ug/g		0.05	SM 4500 CN	AW	05/01/20

AMTEST Identification Number **20-A005452**
Client Identification **ATP_13-5.0**
Sampling Date **04/21/20, 14:30**

Friedman & Bruya, Inc.
Project Name: 004278
AmTest ID: 20-A005452

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	0.34	ug/g		0.05	SM 4500 CN	AW	05/01/20

Aaron W. Young
Laboratory Manager

Am Test Inc.
13600 NE 126th PL
Suite C
Kirkland, WA, 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

QC Summary for sample numbers: 20-A005450 to 20-A005452

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	SMPL+ SPK	SPK AMT	RECOVERY
20-A005452	Cyanide - WAD	ug/g	0.34	0.99	0.59	110.17 %
20-A005452	Cyanide - WAD	ug/g	0.34	0.99	0.59	110.17 %

MATRIX SPIKE DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAMPLE + SPK	MSD VALUE	RPD
Spike	Cyanide - WAD	ug/g	0.99	0.99	0.00

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VALUE	RECOVERY
Cyanide - WAD	ug/g	1.0	1.0	100. %

BLANKS

ANALYTE	UNITS	RESULT
Cyanide - WAD	ug/g	< 0.05

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER Amtest

PROJECT NAME/NO.	PO #
004278	B-175

REMARKS

EIM

TURNAROUND TIME

☒ Standard TAT

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	WAD Cyanide							Notes
ATP-11-6.0	5450	4/22/20	0800	Soil	1				X							
ATP-12-7.5	51	4/21/20	1500		1				X							
ATP-13.5.0	52	4/21/20	1430		1				X							

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:		Michael Erdahl	Friedman & Bruya	4/24/20	07:41
Received by:				4/24/20	1100
Relinquished by:					
Received by:					

Courier TK1

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

May 5, 2020

Breeyn Greer, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Greer:

Included are the results from the testing of material submitted on April 23, 2020 from the Riverbend 190210, F&BI 004276 project. There are 14 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Data Aspect
ASP0505R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 23, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Riverbend 190210, F&BI 004276 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
004276 -01	ASVP-01-042120
004276 -02	ASVP-03-042120
004276 -03	ASVP-04-042120
004276 -04	ASVP-05-042120

The TO-15 and MA-APH source sample and duplicate exceeded the relative percent difference acceptance criteria. The quality assurance was qualified accordingly.

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

The MA-APH APH EC9-10 aromatics calibration standard did not pass the acceptance criteria in sample ASVP-01-042120. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	ASVP-01-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-01 1/3.5
Date Analyzed:	05/01/20	Data File:	043012.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	560
APH EC9-12 aliphatics	760
APH EC9-10 aromatics	140 ca

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	ASVP-03-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-02 1/3.5
Date Analyzed:	05/01/20	Data File:	043014.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	85	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<100
APH EC9-12 aliphatics	<120
APH EC9-10 aromatics	<87

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	ASVP-04-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-03 1/3.4
Date Analyzed:	05/01/20	Data File:	043015.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	100
APH EC9-12 aliphatics	160
APH EC9-10 aromatics	<85

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	ASVP-05-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-04 1/3.5
Date Analyzed:	05/01/20	Data File:	043016.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<100
APH EC9-12 aliphatics	<120
APH EC9-10 aromatics	<87

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004276
Date Collected:	Not Applicable	Lab ID:	00-0986 mb
Date Analyzed:	05/01/20	Data File:	043011.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<30
APH EC9-12 aliphatics	<35
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	ASVP-01-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-01 1/3.5
Date Analyzed:	05/01/20	Data File:	043012.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	17	5.2
Toluene	<66	<17
Ethylbenzene	26	6.0
m,p-Xylene	57	13
o-Xylene	30	6.8
Naphthalene	3.0	0.57

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	ASVP-03-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-02 1/3.5
Date Analyzed:	05/01/20	Data File:	043014.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<1.1	<0.35
Toluene	<66	<17
Ethylbenzene	<1.5	<0.35
m,p-Xylene	<3	<0.7
o-Xylene	<1.5	<0.35
Naphthalene	<0.92	<0.17

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	ASVP-04-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-03 1/3.4
Date Analyzed:	05/01/20	Data File:	043026.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	16	5.0
Toluene	<64	<17
Ethylbenzene	<1.5	<0.34
m,p-Xylene	<3	<0.68
o-Xylene	<1.5	<0.34
Naphthalene	<0.89	<0.17

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	ASVP-05-042120	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004276
Date Collected:	04/21/20	Lab ID:	004276-04 1/3.5
Date Analyzed:	05/01/20	Data File:	043016.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	1.7	0.54
Toluene	<66	<17
Ethylbenzene	<1.5	<0.35
m,p-Xylene	<3	<0.7
o-Xylene	<1.5	<0.35
Naphthalene	<0.92	<0.17

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004276
Date Collected:	Not Applicable	Lab ID:	00-0986 mb
Date Analyzed:	05/01/20	Data File:	043025.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration ug/m3	ppbv
Benzene	<0.32	<0.1
Toluene	<19	<5
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

Date of Report: 05/05/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004276

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD MA-APH

Laboratory Code: 004276-01 1/3.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	560	270	70 vo
APH EC9-12 aliphatics	ug/m3	760	470	47 vo
APH EC9-10 aromatics	ug/m3	140	<87	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	88	70-130
APH EC9-12 aliphatics	ug/m3	67	111	70-130
APH EC9-10 aromatics	ug/m3	67	122	70-130

Date of Report: 05/05/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004276

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 004276-01 1/3.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Benzene	ug/m3	17	12	34 vo
Toluene	ug/m3	<66	<66	nm
Ethylbenzene	ug/m3	26	16	48 vo
m,p-Xylene	ug/m3	57	34	51 vo
o-Xylene	ug/m3	30	18	50 vo
Naphthalene	ug/m3	3.0	2.2	31 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/m3	43	87	70-130
Toluene	ug/m3	51	92	70-130
Ethylbenzene	ug/m3	59	83	70-130
m,p-Xylene	ug/m3	120	85	70-130
o-Xylene	ug/m3	59	82	70-130
Naphthalene	ug/m3	71	117	70-130

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 analyte 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 due to sample matrix effects.

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.

004276

SAMPLE CHAIN OF CUSTODY

ME 04/23/20

Page # 1 of 1

Report To B. Green / A. Griffin

Company Aspect

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle WA 98104

Phone 6122327343 Email bgreen@aspectconsulting.com

SAMPLERS (signature) Bruyn Green

PROJECT NAME & ADDRESS: Riverbend

PO # 190210

NOTES:

INVOICE TO: AP

TURNAROUND TIME
- [X] Standard
- [ ] RUSH

Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO16 cVOCs	APH	Helium		Notes
ASUP-01-042120	01	3677	242	IA / (SG)	4/21/20	27.5	1642	-5.0	1647		X		X			
ASUP-03-042120	02	3416	257	IA / (SG)		27.0	1709	5.0	1716		X		X			
ASUP-04-042120	03	2300	244	IA / (SG)		27.0	1742	5.0	1749		X		X			
ASUP-05-042120	04	4176	256	IA / (SG)	↓	27.5	1821	5.0	1827		X		X			
				IA / SG												
				IA / SG												
				IA / SG												Samples received at 23 °C
VOID		3412	257	IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Bruyn Green	Bruyn Green	Aspect	4/23/20	1700
Received by: RZ	BISRAT TADESSE	FBI	"	"
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

May 5, 2020

Breeyn Greer, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Greer:

Included are the additional results from the testing of material submitted on April 23, 2020 from the Riverbend 190210, F&BI 004278 project. There are 5 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Data Aspect, Adam Griffin
ASP0505R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 23, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Riverbend 190210, F&BI 004278 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
004278 -01	ATP-09-3.0
004278 -02	ATP-09-11.5
004278 -03	ATP-10-4.5
004278 -04	ATP-10-9.0
004278 -05	ATP-11-6.0
004278 -06	ATP-11-12.5
004278 -07	ATP-12-7.5
004278 -08	ATP-12-11.5
004278 -09	ATP-13-5.0
004278 -10	ATP-13-7.0
004278 -11	ATP-13-11.5
004278 -12	ASUP-IDW-01
004278 -13	ASUP-03
004278 -14	ATP-16-1.5

All quality control requirements were acceptable.

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	ASUP-IDW-01	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	05/01/20	Lab ID:	004278-12 1/25
Date Analyzed:	05/04/20	Data File:	050412.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	86 d	31	163
Benzo(a)anthracene-d12	99 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	1.8
Acenaphthylene	0.26
Acenaphthene	0.059
Fluorene	0.095
Phenanthrene	1.2
Anthracene	0.37
Fluoranthene	4.5
Pyrene	5.7
Benz(a)anthracene	3.3
Chrysene	3.5
Benzo(a)pyrene	4.4
Benzo(b)fluoranthene	5.4
Benzo(k)fluoranthene	1.7
Indeno(1,2,3-cd)pyrene	2.0
Dibenz(a,h)anthracene	0.41
Benzo(g,h,i)perylene	1.6

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	05/01/20	Lab ID:	00-983 mb2 1/5
Date Analyzed:	05/01/20	Data File:	050112.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	31	163
Benzo(a)anthracene-d12	112	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: 05/05/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

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

Laboratory Code: 004296-01 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	62	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	68	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	68	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	72	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	73	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	74	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	73	16-160
Pyrene	mg/kg (ppm)	0.17	<0.01	121	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	80	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	75	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01 J	93 J	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01 J	94 J	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01 J	76 J	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01 J	42 J	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01 J	44 J	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01 J	38 J	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	80	81	58-121	1
Acenaphthylene	mg/kg (ppm)	0.17	77	78	54-121	1
Acenaphthene	mg/kg (ppm)	0.17	77	79	54-123	3
Fluorene	mg/kg (ppm)	0.17	79	80	56-127	1
Phenanthrene	mg/kg (ppm)	0.17	85	87	55-122	2
Anthracene	mg/kg (ppm)	0.17	81	84	50-120	4
Fluoranthene	mg/kg (ppm)	0.17	86	86	54-129	0
Pyrene	mg/kg (ppm)	0.17	87	87	53-127	0
Benz(a)anthracene	mg/kg (ppm)	0.17	89	94	51-115	5
Chrysene	mg/kg (ppm)	0.17	90	94	55-129	4
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	81	82	56-123	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	80	82	54-131	2
Benzo(a)pyrene	mg/kg (ppm)	0.17	74	78	51-118	5
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	73	78	49-148	7
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	77	82	50-141	6
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	72	78	52-131	8

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 analyte 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 due to sample matrix effects.

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.

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

May 4 2020
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your 004278 project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
ATP_11-6.0	Soil	20-A005450	CN-s-WAD
ATP_12-7.5	Soil	20-A005451	CN-s-WAD
ATP_13-5.0	Soil	20-A005452	CN-s-WAD

Your samples were received on Friday, April 24, 2020. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to contact me.

Sincerely,

Aaron W. Young
Laboratory Manager

PO Number: B-175

BACT = Bacteriological
CONV = Conventionals
MET = Metals
ORG = Organics
NUT=Nutrients
DEM=Demand
MIN=Minerals

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: 004278
PO Number: B-175
All results reported on an as received basis.

Date Received: 04/24/20
Date Reported: 5/ 4/20

AMTEST Identification Number **20-A005450**
Client Identification **ATP_11-6.0**
Sampling Date **04/22/20, 08:00**

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	0.07	ug/g		0.05	SM 4500 CN	AW	05/01/20

AMTEST Identification Number **20-A005451**
Client Identification **ATP_12-7.5**
Sampling Date **04/21/20, 15:00**

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	1.1	ug/g		0.05	SM 4500 CN	AW	05/01/20

AMTEST Identification Number **20-A005452**
Client Identification **ATP_13-5.0**
Sampling Date **04/21/20, 14:30**

Friedman & Bruya, Inc.
Project Name: 004278
AmTest ID: 20-A005452

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Cyanide - WAD	0.34	ug/g		0.05	SM 4500 CN	AW	05/01/20

Aaron W. Young
Laboratory Manager

Am Test Inc.
13600 NE 126th PL
Suite C
Kirkland, WA, 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

QC Summary for sample numbers: 20-A005450 to 20-A005452

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	SMPL+ SPK	SPK AMT	RECOVERY
20-A005452	Cyanide - WAD	ug/g	0.34	0.99	0.59	110.17 %
20-A005452	Cyanide - WAD	ug/g	0.34	0.99	0.59	110.17 %

MATRIX SPIKE DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAMPLE + SPK	MSD VALUE	RPD
Spike	Cyanide - WAD	ug/g	0.99	0.99	0.00

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VALUE	RECOVERY
Cyanide - WAD	ug/g	1.0	1.0	100. %

BLANKS

ANALYTE	UNITS	RESULT
Cyanide - WAD	ug/g	< 0.05

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER Amtest

PROJECT NAME/NO.	PO #
004278	B-175

REMARKS

EIM

TURNAROUND TIME

☒ Standard TAT

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

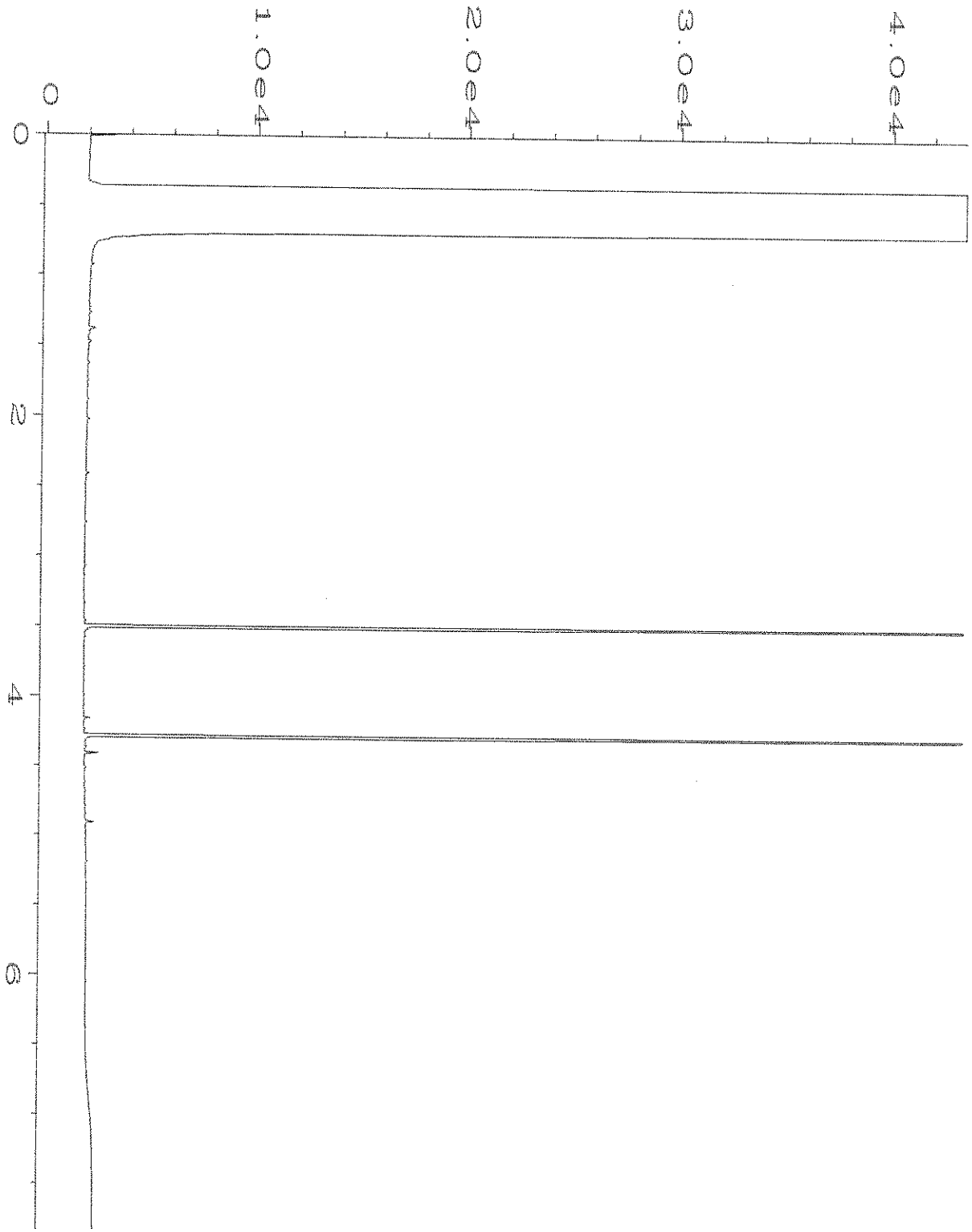
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	WAD Cyanide							Notes
ATP-11-6.0	5450	4/22/20	0800	Soil	1				X							
ATP-12-7.5	51	4/21/20	1500		1				X							
ATP-13.5.0	52	4/21/20	1430		1				X							

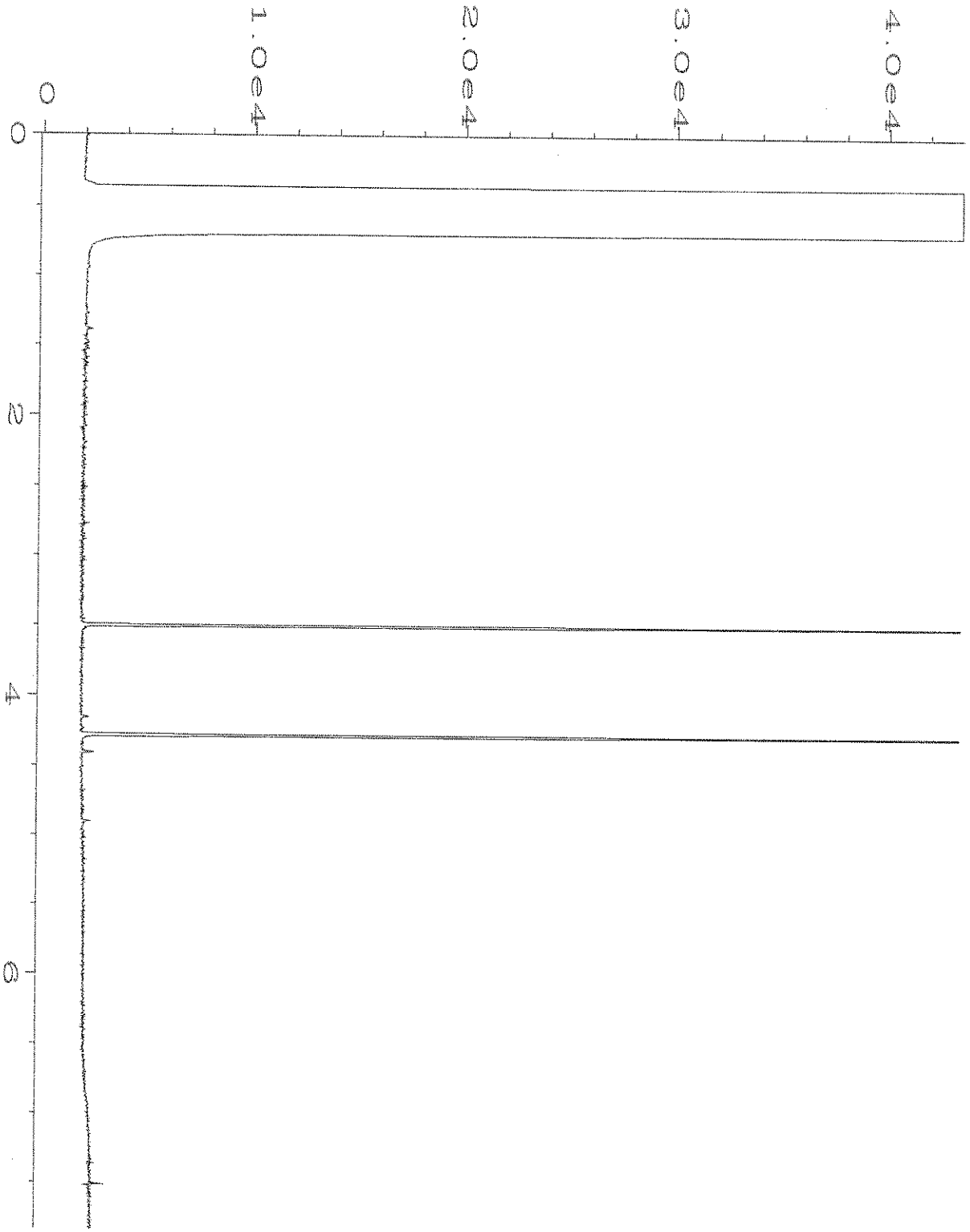
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	4/24/20	07:41
Received by:				4/24/20	1100
Relinquished by:					
Received by:					

Courier TK1

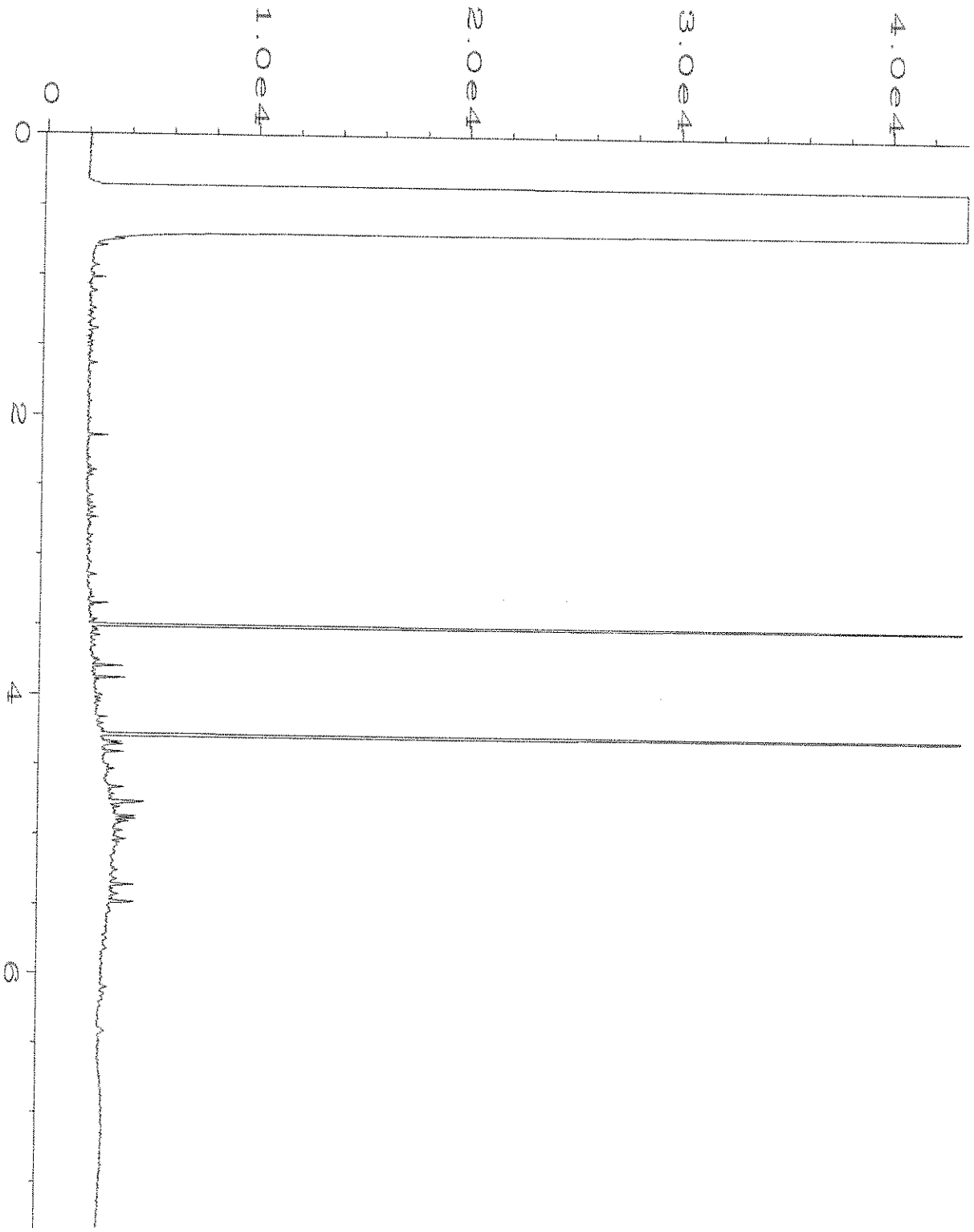


Data File Name	: C:\HPCHEM\4\DATA\04-24-20\007F0301.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 7
Sample Name	: 004278-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
Acquired on	: 24 Apr 20 10:09 AM	Instrument Method	: DX.MTH
Report Created on	: 27 Apr 20 08:14 AM	Analysis Method	: DEFAULT.MTH

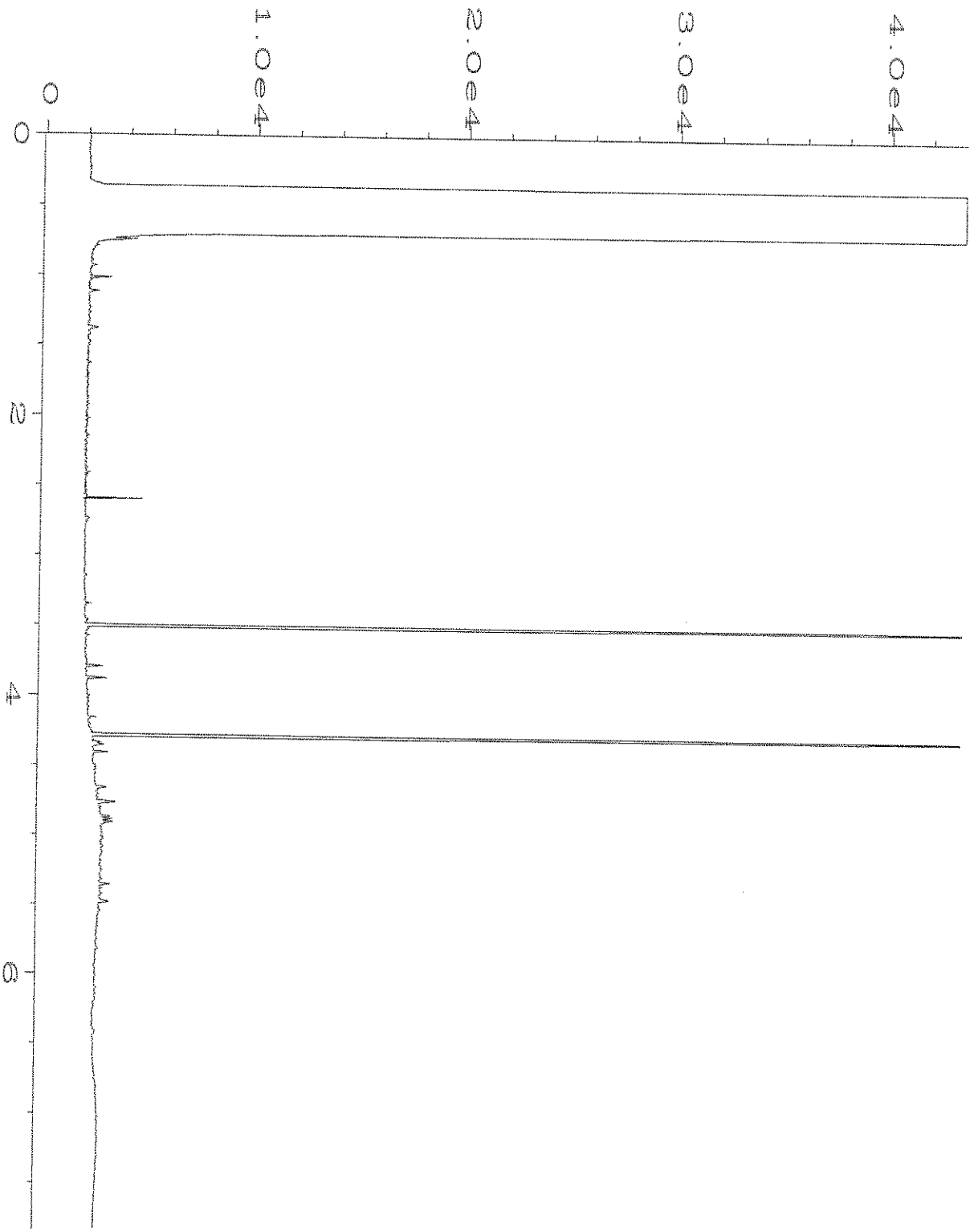


Data File Name : C:\HPCHEM\4\DATA\04-24-20\008F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 004278-04
Run Time Bar Code:
Acquired on : 24 Apr 20 10:21 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 8
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH

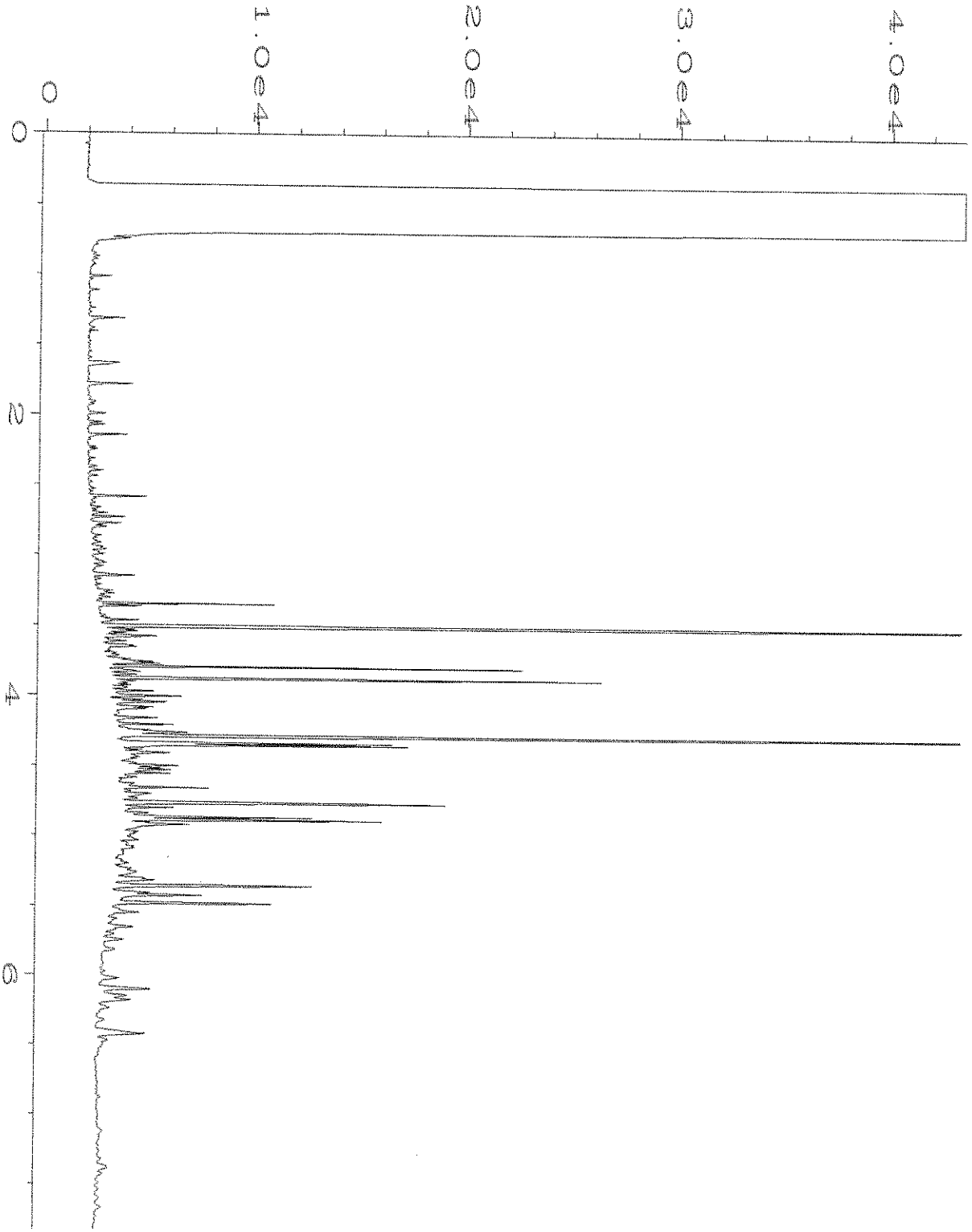


Data File Name	: C:\HPCHEM\4\DATA\04-24-20\009F0301.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 9
Sample Name	: 004278-05	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
Acquired on	: 24 Apr 20 10:34 AM	Instrument Method	: DX.MTH
Report Created on	: 27 Apr 20 08:14 AM	Analysis Method	: DEFAULT.MTH



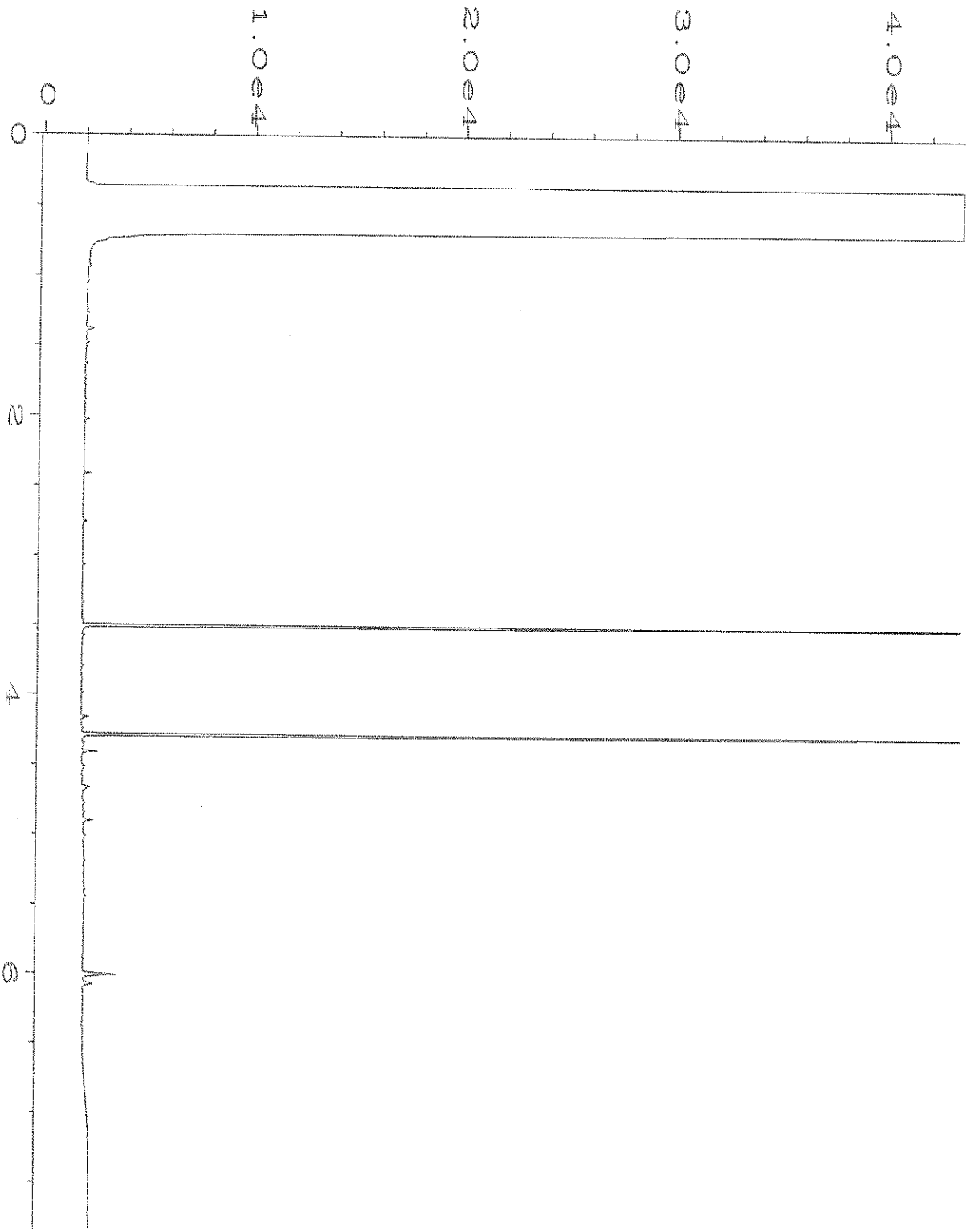
Data File Name : C:\HPCHEM\4\DATA\04-24-20\010F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 004278-06
Run Time Bar Code:
Acquired on : 24 Apr 20 10:46 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 10
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



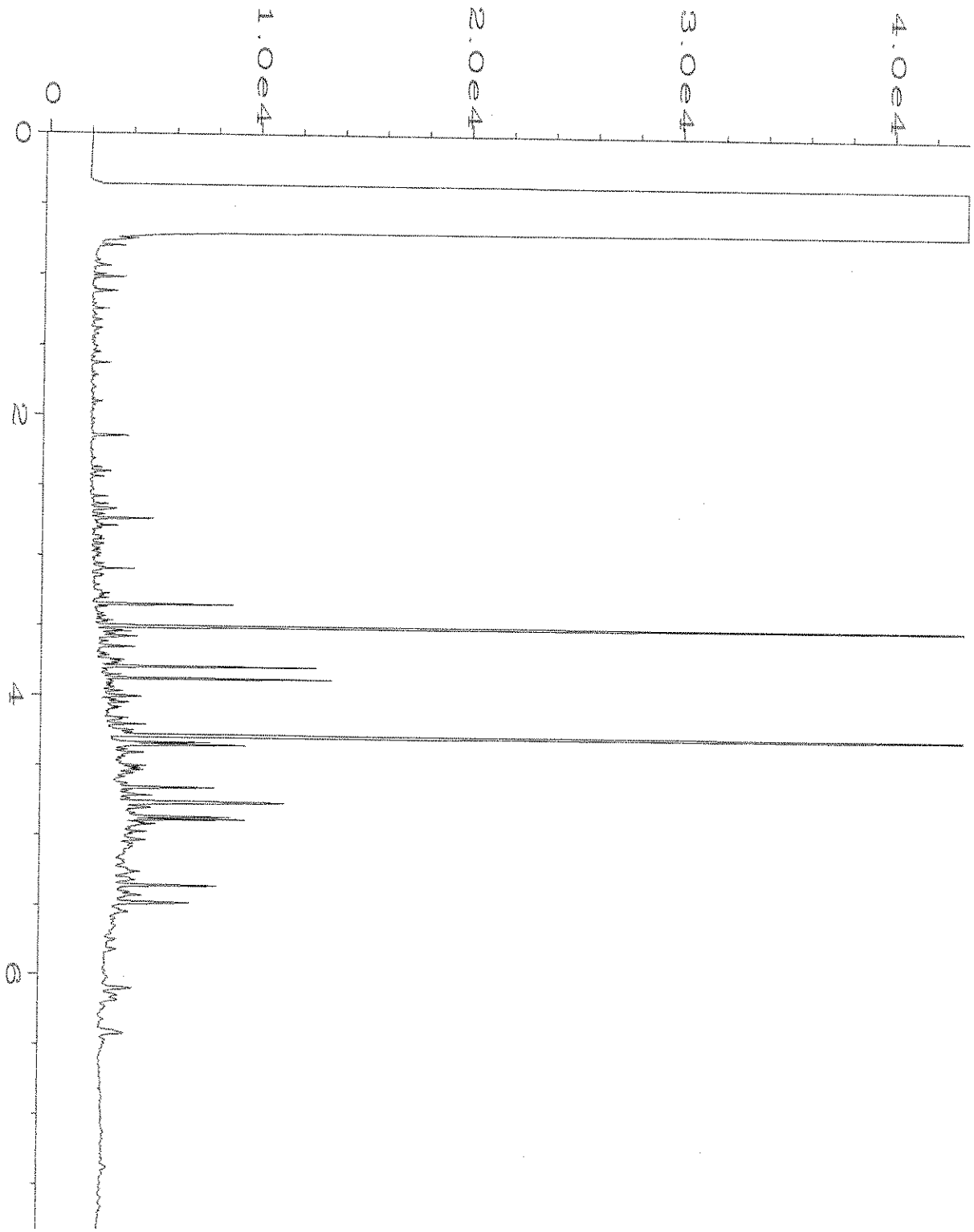
Data File Name : C:\HPCHEM\4\DATA\04-24-20\011F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 004278-07
Run Time Bar Code:
Acquired on : 24 Apr 20 10:58 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 11
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



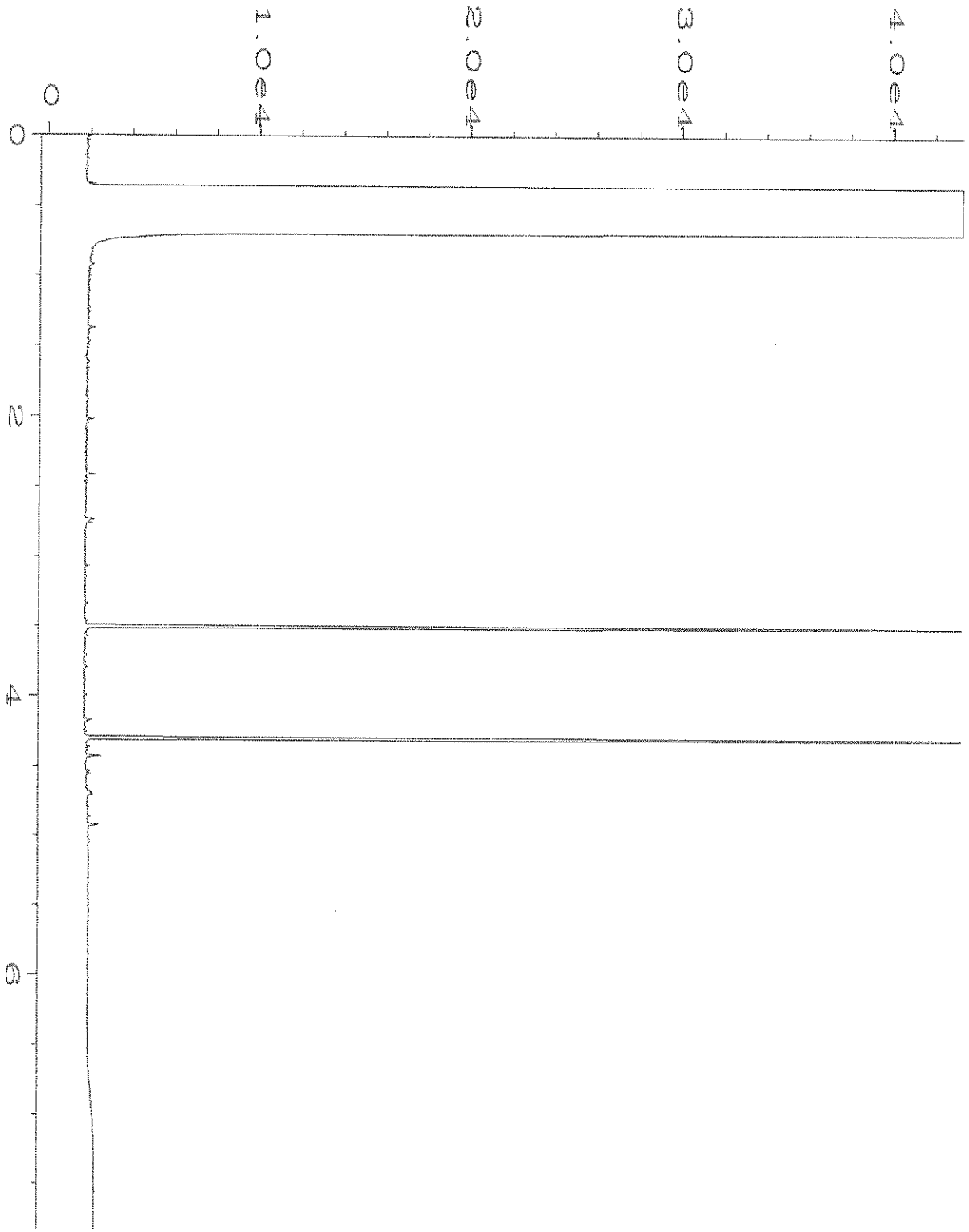
Data File Name : C:\HPCHEM\4\DATA\04-24-20\012F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 004278-08
Run Time Bar Code:
Acquired on : 24 Apr 20 11:10 AM
Report Created on: 27 Apr 20 08:15 AM

Page Number : 1
Vial Number : 12
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH

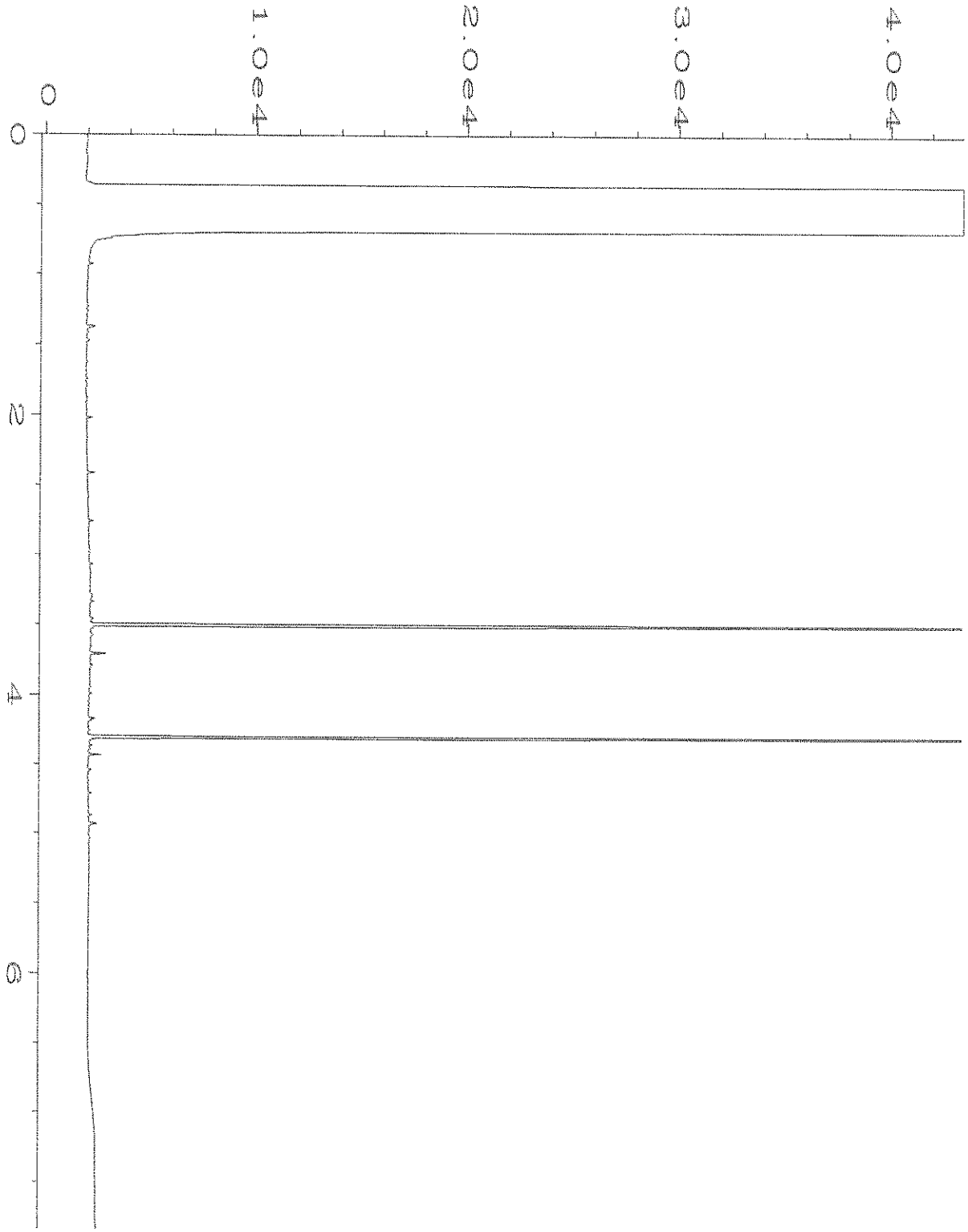


Data File Name : C:\HPCHEM\4\DATA\04-24-20\013F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 004278-09
Run Time Bar Code:
Acquired on : 24 Apr 20 11:22 AM
Report Created on: 27 Apr 20 08:15 AM

Page Number : 1
Vial Number : 13
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH

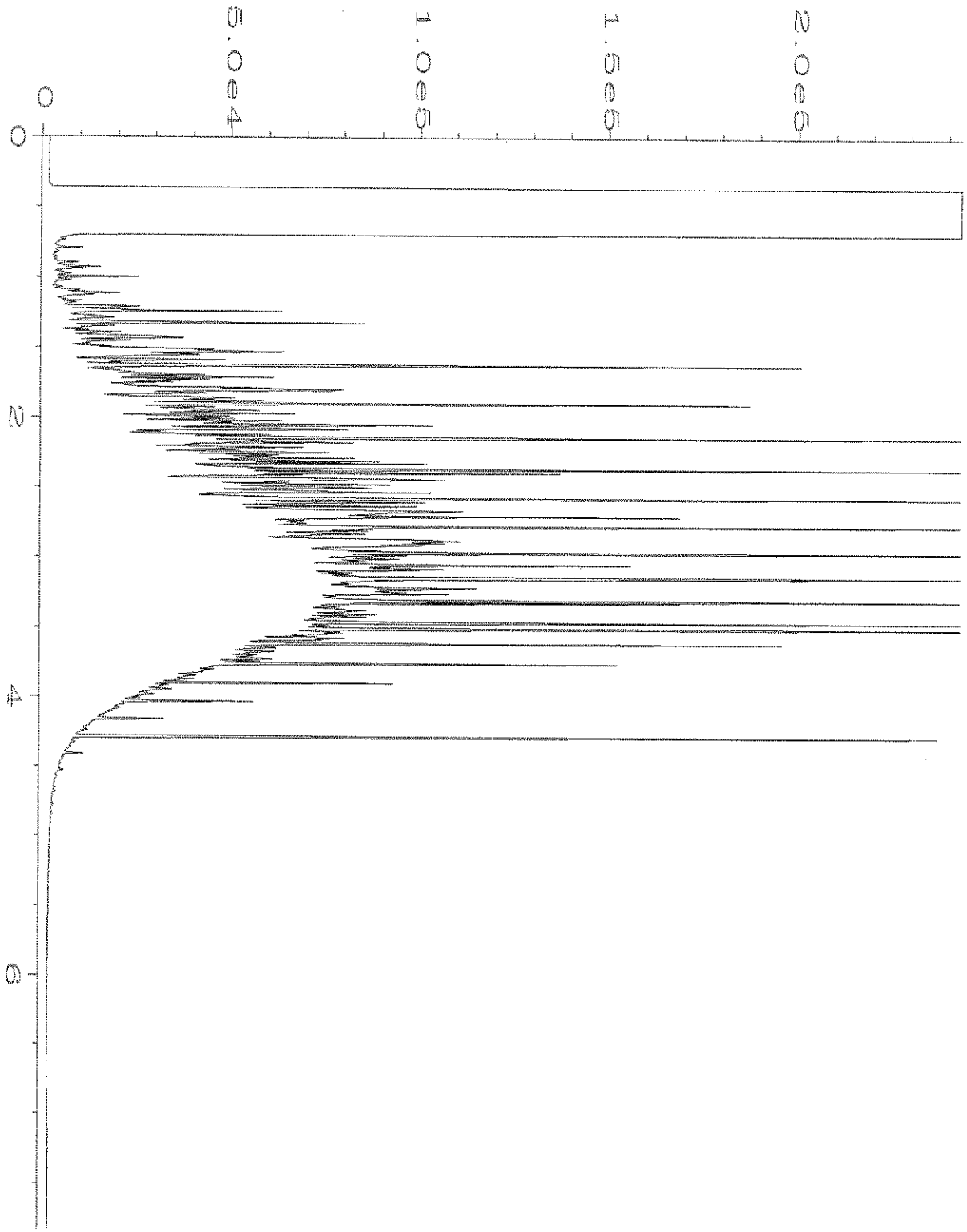


Data File Name	: C:\HPCHEM\4\DATA\04-24-20\014F0301.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 14
Sample Name	: 004278-11	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
Acquired on	: 24 Apr 20 11:34 AM	Instrument Method	: DX.MTH
Report Created on	: 27 Apr 20 08:15 AM	Analysis Method	: DEFAULT.MTH



Data File Name : C:\HPCHEM\4\DATA\04-24-20\006F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 00-951 mb2
Run Time Bar Code:
Acquired on : 24 Apr 20 09:59 AM
Report Created on: 27 Apr 20 08:15 AM

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



Data File Name	: C:\HPCHEM\4\DATA\04-24-20\005F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 59-162B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 24 Apr 20 02:15 PM	Instrument Method	: DX.MTH
Report Created on	: 27 Apr 20 08:15 AM	Analysis Method	: DEFAULT.MTH

SAMPLE CHAIN OF CUSTODY

004278

ME 04/23/20

BI4 / CI3

Page # 1 of 2

Report To Aspect Consulting

Company B. Greer A. Griffin

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle WA 98104

Phone (612) 232 7343 Email bgreer@aspectconsulting.com

SAMPLERS (*signature*) Breeyn Greer

PROJECT NAME: Riverbend

PO #: 190210

REMARKS: Project specific RLs? - Yes / No

INVOICE TO: AP

TURNAROUND TIME
- [X] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs 8270	Metals	WAD Cyanide 4500		Notes
						ANALYSES REQUESTED											* Metals = As, Ba, Pb, Hg, Se
ATP-09-3.0	01 A-F	4/22/20	0900	S	6												HOLD
ATP-09-11.5	02	4/22/20	0910	S	6	X	X				X		X				
ATP-10-4.5	03		0830	S	6												HOLD
ATP-10-9.6	04		0840	S	6	X	X				X		X				
ATP-11-6.0	05		0800	S	6	X	X				X	X	X	X	X		
ATP-11-12.5	06		0810	S	6	X	X				X		X				
~~ATP-08~~ B6																	
ATP-12-7.5	07	4/21/20	1500	S	6	X	X				X	X	X	X	X		
ATP-12-11.5	08	4/21/20	1510	S	6	X	X				X		X				
ATP-13-5.0	09	4/21/20	1430	S	6	X	X				X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Breeyn Greer	Breeyn Greer	Aspect	4/23/20	1700
Received by:	BISRAT ~~TADESSE~~	FKI		
Relinquished by:			Samples received at 1 °C	
Received by:				

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

SAMPLE CHAIN OF CUSTODY

004278 ME 04/23/20 BIY / CI3

Page # 2 of 2

Report To Aspect

Company Greer / Griffin

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*): Breyn Greer

PROJECT NAME: Riverbend

PO #: 190210

REMARKS

Project specific RLs? - Yes / (No)

INVOICE TO: AP

TURNAROUND TIME

[X] Standard turnaround

[ ] RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

[ ] Archive samples

[ ] Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs 8270	* Metals			* RCRA + MTCA Notes
																	HOLD
ATP-13-7.0	10A-E	4/21/20	1440	S	6	X	X				X		X				
ATP-13-11.5	11	4/21/20	1450	S	6					X	X			X			
ASUP-IDW-01	12	4/20/20	1530	S	5												HOLD
ASUP-03	13	4/20/20	1130	S	6												HOLD
ATP-16-1.5	14	4/21/20	1110	S	6												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Breyn Greer	Breyn Greer	Aspect	4/23/20	1700
Received by:	BISRAT TADESSE	FBI	1	1
Relinquished by:			Samples received at	2 °C
Received by:				

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

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

May 1, 2020

Breeyn Greer, Project Manager
Aspect Consulting, LLC
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Ms Greer:

Included are the results from the testing of material submitted on April 23, 2020 from the Riverbend 190210, F&BI 004278 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Data Aspect, Adam Griffin
ASP0501R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 23, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Riverbend 190210, F&BI 004278 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
004278 -01	ATP-09-3.0
004278 -02	ATP-09-11.5
004278 -03	ATP-10-4.5
004278 -04	ATP-10-9.0
004278 -05	ATP-11-6.0
004278 -06	ATP-11-12.5
004278 -07	ATP-12-7.5
004278 -08	ATP-12-11.5
004278 -09	ATP-13-5.0
004278 -10	ATP-13-7.0
004278 -11	ATP-13-11.5
004278 -12	ASUP-IDW-01
004278 -13	ASUP-03
004278 -14	ATP-16-1.5

Samples ATP-11-6.0, ATP-12-7.5, and ATP-13-5.0 were sent to Amtest for WAD cyanide analysis. The report generated by Amtest will be forwarded to your office upon receipt.

The 8270E calibration standard failed the acceptance criteria for indeno(1,2,3-cd)pyrene. The data were flagged accordingly. In addition, the laboratory control sample and laboratory control sample duplicate failed the relative percent difference for hexachlorocyclopentadiene. The analyte was not detected in the samples therefore the data were acceptable.

Several compounds in the 8260D laboratory control sample exceeded the acceptance criteria. The analytes were not detected in the samples therefore the data were acceptable.

The PAH result for sample ASUP-IDW-01 will be issued in a separate report.

All other quality control requirements were acceptable.

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278
Date Extracted: 04/24/20
Date Analyzed: 04/24/20

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 58-139)
ATP-09-11.5 004278-02	<5	92
ATP-10-9.0 004278-04	<5	89
ATP-11-6.0 004278-05	<5	94
ATP-11-12.5 004278-06	<5	93
ATP-12-7.5 004278-07	<5	91
ATP-12-11.5 004278-08	<5	90
ATP-13-5.0 004278-09	<5	91
ATP-13-11.5 004278-11	<5	90
Method Blank 00-860 MB	<5	96

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278
Date Extracted: 04/24/20
Date Analyzed: 04/24/20

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)
ATP-09-11.5 004278-02	<50	<250	95
ATP-10-9.0 004278-04	<50	<250	107
ATP-11-6.0 004278-05	<50	<250	97
ATP-11-12.5 004278-06	<50	<250	95
ATP-12-7.5 004278-07	<50	<250	94
ATP-12-11.5 004278-08	<50	<250	96
ATP-13-5.0 004278-09	<50	<250	94
ATP-13-11.5 004278-11	<50	<250	91
Method Blank 00-951 MB2	<50	<250	100

Analysis For Total Metals By EPA Method 6020B

Client ID:	ATP-11-6.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	004278-05
Date Analyzed:	04/28/20	Data File:	004278-05.046
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	12.7
Barium	197
Lead	63.4
Mercury	<1
Selenium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	ATP-12-7.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	004278-07
Date Analyzed:	04/28/20	Data File:	004278-07.049
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	11.8
Barium	120
Lead	14.2
Mercury	<1
Selenium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	ATP-13-5.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	004278-09
Date Analyzed:	04/28/20	Data File:	004278-09.050
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	7.77
Barium	205
Lead	217 ve
Mercury	<1
Selenium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	ATP-13-5.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	004278-09 x5
Date Analyzed:	04/29/20	Data File:	004278-09 x5.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	281

Analysis For Total Metals By EPA Method 6020B

Client ID:	ASUP-IDW-01	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	004278-12
Date Analyzed:	04/28/20	Data File:	004278-12.051
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.80
Barium	108
Lead	25.6
Mercury	<1
Selenium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/28/20	Lab ID:	I0-243 mb
Date Analyzed:	04/28/20	Data File:	I0-243 mb.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Lead	<1
Mercury	<1
Selenium	<1

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-09-11.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-02
Date Analyzed:	04/24/20	Data File:	042417.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	66	36	114
Phenol-d6	73	47	116
Nitrobenzene-d5	68	38	117
2-Fluorobiphenyl	67	50	150
2,4,6-Tribromophenol	75	25	187
Terphenyl-d14	80	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroethyl) ether	<0.01	3-Nitroaniline	<1
2-Chlorophenol	<0.1	Acenaphthene	<0.002
1,3-Dichlorobenzene	<0.01	2,4-Dinitrophenol	<0.3
1,4-Dichlorobenzene	<0.01	Dibenzofuran	<0.01
1,2-Dichlorobenzene	<0.01	2,4-Dinitrotoluene	<0.05
Benzyl alcohol	<0.1	4-Nitrophenol	<0.3
2,2'-Oxybis(1-chloropropane)	<0.01	Diethyl phthalate	<0.1
2-Methylphenol	<0.1	Fluorene	<0.002
Hexachloroethane	<0.01	4-Chlorophenyl phenyl ether	<0.01
N-Nitroso-di-n-propylamine	<0.01	N-Nitrosodiphenylamine	<0.01
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitroaniline	<1
Nitrobenzene	<0.01	4,6-Dinitro-2-methylphenol	<0.3
Isophorone	<0.01	4-Bromophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	Hexachlorobenzene	<0.01
2,4-Dimethylphenol	<0.1	Pentachlorophenol	<0.05
Benzoic acid	<0.5	Phenanthrene	<0.002
Bis(2-chloroethoxy)methane	<0.01	Anthracene	<0.002
2,4-Dichlorophenol	<0.1	Carbazole	<0.01
1,2,4-Trichlorobenzene	<0.01	Di-n-butyl phthalate	<0.1
Naphthalene	<0.002	Fluoranthene	0.0050
Hexachlorobutadiene	<0.01	Pyrene	0.0059
4-Chloroaniline	<1	Benzyl butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benz(a)anthracene	0.0028
2-Methylnaphthalene	<0.002	Chrysene	0.0032
1-Methylnaphthalene	<0.002	Bis(2-ethylhexyl) phthalate	<0.16
Hexachlorocyclopentadiene	<0.03	Di-n-octyl phthalate	<0.1
2,4,6-Trichlorophenol	<0.1	Benzo(a)pyrene	0.0032
2,4,5-Trichlorophenol	<0.1	Benzo(b)fluoranthene	0.0038
2-Chloronaphthalene	<0.01	Benzo(k)fluoranthene	<0.002
2-Nitroaniline	<0.05	Indeno(1,2,3-cd)pyrene	0.0025 ca
Dimethyl phthalate	<0.1	Dibenz(a,h)anthracene	<0.002
Acenaphthylene	<0.002	Benzo(g,h,i)perylene	0.0025

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-10-9.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-04 1/5
Date Analyzed:	04/24/20	Data File:	042418.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	79	36	114
Phenol-d6	86	47	116
Nitrobenzene-d5	84	38	117
2-Fluorobiphenyl	86	50	150
2,4,6-Tribromophenol	77	25	187
Terphenyl-d14	89	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-11-6.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-05 1/25
Date Analyzed:	04/27/20	Data File:	042710.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	55 d	36	114
Phenol-d6	63 d	47	116
Nitrobenzene-d5	69 d	38	117
2-Fluorobiphenyl	78 d	50	150
2,4,6-Tribromophenol	53 d	25	187
Terphenyl-d14	76 d	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<2.5	2,6-Dinitrotoluene	<1.2
Bis(2-chloroethyl) ether	<0.25	3-Nitroaniline	<25
2-Chlorophenol	<2.5	Acenaphthene	<0.05
1,3-Dichlorobenzene	<0.25	2,4-Dinitrophenol	<7.5
1,4-Dichlorobenzene	<0.25	Dibenzofuran	<0.25
1,2-Dichlorobenzene	<0.25	2,4-Dinitrotoluene	<1.2
Benzyl alcohol	<2.5	4-Nitrophenol	<7.5
2,2'-Oxybis(1-chloropropane)	<0.25	Diethyl phthalate	<2.5
2-Methylphenol	<2.5	Fluorene	<0.05
Hexachloroethane	<0.25	4-Chlorophenyl phenyl ether	<0.25
N-Nitroso-di-n-propylamine	<0.25	N-Nitrosodiphenylamine	<0.25
3-Methylphenol + 4-Methylphenol	<5	4-Nitroaniline	<25
Nitrobenzene	<0.25	4,6-Dinitro-2-methylphenol	<7.5
Isophorone	<0.25	4-Bromophenyl phenyl ether	<0.25
2-Nitrophenol	<2.5	Hexachlorobenzene	<0.25
2,4-Dimethylphenol	<2.5	Pentachlorophenol	<1.2
Benzoic acid	<12 ca	Phenanthrene	0.24
Bis(2-chloroethoxy)methane	<0.25	Anthracene	0.051
2,4-Dichlorophenol	<2.5	Carbazole	<0.25
1,2,4-Trichlorobenzene	<0.25	Di-n-butyl phthalate	<2.5
Naphthalene	0.21	Fluoranthene	0.29
Hexachlorobutadiene	<0.25	Pyrene	0.28
4-Chloroaniline	<25	Benzyl butyl phthalate	<2.5
4-Chloro-3-methylphenol	<2.5	Benz(a)anthracene	0.18
2-Methylnaphthalene	0.16	Chrysene	0.28
1-Methylnaphthalene	0.091	Bis(2-ethylhexyl) phthalate	<4
Hexachlorocyclopentadiene	<0.75	Di-n-octyl phthalate	<2.5
2,4,6-Trichlorophenol	<2.5	Benzo(a)pyrene	0.25
2,4,5-Trichlorophenol	<2.5	Benzo(b)fluoranthene	0.40
2-Chloronaphthalene	<0.25	Benzo(k)fluoranthene	0.13
2-Nitroaniline	<1.2	Indeno(1,2,3-cd)pyrene	0.29
Dimethyl phthalate	<2.5	Dibenz(a,h)anthracene	0.064
Acenaphthylene	<0.05	Benzo(g,h,i)perylene	0.31

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-11-12.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-06 1/25
Date Analyzed:	04/27/20	Data File:	042711.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	68 d	36	114
Phenol-d6	75 d	47	116
Nitrobenzene-d5	71 d	38	117
2-Fluorobiphenyl	79 d	50	150
2,4,6-Tribromophenol	66 d	25	187
Terphenyl-d14	79 d	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<2.5	2,6-Dinitrotoluene	<1.2
Bis(2-chloroethyl) ether	<0.25	3-Nitroaniline	<25
2-Chlorophenol	<2.5	Acenaphthene	<0.05
1,3-Dichlorobenzene	<0.25	2,4-Dinitrophenol	<7.5
1,4-Dichlorobenzene	<0.25	Dibenzofuran	<0.25
1,2-Dichlorobenzene	<0.25	2,4-Dinitrotoluene	<1.2
Benzyl alcohol	<2.5	4-Nitrophenol	<7.5
2,2'-Oxybis(1-chloropropane)	<0.25	Diethyl phthalate	<2.5
2-Methylphenol	<2.5	Fluorene	<0.05
Hexachloroethane	<0.25	4-Chlorophenyl phenyl ether	<0.25
N-Nitroso-di-n-propylamine	<0.25	N-Nitrosodiphenylamine	<0.25
3-Methylphenol + 4-Methylphenol	<5	4-Nitroaniline	<25
Nitrobenzene	<0.25	4,6-Dinitro-2-methylphenol	<7.5
Isophorone	<0.25	4-Bromophenyl phenyl ether	<0.25
2-Nitrophenol	<2.5	Hexachlorobenzene	<0.25
2,4-Dimethylphenol	<2.5	Pentachlorophenol	<1.2
Benzoic acid	<12 ca	Phenanthrene	0.097
Bis(2-chloroethoxy)methane	<0.25	Anthracene	0.063
2,4-Dichlorophenol	<2.5	Carbazole	<0.25
1,2,4-Trichlorobenzene	<0.25	Di-n-butyl phthalate	<2.5
Naphthalene	0.051	Fluoranthene	0.25
Hexachlorobutadiene	<0.25	Pyrene	0.28
4-Chloroaniline	<25	Benzyl butyl phthalate	<2.5
4-Chloro-3-methylphenol	<2.5	Benz(a)anthracene	0.19
2-Methylnaphthalene	<0.05	Chrysene	0.31
1-Methylnaphthalene	<0.05	Bis(2-ethylhexyl) phthalate	<4
Hexachlorocyclopentadiene	<0.75	Di-n-octyl phthalate	<2.5
2,4,6-Trichlorophenol	<2.5	Benzo(a)pyrene	0.25
2,4,5-Trichlorophenol	<2.5	Benzo(b)fluoranthene	0.45
2-Chloronaphthalene	<0.25	Benzo(k)fluoranthene	0.15
2-Nitroaniline	<1.2	Indeno(1,2,3-cd)pyrene	0.26
Dimethyl phthalate	<2.5	Dibenz(a,h)anthracene	0.062
Acenaphthylene	<0.05	Benzo(g,h,i)perylene	0.24

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-12-7.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-07 1/25
Date Analyzed:	04/27/20	Data File:	042712.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	65 d	36	114
Phenol-d6	74 d	47	116
Nitrobenzene-d5	73 d	38	117
2-Fluorobiphenyl	77 d	50	150
2,4,6-Tribromophenol	74 d	25	187
Terphenyl-d14	80 d	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<2.5	2,6-Dinitrotoluene	<1.2
Bis(2-chloroethyl) ether	<0.25	3-Nitroaniline	<25
2-Chlorophenol	<2.5	Acenaphthene	0.065
1,3-Dichlorobenzene	<0.25	2,4-Dinitrophenol	<7.5
1,4-Dichlorobenzene	<0.25	Dibenzofuran	<0.25
1,2-Dichlorobenzene	<0.25	2,4-Dinitrotoluene	<1.2
Benzyl alcohol	<2.5	4-Nitrophenol	<7.5
2,2'-Oxybis(1-chloropropane)	<0.25	Diethyl phthalate	<2.5
2-Methylphenol	<2.5	Fluorene	0.17
Hexachloroethane	<0.25	4-Chlorophenyl phenyl ether	<0.25
N-Nitroso-di-n-propylamine	<0.25	N-Nitrosodiphenylamine	<0.25
3-Methylphenol + 4-Methylphenol	<5	4-Nitroaniline	<25
Nitrobenzene	<0.25	4,6-Dinitro-2-methylphenol	<7.5
Isophorone	<0.25	4-Bromophenyl phenyl ether	<0.25
2-Nitrophenol	<2.5	Hexachlorobenzene	<0.25
2,4-Dimethylphenol	<2.5	Pentachlorophenol	<1.2
Benzoic acid	<12 ca	Phenanthrene	4.0
Bis(2-chloroethoxy)methane	<0.25	Anthracene	0.91
2,4-Dichlorophenol	<2.5	Carbazole	<0.25
1,2,4-Trichlorobenzene	<0.25	Di-n-butyl phthalate	<2.5
Naphthalene	0.44	Fluoranthene	6.9
Hexachlorobutadiene	<0.25	Pyrene	6.9
4-Chloroaniline	<25	Benzyl butyl phthalate	<2.5
4-Chloro-3-methylphenol	<2.5	Benz(a)anthracene	3.8
2-Methylnaphthalene	0.14	Chrysene	3.8
1-Methylnaphthalene	0.12	Bis(2-ethylhexyl) phthalate	<4
Hexachlorocyclopentadiene	<0.75	Di-n-octyl phthalate	<2.5
2,4,6-Trichlorophenol	<2.5	Benzo(a)pyrene	3.9
2,4,5-Trichlorophenol	<2.5	Benzo(b)fluoranthene	4.8
2-Chloronaphthalene	<0.25	Benzo(k)fluoranthene	1.8
2-Nitroaniline	<1.2	Indeno(1,2,3-cd)pyrene	2.5
Dimethyl phthalate	<2.5	Dibenz(a,h)anthracene	0.47
Acenaphthylene	0.37	Benzo(g,h,i)perylene	2.0

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-12-11.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-08 1/5
Date Analyzed:	04/24/20	Data File:	042419.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	69	36	114
Phenol-d6	73	47	116
Nitrobenzene-d5	75	38	117
2-Fluorobiphenyl	74	50	150
2,4,6-Tribromophenol	61	25	187
Terphenyl-d14	75	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	0.013
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	0.030
Hexachlorobutadiene	<0.05	Pyrene	0.024
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	0.019
2-Methylnaphthalene	<0.01	Chrysene	0.022
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	0.016
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	0.028
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	0.010
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	0.017 ca
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	0.016

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-13-5.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-09 1/25
Date Analyzed:	04/24/20	Data File:	042421.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32 d	36	114
Phenol-d6	42 d	47	116
Nitrobenzene-d5	75 d	38	117
2-Fluorobiphenyl	77 d	50	150
2,4,6-Tribromophenol	37 d	25	187
Terphenyl-d14	80 d	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<2.5	2,6-Dinitrotoluene	<1.2
Bis(2-chloroethyl) ether	<0.25	3-Nitroaniline	<25
2-Chlorophenol	<2.5	Acenaphthene	0.078
1,3-Dichlorobenzene	<0.25	2,4-Dinitrophenol	<7.5
1,4-Dichlorobenzene	<0.25	Dibenzofuran	<0.25
1,2-Dichlorobenzene	<0.25	2,4-Dinitrotoluene	<1.2
Benzyl alcohol	<2.5	4-Nitrophenol	<7.5
2,2'-Oxybis(1-chloropropane)	<0.25	Diethyl phthalate	<2.5
2-Methylphenol	<2.5	Fluorene	0.082
Hexachloroethane	<0.25	4-Chlorophenyl phenyl ether	<0.25
N-Nitroso-di-n-propylamine	<0.25	N-Nitrosodiphenylamine	<0.25
3-Methylphenol + 4-Methylphenol	<5	4-Nitroaniline	<25
Nitrobenzene	<0.25	4,6-Dinitro-2-methylphenol	<7.5
Isophorone	<0.25	4-Bromophenyl phenyl ether	<0.25
2-Nitrophenol	<2.5	Hexachlorobenzene	<0.25
2,4-Dimethylphenol	<2.5	Pentachlorophenol	<1.2
Benzoic acid	<12	Phenanthrene	1.5
Bis(2-chloroethoxy)methane	<0.25	Anthracene	0.20
2,4-Dichlorophenol	<2.5	Carbazole	<0.25
1,2,4-Trichlorobenzene	<0.25	Di-n-butyl phthalate	<2.5
Naphthalene	0.22	Fluoranthene	2.2
Hexachlorobutadiene	<0.25	Pyrene	1.9
4-Chloroaniline	<25	Benzyl butyl phthalate	<2.5
4-Chloro-3-methylphenol	<2.5	Benz(a)anthracene	0.97
2-Methylnaphthalene	0.18	Chrysene	1.2
1-Methylnaphthalene	0.12	Bis(2-ethylhexyl) phthalate	<4
Hexachlorocyclopentadiene	<0.75	Di-n-octyl phthalate	<2.5
2,4,6-Trichlorophenol	<2.5	Benzo(a)pyrene	1.1
2,4,5-Trichlorophenol	<2.5	Benzo(b)fluoranthene	1.4
2-Chloronaphthalene	<0.25	Benzo(k)fluoranthene	0.48
2-Nitroaniline	<1.2	Indeno(1,2,3-cd)pyrene	0.84 ca
Dimethyl phthalate	<2.5	Dibenz(a,h)anthracene	0.18
Acenaphthylene	<0.05	Benzo(g,h,i)perylene	0.72

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	ATP-13-11.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-11 1/5
Date Analyzed:	04/24/20	Data File:	042420.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	78	36	114
Phenol-d6	83	47	116
Nitrobenzene-d5	82	38	117
2-Fluorobiphenyl	83	50	150
2,4,6-Tribromophenol	77	25	187
Terphenyl-d14	83	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	00-960 mb
Date Analyzed:	04/24/20	Data File:	042414.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	71	36	114
Phenol-d6	78	47	116
Nitrobenzene-d5	76	38	117
2-Fluorobiphenyl	79	50	150
2,4,6-Tribromophenol	76	25	187
Terphenyl-d14	87	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroethyl) ether	<0.01	3-Nitroaniline	<1
2-Chlorophenol	<0.1	Acenaphthene	<0.002
1,3-Dichlorobenzene	<0.01	2,4-Dinitrophenol	<0.3
1,4-Dichlorobenzene	<0.01	Dibenzofuran	<0.01
1,2-Dichlorobenzene	<0.01	2,4-Dinitrotoluene	<0.05
Benzyl alcohol	<0.1	4-Nitrophenol	<0.3
2,2'-Oxybis(1-chloropropane)	<0.01	Diethyl phthalate	<0.1
2-Methylphenol	<0.1	Fluorene	<0.002
Hexachloroethane	<0.01	4-Chlorophenyl phenyl ether	<0.01
N-Nitroso-di-n-propylamine	<0.01	N-Nitrosodiphenylamine	<0.01
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitroaniline	<1
Nitrobenzene	<0.01	4,6-Dinitro-2-methylphenol	<0.3
Isophorone	<0.01	4-Bromophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	Hexachlorobenzene	<0.01
2,4-Dimethylphenol	<0.1	Pentachlorophenol	<0.05
Benzoic acid	<0.5	Phenanthrene	<0.002
Bis(2-chloroethoxy)methane	<0.01	Anthracene	<0.002
2,4-Dichlorophenol	<0.1	Carbazole	<0.01
1,2,4-Trichlorobenzene	<0.01	Di-n-butyl phthalate	<0.1
Naphthalene	<0.002	Fluoranthene	<0.002
Hexachlorobutadiene	<0.01	Pyrene	<0.002
4-Chloroaniline	<1	Benzyl butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benz(a)anthracene	<0.002
2-Methylnaphthalene	<0.002	Chrysene	<0.002
1-Methylnaphthalene	<0.002	Bis(2-ethylhexyl) phthalate	<0.16
Hexachlorocyclopentadiene	<0.03	Di-n-octyl phthalate	<0.1
2,4,6-Trichlorophenol	<0.1	Benzo(a)pyrene	<0.002
2,4,5-Trichlorophenol	<0.1	Benzo(b)fluoranthene	<0.002
2-Chloronaphthalene	<0.01	Benzo(k)fluoranthene	<0.002
2-Nitroaniline	<0.05	Indeno(1,2,3-cd)pyrene	<0.002
Dimethyl phthalate	<0.1	Dibenz(a,h)anthracene	<0.002
Acenaphthylene	<0.002	Benzo(g,h,i)perylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	ASUP-IDW-01	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	004278-12
Date Analyzed:	04/24/20	Data File:	042417.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	145
Toluene-d8	108	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.071
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	0.38
Hexane	<0.25	o-Xylene	0.11
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	0.19
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.17
Benzene	0.58	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.46	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	3.2
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/24/20	Lab ID:	00-832 mb
Date Analyzed:	04/24/20	Data File:	042416.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	62	145
Toluene-d8	108	55	145
4-Bromofluorobenzene	99	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	ATP-11-6.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/27/20	Lab ID:	004278-05 1/6
Date Analyzed:	04/27/20	Data File:	042711.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	98	31	119

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	ATP-12-7.5	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/27/20	Lab ID:	004278-07 1/6
Date Analyzed:	04/27/20	Data File:	042714.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	97	31	119

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	0.081
Aroclor 1260	0.055
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	ATP-13-5.0	Client:	Aspect Consulting, LLC
Date Received:	04/23/20	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/27/20	Lab ID:	004278-09 1/6
Date Analyzed:	04/27/20	Data File:	042715.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	92	31	119

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.05
Aroclor 1232	<0.05
Aroclor 1016	<0.05
Aroclor 1242	<0.05
Aroclor 1248	<0.05
Aroclor 1254	<0.05
Aroclor 1260	<0.05
Aroclor 1262	<0.05
Aroclor 1268	<0.05

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Riverbend 190210, F&BI 004278
Date Extracted:	04/27/20	Lab ID:	00-962 mb 1/6
Date Analyzed:	04/27/20	Data File:	042710.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	109	31	119

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

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

Laboratory Code: 004278-02 (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	61-153

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

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

Laboratory Code: 004230-02 (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	112	108	64-133	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	110	58-147

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

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

Laboratory Code: 004278-05 (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	11.5	97	97	75-125	0
Barium	mg/kg (ppm)	50	177	45 b	68 b	75-125	41 b
Lead	mg/kg (ppm)	10	57.1	97 b	281 b	75-125	97 b
Mercury	mg/kg (ppm	5	<1	90	78	75-125	14
Selenium	mg/kg (ppm)	5	<1	88	86	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120
Barium	mg/kg (ppm)	50	102	80-120
Lead	mg/kg (ppm)	10	96	80-120
Mercury	mg/kg (ppm)	5	99	80-120
Selenium	mg/kg (ppm)	5	96	80-120

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 004278-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.17	<0.1	76	50-150
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.17	<0.01	69	40-125
2-Chlorophenol	mg/kg (ppm)	0.17	<0.1	73	41-131
1,3-Dichlorobenzene	mg/kg (ppm)	0.17	<0.01	66	28-126
1,4-Dichlorobenzene	mg/kg (ppm)	0.17	<0.01	66	29-124
1,2-Dichlorobenzene	mg/kg (ppm)	0.17	<0.01	67	36-123
Benzyl alcohol	mg/kg (ppm)	0.33	<0.1	75	50-150
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.17	<0.01	71	50-150
2-Methylphenol	mg/kg (ppm)	0.17	<0.1	74	42-143
Hexachloroethane	mg/kg (ppm)	0.17	<0.01	68	31-132
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.17	<0.01	75	50-150
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.17	<0.2	74	50-150
Nitrobenzene	mg/kg (ppm)	0.17	<0.01	75	25-151
Isophorone	mg/kg (ppm)	0.17	<0.01	73	23-164
2-Nitrophenol	mg/kg (ppm)	0.17	<0.1	81	29-152
2,4-Dimethylphenol	mg/kg (ppm)	0.17	<0.1	72	16-163
Benzoic acid	mg/kg (ppm)	0.25	<0.5	50	10-250
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.17	<0.01	74	50-150
2,4-Dichlorophenol	mg/kg (ppm)	0.17	<0.1	74	39-145
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.17	<0.01	71	44-122
Naphthalene	mg/kg (ppm)	0.17	<0.002	73	10-188
Hexachlorobutadiene	mg/kg (ppm)	0.17	<0.01	68	39-122
4-Chloroaniline	mg/kg (ppm)	0.33	<1	66	19-113
4-Chloro-3-methylphenol	mg/kg (ppm)	0.17	<0.1	81	50-150
2-Methylnaphthalene	mg/kg (ppm)	0.17	<0.002	78	50-150
1-Methylnaphthalene	mg/kg (ppm)	0.17	<0.002	77	43-132
Hexachlorocyclopentadiene	mg/kg (ppm)	0.17	<0.03	83	10-150
2,4,6-Trichlorophenol	mg/kg (ppm)	0.17	<0.1	79	50-150
2,4,5-Trichlorophenol	mg/kg (ppm)	0.17	<0.1	85	50-150
2-Chloronaphthalene	mg/kg (ppm)	0.17	<0.01	76	50-150
2-Nitroaniline	mg/kg (ppm)	0.33	<0.05	84	50-150
Dimethyl phthalate	mg/kg (ppm)	0.17	<0.1	87	50-150
Acenaphthylene	mg/kg (ppm)	0.17	<0.002	83	50-150
2,6-Dinitrotoluene	mg/kg (ppm)	0.17	<0.05	92	49-142
3-Nitroaniline	mg/kg (ppm)	0.33	<1	78	23-125
Acenaphthene	mg/kg (ppm)	0.17	<0.002	80	50-150
2,4-Dinitrophenol	mg/kg (ppm)	0.17	<0.3	97	10-152
Dibenzofuran	mg/kg (ppm)	0.17	<0.01	83	50-150
2,4-Dinitrotoluene	mg/kg (ppm)	0.17	<0.05	93	48-143
4-Nitrophenol	mg/kg (ppm)	0.17	<0.3	95	19-154
Diethyl phthalate	mg/kg (ppm)	0.17	<0.1	90	50-150
Fluorene	mg/kg (ppm)	0.17	<0.002	87	46-140
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.17	<0.01	85	50-150
N-Nitrosodiphenylamine	mg/kg (ppm)	0.17	<0.01	81	50-150
4-Nitroaniline	mg/kg (ppm)	0.33	<1	74	26-130
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.17	<0.3	98	9-157
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.17	<0.01	82	47-143
Hexachlorobenzene	mg/kg (ppm)	0.17	<0.01	85	50-150
Pentachlorophenol	mg/kg (ppm)	0.17	<0.05	102	32-151
Phenanthrene	mg/kg (ppm)	0.17	<0.002	86	15-244
Anthracene	mg/kg (ppm)	0.17	<0.002	85	33-146
Carbazole	mg/kg (ppm)	0.17	<0.01	92	50-150
Di-n-butyl phthalate	mg/kg (ppm)	0.17	<0.1	94	50-150
Fluoranthene	mg/kg (ppm)	0.17	0.0040	90	19-162
Pyrene	mg/kg (ppm)	0.17	0.0047	86	10-238
Benzyl butyl phthalate	mg/kg (ppm)	0.17	<0.1	104	9-215
Benz(a)anthracene	mg/kg (ppm)	0.17	0.0022	89	50-150
Chrysene	mg/kg (ppm)	0.17	0.0025	88	50-150
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.17	<0.16	95	23-187
Di-n-octyl phthalate	mg/kg (ppm)	0.17	<0.1	99	10-253
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.0026	83	48-134
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.0031	85	38-158
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.002	86	41-151
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.0020	99	19-144
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.002	98	21-140
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.0020	90	7-144

Date of Report: 05/01/20
Date Received: 04/23/20
Project: Riverbend 190210, F&BI 004278

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.17	84	83	68-117	1
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.17	79	77	51-119	3
2-Chlorophenol	mg/kg (ppm)	0.17	82	79	58-116	4
1,3-Dichlorobenzene	mg/kg (ppm)	0.17	74	72	48-109	3
1,4-Dichlorobenzene	mg/kg (ppm)	0.17	74	71	50-107	4
1,2-Dichlorobenzene	mg/kg (ppm)	0.17	75	75	53-107	0
Benzyl alcohol	mg/kg (ppm)	0.33	87	86	70-130	1
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.17	80	77	70-130	4
2-Methylphenol	mg/kg (ppm)	0.17	82	82	63-112	0
Hexachloroethane	mg/kg (ppm)	0.17	77	75	50-113	3
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.17	87	87	70-130	0
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.17	85	84	70-130	1
Nitrobenzene	mg/kg (ppm)	0.17	86	81	60-116	6
Isophorone	mg/kg (ppm)	0.17	83	83	66-119	0
2-Nitrophenol	mg/kg (ppm)	0.17	95	83	64-120	13
2,4-Dimethylphenol	mg/kg (ppm)	0.17	78	80	58-118	3
Benzoic acid	mg/kg (ppm)	0.25	103	95	56-169	8
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.17	85	82	68-110	4
2,4-Dichlorophenol	mg/kg (ppm)	0.17	85	81	63-116	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.17	78	75	56-110	4
Naphthalene	mg/kg (ppm)	0.17	81	78	60-105	4
Hexachlorobutadiene	mg/kg (ppm)	0.17	78	73	52-111	7
4-Chloroaniline	mg/kg (ppm)	0.33	46	55	10-90	18
4-Chloro-3-methylphenol	mg/kg (ppm)	0.17	86	85	65-120	1
2-Methylnaphthalene	mg/kg (ppm)	0.17	85	84	64-107	1
1-Methylnaphthalene	mg/kg (ppm)	0.17	84	84	64-105	0
Hexachlorocyclopentadiene	mg/kg (ppm)	0.17	102	79	54-131	25 vo
2,4,6-Trichlorophenol	mg/kg (ppm)	0.17	87	83	63-125	5
2,4,5-Trichlorophenol	mg/kg (ppm)	0.17	91	89	70-130	2
2-Chloronaphthalene	mg/kg (ppm)	0.17	84	81	65-115	4
2-Nitroaniline	mg/kg (ppm)	0.33	92	85	64-128	8
Dimethyl phthalate	mg/kg (ppm)	0.17	94	89	64-127	5
Acenaphthylene	mg/kg (ppm)	0.17	91	89	70-130	2
2,6-Dinitrotoluene	mg/kg (ppm)	0.17	95	91	68-126	4
3-Nitroaniline	mg/kg (ppm)	0.33	77	75	52-108	3
Acenaphthene	mg/kg (ppm)	0.17	88	85	70-130	3
2,4-Dinitrophenol	mg/kg (ppm)	0.17	120	100	51-159	18
Dibenzofuran	mg/kg (ppm)	0.17	89	88	70-130	1
2,4-Dinitrotoluene	mg/kg (ppm)	0.17	100	98	66-125	2
4-Nitrophenol	mg/kg (ppm)	0.17	102	96	60-146	6
Diethyl phthalate	mg/kg (ppm)	0.17	94	90	63-133	4
Fluorene	mg/kg (ppm)	0.17	92	91	70-130	1
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.17	90	87	70-130	3
N-Nitrosodiphenylamine	mg/kg (ppm)	0.17	87	84	70-130	4
4-Nitroaniline	mg/kg (ppm)	0.33	80	79	50-124	1
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.17	113	101	68-139	11
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.17	92	86	43-167	7
Hexachlorobenzene	mg/kg (ppm)	0.17	94	87	70-130	8
Pentachlorophenol	mg/kg (ppm)	0.17	114	104	61-136	9
Phenanthrene	mg/kg (ppm)	0.17	94	91	70-130	3
Anthracene	mg/kg (ppm)	0.17	93	91	70-130	2
Carbazole	mg/kg (ppm)	0.17	100	99	70-130	1
Di-n-butyl phthalate	mg/kg (ppm)	0.17	106	99	70-130	7
Fluoranthene	mg/kg (ppm)	0.17	98	98	70-130	0
Pyrene	mg/kg (ppm)	0.17	91	90	70-130	1
Benzyl butyl phthalate	mg/kg (ppm)	0.17	103	97	70-130	6
Benz(a)anthracene	mg/kg (ppm)	0.17	93	93	70-130	0
Chrysene	mg/kg (ppm)	0.17	93	92	70-130	1
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.17	98	92	38-153	6
Di-n-octyl phthalate	mg/kg (ppm)	0.17	98	91	52-141	7
Benzo(a)pyrene	mg/kg (ppm)	0.17	88	88	64-112	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	88	88	61-118	0
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	92	89	61-116	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	108	106	52-130	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	108	104	54-125	4
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	101	97	47-128	4

Date of Report: 05/01/20
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Project: Riverbend 190210, F&BI 004278

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

Laboratory Code: 004278-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	28	23	10-142	20
Chloromethane	mg/kg (ppm)	2.5	<0.5	57	52	10-126	9
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	55	50	10-138	10
Bromomethane	mg/kg (ppm)	2.5	<0.5	65	64	10-163	2
Chloroethane	mg/kg (ppm)	2.5	<0.5	73	64	10-176	13
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	63	56	10-176	12
Acetone	mg/kg (ppm)	12.5	<0.5	100	92	10-163	8
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	84	73	10-160	14
Hexane	mg/kg (ppm)	2.5	<0.25	53	50	10-137	6
Methylene chloride	mg/kg (ppm)	2.5	<0.5	97	81	10-156	18
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	101	92	21-145	9
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	89	79	14-137	12
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	95	84	19-140	12
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	120	103	10-158	15
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	101	90	25-135	12
Chloroform	mg/kg (ppm)	2.5	<0.05	97	89	21-145	9
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	77	87	19-147	12
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	77	78	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	105	93	10-156	12
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	85	82	17-140	4
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	130	116	9-164	11
Benzene	mg/kg (ppm)	2.5	0.35	68	66	29-129	3
Trichloroethene	mg/kg (ppm)	2.5	<0.02	84	86	21-139	2
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	89	92	30-135	3
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	105	107	23-155	2
Dibromomethane	mg/kg (ppm)	2.5	<0.05	86	88	23-145	2
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	94	101	24-155	7
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	89	101	28-144	13
Toluene	mg/kg (ppm)	2.5	0.28	65	62	35-130	5
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	85	95	26-149	11
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	76	80	10-205	5
2-Hexanone	mg/kg (ppm)	12.5	<0.5	72	83	15-166	14
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	72	80	31-137	11
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	81	77	20-133	5
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	108	110	28-150	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	78	86	28-142	10
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	78	32-129	1
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	81	78	32-137	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	121	108	31-143	11
m,p-Xylene	mg/kg (ppm)	5	0.23	78	75	34-136	4
o-Xylene	mg/kg (ppm)	2.5	0.066	85	79	33-134	7
Styrene	mg/kg (ppm)	2.5	<0.05	84	84	35-137	0
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	91	83	31-142	9
Bromoform	mg/kg (ppm)	2.5	<0.05	127	126	21-156	1
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	77	77	23-146	0
Bromobenzene	mg/kg (ppm)	2.5	<0.05	73	75	34-130	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	0.12	76	74	18-149	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	82	84	28-140	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	74	77	25-144	4
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	78	76	31-134	3
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	74	76	31-136	3
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	80	30-137	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	0.10	76	73	10-182	4
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	81	78	23-145	4
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	83	79	21-149	5
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	77	76	30-131	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	78	77	29-129	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	83	78	31-132	6
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	126	112	11-161	12
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	76	22-142	12
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	88	77	10-142	13
Naphthalene	mg/kg (ppm)	2.5	1.9	0 vo	0 vo	14-157	0
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	74	20-144	13

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	51	10-146
Chloromethane	mg/kg (ppm)	2.5	75	27-133
Vinyl chloride	mg/kg (ppm)	2.5	82	22-139
Bromomethane	mg/kg (ppm)	2.5	84	38-114
Chloroethane	mg/kg (ppm)	2.5	94	9-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	96	10-196
Acetone	mg/kg (ppm)	12.5	109	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	107	47-128
Hexane	mg/kg (ppm)	2.5	95	43-142
Methylene chloride	mg/kg (ppm)	2.5	112	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	110	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	106	67-129
1,1-Dichloroethane	mg/kg (ppm)	2.5	108	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	136	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	114	72-127
Chloroform	mg/kg (ppm)	2.5	112	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	104	72-127
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	97	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	121	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	109	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	151 vo	60-139
Benzene	mg/kg (ppm)	2.5	110	68-114
Trichloroethene	mg/kg (ppm)	2.5	108	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	114	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	134 vo	72-130
Dibromomethane	mg/kg (ppm)	2.5	109	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	123	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	126	75-136
Toluene	mg/kg (ppm)	2.5	96	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	116	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	96	75-113
2-Hexanone	mg/kg (ppm)	12.5	98	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	98	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	97	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	133 vo	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	106	74-132
Chlorobenzene	mg/kg (ppm)	2.5	95	76-111
Ethylbenzene	mg/kg (ppm)	2.5	97	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	128	69-135
m,p-Xylene	mg/kg (ppm)	5	99	78-122
o-Xylene	mg/kg (ppm)	2.5	99	77-124
Styrene	mg/kg (ppm)	2.5	101	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	98	76-127
Bromoform	mg/kg (ppm)	2.5	152 vo	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	93	74-124
Bromobenzene	mg/kg (ppm)	2.5	93	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	97	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	103	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	93	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	92	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	97	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	96	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	94	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	95	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	93	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	93	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	94	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	137	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	91	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	88	50-153
Naphthalene	mg/kg (ppm)	2.5	97	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	89	63-138

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Project: Riverbend 190210, F&BI 004278

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 004278-05 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	86	88	44-107	2
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	92	95	38-124	3

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	98	47-158
Aroclor 1260	mg/kg (ppm)	0.25	107	69-147

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 analyte 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 due to sample matrix effects.

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.

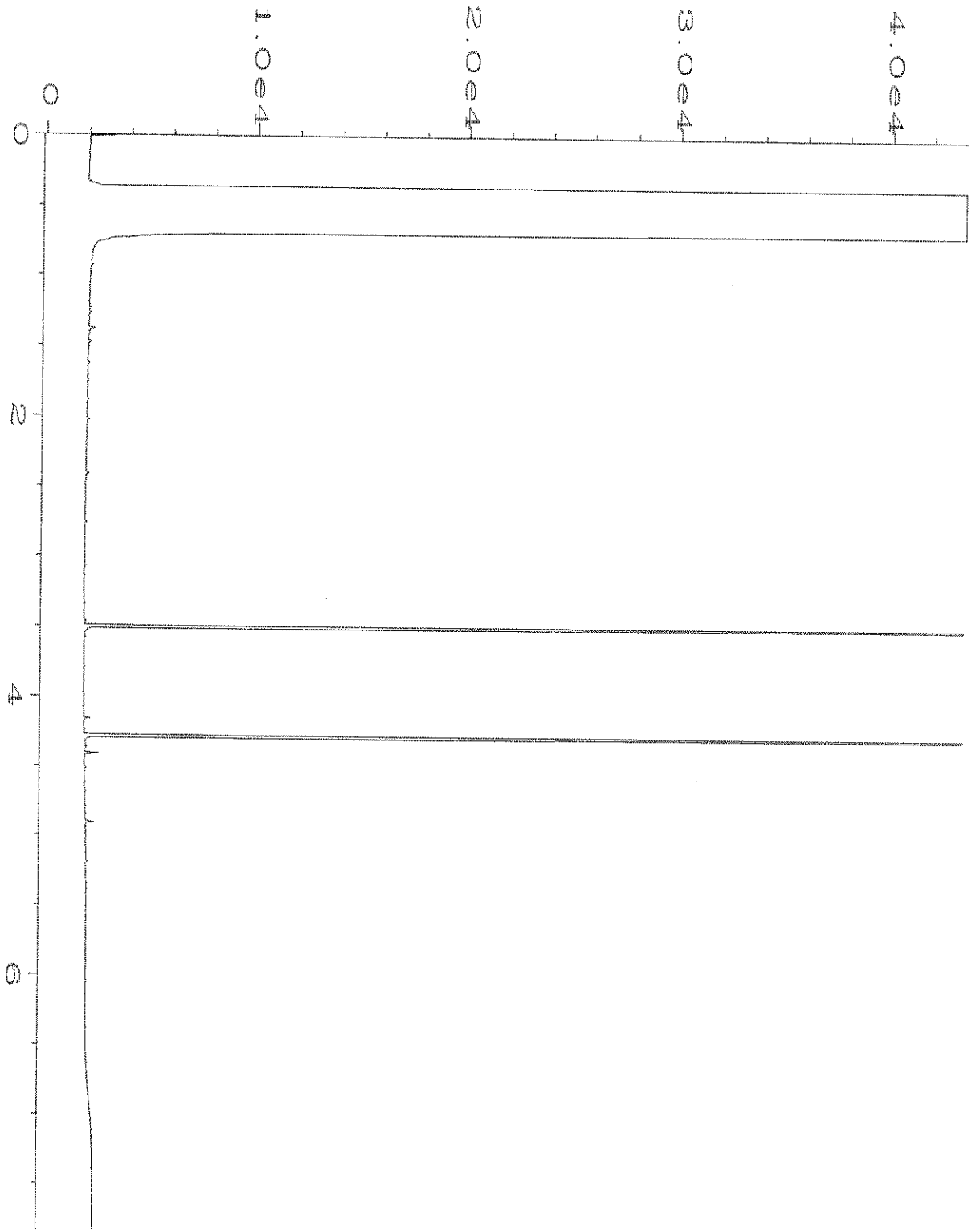
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.



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Instrument	: GC#4	Vial Number	: 7
Sample Name	: 004278-02	Injection Number	: 1
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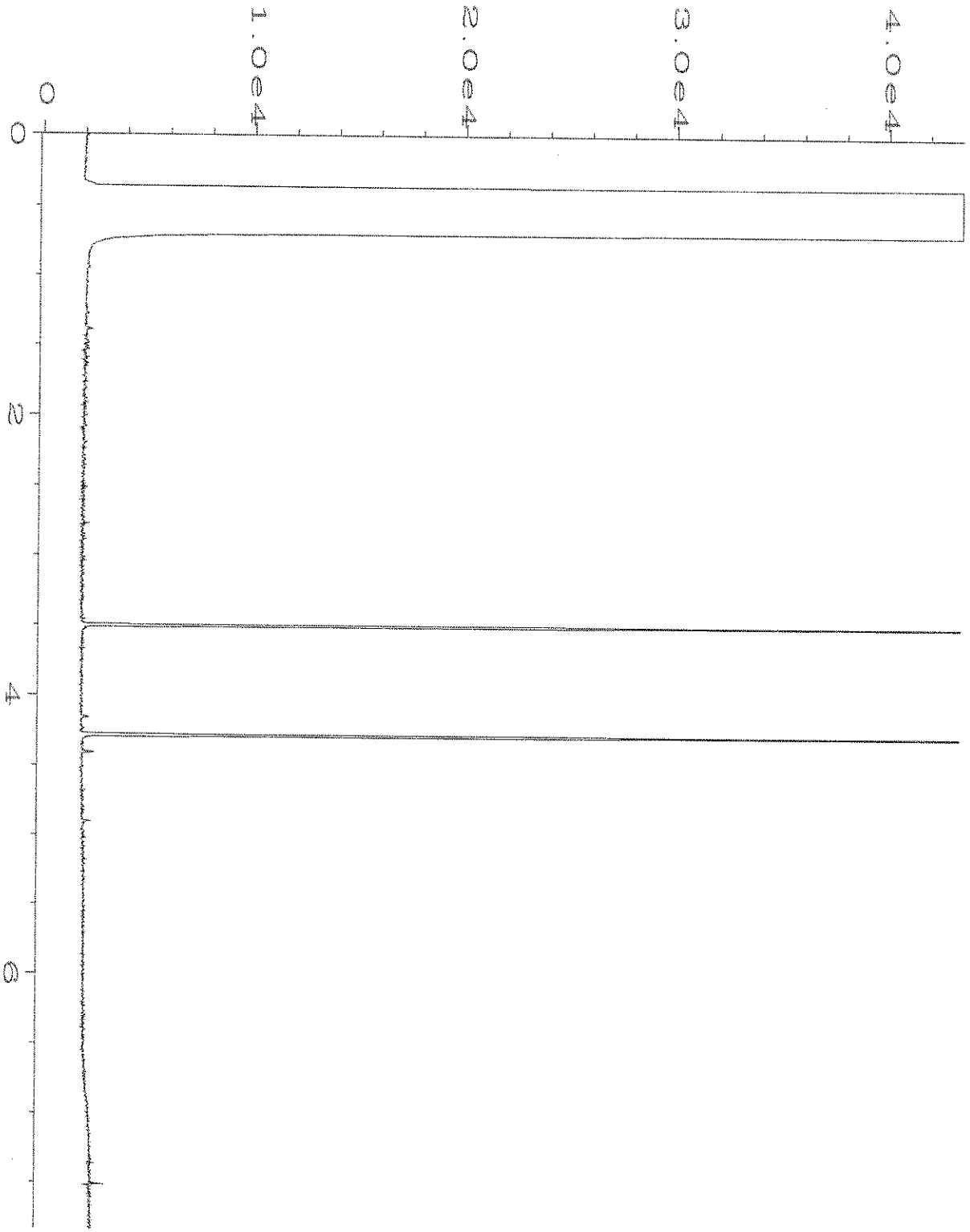
Report Created on	: 27 Apr 20 08:14 AM	Analysis Method	: DEFAULT.MTH



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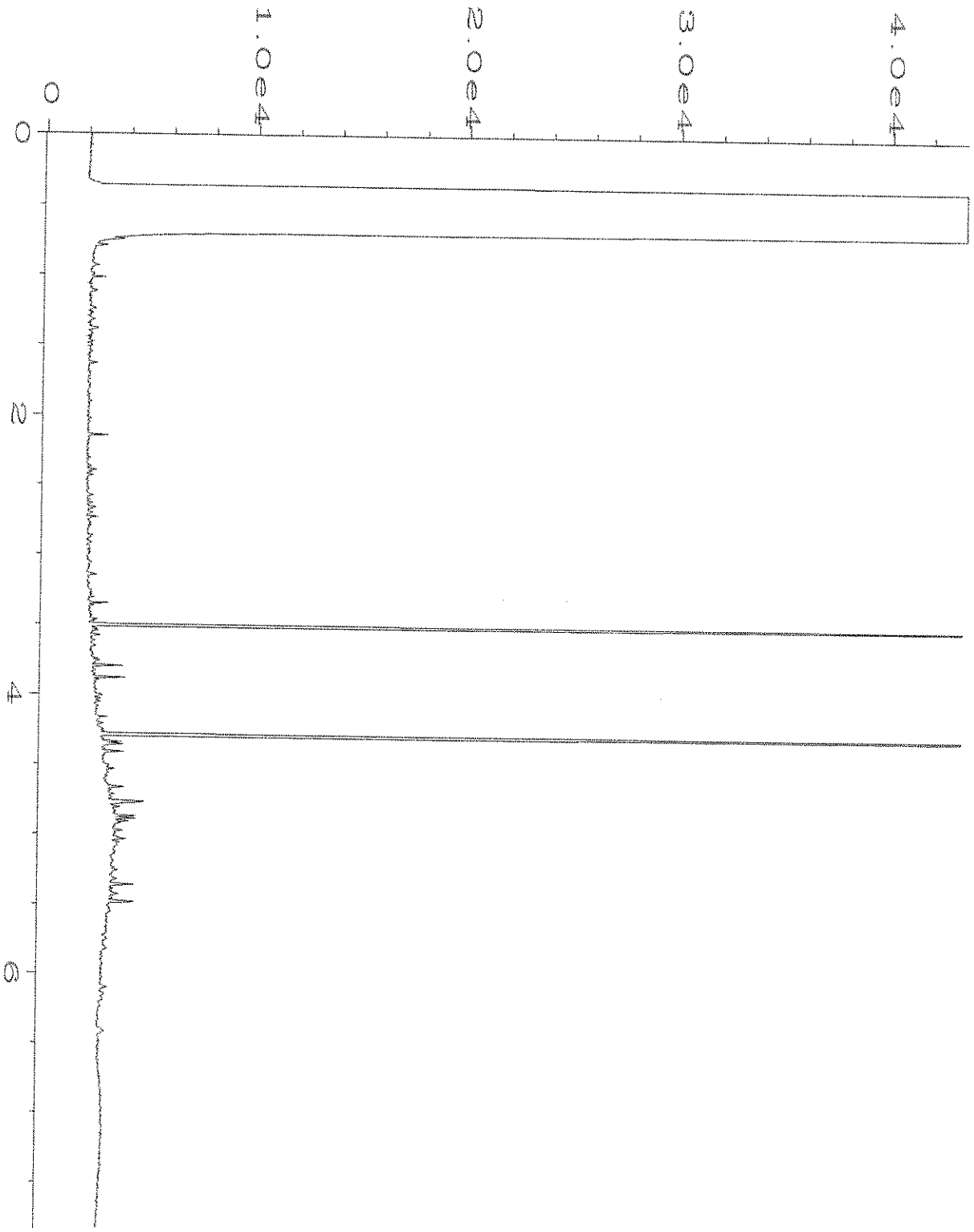
Operator : TL
Instrument : GC#4
Sample Name : 004278-04
Run Time Bar Code:
Acquired on : 24 Apr 20 10:21 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 8
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Instrument	: GC#4	Vial Number	: 9
Sample Name	: 004278-05	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
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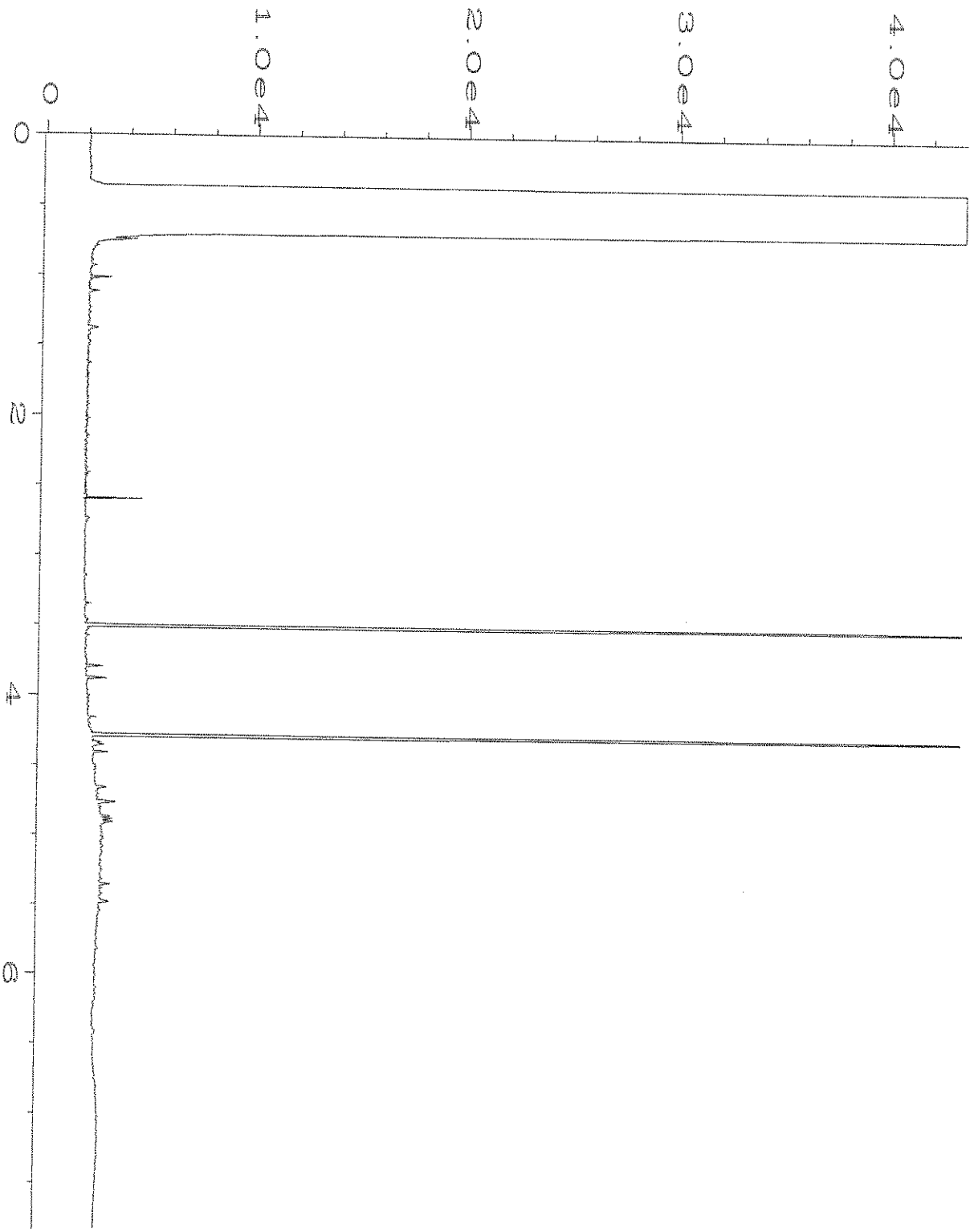
Report Created on	: 27 Apr 20 08:14 AM	Analysis Method	: DEFAULT.MTH



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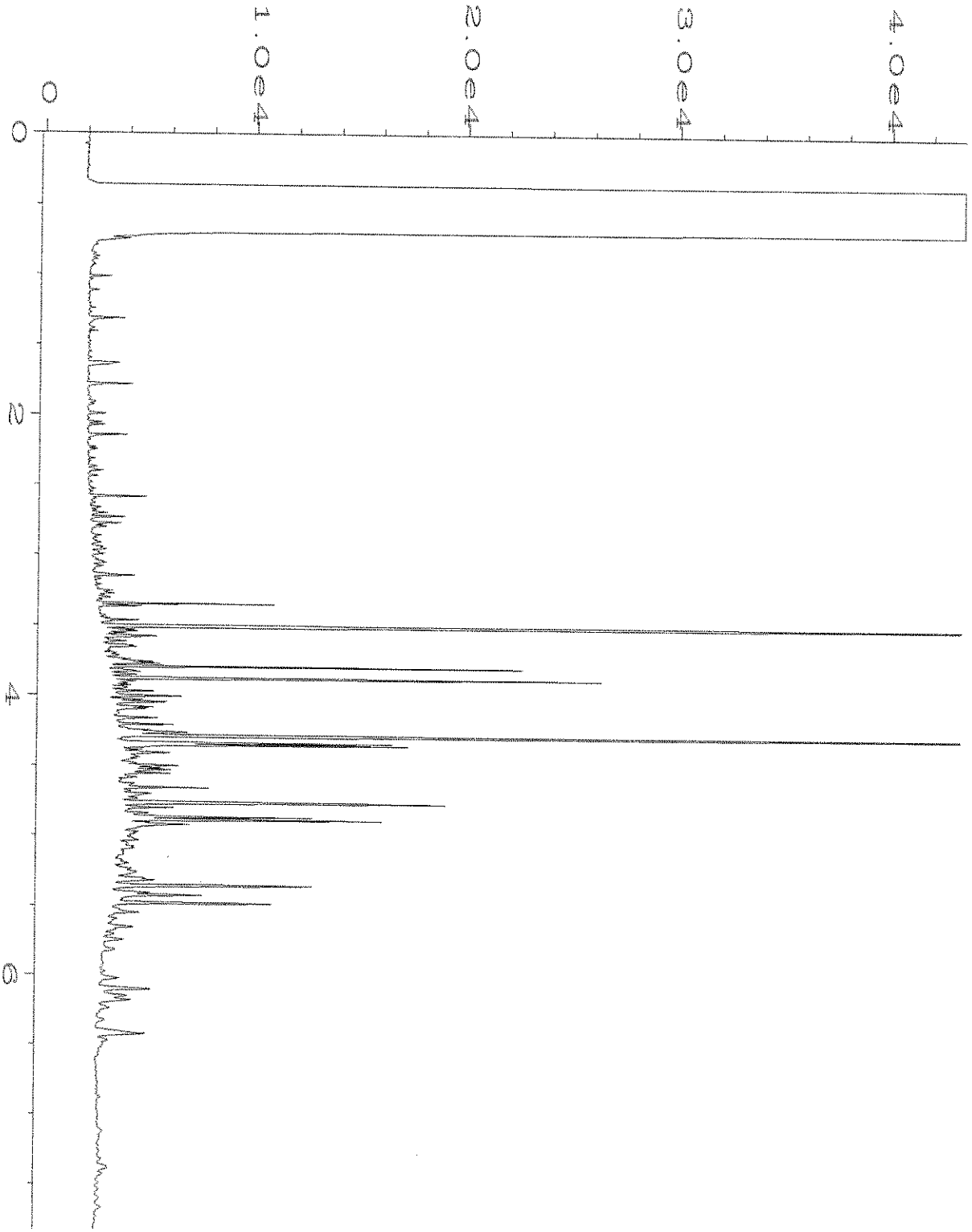
Operator : TL
Instrument : GC#4
Sample Name : 004278-06
Run Time Bar Code:
Acquired on : 24 Apr 20 10:46 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 10
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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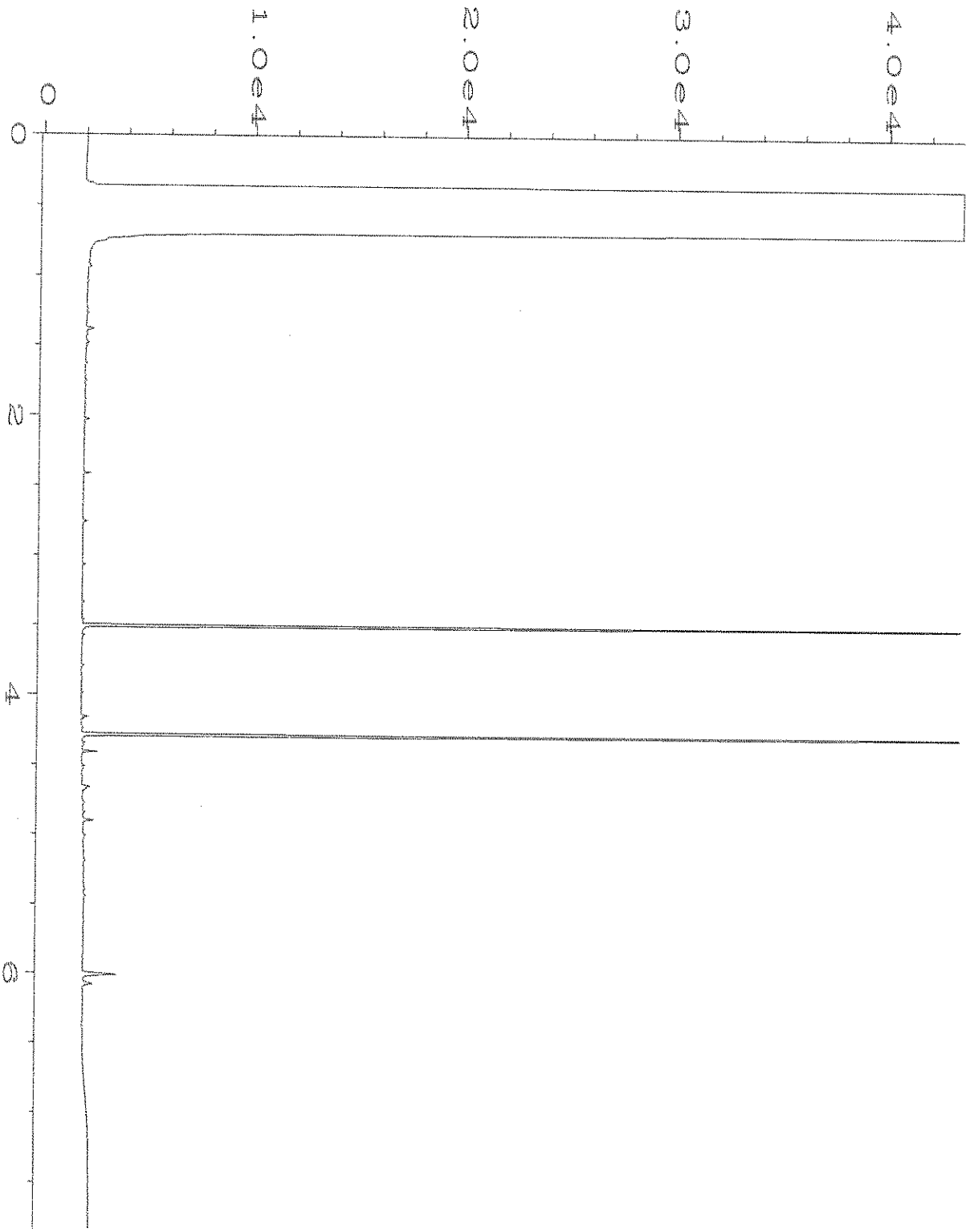
Operator : TL
Instrument : GC#4
Sample Name : 004278-07
Run Time Bar Code:
Acquired on : 24 Apr 20 10:58 AM
Report Created on: 27 Apr 20 08:14 AM

Page Number : 1
Vial Number : 11
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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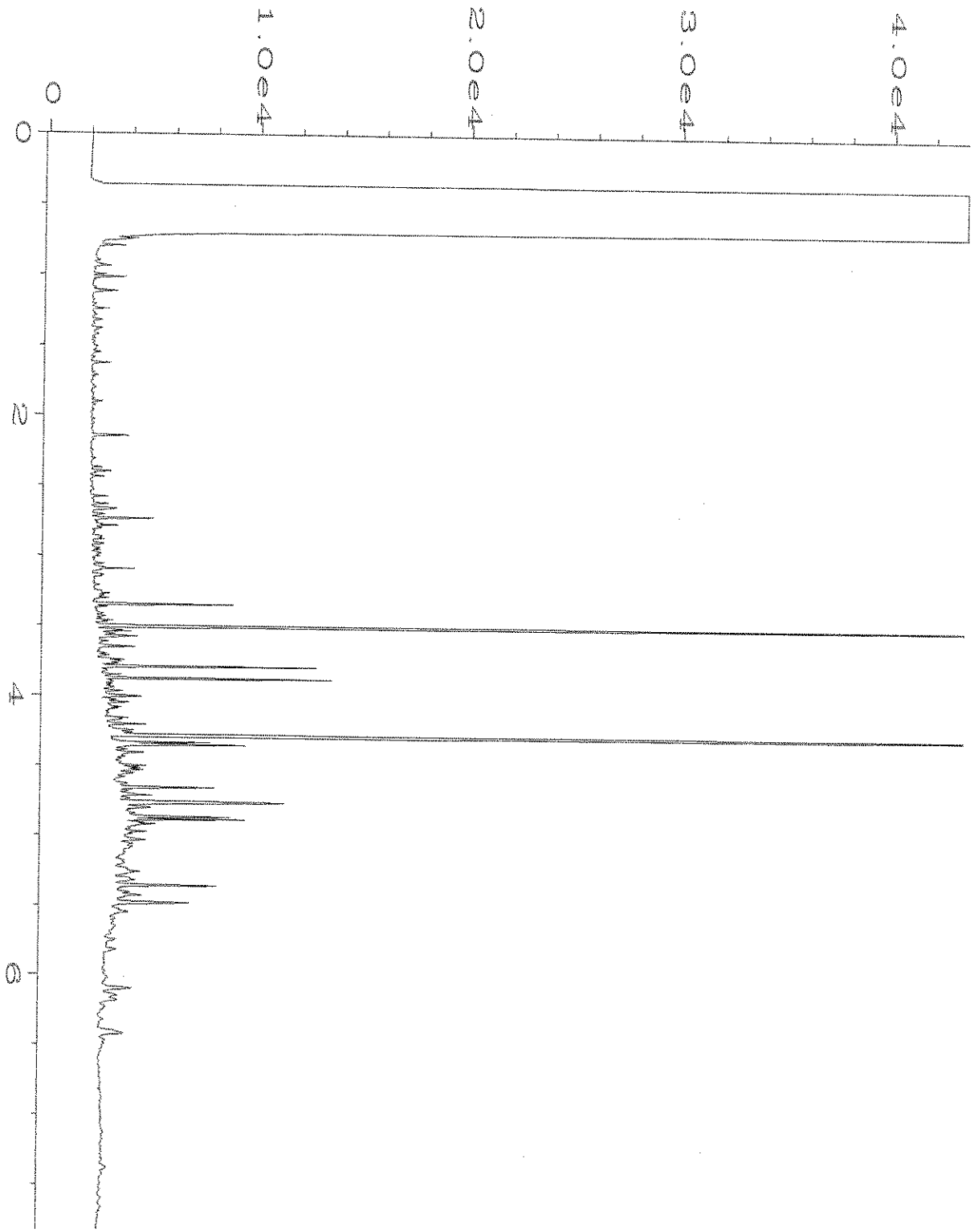
Operator : TL
Instrument : GC#4
Sample Name : 004278-08
Run Time Bar Code:
Acquired on : 24 Apr 20 11:10 AM
Report Created on: 27 Apr 20 08:15 AM

Page Number : 1
Vial Number : 12
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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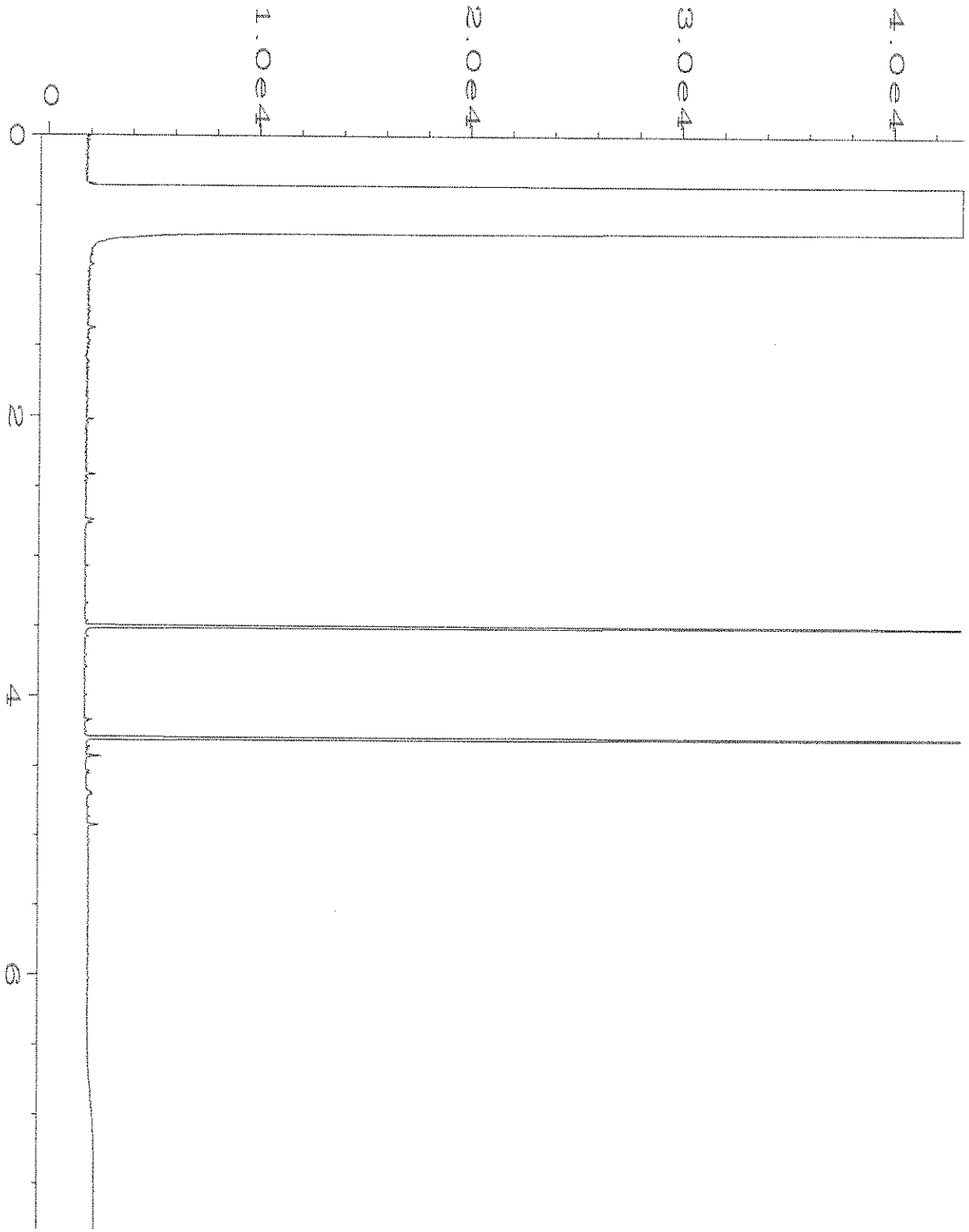
Operator : TL
Instrument : GC#4
Sample Name : 004278-09
Run Time Bar Code:
Acquired on : 24 Apr 20 11:22 AM
Report Created on: 27 Apr 20 08:15 AM

Page Number : 1
Vial Number : 13
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



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Instrument	: GC#4	Vial Number	: 14
Sample Name	: 004278-11	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 3
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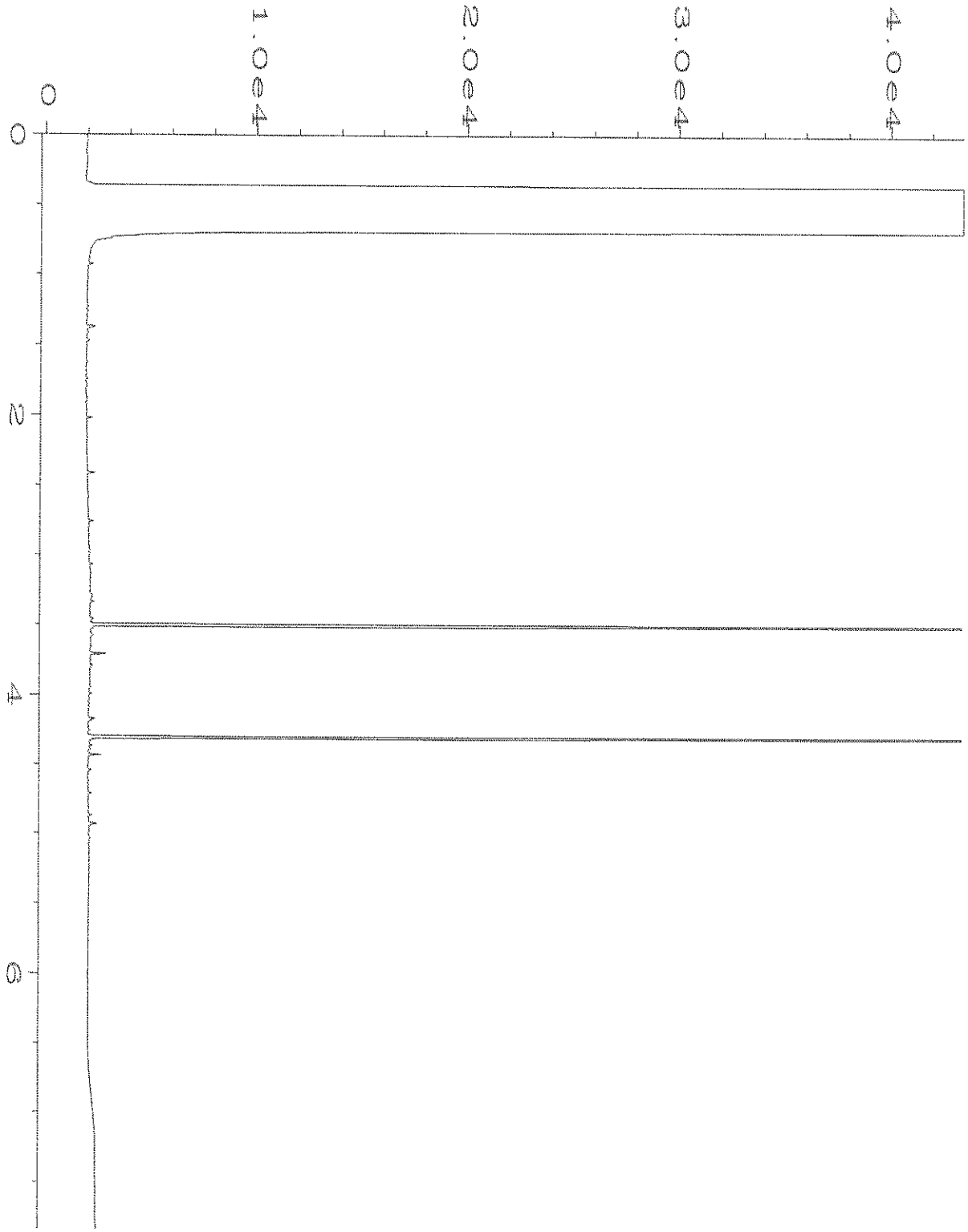
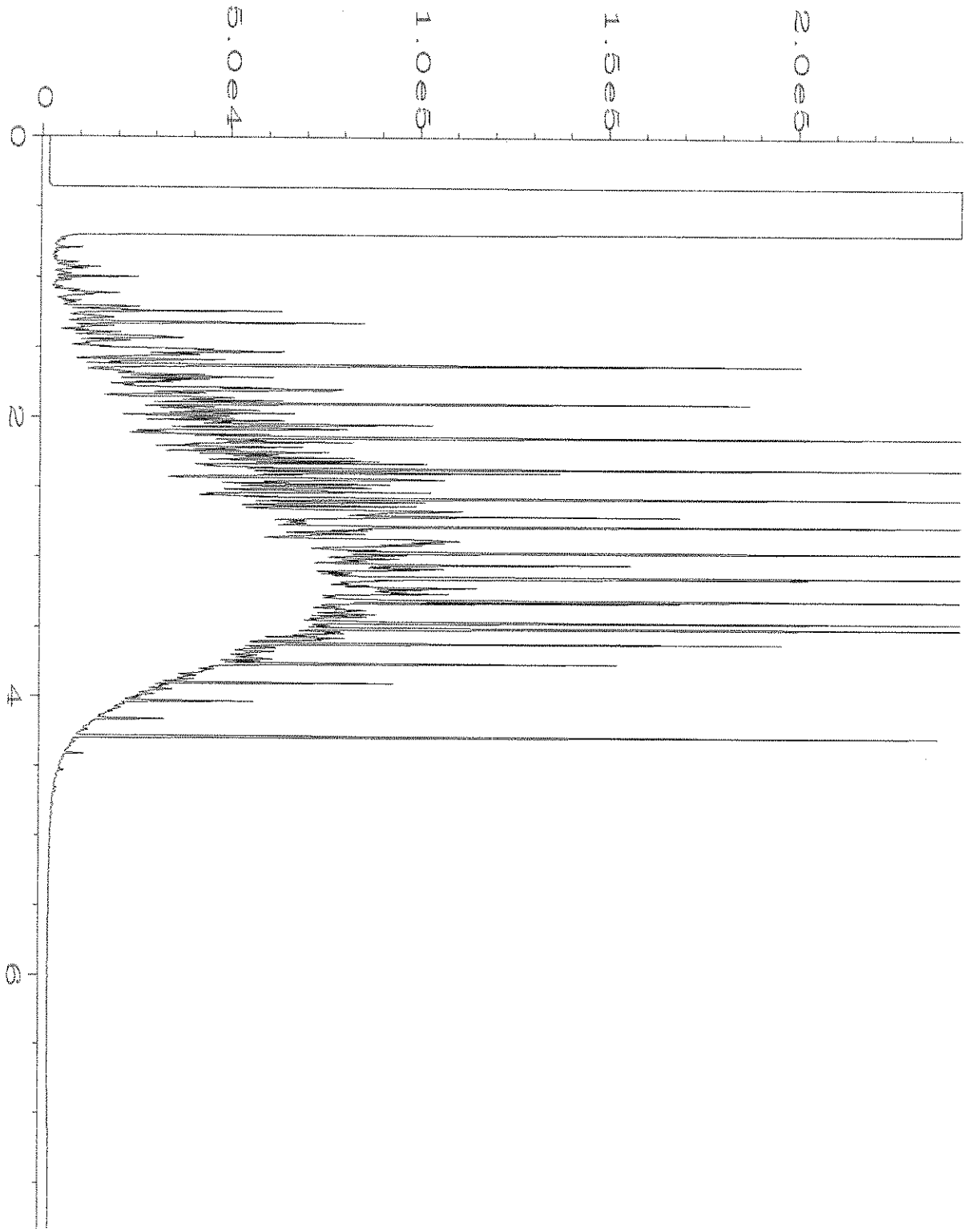
Report Created on	: 27 Apr 20 08:15 AM	Analysis Method	: DEFAULT.MTH



Data File Name : C:\HPCHEM\4\DATA\04-24-20\006F0301.D
Operator : TL
Instrument : GC#4
Sample Name : 00-951 mb2
Run Time Bar Code:
Acquired on : 24 Apr 20 09:59 AM
Report Created on: 27 Apr 20 08:15 AM

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



Data File Name	: C:\HPCHEM\4\DATA\04-24-20\005F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 59-162B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 24 Apr 20 02:15 PM	Instrument Method	: DX.MTH
Report Created on	: 27 Apr 20 08:15 AM	Analysis Method	: DEFAULT.MTH

SAMPLE CHAIN OF CUSTODY

004278

ME 04/23/20

BI4 / CI3

Page # 1 of 2

Report To Aspect Consulting

Company B. Greer A. Griffin

Address 710 2nd Ave Ste 550

City, State, ZIP Seattle WA 98104

Phone (612) 232 7343 Email bgreer@aspectconsulting.com

SAMPLERS (*signature*) Breeyn Greer

PROJECT NAME: Riverbend

PO #: 190210

REMARKS: Project specific RLs? - Yes / No

INVOICE TO: AP

TURNAROUND TIME
- [X] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs 8270	Metals	WAD Cyanide 4500		Notes
						ANALYSES REQUESTED											* Metals = As, Ba, Pb, Hg, Se
ATP-09-3.0	01 A-F	4/22/20	0900	S	6												HOLD
ATP-09-11.5	02	4/22/20	0910	S	6	X	X				X		X				
ATP-10-4.5	03		0830	S	6												HOLD
ATP-10-9.6	04		0840	S	6	X	X				X		X				
ATP-11-6.0	05		0800	S	6	X	X				X	X	X	X	X		
ATP-11-12.5	06		0810	S	6	X	X				X		X				
~~ATP-08~~ B6																	
ATP-12-7.5	07	4/21/20	1500	S	6	X	X				X	X	X	X	X		
ATP-12-11.5	08	4/21/20	1510	S	6	X	X				X		X				
ATP-13-5.0	09	4/21/20	1430	S	6	X	X				X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Breeyn Greer	Breeyn Greer	Aspect	4/23/20	1700
Received by:	BISRAT ~~TADESSE~~	FKI		
Relinquished by:			Samples received at 1 °C	
Received by:				

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

SAMPLE CHAIN OF CUSTODY

004278 ME 04/23/20 BIY / CI3

Page # 2 of 2

Report To Aspect

Company Greer / Griffin

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*): Breyn Greer

PROJECT NAME: Riverbend

PO #: 190210

REMARKS

Project specific RLs? - Yes / (No)

INVOICE TO: AP

TURNAROUND TIME

[X] Standard turnaround

[ ] RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

[ ] Archive samples

[ ] Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs 8270	* Metals			* RCRA + MTCA Notes
																	HOLD
ATP-13-7.0	10A-E	4/21/20	1440	S	6	X	X				X		X				
ATP-13-11.5	11	4/21/20	1450	S	6					X	X			X			
ASUP-IDW-01	12	4/20/20	1530	S	5												HOLD
ASUP-03	13	4/20/20	1130	S	6												HOLD
ATP-16-1.5	14	4/21/20	1110	S	6												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Breyn Greer	Breyn Greer	Aspect	4/23/20	1700
Received by:	BISRAT TADESSE	FBI	1	1
Relinquished by:			Samples received at	2 °C
Received by:				

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

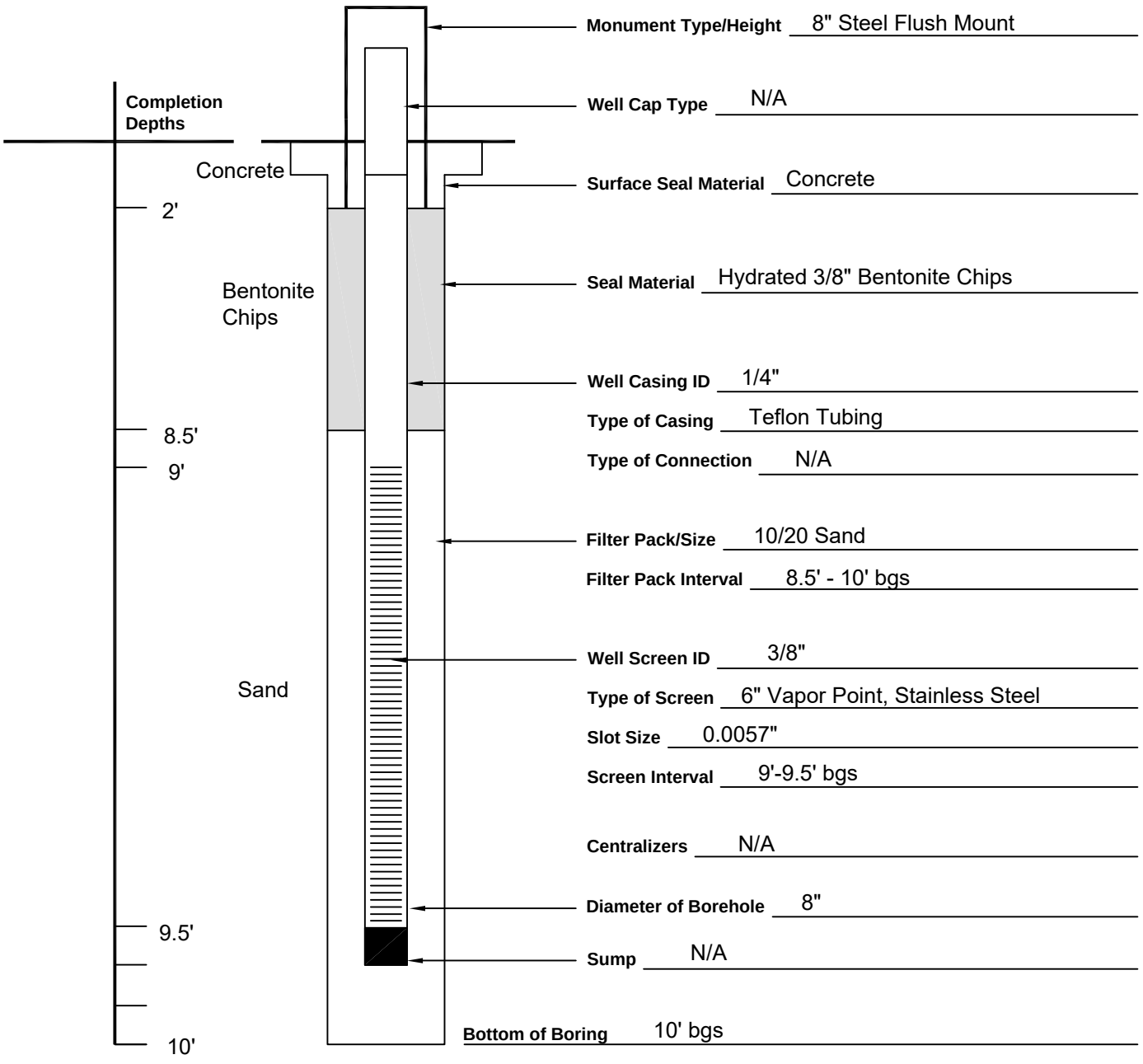
ATTACHMENT C

Soil Vapor As-Built Construction Diagrams

As-Built **Soil Vapor Probe** Diagram

Project Number: 190210	Boring/Monitoring Well Number: ASVP-01 Sheet: 1 of: 1
Project: Riverbend	Location: East Side of Prop. Bldg 1B
Elevation: --	Drilling Contractor: Environmental West
Drilling Method and Equipment Used: Hollow Stem Auger	Logged By: BMG
Water Levels: N/A	Completion Start: 4/20/2020 0920 Finish: 4/20/2020 1230

Ecology Well ID N/A



Aspect consulting earth+water
www.aspectconsulting.com
a limited liability company

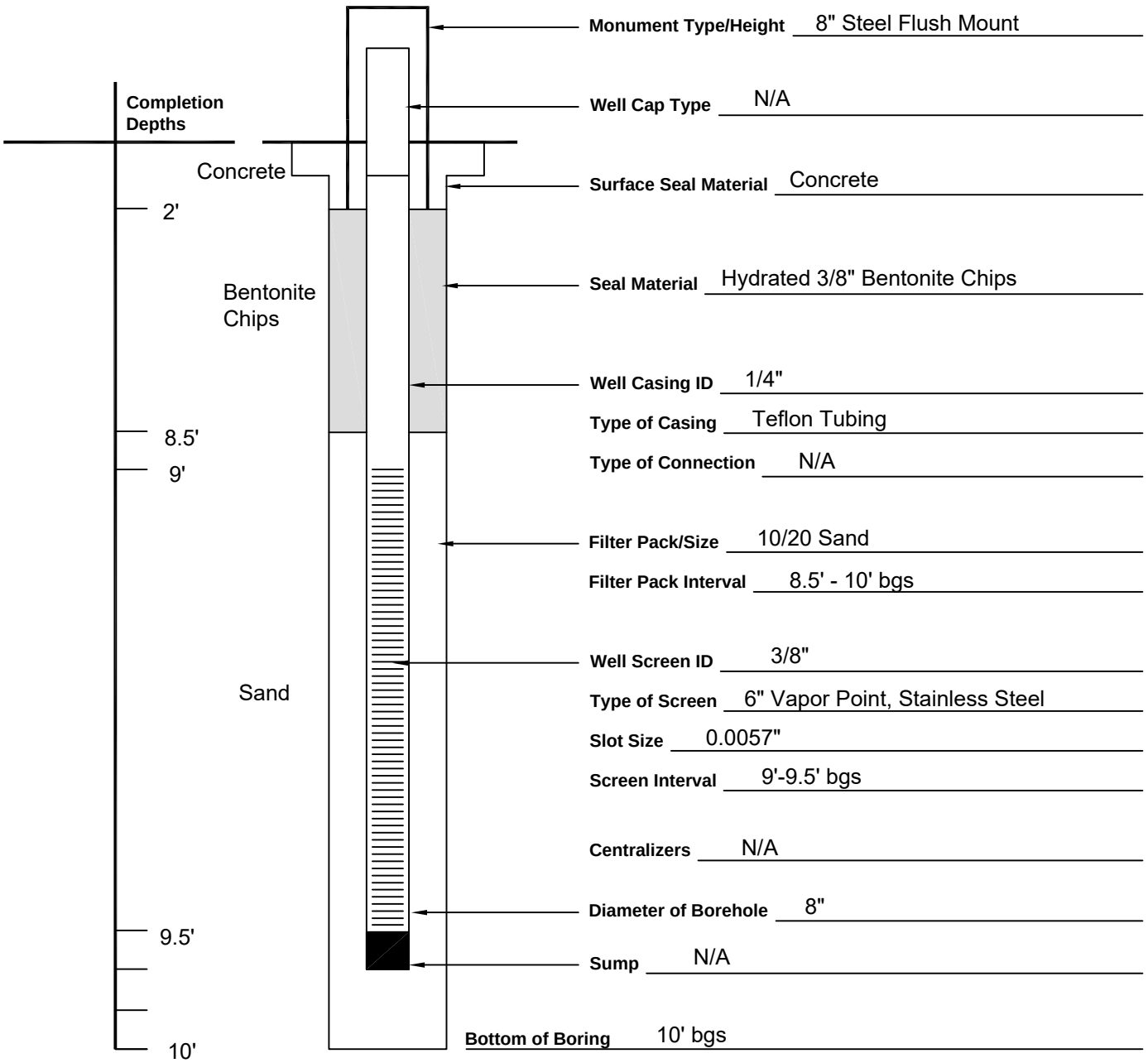
Materials Used:	Screen: Geoprobe Soil Vapor Implant
Sand: 10/20 Size	Bentonite: 3/8" Chips
Blank: 1/4" ID Teflon Tubing	Monument: 8" Flush MountSteel
Concrete: Rapid Set	Other:

Q:_ACAD Standards\Standard Details\Well Diagram.dwg

As-Built **Soil Vapor Probe** Diagram

Project Number: 190210	Boring/Monitoring Well Number: ASVP-03 Sheet: 1 of: 1
Project: Riverbend	Location: Center of Prop. Building 2B
Elevation: --	Drilling Contractor: Environmental West
Drilling Method and Equipment Used: Hollow Stem Auger	Logged By: BMG
Water Levels: N/A	Completion Start: 4/20/2020 1100 Finish: 4/20/2020 1245

Ecology Well ID N/A



Aspect consulting earth+water
www.aspectconsulting.com
a limited liability company

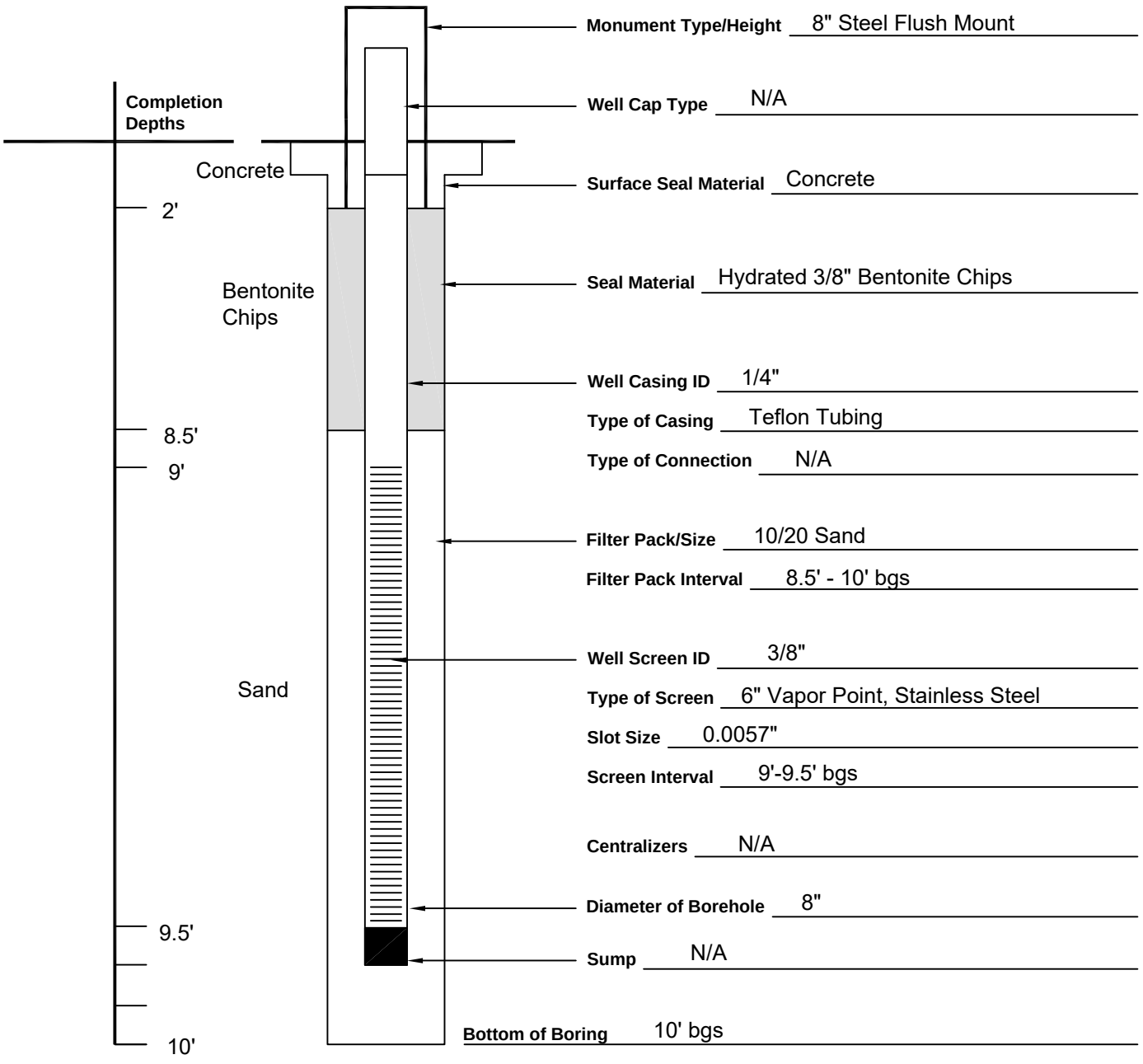
Materials Used:	Screen: Geoprobe Soil Vapor Implant
Sand: 10/20 Size	Bentonite: 3/8" Chips
Blank: 1/4" ID Teflon Tubing	Monument: 8" Flush MountSteel
Concrete: Rapid Set	Other:

Q:_ACAD Standards\Standard Details\Well Diagram.dwg

As-Built **Soil Vapor Probe** Diagram

Project Number: 190210	Boring/Monitoring Well Number: ASVP-04 Sheet: 1 of: 1
Project: Riverbend	Location: Northwest Corner of Bldg. 2A
Elevation: --	Drilling Contractor: Environmental West
Drilling Method and Equipment Used: Hollow Stem Auger	Logged By: BMG
Water Levels: N/A	Completion Start: 4/20/2020 1300 Finish: 4/20/2020 1340

Ecology Well ID N/A



Aspect consulting
earth+water
www.aspectconsulting.com
a limited liability company

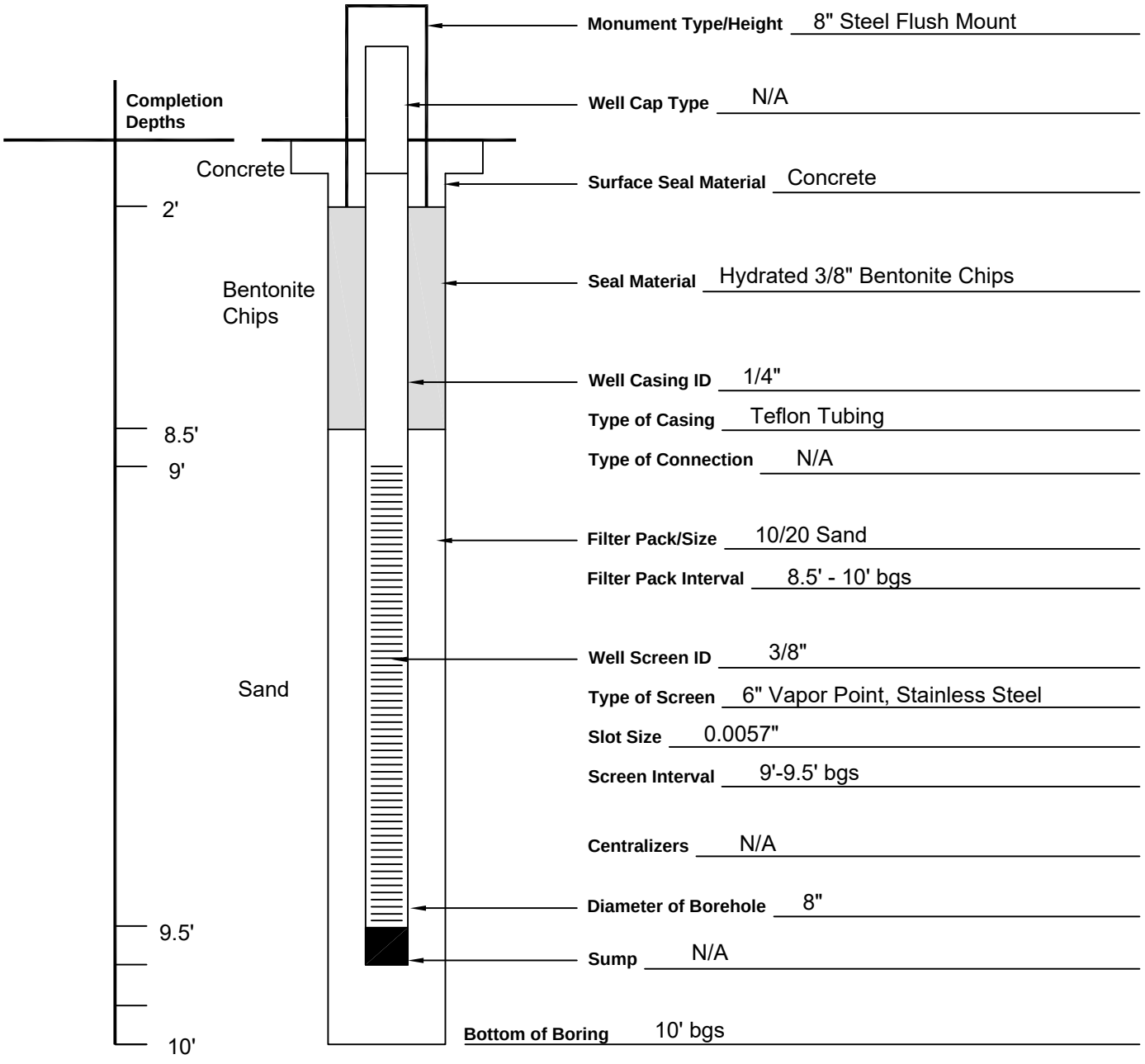
Materials Used:	Screen: Geoprobe Soil Vapor Implant
Sand: 10/20 Size	Bentonite: 3/8" Chips
Blank: 1/4" ID Teflon Tubing	Monument: 8" Flush MountSteel
Concrete: Rapid Set	Other:

Q:_ACAD Standards\Standard Details\Well Diagram.dwg

As-Built **Soil Vapor Probe** Diagram

Project Number: 190210	Boring/Monitoring Well Number: ASVP-05 Sheet: 1 of: 1
Project: Riverbend	Location: Between Former MGP Slabs
Elevation: --	Drilling Contractor: Environmental West
Drilling Method and Equipment Used: Hollow Stem Auger	Logged By: BMG
Water Levels: N/A	Completion Start: 4/20/2020 1410 Finish: 4/20/2020 1445

Ecology Well ID N/A



Aspect consulting
earth+water
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a limited liability company

Materials Used:	Screen: Geoprobe Soil Vapor Implant
Sand: 10/20 Size	Bentonite: 3/8" Chips
Blank: 1/4" ID Teflon Tubing	Monument: 8" Flush MountSteel
Concrete: Rapid Set	Other:

Q:_ACAD Standards\Standard Details\Well Diagram.dwg

ATTACHMENT D

Test Pit Photo Log

Photograph 1. ATP-01

Photograph 2. ATP-02

Photograph 3. ATP-03

Photograph 4. ATP-04

Photograph 5. ATP-05 (Left, no slab) ATP-05B (Right, contains slab)

Photograph 6. ATP-06

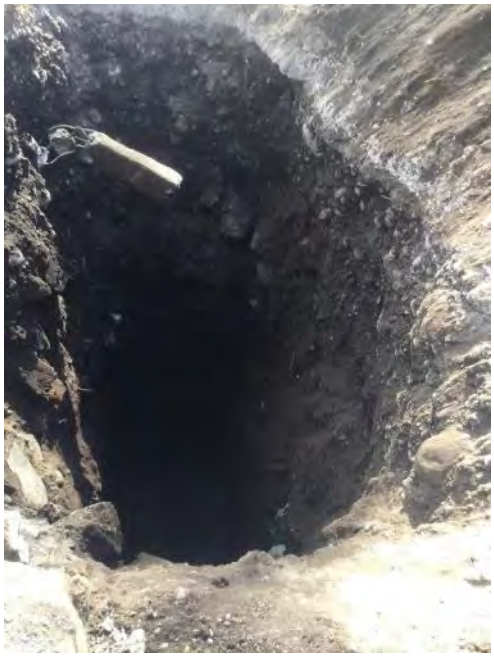
Photograph 7. ATP-07

Photograph 8. ATP-08

Photograph 9. ATP-09

Photograph 10. ATP-10

Photograph 11. ATP-11



Photograph 12. ATP-12

Photograph 13. ATP-13

Photograph 14. ATP-14

Photograph 15. ATP-15

Photograph 16. ATP-16

ATTACHMENT E

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

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

Services for Specific Purposes, Persons and Projects

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

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

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

This Report Is Project-Specific

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

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

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

Geoscience Interpretations

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

Discipline-Specific Reports Are Not Interchangeable

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

Environmental Regulations Are Not Static

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

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

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

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.