PROPERTY-SPECIFIC CLOSURE REPORT FOR PARKING LOT PARCEL

Morrell's Dry Cleaners

Prepared for: D.E. Wickham, Successor to Walker Chevrolet

Project No. 080190-006 • August 2020 Ecology Review Draft





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Contents

1	Introduction with Opinion Request		
1.1		Site Description and History	2
	1.2	Environmental Setting	3
	1.2.1 Topography and Surface Cover		3
	1.2	2 Hydrogeologic Conditions	3
	1.3	Previous Reports and Ecology Review	4
2	Site Investigation		
	2.1	Investigation Documented in Site Conditions Summary	6
	2.2	Investigation Documented in Remedial Investigation Report	7
	2.3 Investigation Documented in Data Gaps Investigation Technical		
		Memorandum	7
		Investigation Documented in Interim Cleanup Action Construction a	
		Design Report	
	2.5 2.5	2019 Borings and Well Installations	
	2.5 2.5		
	2.5		
	2.5	3 1 3	
	2.6	Post-2014 Groundwater Sampling	.10
	2.7	Summary of Investigation Results	.11
	2.7	9	
	2.7	3	
	2.7	· · · · · · · · · · · · · · · · · · ·	
	2.7	.4 Evaluation of Groundwater Quality	. 13
3	Soil	Vapor Extraction Treatment	. 14
4	In Si	itu Injection Treatment	. 15
	4.1	2014 Biostimulant Injection	.15
	4.2	2019 Remediation Injection Pilot Test	.16
	4.2	Background and Test Objectives	.16
	4.2		
	4.2		
	4.2	,	
	4.2.5 Injection Test Performance		
5			
	5.1	Hydrogeologic Setting	.20

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	5.2	Groundwater Impacted by 2006/2007 Drinking Water Release	20
	5.3	Evidence of Natural Attenuation	21
	5.4	Low Potential for Future Contaminant Migration from Building Par	cel
			21
6	De	scription of Remedial Alternatives for Parking Lot Parcel	22
	6.1	Alternative 1 - Monitored Natural Attenuation with Institutional	
		Controls	22
	6.2	Alternative 2 – Injection-Based In-Situ Treatment	23
	6.3	Alternative 3 – Injection-Based In-Situ Treatment with Heat-Enhand	ced
		Plume Attenuation	25
7	Eva	aluation of Remedial Alternatives for Parking Lot Parcel	26
	7.1	Feasibility Study Evaluation Criteria	26
	7	7.1.1 MTCA Threshold Requirements	26
		'.1.2 MTCA Selection Criteria	
		'.1.3 MTCA Disproportionate Cost Analysis	
	7.2	•	
	7.3	Disproportionate Cost Analysis	28
		3.1 Benefits Rankings, Estimated Costs, and Benefit/Cost Ratios	
	7	7.3.2 Disproportionate Cost Analysis Recommendation	28
8	Pro	oposed Parking Lot Parcel Remedy for Ecology Opinion	29
	8.1	Groundwater and Cover Monitoring Plan with Contingency Measu	ires
			29
	8.2	Property-Specific Environmental Covenant	30
9	Co	nclusions and Recommendations	31
Re	ferer	nces and Selected Reports	32
Li	mitat	ions	33

List of Tables

- 1 Monitoring Well Information and Groundwater elevation Data
- 2 Soil Quality
- 3 Reconnaissance Water Sample Quality
- 4 Advanced Outwash Groundwater Quality
- 5 Advanced Outwash Groundwater Natural Attenuation Parameters
- 6 Groundwater Quality and Natural Attenuation Parameters, Deeper Water-Bearing Zones
- 7 Soil Gas Sampling Results prior to SVE Treatment
- 8 Indoor Air Sampling Results
- 9 Groundwater Quality Results, Remediation Product Injection Test
- 10 Groundwater Natural Attenuation Parameters, Remediation Product Injection Test
- 11 Remedial Alternative 1 Cost Estimate Monitored Natural Attenuation with Institutional Controls
- 12 Remedial Alternative 2 Cost Estimate Injection-Based *In-Situ* Treatment
- 13 Remedial Alternative 2 Cost Estimate Injection-Based *In-Situ* Treatment with HEPA
- 14 Disproportionate Cost Analysis

List of Figures

- Site Location Map
- 2 Site Plan Showing Pre-2013 Explorations
- 3 Cross Sections A-A' and B-B'
- 4 Groundwater elevations & Gradient Map in Advance Outwash December 22, 2010
- 5 Site Plan Showing Wells and SVE System
- 6 GORE Survey Results, Interpolated Data for PCE
- 7 Estimated Extent of PCE Exceedances in Soil

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- 8 Estimated Extent of PCE Exceedances in Advance Outwash Groundwater
- 9 Alternative 2 Injection-Based Treatment
- 10 Alternative 3 Injection Treatment with HEPA
- 11 Disproportionate Cost Analysis

List of Appendices

- A Boring and Well Construction Logs
- B Waste Disposal Documentation
- C Laboratory Reports
- D Stemen Environmental Inc. Inspection Letter
- E Data Logger Output, 2019 Remediation Product Injection Test
- F Parking Lot Parcel PCE Plume Regression
- G Report Limitations and Guidelines for Use

1 Introduction with Opinion Request

This report presents the property-specific closure of the Parking Lot Parcel (Parcel) that is a subset of the larger the Morrell's Dry Cleaners site (Site¹; Figure 1). Site contamination is primarily the result of chlorinated solvent releases from historical dry cleaner operations² at 608 North First Street in Tacoma, Washington (Property) from 1929 until 2009 when PCE was no longer used in the process. The Site includes the Property and any off-Property soil or groundwater confirmed or suspected of being impacted by the chlorinated solvents released at the Property. The Site is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) and assigned VCP No. SW1039.

This report is intended to demonstrate compliance with environmental cleanup requirements under the Washington State Model Toxics Control Act (MTCA), 70.105D Revised Code of Washington (RCW), and its implementing regulations. While remediation efforts have been ongoing at the Site since 2014, contamination remains both on and off the Property and engineering analyses conclude that further treatment is impracticable based on a disproportionate cost assessment (DCA, presented herein). The objective is to obtain concurrence in the site characterization and cleanup action in the form of a No Further Action Likely determination from Ecology based on implementation of a monitored natural attenuation remedy in conjunction with an environmental covenant.

The Property consists of two parcels, referred to in this report as the Building Parcel and the Parking Lot Parcel (Figure 2). The chlorinated solvent releases occurred on the Building Parcel. Results of investigation and remediation efforts to date suggest that the magnitude and extent of soil and groundwater contamination on the Building Parcel are such that cleanup will have a long restoration timeframe unless the building is first demolished to improve access to underlying contamination and very aggressive (and costly) remedial technologies are applied.³ By contrast, the magnitude and extent of groundwater impacts on the hydraulically upgradient Parking Lot Parcel are minor. There are no soil impacts on the Parking Lot Parcel per 2019 boring results, discussed in Section 2.5 below.

The first portion of this report describes the Site and summarizes environmental investigations and interim cleanup actions conducted to date. It also includes results of *insitu* treatments which have been evaluated to address residual groundwater contamination. The second portion of the report develops a conceptual model for the

¹ The Site includes the area where hazardous substances were released (i.e., the "source area") and anywhere contamination has come to be located.

² As discussed in this report, petroleum hydrocarbons are also present in the subsurface, and represent a significant fraction of the total contaminant mass. The source of the petroleum hydrocarbons is unknown. Historical dry-cleaning operations, which may have used petroleum hydrocarbons (e.g., Stoddard solvent) before chlorinated solvents came into use, are a possible source.

³ The owners of the Property are not in favor of building demolition.

Parking Lot Parcel and evaluates cleanup alternatives with respect to the MTCA criteria for selecting cleanup actions (Washington Administrative Code [WAC] 173-340-360). The preferred cleanup alternative is then selected based on the results of a DCA and required remedy components for property-specific closure of the Parking Lot Parcel are outlined.

1.1 Site Description and History

Table 1 provides general Site and parcel information.

Table 1. General Site and Parcel Information

Site Name	Morrell's Dry Cleaners			
Facility/Site ID	18489568			
Cleanup Site ID	386			
VCP No.	SW1039			
VCP Site Manager	Adam Harris			
Consultant and VCP Customer	Aspect Consulting, LLC Doug Hillman, LHG 710 2 nd Avenue, Suite 550 Seattle, WA 98104			
Site Address	608 North First Street, Tacoma, Washington 98403			
Site Coordinates	47.264174°N, 122.448441°W			
Public Land System Location	T21N, R3E, S32, SW¼ of NE¼			
City of Tacoma Zoning	Community Commercial Mixed-Use (CCX)			
On-Property Parcels				
Building Parcel	2020 42 0024			
Pierce County Parcel No. Address	2030-12-0031 608 North First Street, Tacoma, Washington 98403			
Property Owner	Thriftway Properties, LLC			
Tenant/Business Names	Morrell's Dry Cleaners, Tease Chocolates			
Parking Lot Parcel Pierce County Parcel No. Address Property Owner	2030-12-0033 618 North First Street, Tacoma, Washington 98403 Thriftway Properties, LLC			
Off-Property Parcels with Confirmed Impacts from Chlorinated Solvent Releases at the Property				
Pierce County Parcel No. Address	2030-12-0012 16 North Tacoma Avenue, Tacoma, Washington 98403			
Pierce County Parcel No. Address	2030-12-0013 2 North Tacoma Avenue, Tacoma, Washington 98403			

The Building Parcel is approximately 7,930 square feet and contains a single-story, approximately 3,700-square-foot building of slab-on-grade construction (hereafter

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⁴ As shown on Figure 2, the extreme northern portion of the building extends onto off-property Parcel 2030-12-0012.

referred to as the Morrell's building), which is currently occupied by Morrell's Dry Cleaners and Tease Chocolates. The Parking Lot Parcel is approximately 13,450 square feet and is used primarily by patrons of the south-adjacent grocery store (see next paragraph). The entire Site outside the Morrell's building footprint is paved with asphalt and concrete.

The adjoining property to the south is the Former Walker Chevrolet Site (VCP No. SW1040). A Thriftway grocery store on that property abuts the southern boundary of the Parking Lot Parcel. The adjoining properties to the northeast contain commercial and office space. The north-adjacent building is separated from the Morrell's building by an approximately 5-foot-wide paved, gated alley.

According to reverse city directories, dry cleaning operations have been performed continuously on the Property beginning in 1929. Tetrachloroethene (PCE) was used in successive dry-cleaning machines from the beginning of the Morrell's tenancy in 1972⁵ until early 2009, when Morrell's purchased the existing dry-cleaning machine, which does not use PCE.

The Property is zoned by the City of Tacoma as Neighborhood Commercial Mixed-Use District (NCX), allowing for a mix of residential, office, retail, and commercial service uses. There are currently no firm plans for redeveloping the Property. For the purposes of this report it is assumed that future land use will conform to the existing zoning.

1.2 Environmental Setting

1.2.1 Topography and Surface Cover

The Site is located in the Stadium District of Tacoma between Wright Park and Commencement Bay (Figure 1). The Stadium District is located above an escarpment that descends to Commencement Bay. The Parking Lot Parcel is about elevation 278 feet (NAVD88) and the top of the escarpment is about elevation 240 feet. The top of the escarpment is about 500 feet north of the Site boundary. The bottom of the escarpment is about elevation 20 feet at Schuster Parkway, which extends along Commencement Bay. The lateral distance from the top to the bottom of the escarpment is approximately 400 feet; an giving the escarpment an approximate 55 percent grade.

The Stadium District is predominantly covered with impervious surfaces. The exception is Wright Park, a 32-acre park located south of the Site. A pond in Wright Park is the closest surface water to the Site, located about 900 feet from the Site. This surface water is at a higher elevation (approximately 290 feet) and upgradient from the Site. Commencement Bay is the closest surface water body downslope at approximately 1,200 feet from the Site.

1.2.2 Hydrogeologic Conditions

The Site is underlain primarily by dense, fine-grained soils with groundwater occurrence at depths below 50 feet. Figure 3 provides hydrogeologic cross sections beneath the Site (see Figure 2 for cross-section locations). Site soils consist of approximately 35 feet of silty sand and gravel, interpreted as ice-contact deposits (Qvi) and glacial till (Qvt),

⁵ PCE was likely used for dry cleaning at the Site prior to 1972 as well, but records are not available.

overlying approximately 30 feet of sand, interpreted as Advance Outwash (Qva). Underlying the outwash sand is a sequence consisting primarily of silt and silty sand, with a limited thickness of interbedded slightly silty sand, which is interpreted as Olympia bed interglacial deposits (Qob). This sequence of silt, silty sand, and sand extends to at least 146 feet below ground surface (bgs), the maximum depth drilled on the Site.

The Advance Outwash is the uppermost groundwater-bearing unit at the Site, and the base of the outwash ranged from about 63 to 74 feet bgs in the Site boring logs. The depth to groundwater is about 52 feet bgs beneath the Parking Lot Parcel. All Site monitoring wells except the seven called out in the next paragraph are completed in the Advance Outwash. The five Advance Outwash wells constructed along Tacoma Avenue North and North First Street (MW-3, MW-4, MW-6, MW-9, and MW-10) did not yield water over multiple years of monitoring and were decommissioned in 2010. On this basis, the upper water bearing unit is estimated to terminate along the approximate boundary shown on Figure 4 and is interpreted as a perched aquifer.

Borings for MW-3, MW-5, MW-8D, MW-10, MW-11, and MW-12D to MW-14D penetrated through the Advance Outwash into the Olympia bed interglacial deposits, which are characterized as a leaky lower-confining unit with discontinuous, low-yield sandy intervals. Deeper water-bearing zones were encountered within thin sandy intervals of the Olympia bed interglacial deposits. Wells MW-8D and MW-12D to MW-14D were completed in the interglacial deposits and yield limited quantities of groundwater during sample collection. The intersected water bearing units are under unconfined conditions. The discontinuous, low-yield, water-bearing units in the Olympia bed interglacial deposits likely contain non-potable groundwater based on low yield (WAC 173-340-720(2)(b)(i)), and unlikely interconnection with potential future sources of drinking water (WAC 173-340-720(2)(c)). Impacted groundwater within the interglacial deposits would be unlikely to reach surface water, which is about 140 feet beneath and 1,200 feet north of the Site boundary.

Advance Outwash groundwater gradients are very small on the Parking Lot Parcel. Inferred groundwater flow direction can vary widely from one monitoring round to the next. Figure 4 shows Advance Outwash groundwater elevations measured on December 22, 2010 and estimated groundwater elevation contours. The inferred groundwater flow direction is to the north, consistent with the local topography and the presence of Wright Park (an elevated recharge area) upgradient to the south.

1.3 Previous Reports and Ecology Review

The following is a chronological listing of technical reports submitted to Ecology and an Ecology opinion letter regarding investigation and cleanup of the Site. The contents of each is briefly summarized.

⁶ Groundwater elevation measurements on this date included wells MW-1 and MW-11 on the Former Walker Chevrolet Site. Inclusion of these wells allows for more accurate interpretation of groundwater elevation contours, given the very small gradients across the Morrell's Site. More recent contours including MW-1 and MW-11 are not available because those wells have since been decommissioned.

- Site Conditions Summary dated July 14, 2009 (Aspect, 2009). This technical memorandum documents due-diligence investigation results performed by Stemen Environmental, Inc. (Stemen) between 2006 and 2008, and follow-up investigations by Aspect in 2009, at the Morrell's Dry Cleaners and adjacent Walker Chevrolet sites. Investigations were initiated at the Morrell's Dry Cleaners Site after water was encountered beneath the Morrell's building floor slab, and an analysis of the water bill of Tully's Coffee (located across the alley to the north) indicated that an estimated 600,000 gallons of drinking water had been released between May 2006 and September 2007.
- Remedial Investigation (RI) Report dated February 18, 2011 (Aspect, 2011). This report describes the historical uses and environmental setting, documents investigations completed to date, and develops a preliminary conceptual site model for the Morrell's Dry Cleaners and Walker Chevrolet sites.
- Ecology's "further action" opinion letter dated September 26, 2011 (Ecology, 2011) provides review comments on the RI Report (Ecology, 2011). It states that the perched groundwater in the Advance Outwash was adequately delineated but requested additional delineation of the deeper groundwater within the interglacial deposits. Ecology also recommended performing a Tier II indoor air sampling assessment in and adjacent to the Morrell's building.
- Focused Feasibility Study dated March 26, 2012 (Aspect, 2012a). Separate focused feasibility study (FFS) reports were prepared for the Morrell's Dry Cleaners and Walker Chevrolet sites. The Morrell's Dry Cleaners FFS report (Aspect, 2012a) develops cleanup action objectives, and develops and evaluates cleanup alternatives in accordance with MTCA criteria in WAC 173-340-360. The report identifies sub-slab depressurization, soil vapor extraction (SVE) treatment, and biostimulation as viable cleanup technologies that could be implemented under the current Site use. SVE was recommended to remove chlorinated volatile organic compounds (VOCs) from beneath the Morrell's building floor slab and the glacial till and Advance Outwash sand beneath the building, using perimeter SVE trenches and peripheral SVE wells that extend beneath the building. Biostimulation was recommended to enhance the natural reductive dechlorination of PCE in groundwater.
- **Data Gaps Investigation** dated May 1, 2012 (Aspect, 2012b). This technical memorandum documents investigations that were conducted to address data gaps identified in Ecology's "further action" opinion letter.
- Interim Cleanup Action Construction and Design Report dated May 16, 2014 (Aspect, 2014a). This report documents construction and baseline groundwater sampling of wells to be used for biostimulant injection, and construction and pilot testing of wells and a trench to be used for SVE treatment. Pilot test and groundwater sampling results were used to finalize remediation system design and to design a groundwater monitoring and biostimulation program to enhance degradation of contaminants in groundwater.
- Interim Cleanup Action Construction Completion Report dated December 23, 2014 (Aspect, 2014b). This report describes the June 2014 biostimulant injection

event and specifications, construction, startup, and initial testing of the SVE system.

• Supplemental Focused Feasibility Study (Draft) dated August 10, 2018 (Aspect, 2018). This report evaluates biostimulation injection and SVE treatment performance to date and uses that information to develop and evaluate on-Property remedial alternatives for the Site. Active technologies evaluated include expanded biostimulation, expanded SVE, electrical resistance heating (ERH), and heat-enhanced plume attenuation (HEPA). An alternative which utilizes a combination of SVE and biostimulant injection was recommended for interim implementation.

2 Site Investigation

This section describes Site investigations and summarizes investigation results. Investigations conducted in 2006 through 2014 are documented in previous reports submitted to Ecology under the VCP. Those investigations are briefly summarized below, and the reader is referred to previous reports for more detailed documentation (e.g., laboratory reports). Detailed documentation is provided for investigations conducted after 2014. Results for the entire investigation period are summarized in tables and figures, as described at the end of this section.

2.1 Investigation Documented in Site Conditions Summary

As noted above, the Site Conditions Summary (Aspect, 2009) documents investigations at both Morrell's and the adjacent Walker Chevrolet site. The following investigation activities, completed in 2006 through 2009, were associated with the Morrell's Dry Cleaners Site:

- Reconnaissance water samples were collected from beneath the Morrell's building floor slab and the adjacent parking lot pavement during the Tully's drinking water leak and after the leak was repaired (see Section 5.2).
- Soil samples were collected in and around the footprint of the Morrell's building.
- Construction and sampling of nine monitoring wells (MW-2 through MW-10) screened in the Advance Outwash and one well (MW-8D) screened in a deeper water-bearing zone.
- A camera survey was conducted of the sewer lines beneath and adjacent to the Morrell's building.
- Soil gas samples were collected from beneath the alley and parking lot pavement adjacent to the Morrell's building and from sewer line utility corridors.
- Air samples were collected on two occasions inside the Morrell's building.

2.2 Investigation Documented in Remedial Investigation Report

As noted above, the RI Report (Aspect, 2011) documents investigations at both Morrell's and the adjacent Walker Chevrolet site. The following investigation activities, completed in 2010, were associated with the Morrell's Dry Cleaners Site:

- A Gore-Sorber survey was conducted to evaluate the extent of vapor-phase VOCs beneath and in the immediate vicinity of the Morrell's building.
- Soil samples were collected from direct-push soil borings at locations inside the Morrell's building, in the alley north of the building, and on the sidewalk east of the building.
- Construction and sampling of two wells (MW-12D, MW-13D) screened in deeper water-bearing zones.
- Decommissioning of three wells (MW-3, MW-4, and MW-6) which had been dry since installation in 2007 and 2008.

2.3 Investigation Documented in Data Gaps Investigation Technical Memorandum

The following investigation activities, completed in 2012, were documented in the Data Gaps Investigation Technical Memorandum (Aspect, 2012b):

- Construction of one well (MW-14D) screened in a deeper water-bearing zone.
- Sampling of direct-push soil borings on the south and east sides of the Morrell's building and in the parking lot.
- Sampling of groundwater, indoor air, and soil gas in the alley along the north side of the building.

2.4 Investigation Documented in Interim Cleanup Action Construction and Design Report

The following investigation activities, completed in 2013 and 2014, were documented in the Interim Cleanup Action Construction and Design Report (Aspect, 2014a); refer to Figure 5 for well locations:

- Construction of four SVE wells (VE-1 through VE-4) screened in vadose zone soils
- Construction of a SVE trench in the alley along the north side of the Morrell's building.
- Construction of seven biostimulant injection wells screened in the Advance Outwash, including four angled wells (MW-15 through MW-18) and three vertical wells (MW-19 through MW-21).
- Baseline groundwater sampling of the new and pre-existing Site wells.

2.5 2019 Borings and Well Installations

Four angled SVE wells (VE-5 through VE-8) and 13 vertical monitoring wells (MW-23 through MW-35) were installed at the Site between January 28 and July 11, 2019. Figure 5 shows the well locations. The angled borings were drilled under the Morrell's building and the wells were screened in vadose zone soils to expand the influence of SVE treatment (refer to Section 3). The vertical monitoring wells were drilled in the Morrell's parking lot and the wells were screened in the Advance Outwash saturated zone to investigate the magnitude and extent of soil and groundwater contamination. The initial vertical wells were drilled adjacent to the Morrell's building, and subsequent well locations were "stepped out" southward and eastward. Drilling, well installation, and investigation derived waste (IDW) management are discussed in this section. Boring logs and well construction diagrams are provided in Appendix A.

2.5.1 Vertical Borings and Well Installations

The new vertical monitoring well installations, designated MW-23 through MW-35, were drilled and installed using hollow-stem auger (HSA) drilling technology. During drilling, soil samples were collected at 5-foot depth intervals except for well MW-35. All thirteen wells are constructed with 2-inch-diameter PVC, 10- to 20-mesh sand filter packs, and flush-mount monuments. Their 0.020-inch slotted screens intersect the saturated interval of the Advance Outwash in the approximate depth range of 45 to 60 feet below ground surface. The wells will be used for groundwater monitoring and possibly injection-based treatment. In addition to the deep screens, shallow screens in the approximate depth range of 10 to 20 feet bgs were installed in wells MW-23 and MW-31 for possible connection to the SVE system due to their proximity to the source area.

Wells MW-23, MW-30, and MW-31 were drilled and installed during the daytime. However, tenants with parking lot privileges complained that daytime drilling negatively impacted their businesses (i.e., fewer customers). Therefore, all other drilling and well installation activities were completed at night. This required obtaining noise variances from the City of Tacoma and distributing nighttime drilling notices (on three separate occasions) to all occupied buildings (approximately 90 buildings) located within 700 feet of the parking lot.

A fourth boring (intended well MW-22) was also attempted during the daytime approximately 11 feet east of the northeast corner of the Morrell's building, between angled wells VE-1 and VE-3. Subsurface utilities were expected at that location, and a vacuum truck with air knife was used to remove soil beneath the asphalt. However, the driller was unable to gain access through the subsurface utilities, and that boring location was abandoned.

The new wells were developed to reduce turbidity and establish hydraulic connection with the surrounding aquifer, and top-of-casing (TOC) elevations were surveyed.

⁷ Slightly shallower screens were installed for MW-34 (44 to 59 feet bgs) and MW-35 (43 to 58 feet bgs).

⁸ MW-34 and MW-35 were installed specifically for the MW-20 injection test discussed in Section 4.2.

2.5.2 Angled Borings and Well Installations

The new angled SVE well installations, designated VE-5 through VE-8, were drilled at a 45-degree angle and installed using SONIC drilling technology. Boring lengths were approximately 45 feet for VE-5 and VE-7 and 65 feet for VE-6 and VE-8. Twenty-footlong screens were installed at the bottom of each boring. Therefore, VE-5 and VE-7 are screened in the approximate depth range of 18 to 32 feet bgs, and VE-6 and VE-8 are screened in the approximate depth range of 32 to 46 feet bgs. These wells will be used to enhance removal of vapor-phase contaminants from vadose zone soils in the source area.

As shown on Figure 5, the wells were drilled as close as possible to the east side of the Morrell's building and angled under the building. Due to subsurface congestion in this area (primarily pre-existing angled SVE wells and conveyance piping), a vacuum truck with air knife was used at each drilling location to remove shallow soil beneath the asphalt. All drilling and well installation activities were done at night for the reasons discussed above. During drilling, continuous soil cores were field-screened and sampled. The wells are constructed with 4-inch-diameter PVC, 10- to 20-mesh sand filter packs, and 0.020-inch slotted screens. The top of each well was capped at less than 1 foot bgs, and the asphalt was patched pending connection of the wells to the SVE system (discussed in Section 3).

2.5.3 Soil Screening and Sampling

Soil samples collected during drilling were screened in the field for evidence of contamination using visual and olfactory methods, and by headspace screening using a photoionization detector⁹ (PID). Samples with elevated PID readings were preferentially selected for laboratory analysis of VOCs using EPA Method 8260. At least two samples from each boring were analyzed,¹⁰ and up to five samples were analyzed from borings with elevated PID readings. For all borings that extended below the water table (i.e., all vertical borings), at least one soil sample collected from below the water table was analyzed for VOCs. Laboratory reports are provided in Appendix C.

2.5.4 IDW Management

All soil cuttings and water generated from equipment decontamination and well development and purging were placed in 55-gallon drums, which were temporarily stored along the northern edge of the parking lot. Laboratory analytical results from soil sampling during drilling and groundwater sampling from the completed wells were used to profile the waste streams for disposal in accordance with the Washington Dangerous Waste regulations (Chapter 173-303 WAC). The following waste streams were generated:

• 26 drums of water were disposed of as F002 hazardous waste due to detectable concentrations of PCE.

⁹ Soil sample was placed in a zip-lock bag and, after waiting several minutes, the PID tip was inserted into the bag to measure the total volatile organic compound (VOC) concentration in the headspace. PID readings are provided on the boring logs (Appendix A).

¹⁰ No soil samples from MW-34 and MW-35 were submitted for laboratory analysis since VOCs were not detected in nearby wells MW-24, MW-25, and MW-26.

- Two drums of water were disposed of as non-regulated waste.
- Cuttings from borings in which soil samples contained no detectable PCE (49 drums) were disposed of as non-hazardous investigation-derived waste (IDW).
- A portion of the cuttings from boring VE-7 were placed in a separate drum because they appeared to contain separate-phase (non-aqueous) liquid. That drum designated as F002 hazardous waste and required incineration due to the high PCE concentration.
- All other cuttings from borings with detectable PCE in one or more soil samples
 were disposed of as F002 hazardous waste not requiring incineration. These
 cuttings were initially stored in drums but were transferred to a roll-off container
 prior to disposal. A total of 10.95 tons of F002 hazardous waste cuttings were
 disposed of in this manner.

Non-hazardous wastes were transported to Waste Management's Columbia Ridge Subtitle D facility and hazardous wastes to the Chemical Waste Management Subtitle C facility, both located in Arlington, Oregon. Waste disposal documentation is provided as Appendix B.

2.6 Post-2014 Groundwater Sampling

From 2015 through early 2020, groundwater samples were periodically collected from selected Site wells for laboratory analysis. During 2015 through 2018, the primary purpose of groundwater sampling was to monitor the performance of the June 2014 biostimulant injection (discussed in Section 4.1). New wells were sampled soon after they were installed during the 2019 investigation, and several rounds of sampling were conducted later that year to monitor the performance of the MW-20 injection test (discussed in Section 4.2). Finally, a comprehensive round of sampling conducted in March 2020 included all site wells.

Prior to sampling, depth-to-water was measured, and the wells were purged. Purge water was tested for temperature, dissolved oxygen (DO), specific conductivity, oxidation-reduction potential (ORP), pH, and turbidity using a flow-through cell, and purging continued until these parameters stabilized or three well casing volumes were purged, whichever occurred first. All groundwater samples were submitted for laboratory analysis of VOCs using EPA Method 8260. In addition, samples from selected wells were submitted for analysis of biogeochemical parameters to evaluate natural attenuation:

- Chloride, nitrate, nitrite, and sulfate by EPA Method 300.0
- Total iron by EPA Method 6020
- Total organic carbon (TOC) by SM 5310
- Dissolved gases methane, ethene, and ethane by RSK-175

Laboratory reports are provided in Appendix C. Selected groundwater samples were also tested for ferrous iron using a field test kit.

2.7 Summary of Investigation Results

2.7.1 MTCA Cleanup Levels and Screening Levels

Contaminant concentrations detected during Site investigations are screened against MTCA Method A and B cleanup levels in order to identify contaminants of concern (COCs) in soil, groundwater, and indoor air. Method A cleanup levels have been established for a relatively small number of contaminants in soil and groundwater, including selected chlorinated VOCs and petroleum hydrocarbons. Method A cleanup levels for unrestricted (residential) land use are at least as restrictive as requirements under applicable federal and other state regulations. In this report, Method A cleanup levels are used as screening levels whenever they are available.

Under Method B, cleanup levels are established using applicable state and federal laws and the risk equations and other requirements specified in the MTCA rules for each medium. In addition, Method B soil cleanup levels must be protective of terrestrial ecological receptors. In this report, Method B cleanup levels provided in Ecology's Cleanup Level and Risk Calculation (CLARC) data tables are used for screening indoor air results, and for screening soil and groundwater results when Method A cleanup levels are not available for specific analytes. When both carcinogenic and noncarcinogenic values are presented in the CLARC data tables, the more restrictive value is used.

For soil gas sampling results, the screening levels used in this report are the Method B sub-slab soil gas screening levels provided in Ecology's CLARC data tables. When both carcinogenic and noncarcinogenic values are presented in the tables, the more restrictive value is used.

2.7.2 Summary Tables and Figures

Investigation results are summarized in tables and figures as discussed below. All available boring logs and well construction diagrams are provided in Appendix A. Laboratory reports for investigations conducted prior to 2015 are provided as appendices to previous Aspect reports (Aspect, 2009, 2011, 2012b, and 2014a). Laboratory reports for more recent investigations are provided in Appendix C.

Soil

• Table 2 shows PCE, trichloroethene (TCE), and naphthalene concentrations detected in soil samples. TCE is a degradation product of PCE, and it was also likely used in historical dry-cleaning operations. Naphthalene is a petroleum hydrocarbon near the heavy end of the gasoline range. Except for methylene chloride exceedances (that were likely due to laboratory contamination¹¹), these were the only contaminants detected in soil at concentrations exceeding their respective screening levels. For all samples with TCE screening level exceedances, the PCE exceedance was greater than the TCE exceedance. Although PCE was not detected in the lone sample that exceeded the naphthalene screening level (3-foot depth at DP-8), PCE exceedances were detected in other

¹¹ Methylene chloride was detected above its screening level of 0.02 mg/kg (MTCA Method A soil cleanup level) in three of the soil samples collected from MW-23. The laboratory report noted that those detections were likely due to laboratory contamination.

soil samples collected in the immediate vicinity. Therefore, PCE serves as an "indicator compound" for screening level exceedances in soil.

• **Figure 7** shows the estimated lateral extent of PCE exceedances in soil.

Water

- **Table 1** provides well information (installation date, vertical angle, screen interval, and top-of-casing [TOC] elevation) and groundwater elevation data for all Site monitoring wells.
- **Figure 4** shows measured elevations and inferred groundwater elevation contours for Advance Outwash groundwater on December 22, 2010.
- Table 3 shows concentrations of contaminants with screening level exceedances in reconnaissance water samples collected in 2006 through 2008 (associated with the Tully's drinking water leak). These include bromodichloromethane, PCE, TCE, cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC).
 Bromodichloromethane is a byproduct of drinking water disinfection. Its presence is attributable to the Tully's drinking water leak, and it was not detected above its screening level in any subsequent groundwater samples. VC and cDCE are degradation products of PCE and TCE.
- Table 4 shows concentrations of contaminants with screening level exceedances in Advance Outwash groundwater samples. These include PCE, TCE, cDCE and VC. For samples with screening level exceedances that were not impacted by the June 2014 biostimulant injection, PCE always exceeded its screening level by the widest margin. Therefore, similar to contaminant concentrations in soil, PCE serves as an indicator compound for screening level exceedances in Advance Outwash groundwater that has not been impacted by biostimulant injection.
- **Table 5** shows natural attenuation parameters for Advance Outwash groundwater samples.
- Table 6 shows concentrations of contaminants with screening level exceedances (PCE and cDCE) and natural attenuation parameters for groundwater samples collected from deeper water-bearing zones. Results for Well MW-8D are notable in that screening level exceedances have been detected for cDCE but PCE has never been detected.
- **Figure 8** shows the estimated extent of PCE exceedances in Advance Outwash groundwater.

Soil Gas

- **Figure 6** shows PCE interpolated results for the GORE[®] survey conducted beneath the Morrell's building and building perimeter in 2010.
- Table 7 shows soil gas sampling results prior to initiation of SVE treatment. All analytes detected in at least one sample are included in this table. Although it was not detected in any sample, naphthalene is also included in the table because naphthalene detection limits were above the soil gas screening level. Contaminants with screening level exceedances include PCE, TCE, VC, and the petroleum hydrocarbons benzene and xylenes. Naphthalene is also assumed to be

present in soil gas above its screening level since it was detected in a shallow soil sample (3-foot depth at DP-8).

Indoor Air

• Table 8 shows indoor air sampling results. All analytes detected in at least one sample are included in this table. Although it was not detected in any sample, naphthalene is also included in the table because naphthalene detection limits were above the indoor air screening level. Detected contaminants with screening level exceedances include PCE, TCE, benzene, and xylenes. Naphthalene may have also been present in indoor air above its screening level.

2.7.3 Evaluation of Soil Quality

Screening level exceedances appear to be highest beneath the eastern portion of the dry cleaner tenant space and do not extend onto the Parking Lot Parcel. As shown in Table 2, COCs detected in soil include PCE, TCE, and naphthalene. Petroleum hydrocarbons are generally collocated with the chlorinated VOCs and represent a significant fraction of the total contaminant mass. Historical dry-cleaning operations, which may have used petroleum hydrocarbons (e.g., Stoddard solvent) before chlorinated solvents came into use are a possible source of the petroleum hydrocarbons as well as the chlorinated VOCs. ¹³

Selected PCE concentrations in soil and the estimated lateral extent of screening level exceedances for all soil COCs are shown on Figure 7. With respect to depth, the vast majority of contaminant mass appears to be in the upper portion of vadose zone soils. Screening level exceedances were detected deeper than 26 feet bgs in only five soil samples at four locations (MW-21, MW-23, MW-30, and MW-31), and the highest COC detection (for PCE) was only 0.1 milligrams per kilogram (mg/kg).

During the 2019 investigation, soil cuttings from boring VE-7 in the depth ranges of 7 to 10 and 15 to 16 feet bgs had a strong solvent odor and appeared to contain separate-phase liquid. A soil sample collected from 15 to 16 feet bgs yielded PCE and TCE detections of 120 mg/kg and 1.5 mg/kg, respectively. This is the only instance to date of separate-phase liquid being tentatively identified at the Site, and the highest soil PCE and TCE detections to date. The soil sample also exhibited the highest concentrations of petroleum hydrocarbons detected in the 2019 investigation.

2.7.4 Evaluation of Groundwater Quality

2.7.4.1 Groundwater Quality in Advance Outwash

As shown in Table 4, COCs detected in Advance Outwash groundwater include PCE, TCE, cDCE, and VC. The highest concentrations for all four COCs were measured in MW-2 when it was first sampled in August 2007. Injection of biostimulants to nine wells (including MW-2) in June 2014 is highlighted in the table. As discussed in Section 4.1,

¹² This conclusion is primarily based on the results of soil gas sampling associated with SVE treatment, which are documented in Aspect, 2018.

¹³ Dry cleaners have continuously operated in the current dry cleaner building since 1929. Morrell's reportedly used PCE dry cleaner machines between 1972, the first year of their tenancy, and 2009, when they switched to a non-PCE solvent. It is not known whether PCE was used by prior tenants.

the injection resulted in lower concentrations of PCE and TCE and higher concentrations of VC in those wells; however, the effects of the injection did not extend very far outward from the wells.

PCE concentrations detected in the most recent groundwater monitoring round are shown on Figure 4, along with the estimated lateral extent of screening level exceedances in groundwater¹⁴. Note that screening level exceedances extend a considerable distance south and east of the source area beneath the dry cleaners even though the inferred flow direction of Advance Outwash groundwater is to the north. This upgradient and crossgradient transport of contamination is likely attributable to the 2006/2007 drinking water release at Tully's Coffee north-adjacent to the dry cleaners (refer to Section 5.2 for further discussion).

2.7.4.2 Groundwater Quality in Deeper Water-Bearing Zones

As shown in Table 6, COCs detected in deeper water-bearing zones include PCE and cDCE. Exceedances of the PCE screening level have been intermittent. It was exceeded only once in MW-12D, when that well was first sampled in December 2010. PCE exceedances were detected on three occasions in MW-13D and on two occasions in MW-14D. No PCE exceedances have been detected in deeper water-bearing zone wells since January 2017.

The screening level for cDCE was exceeded in wells MW-12D, MW-13D, and MW-14D when they were first sampled (in 2010 and 2012), but concentrations have decreased over time and are now below the screening level. Concentrations of cDCE in well MW-8D have increased fairly steadily since it was first sampled in 2009 and have exceeded the screening level in all but that initial sample.

3 Soil Vapor Extraction Treatment

An SVE system has operated in the source area since October 2014 and has been the primary remediation applied at the Site. The Interim Cleanup Action Construction and Design Report (Aspect, 2014a) documents system design and installation of the SVE wells. The Interim Cleanup Action Construction Completion Report (Aspect, 2014b) documents SVE system construction and start-up. The SVE system is designed to remove VOC contaminant mass from beneath the Morrell's building and to control the migration of soil vapor. The SVE system's soil gas extraction components and conveyance piping are shown on Figure 5. Soil gas is extracted from: angled wells VE-1 through VE-4; a 48-foot-long SVE trench in the alley on the north side of the Morrell's building; and a subslab suction pit (VE-SS) inside the building. SVE wells VE-1 and VE-2 are completed in the glacial till, with screen intervals of 18 to 32 feet bgs. SVE wells VE-3 and VE-4 are completed in the Advance Outwash, with screen intervals of 30 to 45 feet bgs. SVE treatment equipment is situated in the alley and includes a 2-horsepower single-phase regenerative blower, a 55-gallon moisture separator with automatic water transfer pump,

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¹⁴ The nine biostimulant injection wells are indicated with blue haloes. PCE concentrations in those wells are lower than in the surrounding aquifer.

and two 55-gallon vapor-phase granular activated carbon (GAC) drums connected in series.

System modifications are planned to expand the influence of SVE treatment. Five wells installed in 2019 (MW-23 and angled wells VE-5 through VE-8) will be connected to the existing SVE blower via a piping manifold located inside a new vault to be installed in the northwest corner of the parking lot. SVE expansion construction is expected to be completed in the second half of 2020.

SVE treatment will continue to remove contaminant mass from the source area (Building Parcel), where VOC concentrations in soil gas are relatively high. However, SVE treatment is not a potentially applicable technology for cleanup of the Parking Lot Parcel, since SVE is for vadose zone soil contamination, which does not extend to the Parking Lot Parcel. Therefore, SVE system monitoring and performance evaluation are not addressed in this report. See the Supplemental Focused Feasibility Study (Aspect, 2018) for performance information.

4 In Situ Injection Treatment

4.1 2014 Biostimulant Injection

The June 2014 biostimulant injection to nine wells was documented in the Interim Cleanup Action Construction Completion Report (Aspect, 2014b), and injection performance was evaluated in the Supplemental Focused Feasibility Study (Aspect, 2018). Remediation products provided by Regenesis were injected into all impacted groundwater wells screened in the Advance Outwash except MW-5. ¹⁵ (Injection wells are indicated on Figure 4.) Each of the nine wells received approximately 550 gallons of a dilute mixture of 3D-Microemulsion (3DMe® Factory Emulsified) and Hydrogen Release Compound (HRC Primer®).

Post-injection groundwater monitoring results (Table 4) indicate that PCE concentrations have been successfully reduced by up to two orders of magnitude in all of the June 2014 injection wells ¹⁶ with little or no rebound, and are now below the PCE cleanup level in four of those wells (MW-15, MW-16, MW-19, and MW-20). TCE concentrations have also decreased significantly, and total molar concentrations of chlorinated VOCs have been greatly reduced overall. However, VC concentrations have increased such that the cleanup level exceedance factor for VC is now greater than the exceedance factor for PCE in all of the 2014 injection wells. This suggests that the rate of PCE dechlorination to VC has been faster than the rate of VC dechlorination, resulting in the accumulation of VC.

¹⁵ Well MW-5 was not included in the June 2014 injection because results of the January 2014 sampling of MW-5 indicated no screening level exceedances. As is evident in Table 4, these were clearly erroneous results.

¹⁶ MW-18 has not been sampled post-injection due to a well obstruction, but groundwater quality in that well is expected to be similar to MW-16.

The ROI influence of the 2014 injection appears to be very limited based on persistent COCs in near proximity (within 10 feet of an injection well) monitoring wells installed in 2019 (MW-24, MW-25, MW-31, and MW-34.¹⁷ This conclusion is further supported by the natural attenuation parameter results shown in Table 5. For example, the total organic carbon (TOC) concentration in MW-20 remains elevated (179 milligrams per liter [mg/L] in the February 2019 groundwater sample) as a result of the 2014 injection to that well, whereas TOC concentrations in nearby wells MW-24 and MW-34 are less than 4 mg/L. Also, the sulfate concentration in MW-20 remains low, whereas sulfate concentrations recently detected in MW-24 and MW-34 are similar to the pre-injection concentration in MW-20.

4.2 2019 Remediation Injection Pilot Test

The 2019 injection test focused on remediation of Advance Outwash groundwater in the Parking Lot Parcel. A total of approximately 5,000 gallons of a remediation product solution and microorganisms were injected into well MW-20 over a two-night injection period in mid-July. The monitoring well network for the test consisted of wells MW-34, MW-24, MW-35, and MW-26, which are located approximately 7, 10, 15, and 20 feet, respectively, from the injection well. Data loggers were installed in the five wells to continuously monitor conductivity and water level to evaluate ROI. In addition, three rounds of post-injection groundwater monitoring were conducted at roughly 6 weeks, 5 months, and 8 months after injection to evaluate ROI and remediation effectiveness. Injection test details and results are discussed in this section.

4.2.1 Background and Test Objectives

The June 2014 biostimulant injection included injection to two wells in the Parking Lot Parcel, MW-19 and MW-20. As discussed in Section 4.1, PCE concentrations were successfully reduced in those wells but treatment was incomplete, causing VC concentrations to increase. Given the high cost of installing injection wells, a larger ROI had to be achieved so that fewer injection wells would be needed to treat the large volume of impacted groundwater in the Parking Lot Parcel.

It was then decided to conduct a single-well injection test in the Parking Lot Parcel to further evaluate ROI and to see if dechlorination performance could be improved. More specifically, objectives of the 2019 injection test included the following:

- Determine the relationship between injection volume (per well) and ROI so that a full-scale injection can be designed to address the entire Parking Lot Parcel area with PCE concentrations exceeding the Method A cleanup level.
- Determine whether a modified injection formulation effectively reduces PCE concentrations without resulting in cleanup level exceedances for degradation byproducts (particularly VC).

¹⁷ Injection impacts are expected to be most pronounced downgradient of an injection well. While the inferred flow direction is to the north, the groundwater gradient is very small. Measured gradients on different dates for the same well combinations indicate wide variations. There is also a significant downward flow component.

• Determine whether a per-well injection volume an order of magnitude higher than that used in the June 2014 injection is feasible.

4.2.2 Test Wells

Well MW-20 was selected as the injection well for the following reasons:

- It is located in the area of the Parking Lot Parcel with the highest PCE concentrations in Advance Outwash groundwater.
- MW-20 required a lower pumping pressure than MW-19 in the 2014 injection (in fact, it had the lowest pumping pressure of all nine injection wells).
- New wells MW-24 and MW-26 had recently been installed approximately 10 and 20 feet, respectively, from MW-20 in the Parking Lot Parcel that could serve as injection test monitoring wells.

To complete the monitoring well network for the test, wells MW-34 and MW-35 were installed approximately 7 and 15 feet, respectively, from the injection well.

4.2.3 Remediation Products Injected

The following remediation products were injected to MW-20:

3DMe[®] (**400 lbs**). Provided by Regenesis, this blend of lactate, polylactate esters, and free fatty acids and fatty acid esters was effective at degrading PCE and TCE in the 2014 biostimulant injection.

CRS[®] (**182 lbs**). Also provided by Regenesis, Chemical Reducing Solution (CRS[®]) is an iron-based amendment for *in situ* chemical reduction of chlorinated VOCs. CRS[®] was included to provide a chemical (i.e., abiotic) pathway for contaminant degradation.

KB-1[®] (3 liters). Provided by SiREM, KB-1[®] is a naturally occurring microbial culture that contains Dehalococcoides sp. (Dhc), the only group of microorganisms documented to promote the complete dichlorination of chlorinated VOCs to ethene. KB-1[®] was provided to enhance the indigenous population of Dhc.

Prior to injection, the 3DMe® and CRS® were combined and diluted with well water (approximately 4,500 gallons) supplied by the injection contractor. Anaerobic water (approximately 450 gallons), produced by adding KB-1 Primer (also provided by SiREM), 3DMe®, and sodium ascorbate to well water, was injected before and after injection of the KB-1® to support the viability of the microbial culture.

4.2.4 Injection Summary

The injection event was completed on the nights of July 15/16 and 16/17, 2019. Data loggers were installed in the five test wells several days prior to start of injection. The data logger in well MW-20 was removed during the injection period and replaced immediately upon completion of injection.

¹⁸ Injection activities and post-injection groundwater monitoring were completed at night so that the businesses of tenants with parking lot privileges would not be negatively impacted (i.e., by reduced parking lot access and fewer parking spaces for customers).

The 3DMe[®]/CRS[®] solution was injected first and represented over 90 percent of the total injection volume. 3DMe[®], CRS[®], and dilution water were mixed in batch volumes up to 550 gallons (the maximum capacity of onsite tankage) immediately prior to injection. About 4,000 gal of solution was injected the first night and 550 gal the second night. Pressure injection of the 3DMe[®]/CRS[®] solution was not necessary; it flowed by gravity as fast as the injection contractor could pour it into the well (about 50 gallons per minute). Following injection of 3DMe[®]/CRS[®] solution on the second night, half of the anaerobic water was injected, followed by the KB-1[®], and finally the remainder of the anaerobic water. Aspect monitored the entire injection event and assisted the contractor with injection of the KB-1[®]. ¹⁹

The injection event went smoothly except for some trouble achieving the DO and ORP targets prior to injecting the anaerobic water on the second night. To scavenge oxygen from the 450-gallon batch of well water, the injection contractor added 2.25 lbs of sodium ascorbate and 4 lbs of 3DMe® roughly 6 hours before the anticipated completion of 3DMe®/CRS® solution injection on the second night. The targets recommended by SiREM for the anaerobic water prior to injection were:

- ORP < -75 millivolts (mV)
- pH between 6 and 8
- DO < 0.5 mg/L

Approximately 7 hours after adding the sodium ascorbate and 3DMe[®], ORP was measured at -12 mV, pH at 7.2, and DO at 6.2 mg/L. KB-1 Primer (enough to treat 250 gal of water) was then added to further promote the scavenging of oxygen. Two hours later, ORP was measured at -63 mV, pH at 7.7, DO at 3.5 to 4.2 mg/L. Although DO and ORP remained higher than the recommended values, it was decided to begin injection of the solution.

4.2.5 Injection Test Performance

Injection test results were evaluated to: 1) assess the radius of influence of the injection for possible full-scale implementation; and 2) assess the performance of the injection design in fully degrading chlorinated VOCs to ethene/ethane. Chlorinated VOC concentrations and natural attenuation parameters measured in groundwater samples collected from the injection well and the four nearby monitoring wells are summarized in Tables 9 and 10, respectively. Laboratory reports are provided in Appendix C and a graphical representation of data logger output is provided as Appendix E.

The first post-injection sampling round was conducted in late August 2019, approximately 6 weeks after injection. A sample could not be collected from the injection well due to pump screen biofouling in that well. Results showed no clear evidence that the injection resulted in contaminant degradation at the monitoring wells.

The second post-injection sampling round was conducted in mid-December 2019, roughly 5 months after injection. A sample was successfully collected from the injection well during this sampling round. Compared to the pre-injection sampling round (in late

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¹⁹ The KB-1[®] injection procedure provided by SiREM is fairly complex. Inert compressed gas is used to eject the microbial culture from the stainless steel vessel it is supplied in.

November 2018), PCE and cDCE concentrations were reduced in the injection well, and the VC concentration increased marginally. Results at the monitoring wells were more favorable than in the first post-injection sampling round. More importantly, there was also evidence of dechlorination at monitoring wells located 7 ft and 15 ft from the injection well, but not at locations 10 ft and 20 ft. The magnitude of PCE concentration reduction between the August and December rounds was 56 percent at 7 ft and 41 percent at 15 ft. The decrease in PCE concentration at those two wells was accompanied by an increase in cDCE concentration.

The third post-injection sampling round was conducted in late March 2020, roughly 8 months after injection. The VC concentration in the injection well decreased to below the pre-injection concentration measured in late November 2018 but still exceeded the VC cleanup level. Results at the monitoring wells did not indicate significant dechlorination activity compared to the second post-injection round results.

Analysis for microorganisms (Dhc) was included in the test to monitor the persistence of the injected microorganism temporally. However, sampling in August and December did not yield detectable Dhc in either the injection well or the monitoring wells.²⁰ Analysis for microorganisms was not included in the March 2020 sampling event.

Geochemical parameters were also analyzed for in order to monitor the effect of the injection on natural attenuation potential. Background groundwater concentrations of TOC at this Site are <2 mg/L. Post-injection TOC concentrations at the monitoring wells are indicative of the degree to which injected organics have dispersed radially outward from the injection well. A TOC concentration of 132 mg/L was measured 15 ft from the injection well (the highest TOC concentration measured in a monitoring well) in the first post-injection sampling round. However, TOC concentration at that well declined to 3.7 mg/L in December 2019 and to 0.7 mg/L in March 2020; a rapid decline and return to natural levels over a period of 7 months. At 7 ft from the injection well, the TOC concentration increase was not as pronounced, and also declined to natural levels 8 months after injection.

The post-injection dechlorination activity observed at the 7 ft and 15 ft wells appears to correlate with the elevated TOC concentrations measured at those wells. Similarly, the lack of significant dechlorination activity observed between the second and third post-injection sampling rounds is consistent with the rapid decline in TOC concentrations.

Results of the 2019 injection test indicate the VC concentration has neither increased (indicating a reduction of DCE to VC) nor declined (indicating a reduction to ethene) significantly in the injection well, meaning that dechlorination may be stalling out at DCE, and the reduction we see from the injection (59 μ g/L to 10 μ g/L) may be due to dilution rather than dechlorination. Regardless, geochemical parameters confirm that final dechlorination end products ethene and ethane are non-detect in the injection well and wells within the radius of influence. It is concluded that neither the 2014 nor 2019 injection methodology are likely to reduce PCE to end products.

The primary objective of the injection test was to determine the remediation products' radius of influence to design the next round of injections. Influence has been observed at

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²⁰ Results could be due to the field filtering sampling methodology.

7 ft and 15 ft but not at 10 ft, apparently due to preferential flow paths. In addition, it appears that dechlorination, at wells where observed, will not continue to completion in a reasonable time frame.

5 Parking Lot Parcel Conceptual Model

5.1 Hydrogeologic Setting

Groundwater occurrence is deep, lateral hydraulic continuity is limited, and there are no complete exposure pathways. We note the following about groundwater observed within the Advance Outwash unit at depths below 50 feet:

- There are no known on-Site recharge sources, due to continuous impervious cover. Leaky storm and/or sanitary sewer lines could be contributing to onsite recharge. Precipitation and irrigation at upgradient Wright Park are also potential sources of recharge.
- Groundwater within the Advance Outwash perches on the underlying leaky confining unit formed by the dense and finer-grained Olympia beds.
- Based on local topography and area recharge originating from Wright Park, Site
 groundwater in the Advance Outwash likely migrates laterally towards the north /
 northwest. Extensive drilling and well installations demonstrate that the Advance
 Outwash water bearing unit is laterally discontinuous within 50 to 100 feet
 downgradient of the subject Property boundary.
- With the extent of lateral groundwater flow limited, it is apparent that perched groundwater concurrently leaks downward through the Olympia beds, fully infiltrating and leaving the Advance Outwash dry to the northwest and northeast of the Site.

5.2 Groundwater Impacted by 2006/2007 Drinking Water Release

Water was encountered beneath the building foundation floor slab in 2007, and an analysis of the water bill of Tully's Coffee (located across the alley to the north) indicated that an estimated 600,000 gallons of drinking water had been released between May 2006 and September 2007. This is documented in the Stemen Environmental letter dated 5/17/09 provided in Appendix D.

It is Aspect's conclusion that this significant drinking water release is correlated with groundwater contamination on the Parking Lot Parcel. The Stemen letter notes that when the water leak was repaired, the water beneath the Morrell's Building floor slab drained in a few hours. Thus, water was able to move quickly away from the source, likely laterally through the compacted gravel subgrade from the Building Parcel to the Parking

Lot Parcel, and then percolated downward to the Advance Outwash layer. It is also possible but less likely that contaminated water infiltrated directly down beneath the building and then spread radially outward in the Advance Outwash layer. Aspect did not start measuring water levels in the MWs until February 27, 2008, so no firm conclusions on how the water leak effected water levels in the Advance Outwash aquifer can be made. Since the water leak was fixed in 2007, it is not considered to be a likely source of continued recharge or recontamination.

5.3 Evidence of Natural Attenuation

There is evidence of natural attenuation on the parking lot parcel demonstrated through long-term groundwater quality monitoring at MW-5. This Parking Lot Parcel well was installed in 2008 and was never used as an injection well, nor is it within the radius of influence of other injection wells. At MW-5, COC concentrations in groundwater have decreased from 67 μ g/L in 2008 to 9.6 μ g/L in 2020. There was an uncharacteristic increase in concentrations in 2010 and 2012, possibly due to the full magnitude of impacts from the water leak reaching the well temporally delayed due to slow percolation downward through the glacial till overlying the aquifer. However, COC concentrations have continued to decline since 2012.

Secondary evidence of natural attenuation occurring in groundwater on the Parking Lot Parcel is the decrease in concentration of PCE in groundwater in wells of similar distance from the source over time. For example, MW-20 (about 14 feet from estimated soil impacts) had 140 μ g/L when first sampled in 2014 and MW-24 (about 10 feet from estimated soil impacts) had only 66 μ g/L when first sampled in 2019. Similarly, MW-8 (about 16 feet from estimated soil impacts) had 1,300 μ g/L in 2008 and MW-32 (about 12 feet from estimated soil impacts) had only 36 μ g/L when first sampled in 2019. See Table 4 for shallow groundwater quality.

5.4 Low Potential for Future Contaminant Migration from Building Parcel

The collective data on the source of groundwater contamination on the Parking Lot Parcel indicates that it was the result of a drinking water release from an adjacent property causing contamination to migrate laterally from the Building Parcel, an event which is not likely to be repeated. This drinking water release is documented in Section 5.2 above and in the Stemen Environmental letter provided in Appendix D. Further, as shown in Figure 4, the regional inferred groundwater gradient is to the north consistent with local topography. Perched water in the Advance Outwash aquifer is recharged in Wright Park, moves north through the Site and then fully infiltrates through the Olympia beds, leaving the Advance Outwash dry to the northwest and northeast of the Site. Groundwater contamination beneath the Parking Lot Parcel originated from a one-time water leak as opposed to natural conditions/gradients. Thus, the risk of recontamination is considered unlikely.

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²¹ MW-5 is over 40 feet from the nearest injection well, MW-20.

6 Description of Remedial Alternatives for Parking Lot Parcel

Three remedial alternatives were developed for comparison with MTCA criteria for cleanup actions using the technologies retained in the initial screening:

- 1. Monitored Natural Attenuation with Institutional Controls
- 2. Injection-based *In-Situ* Treatment
- 3. Injection-based *In-Situ* Treatment with Heat-Enhanced Plume Attenuation

These alternatives are described in the following sections. Feasibility-level cost estimates (+50/-30 percent) were developed for each remedial alternative in accordance with EPA cost estimating guidance (EPA, 2000) and professional experience with similar projects. These costs are adjusted for net present value (NPV) using real discount rates published by the Office of Management and Budget for 2020 (OMB, 2019). Cost estimate details and assumptions are provided in Tables 11 through 13 for each Alternatives 1 through 3, respectively.

6.1 Alternative 1 - Monitored Natural Attenuation with Institutional Controls

Natural attenuation (NA) has been proven effective in reducing contaminant concentrations in groundwater when appropriate conditions are present. This process relies on the attenuation of COCs in groundwater by natural processes, including biodegradation, abiotic degradation, adsorption, dilution, and dispersion.

A formal monitored NA (MNA) remediation alternative includes groundwater monitoring to document remediation progress and verify plume stability (WAC 173-340-370(7)(a)). Because it does not include significant mechanical infrastructure, MNA can be readily implemented and generally has low maintenance requirements and long timelines.

Based on the decreasing groundwater concentrations of COCs at the Site since 2007²² (albeit slowly), NA processes are occurring. A restoration timeline of 20 years is used to model this alternative based on the regression of PCE concentrations in Parking Lot Parcel Advance Outwash monitoring wells since 2007 which can be found in Appendix F.

The purpose of this alternative is to provide protection of human health and the environment through institutional controls until it can be demonstrated that natural attenuation has reduced COC concentrations below applicable cleanup levels to meet cleanup objectives for the Site. While there are no existing complete exposure pathways, institutional controls would ensure that condition remains. Alternative 1 involves the following elements:

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 $^{^{22}}$ MW-5 had an increase in COC concentrations in 2010 - 2012, but this could be a delayed response from the drinking water release in 2006 - 2007.

- Preparation of a Cleanup Action Plan for long-term monitored natural attenuation, including a compliance monitoring plan and contingency action plan
- Implement institutional controls
- Perform groundwater sampling

For cost estimating purposes, the duration of this alternative is estimated to be 20 years. The estimated cost of this alternative is \$280,000 (Table 11). The alternative has a relatively high degree of uncertainty as to whether cleanup standards will be achieved in the estimated time frame.

6.2 Alternative 2 - Injection-Based In-Situ Treatment

Alternative 2 is intended to be a full-scale version of the remediation product injection test discussed in Section 4.2, above. *In Situ* Injection-based treatment involves bioaugmentation, biostimulation, and chemical reduction to encourage complete dechlorination of VOCs to nontoxic end products: ethene/ethane, carbon dioxide, and trace amounts of hydrogen gas. In these reactions, bacteria use the chlorinated COCs as electron acceptors, removing chlorine atoms that are replaced with hydrogen.

During anaerobic biodegradation of chlorinated COCs, chloride ions are sequentially removed. The more highly chlorinated (more oxidized) compounds, such as PCE and TCE, are degraded more readily than the less chlorinated (less oxidized) compounds, such as DCE and vinyl chloride, which require more energy and a more highly anaerobic environment to support the bacterial strains capable of complete reductive dechlorination to ethene and ethane. Therefore, to increase the potential for complete dechlorination, the biological and chemical conditions of the aquifer must be controlled.

Bioaugmentation involves the injection of a consortium of beneficial bacteria that would increase the rate of biodegradation and result in complete reduction of vinyl chloride to ethene/ethane. For the proposed injection-based treatment, Dehaloccoised sp. (DhC) would be injected via a SiREM product, KB-1. DhC is an anaerobic microorganism, conditions in which it can thrive must also be created.

Biostimulation provides an electron donor to enhance the reducing conditions for the dechlorination process. Electron donors serve as a source of food for bacteria and include substances such as simple sugars, lactate, vegetable oils, or engineered compounds specifically designed to promote enhanced biodegradation for extended time periods. For the proposed injection-based treatment, a Regenesis product, 3DMe® composed of lactate, polylactate esters, and free fatty acids would be used as it has been shown to be effective at this Site.

Chemical reduction can also dechlorinate PCE. Nitrate, ferric iron, manganese (IV), sulfate, carbon dioxide, oxidized metals, or other organic compounds also replace oxygen as an electron acceptor/energy source to fuel the reaction and growth of beneficial bacteria. For the proposed injection-based treatment, an iron-amendment would be injected into the subsurface in the form of a Regenesis product, CRS® to provide an abiotic reduction pathway.

Injection-based treatment is a proven method for reducing the chlorinated COCs at the Site with a demonstrated reduction in PCE concentrations in wells on the Morell's

Building Parcel as well as the Parking Lot Parcel as a result of the 2014 and 2019 injections. However, results of the injection tests indicate that the radius of influence does not extend far from the wells (just 7 to 15 feet, averaging to assume a 10-foot ROI); thus, the number of wells required to cover the Parking Lot Parcel is estimated at 24 as shown on Figure 9.

Alternative 2 consists of the following elements:

- Full-scale injection implementation would expand the injection network to target the full extent of groundwater exceedances on the Parking Lot Parcel and maintain biogeochemical conditions sufficiently long to achieve complete reductive dechlorination of PCE to nontoxic end products.
- To achieve this objective, the existing injection well network would be supplemented with installation of 15 new injection wells to achieve coverage at the assumed 10-foot radius of influence in the Advance Outwash water bearing unit, Figure 9 shows the existing and proposed new injection wells.
- Two injection-based treatment events modeled after the 2019 Injection Test would be performed on all 24 Parking Lot Parcel wells. During each of the two injection events, each well would receive: 3DMe (400 lbs; 48 gal),²³ CRS (182 lbs; 20.75 gal),²⁴ KB-1 (3 liters), Sodium Ascorbate (2.25 lbs) with mixing water to total approximately 5,000 gallons per well.
- The restoration time frame with injection-based treatments is estimated as 5 years. Injection events would occur in the beginning of the year 1 (time zero) and the end of year 2/beginning of year 3.
- Performance groundwater sampling at six of the Parcel's monitoring wells on the following schedule:
 - Year 1: 6 months after the first injection-based treatment
 - Year 2: before the second injection-based treatment
 - Year 3: six months after the second injection-based treatment
 - Year 4: one event to monitor long term injection effectiveness, preconfirmation sampling
- Once Site COCs have attenuated to below MTCA Method A Cleanup Levels, four consecutive quarters of confirmation groundwater sampling will be performed. This is assumed to occur in year 5.
- Preparation of a Construction Completion Report after implementation, including a compliance monitoring plan and contingency action plan.
- Full-scale injection-based treatment is assumed to be successful, so institutional controls would not be needed on the property. Site Closure Documents would be

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 $^{^{23}}$ 3DMe is a liquid solution with a density about the same as that of water (i.e., about 8.34 lb/gal or 1,000 g/L).

²⁴ CRS is a liquid solution with a density of about 8.77 lb/gal or 1,050 g/L.

prepared to request a parcel-specific No Further Action Determination from Ecology.

The estimated cost of this alternative is \$1,262,000 (Table 12). The alternative has a moderate degree of uncertainty as to whether cleanup standards will be achieved in the estimated time frame.

6.3 Alternative 3 – Injection-Based In-Situ Treatment with Heat-Enhanced Plume Attenuation

Alternative 3 is intended to be the most aggressive treatment plan to provide the most assurance of groundwater plume treatment by adding Heat-Enhanced Plume Attenuation (HEPA) technology to the injection-based treatment proposed in Alternative 2. A subset of wells installed for injection would be designed to also contain HEPA electrodes. Following injection-based treatment, electrodes would be installed in the wells and the groundwater heated by 10-15 degrees Celsius to a target temperature of 50 degrees Celsius. This temperature would be maintained for an extended period of time to enhance biodegradation of dissolved contaminates. For the purpose of evaluating Alternative 3, it is assumed a total of 16 new injection / HEPA treatment wells would be installed so shown in Figure 10, and that the elevated groundwater temperature would be maintained for approximately 1 month. Alternative 3 consists of the following elements:

Full-scale injection with HEPA treatment implementation would expand the
injection network to target the full extent of groundwater exceedances on the
Parking Lot Parcel and maintain heated groundwater sufficiently long to aid
injected microbes to achieve complete reductive dechlorination of PCE to
nontoxic end products.

To achieve this objective, the existing injection well network would be supplemented with installation of 16 new HEPA injection wells (12-inch diameter borehole) to achieve coverage at the assumed 10-foot radius of influence in the Advance Outwash water bearing unit. In addition to the new HEPA wells, one additional traditional injection well will be installed to complete the coverage, as shown in Figure 10.

- One injection-based treatment event modeled after the 2019 Injection Test would be performed on 24 Parking Lot Parcel wells. Each well would receive: 3DMe (400 lbs; 48 gal), ²⁶ CRS (182 lbs; 20.75 gal), ²⁷ KB-1 (3 liters), Sodium Ascorbate (2.25 lbs) with mixing water to total approximately 5,000 gallons per well.
- HEPA specifications were provided by TRS Group Inc. for the purpose of cost estimating and include:

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²⁵ Number of HEPA wells based on HEPA technology vendor recommendation. Existing wells cannot be used for HEPA treatment.

²⁶ 3DMe is a liquid solution with a density about the same as that of water (i.e., about 8.34 lb/gal or 1,000 g/L).

²⁷ CRS is a liquid solution with a density of about 8.77 lb/gal or 1,050 g/L.

- For the 16 proposed HEPA wells, the groundwater would be heated by 10-15 degrees Celsius to target a temperature of approximately 50 degrees Celsius.
- This would be done with an average input energy of 245 kW, for a heating time of approximately one month, totaling approximately 160,000 kWh.
- TRS would construct, operate, and decommission the system.
- The restoration time frame with injection-based treatments is estimated as 2 years. The injection event would occur in the beginning of the year 1.
- Alternative 3 is assumed to attain cleanup levels within the first year of treatment. Four quarters of confirmation groundwater sampling at six of the Parking Lot's wells would be implemented in the second year.
- Preparation of a Construction Completion Report after implementation, including a compliance monitoring plan and contingency action plan.
- The injection-based treatment with HEPA is assumed to be successful, so institutional controls would not be needed on the property. Site Closure Documents would be prepared to request a parcel-specific No Further Action Determination from Ecology.

The estimated cost of this alternative is \$1,622,000 (Table 13). The alternative has a moderate degree of uncertainty as to whether cleanup standards will be achieved in the estimated time frame.

7 Evaluation of Remedial Alternatives for Parking Lot Parcel

The three remedial alternatives described in Section 6 are evaluated with respect to MTCA criteria in this section.

7.1 Feasibility Study Evaluation Criteria

This section reviews the minimum requirements and procedures for selecting cleanup actions under MTCA (WAC 173-340-360).

7.1.1 MTCA Threshold Requirements

MTCA requires that remedial alternatives for a site satisfy certain "threshold" criteria, as specified in WAC173-340-360(2)(a). All cleanup actions must:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

7.1.2 MTCA Selection Criteria

Remedial alternatives that meet the threshold requirements must be evaluated with respect to these "other" requirements, as specified in WAC173-340-360(2)(b):

- Use of permanent solutions to the maximum extent practicable. A disproportionate cost analysis (DCA) is conducted to assess the extent to which the remedial alternatives address this criterion.
- Provide for a reasonable restoration timeframe. MTCA places a preference on remedial alternatives that can be implemented in a shorter period of time.
- Consider public concerns. Consideration of public concerns is an inherent part of the Parcel cleanup process under MTCA and the public is a component of the DCA.

7.1.3 MTCA Disproportionate Cost Analysis

MTCA allows for consideration of cost in selecting among remedial alternatives that meet the threshold criteria, per WAC173-340-360(3)(e). If the cost of one alternative is disproportionately higher than another when compared to the benefits afforded, then the lower cost alternative can be selected. The test for making this determination is stated in MTCA as follows: "Costs are disproportionate to benefits if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over the other lower cost alternative." MTCA requires evaluation of the following criteria when conducting a disproportionate cost analysis (DCA) per WAC173-340-360(3)(f):

- Protectiveness
- Permanence
- Cost
- Effectiveness over the long term
- Management of short-term risks
- Technical and administrative implementability
- Consideration of public concerns

The DCA is based on a comparative evaluation of an alternative's cost against the other six criteria (environmental benefits). The DCA quantifies the environmental benefits of each remedial alternative, and then compares alternative benefits versus costs. Alternatives that exhibit disproportionate costs are considered "impracticable" under MTCA.

7.2 Evaluation with Respect to MTCA Threshold Requirements

All alternatives provide for performance and compliance monitoring and are expected to be protective of human health and the environment. They vary significantly in contaminant mass removal achieved, and only Alternatives 2 and 3 are expected to fully comply with cleanup standards in a reasonable time frame. Alternatives that do not fully

comply with the MTCA threshold criteria are typically not carried forward in the evaluation process. In this case, however, where only the high-cost alternatives fully comply, multiple alternatives may be carried forward to the next stage of evaluation.

7.3 Disproportionate Cost Analysis

The DCA is performed in Table 14. Environmental benefit is quantified by first rating the alternatives with respect to each of the criteria (except cost²⁸) discussed in Section 6.2.2. Rating values are assigned on a scale of 1 to 6, where 1 indicates the criterion is satisfied to a very low degree, and 5 indicates the criterion is satisfied to a very high degree. Since Ecology does not consider the criteria to be of equal importance, each criterion is assigned a "weighting factor." Based on Ecology input for feasibility studies conducted at other sites, weighting factors are assigned as follows:

• Overall protectiveness: 30 percent

• Permanence: 20 percent

• Long-term effectiveness: 20 percent

• Short-term effectiveness: 10 percent

• Implementability: 10 percent

• Consideration of public concerns: 10 percent

A MTCA benefits ranking is then obtained for each alternative by multiplying the six rating values by their corresponding weighting factors and summing the weighted values. Finally, the benefits ranking of each alternative is divided by the alternative's estimated cost (in \$million) to obtain a benefit/cost ratio, which is a relative measure of the cost effectiveness of the alternative.

7.3.1 Benefits Rankings, Estimated Costs, and Benefit/Cost Ratios

The MTCA benefits rankings, estimated costs, and benefit/cost ratios for Alternatives 1 and 2 are presented at the bottom of Table 13. Based on this evaluation, the overall benefit to human health and the environment are comparable for all alternatives (active remediation with injection-based treatment and HEPA both offer a slightly higher benefit over institutional controls and MNA alone as the timeline is dramatically reduced). However, the incremental benefits of Alternatives 2 and 3 are disproportionate to the additional costs incurred for the *in-situ* treatment. The relative benefit to cost ratio for each alternative is illustrated on Figure 10 and shows a clear disproportionality. Benefit/cost ratios range from a high of 10.4 for Alternative 1 to a low of 2.8 for Alternative 2.

7.3.2 Disproportionate Cost Analysis Recommendation

Among the alternatives evaluated, Alternative 1 (MNA) achieved the highest benefit/cost ratio. While Alternative 1 is expected to be protective of human health, it will not achieve groundwater cleanup levels in a reasonable time frame (less than 30 years). Therefore, the intent of this Property Specific Closure Report is to request a No Further Action

²⁸ The cost criterion factors into the DCA after the environmental benefit is quantified.

Likely determination, to show that Ecology concurs with the DCA and selected remedy in advance of applying for a No Further Action Determination in the future.

Alternative 2, which would expand the application of remedial technologies already pilot tested on the Property but comes with a disproportionately high cost and low cost-benefit ratio. This alternative is expected to achieve groundwater cleanup levels in roughly a 5-year time frame. At that point, the Parcel would likely be eligible for a Property-Specific NFA determination from Ecology.

Alternative 3, which would combine multiple remedial technologies and presents both the most aggressive cleanup alternative and she shortest timeframe, comes with a disproportionately high cost and low cost-benefit ratio. Alternative 3 is expected to achieve groundwater cleanup levels in roughly 2 years. At which point the parcel would likely be eligible for a Property-Specific NFA determination from Ecology.

Based on the above considerations, Alternative 1 is recommended for implementation. While Alternative 1 (MNA) has the longest restoration timeline, it is expected to be protective of human health, permanent, cost effective, readily implementable, agreeable to the public, and have low short-term risk. This is in part due to the Parking Lot Parcel setting; it is located beneath an active urban parking lot with adjacent businesses being served by public water supply. The contaminated groundwater is at 50 feet below ground surface and consumption and/or exposure is highly unlikely. The existing exposure pathway has been determined to be incomplete. Further, Alternative 1 provides for the implementation an institutional control to ensure existing conditions are maintained.

8 Proposed Parking Lot Parcel Remedy for Ecology Opinion

The proposed remedy for the Parking Lot Parcel is monitored natural attenuation of contamination in Advance Outwash groundwater and institutional controls to ensure protectiveness until MTCA groundwater cleanup levels are achieved. Groundwater monitoring will be performed in accordance with an Ecology-approved Groundwater and Cover Monitoring Plan that will include contingency measures. The impervious surfacing cover on the property would also be inspected periodically as part of the monitoring plan. Institutional controls will be implemented via an environmental covenant to be placed on the property. The proposed Groundwater Monitoring Plan and environmental covenant are briefly discussed in this section.

8.1 Groundwater and Cover Monitoring Plan with Contingency Measures

The Groundwater and Cover Monitoring Plan will address performance groundwater monitoring for the MNA remedy implemented on the Parking Lot Parcel. Six perimeter monitoring wells on the Parking Lot Parcel would be monitored annually for the first 5 years to gather additional data on the rate of NA onsite. After 5 years, monitoring would transition to once every 5 years for Ecology 5-year reviews until cleanup levels are

achieved in a single event. Once cleanup levels are achieved, the monitoring frequency will then be changed to quarterly for three additional monitoring rounds, to satisfy Ecology's requirement that compliance with cleanup levels be demonstrated for four consecutive quarters. If a cleanup level exceedance occurs during quarterly monitoring, the monitoring frequency will revert to a 5-year interval. This process will be repeated until compliance is achieved in four consecutive quarters. Reporting to Ecology will occur with the 5-year reviews, and the Parking Lot Parcel would be eligible for an unrestricted property-specific NFA should confirmation sampling be completed with no cleanup level exceedances.

The groundwater monitoring plan will also specify concentrations in groundwater that would induce contingency reporting, which would include the following:

- An assessment of what may be causing or contributing to the elevated concentration(s).
- A statement on further confirmation sampling to occur as indicated below:
 - Additional confirmation sampling for the same analytes at the same well would occur within 30 days of initial receipt of results, and additional contingency reporting submitted to Ecology within 30 days laboratory result receipt.
 - Should the additional confirmation sampling confirm that concentrations are still unexpectedly high, a draft work plan for further evaluation of Site conditions will be submitted to Ecology within 60 days of confirmation sampling results receipt.

As shown in Table 4, the highest PCE concentrations detected to date on the Parking Lot Parcel (in MW-20 on January 8, 2014) was 140 μ g/L. Contingency reporting will be triggered if PCE exceeds 150 μ g/L in any Parking Lot Parcel Monitoring Well.²⁹

The parcel's impervious surfacing would also be inspected during monitoring visits for significant alterations or damage since the last monitoring round. Removal or damage to the impervious surfacing would increase potential infiltration. Should this occur, Ecology would be notified within 30 days of the discovery site visit.

8.2 Property-Specific Environmental Covenant

As part of the selected remedy (Alternative 1, MNA) a property-specific environmental covenant would be placed on the Parking Lot Parcel until confirmation sampling concludes, which is estimated to be a 21-year timeline. This covenant would protect human health and the environment by restricting groundwater use and monitoring the protective impervious surfacing. The environmental covenant would be executed between the current (and any future) property owners and Ecology. The environmental covenant could eligible for removal once confirmation sampling is completed and reviewed by Ecology. Should it be determined that the Building Parcel would need an environmental covenant as well, that would be applied for and recorded separately, at the time of Building Parcel Closure.

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²⁹ This concentration corresponds to fifteen times the MTCA Method A cleanup level for PCE.

9 Conclusions and Recommendations

This report presents the property-specific closure scenario for the Parking Lot Parcel that is a subset of the larger Morell's Dry Cleaner Site. This Site is enrolled in the VCP with Ecology and active remediation has been ongoing at the Site since 2014. Despite completing a biostimulant injection in 2014, an additional remediation injection pilot test in 2019, and continually operating a SVE system on the Building Parcel since October 2014, contamination remains both on and off of the Property in the vadose zone as well as a dissolved phase plume. Investigation results to date indicate that the magnitude and extent of soil and groundwater contamination on the Building Parcel are significantly more than that on the Parking Lot Parcel. The Parking Lot Parcel has no detected vadose zone soil contamination and relatively low concentrations of COCs in groundwater.

Engineering analyses of both parcels (the Building Parcel (Aspect [2012a] and Aspect [2018]) and the Parking Lot Parcel herein) indicate that the cleanup will have a very long timeline on the Building Parcel unless the building is first demolished to improve access to the underlying contamination and very aggressive remedial technologies are applied. Alternatively, the recommended alternative for the Parking Lot Parcel presented herein is MNA with Institutional Controls. This alternative will be permanent when monitored to completion and cleanup levels are attained and is protective of human health and the environment throughout. Alternative 1 – MNA with institutional controls, is preferred over the more aggressive technologies, which are disproportionately more expensive than the benefit they provide are worth. Aspect concludes that Alternative 1 would satisfy the MTCA threshold requirements and proposes the Parking Lot Parcel is granted a No Further Action Likely determination as record of Ecology's agreement with the proposed cleanup alternative. Should that be accepted, it is proposed that a Cleanup Action Plan complete with a Long Term Groundwater Monitoring Plan (with contingencies) is prepared and agreed upon by Ecology and Stakeholders to implement the proposed remedy.

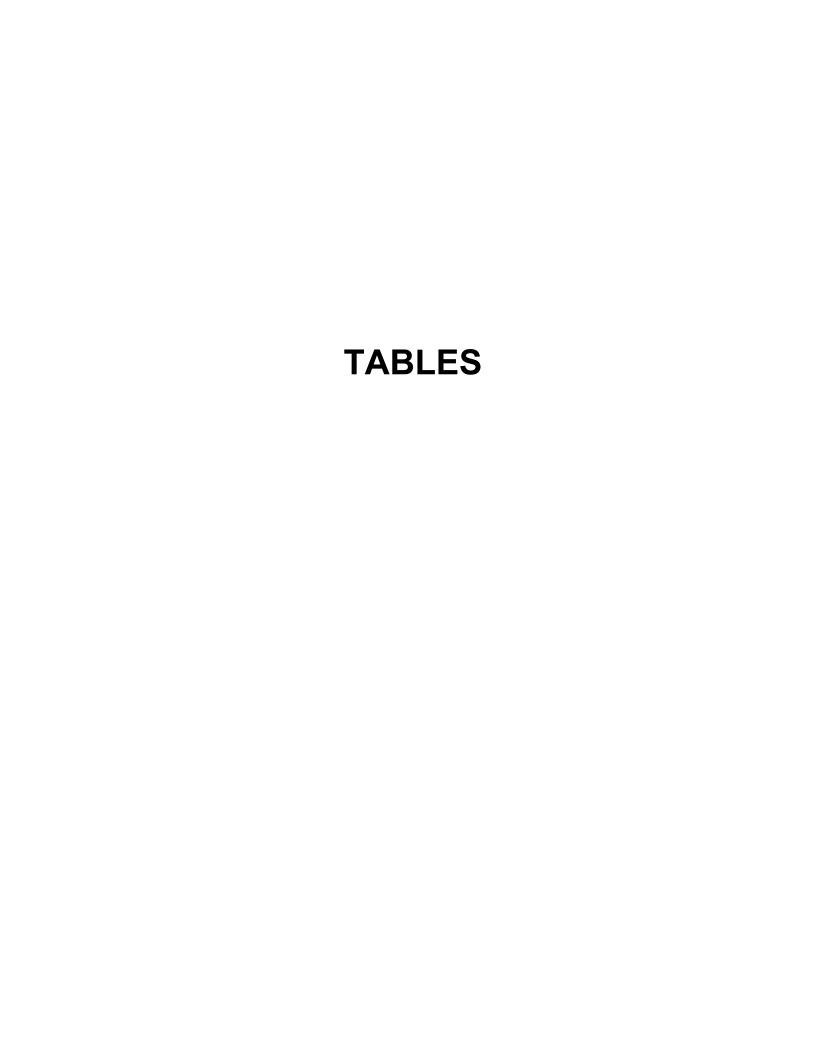
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- Aspect Consulting, LLC (Aspect), 2011, Remedial Investigation Report, Morrell's Dry Cleaners, Prepared for: David Shaw, Successor to Walker Chevrolet, February 18, 2011.
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- Office of Management and Budget (OMB), 2019, Memorandum 2020 Discount Rates for OMB Circular No. A-94, dated December 17, 2019.
- Washington State Department of Ecology (Ecology), 2011, Letter to Aspect Consulting (J. Morrice) re Further Action at the Morrell's Dry Cleaning Site, September 26, 2011.

Limitations

Work for this project was performed for D.E. Wickham, Successor to Walker Chevrolet (Client), and this report 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 report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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Monitoring Well ID and Installation Date	Date	Vertical Angle	Screened Intervals (feet bgs)	Top of Casing Elevation (feet, site datum)	Depth to Water (feet)	Groundwate Elevation (feet, site datum)
		Wells Scr	eened in Advance Ou		<u> </u>	
MW-2	2/27/2008	0	50 to 65	278.14	51.50	226.64
Installed 1/22/2007	10/2/2008 5/12/2009				51.84 52.42	226.30 225.72
	12/22/2010				52.44	225.70
	2/7/2012				51.77	226.37
	12/12/2013 6/24/2014	1	Injustion of Degen	ania producto 2DMa	52.74	225.40
	1/21/2015	1	injection of Regen	esis products 3DMe	51.83	226.31
	9/8/2015				51.77	226.37
	2/2/2016				52.14	226.00
	11/28/2018 2/27/2019				50.74 50.42	227.40 227.72
	4/12/2020				50.73	227.41
	3/26/2020				51.12	227.02
	4/28/2020				51.01	227.13
MW-3 Installed 2/1/2007	2/27/2008 10/2/2008	0	51 to 66	277.77	dry dry	dry dry
1113talica 2/1/2007	5/11/2009				dry	dry
	10/25/2010	<u>.</u>		Decommissioned	<u> </u>	
MW-4	2/27/2008	0	49 to 64	278.01	dry	dry
Installed 1/9/2008	10/2/2008 5/11/2009				dry dry	dry dry
	10/25/2010	1		Decommissioned	ury	ury
MW-5	2/27/2008	0	50 to 65	278.13	50.87	227.26
Installed 1/11/2008	10/2/2008				51.65	226.48
	5/11/2009 12/22/2010				52.28 52.21	225.85 225.92
	2/7/2012				51.60	226.53
	1/9/2014				52.68	225.45
	4/28/2015				51.38	226.75
	9/9/2015 2/2/2016				51.61 51.52	226.52 226.61
	11/28/2018				50.39	227.74
	3/25/2020				51.09	227.04
MANA/ C	4/28/2020		40	677	50.94	227.19
MW-6 Installed 1/16/2008	2/27/2008 10/2/2008	0	49 to 64	277.55	dry dry	dry dry
matalieu 1/10/2008	10/2/2008 5/11/2009				dry dry	dry dry
	10/25/2010	<u> </u>		Decommissioned		
MW-7	2/27/2008	0	50 to 65	279.44	52.90	226.54
Installed 1/18/2008	10/2/2008 5/11/2009				53.08 53.69	226.36 225.75
	12/22/2010				53.73	225.75 225.71
	2/6/2012				52.98	226.46
	1/7/2014				54.10	225.34
	3/26/2020				52.95	226.49
MW-8	4/28/2020 10/2/2008	0	51 to 61	278.14	52.91 52.68	226.53 225.46
Installed 4/17/2008	5/12/2009		31 (0 01	210.14	53.28	224.86
	12/22/2010				53.32	224.82
	2/7/2012				52.58	225.56
	12/7/2013		Inication of Decay		53.64	224.50
	6/23/2014 1/20/2015	l i	injection of Regen	esis products 3DMe	52.70	225.44
	9/10/2015				49.76	228.38
	2/1/2016				52.31	225.83
	11/28/2018	(De autriavia	Lin 2010 with now MM	,	51.64	226.50
		, ,	I in 2019 with new MW stallations)	278.80		
	4/12/2019		,		51.65	227.15
	3/25/2020				51.73	227.07
MNA/ O	4/28/2020		001.70	070.70	51.79	227.01
MW-9 Installed 5/5/2009	5/11/2009 12/22/2010	0	60 to 70	278.78	dry dry	dry dry
1115talleu 3/3/2009	2/6/2012				dry	dry
					dry	dry
	12/16/2013				•	ury
	4/29/2015			Decommissioned	.	
MW-10	4/29/2015 5/11/2009	0	60 to 70	Decommissioned 279.45	dry	dry
MW-10 Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010	0	60 to 70		dry	dry dry
	4/29/2015 5/11/2009	0	60 to 70		·-	dry
Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015			279.45 Decommissioned	dry dry dry	dry dry dry dry
Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013	0	44 to 60	279.45 Decommissioned 278.84	dry dry dry	dry dry dry
Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015		44 to 60	279.45 Decommissioned	dry dry dry	dry dry dry dry
Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014		44 to 60	279.45 Decommissioned 278.84	dry dry dry 53 and HRC Primer	dry dry dry dry
Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018		44 to 60	279.45 Decommissioned 278.84	dry dry dry 53 and HRC Primer 49 49 49	dry dry dry dry 226 230 230 230
MW-15 Installed 5/7/2009	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020	37	44 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 49	dry dry dry dry 226 230 230 230 230
MW-15 Installed 10/14/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013		44 to 60 Injection of Regen 41 to 60	Decommissioned 278.84 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 49 53	dry dry dry dry 226 230 230 230
MW-15 Installed 10/14/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020	37	44 to 60 Injection of Regen 41 to 60	279.45 Decommissioned 278.84 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 49 53	dry dry dry dry 226 230 230 230 230
MW-15 Installed 10/14/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014	37	44 to 60 Injection of Regen 41 to 60	Decommissioned 278.84 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 49 53 and HRC Primer	dry dry dry dry 226 230 230 230 230 225
MW-15 Installed 10/14/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020	23	44 to 60 Injection of Regen 41 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 53 and HRC Primer 56 50 51	dry dry dry dry 226 230 230 230 230 225 222 228 227
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2018	37	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 53 and HRC Primer 56 50 51	dry dry dry dry 226 230 230 230 230 225 222 228
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014	23	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 53 and HRC Primer 56 50 51 53 and HRC Primer	dry dry dry dry 226 230 230 230 230 225 222 228 227 225
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2018	23	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe	dry dry dry 53 and HRC Primer 49 49 49 53 and HRC Primer 56 50 51	dry dry dry dry 226 230 230 230 230 225 222 228 227
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014	23	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60	Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014 3/25/2020	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry	dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 12/18/2014	23	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry dry dry dry dry dry dry dry 53 and HRC Primer 49 49 49 49 53 and HRC Primer 56 50 51 53 and HRC Primer 51 60 and HRC Primer dry 52.72	dry dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227
	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014 3/25/2020	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry dry dry dry dry dry dry dry 53 and HRC Primer 49 49 49 49 53 and HRC Primer 56 50 51 53 and HRC Primer 51 60 and HRC Primer dry 52.72	dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 12/18/2014 6/24/2014	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry dry dry dry dry dry dry dry 53 and HRC Primer 49 49 49 49 53 and HRC Primer 56 50 51 53 and HRC Primer 51 60 and HRC Primer dry 52.72 and HRC Primer	dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 230 225 222 228 227 217 dry 225.43
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/2/12/2013 6/24/2014 3/25/2020 1/2/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 230 225 222 228 227 225 227 217 dry 225.43
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 3/25/2020 1/8/2014 3/25/2020 1/8/2015 2/2/2016 11/28/2018 4/12/2019	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry 225.43
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 1/8/2014 6/24/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry 225.43
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 3/25/2020 1/8/2014 3/25/2020 1/8/2015 2/2/2016 11/28/2018 4/12/2019	37 23 32 45	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry dry dry dry dry 53 and HRC Primer 49 49 49 49 53 and HRC Primer 56 50 51 53 and HRC Primer 51 60 and HRC Primer dry 52.72 and HRC Primer MM 51.71 51.64 50.55 50.63 51.12 51.08 52.64	dry dry dry dry dry 226 230 230 230 230 225 222 228 227 225 227 217 dry 225.43
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014 3/24/2020 12/12/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry dry dry dry dry 226 230 230 230 230 225 225 222 228 227 217 dry 225.43 226.44 226.51 227.60 227.52 227.03 227.07 225.39
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/24/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 4/28/2020 1/8/2014 6/24/2014 1/2015	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/20/2015 9/9/2015	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 4/28/2020 1/8/2014 6/24/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/2019 3/24/2020 1/8/2015 2/2/2016	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 6/24/2014 1/20/2015 9/9/2015	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry
MW-15 Installed 10/14/2013 MW-16 Installed 10/15/2013 MW-17 Installed 10/15/2013 MW-18 Installed 10/16/2013 MW-19 Installed 10/17/2013	4/29/2015 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 12/17/2013 6/23/2014 9/8/2015 2/1/2016 11/28/2018 3/23/2020 12/13/2013 6/23/2014 1/21/2015 11/28/2018 3/25/2020 12/13/2013 6/24/2014 3/25/2020 12/12/2013 6/24/2014 3/25/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 1/21/2015 9/9/2015 2/2/2016 11/28/2014 1/20/2015 9/9/2015 2/2/2016 11/28/2018 4/12/2019 3/24/2020 1/8/2014 1/20/2015 9/9/2015 2/2/2016 11/28/2018	37 23 45 0	44 to 60 Injection of Regen 41 to 60 Injection of Regen 43 to 60 Injection of Regen 46 to 60 Injection of Regen 45 to 60 Injection of Regen	279.45 Decommissioned 278.84 esis products 3DMe 277.88 esis products 3DMe 277.97 esis products 3DMe 277.80 esis products 3DMe 278.15 esis products 3DMe	dry	dry

Table 1. Monitoring Well Information and Groundwater Elevation Data Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Monitoring Well ID and Installation Date	Date	Vertical Angle	Screened Intervals (feet bgs)	Top of Casing Elevation (feet, site	Depth to Water (feet)	Groundwater Elevation (feet, site
	8/27/2019	<u> </u>		datum)	51.01	datum) 227.02
	12/12/2019				51.35	226.68
	3/24/2020 4/28/2020				51.04 50.75	226.99 227.28
MW-21 Installed 10/17/2013	12/17/2013	0	45 to 60	279.03	53.66	225.37
installed 10/17/2013	6/23/2014 1/20/2015		Injection of Regene	sis products solvie	52.78	226.25
	9/8/2015 2/1/2016				52.83 53.21	226.20 225.82
	11/28/2018				51.6	227.43
	4/12/2019 3/25/2020				51.57 52.15	227.46 226.88
	4/28/2020				52.12	226.91
MW-23 Installed 2/6/2019	3/14/2019 4/12/2019	0	10 to 20 and 45 to 60	277.94	50.61 50.71	227.33 227.23
	3/26/2020				51.22	226.72
MW-24	4/28/2020 2/13/2019	0	10 to 20 and 45 to 60	278.08	51.01 50.92	226.93 227.16
Installed 1/31/2019	4/12/2019				50.88	227.20
	8/27/2019 12/12/2019				51.17 51.57	226.91 226.51
	3/26/2020				51.54	226.54
MW-25	4/28/2020 2/13/2019	0	45 to 60	278.16	51.3 50.81	226.78 227.35
Installed 1/29/2019	4/12/2019				50.86	227.30
	3/26/2020 4/28/2020				51.42 51.15	226.74 227.01
MW-26	2/13/2019	0	45 to 60	278.10	50.74	227.36
Installed 1/20/2019	4/12/2019 8/28/2019				50.89 51.14	227.21 226.96
	12/13/2019				51.54	226.56
	3/25/2020 4/28/2020				51.62 51.24	226.48 226.86
MW-27	2/13/2019	0	45 to 60	277.75	50.47	227.28
Installed 2/1/2019	4/12/2019 3/24/2020				50.68 51.39	227.07 226.36
MIM OO	4/28/2020		45.400	077.00	51.06	226.69
MW-28 Installed 3/14/2019	3/26/2019 4/12/2019	0	45 to 60	277.68	50.4 50.6	227.28 227.08
	3/25/2020				50.13	227.55
MW-29	4/28/2020 3/26/2019	0	45 to 60	277.87	50.99 50.64	226.69 227.23
Installed 3/11/2019	4/12/2019				50.76	227.11
	3/25/2020 4/28/2020				51.34 51.16	226.53 226.71
MW-30	2/25/2019	0	45 to 60	278.27	51.24	227.03
Installed 2/7/2019	4/12/2019 3/26/2020				51.29 51.9	226.98 226.37
MW-31	4/28/2020		10 to 20 and 45 to 60	278.87	51.6	226.67
Installed 2/5/2019	2/25/2019 4/12/2019	0	10 to 20 and 45 to 60	2/0.0/	51.84 51.93	227.03 226.94
	3/26/2020 4/28/2020				51.3	227.57
MW-32	3/26/2019	0	45 to 60	278.40	52.25 51.23	226.62 227.17
Installed 3/13/2019	4/12/2019				51.3	227.10 226.55
	3/26/2020 4/28/2020				51.85 51.64	226.55
MW-33	3/26/2019	0	45 to 60	279.21	51.95	227.26
Installed 3/13/2019	4/12/2019 3/26/2020				52.15 52.55	227.06 226.66
	4/28/2020				52.52	226.69
MW-34	7/15/2019 8/27/2019	0	44 to 59	278.10	51.03 51.27	227.07 226.83
Installed 7/9/2019	12/13/2019				51.5	226.60
	3/25/2020 4/28/2020				51.9 51.32	226.20 226.78
MW-35	8/27/2019	0	43 to 58	278.15	51.25	226.90
Installed 7/11/2019	12/13/2019 3/25/2020				51.64 51.74	226.51 226.41
	4/28/2020	<u> </u>			51.25	226.90
MW-8D	5/11/2009	Wells Screen	ed in Deeper Water-Bea 96 to 116	ring Zones 278.11	112.56	165.55
Installed 5/6/2009	12/22/2010			=: 3	112.58	165.53
	2/6/2012 1/10/2014				112.52 112.56	165.59 165.55
	4/28/2015				112.45	165.66
	9/8/2015 2/2/2016				118.92 112.53	159.19 165.58
	4/9/2019				112.48	165.63
MW-12D	3/24/2020 12/22/2010	0	113 to 123	277.72	112.67 129.96	165.44 147.76
Installed 10/27/2010	2/6/2012			=: : =	129.80	147.92
	1/10/2014 4/29/2015				129.94 129.89	147.78 147.83
	9/10/2015				130.90	146.82
	2/2/2016 3/24/2020				131.03 130.47	146.69 147.25
MW-13D	12/22/2010	0	125 to 145	276.96	137.88	139.08
Installed 10/29/2010	2/7/2012 12/16/2013				137.43 137.70	139.53 139.26
	4/29/2015				137.13	139.83
	9/9/2015 2/2/2016				137.22 137.14	139.74 139.82
		1			137.62	139.34
	4/9/2019					
MW-14D	4/9/2019 3/24/2020	0	123 to 143	277.46	138.26 134.02	138.70 143.44
MW-14D Installed 2/2/2012	4/9/2019 3/24/2020 2/6/2012 1/23/2014	0	123 to 143	277.46	134.02 134.26	143.44 143.20
	4/9/2019 3/24/2020 2/6/2012	0	123 to 143	277.46	134.02	143.44
	4/9/2019 3/24/2020 2/6/2012 1/23/2014 4/29/2015	0	123 to 143	277.46	134.02 134.26 133.82	143.44 143.20 143.64

bgs = below ground surface nm = not measured

Table 2. Soil Quality

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Sample Location	Sample Date	Sample Depth (feet bgs)	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Naphthalene
B-1	06/29/07	0-2	0.04	0.02 U	
		2-3	0.04	0.02 U	
DC1	08/31/06	8	0.02 U	0.02 U	0.05 U
DP-1	10/21/10	1	2.1	0.03 U	0.05 U
		2	1.0	0.03 U	0.05 U
DP-2	10/21/10	1	0.8	0.03 U	0.05 U
DP-4	10/20/10	2	1.8	0.03 U	0.05 U
DP-5	10/20/10	3	1.4	0.03 U	0.05 U
DI -3	10/20/10	6	0.54	0.03 U	0.05 U
DP-7	10/21/10	2	2.7	0.03 U	0.05 U
DF-7	10/21/10	2.5	36	0.14	0.05 U
DP-8	10/20/10	3	0.025 U	0.03 U	28
DF-0	10/20/10	4.5	0.025 U	0.03 U	0.22
DP-9	10/20/10	3	0.025 U	0.03 U	0.05 U
DF-9	10/20/10	6	0.13	0.03 U	0.05 U
DP-10	02/08/12	8.5	0.24	0.03 U	0.05 U
DP-12	02/08/12	5.5	0.025 U	0.03 U	0.05 U
DP-13	02/08/12	7	0.025 U	0.03 U	0.05 U
DP-14	02/08/12	7	0.025 U	0.03 U	0.05 U
F-12	07/31/07	1	1.5	0.02 U	
F-20	07/31/07	1.7	2.1	0.02 U	
		11	0.63	0.03 U	0.05 U
		15.5	44	0.57	0.05 U
MW-21	10/11/13	25	0.025 U	0.03 U	0.05 U
		40	0.025 U	0.03 U	0.05 U
		55	0.095	0.032	0.05 U
		5.5	0.025 U	0.02 U	0.05 U
		10.5	0.40	0.18	0.05 U
MW-23 ³	02/06/19	20.5	0.045	0.02 U	0.05 U
10100 25	02/00/10	25.5	2.3	0.02 U	0.05 U
		55.5	0.095	0.02 U	0.05 U
	1	5.5	0.025 U	0.02 U	0.05 U
MW-24	1/30/19 &	30.5	0.025 U	0.02 U	0.05 U
10100 21	1/31/19	50.5	0.025 U	0.02 U	0.05 U
		5.5	0.025 U	0.02 U	0.05 U
MW-25	1/28/19 &	30.5	0.025 U	0.02 U	0.05 U
10100 20	1/29/19	50.5	0.025 U	0.02 U	0.05 U
		5.5	0.025 U	0.02 U	0.05 U
MW-26	1/29/19 &	30.5	0.025 U	0.02 U	0.05 U
IVIVV ZU	1/30/19	50.5	0.025 U	0.02 U	0.05 U
		5.5	0.025 U	0.02 U	0.05 U
MW-27	1/31/19 &	30.5	0.025 U	0.02 U	0.05 U
1V1 V Z I	2/1/19	50.5	0.025 U	0.02 U	0.05 U
		30.5	0.028	0.02 U	0.05 U
MW-28	03/14/19	55.5	0.036 0.025 U	0.02 U	0.05 U
		15	0.043	0.02 U	0.05 U
MW-29	03/11/19	50	0.043	0.02 U	0.05 U
	1	10.5			0.05 U
VWV 30	02/07/40		0.084	0.021	
MW-30	02/07/19	35.5	0.10	0.02 U	0.05 U
		60.5	0.026	0.02 U	0.05 U

Aspect Consulting Table 2

		5.5	0.025 U	0.02 U	0.05 U
MW-31	02/05/10	40.5	0.025 U	0.02 U	0.05 U
10100-31	02/03/19	55.5	0.058	0.02 U	0.05 U
	12/09/13	60.5	0.058	0.02 U	0.05 U
MW-32	03/13/10	15.5	0.025 U	0.02 U	0.05 U
10100-32		55.5	0.025 U	0.02 U	0.05 U
MW-33		10	0.025 U	0.02 U	0.05 U
10100-33	3/13/19	55.5	0.025 U	0.02 U	0.05 U
R-12	07/31/07	1	1.9	0.28	
R-18	07/31/07	1.5	18	0.85	
T-1	06/29/07	0-1.75	0.04	0.02 U	
TRENCH-BT-C	12/09/13	4.5	0.26	0.03 U	0.05 U
TRENCH-BT-E	12/09/13	4.5	0.16	0.03 U	0.05 U
TRENCH-BT-W	12/09/13	4.5	0.25	0.03 U	0.05 U
VE-5	02/26/10	15.9	0.025 U	0.02 U	0.05 U
V L-3	02/20/19	22.6	0.025 U	0.02 U	0.05 U
		9.2	0.47	0.02 U	0.05 U
VE-6	02/28/19	26.9	0.025 U	0.02 U	0.05 U
		40.3	0.025 U	0.02 U	0.05 U
		6.7	1.4	0.16	0.05 U
VE-7	03/01/19	15.6	120	1.5	0.44
		26.2	0.025 U	0.02 U	0.05 U
		9.9	0.089	0.02 U	0.1
VE-8	02/27/19	24.0	7.3	0.15	0.05 U
		33.2	0.047	0.02 U	0.05 U
	S	creening Level ⁴	0.05	0.03	5

⁻⁻ not analyzed

I not detected at the indicated detection limit

bgs below ground surface

- 1) All concentrations are in milligrams per kilogram (mg/kg). Only analytes with concentrations exceeding their respective screening levels in at least one sample are included in this table (see Notes 3 and 4 for exceptions). Detections are bolded. Screening level exceedances are shaded. Refer to Section 2.7 for discussion of other analyte detections.
- 2) Soil sampling was also conducted for the purpose of profiling soil for off-site disposal. Those sampling results are not included in this table.
- 3) Methylene chloride was detected above its screening level of 0.02 mg/kg (MTCA Method A soil cleanup level) in three of the soil samples collected from MW-23. The laboratory report noted that those detections were likely due to laboratory contamination.
- 4) The screening levels for PCE, TCE, and naphthalene are Model Toxics Control Act (MTCA) Method A soil cleanup levels.

Table 3. Reconnaissance Water Sample Quality

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

	Screening	DC-PLAS-2-W Beneath parking lot east of Morrell's during Tully's drinking water leak ³	B-1 Beneath adjoining lease space foundation south of Morrell's during Tully's drinking water leak ³	PW-1 Beneath Morrell's foundation during Tully's drinking water leak ³	GW-7 Beneath Morrell's foundation after repair of Tully's drinking water leak ³	GW-8 Beneath Morrell's foundation after repair of Tully's drinking water leak ³
Chemical Name ¹	Level ²	09/18/06	06/29/07	07/11/07	05/08/08	05/08/08
Bromodichloromethane ⁴	0.71	1.5	1.5	2.3	1 U	1 U
Tetrachloroethylene (PCE)	5		52	1,700	13,000	1,300
Trichloroethylene (TCE)	5		6	17	33	21
cis-1,2-Dichloroethene (cDCE)	16		8.7	24	1 U	7.9
Vinyl chloride (VC)	0.2		19	0.51	0.2 U	0.2 U

not analyzed

ogs below ground surface

not detected at the indicated detection limit

Notes:

- 1) All concentrations are in micrograms per liter (µg/L). Only analytes with concentrations exceeding their respective screening levels in at least one sample are included in this table. Detections are bolded. Screening level exceedances are shaded. Refer to Section 3.1.3 for discussion of other analyte detections.
- 2) Screening levels are Model Toxics Control Act (MTCA) Method B groundwater cleanup levels for bromodichloromethane and cDCE, and MTCA Method A groundwater cleanup levels for the other analytes.
- 3) An estimated 600,000 gallons of drinking water was released between May 2006 and September 2007 (per analysis of water bills) by Tully's Coffee, which occupied the retail space at the southeast corner of Tacoma Avenue and North First Street.
- 4) Bromodichloromethane is a byproduct of drinking water disinfection. Its presence is attributable to the Tully's drinking water leak.

Page 1 of 1

Table 4. Advance Outwash Groundwater QualityProject No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Well ID Sample Date (PCE) (TCE) (cDCE)	Chloride VC) 19
Well ID Sample Date (PCE) (TCE) (CDCE)	VC)
NW-5 No.	
MW-5 01/30/08 1,400 520 2,000 00 10/02/08 1,900 880 2,300 30 2,400 12/22/10 2,100 1,100 2,100 2,100 02/07/12 1,600 810 1,400 00 12/12/13 1,600 810 1,400 00 12/12/13 1,600 810 1,400 00 12/12/13 1,600 810 1,400 00 12/12/15 19 25 150 07/30/15 17 46 600 09/08/15 18 77 610 09/08/15 18 77 610 09/02/16 10 09/02/16 11/28/18 28 14 490 01/24/08 01/22/08 67 3 13 00 01/30/08 31 1.1 4.5 00 05/11/09 17 1.1 44 00 02/07/12 140 8.7 25 00 05/11/09 17 1.1 44 00 02/07/12 140 8.7 25 00 00/07/16 12 14 41 00 00/08/15 67 6.2 6.4 00/09/15 31 3.6 3.6 00/09/16 00/09/16 12 14 11 01/02/08 75 3.2 17 00 05/11/09 17 1.1 44 00 01/04/17 14 14 10 00/07/16 12 14 11 01 01/04/17 14 14 14 10 00/07/16 12 14 11 10 01/04/17 14 11 01 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 14 10 01/04/17 10 01/04/17 11 10 01/04/17 11 10 01/04/17 14 10 01/04/08 15 10 10 01/20/08 15 10 10 01/20/08 15 10 10 10 01/20/08 15 10 10 10 02/06/12 10 10 10 10 02/06/12 10 10 10 10 10 02/06/12 10 10 10 10 10 10 10 10 10	
MW-2	.2 U
MW-5 05/12/09	3.1
MW-2 12/22/10	2.7
MW-2 MW-2 1,600	.7 J
MW-2 12/12/13	.2 U
MW-2 MW-2).84
MW-5 O1/21/15	
MW-5 09/08/15 18 77 610 02/02/16 22 190 640 09/22/16 16 110 480 01/04/17 18 80 520 11/28/18 28 14 490 03/26/20 24 7.1 540 01/30/08 31 1.1 4.5 05/11/09 17 1.1 44 00 02/07/12 140 8.7 02/07/12 140 8.7 02/07/12 140 8.7 02/07/12 140 03/28/15 67 6.2 6.4 09/09/15 31 3.6 3.6 09/09/15 31 3.6 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/04/17 14 1.4 1.4 01 01/02/08 15 10 11/28/18 13 1.4 10 01/22/08 6.6 10 01/32/08 1.5 10 01/02/08 1.5 10 10 01/02/08 1.1 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 01/02/08 10 10 10 02/06/12 10 10 10 00/06/12 10 10 10 10 00/06/12 10 10 10 10 10 00/06/12 10 10 10 10 10 10 10 10 10).77
MW-5 ³ 02/02/16 22 190 640 09/22/16 16 110 480 110 480 110 480 110 480 110 480 110 480 110 480 110 110 480 110 110 110 110 110 110 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 110 100 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 110 100 100 100 110 100 100 100 110 100 100 100 110 100 100 100 100 110 100 100 100 100 110 100	15
MW-5 09/22/16	17
MW-5 ³ 01/04/17	15
MW-53 11/28/18 28	7.8
MW-53 MW-73 MW-74 MW-74 M-74	7.4
MW-5 ³ 01/22/08 01/30/08 31 1.1 4.5 0 10/02/08 75 3.2 17 0 05/11/09 17 1.1 44 0 12/22/10 190 14 41 0 02/07/12 140 8.7 25 0 01/09/14 0.2 U 0.46 0.2 U 04/28/15 67 6.2 6.4 09/09/15 31 3.6 3.6 02/02/16 27 2.7 2.5 09/07/16 12 1.4 1.4 1.4 01 01/04/17 14 1.4 1.4 1.3 0 01/04/17 14 1.4 1.4 1.3 0 01/22/08 6.6 1 U 1 U 00 01/30/08 1.5 1 U 1 U 00 05/11/09 1.1 1 U 00 05/11/09 1.1 1 U 00 01/22/08 1 U 1 U 00 05/11/09 1.1 1 U 00 05/11/09 1.1 1 U 00 02/06/12 1 U 1 U 00 00/06/12 1 U 1 U 0 U 0 U 0 U 0 U 0 U 0 U	5.9
MW-53 MW-53	5.6
MW-53 10/02/08	.2 U
MW-5 ³ 05/11/09	.2 U
MW-5 ³ 12/22/10	.2 U
MW-5 ³ 02/07/12	.2 U
MW-5 ³ 01/09/14 0.2 U 0.46 0.2 U 0.46 0.2 U 0.46 0.9/09/15 09/09/15 31 3.6 3.6 02/02/16 27 2.7 2.5 09/07/16 12 1.4 1.4 0.1/04/17 14 1.4 1.3 0 01/04/17 14 1.4 1.4 1.0 03/25/20 9.6 1 U 1 U 0 01/30/08 1.5 1 U 1 U 0 01/30/08 1.5 1 U 1 U 0 05/11/09 1.1 1 U 0 0 02/06/12 1 U 1 U 0 0 00/06/12 1 U 0 0 0.46 0.2 U 0 0 0.46 0.2 U 0 0 0.46 0.2 U 0 0 0 0.46 0.2 U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.2 U
MW-5° 04/28/15 67 6.2 6.4 0 09/09/15 31 3.6 3.6 0 02/02/16 27 2.7 2.5 0 09/07/16 12 1.4 1.4 0 01/04/17 14 1.4 1.3 0 11/28/18 13 1.4 1U 0 03/25/20 9.6 1U 1U 1U 0 01/30/08 1.5 1U 1U 0 01/30/08 1.5 1U 1U 0 0 05/11/09 1.1 1U 0 0 02/06/12 1U 1U 0 0 00/06/12 1U 0 0 00/06/12 1U 0 0 00/06/12 1U 0 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 00/06/12 0 0 00/06/12 0 0 00/06/12 0 0 00/06/12 0 0 00/06/12 0 0 00/06/12 0 0 0 00/06/12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.2 U
MW-7 ³ 09/09/15 09/09/15 31 3.6 3.6 02/02/16 27 2.7 2.5 09/07/16 12 1.4 1.4 1.4 0 01/04/17 14 1.4 1.4 1.0 03/25/20 9.6 1 U 1 U 0 U 01/30/08 1.5 1 U 1 U 0 05/11/09 1.1 1.1 1.1 1 U 0 02/06/12 1 U 1 U 0 00/06/12 1 U 1 U 0 00/06/12 1 U 1 U 0 00/06/12 1 U 0 U 0 U 0 U 0 U 0 U 0 U 0 U	.2 U
MW-7 ³ 02/02/16 27 2.7 2.5 0 09/07/16 12 1.4 1.4 1.4 0 1.4 1.3 0 11/28/18 13 1.4 1U 0 03/25/20 9.6 1U 1U 0 01/30/08 1.5 1U 1U 0 10/02/08 1U 1U 0 1U 0 1U 0 1U 0 0 10/02/08 1U 1U 0 0 10/02/08 1U 1U 0 0 0 0 10/02/08 1U 1U 0 0 0 0 10/02/08 1U 1U 0 0 0 0 1U 1U 0 0 0 0 0 1U 1U	.2 U
MW-7 ³ 09/07/16 12 1.4 1.4 1.4 0 01/04/17 14 1.4 1.4 1.3 0 11/28/18 13 1.4 1 U 0 0 03/25/20 9.6 1 U 1 U 0 0 1 U 0 0 1 U 0 0 01/30/08 1.5 1 U 1 U 0 0 05/11/09 1.1 1 U 0 0 02/06/12 1 U 1 U 0 0 00 00 00 00 00 00 00 00 00 00 00 0	.2 U
MW-7 ³ 01/04/17 14 1.4 1.4 1.3 0 11/28/18 13 1.4 1 U 0 0 03/25/20 9.6 1 U 1 U 0 01/30/08 1.5 1 U 1 U 0 01/30/08 1.5 1 U 1 U 0 10/02/08 1 U 1 U 0 10/02/08 1 U 1 U 0 05/11/09 1.1 1 U 1 U 0 02/06/12 1 U 1 U 0 0 U 0 U 0 U 0 U 0 U	.2 U
MW-7 ³ 11/28/18 13 1.4 1 U 0 03/25/20 9.6 1 U 1 U 0 1 U 0 01/32/08 6.6 1 U 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 0 1/30/08 1.5 1 U 1 U 1 U 0 1 U 0 05/11/09 1.1 1 U 1 U 0 02/06/12 1 U 1 U 1 U 0 0 U 0 U 0 U 0 U	.2 U
MW-7 ³ 03/25/20 9.6 1 U 1 U 0 01/22/08 6.6 1 U 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 0 1 U 1 U	.2 U
MW-7 ³	.2 U
MW-7 ³	.2 U
MW-7 ³	.2 U
MW-7 ³ 05/11/09 1.1 1 U 1 U 0 0 1 1 U 0 0 0 1 1 U 0 0 0 0	.2 U
12/22/10 1.4 1 U 1 U 0 0 02/06/12 1 U 1 U 1 U 0	.2 U
02/06/12 1 U 1 U 1 U 0	.2 U
	.2 U
	.2 U
	.2 U .2 U
	.2 U
	6.9
05/12/09 780 370 2,600	2
	1.4
	0 U
	0 U
*** Biostimulants injected in June 2014 ***	
01/20/15 14 8.5 1.200	9.4
MW-8	8.9
	12
	7.1
	0 U
09/22/16 16 11 500	5.4
01/05/17 19 12 480	5.6

Aspect Consulting Table 4

Table 4. Advance Outwash Groundwater QualityProject No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

				cis-1,2-		
		Tetrachloroethene	Trichloroethene	Dichloroethene	Vinyl Chloride	
Well ID	Sample Date	(PCE)	(TCE)	(cDCE)	(VC)	
	11/28/18	14	5.2	280	3.7	
	03/25/20	8.4	2.9	210	2.4	
	12/17/13	460	110	380	2 U	
		*** Bio	stimulants injected in Jun	e 2014 ***		
	09/08/15	86	53	220	4	
MW-15	02/01/16	43	25	290	7.4	
10100-13	09/07/16	15	8.4	330	4	
	01/04/17	6.6	3.3	520	4.9	
	11/28/18	3.3	1.6	65	0.78	
	03/23/20	1.2	1 U	67	7.9	
	12/13/13	450	98	360	0.49	
			stimulants injected in Jun		1	
MW-16	01/21/15	14	6.3	180	2.2	
	11/28/18	11	2.8	230	2.6	
	03/25/20	3.7	1 U	74	0.83	
	12/13/13	170	24	81	0.2 U	
MW-17	11/28/18		stimulants injected in Jun		0.70	
	03/24/20	9.7 5.4	2.1 1 U	83 77	0.72 0.86	
	12/12/13	460	57	360	0.53	
MW-18	12/12/13		stimulants injected in Jun		0.53	
	01/08/14	62	4.8	20	0.2 U	
	01/00/14		stimulants injected in Jun	=	0.2 0	
	01/21/15	9.7	5 U	45	1 U	
	09/09/15	7.6	3.9	35	1.5	
	02/02/16	8.5	5.1	43	1.5	
MW-19	09/07/16	20 U	20 U	20 U	4 U	
	09/22/16	8.5	4.1	16	0.43	
	01/04/17	12	4.6	36	0.97	
	11/28/18	2.5	1.6	53	0.56	
	03/24/20	1 U	1 U	46	0.51	
	01/08/14	140	16	43	0.2 U	
			stimulants injected in Jun	=	<u> </u>	
	01/20/15	7.4	5.3	79	1.8	
	09/09/15	11	5.8	150	1.5	
	02/02/16	1 U	1 U	250	1.9	
	09/07/16	20 U	20 U	250	4 U	
MW-20	09/22/16	4.9	1.7	250	1.8	
	01/04/17	6.2	2	240	2.5	
	11/28/18	4.9	1 U	59	0.84	
			ucts and microorganisms			
	08/27/19	-		due to pump screen biof	ouling)	
	12/12/19	1 U	1 U	14	1.5	
	03/24/20	1.5	1 U	9.8	0.65	
	12/17/13	500	130	460	2 U	
			stimulants injected in Jun			
	01/20/15	15	12	270	1 U	
	09/08/15	7.1	9.2	510	7.4	
MW-21	02/01/16	18	17	650	9.7	
	09/22/16	12	13	320	4.1	
	01/04/17	15	14	340	4.1	
	11/28/18	14	7.6	190	2.3	
	03/25/20	19	9.6	230	1.5	

Aspect Consulting Table 4

Table 4. Advance Outwash Groundwater Quality

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Well ID	Sample Date	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2- Dichloroethene (cDCE)	Vinyl Chloride (VC)
MW-23	03/14/19	100	25	18	0.2 U
1·100 25	03/26/20	140	23	20	0.2 U
	02/13/19	66	12	5.4	0.2 U
MW-24	08/27/19	42	10	5.1	0.2 U
1.144-54	12/12/19	50	11	4.2	0.2 U
	03/26/20	58	11	4.1	0.2 U
MW-25	02/13/19	37	3.6	3.0	0.2 U
14144-52	03/25/20	36	3.2	3.0	0.2 U
	02/13/19	20	2.4	2.1	0.2 U
MW-26	08/27/19	20	2.7	2.2	0.2 U
MIVV-20	12/13/19	19	2.3	2.0	0.2 U
	03/25/20	15	1.4	1 U	0.2 U
MW-27	02/13/19	9.4	1.6	1 U	0.2 U
I*IVV-27	03/24/20	9.3	1.5	1 U	0.2 U
MW-28	03/26/19	20	5.1	2.1	0.2 U
MM-28	03/25/20	20	2.7	1.8	0.2 U
MM 20	03/26/19	12	1.1	1 U	0.2 U
MW-29	03/25/20	14	1.4	1 U	0.2 U
MM 20	02/25/19	27	6.2	6.3	0.2 U
MW-30	03/26/20	1 U	1 U	1 U	0.2 U
MM 21	02/25/19	150	45	28	0.2 U
MW-31	03/26/20	160	40	34	0.2 U
MM 22	03/26/19	36	8.7	2.8	0.2 U
MW-32	03/26/20	45	9.1	4.9	0.2 U
MM 22	03/26/19	28	3.9	1.6	0.2 U
MW-33	03/26/20	34	5.4	2.4	0.2 U
	07/15/19	18	1.4	1 U	0.2 U
NAVA 2.4	08/27/19	25	2.2	1.3	0.2 U
MW-34	12/13/19	11	1.4	20	0.2 U
	03/25/20	17	2.5	10	0.2 U
	08/27/19	39	4.9	2.8	0.2 U
MW-35	12/13/19	23	3.2	7.2	0.2 U
	03/25/20	22	3.6	4.9	0.2 U
9	Screening Level ²		5	16	0.2

U not detected at the indicated detection limit

¹⁾ All concentrations are in micrograms per liter (μ g/L). Only analytes with concentrations exceeding their respective screening levels in at least one sample are included in this table. Detections are bolded. Screening level exceedances (see Note 2) are shaded.

²⁾ Screening levels are Model Toxics Control Act (MTCA) Method B groundwater cleanup level for cDCE and MTCA Method A groundwater cleanup levels for the other analytes.

³⁾ Potential impacts from Tully's Coffee water leak. An estimated 600,000 gallons of drinking water were released between May 2006 and Sept 2007 (per analysis of water bills).

Well ID	Date	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Iron, total (mg/L)	Ferrous Iron (mg/L)	TOC (mg/L)	Methane (mg/L)	Ethene (mg/L)	Ethane (mg/L)	Dhc Assay ²
	10/2/08	4.27	6.49	28.4											
MW-1	5/11/09	2.05	5.91	-220.1											
	2/7/12	8.14	6.8	162											
	1/10/14	0.4	6.41	114		0.2	<0.1	8.8	4.07		<1.5				
ļ	10/2/08	2.04	6.51	75.4											
	5/11/09	3.79	7.02	43.3											
	2/7/12	5.27	7.06	215											
	12/12/13	4.4	6.74	141		0.959	NA *** Disastina	9.26	6.17		<0.25				
	4/04/45	1.0	6.25	22	T T		*** Biostimi	llants injected ii	294 294	1 1		1	l	1	I
MW-2	1/21/15 9/8/15	1.6 0.17	5.78	33 44.7	-				294			-		-	
IVIVV-Z				7.2	-				-			-		-	
	2/2/16	0.45	5.74												-
	9/22/16	0.22	5.6	11.2											
	1/4/17	0.41	5.62	11.2											
	11/28/18	3.45	5.36 5.5	68.8	50.0	0.4	0.075	4.00	40.0	0.5	000				
	2/27/19 3/26/20	0.5 0.51	5.5	58 59.3	50.6	<0.1 0.452	0.675 0.726	1.22 <0.6	49.2 38	2.5	209 209				-
						0.452	0.720	<0.0	30		209				
	10/2/08	4.77	6.86	-773											
	5/11/09	6.63	7.28	-49.1											
MW-5	2/7/12	6.2	6.78	87 74		0.7	-0.4	20.6	44.5		.4.5				
	1/9/14 4/28/15	2.1 4.2	6.51	106.4	-	0.7	<0.1	20.6	11.5		<1.5	<u> </u>		-	
			6.4												
	9/9/15	7.06	6.5	116.3											
	2/2/16	6.73	6.44	14.2											
	9/6/16	8.67	6.27	100.8											
	1/4/17	8.55	6.72	76.7											
	11/28/18	8.74	6.32	90.6		0.400	0.4	0.04	4.00		0.00				
	3/25/20	8.11	6.39	51.6		0.492	<0.1	6.84	4.03		2.66				
	10/2/08	3.61	6.68	-21											
N 41 A / -7	5/11/09	2.22	7.06	-175.2											
MW-7	2/6/12	3.03	0.07	93.8		4.00	0.000	00.4	44.0		0.05				
	1/7/14	8.5	6.87	53		1.39	0.006	28.4	14.3		<0.25				
	3/26/20	5.68	6.5	97.6		1.75	<0.2	29.6	21.1		<0.5				
	10/2/08	0.82	6.47	-88.5											
	5/12/09	0.47	7.41	-62.7											
	2/7/12	1.34	6.81	-55		0.00	0.004	00.0	77.0		0.05				
	12/17/13	0.4		23		0.33	0.004	20.9	77.3 June 2014 ***		<0.25				<u> </u>
•	1/20/15	0.4	5.68	36			Diodiiii		89.1						I
MW-8	9/10/15	0.25	5.22	49.1					55						
	2/1/16	0.22	5.17	71.4											†
ŀ	9/9/16	0.26	5.26	-11.8											†
ŀ	9/22/16	0.22	5.4	19.5											†
ŀ	1/5/17	0.18	5.34	49.7			<u> </u>	<u> </u>	†			†			†
ŀ	11/28/18	0.61	5.75	12.5								1			
ŀ	3/25/20	0.58	5.95	27.7		<0.1	<0.1	0.557	20.3		157				
	12/17/13	4.1	00	75	<u> </u>	2.08	<0.002	15.4	0.968		<0.25	<u> </u>			

Well ID	Date	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Iron, total (mg/L)	Ferrous Iron (mg/L)	TOC (mg/L)	Methane (mg/L)	Ethene (mg/L)	Ethane (mg/L)	Dhc Assay ²		
	09/08/15	0.23	6.23	8.30													
MW-15	02/01/26	0.50	6.43	18.90													
10100 13	09/09/16	0.17	6.56	-87.50													
	01/04/17	0.24	6.76	-21.10													
	11/28/18	0.37	6.57	-30.80		0.4	0.4										
	03/23/20	0.38	6.42	4.8		<0.1	<0.1	16	3.63		6.59						
	12/13/13	2.4	6.83	50		1.76	0.004	17	4.13 June 2014 ***		<0.25						
MW-16	1/21/15	4.4	6.3	-3	I		DIOSUITIO	liants injected ii	62.5			1		1			
10100-10	11/28/18	0.33	6.1	-40.6					02.5						 		
	3/25/20	7.79	6.86	-40.6		0.122	<0.1	2.09	21.5		63.4				 		
	12/13/13	1.7	7.09	63		1.51	0.004	14.9	32.8		<0.25				──		
	12/13/13	1.7	7.09	03		1.51		lants injected in		<u> </u>	<0.25			<u> </u>			
MW-17	11/28/18	0.26	5.88	79.90			Diostimo	nants injected ii	130116 2014								
•	03/24/20	0.9	6.31	23		0.222	0.402	1.93	36.4		258						
MW-18	12/12/13	3.8	6.67	122		0.681	NA	17.8	0.216		0.639						
IVIVV-18							*** Biostimu	lants injected in	n June 2014 ***					•			
	1/8/14	2.4	6.57	97		2.66	0.006	22.7	113		0.254						
							*** Biostimu	lants injected in	1 June 2014 ***								
	1/21/15	0.4	5.62	42					59.4								
	9/9/15	0.22	5.78	96.6													
NAVA/ 10	2/2/16	0.56	5.98	13.7													
MW-19	9/7/16	0.33	5.8	38.5													
	9/22/16	0.32	5.53	-23.2													
	1/4/17	3.29	5.69	42.1													
	11/28/18	0.79	5.83	35.5													
	3/24/20	0.4	6.41	-52.6		<0.5	<0.5	<0.6	89		142						
	1/8/14	5.9	6.65	114		2.02	0.007	16.9	40.8		<0.25						
							*** Biostimu	lants injected in	n June 2014 ***								
	1/20/15	2.3	5.8	47					50.6								
	9/9/15	1.95	5.93	100.4													
	2/2/16	0.39	6.2	-7.8													
	9/7/16	0.22	5.75	69.4													
	9/22/16	0.15	5.54	18.8													
MW-20	1/4/17	1.17	5.92	40.4													
	11/28/18	0.39	6.1	-47.3													
	2/27/19	3.6	6.51	73	31.4	<0.1	0.128	< 0.3	71	1.5	179						
	7/15/19	0.12	5.75	-11								10.2	<0.015	<0.016	<1 x 10 ⁴		
									nisms injected in	•							
	8/27/19					(Ur	nable to collec	t water samp	le due to pum	p screen biofouli	ng)						
	12/12/19	1.05	6.0	-44		0.252	2.74	< 0.3	114		809	3.73	< 0.015	< 0.016	<1 x 10 ⁴		
	3/24/20	0.29	5.9	-3.5		<0.2	1.3	<0.3	73		304						
	12/17/13	2.6		56		2.12	0.005	13.9	79.1		<0.25						
							*** Biostimu	lants injected in	June 2014 ***								
	1/20/15	1.1	6.0	45					42.2								
	9/8/15	0.1	5.4	116.5													
MW-21	2/1/16	0.1	5.4	64.6			-										
	9/22/16	0.0	5.1	28.7													

Well ID	Date	DO (mg/L)	pН	ORP (mV)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Iron, total (mg/L)	Ferrous Iron (mg/L)	TOC (mg/L)	Methane (mg/L)	Ethene (mg/L)	Ethane (mg/L)	Dhc Assay ²
	1/4/17	0.1	5.2	44.4											
	11/28/18	0.3	5.1	-9.4											
ŀ	3/25/20	0.6	5.6	56		0.566	1.1	8.42	34.3		241				
1044.00	3/14/19	8.5	6.9	56.1				-							
MW-23	3/26/20	6.9	6.9	46.3		0.912	<0.2	24.9	9.95		<0.5				
	2/13/19	1.2	7.2	44	32.9	0.606	0.186	12.6	3.64	<0.5	0.751				
NAVA (0.4	8/27/19	7.0	7.0	26		0.566	<0.2	11.6	41.4		3.36	0.028	< 0.015	< 0.016	
MW-24	12/12/19	1.1	6.9	28		0.307	<0.1	9.69	4.07		2.43	2.3	<0.015	<0.016	
	3/26/20	2.0	6.9	49		<0.1	<0.1	8.86	3.47		3.25				
MANA OF	2/13/19	0.5	7.04	55	48.5	0.624	0.308	16.1	1.67	<0.5	0.862				
MW-25	3/26/20	0.38	6.37	66		0.556	<0.1	13.3	0.829		<0.5				
	2/13/19	7.6	7.03	53	46.9	1.78	0.154	14.4	4.24	<0.5	<0.5				
MW-26	8/27/19	7.7	6.5	75		1.92	<0.2	13.7	49.4		<0.5				
IVIVV-20	12/13/19	7.0	6.7	17		1.85	<0.1	12.9	51.7		<1.0				
•	3/25/20	7.5	6.3	34		1.69	<0.1	13.4	45.3		<1.0				
MW-27	2/13/19	3.7	6.94	72	298	2.41	<1	18.9	3.22	<0.5	0.719				
10100-27	3/24/20	5.57	6.52	24		2.01	<0.2	23.1	6.94		0.506				
MW-28	3/26/19	6.24	7.06	121.3											
10100-20	3/25/20	4.07	6.43	55.3		1.76	<0.2	18.5	3.06		<0.5				
MW-29	3/26/19	3.96	7.14	92.8											
10100-29	3/25/20	7.16	6.94	35.8		1.29	<0.1	14.6	17.2		<0.5				
MW-30	2/25/19	8.3	6.99	70	10.1	1.17	<0.2	24.2	4.53	<0.5	1.24				
10100-30	3/26/20	7.54	6.28	65		1.71	<0.2	35.3	6.92		<0.5				
MW-31	2/25/19	3.6	6.9	75	23.7	1.09	0.166	13.3	8.68	<0.5	0.723				
10100-21	3/26/20	3.64	6.79	51		0.462	<0.2	13.3	8.82		0.541				
MW-32	3/26/19	8	6.9	85.1											
10100-32	3/26/20	7.87	6.37	83.4		2.95	<0.2	17	2.76		<0.5				
MW-33	3/26/19	6.85	6.8	117.5											
10100-33	3/26/20	7.34	6.5	95.3		11.4	<0.2	27.3	5.28		<0.5				
	7/15/19	0.96	6.74	9		0.484	0.125	15.1	3.65		3.9	0.031	< 0.015	< 0.016	<1 x 10 ⁴
MW-34	8/27/19	0.94	7.0	13		0.285	<0.4	7.48	6.09		20.5	<0.0086	<0.015	<0.016	$<4 \times 10^{3}$
14144-04	12/13/19	0.52	7.1	53		<0.1	<0.1	4.26	7.32		6.76	0.065	<0.015	<0.016	$<3 \times 10^3$
	3/25/20	1.3	6.6	6.6		0.445	<0.1	8.65	2.37		1.23				
	8/27/19	0.65	6.6	-28		0.268	1.17	7.27	6.17		132				
MW-35	12/13/19	1.5	6.8	-38		0.388	<0.1	13.2	4.66		3.66	<0.0086	<0.015	<0.016	<6 x 10 ³
	3/25/20	2.0	6.5	72		0.611	<0.1	13.1	2.22		0.699				

bgs below ground surfac mg/L milligrams per liter

NA natural attenuation

TOC total organic carbon

dissolved oxygen mV millivolts ORP oxidation-reduction potential

DO Notes:

¹⁾ Blank cell indicates sample was not analyzed for that parameter.

²⁾ Gene-Trac® dehalococcoides (Dhc) assay based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the 1-liter sample.

Table 6. Groundwater Quality and Natural Attenuation Parameters, Deeper Water-Bearing Zones

DRAFT

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Well ID	Sample Date	Tetrachloroethene (PCE)	cis-1,2- Dichloroethene (cDCE)	DO (mg/L)	рН	ORP (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Iron, total (mg/L)	TOC (mg/L)
	05/11/09	< 1 U	11	5.15	6.31	-209.5					
l [12/22/10	< 1 U	21								
l [02/06/12	< 1 U	26	5.31	3.47	126.5					
l [01/10/14	< 0.2 U	42	7.6	6.67	112	1.6	<0.1	22.8	0.79	<1.5
	04/28/15	< 1 U	54	5.2	6.61	145					
MW-8D	09/08/15	< 1 U	65	5.2	6.62	55					
	02/02/16	< 1 U	62	4.2	6.69	18					
	09/07/16	< 1 U	69	5	6.61	15					
	01/12/17	< 1 U	77								
	04/09/19	< 1 U	97	8.36	6.62	76					
	03/23/20	< 1 U	110	4.95	6.71	75.4	2.13	<0.1	21.2	0.502	6.59
	12/22/10	6.1	22								
	02/06/12	< 1 U	17	7.26	6.09	139.3					
	01/10/14	0.7	22	8.8	7.35	114					
	04/29/15	< 1 U	13	8.3	7.63	130					
MW-12D	09/10/15	< 1 U	9.1	8	7.52	23					
	02/02/16	< 1 U	9.2	7.8	7.58	18					
	09/07/16	< 1 U	3.4	8.0	7.87	-9					
	01/12/17	< 1 U	3.0								
	03/24/20	< 1 U	8.9	8.02	7.75	61.5	4.06	<0.1	19.1	6.42	<0.5
	12/22/10	14	30								
	02/07/12	4.2	28	5.98	6.93	252					
	12/16/13	5.9	32	5.4	6.59	85					
	04/29/15	< 1 U	14	7.9	6.88	152					
MW-13D	09/09/15	4.1	22	6	6.66	138					
10100 1010	02/02/16	2.2	23	6.8	6.72	17					
	09/07/16	2.3	13	4.5	6.48	19					
	01/12/17	11	16								
	04/09/19	3.1	12	8.65	6.31	126					
	03/24/20	3.7	13	6.53	6.76	67.4	3.45	<0.1	19.8	26.9	0.538
	02/06/12	4.2	28	5.45							
	01/23/14	2.4	4.5	5.26	6.37	720					
	04/29/15	2.2	2.5	6.2	6.6	143					

Aspect Consulting

Table 6

Table 6. Groundwater Quality and Natural Attenuation Parameters, Deeper Water-Bearing Zones

DRAFT

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Well ID	Sample Date	Tetrachloroethene (PCE)	cis-1,2- Dichloroethene (cDCE)	DO (mg/L)	рН	ORP (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Iron, total (mg/L)	TOC (mg/L)
	09/09/15	9.2	15	5	6.54	99					
MW-14D	02/02/16	1.8	2.2	5.8	6.9	-24					
	09/07/16	3.2	3.6	5.1	6.33	74					
	01/12/17	7.4	4.8								
	04/09/19 ³	< 1 U	< 1 U	6.26	6.58	100.1					
	03/25/20	1.8	1.8	5.93	6.51	80.8	3.5	<0.1	20.2	8.65	<0.5
Scr	eening Level ²	5	16			•	•		•	•	•

U not detected at the indicated detection limit

Notes:

Page 2 of 2

¹⁾ All concentrations are in micrograms per liter (µg/L). Only analytes with concentrations exceeding their respective screening levels in at least one sample are included in this table. Detections are bolded. Screening level exceedances are shaded.

²⁾ Screening levels are Model Toxics Control Act (MTCA) Method A groundwater cleanup level for PCE and MTCA Method B groundwater cleanup level for cDCE.

³⁾ Extensive Sound Transit construction in North First St adjacent to MW-14D may have impacted concentrations at that well on 04/09/19.

Table 7. Soil Gas Sampling Results prior to SVE Treatment

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Sar	nple Location	GV-4	GV-5	GV-6	SV-1	SV-2	SV-3	SV-4	VP-1	VP-2	VP-3	VP-4	VP-7
	Sample Date	5/8/08	5/8/08	5/8/08	1/21/09	1/21/09	1/21/09	1/21/09	2/9/12	2/9/12	2/9/12	10/15/14	10/15/14
	MTCA Method B							Southwest of Morrell's					
	Subslab	East of	South of		Southwest of	Alley north of		building, near	Alley north of	Alley north of	Alley north of	Approximate	
	Soil Gas	Morrell's Dry	Morrell's	South of	Morrell's	Morrell's	Sewer main,	sewer	Morrell's	Morrell's	Morrell's	Center of	Tease
OhiI	Screening Level ²	Cleaners entry	building in	Morrell's	building near	building,	125 feet west	connection	building,	building,	building,	Morrell's lease	Chocolates
Chemical		in parking lot	parking lot	building	sewer main	west of middle	of Property	and GV-6	west side	middle	east side	space	lease space
Chlorinated Volatile Organic Compounds													
Tetrachloroethylene (PCE)	320	12,000	1,600	70,000	200 U	6,500	400	200	270	150,000	380	680,000	3,200
Trichloroethylene (TCE)	12	20 U	2,700	7,800	200 U	200 U	200 U	200 U	1.1	230 U	1.9	5,100	140
cis-1,2-Dichloroethylene (cDCE)		16,000	320	2,500	200 U	200 U	200 U	200 U	0.72 U	170 U	1.2 U	880 U	8.6
Vinyl Chloride	9.4	540	200 U	200 U	200 U	200 U	200 U	200 U	0.47 U	110 U	0.78 U	560 U	4.5 U
Petroleum Hydrocarbons													
Benzene	11	140	390	230	200 U	200 U	200 U	200 U	0.58 U	140 U	0.97 U	1,300	5.6 U
Toluene	76,000	100	270	200	200 U	200 U	200 U	200 U	1.9	160 U	6	2,600	6.6 U
Ethylbenzene	15,000	100 U	100 U	100 U	200 U	200 U	200 U	200 U	0.79 U	180 U	1.8	1,700	7.6 U
m,p-Xylenes	1,500				500	400 U	400 U	400 U	3.2	180 U	7.2	3,400	7.6 U
o-Xylene	1,500				200	200 U	200 U	200 U	0.92	180 U	2.1	1,200	7.6 U
Total Xylenes	1,500	100 U	100 U	100 U	700	600 U	600 U	600 U	4.12	180 U	9.3	4,600	7.6 U
Naphthalene ³	2.5	100 U	100 U	100 U	200 U	200 U	200 U	200 U	4.8 U	900 U	8.0 U		
Other Volatile Organic Compour	nds												
Acetone		1,000 U	1,000 U	1,000 U	1,000	1,000 U	1,000 U	1,000 U					

not analyzed

not detected at the indicated reporting limit

¹⁾ All samples were analyzed by EPA Method TO-15 for volatile organic compounds (VOCs). Concentrations are in micrograms per cubic meter. Analytes detected in at least one sample are included in this table. Detections are bolded. Concentrations that exceed the screening level are shaded.

²⁾ When both carcinogenic and noncarcinogenic values are presented in Ecology's CLARC data table, the more restrictive value is used.

³⁾ Although it was not detected in any sample, naphthalene is included in this table because naphthalene detection limits were above the MTCA Method B sub-slab soil gas screening level.

San	nple Location Sample Date	#1	Office Can #2 5/22/07	Bakery Can #3 5/22/07	Bakery Can #4 5/22/07	Back Bakery 2/8/08	Front Bakery 2/8/08	Back Office 2/8/08	Thriftway Office 2/9/12	Morrell's 2/9/12
MTCA Method B Air Cleanup Chemical ¹ Collected within lease space currently occupied by Tease Chocolates. The eastern and western portions of the lease space were occupied by a bakery and an office, respectively.										
Tetrachloroethylene (PCE)	9.6	1,040	1,470	2,050	2,710	650	6,700	2,500	15	22
Trichloroethylene (TCE)	0.37	12	19	13	9 U	1,000 U	1,000 U	1,000 U	5.7	9.0
cis-1,2-Dichloroethylene (cDCE)		10	18	6 U	6 U	1,000 U	1,000 U	1,000 U	0.14 U	0.14 U
Benzene	0.32	5 U	5 U	5 U	5 U	380	1,000 U	1,000 U	2.2	2.2
Toluene	2,300	7.5	6.0	6 U	6 U	190	1,000 U	1,000 U	9.0	7.3
Ethylbenzene	460	7 U	7 U	7 U	7 U	1,000 U	1,000 U	1,000 U	2.2	2.0
m,p-Xylenes	46	13 U	13 U	13 U	14 U				8.1	7.2
o-Xylene	46	7 U	7 U	7 U	7 U				3.1	2.8
Total Xylenes	46	20 U	20 U	20 U	21 U	190	1,000 U	1,000 U	11.2	10.0
Naphthalene ³	0.074					1,000 U	1,000 U	1,000 U	4.6 U	4.8 U

⁻⁻ not analyzed

J not detected at the indicated reporting limit

¹⁾ All concentrations are in micrograms per cubic meter. Analytes detected in at least one sample are included in this table. Detections are bolded. Concentrations that exceed the screening level are shaded.

²⁾ When both carcinogenic and noncarcinogenic values are presented in Ecology's CLARC data table, the more restrictive value is used.

³⁾ Although it was not detected in any sample, naphthalene is included in this table because naphthalene detection limits were above the MTCA Method B air cleanup level.

Well ID	Distance from Injection Well (ft)	Sample Date	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2- Dichloroethene (cDCE)	Vinyl Chloride (VC)							
		01/08/14	140	16	43	0.2 U							
			*** Biostii	mulants injected in June	2014 ***								
		01/20/15	7.4	5.3	79	1.8							
		09/09/15	11	5.8	150	1.5							
		02/02/16	1 U	1 U	250	1.9							
MW-20		09/07/16	20 U	20 U	250	4 U							
(Injection		09/22/16	4.9	1.7	250	1.8							
Well)		01/04/17	6.2	2	240	2.5							
		11/28/18	4.9	1 U	59	0.84							
		*** Injection to MW-20, July 15, 16, & 17, 2019 ***											
		08/27/19 (Unable to collect water sample due to pump screen biofouling)											
		12/12/19	1 U	1 U	14	1.5							
		03/24/20	1.5	1 U	9.8	0.65							
		07/15/19	18	1.4	1 U	0.2 U							
				o MW-20, July 15, 16, 8	k 17, 2019 ***								
MW-34	7	08/27/19	25	2.2	1.3	0.2 U							
		12/13/19	11	1.4	20	0.2 U							
		03/25/20	17	2.5	10	0.2 U							
		02/13/19	66	12	5.4	0.2 U							
		*** Injection to MW-20, July 15, 16, & 17, 2019 ***											
MW-24	10	08/27/19	42	10	5.1	0.2 U							
		12/12/19	50	11	4.2	0.2 U							
		03/26/20	58	11	4.1	0.2 U							
			•	o MW-20, July 15, 16, 8									
MW-35	15	08/27/19	39	4.9	2.8	0.2 U							
	10	12/13/19	23	3.2	7.2	0.2 U							
		03/25/20	22	3.6	4.9	0.2 U							
		02/13/19	20	2.4	2.1	0.2 U							
				o MW-20, July 15, 16, 8									
MW-26	20	08/27/19	20	2.7	2.2	0.2 U							
		12/13/19	19	2.3	2.0	0.2 U							
		03/25/20	15	1.4	1 U	0.2 U							
	S	Screening Level ²	5	5	16	0.2							

U not detected at the indicated detection limit

¹⁾ All concentrations are in micrograms per liter (µg/L). Detections are bolded. Screening level exceedances (see Note 2) are shaded.

²⁾ Screening levels are Model Toxics Control Act (MTCA) Method B groundwater cleanup level for cDCE and MTCA Method A groundwater cleanup levels for the other analytes.

	Distance from Injection		DO		ORP	Chloride	Nitrate	Nitrite	Sulfate	Iron, total	Ferrous Iron	тос	Methane	Ethene	Ethane	Dhc
Well ID	Well (ft)	Date	(mg/L)	pН	(mV)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	Assay ²
		1/8/14	5.9	6.65	114		2.02	0.007	16.9	40.8		<0.25				
						ı		*** Biostimul	ants injected i	n June 2014 **	*					
		1/20/15	2.3	5.8	47					50.6						
		9/9/15	1.95	5.93	100.4											
		2/2/16	0.39	6.2	-7.8											
		9/7/16	0.22	5.75	69.4											
MW-20		9/22/16	0.15	5.54	18.8											
(Injection		1/4/17	1.17	5.92	40.4											
Well)		11/28/18	0.39	6.1	-47.3											
		2/27/19	3.6	6.51	73	31.4	<0.1	0.128	<0.3	71	1.5	179				
		7/15/19	0.12	5.75	-11		=.			L			10.2	<0.015	<0.016	<1 x 10 ⁴
										s injected in Ju						
		8/27/19		1		1	,			le due to pur	np screen bi		1			
		12/12/19	1.05	6.0	-44		0.252	2.74	<0.3	114		809	3.73	<0.015	<0.016	<1 x 10 ⁴
		3/24/20	0.29	5.9	-3.5		<0.2	1.3	< 0.3	73		304				
		7/15/19	0.96	6.7	9		0.484	0.125	15.1	3.65	0 ***	3.9	0.031	<0.015	<0.016	<1 x 10 ⁴
NAVA 04	_					I				, 16, & 17, 201	19 ***					2
MW-34	7	8/27/19	0.94	7.0	13		0.285	<0.4	7.48	6.09		20.5	<0.0086	<0.015	<0.016	<4 x 10 ³
		12/13/19	0.52	7.1	53		<0.1	<0.1	4.26	7.32		6.76	0.065	<0.015	<0.016	<3 x 10 ³
		3/25/20	1.3	6.6	6.6	22.2	0.445	<0.1	8.65	2.37	0.5	1.23				
		2/13/19	1.2	7.2	44	32.9	0.606	0.186	12.6	3.64	<0.5	0.751				
MW-24	10	0/07/40		I		I				, 16, & 17, 201	19 ***		0.000	0.045	0.040	
10100-24	10	8/27/19	7.0	7.0	26		0.566	<0.2	11.6	41.4		3.36	0.028	<0.015	<0.016	
		12/12/19	1.1	6.9	28		0.307	<0.1	9.69	4.07		2.43	2.3	<0.015	<0.016	
		3/26/20	2.0	6.9	49		<0.1	<0.1	8.86	3.47 5, 16, & 17, 201	0 ***	3.25				
		0/07/40	0.05		20	1					19	132	I			
MW-35	15	8/27/19	0.65	6.6	-28		0.268	1.17	7.27	6.17			0.0000	0.045	0.040	3
		12/13/19	1.5	6.8	-38		0.388	<0.1	13.2	4.66		3.66	<0.0086	<0.015	<0.016	<6 x 10 ³
		3/25/20	2.0	6.5	72	40.0	0.611	<0.1	13.1	2.22	0.5	0.699				
		2/13/19	7.6	7.0	53	46.9	1.78	0.154	14.4	4.24	<0.5	<0.5				
MM 00	20	0/07/40	7.7	0.5	75					, 16, & 17, 201	19 ***	0.5				
MW-26	20	8/27/19	7.7	6.5	75		1.92	<0.2	13.7	49.4		<0.5				
		12/13/19	7.0	6.7	17		1.85	<0.1	12.9	51.7		<1.0				
	around surface	3/25/20	7.5	6.3	34		1.69	<0.1	13.4	45.3	organic carbon	<1.0				

bgs below ground surfaceDO dissolved oxygen

mg/L milligrams per liter mV millivolts

NA natural attenuation

TOC total organic carbon

olts

ORP oxidation-reduction potential

¹⁾ Blank cell indicates sample was not analyzed for that parameter.

²⁾ Gene-Trac* dehalococcoides (Dhc) assay based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the 1-liter sample. According to the analytical laboratory (SiREM), an assay result of 105 to 106 cells/liter may or may not be associated with observable dechlorination activity, and a result above 107 cells/liter is often indicative of significant dichlorination rates.

Table 11. Remedial Alternative 1 Cost Estimate - Monitored Natural Attenuation with Institutional Controls

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

ite: Morell's Parking Lot Parcel

Remedial Action Description: Monitored Natural Attenuation with Capping and Institutional Controls

Cost Estimate Accuracy: Disproportional Cost Assessment Level (+50/-30 percent)

Key Assumptions and Quantities: No additional monitoring wells required. Wells to be decomissioned after Site Closure.

Item	Quantity	Unit	Unit Cost	1	Total Cost	Notes
Professional Services						
Cleanup Action Plan	1	ls \$	30,000	\$	30,000	Including Compliance Monitoring and Contingency Plan, obtain Ecology approva
Environmental Covenants	1	ls \$	30,000	\$		For Parking Lot Parcel due to long cleanup timeline
Subtotal				\$	60,000	
Monitoring (6 wells, annually to once every 5 years)						
Labor (per event)	18	hr \$	150	\$	2,700	Based on number of proposed wells in monitoring well network
Equipment (per event)	1	ls \$	1,000	\$	1,000	Based on current equipment rates
Analytical (per event)	6	ea \$	520	\$	3,118	VOCs, Nitrate, Nitrite, Sulfate, Iron, TOC, Dissolved gasses
Purge Water Disposal (per event)	2	drum \$	550	\$	1,100	2 drums for profiling and disposal
Sampling and analysis - each event				\$	7,918	
1st - 5th year (annual)				\$	7,918	
6th - 20th years (1 event - 5 year review period)				\$	7,918	
21st year confirmation monitoring (4 events- quarterly) (2)				\$	31,671	
Project Management and Reporting (annual average)						
Project Management	8	hr \$	230	\$	1,840	
Data Management	1	ls \$	1,500	\$	1,500	
Data Evaluation	1	ls \$	1,000	\$	1,000	
Annual Memorandum	1	ls \$	5,000	\$	5,000	_
Subtotal				\$	9,340	
Contingency for 20-yr Monitoring Cost (3)	20	%		\$	47,815	
Total 20-yr Monitoring Cost				\$	287,000	
Contingency for 20-yr Monitoring Cost (3) Total 20-yr Monitoring Cost	20	%				
AL ESTIMATED NPV COST ⁽⁴⁾				\$	280,000	

Notes:

- (1) Technical support includes engineering services beyond what is anticipated and is 20% of total 20-year monitoirng cost.
- (2) Assumes confirmation soil sampling will not be required based on empirical groundwater demonstration and environmental covenants.
- (3) Contingency costs for monitoring are set at 10% (5% scope, 5% bid)
- (4) Costs are Net Present Value in 2020 dollars based on a 0.4% discount rate. The costs shown are rounded to three significant figures.
- (5) Sales tax has been excluded from this estimate

Aspect Consulting

Table 12. Remedial Alternative 2 Cost Estimate - Injection-based *In-Situ* **Treatment** Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

Site:	Morell's Parkin	•				
Remedial Action Description:		•	Monitored Natura			
Cost Estimate Accuracy:	Disproportiona	I Cost Assess	ment Level (+50	/-30 p	percent)	
Key Assumptions and Quantities:	24 wells to be	injected with 5	eve 10-foot ROI	olutio	0	
Biostimulation Injection Costs	vveils to be de	comissioned a	fter Site Closure			
Item	Quantity	Unit	Unit Cost		Total Cost	Notes
Professional Services	•					_
Project Management	6 %	6 \$	398,087	\$		Percentage of capital costs per USACE guidance
Remedial Design	12 %	6 \$			47,770	Percentage of capital costs per USACE guidance
Construction Management	8 %	6 \$	398,087	\$	31,847	Percentage of capital costs per USACE guidance
Subtotal - Professional Services				\$	103,502	
Injection-Based Treatment						
Mobilization/Demobilization	5 %	6 \$	379,130	\$	18,957	Percentage of Capital Costs
Injection Well Installation	15 p	er well \$	4,150	\$	62,250	Install injection wells via HSA
Injection Water and Labor	·	er well \$				Holt Labor and Parts
Injection Chemicals	·	er well \$				3DMe,CRS, KB-1, Sodium Ascorbate, 1 genetic test, shipping
IDW Disposal	1 Is					Soil cuttings and decon water; based on previous work on this project
Subtotal - Injection-based Treatment (per event)			,	\$	398,087	
1st Injection				\$	398,087	
2nd Injection (end of year 2)				\$ \$	398,087	
Contigency for Biostimulation Injection Costs (1) Total Biostimulation Injection Costs	25 %	6		\$ \$	225,000 1,035,469	
MONITORING COSTS				φ	1,035,469	
Item	Quantity	Unit	Unit Cost		Total Cost	Notes
Professional Services	quantity	O.I.I.	Onic Good		Total Goot	11000
Construction Completion Report	1	ls \$	50,000	\$	50.000	Including Confirmation Monitoring Plan, Obtain Ecology Approval in year 3
Site Closure Documents	1	ls \$				NFA Request Package and Ecology Review in year 5
Subtotal				\$	80,000	
On-Property Monitoring (6 wells per event)						
Labor (per event)	10	hr (150	ď	2.700	Paged on number of proposed on property manitoring wells
Equipment (per event)	18 1	hr \$ Is \$				Based on number of proposed on-property monitoring wells
	•					Based on current equipment rates
Analytical (per event)	6	ea \$		\$		VOCs, Nitrate, Nitrite, Sulfate, Iron, TOC, Dissolved gasses
Purge Water Disposal (per event)	2	drum \$	550			_2 drums for profiling and disposal
Sampling and Analysis - On-Property - Each Event				\$	7,918	
1st year (1 event - 6 mo post 1st injection)				\$	7,918	
2nd year (1 event - pre 2nd injection)				\$	7,918	
3rd year (1 event - 6 mo post 2nd injection)				\$	7,918	
4th year (1 event)				\$	7,918	
5th year confirmation sampling (4 events - quarterly) (2)				\$	31,671	
Project Management and Reporting (annual average)						
Project Management	10 h	r \$	230	2.	2,300	
Data Management	1 1				1,500	
Data Ivaliagement Data Evaluation	1 Is		,		1,000	
Annual Memorandum	1 is				5,000	
Subtotal	1 16	. 4	. 5,500	\$	9,800	
Contingency for 5-yr Monitoring Cost (3)	00.0	,		ø	40.000	
Total 5-year Monitoring Cost Total 5-year Monitoring Cost	20 %	'o		\$ \$	40,000 232,343	
rotal o your morntoning oost				Ψ	202,040	
Total Cost (Injection-Based Trreatment and Monitoring)		-		\$	1,268,000	
TOTAL ESTIMATED NPV COST(4,5)				\$	1,262,000	
				_	,,-,-	

- (1) Contingency costs for injections are set at 25% (15% scope, 10% bid)
 (2) Assumes confirmation soil sampling will not be required based on empirical groundwater demonstration and environmental covenants.
 (3) Contingency costs for monitoring are set at 20% (scope)
 (4) Costs are Net Present Value in 2020 dollars based on a 0.4% discount rate. The costs shown are rounded to four significant figures.
 (5) Sales tax has been excluded from this estimate

Project No. 080190

Site:	Morell's Parking	Lot Parcel		_		
Remedial Action Description:			Monitored Natura	l Atte	nuation	
Cost Estimate Accuracy:		-	ment Level (+50			
Soot Estimate / tosurasy.	Dioproportional	000171000001	110111 20101 (100)	00 p	roroont,	
Key Assumptions and Quantities:	15 new wells ne	eded to achie	eve 10-foot ROI	over	age	
	24 wells to be in	njected with 5	,000-gallons of s	olutic	on, once	
	Wells to be dec	omissioned a	fter Site Closure.			
Biostimulation Injection Costs						
Item	Quantity	Unit	Unit Cost		Total Cost	Notes
Professional Services						
Project Management	6 %					Percentage of capital costs per USACE guidance
Remedial Design	12 %					Percentage of capital costs per USACE guidance
Construction Management	8 %	\$	444,182		•	Percentage of capital costs per USACE guidance
Subtotal - Professional Services				\$	115,487	
Injection-Based Treatment						
Mobilization/Demobilization	5 %	\$	423,030	\$	21,152	Percentage of Capital Costs
Injection Well Installation	1 pe	er well \$				Install injection wells via HSA, 2"
Injection / HEPA Well Installation	16 P	er well \$				Install HEPA injections wells via Sonic, 12"
Injection Water and Labor	24 pe	er well \$				Holt Labor and Parts
Injection Chemicals	•	er well \$				3DMe,CRS, KB-1, Sodium Ascorbate, 1 genetic test, shipping
IDW Disposal	1 LS	S \$	14,000	\$		Soil cuttings and decon water; based on previous work on this project
Subtotal - Injection-Based Treatment				\$	444,182	
Heat Enhanced Plume Attenuation						
(TRS Costs)						
Design, Work Plan, HASP	1 ls				,	TRS Quote
Mobilization	1 ls			\$,	TRS Quote
Heater Installation	1 ls					TRS Quote
Surface Infrastructure Installation and Start-up	1 ls	•	,			TRS Quote
System Operation	1 ls	•			,	TRS Quote
Demobilization & Reporting	1 ls	\$	52,800		52,800	=
(0) 0 () ()				\$	602,400.00	
(Other Subcontractor Costs)	400 000 11		0.00	•	40.000	0" (T
Energy Consumption Electrical Permit?	160,000 kV			-		City of Tacoma Electrical Rates charged to this Site
Electrical Fermit!	1 LS) Þ	10,000	<u>\$</u> \$	23,600	_(Do we need this, SVE System already)
				Ψ	23,000	
Contigency for Biostimulation Injection Costs (1)	25 %			\$	296,000	
Total Biostimulation Injection Costs				\$	1,481,669	
MONITORING COSTS						
Item	Quantity	Unit	Unit Cost		Total Cost	Notes
Professional Services				_		
Construction Completion Report	1	ls \$				Including Confirmation Monitoring Plan, obtain Ecology approval in year 2
Site Closure Documents	1	ls \$	30,000			_NFA Request Package and Ecology Review in year 2
Subtotal				\$	80,000	
On-Property Monitoring (6 wells per event)						
Labor (per event)	18	hr \$	150	¢	2 700	Based on number of proposed on-property monitoring wells
Equipment (per event)	10	ls \$				Based on current equipment rates
Analytical (per event)	6	ea \$				VOCs, Nitrate, Nitrite, Sulfate, Iron, TOC, Dissolved gasses
Purge Water Disposal (per event)	2	drum \$				2 drums for profiling and disposal
Confirmation Sampling - Each Event	2	uiuiii p	330	\$	7,918	
				Ý	7,070	
2nd year confirmation sampling (4 events - quarterly) (2)				\$	31,671	
Confirmation Sampling Management						
Project Management	10 hr				2,300	
Data Management	1 ls				1,500	
Data Evaluation	1 ls	\$	1,000		1,000	
Subtotal				\$	4,800	
Contingency for Confirmation Monitoring Cost (3)	20 %			ď	24.000	
Total Confirmation Monitoring Cost Total Confirmation Monitoring Cost	20 %			\$ \$	24,000 140,471	
Total Committation Monitoring Cost				φ	140,471	
Total Cost (Injection-Based Treatment, HEPA, and Monitoring)				\$	1,623,000	
, , , , , , , , , , , , , , , , , , , ,						
TOTAL ESTIMATED NPV COST ^(4,5)				\$	1,622,000	
	•					

- (1) Contingency costs for injections are set at 25% (15% scope, 10% bid)
- (2) Assumes confirmation soil sampling will not be required based on empirical groundwater demonstration and environmental covenants.

 (3) Contingency costs for monitoring are set at 20% (scope)

 (4) Costs are Net Present Value in 2020 dollars based on a 0.4% discount rate. The costs shown are rounded to four significant figures.

 (5) Sales tax has been excluded from this estimate

Table 14. Disproportionate Cost Analysis

Project No. 080190, Morrell's Dry Cleaners (VCP No. SW1039), Tacoma, Washington

		Disproportionate Cost Analysis											
		Alternative 1 - Monitored Natural Attenuation with Institutional Controls	Alternative 2 - Injection-based <i>in-situ</i> Treatment	Alternative 3 - Injection-based <i>in-situ</i> Treatment with HEPA									
Practicable	Protectiveness (30% weighting factor)	Site exposure risks are currently low as the exposure pathway is incomplete. Existing groundwater concentrations will remain, necessitating continued institutional and engineering controls for the duration of MNA. (3)	Site exposure risks are currently low but, the restoration timeframe is quicker than MNA and does not require lasting institutional and engineering controls. (5)	Site exposure risks are currently low but, the restoration timeframe is much quicker than MNA and does not require lasting institutional and engineering controls. (6)									
Solutions to the Maximum Extent Practicable	Permanence (20% weighting factor)	reduce the toxicity and volume of	Source material on the Building Parcel remains. Active remediation will permanently reduce toxicity, mobility, and volume of contamination to a greater degree than MNA alone. (3)	Source material on the building parcel remains. Active remediation will permanently reduce toxicity, mobility, and volume of contamination to a greater degree than MNA alone. (3)									
t Solutions to the	Long-Term Effectiveness (20% weighting factor) There is a moderate degree of uncertainty given the length of time contamination is expected to persist at the Site. However the magnitude of residual risk is low and controls are effective. (3)		Active remediation will reduced the length of time contamination is expected to persist at the Site, and reduce the degree of uncertainty over MNA alone. (4)	Active remediation with HEPA with expidite the Site cleanup, and reduce the degree of uncertainty over MNA alone. (5)									
e of Permanent	Short-Term Risk Management (10% weighting factor)	There is a low short-term risk to human health and the enviornment posed by moniotirng activities. (5)	There is a low to moderate short-term risk to human health and the enviornment posed by injection and moniotirng activities. (4)	There is a low to moderate short-term risk to human health and the enviornment posed by injection and moniotirng activities. (4)									
Criteria to Evaluate Use	Implementability (10% weighting factor)	MNA is readily implementable. The only action is groundwater monitoring. (6)	implemented effectively. There is unncertainty	planning and engineering design they can be									
Crite	Public Concerns (10% weighting factor)	The public may be concerned with the timeline to cleanup. (3)	The public may be concerned with many nights of drilling. (5)	The public may be concerned with many nights of drilling and the high demand of the HEPA equipment. (5)									
MTCA	Benefits Ranking ⁽²⁾	3.3	4.1	4.6									
	Estimated Cost ⁽³⁾	\$280,000	\$1,262,000	\$1,622,000									
В	enefit/Cost Ratio ⁽⁴⁾	11.8	3.2	2.8									

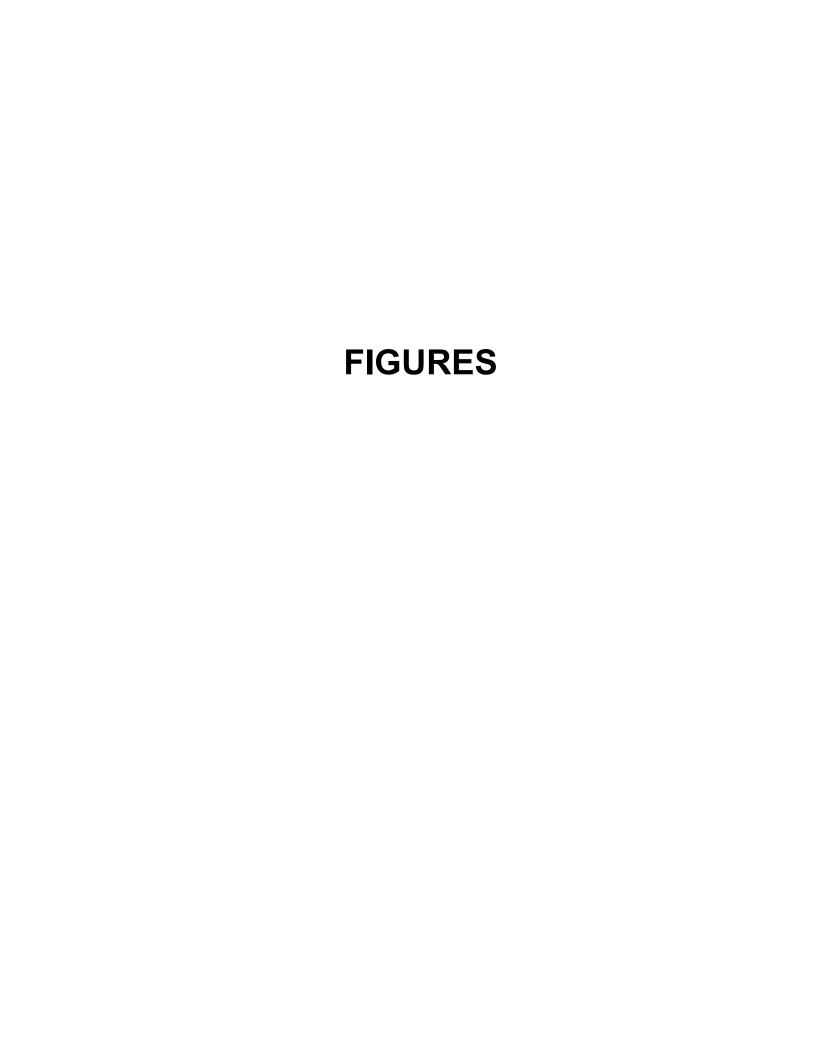
MTCA Model Toxics Control Act Notes:

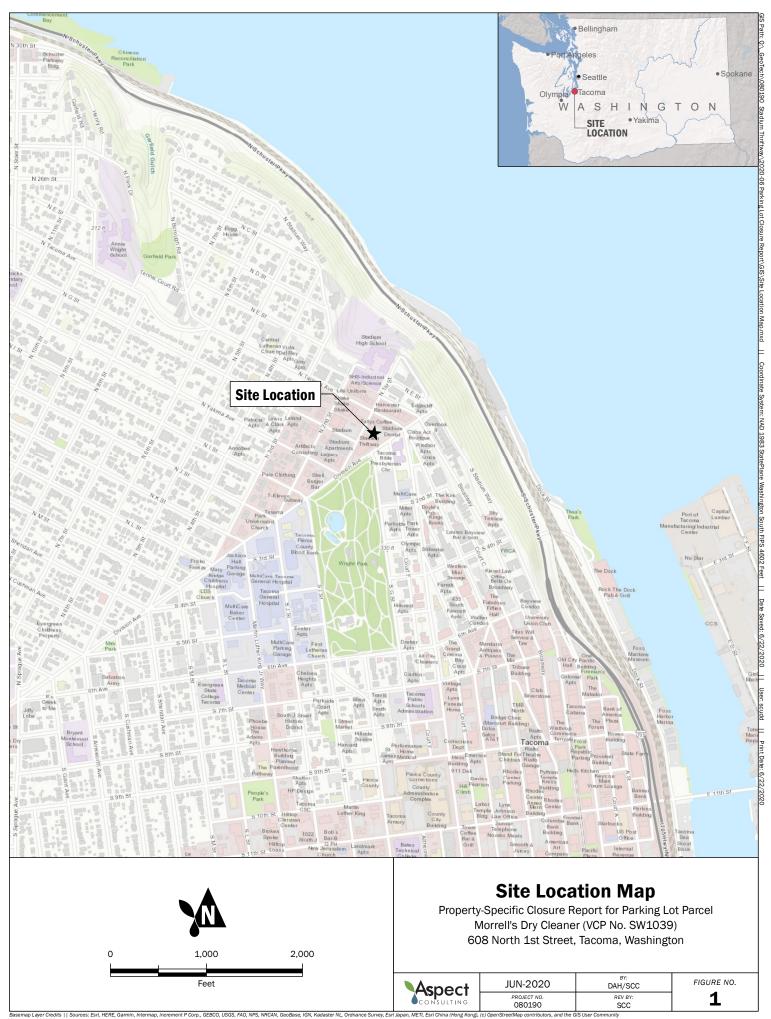
1) A numeric scale of 1 to 7 is used to rate the alternatives with respect to the criteria to evaluate use of permanent solutions to the maximum extent practicable, as follows:

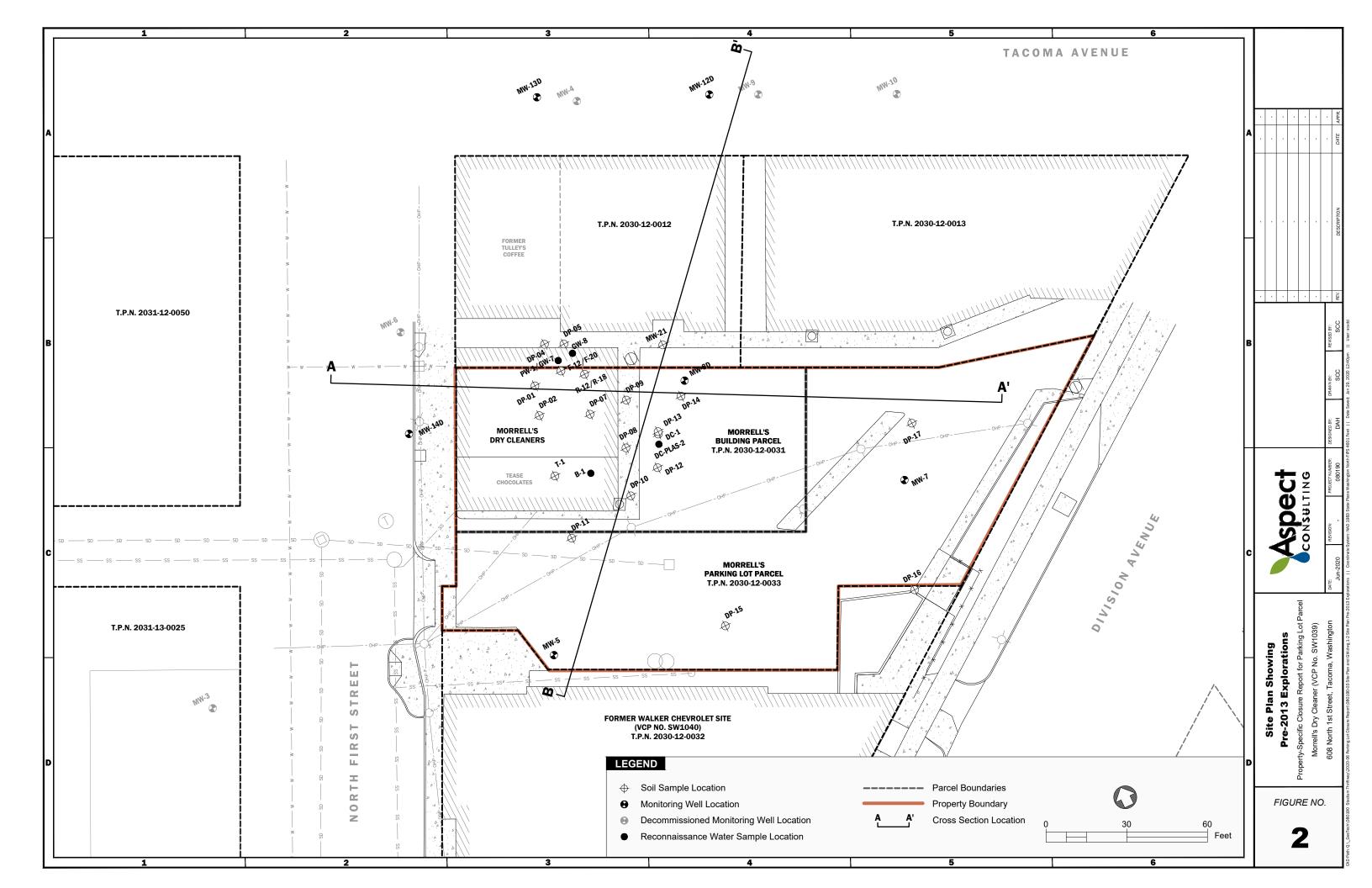
- 1 meets criterion to a very low degree
- 3 meets criterion to a moderate degree
- 5 meets criterion to a high degree

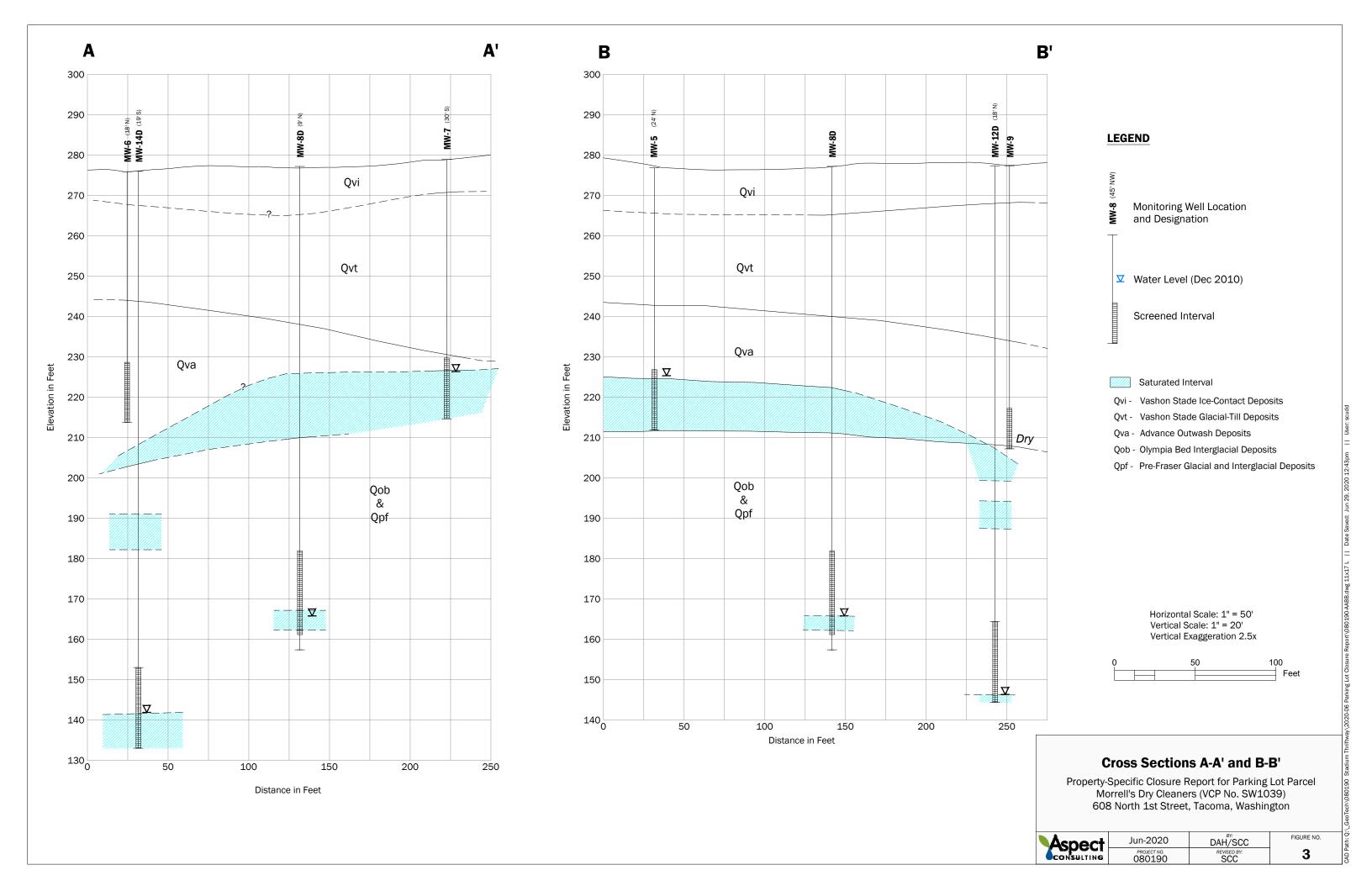
- 2 meets criterion to a low degree
- 4 meets criterion to a moderate-high degree
- 6 meets criterion to a very high degree
- 2) The MTCA benefits ranking is obtained by multiplying the rating for each criterion by its weighting factor, and summing the results for the six criteria.
- 3) Costs are Net Present Value in 2019 dollars based on a 0.4% discount rate. The costs shown are rounded to three significant figures. Detailed cost estimates are provided in the Tables.
- 4) The benefit/cost ratio is obtained by dividing the alternative's MTCA benefits ranking by its estimated cost (in \$NPV million).

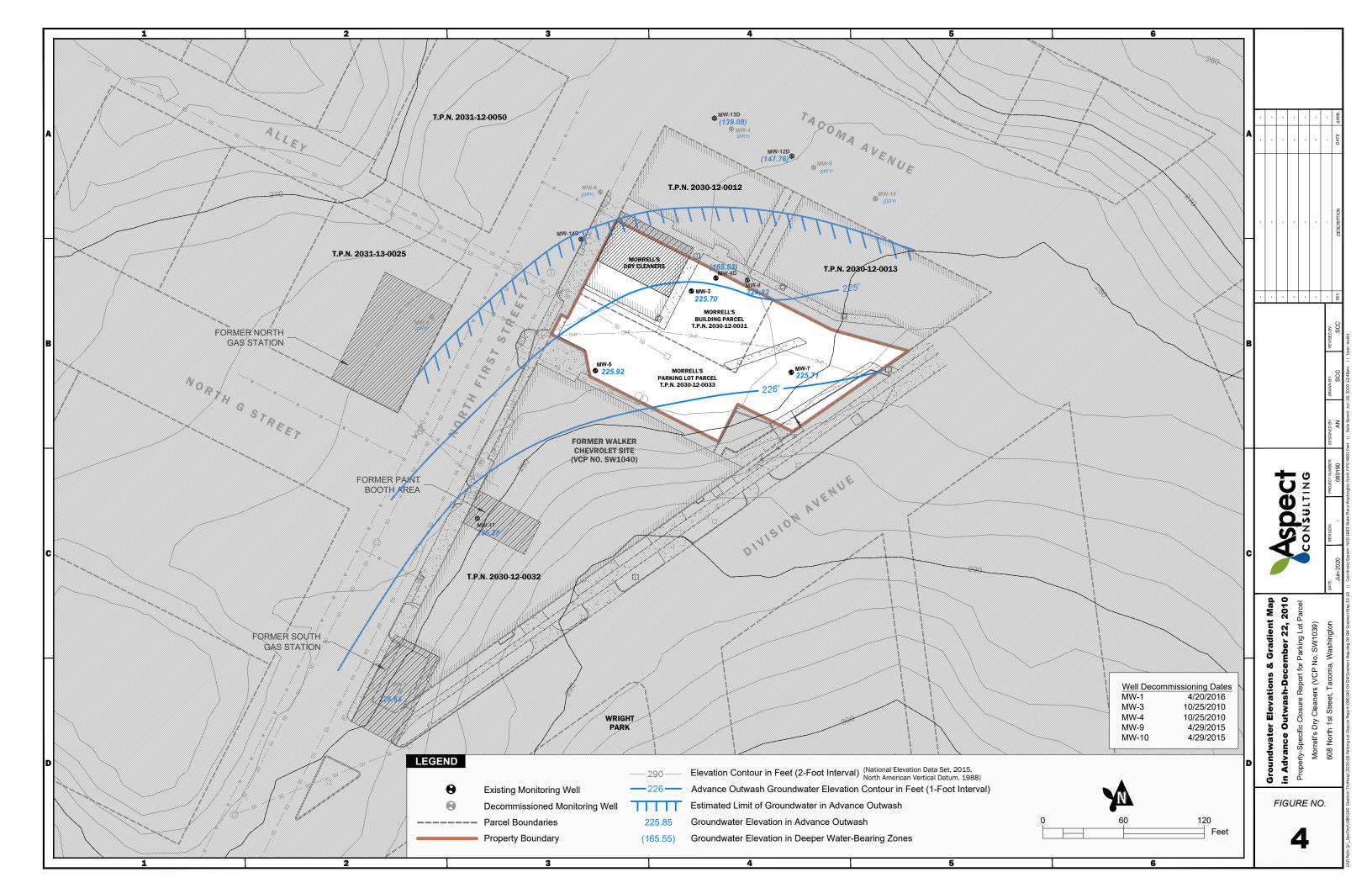
Aspect Consulting Table 14

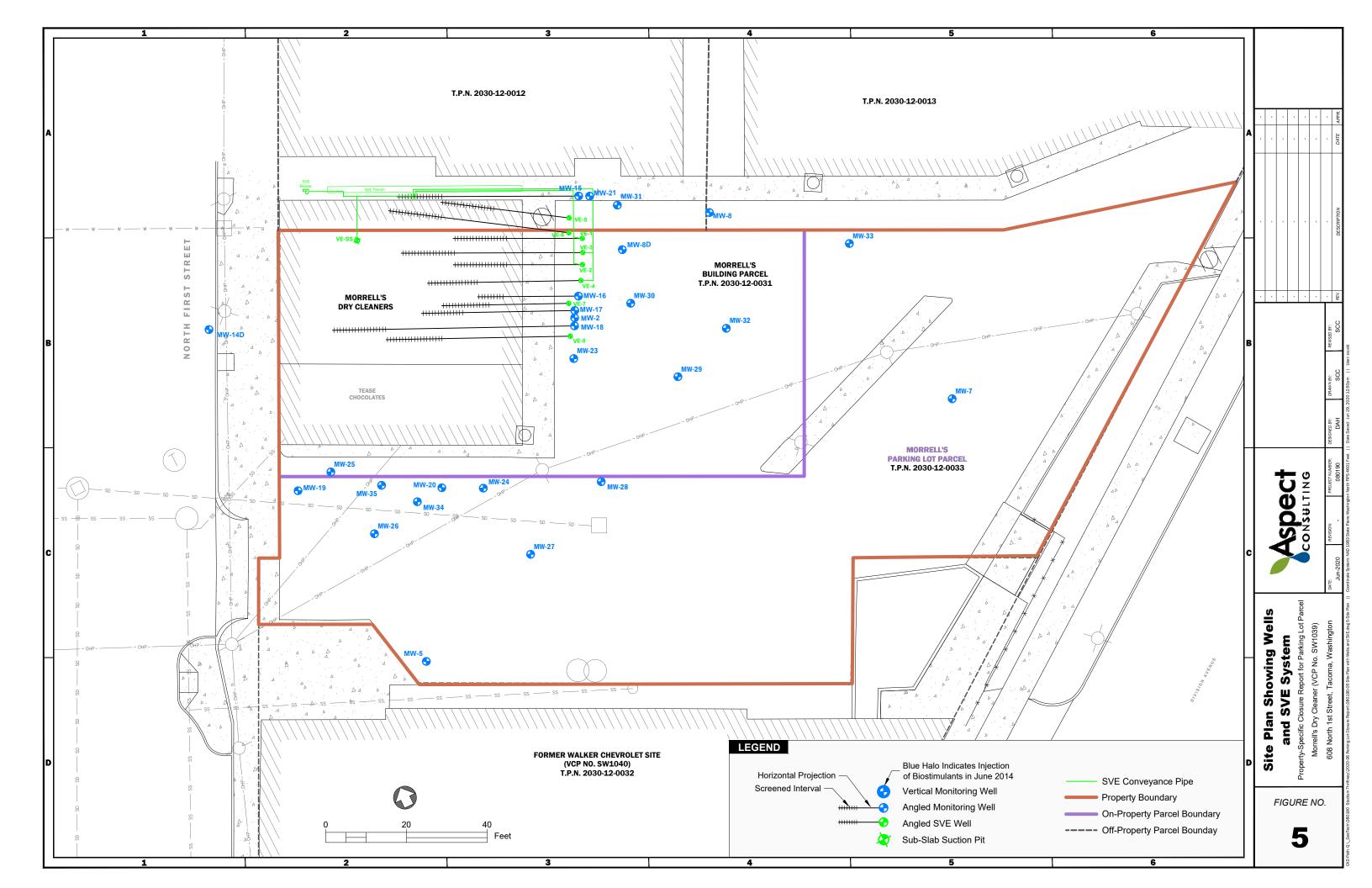


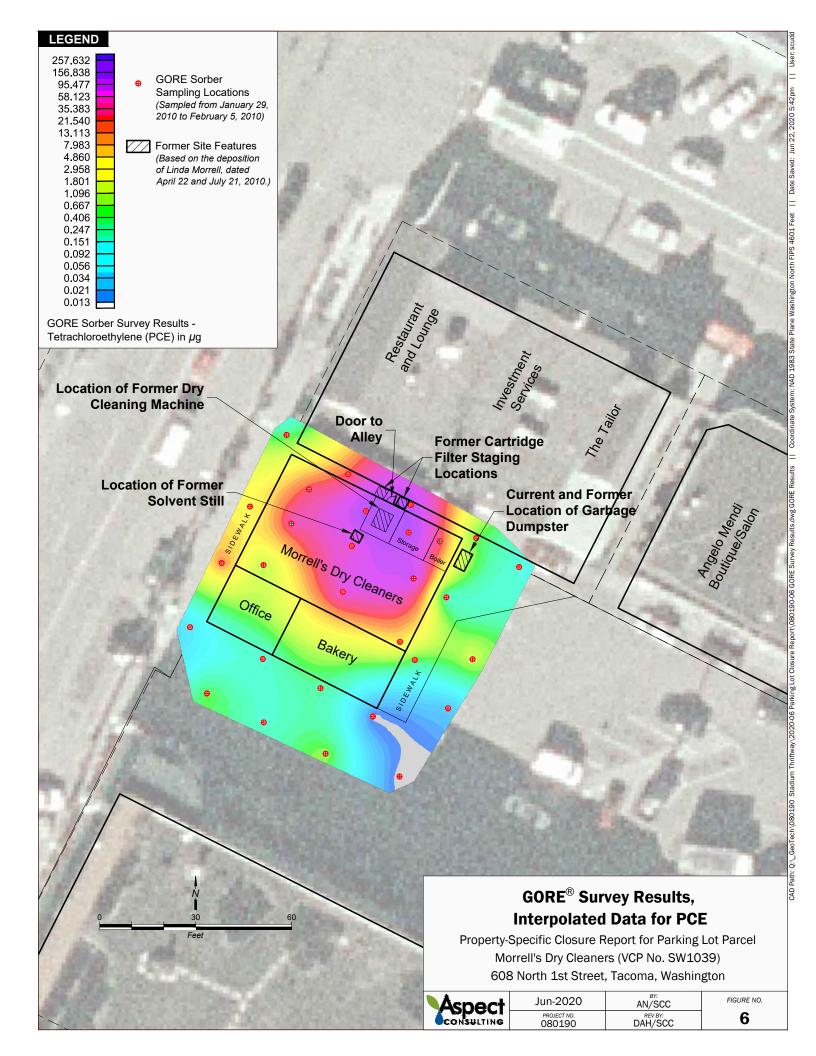


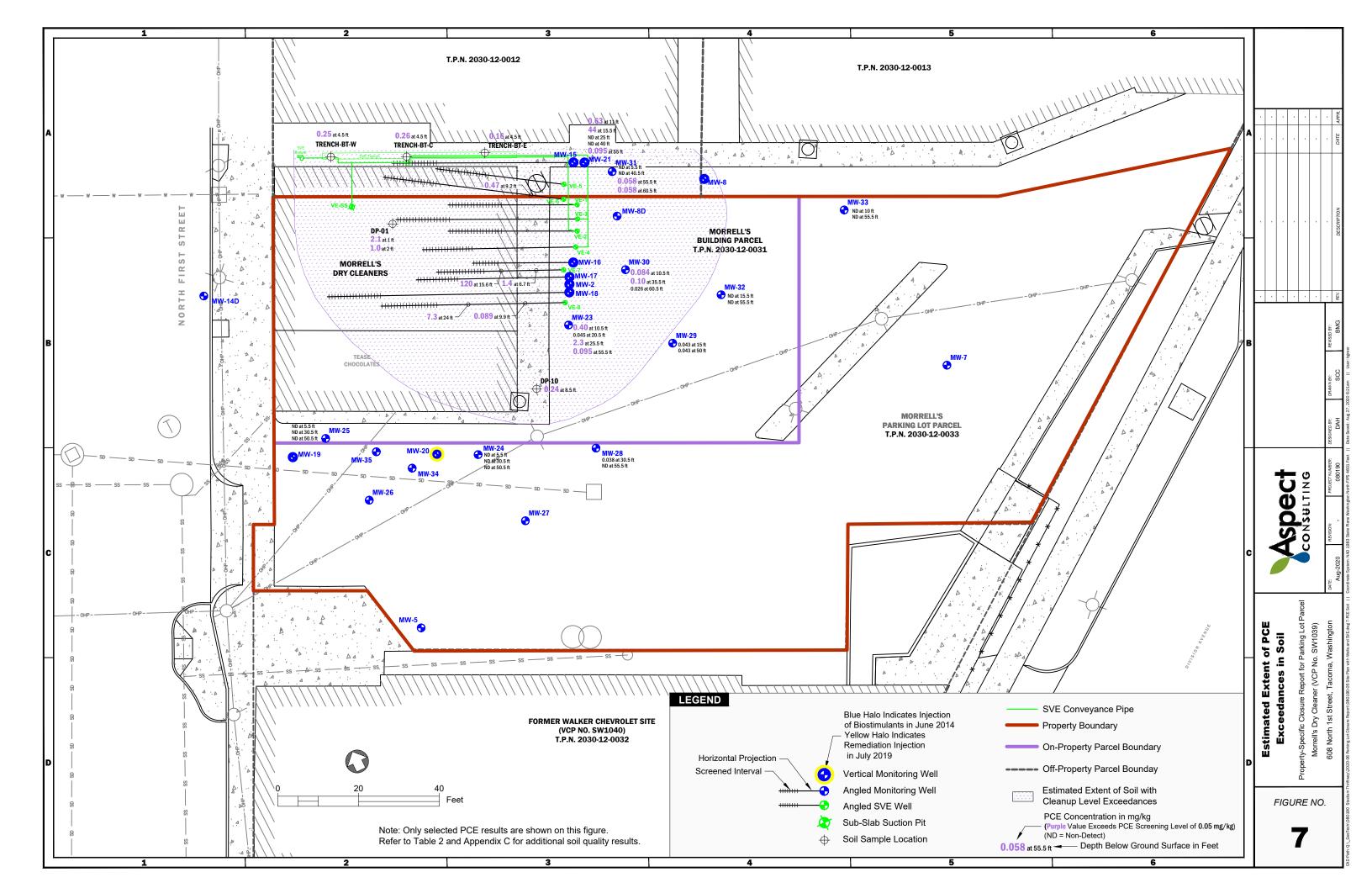


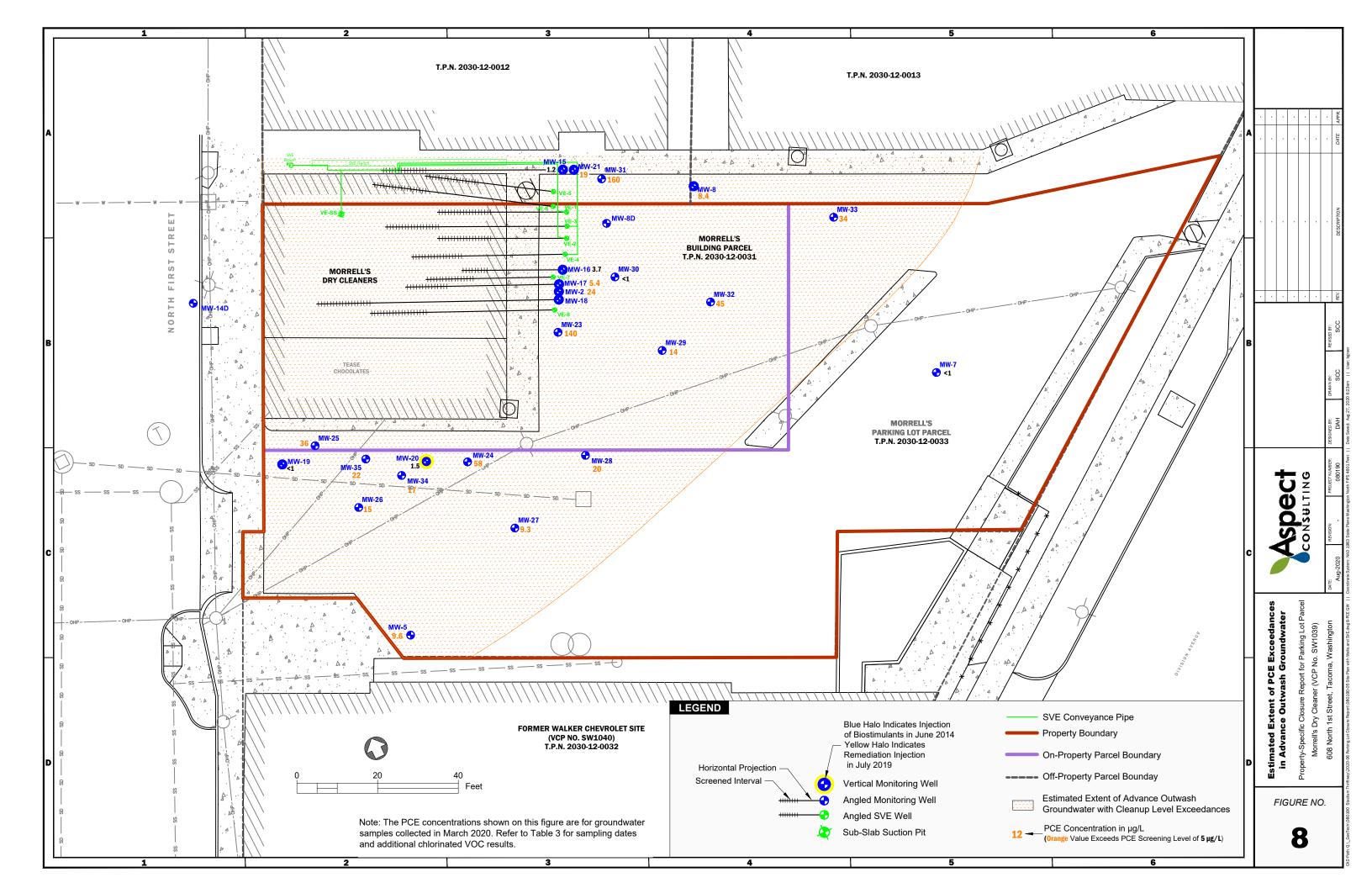


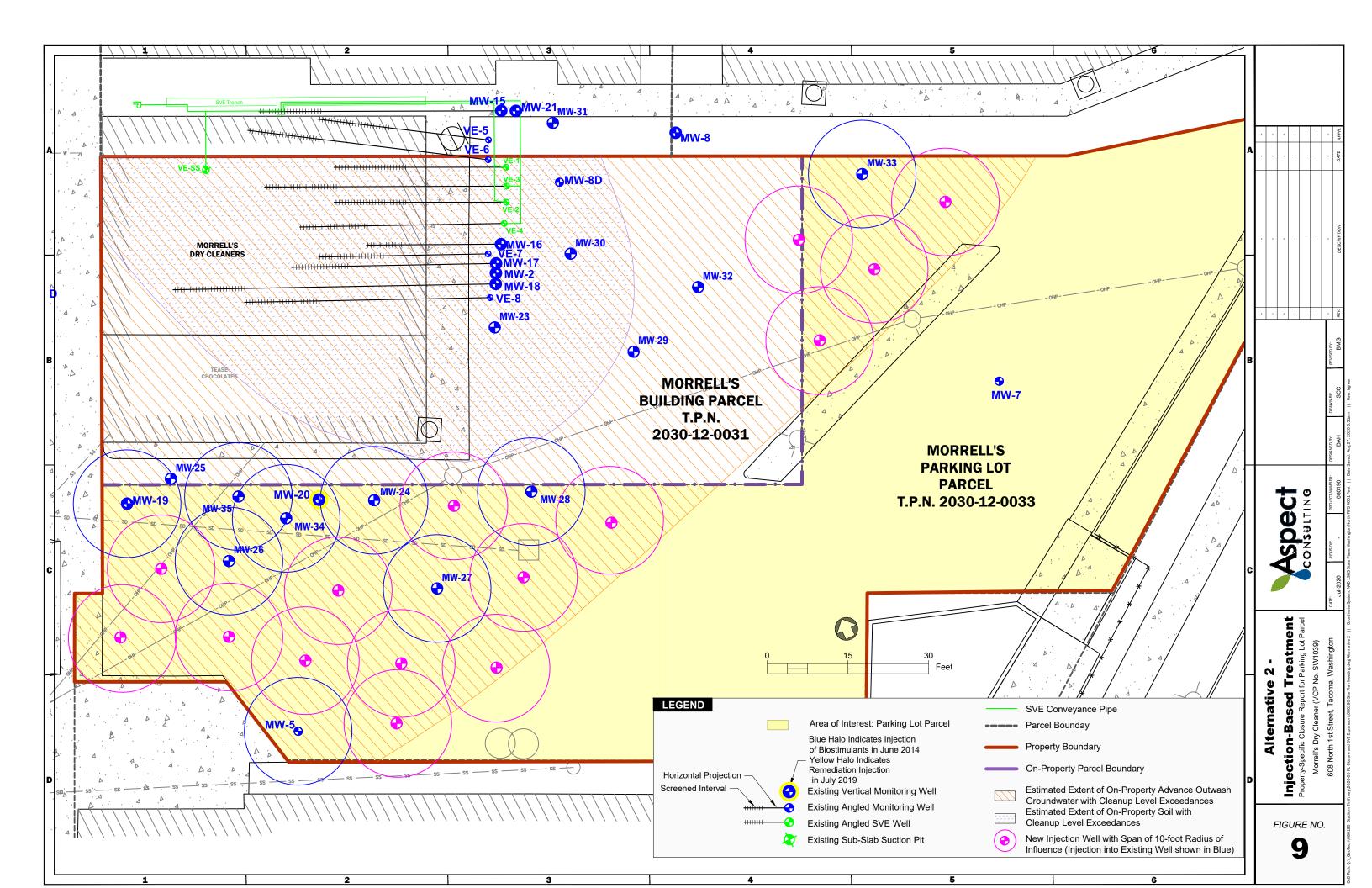


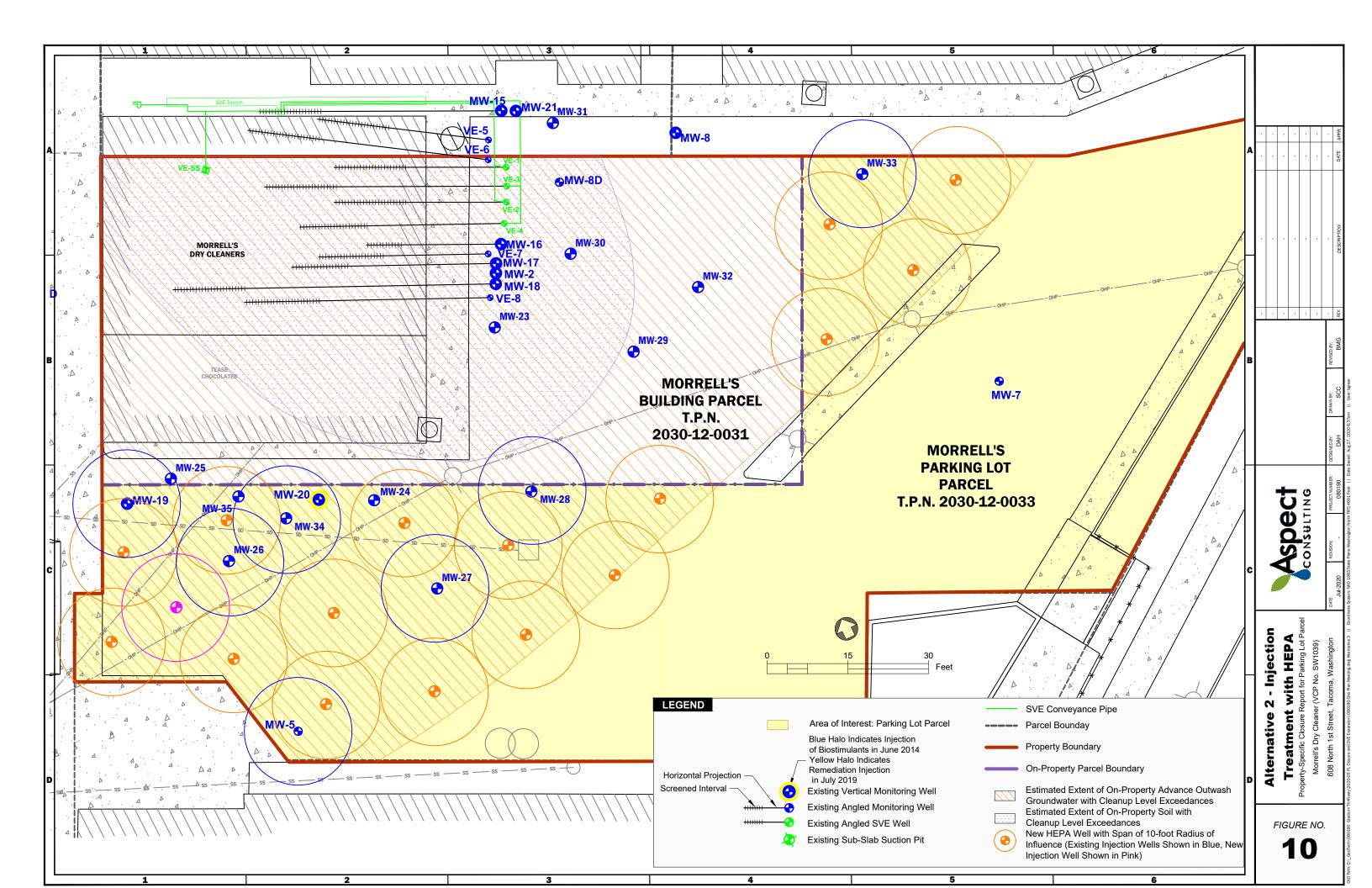












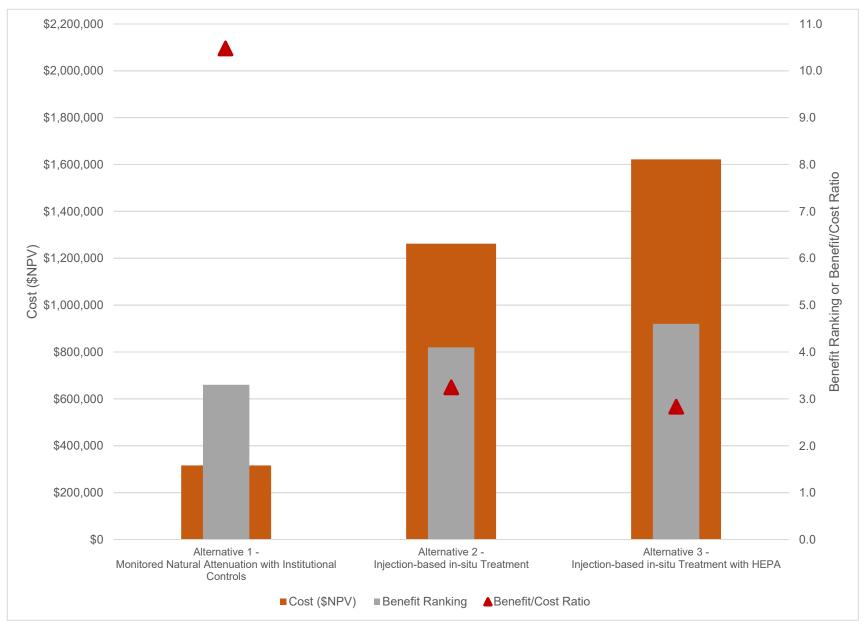
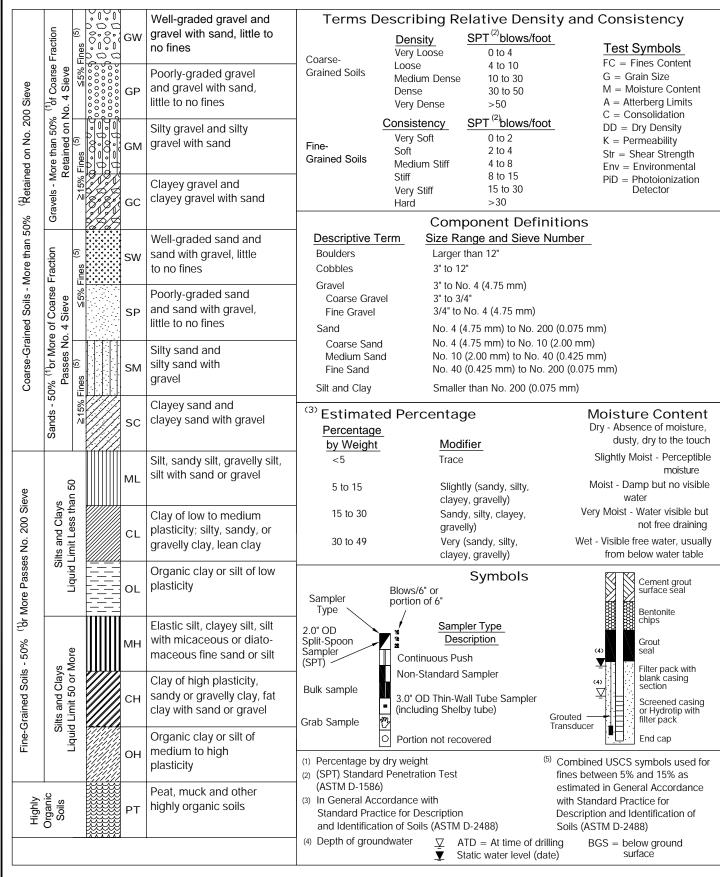


Figure 11. Disproportionate Cost Analysis

Project 080190 Page 1 of 1

APPENDIX A

Boring and Well Construction Logs



Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.



Exploration Log Key

ATE:	PROJECT NO.
ESIGNED BY:	
RAWNBY:	FIGURE NO.
EVISED BY:	B-1

Holt Drilling A Division of Boart Longyear Company Resource Protection Well Report

MW-1

Project Name Block TIT	US CHEC Date_	1-22-07
Weil Identification #AL:\\-	OGH County_	PIEZCE SE 114 SE 114
Orilling Method SONIC	(c 'Section	32 T 21N R 3E
OrillerKen Phil	lips Street Ac	ddress 630 STADIUM WY
License #2652	Start Car	rdR-7c639
	Consulti	ng Firm STEMEN ENV.
AS-BUILT ,	WELL DATA	FORMATION DESCRPITION
1	ALM-	
	— MONUMENT: 8" FLUSH — CONCRETE SURFACE SEAL: 2 FT — RISER: 2 x 60' — BACKFILL: FT TYPE: 3/9 CHUPS	BROWN SILTY SAMO +
	SCREEN: 2 x 15 TYPE: PVC SLOT SIZE: .020 SAND PACK: /// MATERIAL: 10x20 SILLEN WELL DEPTH: 65	SO-65 FT CHARKS SO-65 FT CHARKS SO-65 FT CHARKS SO-65 FT CHARKS

Signature KLVIII

Holt Drilling A Division of Boart Longyear Company Resource Protection Well Report

MW-2

Note Identification # ALM- \$64 Drilling Method Soulc 6" Section 32 T ZLN R 3E Drilling Method Soulc 6" Section 32 T ZLN R 3E Drilling Method Soulc 6" Steret Address 630 TROUM WY License # 2652 Start Card 6-7063 P Consulting Firm STEMEN ENV. AS-BUILT WELL DATA FORMATION DESCRPTION ALM - 169 MONUMENT: 8 FLOOM CONCRETE SURFACE SEAL: 2 FI RISER: 2 x 60' BACKFILL: FI TYPE: 3/4 CHIPS SOURT SILTY SAND TO SINNOY SILTY WITH OCCASSIONA C LAGGE CENTES VERY DEAGE: ORY (TILL) FI CRANGE / ORDER TO OF SE IN COLOR C GC FI MATERIAL: 10x20 SILLLA MATERIAL: 10x20 SILLLA WELL DEPTH: 65' REMARKS	Project Name BLOCE TIT	US CHEU	Date	1-22-0-1			
Driller Ken Phillips Street Address 630 STAQUEN WY License # 2652 Start Card R-70639 Consulting Firm STEMEN ENV. FORMATION DESCRIPTION ALIVI - 109 MONUMENT: 8 FLUSH CONCRETE SURFACE SEAL: 2 FI - RISER: 2 *x 60' - BACKFILL: - TYPE: 3/8 OHLPS - SCREEN: 2 *x 15' CRANGE / BROWN SAND MEDIUM DENSE TO DENSE Day TILL FT CRANGE / BROWN SAND MEDIUM DENSE TO DENSE SOLES FT CRANGE / BROWN SAND MEDIUM DENSE TO DENSE TYPE: PVC SLOT SIZE: .020 - SAND PACK: 17' MATERIAL: 10x20 SILLIA REMARKS	Well Identification # ALM-	169					
STATE CATE ROOM PORMATION DESCRIPTION AS-BUILT WELL DATA FORMATION DESCRIPTION ALIVI-169 MONUMENT: 8 FLOSH CONCRETE SURFACE SEAL: 2 FT RISER: 2 x 60' BACKFILL: TYPE: 3/8 CHI25 CRANGE FORMATION DESCRIPTION SCREEN: 2 x 60' SCREEN: 2 x 60' CRANGE FORMOTO TO SHAND TO THE SHAND TO TH	Drilling Method SOALC	6''	Section 3	<u>2</u> T_	ZIN	3 <i>E</i>	
Consulting Firm STEMEN ENV. **AS-BUILT WELL DATA FORMATION DESCRIPTION ALIVI - 169	DrillerKen Phil	lips				<u>. w,+</u>	
ALIVI - 169 - MONUMENT: 8 FLUSH - CONCRETE SURFACE SEAL: 2 FI - RISER: 2 *x 50 . BACKFILL: FT TYPE: 3/8 CHIPS - SCREEN: 2 *x 15 . TYPE: PVC SLOT SIZE: .020 - SAND PACK: 17 . MATERIAL: /CY20 SILLUM REMARKS	License # 2652	<u> </u>					_
ALIVI - 169 MONUMENT: 8 FLUSH CONCRETE SURFACE SEAL: 2 FT RISER: 2 x 60' - BACKFILL: TYPE: 3/4 CHLPS CRANGE / BROWN SAND TO SAN			Consulting				
MONUMENT: 8 FLUSH CONCRETE SURFACE SEAL: 2 FT RISER: 2 'x 60' BACKFILL: TYPE: 3/4 CHI25 SCREEN: 2 'x 15' TYPE: PVC SLOT SIZE: .020 SAND PACK: 17' MATERIAL: 10'20 SILLIA REMARKS SOLUTION AND TO SAND TO SAND MEDIUM DEMSE TO DEASE. IN COLCE C. GC FT REMARKS	, "AS-BUILT	WELL DATA	.	FORMA	TION DESCRE	ITION .	 -
SCREEN: 2"x 15" SCREEN: 2"x 15" WET @ 54 TORMING GREY IN COLOR & GC FT TYPE: PVC SLOT SIZE: .020 MATERIAL: /0x20 SILLEA REMARKS		- MONUMENT: 8 - CONCRETE SURFACE 2 - RISER: 2 "x 66	FT FT	BROW. GRAVE BANCO GREY 5 SAMOY 5 LAGZE GR	SILTY SALES 15-50 F 1LTY SAME AURICS UR	T TC OCCASSIONA	
		TYPE: PVC SLOT SIZE:	20 7 20 silien	MEDIUM WET @ S IN COLO	LE /BROWN DEMSE TURNI	SAND TO DEAS	

Signature <u>KLOUG</u>

Holt Drilling A Division of Boart Longyear Company

Resource Protection Well Report

MW-3

Project Na	me BRUCE TITUS	SH∈V Date	2-1-07
Well identii	fication # ALM	_ වලපි County_	PIERCE SE 1/4 SE 1/4
Drilling Me	thod SCNIC	6" Section	32 T 21N R 3E
	Ken Phil	•	ddress 633 DIVISION
	2652		rd R70639
•			ng Firm STEMEN ENVIORMENTAL
	AS-BUILT	WELL DATA,	FORMATION DESCRIPTION
-	1		
	∞ 		
Į.	※ 	- MONUMENT: 8 FLOSH	<u>0-3 f</u>
, ,		— CONCRETE SURFACE SEAL:	2"ASPHALT BROWN LOARSE SAND TERAUEL 20-30/
1	沒 沒	2 FT	FINES (FILL)
<u>.</u>		<u> </u>	<u>FT</u>
1		— RISER: <u>2 "x 52"</u>	
!	88		
:		— BACKFILL: 48 FT	3-54 FT
1		TYPE: 3/4" CHIPS	GREY TO BROWN SILTY FINE SAND VERY DENSE DRY DECERMINE
:		77	20.30 / FINES (TILL)
1 1 1			54- 45 FT
+			BROWN MOIST BROWN SAND
:			MEDIUM DENSE 10.15% FINES
t f			<u>65-67 FT</u>
; ;			CREY VERY DENSE CREY
		— SCREEN: 2 "x 15 '	SILTY FINE SAND WITH CRAVELS (TILL)
			FI
! !		TYPE: FACTORY FLUSH	
)) ;		SLOT SIZE: , 020	
-			
i		_ SAND PACK: 17	
6 6 6		MATERIAL: 10×20 SILICA	DEMARKS
		- WELL DEPTH: 67	REMARKS
-			<u> </u>
1			
<u> </u>			1

Signature YXA

BOART LONGYEAR E & I

Resource Protection Well Report

Project Nam	1e Staden th	biffug	Date 1/9/08	
Weil Identifi	cation # BA M	1648	County Pince Nis 1/4	SE 1/4
	nod Senje	,	Section 32 T. 21N R. =	3 €
Driller	Thomas W	! Croney	Street Address NIST N TACON	und Av
License #	2409		Start Card <u> </u>	
			Consulting Firm Stemen EN	V
	AS-BUILT	" WELLOATA	FORMATION DESCRIPTION	
4 3.7		MONUMENT TYPE: CONCRETE SURFACE TYPE DEVIANT FIG SCREEN DIME SLOT SIDE DO TYPE FLOSH MATERIAL DO DO WELL CEPTH 123	Men Bun till V- Dense SL- bel ti Compact Sand. Lt gravit the lest campact gray till there there Bilent REMARKS	
			Signature Thomas W. Co	and

BOART LONGYEAR E & I

MW-5

Resource Protection Well Report

Project Name Stadium	Thriftway	Date	1-11-08		
Well Identification #	168		Pierre		5E 14
Drilling Method <u> </u>		Section _	<u> 32 т. </u>	21 N R.	3 <i>E</i>
Driller Thomas	rangy		dress N.125 ST		
License #			R 70822		
		Consulting	g Firm <u>STeine</u>	n Env	
AS-BUILT	" WEL DATA	i,	Į, FORMAT	ION DESCRIPTION	
44'	MONUMENTITYPE: Flush CONCRETE SURFACE 3 1 PVC BLANK 2 14 TARE Briterit FLO SCREEN 2 4 SLOT SIDE 10 TARE Flush T MATERIALIDAD WELL DEFTH 65	15 hread 8:	Med-dK Bourse wet 42 med Bra	Brn sand 57 t. Tick 63 t. Eourse Let	
<u>i</u>			-11	1.1 1	
		Signature	Thomas	Wh tras	<u> </u>

BOART LONGYEAR E & I

MW-6Resource Protection Well Report Project Name Stadium Thriftway Date /-16-08 County Pierce NW 1/4 5E 1/4 Well Identification # BAM Section 32 T. 2/ N R. 3E Drilling Method 5011.C Street Address N 12+ + N Townth Auc Driller_Thomas Crane Start Card <u>R 7082</u>2 License #_____ Consulting Firm Stenien Env. AS-BUILT WELL DATA FORMATION DESCRIPTION MONUMENT TYPE: flush 95 Phalt - Road Base 1-60% Compact sand grue med Bru V. Dense TIPE Bentonite 60.65 = Med - DK Brn sould . F.C SCFEEN <u>2 × 15</u> - Flugh Thread GRAVELEICK 17 to MATERIALIONAL CILICA REMARKS WELL DEF + 64. 2 .

Signature Monico We Comes

Holt Drilling A Division of Boart Longyear Company

Resource Protection Well Report

MW-7

Project Name STAO:	UM THRIFTWAY	Date	1.18.08
Well Identification #	BAM-III	County_	P. FRCE NW 114 SE 114
Drilling Method	SONIC HX6"		32 T 21N R 3E
		Street Ac	Idress N. 1St St of Tac Ave
License #		Start Car	670822
<u> </u>		Consulti	ng Firm STEMEN ENVIORNMENTAL
, AS-BUILT	WELL DATA	1	FORMATION DESCRPITION
	BAM-111		
	MONUMENT: 8	"Fwst	<u>0 1 FT</u>
	CONCRETE SURFA	CE SEAL:	ASPHALT + BROWN SAND AND GROWEL RUND BASE
	2	FI	1-50 FT
	2 (BROWN SILTY SAND WITH
13 43	——————————————————————————————————————	<u></u>	LARGE GRAVELS VERY DENSE
			(TILL) FT
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BACKFILL:	FT	(7122)
	TYPE: 3/4 CH1	<u>95</u>	
			50-65 FT
			BROWN OXIDIZED SAND
			MEDIUM WET & 55'
			FT
+ 1+1	screen: <u>2 "x</u>	15 '	<u>:</u>
			<u>F</u> T
	TYPE: FACTOR'	t twon	
	SLOT SIZE:, C	20	
十一十月十			†
	SAND PACK:	18	
	MATERIAL: 10x20		REMARKS
<u> </u>	- WELL DEPTH:	65	
; 	-		
i !			
<u>i</u>			

Signature KL MUZ

BOART LONGYEAR

Resource Protection Well Report Project Name Titus
Well Identification # BA 5078 County NW 1/2 5/2 1/2 Drilling Method Sonic Section 32 T. 21N R. 38 Driller Drisin Occess Street Address NIST N Ta came he Start Card R 70 84 3 License #_ Consulting Firm Stenen WELL DATA AS-BUILT FORMATION DESCRIPTION MONUMENT TYPE. flush Brown SILT SAND + CRAVERY FIH. CONCRETE SURFACE SEAL GREY SILTY SANDS INTERMITED WITH MEDIUM/LANGE CANADA PVC SCREEN 10 "x Z . SLOT SIZE: ____- 1 0 TYPE: PUC RUST /BEWUND COURTED SAND MEDIUM DENSE/DENSE, LET GRAVEL PACK 49 ft. MATERIAL Silica Soin d LOG LOTA SAMES MEDIUM DENSE. REMARKS

	Aspec	- +		N	Monit	oring Well Construction		
	CONSULTIN	-		ect Numb 80190	oer	Well Number MW-8D	Sheet 1 of 3	
Project Name		: =		00130		Ground Surface Elev.	278.5	
_ocation:	Tacoma, WA					Top of Casing Elev.	278.11	
Oriller/Method	·	/ Spider Sonic				Depth to Water	- 5/11/200	09
	thod: Continuous Core						4/2009 - 5/6/2009	
Depth / Elevation	Borehole Completion	Cample	PID	Blows/	Material	Description		Dep
(feet)	WZ	Type/ID Tests	(ppm)	6"	Туре	·		(fi
1 + 278	Flushmount monument, lockable					Blacktop and concrete. Vacuumed to 3'.		-∕- - 1
$2 + \frac{277}{276}$	thermos cap, concrete					vacuumed to 3.		+ 2
3 + 275	seal 0'-1'					Qvi		+:
4 + 5 + ²⁷⁴						Very hard, slightly moist, light brow gravelly SILT (ML); fine sand; coars	n, slightly sandy,	+ 4
273						subrounded.	se to fille graver,	Ţ
7 + 272								+ 7
3 + 271						0		- 8
$9 + \frac{270}{269}$						Grades to sandy.		+ 6
0 + 268	2" diameter, schedule	H						-1
1+ 267	40 PVC, threaded connections, 0'-96'					Qvt		 1
266						Very hard, brown, slightly gravelly, fine gravel, rounded.	silty SAND (SM);	+1
3+ 4+ ²⁶⁵						inie graver, rounded.		+1 +1
5 + 264								' -1
$6 + \frac{263}{1}$								<u>+</u> 1
7 - 262								-1
3+ 260								 1
9+ 259								+1
258	Hydrated bentonite chips, 1'-92'							+2
1 + 257 2 + 257						Gravelly.		-2 -2
$3 + \frac{256}{}$								+2
1 - 255 1 - 254						Slightly grovelly		-2
5 - 254 253		H				Slightly gravelly.		-2
5+								+2
251								-2
3+250						•		+2 2
$1 + \frac{249}{1}$						Hard, brown, slightly gravelly, very fine gravel, rounded.	sandy SILT (ML);	-3
1 + 248						ine graver, rounded.		-3
2 + 247 246								-3
3+ ²⁴⁵ 4+ ²⁴⁵								
244						Hard, brown, slightly gravelly, very fine gravel, rounded.	silty SAND (SM);	+3
5+ 243								+3 +3
7 + 242								+3
8 + 241						Qva		-3
$9 + \frac{240}{239}$						Moist, red-brown, slightly silty SAN sand.	D (SP); medium	-3
)+						Trace gravel.		+4
1+								+4
2+ 3+ ²³⁶						-		+4 +4
4 + 235								-4 -4
5 + 234		H						-4
$6 + \frac{233}{1}$								+4
$7 + \frac{232}{231}$								-4
8+ 230								+4
9+229								-4
Sample	er Type:	PID	- Photoioniz	ation De	tector	Logged by:	DFR	
No Recov	very	Ţ	Static Water	er Level			A 1 N 1	
Continuou	us Core	$\bar{\Sigma}$	Water Leve			Approved by: A	ALN	
		_	TTAICI LEVE	(, (, D)		Figure No.		
						i iguit ino.		

	Aspe	ct		D!			oring Well Constructi		
	CONSULTI				ct Numb 80190	per	Well Number MW-8D	Sheet 2 of 3	
roject Nam				- 0	30 130		Ground Surface Elev.	278.5	
ocation:	Tacoma, WA						Top of Casing Elev.	278.11	
riller/Metho	<u> </u>	/ Spider Sonic	 ;				Depth to Water	- 5/11/200	9
ampling M	ethod: Continuous Co	-					Start/Finish Date	5/4/2009 - 5/6/2009	
Depth / Elevation	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/	Material Type	Description		De (1
(feet) 228		Турель		(ррпі)		: : : :			+
1+									+5
2+ 3+ 226									+5 +5
4 - 225									+5
5 + 224	∑5/4/2009	H							+5
$3 + \frac{223}{3}$							Wet.		+5
7 + 222									+5
3 + 221 220									+5
9+219									+5
)+									+6
217									+6
216									+6
3+ 1+ 215									+6
5 - 214	10/20 sand filter pack,								-6
S + ²¹³	92'-120'					COLCOLIC	Brown.		$+\epsilon$
7 + 212							Qob Very hard, moist, brown, sandy	silty GRAVEL (GM):	+6
3 + 211						8 8 8	non-plastic.	, only of the LE (OM),	<u> </u>
9 + 210 209									+6
$0 + \frac{209}{208}$		F-9							+7
1+						2.50			+7
2 + 206									 7
205							Brown, slightly gravelly, very sil	ty SAND (SM);	+7
204							non-plastic.		+7 +7
203									/ ₇
202									⊥ ′ ₇
201							Dark blue, slightly sandy SILT (ML); trace gravel.	- ₇
²⁰⁰									<u>+</u> 7
199									<u></u> -8
198									-8
196							Dry, gray, silty, very gravelly SA	ND (SM): fine sand	+8
195							2.5, g.a., e, re., g.a.e., e.		-8
194									+8
193									+8
5+ 192 7+ 192									8- 8-
191							Trace cobbles, subrounded.		-8
190									_E
+ 189									+6
+ 188									+6
187									<u></u> -6
3 186 · · · 185 · ·	2" diameter, 10-slot,						Very hard, dry, blue gray, sandy	very silty GRAVEI	 9
1+ 184	schedule 40 PVC screen, 96'-106'						(GM).	y, very sinty er a tvel	+6
5+ ₁₈₃ : :									+9
6+ ₁₈₂						2.50			+9
7 + 181	目						Loose, slightly moist, brown, gra	avelly very silty CAND	9 9
180						8 7	(SM).	aveny, very sitty SAND	-9
179 :					<u> </u>		<u> </u>	DED	
	oler Type:		_	hotoioniz		tector	Logged by:	DFR	
_	ous Core		- 0.	atic Wate			Approved b	y: ALN	
,			≚ Wa	ater Leve	ı (AID)		- :		
							Figure No.		

	Aspec						oring Well Construct		
	CONSULTIN			-	ect Numl 80190		Well Number MW-8D	Sheet 3 of 3	
Project Name:	Walker Chev	rolet	· · · · · · · · · · · · · · · · · · ·				Ground Surface Elev.	278.5	
ocation:	Tacoma, WA						Top of Casing Elev.	278.11	
Oriller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water	- 5/11/200	9
	od: Continuous Core	e					Start/Finish Date	5/4/2009 - 5/6/2009	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (
01- 178									-1
102							Hard, dry, dark blue gray, grave	ellv. sandv SILT (ML).	+1
175									+1 +1
04 174 1									['
06 173							Hard, dry, light gray, silty, very	gravelly SAND (SM);	- - 1
07- 172 171							fine sand; fine to coarse gravel		 1
^{08†} ₁₇₀ :: =									+1
09+ 169	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \								+1
10+ 11+ ¹⁶⁸									+1 1
12 167							Loose, wet, brown, slightly silty	SAND (SP); fine sand.	' -1
13 ¹⁶⁶	∵ . <u>▼</u> 5/11/2009 ∵ .								+1
14									+1
15+ 163							Hard, dry, light gray, silty, very	gravelly SAND (SM):	+1
16+ : : 	Threaded PVC endcap						fine sand.	J - , - (- ,,	+1
17 									+1 +1
9 160									L
0 159							Davis a tamais ataul 400 ft DOO	Double to month advisor	4
158							Boring terminated 120 ft BGS. was 55 ft BGS ATD. Depth to v	vater table at 112.56 ft	+1
22+							BGS on 5/11/2009.		+1
23+									+1
24+ 154 25+									+1 +1
26 153									ļ' 1
27 ⁺ 152									-1
28 151									+1
29+ 149									+1
30+ 148 31+ 148									 1 1
32 147 32 147									ļ.'
33 146									+1
34 145 144									+
35 ₁₄₃									+
36									+
37+ 141 38+ 140									Ţ
39 140									1
10 139									ļ.
1 138									+
136									+
13+ 135									<u>-1</u>
134 15+									Ţ
46 133 A									1
47 ⁻ 132									+1
48 131 130 130 130 130 130 130 130 130 130									+1
129									+1
Sampler			PID - Ph	otoioniz	ation De	etector	Logged by	: DFR	
No Recove	-			itic Wate	er Level		Approved	by: ALN	
Continuous	Core		<u>▽</u> Wa	ter Leve	l (ATD)			•	
							Figure No.		

	Mana	~ L				toring Well Construction		
	Aspe			ect Numl	ber	Well Number	Sheet	
5	OCONSULTI	· · · =	0	80190		MW-9	1 of 2	
Project Na		vroiet				Ground Surface Elev.	279.5 278.78	
Location:	Tacoma, WA					Top of Casing Elev.	- 5/11/2009	0
Driller/Meth						Depth to Water	5/5/2009	9
Depth /	Method: Continuous Co	re 		T	1	Start/Finish Date	3/3/2009	
Elevation (feet)	Borehole Completion	Sample Type/ID Tests	PID (ppm)	Blows/ 6"	Materia Type	Description		Der (fl
1 + 279	Flushmount					Blacktop and concrete.		√ լ
2 + 278	monument, lockable					Vacuumed to 5'.		+ 2
3 + 277	thermos cap							+ 3
4 + 276								+ 4
5 + 274						Qvi		+ 5
6 + 273	3 8					Slightly moist, gray blue, gravelly	y, sandy SILT (ML).	+ 6
7 + 272								+ 7
8 + 271 9 + 271) N				ШШ			+ 8
0 + 270	Quickrite portland	Ц				Qvt Dry, light brown, very gravelly, sa	andy SILT (ML)	+1
1 + 269	cement, 0'-30'					, , , , ,	· '	⊥. 1
2 + 268						Brown, slightly moist, gravelly, si	IITY SAND (SM).	+1
3 + 267								-1
4 265) N							+1
5+ 264		H						+1
6+ 263						Dry, light gray.		+1
7+ 8+ ²⁶²	8 8							+1
9 261						:		Į.
$0^{\frac{1}{260}}$	2" diameter, schedule	Ц				-		+2
1 + 259	40 PVC, threaded							+2
$2^{\frac{1}{2}}$	connections, 0'-60'						hluo	+2
$23 + \frac{257}{256}$	\mathbb{A}					Very dense, slightly moist, gray	biue.	+2
4 + 255								+2
254) N	H						+2
6+ 253						Dry, dark gray blue, sandy SILT	(ML), trace gravel.	$+\frac{2}{3}$
27 + 252 8 + 252								$^{+2}_{-2}$
9 251	\mathbb{A}					Slightly moist, brown, gravelly, v fine to medium sand, predomina		-2
$0^{\frac{1}{250}}$		H				inie to medium sand, predomina	inity iiiie.	+3
1 - 249						.]		-3
32+ ₂₄₇						Grades to trace gravel.		+3
3+ 246								+3
4+						Moist.		+3
5+ 6+ 244	Hydrated bentonite chips, 30'-57'	П				-		+3
37 + 243								+3
8 + 242						1.,		+3
9 + 241						Very gravelly.		+3
0 + 240		H				Trace gravel.		-4
$1 - \frac{239}{238}$						i i ace gravel.		+4
12+						Qva		+4
13+ 236						Loose, moist, dark brown-red SA	AND (SP), trace gravel;	
14 + 235						fine to medium sand, predomina subrounded.	muy mie, mie gravei,	-4
45 + 46 + 234						-		+4 +4
47 233								+4
48 + ²³²						Grades to slightly silty.		-4
$19 + \frac{231}{230}$								+4
	npler Type:	PID	- Photoioniz	⊥ ation De	tector	Logged by:	DFR	
No Red		T	Static Wate					
=	uous Core	$ar{\Sigma}$	Water Leve			Approved by	y: ALN	
-		_	TTAICI LOVE	(, , ı D)		Figure No.		
						i iddic ivo.		

		oct				/lonit	oring Well Construction		
		ect			ect Numb	er	Well Number	Sheet	
- · · · · · ·	ame: Walker C			Ü	80190		MW-9	2 of 2 279.5	
Project Na							Ground Surface Elev.	278.78	
ocation:	Tacoma, \		io				Top of Casing Elev Depth to Water	- 5/11/2009	—— Э
Oriller/Me	Method: Boart Long	year / Spider Son	IC				Start/Finish Date	5/5/2009	
Depth /				T DID	Blows/	Ī	Stat (/ Fillish Date	0/0/2000	1_
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	6"	Material Type	Description		Dep (ft)
51 + 229									-51
$52 + \frac{228}{227}$	Hydrated bentonit	e					Grades to gravelly.		-52
53+ 226	chips, 30'-57'						are as graveny.		+5
54 + 225	<u>\sqrt{2}</u> 3/3/2009						Wet.		-54
55 + 224 56 + 224									+59 +50
7 - 223									-5
8 + ²²²	10/20 sand filter p	oack,					No gravel.		-58
9 ²²¹	57'-70'								-59
$0 + \frac{220}{310}$									-6
1 + 219 218									-6
2 217									+6
3+ 216									+6
4 + 215	2" diameter, 10-slessed schedule 40 PVC								+6
5 + 214	screen, 60'-70'								-6
6+ 7+ ²¹³									+6 +6
3 + 212									- 6
$+^{211}$									+6
) + ²¹⁰	Threaded PVC er	ndcap 🔲					Desire - 1		+7
1 + 209							Boring terminted 70' BGS. Depth to BGS ATD. Well was dry on 5/11/20	water was 54 π 09.	-7
$2 + \frac{208}{207}$									-7
$3 + \frac{207}{206}$									 7:
1+ 205									+74
5+ 204									 7 !
203									+ 70
7+ 3+ 202									+7 +7
201									₇
200									-8
1 $\stackrel{199}{+}$ 1									-8
$2^{\frac{198}{198}}$									-8
3 + 197									-8
1 + 196 195									-8
5+ ₁₉₄									-8
6+ ₁₉₃									-8
7 + 192									- 8
8+ 191 9+ 191									-8 -8
0 + 190									- 9
1 + 189									-9
2+ 188									 9
3 + ¹⁸⁷									-9
$ 4 + \frac{186}{185} $									-9
)5+ ₁₈₄									-9
96 + 183									-9
182									-9
98+ 181 19+									+9i
180									
_	mpler Type:		_	hotoioniz		tector	Logged by: [OFR	
=	ecovery nuous Core		$\overline{}$	atic Wate			Approved by: A	ALN	
Contir	iuous core		∑ Wa	ater Leve	l (ATD)				
							Figure No.		

Project Name: Walker Chevrolet Facoma WA Top of Casing Elev. 280 StartFriesh Date Forman Surface Elev. 280 Top of Casing Elev. 279.45 Sampling Method: Continuous Cree Secretar Engages Forman Surface Elev. 280 StartFriesh Date 577/2009 StartFriesh Date 577/2009 StartFriesh Date 577/2009 Facoma WA Top of Casing Elev. 279.47 Start Brissh Date 577/2009 StartFriesh Date 577/2009 Forman Surface Elev. StartFriesh Date 577/2009 Facoma WA Top of Casing Elev. 279.47 Facoma WA StartFriesh Date 577/2009 Facoma WA Faco	•	Aspec	1	ect Numb		oring Well Construction Well Number	Sheet		
Tecana, WA Top of Casing Elev. 279.45 Sempling Method: Confirmation Core Sempling Method: Confirmation Confirmation Core Sempling Method: Confirmation Confirmati	2		· · =	0	80190				
Depth to Water	•		riolet						
Sampling Method: Continuous Core Start Finish Date			/ Cnider Conie				'		
Service Complicion Service Complicion Service Servic			•				'		_
Part		Continuous Con			Diam'r.		Stativitilish Date	0/1/2000	\mp
1 279 2 778 3 277 3 277 3 277 4 276 5 275 5 275 6 274 7 273 8 277 7 273 8 277 7 273 8 277 10	Elevation Bo	rehole Completion	Sample Type/ID Test		1		<u> </u>		D
Sampler Type: PID - Photoionization Detector Logged by: JMS No Recovery Static Water Level Approved by: ALN	1 - 279 2 - 278 3 - 277 4 - 276 5 - 275 6 - 274 7 - 273 8 - 272 9 - 271 10 - 270 11 - 269 12 - 268 13 - 267 14 - 263 18 - 262 19 - 261 20 - 260 21 - 259 22 - 258 23 - 257 24 - 256 25 - 255 26 - 254 27 - 253 28 - 252 29 - 251 30 - 250 31 - 249 32 - 248 33 - 247 34 - 246 35 - 245 36 - 244 37 - 243 38 - 242 39 - 241 40 - 240 41 - 239 42 - 238 43 - 237 44 - 236 45 - 235 46 - 234 47 - 233 48 - 232	Ouickrite portland cement, 0'-41' 2" diameter, schedule 40 PVC, threaded connections, 0'-60'					Medium dense, wet, dark brown, gravelly SAND (SP); fine to coar gravel, rounded. Medium dense, mosit, gray purp SAND (SM); fine to coarse sand subrounded. Dry to slightly moist, brown to da Loose, moist, dark brown, slightl (SP); predominantly medium to gravel, subrounded. Medium dense, dry to slightly moist, ye gravelly, very silfy SAND (SM); fto coarse gravel, subrounded. Very dense, dry, gray purple bounded. Very stiff, dry to slightly moist, be sandy SILT (ML); fine to coarse gravel, subrounded. Medium dense, slightly moist, day gravelly SAND (SP); fine to coar gravel, subrounded. Medium dense, slightly moist, day very gravelly SAND (SP); predor coarse sand; fine to coarse gravel, subrounded. Medium dense, dry to slightly moist, day very gravelly SAND (SP); predor coarse gravel, subrounded. Medium dense, dry to slightly moist, yellow, slightly silty, gravelly to we (SP); predominantly medium to coarse gravel, subrounded, incredepth. Medium dense, dry to slightly moist, yellown, slight, very gravelly SAND (SP). Loose to medium dense, gravelly SAND (SP). Loose to medium dense, gravelly SAND (SP). Loose to medium dense, gravelly SAND (SP), trace gravel, perdominantly Medium dense, red-brown, gravel (SP), trace gravel; perdominantly Medium dense to dense, gravelly Subrounded. Slightly gravelly; fine gravel. Slightly gravelly; fine gravel. Slightly gravelly; fine gravel. Slightly gravelly; fine gravel.	see sand; fine to coarse see sand; fine to coarse see, silty, very gravelly it fine to coarse gravel, ark brown. y silty, gravelly SAND coarse sand; fine bist, fine to coarse sulder. sellow-red to dark brown, ine to coarse sand; fine rown, gravelly, very sand; fine to coarse sark brown, silty, very see sand; fine to coarse sark brown, slightly silty, minantly medium to sel, subrounded. bow-red to dark brown, to coarse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. slightly silty SAND y medium sand.	
○ No Recovery Static Water Level Approved by: ALN	Sampler Ty				ation De	tector		JMS	
Approved by: ALN			_						
		ore	_				Approved by	y: ALN	
Continuous Core	_ Continuous CC	,,,	Ā	Water Leve	el (ATD)				

ļ	Nama a						oring Well Construction	on Log	
	Aspe			-	ect Numb 80190	oer	Well Number MW-10	Sheet 2 of 2	
Project Name:	Walker Chev				00100		Ground Surface Elev.	280	
Location:	Tacoma, WA						Top of Casing Elev.	279.45	
Driller/Method:	Boart Longyear	/ Spider Sonic	;				Depth to Water	- 5/11/2009	9
	Continuous Core	е					Start/Finish Date	5/7/2009	
Depth / Elevation (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dept (ft)
51 – 229 52 – 228 53 – 227 54 – 226	Hydrated bentonite chips, 41'-56'11"		PID - PI	hotoioniz		00000	Loose, moist. perdominantly medium dense, wet, trace gravel medium sand; fine gravel. Red-brown with black staining, s Black, fine to medium sand. Loose to medium dense, very medium sand. Medium dense, wet, red-brown, sand (SP); no silt, no gravel. Medium dense, wet, dark brown, (SM); fine to coarse sand; fine gravel. Medium dense, wet, dark brown very sandy GRAVEL (GP); fine to coarse gravel, subrounded. Boring terminated 75 ft BGS. Depth to water was 55 ft BGS A 5/11/2009.	ightly gravelly. Slightly gravelly. Slightly clayey; fine to slightly gravelly, clayey o medium sand; fine silty, gravelly SAND ravel to cobbles, to gray, slightly silty, o coarse sand; fine to TD. Well was dry on	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70
No Recovery				atic Wate	er Level		Approved by	r: ALN	
Continuous Co	ore		∑ Wa	ater Leve	l (ATD)				
							Figure No.		

	Mana	~ -					oring Well Construction		
	CONSULTII	J∎ NG		-	ct Numb 30190	er	Well Number MW-11	Sheet 1 of 2	
roject Name:	Walker Chev		I				Ground Surface Elev.	279	
ocation:	Tacoma, WA						Top of Casing Elev.	278.52	
riller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water	- 5/12/2009)
	Continuous Core	e					Start/Finish Date	5/8/2009	_
Depth / Elevation Bor (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Materia Type	Description		D
1 1270	Flushmount						Concrete.		1
1 231 231	monument, lockable thermos cap, concrete						• Qvi • Wet, light brown, silty, very grave	Ily SAND (SM): fine to	+
	seal 0'-1'						coarse gravel, subround to suban	gular.	\downarrow
1 -275							Slightly moist, very silty.		+
5 +274									1
5 +273							Wet, grades to gravelly, very silty coarse sand.	SAND (SM); fine to	t
7 +272							Qvt		1
3 +271 0 +270							Very dense, very silty, very sandy cobbles.	GRAVEL (GM);	I
	2" diameter, schedule — 40 PVC, threaded connections, 0'-53'							+	
1 + 268					8 8	Slightly moist, brown, silty, sandy to coarse sand; fine to coarse gra		1	
2-267						,	1701.	+	
3+266						Grades to brown-gray.		+	
1-265							Gray, very silty.		+
5+264		H					Very moist, brown, silty, very san	dy GRAVEL (GM).	+
6+263							Very hard, very moist, dark gray,	gravelly, very silty	1
7+262 8+261							SAND (SM) with sandy silt interbe	eds	Ī
260							:		I
	Hydrated bentonite							E111/(010) 5	4
	chips, 1'-49'11"						Dry, gray, silty, very sandy GRAV coarse sand; fine to coarse grave		+
2-257									+
3+256							Brown.		+
4+255							Dry, brown, trace to slightly silty,	very sandy GRAVEL	\dagger
5+254							(GP)	•	-
5+253 7+252						8000	Gray, sandy.		Ť
8 - 251						2000	Moist, gray, sandy, very silty GRA	VFL (GM)	1
250							Brown, silty, very sandy.	(3).	1
249		H					Variable and branch to double has	:	#
1+248							Very moist, red-brown to dark brovery silty SAND (SM).	wn, siigntiy gravelly,	+
2+247									t
3+246							Trace gravel.		t
4 - 245									t
5+244 S S S S S S S S S S S S S S S S S S									_
7-242							Qva	um aliabtly aroually	1
8+241							Very moist, red-brown to dark broslightly silty SAND (SM).	wii, siigiiliy graveily,	/
9-240							Interbedded red-brown, very silty	SAND and gray, very	'
239		\blacksquare					sandy SILT (SM/ML)	by to cilty CAND (CM)	4
1 - 238						ШИ	Very moist, red-brown, slightly sill trace gravel; fine to medium sand		ł
2+237								, 0	†
3+236							Very moist, red-brown, slightly sil		†
4+235							interbeds of silty to very silty SAN fine to medium.	ID (SP-SM). Sand is	İ
5+234							into to modium.		1
7-232									1
8 - 231						HHI	 Brown gray, silty SAND interbedon ∆(SM-ML). 	ded with sandy SILT	$\frac{1}{2}$
9+230	7						Dark brown, predominately mediu	ım sand.	/
Sampler Typ	<u>7</u> 5/8/2009 oe:		PID - Ph	otoioniza	ation De	tector	Logged by:	JTL	
No Recovery			_	tic Wate			Approved by	· ΔΙ ΝΙ	
Continuous Co	re		∑ Wat	ter Level	(ATD)		Approved by	ALIN	
							Figure No.		

	Mana	et .					oring Well Construction Log		
	Aspe	_			ect Numl 80190	oer	Well Number MW-11	Sheet 2 of 2	
Project Name:				U	00190		Ground Surface Elev.	2 01 2	
-roject Name. ₋ocation:	Tacoma, WA	VIOLE					Top of Casing Elev.	278.52	
Driller/Method		/ Snider Sonic					Depth to Water	- 5/12/2009	 9
	hod: Continuous Cor						Start/Finish Date	5/8/2009	-
Depth /	Borehole Completion	Sample		PID	Blows/	Material			De
Elevation (feet)	Borenole Completion	Type/ID	Tests	(ppm)	6"	Type	Description		(f
51 - 228							Wet.		-5
52 - 227	5/12/2009								-5
53 +226	10/20 sand filter pack, 49'11"-63'						Gravelly.		 5
54 225 .	1 1 301 305						Trace gravel to slightly gravelly.		+5 +5
56 - 223							Wet, red-brown, interbedded silty S silty SAND (SM).	SAND and slightly	-5
7 - 222	2" diameter, 10-slot,						SILLY SAIND (SIVI).		+5
8 221	schedule 40 PVC								+5
59 ⁺ 220	Sorcen, oo oo								+5
0 +219	1.1						Wet, brown, silty SAND (SM); fine	sand.	+6 -6
1+218 2+217	<u> </u>						Wet, brown, slightly silty, gravelly S	SAND (SP): fine to	-_6
3 - 216	Threaded PVC endcap					OT OLI	coarse sand.	, and (or), and to	_ _ - 6
4 + 215	· · · ·						Qob Slightly moist, gray, very sandy, ve	ry silty GRAVEI	-6
5 +214	• • • • •						(GM).	ry sitty OTVAVEE	+6
6+213]]						Moist, brown. Slightly moist, light brown, sandy.		+6
7 +212 : : : : 8 +211 : : : :	· • • • • • • • • • • • • • • • • • • •								$+\epsilon$
9 - 210	 Natural backfill, 63'-70'					200	Grades to slightly moist, gray, sligh SILT (ML); with wood.	itly sandy, gravelly	-6
0 -209	••••					ШШ		a to water was 52.20	
1 - 208							Boring terminated 70 ft BGS. Depth ft BGS on 5/12/2009.	1 to water was 52.20	+7
2+207									+7
3 + 206									+7 +7
4 +205 5 +204									\[\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
6 +203									+7
7 - 202									 7
8 - 201									 7
9 200 0 199									+7
1-198									+8 +8
2 197									-8
3 - 196									-8
4 - 195									-8
5 + 194									+8
6 193 7 192									-8 -8
8-191									-8
39 - 190									-8
0 + 189									+6
1 + 188									+6
2 187	37								+9 +9
3+186 4+185									-9
95 184									- 9
96 – 183									-9
7 - 182									-9
98 + 181									+9
99 + 180									-9
Sample			PID - P	hotoioniz	ation De	tector	Logged by:	JTL	
No Recove				atic Wate	er Level		Approved by: A	AI N	
Continuou	s Core		<u></u> ∇ W	ater Leve	l (ATD)		Apploved by. I	· · ·	
							Figure No.		

	Mana				ı	Monit	oring Well Construction	Log	
	CONSULTIN	C T NG		-	ect Num 80190	oer	Well Number MW-12D	Sheet 1 of 3	
Project Name:	Walker Chev	rolet					Ground Surface Elev.	278	
Location:	Tacoma, WA						Top of Casing Elev.	277.72	
Driller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010)
Sampling Method	d: Continuous Core	e					Start/Finish Date10/2	5/2010 - 10/27/2010	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Depth (ft)
Depth / Elevation		Sample	Tests		1	Type		ady SILT (ML); fine LT (ML); fine to elly, sandy SILT AND (SP-SM); fine subrounded D (SM); fine to bounded; fine to AND (SP-SM); fine brounded; fine to ly clayey, slightly e (6") velly SAND (SM); arse sand lly, very silty SAND slightly gravelly, silty ntly fine to medium ID (SM) arravel and silt; fine dium sand (SP-SM); medium lty SAND (SM); fine sand AND (SP); trace silt; film sand ND (SP); trace silt; film sand ND (SP); fine to ledium sand ND (SP); fine to ledium sand ND (SP); trace silt; film sand ND (SP); fine to ledium sand ND (SP); trace silt; film sand	Depti (ft) - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42
43 - 235 44 - 234 45 - 233 46 - 232 47 - 231 48 - 230 49 - 229							Dark brown, gravelly SAND (SP) Dark brown/yellow-red, slightly grav trace silt; fine gravel; fine to mediun Slightly gravelly SAND (SP); mediun	n sand	-43 -44 -45 -46 -47 -48 -49
Sampler T	ype:		PID	- Photoioniz	ation De	tector	Logged by: J	IMS	
No Recovery			▼	Static Wate			90 ,		
Continuous C			_				Approved by: A	ALN	
LI Continuous C	DOI E		$\bar{\Delta}$	Water Leve	l (ATD)				
							Figure No.		

•	Mone	ct					oring Well Construction		
	CONSULTI	U I ING		-	ct Numb 30190	er	Well Number MW-12D	Sheet 2 of 3	
Project Name:	Walker Che				30100		Ground Surface Elev.	278	
ocation:	Tacoma, WA						Top of Casing Elev.	277.72	
Oriller/Method:	Boart Longyear	r / Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010	0
Sampling Method:	Continuous Co	re					Start/Finish Date10/2	25/2010 - 10/27/2010	_
Depth / Elevation (feet) Box	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _l
51 – 227							Medium to coarse sand		-5
52 +226							Slightly gravelly SAND (SP); fine to (1.5"); predominantly medium sand		-5
53 - 225							(1.0), predominantly mediam same	•	-5
4-224									-5
55 + 223							Trace silt; fine gravel		-5
6+222							Trade citt, inte graver		+5
7+221							D 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		5
8+220							Dry, dark brown, silty SAND (SM); fine to medium sand	trace fine gravel;	+5
9+219 0+218		Ш					Dry, dark brown SAND (SP); mediu	ım sand	5 6
1+217							bry, dark brown SAND (Sr.), medic	iii sana	-6
1-217 1-216									-6
-215									+6
1-214									+6
5-213									+6
6-212									+6
7-211							Gravelly SAND (SP); trace silt; fine		+6
8-210							(3"), subrounded; medium to coars	e sand	+6
9+209									+6
0+208		H				0191	Qob		+7
1+207						200	Slightly moist, dark brown, slightly		+7
2+206							GRAVEL (GW-GM); fine to coarse coarse	graver (2); fine to	\frac{7}{7}
3+205 4+204							Wet, dark brown/dark gray, slightly	silty, very gravelly	J⊢7 ⊢7
5+203							SAND (SP-SM); fine to coarse grave coarse sand	vel (2"); medium to	₇
6-202							Wet, red-brown, silty, very sandy G	RAVEL (GM): fine	7 ــــــــــــــــــــــــــــــــــــ
· - 201							to coarse gravel (2"); fine to coarse	e sand	J - 7
3 + 200	<u>Z</u>						Wet, yellow-red, silty, gravelly SAN coarse gravel (2"); fine to coarse sa	ID (SM); fine to	 7
9+199							Moist/very moist, dark brown, sligh		/7
0+198 1+197		H					SAND (SP-SM); fine to coarse gravicoarse sand		8
2-196							Moist/very moist, yellow-red, silty, v (SM); fine to coarse gravel (2"); fine	very gravelly SAND e to coarse sand	- 8
3+195 4+194		П					Moist/very moist, yellow-red, silty, v	very sandy GRAVEL	8-1
5+194 5+193							(GM); fine to coarse gravel (3.5"); f]_8
6+192							Wet, red-brown/dark brown, slightly (SP); fine gravel; predominantly me		e
7 - 191						9000	Wet, dark brown, slightly silty, grav	elly SAND (SP-SM);	3 ار
8+190						1111	Wet, brown, silty, very sandy GRA	VEL (GM); fine to	3+L
9+189 0+188							coarse gravel (2"); fine to coarse sa		 -8 -9
1-187							silty, SAND (SP-SM) lense (6") Wet, dark brown, silty, very gravelly	v SAND (SM): fine to	JII
2-186							coarse gravel (1"); predominantly of]9
3-185							Dry, gray SILT (ML)	reandy CILT (MIL):	9
4 – 184							Red-brown slightly gravelly, slightly fine gravel; fine to medium sand	sanuy SILT (IVIL);	-g
95 - 183		H					Dry, brown, gravelly, very silty SAN	ID (SM); fine gravel;	 9
96+182							fine to coarse sand	ALOUT MALLS	J −9
97 + 181							Dry, dark brown, gravelly, very san coarse gravel; fine to coarse sand	ay SILT (ML); fine to	11 ~
98+180 99+179						0.0.0	Yellow-red, slightly silty, very grave		9 9 –/ر
Sampler Ty	pe:		PID - PI	hotoioniza	tion De	[네모바벨년 tector		JMS	/
No Recovery			▼ Sta	atic Wate	r Level			A 1 A 1	
Continuous Co	ore		∇	ater Level			Approved by: A	ALN	
-			- vva	ater Level	(A1D)		Flamma Na		
							Figure No.		

,	Mara a				N	/lonit	oring Well Construction	n Log	
	Aspe	CT		-	ct Numb		Well Number	Sheet	
Project Name:	Walker Chev	-		U	80190		MW-12D Ground Surface Elev.	3 of 3	
Location:	Tacoma, WA	riolet					Top of Casing Elev.	277.72	
Driller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/201	0
	Continuous Cor						· · <u></u>	25/2010 - 10/27/2010	
	rehole Completion	Sample Type/ID	Tests	PID (mag)	Blows/	Material Type	Description		Dep
Elevation (feet) 101-177 102-176 103-175 104-174 105-173 106-172 107-171 108-170 109-169 110-168 111-167 112-166 113-165 114-164 115-163 116-162 117-161 118-160 119-159 120-158 121-157 122-156 123-155 124-154 125-153 126-152 127-151 128-150	10/20 filter pack, 110'-134.5' 2" diameter, 10-slot, Sch 40 PVC screen, 113'-133' ✓ 10/26/2010 ✓ 10/29/2010 PVC endcap Hydrated bentonite chips, 134.5'-140'	Sample Type/ID	Tests	(ppm)	6"		Slightly moist, dark brown, sandy, fine to coarse gravel (3"); fine to coarse gravel (3"); fine to coarse gravel (SM); fine to coarse gravel (3"); fine to coarse gravel (1.5 sand Moist, dark brown, slightly silty, gra (SP-SM); fine to coarse gravel (1.5 sand Moist, dark brown SAND (SP); tradition and Slightly moist, dark brown, silty, very (GM); fine to coarse gravel (3"); fine to coarse sand Dry, dark brown/gray, sandy, silty gravel to cobbles, rounded to subracoarse sand Moist, yellow-red/gray, slightly silty (GW-GM), fine to coarse gravel (3"); fine to coarse gravel (2"); fine to coarse gravel (2"); fine to coarse gravel (2"); fine to coarse gravel (3"), rounded to subracoarse gravel (3"), fine to coarse gravel (3"), rounded to subracoarse gravel (3"), rounded to subracoarse gravel (3"), fine to coarse g	ilty, very gravelly (1.5"); fine to coarse AND (SM); fine to and avelly SAND ;"); fine to coarse ce fine gravel; ery sandy GRAVEL te to coarse sand lty GRAVEL (GM); coarse sand gravelly SILT (ML); fine ounded; fine to y SILT (ML); fine elly SILT (ML); fine to coarse avelly SILT (ML); fine to coarse sand avelly SILT (ML); fine to coarse avelly SILT (ML); fine to coarse avelly SILT (ML); fine to coarse sand 10 10 10 10 10 10 10 10 10 10 10 10 10 1	
Sampler Ty	pe:		PID - Pho			tector	Logged by:	JMS	
○ No Recovery○ Continuous Co	ore		∇	tic Wate ter Leve			Approved by:	ALN	
_			- wai	ei Leve	i (AID)		Figure No.		

	Mana	~ ‡					oring Well Construction		
	CONSULTI	UT NG		-	ect Numb 80190	oer	Well Number MW-13D	Sheet 1 of 3	
roject Name:	Walker Chev	vrolet					Ground Surface Elev.	277	
ocation:	Tacoma, WA						Top of Casing Elev.	276.96	
riller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010	C
Sampling Metho	d: Continuous Cor	re					Start/Finish Date 10/27	7/2010 - 10/29/2010	
	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/	Material Type	Description		D
(feet) 1 -276	Flushmount					 	Air Vacuum - No Recovery		t
2 +275	monument, thermos								1
3 +274	3								1
4 +273	Concrete seal, 0'-6'						Q		\downarrow
5 +272	K						Qvi Dry, brown, gravelly SAND (SP); tra	ace silt; fine to	A
6 +271	2						coarse gravel (1.5"); predominantly	fine sand	H
7 +270	Hydrated bentonite chips, 6'-121'						Dry, brown, slightly gravelly, silty SA gravel; fine sand	AND (SM); fine	lt
3 +269	Chips, 6-121						Dry, dark brown, slightly silty, very o		†
9 +268	011 diamatan Oak 40						(SP-SM); fine to coarse gravel (1.5"		1
0+267 1+266	2" diameter, Sch 40 PVC, 0.4'-125'	П					sand Gray, slightly silty, very gravelly SAI	ND (SP-SM) lense	
2+265							(2")		
3-264							Qvt Dry/slightly moist, gray, gravelly, silt	tu CAND (CM); fina	
4-263							to coarse gravel (1.5"); fine to coars	se sand	J
5-262							Dry, yellow-red/gray, sandy, very grafine to coarse gravel (1.5"); fine to co		+
6+261							Dry, gray, silty, very gravelly SAND		-
7+260							gravel (1"), rounded to subrounded;	fine to coarse sand	
259							Yellow-red/gray mottling, slightly gra	avelly, silty SAND	
+258 +257		Ш					(Civi)		
1-256							Dry, yellow-red/brown, silty SAND (
2-255							fine gravel; predominantly fine sand Gray, silty, very gravelly SAND (SM		
3-254							gravel (2.5"); fine to coarse sand	,,	
1-253									
5 + 252									+
6+251									
7+250							5 "	CAND (OD OM)	1
3+249							Dry, yellow-red, slightly silty, gravell fine to coarse gravel (3"); predomination	.y SAND (SP-SM); antly fine to medium	,
1 - 248 1-247							sand		
1 +246							Slightly silty, very gravelly SAND (S	P-SM); fine to	
2+245							coarse gravel (1.5"); fine to coarse	sand	_
3+244							Qva Dry, yellow-red, slightly gravelly SAl	ND (SP): trace silt:	-
243							fine gravel, rounded; predominantly	medium-fine sand	
5-242									
6+241							Fine to coarse gravel (1.5"); predom	ninantly medium	-
7+240							sand	a.i.ay iii aa.a.iii	
3+239									
)+238							1		
0+237 1+236							Slightly moist, dark brown, gravelly		1
2-235							coarse gravel (2"); predominantly m	eulum sand	
3+234							SAND (SP); medium sand		-
-233									-
5-232							Silty, gravelly SAND (SM) lense (6"))	
6-231							Yellow-red, slightly gravelly SAND (SP); fine gravel	-
7 – 230							Dark brown, slightly gravelly SAND	(SP); trace silt: fine	
3+229							to coarse gravel (2"); predominantly		1
9+228							sand		1
Sampler 3			_	notoioniz		tector	Logged by: J	IMS	
No Recover Continuous			∇	atic Wate			Approved by: A	ALN	
Continuous	COIE		<u> </u>	ater Leve	l (ATD)		_		
							Figure No.		

,	Mana	~ +					oring Well Construction		
	CONSULTI	CT ING		-	ct Numb 30190	oer	Well Number MW-13D	Sheet 2 of 3	
Project Name:	Walker Che	vrolet	I				Ground Surface Elev.	277	
ocation:	Tacoma, WA						Top of Casing Elev.	276.96	
riller/Method:	Boart Longyear	r / Spider Sonic	;				Depth to Water (ft BGS)	- 10/29/2010	0
Sampling Method:	Continuous Co	re					Start/Finish Date10/2	7/2010 - 10/29/2010	_
Depth / Elevation (feet) Bo	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (f
51 - 226							Trace gravel		-5
2-225									-5
3-224									+5
4 - 223									-5
5-222							Fine gravel		-5
6-221							Fine gravel		+5
7-220									-5
8-219									-5
9+218							Slightly moist, gray, silty SAND (SM	1): fine sand	+5
)+217							Dry, dark brown/yellow-red SAND (+6
1-216							sand	,, .	+6
2+215									+6
3+214						IIII	Slightly moist, dark brown, silty SAI	ND (SM); fine to	$+\epsilon$
1+213							medium sand	, ,,	+6
5+212		H				i	Dry, yellow-red/dark brown SAND (SP); medium sand	$+\epsilon$
6-211							Very gravelly SAND (SP) lense (6")		+6
7+210									+6
+209									+6
9+208 0+207							Dark brown silty SAND (SM) lense	(6")	+6
1+206							Slightly moist/moist, dark brown, gr		\[\frac{7}{7}\]
2+205							fine to coarse gravel (2"), rounded t		[₇
3+204							medium-fine sand Moist/very moist, dark brown SAND	(SP): trace gravel	+7
1-203						(1) (1)	•	- (Or), trace graver	ֈ՛ +7
5+202							Qob Wet, yellow-red/dark brown, silty, s	andy GRAVEI	<u>+</u> 7
5-201						8 8 8	(GM); fine to coarse gravel (2"); fine	e to coarse sand	<u>+</u> 7
·+200							, ,		<u>+</u> 7
199									<u>+</u> 7
- 198							Moint grove alightly grovelly years	Ity CAND (CM): fine	+7
- 197							Moist, gray, slightly gravelly, very sigravel; fine to coarse sand	ity SAND (SW); fine	-8
- 196	록						Wet, red-brown, silty, gravelly SAN	D (SM); fine to	-8
- 195							coarse gravel (1.5"); fine to coarse	sand, predominantly	· 8
- 194						9101	Wet, red-brown, slightly silty, grave	lly SAND (SP-SM)	[/] -8
- 193						7 7 6 14	fine to coarse gravel (3"); predomin	antly medium sand	<u></u> ∦8
5-192		H					Moist, red-brown, sandy, silty GRA		1
6+191							coarse gravel (3"), rounded to subre	ounaea; tine to	-8
7+190							Wet, red-brown, slightly silty, grave	lly SAND (SP-SM);	3 + ا
3+189							fine gravel; fine to coarse sand, pre	dominantly coarse	+8
9+188							Moist/very moist, yellow-red/red-brovery gravelly SAND (SP-SM); fine to		+8
0+187							rounded to subangular; fine to coan		/ 5
1+186							Dry, dark brown, sandy, very gravel	ly SILT (ML); fine to	1 5
2+185 3+184						HANN.	coarse gravel (2.5"), rounded to sub coarse sand	pangular; fine to	+9 -9
3 + 184 4 + 183							Wet, dark brown, sandy, very silty (GRAVEL (GM): fine	7
5-182						414	to coarse gravel (2"), rounded to su		\[\]
6+181							\coarse sand		/_s
7-180							No recovery		+9
8-179		9							+9
9-178									-9
Sampler Ty	pe:		PID - Ph	notoioniza	ation De	tector	Logged by:	IMS	
No Recovery			▼ Sta	atic Wate	r Level		Approved by: A	N N	
Continuous Co	ore		∑ Wa	iter Level	(ATD)		Approved by: A	∖∟I V	
							Figure No.		

Tacoma, WA Boart Longyear / Spider Sonic Implify Method: Continuous Core Fig. 17. Service Continuous Core Fig. 17. Moss. brown, silly, sandy GRAVEL (GM); fine to coarse gravel (7.) predominantly coarse Sand Fig. 17. Service Continuous Core Fig. 17. Service Continuous Core Fig. 17. Service Continuous Core Fig. 17. Moss. brown, silly, sandy, silly GRAVEL (GM); fine to coarse gravel (7.) predominantly fine to coarse gravel (7.) predominantly fine sand coarse gravel (7.) predominantly fine to coarse gravel (7.) predominantly fine sand coarse gravel (7.) predominantly fine sand coarse gravel (7.) predominantly fine sand coarse gravel (7.) predominantly fine to coarse gravel (7.) predominantly medium to coarse gra	1	Mona	ct		D!			oring Well Construction		
Tracema, WA Boart Longyear / Spider Sonic Start Finish Date 10/27/2010 - 10/29/2010 Start Finish Date 10/27/2010 - 10/29/2010 Start Finish Date 10/27/2010 - 10/29/2010 Doartoco Consider 10/27/2010 - 10/29/2010		CONSULTI	N G		-		per			
InterPrinciple Boart Lorgyear / Spider Sonic Depth to Watter (ft BGS) - 10/28/2010 Start/Finish Date 10/27/2010 - 10/28/2010 Most, brown, sity, gravely SAND (SM), fine 10/28/2010 Start/Finish Date 10/27/2010 - 10/27/2010 Start/Finish Date 10/27/2010 - 10/27/2010 Start/Finish Date 10/27/2010 Most, brown, sity, gravely	Project Name:					30.00				_
ampling Method: Continuous Core Services Services Graphic Compilation Services Fige 10	ocation:	Tacoma, WA						Top of Casing Elev.	276.96	
Semple Searche Completion Semple SpanD Tests (psn) ests (psn) Tests (psn) Tests (psn) Tests (psn) Tests (psn) Tests (ps	Oriller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010)
Breithed Completion Support Tests (port) T		: Continuous Cor	е					Start/Finish Date10/2	7/2010 - 10/29/2010	_
10-1-76 10-1-76 10-1-77 10-1-1-77 10-1-1-77 10-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Elevation Bo	orehole Completion	Sample Type/ID	Tests				Description		ı
	Elevation (feet) 101-176 102-175 103-174 104-173 105-172 106-171 107-170 108-169 109-168 110-167 111-166 112-165 113-164 114-163 115-162 116-161 117-160 118-159 119-158 120-157 121-156 122-155 123-154 124-153 125-152 126-151 127-150 128-149 129-148 130-147 131-146 133-144 134-143 135-142 136-141	10/20 filter pack, 121'-146' 2" diameter, 10-slot, Sch 40 PVC screen, 125'-145' ▼ 10/28/2010 ▼ 10/29/2010	Sample Type/ID	Tests			Type	Moist, brown, silty, sandy GRAVEL cobbles (4"), rounded to angular; fir with silty, gravelly SAND (SM) lensed to coarse gravel (3"), rounded to succarse sand Moist, brown/dark brown, sandy, silt fine to coarse gravel, rounded to succarse sand Very moist, dark brown/yellow-red, (SM); fine to coarse gravel (1"); presand Very moist, brown/dark brown, sand GRAVEL (GM); fine to coarse gravel (1"); presand Very moist, brown/dark brown, sand GRAVEL (GM); fine to coarse gravel (2"); predominantly fine sand Dry, light brown, sandy, silty GRAV to cobbles (3.5"), rounded to subrocoarse sand Moist, brown, silty, gravelly SAND (Wet, dark brown, slightly silty, gravelly savel to cobbles (4"); fine to coarse yeavel to cobbles (4"); fine to coarse gravel (2"); predominantly moist, brown, silty, very gravel to cobbles (4"); predominantly moist, brown, silty, very sandy GRA coarse gravel (2"); predominantly moist, brown, silty, very sandy gravel to cobbles (4"); predominantly moist, gray, sandy, very silty GRAV coarse gravel (2"); fine to coarse yeavel (2"); fine to coarse yeavel (2"); fine to coarse gravel (2"); predominantly moist, gray, sandy, very silty GRAV coarse gravel (2"); fine to coarse sand Wet, brown, slightly silty, very gravelito coarse gravel (2"); predominantly gravel to cobbles (4"); predominantly gravel to coarse gravel (2"); predominantly gravel to cobbles (4"); predominantly gravel to cobbles (4"); predominantly gravel to cobbles (4"); predominantly gravel to coarse gravel (2"); predominantly gravel to coarse gravel (2"); predominantly gravel to coarse gravel (3"), rounded to succarse sand	ne to coarse sand; e (6") Illy SAND (SM); fine ibrounded; fine to Ity GRAVEL (GM); ibrounded; fine to silty, gravelly SAND idominantly coarse dy, very silty el (2.5"); fine to ghtly silty, gravelly yel (2"); EL (GM); fine gravel unded; fine to (SM) lense (6") elly SAND (SP-SM) or GRAVEL (GM); fine to nedium sand gravelly SAND predominantly AVEL (GM); fine to nedium sand GRAVEL (GM); fine to and gravelly SAND (SP-SM); antly medium to or SAND (SP-SM); antly coarse sand gravelly SAND (SP-SM); antly coarse sand gra	
	No Recovery Continuous Co	ore		∇				Approved by: A	ALN	
Approved by: Al N	_			vva	ici Ecve	(110)		Figure No.		

	Mona	~ +					oring Well Construct		
	Aspe			-	ct Numb 30190	er	Well Number MW-14D	Sheet 1 of 3	
Project Name:	Walker Chev	/rolet					Ground Surface Elev.	278	
Location:	Tacoma, WA						Top of Casing Elev.	277.46 ft	
Oriller/Method:	Major Drilling	Jeffrey / Sonic	Geoprobe 8	140LS - tı	rack mo	unted	Depth to Water (ft BGS)	<u>'</u>	
	Continuous Cor	e					Start/Finish Date	1/30/2012 - 2/2/2012	_
Depth / Elevation (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	ı	Dep (ft
	Flush mounted steel well monument; thermos cap Cement surface seal from 0-2' bgs 2" ID schedule 40 PVC casing, threaded connection, 0'-123' Bentonite chip seal (NSF/ANSI 60), 2'-121' bgs	Type/ID Type/ID		(ppm)	6"	Type 000000000000000000000000000000000000	Cleared for utilities using an air Moist, brown, very gravelly, ver cobbles up to 5"; fine to medium Slightly moist, sandy, very gravelly medium sand; cobbles up to 4" Diamict fabric. Moist, brown, gravelly, very silt medium sand; subangular grave cobbles up to 4". Orange-brown. Brown. Moist, brown, slightly silty, grave to medium sand; subrounded gravel. Brown. Qva Moist, gray, gravelly, silty SAN sand; subangular gravel. Brown. Qva Moist, brown, slightly gravelly smedium sand. 1" pockets of pink, slightly silty silty Moist, gray, slightly silty, grave to medium sand. 1" pockets of pink, slightly silty gravely silty, grave to medium sand. Moist, gray with iron stain mott silty sand; subrounded gravel. Moist, brown, slightly silty, gravely sil	ry silty SAND (SM); m sand, diamict fabric. yelly, SILT (ML); fine to yel; diamict fabric; yelly SAND (SP-SM); fine gravel. D (SM); fine to medium SAND (SP); fine to SAND. ling, gravelly, very sandy d; subrounded gravel; lly SAND (SP-SM); fine ravelly SAND (SP); trace	- 1 - 2 - 3 - 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4
Sampler Ty	pe:		PID - Ph	otoioniza	ition De	tector	sand, subangular fine gravel w Logged by	ith cobbles.	Щ
No Recovery	•		_	itic Water		.55(0)			
			0.0	inc vvale	LEVE		Approved	bv: ALN	
Continuous Co	ore .		∑ Wa	ter Level				- ,	

ı	Mana						oring Well Construction		
	Aspe	CT		•	ct Numb	er	Well Number	Sheet	
Dunin at Name :	Walker Chev			08	30190		MW-14D	2 of 3	
Project Name:		rolet					Ground Surface Elev.	277.46 ft	
_ocation:	Tacoma, WA	. "					Top of Casing Elev	- 2/3/2012	
Driller/Method:	Major Drilling - C		Geoprobe 8	8140LS - t	rack mo	unted	Depth to Water (ft BGS)	30/2012 - 2/2/2012	-
Depth /	Continuous Cor	e I I				T	Start/Finish Date1/3	50/2012 - 2/2/2012	$\overline{}$
Elevation (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (
T I							Moist, dark gray brown, slightly gra		+_
51 +227							medium to coarse sand, fine subro		/
52+226 53+225							Moist, red-brown, slightly silty SAN sand; trace gravel.	D (SP-SM); medium	-5 -5
54 +224							Gravelly.		<u>/</u> -5
55 +223							Moist, yellow-brown SAND (SP); m sand.	edium to coarse	+5
56 +222							Sanu.		+5
57 - 221									+5
58+220									
59+219							Moist, gray, slightly silty SAND (SP medium sand, trace fine gravel; fair		+5
60 + 218		H					Moist, brown to dark brown SAND (-+6
31 +217								, - ,, J	+6
32+216 33+215						Red-orange, slightly gravelly.			
34 +214								Į,	
65 +213					1111			4	
66 -212						Very moist to wet, brown, very silty sand.	SAND (SM); fine	+	
67-211							Grades to fine to medium sand.		\mathcal{A}
68 + 210		H					Wet, dark red-brown, very gravelly		+
69 + 209							sand; trace silt, with cobbles up to	э.	+
70+208									+
71 +207							Wet, brown-gray SAND (SP); trace	gravel; medium	+
72+206 73+205						0,0,0	sand.		4
74 - 204							Qob Wet, red-brown GRAVEL (GW); fin	e to coarse gravel;	<u>F</u> :
75 - 203		H					trace silt; trace coarse sand. Moist, red-brown with iron staining.	vory gravally SAND	<u></u> ֈֈ.
76 - 202 77 - 201							(SP); medium sand, fine to coarse cobbles up to 3"; trace silt; diamict Brown.	rounded gravel with	Į.
78 +200 79 +199 80 +198							Dry, gray, gravelly, very sandy SILT medium sand; subrounded to suba	Γ (ML); fine to ngular gravel;	-/- - -
31 - 197 32 - 196							Cobbles up to 4". Moist, brown-red, slightly gravelly S sand: subrounded gravel; trace silt.		/- E
33 – 195 34 – 194		H					Slightly moist, gray, gravelly, silty S medium sand; fine to coarse subrogravel.		-
35 193						HUIT	Wet, brown SAND (SP); fine to me	dium sand trace	+
86 + 192						0000	\gravel.		廾
87 +191 88 +190							Wet, red-brown GRAVEL (GP); coa \cobbles.	arse gravel and	_ /
89 - 189 90 - 188 91 - 187		\parallel					Very moist to wet, brown, gravelly, diamict fabric, cobbles up to 4". Gray.	sandy SILT (ML);]
92 - 186 93 - 185 94 - 184							Moist, gray-brown, slightly gravelly, fine to medium sand.	silty SAND (SM);	+
95 +183 96 +182 97 +181 98 +180							Moist to wet, brown-gray SAND (SF sand.	²); fine to medium	+
99+179							Moist, gray-brown, slightly silty, gra	velly SAND	+
Sampler Ty	pe:		PID - F	hotoioniza	ation De	r. · It.It.I tector	Logged by:		
No Recovery			_	tatic Wate					
Continuous Co	ore		∇	ater Level			Approved by: A	ALN	
			- vv	ator LEVE	(110)		Figure No.		

	Aspe	ct					ni	to	ring Well Construction		_
	A -			-	ect Numl 80190				Well Number	Sheet 3 of 3	
Project Name:	Walker Che			U	00190				MW-14D Ground Surface Elev.	278	
ocation:	Tacoma, WA								Top of Casing Elev.	277.46 ft	_
			. Cooprobo 0	1401.0	trool m	21124			Depth to Water (ft BGS)	- 2/3/2012	
Oriller/Method: Sampling Metho	Major Drilling - od: Continuous Co		Geoprobe o	140LS -	liack me	Juni	eu		Start/Finish Date	1/30/2012 - 2/2/2012	-
Depth /				BID	Blows/	Т.,			Start illigit Date		Ŧ
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	6"		teria ype		Description		
01-177						300		ລ I ທ	SP-SM).]
02-176						Ro			Moist to wet, brown, very sandy ine to coarse sand; fine subrour		-
03-175		H				800			gravel.	3	+
04-174						ħ	TH TH) s	Slightly moist, gray and brown m	nottled gravelly sandy	\dashv
05+173								s	SILT (ML); fine to medium sand;		†
06-172								d	diamict fabric.		
07 + 171 08+170											
09-169											
10-168		Ш									
11-167						Щ	Щ				
12-166								- N	Moist, brown and gray mottled, g SM); fine to medium sand; subr	gravelly, silty SAND rounded gravel up to 2"	
13-165								'	civi), fine to mediam sand, sub-	ounded graver up to 2	٠.
14-164							 -		Dry to slightly moist, gray with ire	on stain mottling	_
15-163									gravelly, sandy SILT (ML); diami		
16-162						Ш	Щ	Ľ			
7+161									Moist, brown-gray, slightly silty, SP-SM); medium to coarse san		
18-160						П		1.1	Moist, brown-gray, gravelly, silty		_
19 + 159 20+158									up to 3".	, ,,	
21-157							Ш	ŀ			
22-156		Ш						S	Slightly moist, gray, gravelly, sar medium sand; cobbles up to 3".	ndy SILT (ML); fine to	
23-155						97	10	$\mu \sim 100$	Moist, brown, very silty, sandy G	RAVEL (GM): cobbles	
24-154						2 4) 		up to 4", angular gravel, fine to c		
25 153	10x20 colorado silica					H	#		Ory to slightly moist, gray, grave	lly_sandy.SILT (ML):	_
26 152	sand filter pack, 121'-143.5' bgs								ine to medium sand, cobbles up		
27+151											
28 150							Т		Moist, brown-gray with orange m		_
29 149	∵. ∵. <u>∇2/1/2012</u>								gravelly SAND (SM); fine to coar angular gravel with cobbles up to		•
30+148 31+147								l a	angular graver with cobbles up to	03.	
32 146											
33 145											
34-144	∑ 2/3/2012					Ш	11	N	Moist to wet, gray-brown, gravell	y, sandy SILT (ML);	_
35 143	2" ID schedule 40 PV0	c –							ine to coarse sand, fine to coars diamict fabric.	se subangular gravel;	
36 142	20-slot screen, 123.5'-143.5' bgs							11	/ery gravelly.		
B7 141	120.0 1 10.0 290							'	iony gravony.		
38 140 ==								N	Moist.		
39 139								v	Vet.		
10 138											
1+137 2+136											
13-135											
134	. Threaded PVC end										
15 133	сар					Ш	Ш	4	Pottom of having at 1451 DOC		_
16 132									Bottom of boring at 145' BGS.		
47 - 131											
130											
49 - 129											
Sampler	Type:		PID - Ph	otoioniz	ation De	etec	or		Logged by:	AET	_
No Recover			_	itic Wate		0					
Continuous	•		∇						Approved by	y: ALN	
•			− vva	ter Leve	ı (AID)				F: A:		
									Figure No.		

	pect
• СОЙ	SULTING

Figure No.

278.84 ft

Monitoring Well Construction Log
mber Well Number Project Number Sheet 080190 MW-15 1 of 2

Walker Chevrolet Project Name: Ground Surface Elev. (site datum)

Top of Casing Elev. (site datum) Location: Tacoma, WA

Depth to Water Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle

Driller/Meth Sampling M	Method: No samples	ng / Hollow Stem	Augel - Aligie			Start/Finish Date 10/14/2013	
Depth /		Sample	P	ID Blows/	Material		Do
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests (p	om) 6"	Material Type	Description	De (f
1 +	Flushmount monument, lockable				2.0.2.04.0.	Concrete.	/ 1
2 +	thermos cap, concrete					No logging or sampling.	+ 2
3 +	seal 0'-4'						+ 3
4 +							+ 4
5 +						Boring drilled 37 degrees from vertical to intercept	+ 5
6 +						saturated soil under alley.	+ 6
7 +							+ 7
8 +							+ 8
9 +	Oll diagratus askeddala						+ 9
10 11 	2" diameter, schedule 40 PVC, threaded						+1 +1
12-	connections, 0'-55'						-1
13+							ļ' +1
14 +							-1
15+							<u>+</u> 1
16+							<u>+</u> 1
17+							<u>+</u> 1
18+							 1
19+							+1
20+	Hydrated bentonite chips, 4'-52'						+2
21+	Cimps, 4-52						+2
22+ 23+							+2 +2
24 -							-2
25 -						Strong solvent-like odor in cuttings. (24 ft bgs)	+2
26+							-2
27							-2
28 +							+2
29+							+2
30+			36	6.7			+3
31+							+3
32+							+3
33+ 34+							+3
85 + B							Ţ:
86+							
B7 +							1
88 +							+3
19							+;
0+							+4
11+							+4
2+							†'
3+							+
4+ 5+							+4
6+							[
7-							Ľ
18 -							+2
49 -							+4
	nlan Tung :				<u> </u>		
	pler Type:		PID - Photoid			Logged by: AET	
O No Rec	covery		▼ Static V	/ater Level		Approved by: ALN	

Water Level (ATD)

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

	Manag	- -			N	Nonit	oring Well Construction		
	Aspec	T			ct Numb	oer	Well Number	Sheet	
	CONSULTIN			0	80190		MW-15	2 of 2	
Project Name:	Walker Chev	rolet					Ground Surface Elev. (site d		
Location:	Tacoma, WA						Top of Casing Elev. (site dat	(um) 278.84 ft	
Driller/Method:	Cascade Drilling	/ Hollow Ste	m Auger - Ano	gle			Depth to Water	10/11/00/10	
Sampling Method	d: No samples						Start/Finish Date	10/14/2013	
	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Depti (ft)
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 -	10/20 sand filter pack, 52'-75' 2" diameter, 0.020-inch, schedule 40 PVC screen, 55'-75'	Type/ID		(ppm)	6"	Туре	Well screen is completed in advance alley, 33 to 45 ft west-northwest of to 60 ft below ground surface Bottom of boring is 60 feet below ground surface	monument, and 44	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70 -71 -72 -73 -74 -75 -76 -77
77 -									-77 -78 -79 -80 -81 -82 -83 -844 -85 -86 -87 -88 -89 -90 -91 -92 -93 -94 -95 -96 -97 -98 -99

Sampler Type:

PID - Photoionization Detector

Logged by: AET

O No Recovery

MONITORING WELL

▼ Static Water Level

Approved by: ALN

✓ Water Level (ATD)

		Mana					Monit	oring Well Construction Log		
		Aspe	CT			ct Numb	per	Well Number S	Sheet	
		CONSULTI			0	80190			of 2	
Project Na	ame:	Walker Chev	/rolet					Ground Surface Elev. (site datum)		
Location:		Tacoma, WA						Top of Casing Elev. (site <u>datum)</u>	277.88 ft	
Driller/Me	thod:	Cascade Drilling	g / Hollow Ste	em Auger - An	gle			Depth to Water		
Sampling	Metho	od: No samples						Start/Finish Date10/15/2	.013	
Depth / Elevation (feet)		Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Dep (ft)	
1 +		Flushmount					200000000000000000000000000000000000000	Asphalt over concrete.		
$\stackrel{1}{2}$		monument, lockable thermos cap, concrete						No logging or sampling.	- 2	
3 +		seal 0'-4'							+ 3	
4 +									<u> </u>	
5 🕂 🔝								Desire delle d 00 de sere e ferre continue		
s +								Boring drilled 23 degrees from vertical, perpet the building.	+6	
7 +								3	 7	
3 +									+ 8	
) +									+ 9	
0+		2" diameter, schedule 40 PVC, threaded							+10	
		connections, 0'-45'							- 11	
<u>?</u> †									- 12	
3+									+13 +14	
4+ 5+									T 12	
5									+16	
7									+ 17	
3+									-18	
9 +									-19	
o∔		Hydrated bentonite							-20	
1+		chips, 4'-42'							-2	
2+									-22	
3+									+23	
+									 24	
5+									-25	
3+									-26	
7+ 3+									-27 -28	
) - -									-29	
<u> </u>									-30	
1									-31	
2+									-32	
3+									+33	
1+									+34	
5+									+38	
3+									+36	
7+									-37	
8+									-38	
9+ n-									+39 +40	
0+ 1+									-40 -42	
$\frac{1}{2}$									⊥ ⊿'	
3+		10/20 sand filter pack,						Well screen is completed in advance outwas Morrell's Dry Cleaners building, 18 to 25 feet	n beneath	
4 +		42'-65'						west-northwest of monument, and 41 to 60 fe		
5 🕂 📗								ground surface	-45	
6+	ト目								-46	
7 +	目	· .							-47	
8+									-48	
9+									+49	
 Sar	mpler i	Type:		PID - Ph	otoioniz	ation De	tector	Logged by: AET		
No Re				_						
١١٠٠١ د	200 461	,		∇	atic Wate			Approved by: ALN		
				<u> </u>	ter Leve	I (ATD)				
								Figure No.		

	Mana				N	/lonite	oring Well Constru	ction Log	 I
	Aspe	CT		Proj	ect Numb	er	Well Number		Sheet
	OCON SULTI			(80190		MW-16		2 of 2
Project Name:	Walker Che	vrolet					Ground Surface Elev	. (site datum)	
Location:	Tacoma, WA						Top of Casing Elev. ((site datum)	277.88 ft
Driller/Method:	Cascade Drillin	g / Hollow S	Stem Auger -	Angle			Depth to Water		
Sampling Metho	d: No samples						Start/Finish Date	10/1	5/2013
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Descrip	otion	Dej (fi
51+									-5

	Method	l: No samples						Start/Finish Date 10/15/2013	
Depth / Elevation (feet)	В	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Dep (ft)
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 60 -		2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-65'							-51 -52 -53 -54 -55 -56 -57 -58 -60
61 + 62 + 63 + 64 + 65 + 66 -		Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	+61 +62 +63 +64 +65 +66
67 + 68 + 69 + 70 + 71 + 72 +									-67 -68 -69 -70 -71 -72
73 + 74 + 75 + 76 + 77 + 78 +									-73 -74 -75 -76 -77
79 + 30 + 31 + 32 + 33 +									-79 -80 -81 -83
34 + 35 + 36 + 37 + 38 + 39 +									-8 -8 -8 -8 -8
90 - 91 - 92 - 93 - 94 -									-9 -9 -9 -9
95 + 96 + 97 + 98 + 99 +									-9 -9 -9 -9

O No Recovery

Static Water Level

Approved by: ALN

Water Level (ATD)

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

	—	_			/lonit	oring Well Constructio	n I oa	
	Aspec	ct	Proje	ect Numb	er	Well Number	Sheet	
	CONSULTII			80190		MW-17	1 of 2	
Project Name	: Walker Chev	rolet				Ground Surface Elev. (site	datum)	
Location:	Tacoma, WA					Top of Casing Elev. (site d	datum) 277.97 ft	
Driller/Method	d: Cascade Drilling	/ Hollow Stem Auger	- Angle		Depth to Water	Depth to Water		
Sampling Met	thod: No samples					Start/Finish Date	10/15/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Depth (ft)
1 +	Flushmount				20.20.20.00	Asphalt over concrete.		<u> </u>
2 +	monument, lockable thermos cap, concrete					No logging or sampling.		- 2
3 +	seal 0'-4'							- 3
4 +								- 4
5 +						Boring drilled 32 degrees from ve	rtical, perpendicular to	- 5
6 + 7 +						the building.		+ 6 + 7
8 +								- '8
9 +								- 9
10-	2" diameter, schedule							10
11-	40 PVC, threaded connections, 0'-51'							-11
12+ 13+								+12 +13
14 -								- 14
15-								15
16-								16
17+								17
18+ 19+								+18 +19
20 -	Hydrated bentonite							-20
21-	chips, 4'-48'							-21
22-								-22
23 - 24 -								+23 +24
25-								-25
26-								-26
27 -								-27
28+								-28 20
29+ 30+								-29 -30
31 -								-31
32-								-32
33+								-33
34 + 35 +								+34 +35
36 -								-36
37-								-37
38-								-38
39+								-39
40 + 41 +								+40 +41
42-								-42
43-						Well screen is completed in adva	nce outwash beneath	-43
44+						Morrell's Dry Cleaners, 27 to 38 fe	eet west-northwest of	-44
45+						monument, and 43 to 60 feet belo	w ground surface.	+45 -46
46+ 47+								-46 -47
48								-48
49+	10/20 sand filter pack,							-49
Sample	<u> </u>	PID	- Photoioniz	ation De	tector	Logged by:	AET	
No Recov		Ţ	Static Water					
		$\bar{\Delta}$	Water Leve			Approved by:	: ALN	

Figure No.

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Aspect	Monitoring Well Construction Lo										
ASPECT	Project Number 080190	Well Number MW-17									
Walker Chevrolet	000190	Ground Surface Elev. (si	ite datum)								

Sheet 2 of 2

277.97 ft

 Location:
 Tacoma, WA
 Top of Casing Elev. (site datum)

 Driller/Method:
 Cascade Drilling / Hollow Stem Auger - Angle
 Depth to Water

Sampling Method: No complex Start/Einish Data 10/15/2013

Sampling	g Method: No samples						Start/Finish Date10/15/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
Depth / Elevation		Sample Type/ID	Tests	PID (ppm)		Material Type		Depth (ft) -51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -69 -70 -71 -72 -73 -74 -75 -76 -77 -78 -79 -80 -81 -82 -83 -84 -85 -86 -87 -88 -89 -90 -91 -92 -93 -94 -95 -96 -97
98 - 99 -	ampler Type:		PID - Pho	atoioniz:	ation Do	tector	Logged by: AET	-98 -99

Static Water Level

Water Level (ATD)

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

O No Recovery

Project Name:

			N	/lonit	oring Well Construction	on Log			
	Aspe	CT			ect Numb 80190	per	Well Number MW-18	Sheet 1 of 2	
Project Name:	Walker Chev				00100		Ground Surface Elev. (sit		
Location:	Tacoma, WA						Top of Casing Elev. (site	· · · · · · · · · · · · · · · · · · ·	ŧ
Driller/Method:	Cascade Drilling	/ Hollow Ste	m Auger - Ar	ngle			Depth to Water		
Sampling Method	d: No samples						Start/Finish Date	10/16/2013	
Depth / Elevation (feet)	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Depth (ft)
1 + 8	Flushmount					2002000	Asphalt over concrete.		_ 1
	monument, lockable thermos cap, concrete						No logging or sampling, strong s cuttings.	olvent-like odor in	- 2
3 +	seal 0'-4'						odungo.		- 3
4 +	1								 4
5 +							Boring drilled 45 degrees from ve	ertical, perpendicular	to + 5
6 + 7 +							the building.		+ 6 + 7
8 +									- '8
9 +									- 9
10+	2" diameter, schedule								10
11+	40 PVC, threaded connections, 0'-65'								+11 42
12+ 13+									-12 -13
14 +									- 14
15-									-15
16+									16
17+									+17
18+ 19+									+18 +19
20 +	Hydrated bentonite								-20
21 -	chips, 4'-62'								-21
22+									-22
23 - 24 -									-23 -24
25									-25
26+									-26
27+									-27
28+									-28
29 - 30 -									-29 -30
31 -									-31
32-									-32
33+									-33
34 + 35 +									-34 -35
36+									-36
37 -									-37
38+									-38
39+									-39 40
40 + 41 +									+40 +41
42+									-42
43+									-43
44 +									-44
45+									-45 46
46 + 47 +									-46 -47
48									-48
49-									-49
Sampler T	vne.		חום חום	notoioniza	ation Do	toctor	Logged by:	AET	
No Recovery				atic Wate		IGUIUI	Logged by.		
IN INCINCIONALLY			— <u>+</u> St:	aric vvate	r i evel			ALNI	

Water Level (ATD)

Approved by: ALN

Figure No.

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

	Aspec			Proie	ct Numb	/lonit	oring Well Constructi	on Log Sheet	
	CONSULTIN				30190	Ci	MW-18	2 of 2	
Project Name:	Walker Chev						Ground Surface Elev. (si		
ocation:	Tacoma, WA						Top of Casing Elev. (site		
Oriller/Method:	Cascade Drilling	/ Hollow Ste	m Auger - Ang	gle			Depth to Water		
Sampling Metho	od: No samples						Start/Finish Date	10/16/2013	
	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dep (ft)
(feet) 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 77 - 78 - 79 - 80 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 68 - 68 - 68 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 68 - 68 - 68 - 68 - 69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 68 - 68 - 68 - 68 - 68 - 68	10/20 sand filter pack, 62'-85' 2" diameter, 0.020-inch schedule 40 PVC screen, 65'-85' Threaded PVC endcap	Турелі		(ррпі)	6	Туре	Well screen is completed in adv Morrell's Dry Cleaners, 46 to 60 monument, and 46 to 60 feet be	feet west-northwest of elow ground surface	-51 -52 -53 -54 -55 -55 -55 -55 -55 -55 -55 -55 -55
87 - 888 - 899 - 991 - 992 - 994 - 995 - 998 - 999 - Sampler	Туре:		PID - Pho	otoioniza	ation De	tector	Logged by:	AET	- 86 - 87 - 88 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99
No Recover			_	tic Wate					
<u> </u>	J						Approved b	y: ALN	
			≚ Wat	er Leve	I (ATD)		_ .		
							Figure No.		

	N A	_1			N	lonite	toring Well Construction Log				
	Aspe				ct Numb	er	Well Number	Sheet			
	● CONSULTI			30	30190		MW-19	1 of 2			
Project Name:	Walker Chev	vrolet					Ground Surface Elev. (site datum)				
Location:	Tacoma, WA						Top of Casing Elev. (site <u>datur</u>	n) 278.15 ft			
Driller/Method:	Cascade Drilling	g / Hollow Stem Aug	ger - Angle				Depth to Water				
	od: Dames & Moore	Э					Start/Finish Date	10/17/2013			
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _l		
	Flushmount						∖Asphalt.		1		
1 + 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 110 - 111 - 12 - 13 - 14 - 15 - 46	monument, lockable thermos cap, concrete seal 0"-2" 2" diameter, schedule 40 PVC, threaded connections, 0"-45"				50/6		Qvt Very dense, moist, brown, slightly silt (SP-SM); diamict fabric, fine to mediu solvent-like odor.	y, gravelly SAND m sand,	+ - 2 + - 3 + - 4 + - 4 + - 1 + - 1 + - 1 + - 1 + - 1		
16 + 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	Hydrated bentonite chips, 2'-42'				50/6		Very dense, moist, brown gray, silty, g (SM); diamict fabric, solvent-like odor fine sand, fine to coarse gravel. Trace gravel.	gravelly SAND , predominantly	-1 -1 -1 -2 -2 -2 -2 -2 -2 -2 -2		
28 + 29 + 30 + 31 + 32 + 33 +		•			50/6		Qva Very dense, moist, orange brown, slig SAND (SP); fine to medium sand, sol	ntly gravelly vent-like odor.	+2 +3 +3 +3 +3 +3		
35 + 36 + 37 + 38 + 39 +					21 21 30		Trace silt.		-3 -3 -3 -3		
40 - 41 - 42 - 43 -	10/20 sand filter pack,				36 50/6		Trace fine gravel, slight solvent-like or	dor.	-4 -4 -4 -4		
44 + 45 + 46 + 47 + 48 + 49 + 49 + 49 + 49 + 49 + 49 + 49	42'-60.5'				50/6				-4 -4 -4 -4 -4		
Sampler	Type:	<u> </u>	PID - Photo	nioniza	ation Det	ector	Logged by: AE	T			
_		_	_			CCIOI	Logged by. AL	- •			
○ No Recover 3.25" OD D Ring Sampl	&M Split-Spoon	<u>.</u> Z	-		r Level (ATD)		Approved by: AL	.N			
J 2p.					. ,		Figure No.				

		Aspec	ct		Proje	ect Numb	Monit oer	oring Well Constructi Well Number	on Log	
		CONSULTI	NG		0	80190		MW-19	2 of 2	
Project N	ame:	Walker Chev	rolet/					Ground Surface Elev. (site datum)		
ocation:		Tacoma, WA						Top of Casing Elev. (site	datum) 278.15	5 ft
Oriller/Me	thod:	Cascade Drilling	g / Hollow Ste	em Auger - Ar	ngle			Depth to Water		
Sampling	Method	: Dames & Moore)					Start/Finish Date	10/17/2013	
Depth / Elevation (feet)	Во	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _j
51 +						50/6		Wet, red brown.		-5
52										-5
53 +										 5
54 🕂										-5
55 +		2" diameter,								-5
56+		0.020-inch, schedule 40 PVC screen, 45'-60'								-5
57+		401 00 0010011, 40 00								 5
58+										 5
59+							1			 5
60+		Threaded PVC endcap				50/6		Very dense, wet, dark red brown	SAND (SP); fine to	-+6
51 +								coarse sand, trace fine gravel.		/+6
2+	?+ 3+						Bottom of boring is 60.5 feet be	ow ground surface.		
3 4 									+6 +6	
55										-6
6+										-6
7+										-6
8+										-6
9+										-6
0										 7
'1 										 7
′2 ⁺										-7 :
' 3+										-73
4 🕂										<u></u> +7⋅
5 +										 7
6+										 7
7+										 7
8+										 7
9+										 7
0+										-8
1+										+8
2+										+8
3+										-8
4+ 5+										-8 -8
6-										-8
7										-8
8+										-8
9+										-8
0+										-6
1 +										-6
2+										-6
3 +										ļ.
4										-6
5										<u> </u>
6+										-6
97 🕂										-6
8+										+6
9+										+6
Sa	mpler Ty	/pe:		PID - PI	notoioniz	ation De	tector	Logged by:	AET	
O No Re □ 3.25"	ecovery	M Split-Spoop			atic Wate	er Level		Approved b	y: ALN	
∐ Ring	Sampler	Opin Opooli		∑ Wa	ater Leve	l (ATD)			· -	
	3.25" OD D&M Split-Spoon Ring Sampler							Figure No.		

	N A					N	/lonit	oring Well Construction Log			
	X	spec	CT			ct Numb	er	Well Number	Sheet		
	● C¢	O N S U L T I I	NG		08	30190		MW-20	1 of 2		
Project Nan		ker Chev	rolet					Ground Surface Elev. (site		£	
Location:		oma, WA						Top of Casing Elev. (site da	atum) 276.03	<u> </u>	
Driller/Meth			g / Hollow Ste	em Auger - Ar	ngle			Depth to Water	10/11/2013		
Depth /	/lethod: No sa	ampies						Start/Finish Date	10/11/2013		
Elevation (feet)	Borehole Co	mpletion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dept (ft)	
1 +	Flushmou	unt nt, lockable						∖Asphalt. No logging or sampling.		- -/ 1	
2 +	thermos	cap, concrete						No logging or sampling.		- 2	
3 +	seal 0'-2'									- 3	
4 + 5 +										+ 4 + 5	
6										F 6	
7 +										+ 7	
8 🕂 📗										- 8	
9 +										- 9	
10+	2" diamet 40 PVC,	ter, schedule threaded								+10	
11+ 12+	l connections 0'-45'									+11 +12	
13+										+ 13	
14+	-									14	
5+										15	
6+										16	
7+ 8+										+17 +18	
9+										-19	
o+		bentonite								-20	
:1+	chips, 2'-	42'								-21	
2+										-22	
3+ 4+										-23 -24	
5+										-25	
6+										-26	
7+										-27	
8+ 9+										-28 -29	
97										-30	
1 +										-31	
2+										-32	
3+										-33	
4+ 5+										-34 -35	
86+										-36	
37 +										-37	
88+										-38	
39+										-39	
10 + 11 +										-40 -41	
2										-42	
13 -		nd filter pack,								-43	
44	42'-60'									-44	
45+										+45	
46 47 										+46 -47	
48										-48	
49	目									-49	
⊥l·· Samı	pler Type:		<u> </u>	PID - PI	 hotoioniza	tion De	tector	Logged by:	AET		
O No Rec				_	atic Wate						
					ater Leve			Approved by:	ALIN		
								Figure No.			

	\	_1			N	/lonite	oring Well Construct	ng Well Construction Log			
`	Aspec	C T NG			ct Numb 80190	er	Well Number MW-20	Sheet 2 of 2			
Project Name:	Walker Chev	rolet					Ground Surface Elev. (site datum)			
Location:	Tacoma, WA						Top of Casing Elev. (sit	Top of Casing Elev. (site datum) 278.03 ft			
Driller/Method:	Cascade Drilling	/ Hollow Ste	m Auger - An	gle			Depth to Water	-			
Sampling Method:	No samples						Start/Finish Date				
Denth /	ehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	1	Dept (ft)		
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 59 - 50	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-60' Threaded PVC endcap	Турель		(ppiii)	6	Туре	Bottom of boring is 60 feet belonger	ow ground surface.	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -70 -71 -72 -73 -74 -75 -76 -77 -78 -79 -80 -81		

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016 98-99-Sampler Type:

87

88

89

90-

91

92-

93-

94-

95-

96

97

PID - Photoionization Detector

Logged by: AET

-87

-88

-89

90

91

92

93

94

95

96

97

-98

99

O No Recovery

Ā Static Water Level

Approved by: ALN

Water Level (ATD)

 ∇

		Aspe	ct		Proje	ct Numb	Monit per	oring Well Construction Log Well Number Sheet	
		CONSULTI				80190		MW-21 1 of 2	
Project N	ame:	Walker Chev	rolet					Ground Surface Elev. (site datum)	
Location:		Tacoma, WA						Top of Casing Elev. (site datum) 279.03	ft
Driller/Me	thod:	Cascade Drilling	g / Hollow S	Stem Auger - A	Angle			Depth to Water	
Sampling	Metho	od: Dames & Moore	;					Start/Finish Date 10/17/2013	
Depth / Elevation		Borehole Completion	Sample	Tests	PID	Blows/	Material	Description	Depth
(feet)	KA N	✓I	Type/ID	1000	(ppm)	6"	Туре	· ·	(ft)
1 +		Flushmount monument, lockable						\Asphalt. Qvt	─ / 1
2 +	8/2	thermos cap, concrete seal 0'-2'						Very dense, moist, brown, silty, gravelly SAND (SM)	
3 +		Sedi U-2						diamict fabric, fine to medium sand.	+ 3
4 + 5 +									+ 4 + 5
6 -					0.0	50/6			- 6
7 +									 7
8 -									- 8
9 +									- 9
10+		2" diameter, schedule 40 PVC, threaded			10.5	26			+10 +11
11 12 		connections, 0'-45'		VOC/FOC	;	50/6			-12
13-									-13
14 -									-14
15-				VOC/FOC	165	50/6			-15
16-				VOC/FOC	, 100	00/0			-16
17 -	7+ 8+								-17 -18
19-									19
20 -		Hydrated bentonite				50/0			-20
21		chips, 2'-42'			0.0	50/6			-21
22 –									-22
23+									-23
24 - 25 -									-24 -25
26 +				VOC/FOC	0.0	50/6			-25 -26
27 -									-27
28-									-28
29-									-29
30+					0.0	50/6			-30
31 - 32 -									+31 +32
33 -									-33
34 -									-34
35-					0.0	50/5			-+35
36 –					0.0	00/0		Very dense, moist, red brown, slightly gravelly SANE	
37 +								(SP); fine to medium sand.	-37
38 39 									+38 +39
40 –				VOC/FOC		50/0			-40
41				V00/100	0.0	50/6		Brown.	 41
42+		<u>.</u>							-42
43+		10/20 sand filter pack, 42'-60.5'							-43
44+									-44 -45
45 46 	[目				0.0	50/6		Red brown, trace fine gravel.	+45 +46
47 —	:	의							-47
48-							, , , ,		-48
49-	目								-49
Sai	mpler	Type:		PID - I	l Photoioniza	⊥ ation D≏	tector	Logged by: AET	
O No Re				_	Static Wate				
3.25"	OD D	&M Split-Spoon		∇				Approved by: ALN	
■ Ring 9	Sampl	er		- ∧	Vater Leve	ı (ATD)			

Figure No.

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Aspect	
OCONSULTING	

Monitoring Well Construction Log Sheet

Well Number Project Number 080190 MW-21

Walker Chevrolet Project Name: Ground Surface Elev. (site datum)

279.03 ft Top of Casing Elev. (site datum) Location: Tacoma, WA

Depth to Water Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle

2 of 2

Sampling	Method: Dames & Moore	9					Start/Finish Date 10/17/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 -				0.0	50/6		Very dense, moist, brown, slightly silty SAND (SP-SM); fine sand.	-51
52							inte saira.	-52
53 -								-53
54 –								-54
55 +	2" diameter,		VOC/FOC	0.0	50/6		Very dense, wet, brown, SAND (SP); fine to medium	+55
56 +	0.020-inch, schedule 40 PVC screen, 45'-60'			0.0	00/0		sand.	-56
57 +								-57
58 +								-58
59+	Threaded PVC endcap							-59
60 61 	Threaded PVC endcap			0.0	50/6	1	Bottom of boring is 60.5 feet below ground surface.	+60 -61
62							Bottom of boning is 60.5 feet below ground surface.	62
63								-63
64								-64
65								-65
66								-66
67								67
68 –								-68
69 +								-69
70+								-70
71+								-71
72+								-72
73 74 								-73 -74
75 -								-74 -75
76								-76
77								-77
78								- 78
79								-79
80 +								-80
81 –								-81
82+								-82
83-								-83
84+								-84
85 86 								-85 -86
87								-87
88								-88
89								-89
								-90
91								-91
92-								-92
93-								-93
94 –								-94
95+								-95
96+								-96
97 98 								97
90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 -								-98 -99
Sa	mpler Type:		PID - Pho	toioniza	ation De	tector	Logged by: AET	

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

○ No Recovery
3.25" OD D&M Split-Spoon
Ring Sampler

Static Water Level

Water Level (ATD)

Approved by: ALN

	A		Mor	ell's Dry Clea	aners - 080	190		Environmental Exploration Log		
	4 spect	608 N 1et	Street	Project Address & Site Tacoma WA 98403, MW-	Specific Location Fast of Morell's	entrance	south of	Coordinates	Exploration Numb	
	CONSULTING Contractor		ipment	MW-	Sampling Metho	nd		NA Ground Surface (GS) Elev.	MW-23	3
	Holt		грглеп E - 85	Autol	nammer; Ib hamı		n	0' (est)	Ecology Well Tag BLI 160	
	Operator	Exploration	n Method	d(s) V	Vork Start/Completio		ή	Top of Casing Elev.	Depth to Water (Belo	ow GS)
	John B	8.5" OD Hollow-S	X 4.25" Stem Au	'ID iger	2/6/2019			NA	52.7' (ATD)	
Depth (feet)	Exploration and N	Completion lotes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
							\ ASPHA	ALT; with base course.		/
1 +	Flushr	ment, lockable						SAND (SM); very dense, moist, sand; trace fine subround grave		 1
2 +	seal, (os cap, concrete 0'-2' bgs						,	,	- 2
3 -										- 3
4 -	2" dial	meter, schedule								- 4
5 +	conne	C, threaded ctions, 0'-45'			5.5					- 5
				B-23-5.5 VOCs by 8260C	PID=360 SPT=50/5					
6 +										+ 6
7 +										+ 7
8 +	X1 X1									- 8
9 +										- 9
10-				B-23-10.5	PID=31 SPT=29, 50/5					-10
11-				VOCs by 8260C	5. 1 25, 55.5					-11
12-										12
13-										-13
0.019.0										-14
15 —					PID=1.2 SPT=50/6	7000	GRAVE	EL (GP); very dense; gray; mois		15
16					SP1=50/6	00000	gravel.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		- 16
17 -						00000				- 17
MINION 18-						00000				-18
19 H						00000				- 19
20 +	Bento	nite chips, 2'-8'								-20
4. ASPECT	bgs	F - /		B-23-20.5 VOCs by 8260C	PID=4.1 SPT=29, 50/4			WITH SILT AND GRAVEL (SW ray brown; fine to coarse sand; f d gravel.		-21
SERVER							Jacobill	. g. a. o		
22+ 22+										-22
23+										-23
24-										-24
EXPLOR	Legend Continuous co	re 1 125" ID		☐ ₩ater Le	evel ATD			pration Log Key for explanation	Exploration	on
New STANDARD EXPLORATION LOG TEMPLATE (BISERVER! ASPECT. LOCALIPROJECT SIGNITW/PROJECT SIGNITW	LEI Continuous co	ie i.i∠5″ ID		Water	<u>-</u>		of symbol Logged by Approved	y: MVA	Log MW-23	
Ä	I .			1					Sheet 1 of 3	

	Acnost		Morel	I's Dry Clea	aners - 080°	190		Environmental Ex	ploration Lo	og
	CONSULTING	608 N 1st S	F Street, Ta	Project Address & Site coma WA 98403,	e Specific Location East of Morell's e	ntrance,	south of	Coordinates NA	Exploration Num	
	Contractor	Equip	oment	10100-	Sampling Metho	d		Ground Surface (GS) Elev.	MW-2	
	Holt		E - 85		hammer; Ib hamn		р	0' (est)	Ecology Well Ta BLI 160	
	Operator	Exploration 8.5" OD >	X 4.25" ID)	Work Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Bel	,
Donth	John B	Hollow-St	Ť	Analytical	2/6/2019	Meterial		NA NA	52.7' (ATD)	Depth
Depth (feet)	Exploration C and No	otes	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Material Type	·	Description		(ft)
26-				B-23-25.5 VOCs by 8260C	SPT=22, 50/6 PID=704		gray to g	SAND WITH GRAVEL (SM); ve gray brown; fine to medium sand rel. WITH SILT (SP-SM); very dens	l (trace coarse);	26
27-							brown; f	ine to medium sand; tracé fine s	subround gravel.	-27
28-										-28
29-							-			-29
30-					PID=2.1 SPT=16, 50/5		to mediu	SAND (SM); very dense, slightly m sand; trace fine subround gra		= 30
31-					chemica	I odor.		-31		
32-								-32		
33-										-33 -34
35-										35
36-					PID=1.8 SPT=24, 30, 50/6			WITH SILT (SP-SM); very dens nedium sand (trace coarse sand d gravel.		-36
		-					-			-37
38-							-			-38
39-							-			-39
40-			\mathbf{H}		PID=0.2]1		OUTWASH		- 40
41-		-	1		SPT=33, 50/5		SAND (to mediu	SP); dense to very dense, mois im sand (with trace coarse sand	t, red brown; fine l); trace silt.	-41
42-										-42
43-										-43
AL/PROJE										-44
45-	12/20 s	sand filter pack, - 5' bgs	\mathbf{I}		PID=0.2					-45
RVER1.AS					SPT=30, 32, 42					-46
47-										-47
48-										- 48
49-										-49
EXPLOF	Legend Continuous cor	re 1.125" ID		∑ Water Le	evel ATD		See Explo	oration Log Key for explanation	Explorati	on
NEW STANDARD EXPLORATION LOC TEMPLATE (NBISERVERT ASPECT.LOCALIPROJECTSGINTWPROJECTSMORELL'S 080190 2019.6 by July 31, 2019 Sample Sample Anna Anna Anna Anna Anna Anna Anna Ann				Level			Logged b	y: MVA	Log MW-23 Sheet 2 of 3	

	cnost		More	ell's Dry Clea	aners - 080°		Environmental Ex			
X	SPECT ONSULTING	608 N 1st	Street, 7	Project Address & Site Facoma WA 98403, MW-	Specific Location East of Morell's e	ntrance,	south of	Coordinates NA	Exploration Nun	
	Contractor		iipment	MIVV-	1 / Sampling Metho			Ground Surface (GS) Elev.	− MW-2 :	
	Holt	CM	IE - 85	Autol	hammer; lb hamm	ner; " dro	р	0' (est)	Ecology Well Ta BLI 160	ag No.
	Operator	Exploration 8.5. OD	on Method X 4 25"		Vork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Bel	low GS)
	John B	Hollow-S	Stem Aug	ger	2/6/2019	1		NA	52.7' (ATD	<u> </u>
Depth feet)	Exploration C and No	ompletion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 66 - 66 - 66 - 66 - 66	2" diam schedul \$º%8/2d	eter 0.020", le 40 PVC A5 60' bgs		B-23-55.5 VOCs by 8260C	PID=2.2 SPT=17, 21, 33	lype	SILTY S	OUTWASH SP); dense to very dense, mois m sand (with trace coarse sand	I); trace silt.	-51 -52 -53 -54 -55 -56 -57 -58 -60 -61 -62 -63 -64 -65
67										-67
68-										-68
69+										-69
70-										-70
71 -										-71
72-										-72
73-										-73
74-										-74
14	egend									
	Continuous core	==== e 1.125" ID		Water Level	evel ATD		See Explo of symbol Logged by Approved	y: MVA	Explorati Log MW-23 Sheet 3 of 3	

	Acno		Mor	ell's Dry C	leaners - 080	190		Environmental Exploration Log			
7	(2)he	LT	000 11 1		Project Address &	Site Specific Location			Coordinates	Exploration Number	
	Contractor	NG		Street, ipment	Tacoma WA 984	03, South of Morell's Sampling Meth		st corner	NA Ground Surface (GS) Elev.	MW-24	
	Holt		•	E - 75	Δ.	utohammer; Ib ham		nn.	0' (est)	Ecology Well Tag No BLI 186).
	Operator		Exploration	n Method	d(s)	Work Start/Completion	-	<u>эр</u>	Top of Casing Elev.	Depth to Water (Below G	S)
	Kyle		8.5" OD Hollow-S	X 4.25"	'ÍĎ	1/30/2019			NA	50.6' (ATD)	
Depth (feet)	Explor	ation Co	ompletion tes	Sample Type/ID	Analytical Sample Number Lab Test(s)	& Field Tests	Materia Type		Description	De (f	pth ft)
								ASPHA	ALT; with base course.		
1 -		hermos	ent, lockable cap, concrete					SAND V	NITH GRAVEL (SP); dense, mo nedium sand; fine subround grav	oist, dark brown; + 1 vel.	I
2 -		seal, 0'-2	z bys							- 2	<u> </u>
3 -										- 3	}
4 -		2" diame 40 PVC,	eter, schedule threaded					- - -		- 4	ļ
5 -		connecti ogs	threaded ions, 0'-10'			PID=0		- -		- 5	5
6 -		Bentonit	e chips, 2'-8'		B-24-5.5 VOCs by 8260		5		SILT WITH GRAVEL (ML); ha		3
		bgs L						subroun	ow plasticity silt; fine to coarse s d gravel.	saria, fine to coarse	
7 -										+ 7	,
8 -										8 +	}
9 -		12/20 sa 3'-22' bg	and filter pack, is							– 9)
10-						PID=0		SILTY	SAND WITH GRAVEL (SM); ve	ery dense, slightly	0
11-						SPT=15, 47, 50/	5	moist, gr	ray brown; fine to coarse sand; f d gravel.	rine to coarse -1	1
ຼື 12-								· - -		 1:	2
13-										 - 1:	3
3019.GP 14 -								- - -		 +14	4
061080 S.: 15 -		2" diame	eter 0.020",				111	· - 			5
SWORELL 16-		schedule screen,	e 40 PVC 10'-20' bgs			PID=0 SPT=14, 37, 50/9	5	SAND slightly n	WITH SILT AND GRAVEL (SP- noist, brown; fine to medium sa	·SM); very dense,	
ODECLIS								Japiouri	a gravor.		
폴 17-								- - -		+1	
18-								-]		+ 18	8
19-										- 1!	9
20-						SPT=50/5			WITH SILT AND GRAVEL (SW		0
21 -									ray brown; fine to coarse sand; on rock, blow counts overstated	-2	1
22-								†		-23	2
23 -										-23	3
24 -										-24	4
D EXPLORA	Legend No Soil Sa	ample	Recovery			r Level ATD	<u> </u>	See Explo	pration Log Key for explanation	Exploration	
New Standbard Exploration to Green Templaria (Biserver) Aspect Localiproduct Scientify Project (Sample Control of Control	Continuou	is core	1.125" ID		Water			Logged by Approved	y: BMG	Log MW-24 Sheet 1 of 3	

	Acre	_1		Mor	ell's Dry Cle	aners - 080°	190		Environmental E		
	Aspe				Project Address & Site	e Specific Location			Coordinates	Exploration Num	
	Contractor	NG		Street, ipment	Tacoma WA 98403,	South of Morell's Sampling Metho		st corner	NA Ground Surface (GS) Elev.	→ MW-24	4
	Holt			E - 75	Auto	hammer; Ib hamn		an.	0' (est)	Ecology Well Ta BLI 186	
	Operator		Exploration			Work Start/Completion			Top of Casing Elev.	Depth to Water (Belo	ow GS)
	Kyle		8.5" OD Hollow-S	X 4 25"	יום	1/30/2019			NA	50.6' (ATD)	
Depth (feet)		ation Co and Not	ompletion es	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description	·	Depth (ft)
26-		2" diame 40 PVC, connections	eter, schedule threaded ons, 20'-45'			SPT=24, 40, 50/5 PID=0		SILTY coarse s	SAND (SM); very dense, mois and; trace fine to coarse subr	st, gray brown; fine to ound gravel.	-26
27-		-g-									-27
28-											-28
29-											-29
30-		Bentonite 22'-42' b	e chips, gs		B-24-30.5	PID=0.5 SPT=32, 50/5]			-30
31-					VOCs by 8260C	01 1-02, 30/3					-31
32-											-32
33-											-33
34-											-34
35-						PID=0					-35
36-						SPT=36, 50/5					-36
_{විදු} 37 -											-37
38 -											-38
90 Z019.0 39 -											-39
40-						PID=0	111		OUTWASH		40
33WOR 41-						SPT=38, 41, 24		SAND (sand; tra	SP); very dense, moist, browi	n; fine to medium	-41
970 42-								· -			-42
ALNI981 43-											-43
- 44 A											-44
TFOCAL 45-		12/20 sa 42'-61 5'	nd filter pack, bgs			PID=0					-45
46-		_ 01.0	· 9-			SPT=18, 50/6					-46
3 8 47 -											-47
MPLATE 48 -											-48
NFOG TEN 49-											-49
LORATIO	Legend										
G EXP	No Soil So	ample I	Recovery			evel ATD		See Explo	oration Log Key for explanations	Exploration	on
New Standbard Exploration Los Template Use Rycet Los Calipro Los Calipro Los Calipro Los Calipro Los Calipro Los Calipro Los Cample A	Continuou	ıs core	1.125" ID		Water			Logged by Approved	y: BMG	Log MW-24 Sheet 2 of 3	3

	Acnost		More	ell's Dry Clea Project Address & Site	aners - 080	190		Environmental Ex	ploration Lo	og
7	Aspeci	000 N 4-4						Coordinates	Exploration Nun	
	CONSULTING		Street, I ipment	acoma WA 98403,	South of Morell's Sampling Metho		st corner	NA Ground Surface (GS) Elev.	⊢ MW-2 4	4
	Holt	· '	E - 75	Auto	hammer; Ib hamn		go	0' (est)	Ecology Well Ta BLI 186	ag No.
	Operator	Exploration	n Method	(s) V	Work Start/Completion		- 1-	Top of Casing Elev.	Depth to Water (Bel	low GS)
	Kyle	8.5" OD Hollow-S	X 4.25" stem Aug	jer Jer	1/30/2019			NA	50.6' (ATD)
Depth (feet)	Exploration C and No	ompletion tes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		(ft)
NEW STANDARD EXPLORATION LOG TEMPLATE. (BISERVERT ASPECT. LOCALL PROJECT SOUND 2019 2019 2019 2019 2019 2019 2019 2019	and No. 2" diam schedul screen,	tes	Type/ID	Sample Number &	PID=0 SPT=23, 50/6	Material Type	SAND sand (trace silt	WITH SILT (SP-SM); very densed. (SP); very dense, wet, red browace coarse; few fine to coarse	n; fine to medium	
일 72+										-72
73+										-73
74-										-74
Sample Type	Legend No Soil Sample Continuous core			Water Cevel	evel ATD		See Explo of symbol Logged by Approved	y: BMG	Explorati Log MW-24 Sheet 3 of 3	•

	A	_1		Mor	ell's Dry Cle	eaners - 080	190		Environmental Ex	ploration Lo	g
	Aspe	CT	608 N 1st S	Street, Ta	Project Address & S acoma WA 98403	ite Specific Location , South of southwes	st Morell'	s building	Coordinates	Exploration Numb	
	Contractor	NG		ipment	cor	ner Sampling Metho			NA Ground Surface (GS) Elev.	MW-25	
	Holt			E - 75	Aut	ohammer; Ib hamn		р	0' (est)	Ecology Well Tag BLI 184	g No.
	Operator		Exploration 8.5" OD	on Method	d(s)	Work Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Belo	w GS)
	Kyle		Hollow-S	Stem Au	ger Analytical	1/28/2019			NA	51.9' (ATD)	I
Depth (feet)	Explor	ation Co and Not	ompletion tes	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Material Type	AODUA	Description		Depth (ft)
1 -		Flushmo	nunt						LT; Asphalt Till		- 1
	NA NA r	monume	ent, lockable cap, concrete 2' bgs					moist, gr	SAND WITH GRAVEL (SM); ve ay brown; fine to coarse sand,	ry dense, very fine subround	
2 -		,	.5					graver			- 2
3 -											3
4 -	-										 4
5 -											- 5
					B-25-5.5 VOCs by 8260	PID=0 SPT=24, 50/5					
6 -											 6
7 -	- 💥 💥										- 7
8 -											8
9 -											- 9
10-		2" diame 40 PVC,	eter, schedule threaded ions, 0'-45'			PID=0	- 1	SAND ((SP); dense. slightly moist gray	brown; fine sand,	10
11-		ogs	10110, 0 40			SPT=14, 38, 50/4		5% silt			11
12-	-										-12
13-											-13
14-	- 💥 💥										- 14
15-											- 15
16						PID=0 SPT=70/5			WITH SILT (SW-SM); very den wn; fine to coarse sand, fine su		- 16
16-								-			
17-								-			 17
18-								-			18
19	- 1841 1841							_			19
20-		Bentonit ogs	e chips, 2'-42'			PID=0 SPT=50/5			SAND (SM); very dense, moist,		-20
21-						3F1-50/5		coarse s	and, fine to coarse subround gr	ravel	-21
22-											-22
23-											-23
24-											-24
3	Legend	is coro			□ Water I		1:41		oration Log Key for explanation	Exploration) on
12	Continuou	is cui e	; 1.120 IU		Water Level			of symbol Logged by Approved	y: BMG	Log MW-25 Sheet 1 of 3	

	A 1		More	ell's Dry Cle	aners - 080°	190		Environmental Ex	ploration Lo	g
	Aspect	608 N 1st S	treet. Ta	Project Address & Site acoma WA 98403,	e Specific Location South of southwes	t Morell'	s buildina	Coordinates	Exploration Numb	
	Contractor		pment	corn	er Sampling Metho		o ballallig	NA Ground Surface (GS) Elev.	MW-25	5
	Holt		<i>5⊪cm</i> ≣ - 75	Auto	hammer; Ib hamn		n	0' (est)	Ecology Well Tag BLI 184	g No.
	Operator	Exploration	n Method	l(s)	Work Start/Completion		ή	Top of Casing Elev.	Depth to Water (Belo	ow GS)
	Kyle	8.5" OD Hollow-S	X 4.25" tem Auς	ID ger	1/28/2019			NA	51.9' (ATD)	
Depth (feet)	Exploration C and No	ompletion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depti (ft)
26-					SPT=70/6 PID=0			(SP); very dense, moist, gray br arse subround gravel	own; fine to coarse	-26
27-										-27
28-										-28
29-										-29
30-			\mathbf{I}	B-25-30.5	PID=0.2		SAND \ brown; 8	MITH SILT (SP-SM); very dens 5% fine sand, 5% medium to co	e, moist, gray	+30
31-			1	VOCs by 8260	SPT=22, 37, 50/6					-31
32-										+32 +33
34-										-34
35-					PID=0		SILI (N	IL); very stiff, moist, light browr	i; 10% fine sand	-35
36-					SPT=14, 29, 38		SAND \ brown; fi	WITH SILT (SP-SM); very dens ne to medium sand	e, moist, red	-36
ر مار مار مار مار مار مار مار مار مار ما										-37
38-										-38
39-										-39
08-FF. 80					PID=0 SPT=23, 38, 46			Outwash SP); very dense, moist, red brow	 wn; 5% silt, 5%	+40
41 + 41 + 42 + 42 + 42 + 42 + 42 + 42 +							coarse s	ubround gravel		+41 +42
43 43 -										-43
44 -										-44
45	12/20 s	and filter pack,			PID=0					-45
46-1-48PE					SPT=24, 32, 36					-46
47 -										-47
48 48 48 48 48 48 48 48 48 48 48 48 48 4										- 48
49 NOI #						J. 7.				- 49
RD EXPLO	Legend Continuous core	e 1.125" ID		ু ∑ Water Le	evel ATD	<u> </u>	See Explo	oration Log Key for explanation s	Exploration	on
New STANDARD EXPLORATION LOG TEMPLATE NBISERVERT ASPECT LOCALIPROJECT SGINTWIPPROJECT SGINTWIP	;			Water			Logged by Approved	y: BMG	Log MW-25 Sheet 2 of 3	

	Aspost		More	ell's Dry Clea	aners - 080°	190		Environmental Ex		
7	CONSULTING	608 N 1st St	reet, Ta	Project Address & Site	South of southwes	st Morell'	s building	Coordinates NA	Exploration Num	
	Contractor	Equip	oment	corne	Sampling Metho	d		Ground Surface (GS) Elev.	- MW-2	
	Holt	CME			hammer; Ib hamn		pp	0' (est)	Ecology Well Ta BLI 184	ig No.
	Operator Kyle	Exploration 8.5" OD > Hollow-St	X 4.25"	ÎĎ	Work Start/Completion 1/28/2019	n Dates		Top of Casing Elev. NA	Depth to Water (Beld 51.9' (ATD)	
Depth (feet)	Exploration C and No	completion	Sample Type/ID	Analytical Sample Number &	Field Tests	Material Type	'	Description		Dept (ft)
Depth (feet) 51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 70 - 70 - 70 - 70 - 70 - 70 - 70 - 7	and No	2019 elef 0.020", lef 40 PVC 45'-60' bgs	Sample Type/ID	Analytical Sample Number & Lab Test(s) B-25-50.5 VOCs by 8260	PID=0 SPT=26, 32, 50/6 PID=0 SPT=25, 50/6	Material Type	SAND (sand (<5 gravel	SAND (SM); very dense, moist, SAND (SM); very dense, wet, red brow % coarse), 5% silt, up to 10% for the supplemental silts.	n; fine to medium	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61 -62 -63 -64 -65
820 67 H										-67
MLNI98 68 +										-68
99 69 69 69 69 69 69 69										-69
70 -										-70
R1.ASPEC 71 -										-71
										-72
를 절 절 73 +										-73
70 FWH										-74
Sample Type	Legend Continuous core	e 1.125" ID		Mater Fe e □ Mater Fe □	evel ATD		See Explo of symbols Logged by Approved	r: BMG	Exploration Log MW-25	on

	Acna)C+		Mor	ell's	Dry Cle	aners - 080	190		Environmental Ex		
7	CONSUL	ECT.	608 N 1ct	Stroot 7	-		Specific Location South of Morell's,	couth	of MM 25	Coordinates NA	Exploration Nun	
	Contractor			ipment	Tacoma	1 VVA 90403,	Sampling Metho		01 10100-23	Ground Surface (GS) Elev.	⊢ MW-2	
	Holt		СМ	E - 75			hammer; Ib hamn		rop	0' (est)	Ecology Well Ta BLI 185	ag No.
	Operator		Exploration 8.5" OD	n Method X 4.25"	d(s)	l	Nork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Be	low GS)
	Kyle		Hollow-S	Stem Au	ger	unalytical	1/29/2019			NA	52' (ATD)	
Depth (feet)	Ex	ploration C and No	ompletion otes	Sample Type/ID	Samp	analytical ble Number & ab Test(s)	Field Tests	Materi Type		Description		Depth (ft)
										ALT; Asphalt RETE; Concrete		_/ _/
1 -		Flushme monum thermos	ount ent, lockable s cap, concrete 2' bgs						SILTY	TILL SAND (SM); dense to very dens	se, slightly moist,	
2 -		seal, 0'-	·2' bgs						gray bro	wn; fine to coarse sand, few fin	e to coarse	- 2
3 -	- 💥 🖁								-	· ·		- 3
4 -									· [] · [4
-									[:]			•
5 -					В	3-26-5.5	PID=0 SPT=29, 50/5		. - -			+ 5
6 -					VOC	Cs by 8260	3F1-29, 50/5					- 6
7 -	- 💥 🖁								<u> -</u>			 7
8 -	- 8	*****										- 8
9 -	- 💥 🗙											- 9
10-	- 💥 💥	2" diam	eter, schedule				PID=0					- 10
11-		connect	threaded tions, 0'-44'				SPT=27, 50/6					-11
	- XX X	XXXX										-12
uly 31, 20									· . · · · .			
13 - 13 -												-13
14-												 14
SELL'S							PID=0		SANDY	SILT (ML); hard, slightly mois silt; fine to coarse sand; few fi	t, light brown; low	15
16-							SPT=19, 42, 50/5		subroun			-16
⁰ 17-	-											17
18-												18
19 -	- 1841 18	∜										19
20 -		Bentoni bgs	te chips, 2'-42'				PID=0		SILTY	SAND WITH GRAVEL (SM); v	ery dense, moist	
EK1.ASPE		, , , , , , , , , , , , , , , , , , ,					SPT=19, 50/6			wn; fine to coarse sand (mostly		-21
BISERVE 22 -									:			-22
□ 4PLATE 23 -									- - -			-23
24-												-24
LORATIO	Legend											
Se exe	_	ous core	= 1.125" ID			☑ Water Le	evel ATD		See Explo	oration Log Key for explanation ls	Explorati	ion
NEW STANDARD EXPLORATION LOG TEMPLATE VBISERVER! ASPECT LOCALIPROJECT SGINTWIPROJECT SMORELL'S 080190 2019 (3P. 2019) Sample					Water				Logged by Approved		Log MW-26 Sheet 1 of 3	

	ASPECT CONSULTING		Projec	of Addrson O C'				Environmental Ex		
	CONSULTING	609 N 1ct Str			aners - 080' e Specific Location South of Morell's,		f N/N/ 25	Coordinates NA	Exploration Numb	
	Contractor	Equipm		a WA 90403,	Sampling Metho		1 10100-25	Ground Surface (GS) Elev.	₩W-26	
	Holt	CME -	· 75	Autol	hammer; Ib hamm	ner; " dro	р	0' (est)	Ecology Well Tag BLI 185	g No.
	Operator	Exploration N 8.5" OD X	Method(s)	ı	Vork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Belo	ow GS)
	Kyle	Hollow-Ster	m Auger		1/29/2019			NA	52' (ATD)	
Depth (feet)	Exploration C and No	ompletion Saturdates Saturdates Saturdates	ample Sam	Analytical ple Number & ab Test(s)	Field Tests	Material Type		Description		Depti (ft)
26-		1	_		SPT=18, 50/6 PID=0		gray brov	SAND WITH GRAVEL (SM); ve wn; fine to coarse sand (mostly d gravel. (continued)		-26
27-										-27
28-										-28
29-										-29
30-				3-26-30.5	PID=0		SAND	WITH SILT (SP-SM); very dens	e, moist, red	+30
31-				Cs by 8260	SPT=19, 34, 38		brown; fi broken ro	ne to medium sand; up to trace ock found in sampler.	course gravel;	-31
32-							-			-32
33-							-			-33
34-										-34
35-		T	-		PID=0		Become	es wet		-35
36-					SPT=20, 25, 49		-			-36
37-							-			-37
88 -							-			-38
39 - 39 -										-39
40 -		I	-		PID=0		-	OUTWASH		+40
A1 -					SPT=39, 50/5			SP); very dense, moist, red brouce silt; trace fine subround grav		-41
42-										-42
43-										-43
A4-										44
45 -	- 12/20 si	and filter pack,			PID=0					-45
46-					SPT=46, 39, 36					46
AR 47 -										-47
48-										48
1901 NO 49-										-49
XPLORATI	Legend						See Evolo	oration Log Key for explanation		
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{NBISERVER1}\) ASPECT. LOCALIPROJECTSIGINTWPROJECTS \(\text{SMORELL'S 080190 2019. GPJ}\) ASPECT. LOCALIPROJECTS \(\text{GINDIST}\) ASPECT. LOCALIPROJECT	☐ Continuous core	e 1.125" ID	Water Level	∑ Water Le	evel ATD		of symbol Logged by Approved	s y: BMG	Exploration Log MW-26 Sheet 2 of 3	

	lenge+		More	ell's Dry Clea	aners - 080'	190		Environmental Ex		
X	Sher!	609 N 451		Project Address & Site	•	couth c	F NAVA (25	Coordinates	Exploration Num	
	ONSULTING Contractor		ipment	acoma WA 98403,	Sampling Method		I IVIVV-25	NA Ground Surface (GS) Elev.	− MW-2 (6
	Holt		E - 75	Autol	hammer; Ib hamm		nn	0' (est)	Ecology Well Ta BLI 185	ag No.
	Operator	Exploration	on Method	(s) V	Work Start/Completion		7	Top of Casing Elev.	Depth to Water (Beld	ow GS)
	Kyle	8.5" OD Hollow-S	X 4.25" Stem Aug	ID jer	1/29/2019			NA	52' (ATD)	
Depth (feet)	Exploration C and No	ompletion ites	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 -		ede Po. 020", e 40 PVC 44'-59' bgs		B-26-50.5 VOCs by 8260	SPT=14, 40, 50/5 PID=0 PID=0 SPT=21, 50/6		SAND (isand; trained become	OUTWASH SP); very dense, moist, red brovice silt; trace fine subround graves wet	wn; fine to medium rel. (continued)	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60
61-					SPT=14, 23, 50/6					-61
62+							Bottom o	of exploration at 61.5 ft. bgs.		-62
63+										-63
64 –										-64
65+										-65
66+										-66
67+										-67
68+										-68
69 +										-69
70-										-70
71+										+71
72+										-72
73-										-73
74										- 74
	egend -			\(\sqrt{1}\) \(\lambda \) \(\lambda \) \(\lambda \)	nucl ATD		See Explo	pration Log Key for explanation	Events 41	
Sample Type	Continuous core	e 1.125" ID		Water Level	evel ATD		of symbol Logged by Approved	s y: BMG	Exploration Log MW-26 Sheet 3 of 3	

	Van e e ₁		More	ell's Dry Clea	aners - 080	190		Environmental Ex		
	Aspect	608 N 1st S	Street, Ta	Project Address & Site acoma WA 98403,	e Specific Location South of Morell's,	southeas	st of B-24	Coordinates	Exploration Nun	nber
	CONSULTING Contractor		ipment		Sampling Metho			NA Ground Surface (GS) Elev.	⊢ MW-2	
	Holt	CM	E - 75	Auto	hammer; Ib hamr		pp	0' (est)	Ecology Well Ta BLI 158	ag No.
	Operator	Exploration 8.5" OD	n Method	((s)	Nork Start/Completion	n Dates	-	Top of Casing Elev.	Depth to Water (Be	low GS)
	Kyle	Hollow-S	Stem Aug	ger	1/31/2019			NA	46.3' (ATD)
Depth (feet)	Exploration C and No	completion otes	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depti (ft)
NEW STANDARD EXPLORATION LOG TEMPILATE VBISERVER! ASPECT LOCALLIPROJECT SIGNITW/PROJECT SIGNIT	and Not Flushim monum thermo seal, o' 2" diam 40 PVC connect bys	otes	Type/ID		PID=0 SPT=24, 50/4 PID=0 SPT=10, 42, 50/3 PID=0 SPT=37, 50/5	Туре	SAND (spiece of spiece of	LT; with base course. TILL SP); dense, moist, gray; with be concrete in sampler. SAND (SM); very dense, slightly ne to medium sand (trace coars	y moist, gray se); few fine e, slightly moist, ne subround gray brown; fine round gravel.	
TATE WBISE										+22 22
23 										-23
24-										-24
Sample Type	Legend Continuous cor	e 1.125" ID	1 1	Water Level	evel ATD		See Explo of symbol Logged by Approved	y: BMG	Explorati Log MW-27	•

	Assat	Mor	ell's Dry	/ Cleaners - 08	0190		Environmental Ex	
	CONSULTING		Project Addre	ess & Site Specific Location 98403, South of Morell		st of B-24	Coordinates NA	Exploration Number
	Contractor	Equipment		Sampling Me	hod		Ground Surface (GS) Elev.	MW-27
	Holt	CME - 75		Autohammer; Ib ha		ор	0' (est)	Ecology Well Tag No. BLI 158
	Operator	Exploration Metho 8.5" OD X 4.25 Hollow-Stem Au	d(s) " ID	Work Start/Comple			Top of Casing Elev.	Depth to Water (Below GS)
Depth	Kyle Exploration C		Analytic	1/31/201	9 Materia		NA Pagasiation	46.3' (ATD)
(feet)	and No	otes Type/ID	Sample Nur Lab Test	it(s)	Type		Description	(ft)
26 - 27 - 28 -				SPT=23, 13, 2 PID=0	3	.\dilatency	ML); very stiff, moist, light brown MITH SILT (SP-SM); dense, mo	
30 - 31 - 32 - 33 - 34 -			B-27-3 VOCs by		9	SILTY	SAND (SM); very dense, moist, sand; trace fine round gravel.	-29 gray brown; fine to -31 -32 -33 -34
35 36 37 37 38 39				PID=0 SPT=33, 50//	7	SAND to mediu	WITH SILT (SP-SM); very dens im sand; trace coarse subround	gravel36 -37 -38 -39
40 41 42 43 44				PID=0 SPT=26, 50/		SAND (trace silt	OUTWASH SP); very dense, moist, red browace coarse), few fine to coarse s	wn; fine to medium subround gravel; -41 -42 -43
45+	12/20 s	sand filter pack, 5' bgs		PID=0.5		-		-45
46-	☑ 2/1/2	0019		SPT=20, 29, 3	2	-		46
47						-1		- 47
48+ 49+								-48 -49
Sample Type	Legend Continuous con	e 1.125" ID	Water Level ∆ ∆	Vater Level ATD	<u> </u>	See Explo of symbol Logged by Approved	y: BMG	Exploration Log MW-27 Sheet 2 of 3

	Acnost		More	II's Dry Cle	aners - 080°	190		Environmental E	xploration L	og
	CONSULTING	608 N 1st S	street, Ta	Project Address & Site coma WA 98403,	e Specific Location South of Morell's,	southea	st of B-24	Coordinates NA	Exploration Nur	
	Contractor	Equi	ipment		Sampling Metho	d		Ground Surface (GS) Elev.	− MW-2	
	Holt		E - 75		hammer; Ib hamn	-	ор	0' (est)	Ecology Well Ta BLI 158	ag No.
	Operator	Exploration 8.5" OD Hollow-S	n Method(X 4.25" I	s) l	Work Start/Completion 1/31/2019	Dates		Top of Casing Elev. NA	Depth to Water (Be. 46.3' (ATD	•
Denth	Kyle Exploration C			Analytical		Material			40.3 (ATD	<u> </u>
(feet)	and No	otes	Type/ID	Sample Number & Lab Test(s)	Field Tests	Type			and wet red brown	(ft)
NEW STANDARD EXPLORATION LOG TEMPLATE. WBISERVERTA SPECT LOCALLIPROJECT SMORELL'S 080190 2019 0610 July 31, 2019 Sample Value Sample Type T	2" diam schedul screen,	eter 0.020", le 40 PVC 44"-59" bgs	Sample Type/ID	Sample Number &	PID=0 SPT=24, 35, 50/5 PID=0 SPT=24, 35, 50/5	Material Type	SAND (sand; tra	(SP); very dense, wet, red bro		
70+										-70
481.4SP										-71
§88										-72
73-										-73
901 74 -										-74
EW STANDARD EXPLORATI Sample Type	Legend Continuous core	e 1.125" ID	:	W ater re	evel ATD		See Explo of symbol Logged by Approved	y: BMG	Explorati Log MW-27 Sheet 3 of 3	•

	Aspa	~ 1		Mor	ell's	Dry Cle	aners - 080	190		Environmental Ex		
17	Aspe CONSULT		608 N 1s	t Street	<i>Projed</i> , Tacor	na WA 98403	e Specific Location 3, Southeast of M	orell's s	outheast	Coordinates NA	Exploration Number	r
	Contractor	1110	Equ	ipment		corn	Sampling Meth	od		Ground Surface (GS) Elev.	MW-28	.
	Holt			E - 85	-1/-)		hammer; Ib ham		ор	0' (est)	Ecology Well Tag N BLR 935	NO.
	<i>Operator</i> John B		Exploration 8.5" OD Hollow-S	X 4.25"	'ÌĎ		Work Start/Completion 3/14/2019 to 3/15			Top of Casing Elev. NA	Depth to Water (Below (49' (Static)	GS)
Depth (feet)	Explo	oration Co and Not	ompletion	Sample Type/ID	Sam	Analytical ple Number & .ab Test(s)	Field Tests	Materia Type		Description		Depti
						ab resi(s)		X//	\ ASPH	ALT; Asphalt		
1 -		Flushmo	ent. lockable							RETE; Concrete TILL		1
2 -		seal, 0'-2	cap, concrete 2' bgs						SANDY fine to n	' SILT (ML); Very dense, slightly nedium sand; few fine subround		- 2
3 -											1	- 3
4 -											Ţ	- 4
5 -							PID=0				†	5
6 -							SPT=17, 50/5				+	6
7 -											_	- 7
8 -											_	- 8
9 -	- 🕷											- 9
10-		2" diame	eter, schedule						L			10
		40 PVC.	threaded ons, 0'-44'				PID=0.3 SPT=22, 50/4		moist, li	WITH SILT AND GRAVEL (SP ght brown; fine to medium sand	; fine subround	
11-									gravel.		+	∙11
12-	- 💥 💥								<u>. </u>		+	12
13-]- - -		+	13
5.0 2019.0 14 -	- 💥 💥								- - -		+	14
5080 15							PID=0			SAND WITH GRAVEL (SM); V	lany dense, clightly	15
SWORE 16	. 💥 💥						SPT=22, 50/5			ght brown; fine to coarse sand;	fine to coarse	16
SONECTS												
ĭă 17−									- - -			∙17
18 18									. -			18
19 -	DM DM								}. -		+	19
20 -		Bentonite bgs	e chips, 2'-42'				PID=0		: Gravel	content decreases to trace.	+:	20
34.4SP 21 -							SPT=17, 39, 50/5				+:	21
BISERVE 22 -									- -			-22
# 23 -									- -			-23
ZO TEMP									-1 -			
9 24 -									• • •		+:	24
EXPLOR	Legend No Soil S	Sample I	Recovery		<u> </u>	▼ Static W	ater Level	11-111	See Expl	oration Log Key for explanation	Exploration	— n
New Standard Exploration Log Templarte (Bisservert Aspect Local, PROJECT Signify WPROJECT Signify 31, 2019) Sample	Continuo		-		Water Level	_			of symbo	y: BMG	Log MW-28	
S S S									Approved	l by: DAH	Sheet 1 of 3	

	A		More	ell's Dry Cle	aners - 080°	190		Environmental Ex	ploration Lo	g
	Aspect	608 N 1s		Project Address & Site Tacoma WA 9840	e Specific Location		utheast	Coordinates	Exploration Numb	
	Contractor		ipment	corn	er Sampling Metho		utileast	NA Ground Surface (GS) Elev.	MW-28	3
	Holt		E - 85	Auto	hammer; Ib hamn		nn .	0' (est)	Ecology Well Tag BLR 935	
	Operator	Exploration	n Method	1(s)	Work Start/Completion			Top of Casing Elev.	Depth to Water (Belo	ow GS)
	John B	8.5" OD Hollow-S	X 4.25" Stem Au	ID ger	3/14/2019 to 3/15/	2019		NA	49' (Static)	
Depth (feet)	Exploration (Completion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depti (ft)
26-					SPT=12, 34, 36 PID=0		moist, lig	SAND WITH GRAVEL (SM); Vight brown; fine to coarse sand; for displayed, (continued)	ery dense, slightly ine to coarse	-26
27-										-27
28-										-28
29-										-29
30-				B-28-30.5	PID=3.5		SANDY	SILT (ML); Hard, moist, light to medium sand; trace fine to c		30
31-				VOCs by 8260	SPT=17, 39, 50/5		gravel.			-31
32-										-32
33-										-33
34-										-34
35-			T		PID=0		SAND	(SP); Very dense, wet, red brownice silt; trace fine to course sub-	n; find to medium	- 35
36-					SPT=21, 34, 42		Sand, tre	ice siit, trace fine to course sub-	ourid graver.	-36
37-							:			-37
38-							· ·			-38
39 -										-39
40 -			T		PID=0		SANDY fine sand	SILT (ML); Hard, moist, tan; lo		+40
41 -					SPT=24, 29, 32		'I <u> </u>	(SP); Very dense, moist, light be	rown; fine sand;	41
70HWL 42-							:			-42
43-										-43
44-										-44
45-	12/20	sand filter pack, 5' bgs			PID=0			OUTWASH		- 45
46-					SPT=19, 29, 34		SAND (sand; tra	SP); Very dense, wet, red brow ace silt; trace fine to course sub-	n; find to medium round gravel.	-46
A3 47 -										-47
48-										-48
49 49 -	▼ 3/15	/2019								-49
RD EXPLORA	Legend No Soil Sample	-			ater Level	<u> </u>	See Explo	oration Log Key for explanation s	Exploration	on
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{NBISERVER1} \) ASPECT. LOCALIPROJECTS GINTWPROJECTS (MORELL'S 080190 2019; GP) July 31, 2019 Sample 6 8 4 4 6 6 8 8 2 8 8 2 1	Continuous co	re 1.125" ID		Water			Logged by Approved		Log MW-28 Sheet 2 of 3	

	coost		More	II's Dry Clea	aners - 080	190		Environmental Ex	ploration Lo	g
	pheci	608 N 1s	t Street, T	Project Address & Site Facoma WA 98403	aners - 080' e Specific Location B, Southeast of Mo	rell's so	utheast	Coordinates	Exploration Num	
	ONSULTING Contractor		ipment	corne	er Sampling Metho			NA Ground Surface (GS) Elev.	₩W-28	3
	Holt		E - 85	Auto	hammer; Ib hamn		ממ	0' (est)	Ecology Well Tag BLR 935	g No.
	Operator	Exploration	on Method(s	s) l	Nork Start/Completion		· P	Top of Casing Elev.	Depth to Water (Belo	ow GS)
	John B	8.5" OD Hollow-S	X 4.25" ÌI Stem Auge	or :	3/14/2019 to 3/15/	2019		NA	49' (Static)	
Depth (feet)	Exploration C and No	ompletion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 -	2" diam	eter 0.020", le 40 PVC 44'-59' bgs			SPT=17, 22, 34 PID=0		SAND (sand; tra (continu	OUTWASH (SP); Very dense, wet, red brown ace silt; trace fine to course subred)	n; find to medium ound gravel.	-51 -52
53 - 54 - 55 -			T		PID=0					-53 -54 -55
56 – 57 – 58 –				B-28-55.5 VOCs by 8260	SPT=40, 33, 29					-56 -57 -58
59-	Threade	ed PVC endcap								-59
60+					PID=0 SPT=43, 50/5					+60 -61
୍ଦ୍ର 62 -	<u>- 1: 1: 1</u>					<u> </u>	Bottom (of exploration at 61.5 ft. bgs.		-62
6107 178 (AIV) 371 5010 62 + 63 + 63 + 64 + 64 + 64 + 64 + 64 + 64										-63
64 -										-64
80 s. Tig										-65
66 -										-66
67 -										-67
68 -										-68
44L/PROJE										-69
70 -										-70
71 -										-71
72 - 72 - 72 - 72 - 72 - 72 - 72 - 72 -										-72
73 -										-73
74 -										-74
	egend No Soil Sample Continuous core		, , , , , , , , , , , , , , , , , , ,	Static W	ater Level		See Exploof symbol Logged b	y: BMG	Exploration Log MW-28 Sheet 3 of 3	

	٨٥٠		_1		Mor		eaners - 080	190		Environmental Ex		
	CONS)e		608 N 1	st Street	Project Address & S , Tacoma WA 984	ite Specific Location 03, Parking lot eas /-23	t of Morel	's and	Coordinates	Exploration Nun	
	Contra		ING		ipment	MVV	Sampling Meth			NA Ground Surface (GS) Elev.	MW-2	
	Но	olt			IE - 85		ohammer; Ib ham		р	0' (est)	Ecology Well Ta BLR 932	ag No.
	Oper			8.5" OD	on Method X 4.25"	ÍĎ	Work Start/Completion			Top of Casing Elev.	Depth to Water (Bel	
Dareth	Johr			Hollow-S	1	Analytical	3/11/2019 to 3/12			NA	50.18' (Stati	İ
Depth (feet)	- Ru	Expid	and No	ompletion tes	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Material Type	ACDILI	Description		Depth (ft)
			.							ALT; Asphalt RETE; Concrete		<u> </u>
1 +			Flushmo monume thermos	ount ent, lockable cap, concrete 2' bgs					SILTY S	TLL SAND (SM); Very dense, moist,	gravfine to	- 1
2 +			seal, 0'-2	2' bgs					medium	sand; trace fine to coarse subroroken cobble found in sampler	ound gravel; trace	- 2
3 +										overstated.	,	+ 3
4 +												+ 4
5 +					\mathbf{H}		PID=0					- 5
6 +					Ш		SPT=50, 50/5					- 6
7 +												+ 7
8 +												8
9 +												9
10+			40 PVC.	eter, schedule , threaded ions, 0'-45'	0		PID=0 SPT=50/6					10
11			bgs									11
12-												-12
13+												- 13
14												14
15							PID=0		NII-	blac formalis assessed		15
						B-29-15.0 VOCs by 8260	SPT=26, 50/5		NO COD	bles found in sample.		
16+					П							- 16
17												17
18												-18
40												10
19+												- 19
20			Bentonit bgs	te chips, 2'-42'			PID=0		SAND	WITH SILT (SP-SM); Very den	se, slightly moist;	+20
21-							SPT=12, 26, 42		light bro	wn; fine to medium sand.		-21
22												22
22+												-22
23												-23
24												-24
	Legend No		Sample	Recovery		▼ Static V	Vater Level			oration Log Key for explanation	Explorati	on
Sample Type				1.125" ID		Water Level			of symbo Logged b		Log MW-29	
ιχ΄ –						> -		,	Approved	by: DAH	Sheet 1 of 3	

	Aspa	<u></u>		More	ell's Dry Cle	aners - 080	190		Environmental Ex		
	CONSULTI		08 N 1st	Street,	Project Address & Site Tacoma WA 9840 MW-	e Specific Location 3, Parking lot east	of More	ll's and	Coordinates NA	Exploration Numb	
	Contractor	ING	Equip		IVIVV	23 Sampling Metho			Ground Surface (GS) Elev.	MW-29	
	Holt		CME			hammer; Ib hamr		p	0' (est)	Ecology Well Tag BLR 932	ag No.
	Operator	8	xploration .5" OD X	4.25"	ìĎ	Work Start/Completion			Top of Casing Elev.	Depth to Water (Belo	,
Danth	John B	- I	lollow-Ste	Ī	Analytical	3/11/2019 to 3/12			NA NA	50.18' (Statio	C) Depti
Depth (feet)	Explo	ration Comple and Notes	tion	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Material Type		Description		(ft)
26-			_			SPT=26, 50/5 PID=0		SAND light bro	WITH SILT (SP-SM); Very den: wn; fine to medium sand. (conti	se, slightly moist; nued)	-26
27-											-27
28-											-28
29-											-29
30-			_	<u> </u>		PID=0 SPT=50/6		SILTY	SAND (SM); Very dense, slight	ly moist, light	+30
31-								found in	ine to coarse sand; few cobbles sampler. Blow counts may be o	overstated.	-31
32-											-32
33-											-33
34-											-34
35-						PID=0		SAND	(SP); Very dense, slightly moist sand, trace silt. Heave?	gray; fine to	+35
36-						SPT=11, 22, 33		mediam	sand, trace sit. Heave:		-36
37-											-37
38-											-38
380190 201											- 39
ORELL'S						PID=0.5 SPT=18, 30, 37			OUTWASH SP); Very dense, slightly moist,	red brown; fine to	+ 40
OJECTSIN						01 1-10, 30, 37		medium	sand, trace silt.		-41
42 -											+42 42
9/S 43 -											+43 +44
44 - 45 - 45 -		12/20 sand filt	ter pack.								-44 -45
43.43PECT		42'-61.5' bgs	h			PID=0 SPT=17, 30, 40					-46
BISERVER 47-			-								-47
MPLATE											-48
NLOG TEN											-49
PLORATIC	Legend							0== 5	anation Land Key fee		
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{NBISERVER1}\) ASPECT. LOCALIPROJECTSIGINTWPROJECTS (MORELL'S 080190 2019; GPJ July 31; 2019) Sample	No Soil S		-		Mater North	ater Level		See Explo of symbo Logged b Approved	y: BMG	Exploration Log MW-29 Sheet 2 of 3	

	Venoct		More	ell's Dry Clea	aners - 080	190		Environmental Ex		
	Aspect CONSULTING	608 N 1s	t Street,	Project Address & Site Tacoma WA 98403 MW-2	e Specific Location 3, Parking lot east	of Morel	ll's and	Coordinates NA	Exploration Num	
	Contractor		ipment	MIVV-2	Sampling Metho			Ground Surface (GS) Elev.	MW-29	
	Holt		E - 85		hammer; Ib hamr		р	0' (est)	Ecology Well Ta BLR 932	ag No.
	Operator	Exploration 8.5" OD	X 4.25"	ìÒ l	Work Start/Completion			Top of Casing Elev.	Depth to Water (Belo	
Depth	John B Exploration C	Hollow-S	Sample	Analytical Sample Number &	3/11/2019 to 3/12	Material		NA	50.18' (Statio	Depth
(feet)	and No	tes	Type/ID	Sample Number & Lab Test(s)	Field Tests	Type		Description OUTWASH		(ft)
51-	3/12/2			B-29-50.0 VOCs by 8260	SPT=30, 33, 35 PID=0.9		medium	(SP); Very dense, slightly moist, a sand, trace silt. (continued) fine subangular gravel.	red brown; fine to	-51
52-	2" diameschedul	eter 0.020", e 40 PVC 45'-60' bgs								-52 -52
53+										-53
54+										+54 +55
56					PID=0 SPT=8, 22, 33					-56
57										-57
58-										-58
59-										-59
60	Threade	ed PVC endcap			PID=0					-60
61-					SPT=18, 27, 38					-61
62							Bottom	of exploration at 61.5 ft. bgs.		-62
63-										-63
64										-64
65-										-65
66										-66
67										-67
68										-68
69										-69
70-										-70
71-										-71
72-										-72
73										-73
74-										-74
62	Legend No Soil Sample Continuous core			Nater Level	ater Level		of symbo		Exploration Log MW-29 Sheet 3 of 3	

CONSULTING Outraid Figure 1 Contractor Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 1 Experience 2 Exp		A	Мо	rell's Dr	y Clea	ners - 080	190		Environmental Ex		_
Contractor Expensed Supplied Contractor Country String (Spill		Aspect	608 N 1st Stree	Project Add , Tacoma W	ress & Site A 98403,	Specific Location East of Morell's	entrance	e, east of	Coordinates	Exploration Number	
Open B STOCK AND IN STOCK AND IN STATE CONTRIBUTION					IVIVV-2	2 Sampling Metho	nd				
Open B STOCK AND IN STOCK AND IN STATE CONTRIBUTION		Holt	CME - 85		Autoh	nammer; Ib hamr	ner; " dr	ор	0' (est)	Ecology Well Tag No BLI 161	Ο.
Annals Discourage Controlled Symptol Controlled Sym		Operator	Exploration Meth	od(s)	И	ork Start/Completion	n Dates		Top of Casing Elev.		
1		John B	Hollow-Stem A	uger		2/7/2019			NA	51.15' (Static)	
1	Depth (feet)	Exploration (and N	Completion Samp Notes Type/I	e Sample Ňi	umber &	Field Tests	Materia Type	I	Description		
1											
SANDY SIT (ML), hard, sightly most, gray brown, single, and brown and a sightly most and	1 +	NA NA monun	ment, lockable					CONC	·		1
10		thermo seal, 0	os cap, concrete)'-2' bgs					SANDY	SILT (ML); hard, slightly moist,	gray brown; low	2
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20								trace fine	e subround gravel.	is to modiam sand,	_
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	3 +									+;	3
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	4										4
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20											7
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	5 +									+ !	5
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	6					371-0, 50/3				_	6
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20											
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	7 +									† 7	7
9 - 10 - 27 diameter exheated at PIVC. Introduct connections, 0*45' Display 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 20 - 21 - 22 - 23 - 24 - 24 - 26 - 20 - 20 - 20 - 20 - 20 - 20 - 20	8									+ 8	8
10											_
B-30-10.5 VOCs by 8260 B-30-10.5 SPT=23, 37, 50/3 112 - 12 13 - 14 - 15 - 16 - 16 - 17 18 - 19 - 20 - 21 - 22 - 23 - 23 - 24 - 24 - 22 - 23 - 24 - 24	9 +									+ 5	9
Bandonite chips. 2-42	10	2" dian	meter, schedule			PID=4		SILTY	SAND (SM): very dense, slightly	1	0
12 - 13 - 14 - 15 - 16 - 15 - 16 - 16 - 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	11	connec	ctions, 0'-45'			SPT=23, 37, 50/3		brown; fi	ne to coarse sand; fine subrour	nd gravel.	1
13 - 14 - 15 - 16 - 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	$\prod_{i=1}^{n} \prod_{j=1}^{n} a_{ij}$			10000	y 0200					Γ'	1
SPT=50/1 16- 17- 18- 19- 20- Bentonite chips, 2-42 PID=0.2 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=24 Legend No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Loged by: BMG MW-30 Exploration Log MW-30	12									 1	2
SPT=50/1 16- 17- 18- 19- 20- Bentonite chips, 2-42 PID=0.2 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=23, 43, 50/3 SPT=24 Legend No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Loged by: BMG MW-30 Exploration Log MW-30	3 13										3
SPT=50/1 PID=N/A SPT=50/1 PID=N/A 16- 17- 18- 19- 20- 21- 21- 22- 23- 24- Legend No Soil Sample Recovery Legend No Soil Sample Recovery Continuous core 1.125" ID SPT=23, 43, 50/3 See Exploration Log Key for explanation of symbols Log MW-30 Exploration Log MW-30											Ŭ
Bentonite chips, 2'-42' 18 - 19 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2	14									- 1	4
Bentonite chips, 2'-42' 18 - 19 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2	15		0			SPT=50/1				<u> </u>	5
17 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19						PID=N/A		-			
Bentonite chips, 2'-42' 20	16									+ 1	6
Bentonite chips, 2'-42' 20 Bentonite chips, 2'-42' 21 SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, gray brown; fine to coarse sand; fine to coarse subround gravel. 22 23 24	17									+1	7
Bentonite chips, 2'-42' 20 Bentonite chips, 2'-42' 21 SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, gray brown; fine to coarse sand; fine to coarse subround gravel. 22 23 24											
Bentonite chips, 2'-42' bys Bentonite chips, 2'-42' bys Bentonite chips, 2'-42' bys SAND WITH SILT AND GRAVEL (SW-SM); very dense, slightly moist, gray brown; fine to coarse sand; fine to coarse subround gravel. 21 22 23 Legend No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by BMG Assessed by BMG	18+									 	8
Coarse subround gravel. 22 23 24 Legend No Soil Sample Recovery No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG Assessed by: BMG	19							-		+1	9
Coarse subround gravel. 22 23 24 Legend No Soil Sample Recovery No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG Assessed by: BMG	20-	Danta.	nite chins 2'-42'								'n
Coarse subround gravel. 22 23 24 Legend No Soil Sample Recovery No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG Assessed by: BMG		bgs	into ompo, 2 -42							-SM); very dense,	.U
23 24 Legend No Soil Sample Recovery Continuous core 1.125" ID PROPOSED BY See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG	21					SPT=23, 43, 50/3		coarse s	ubround gravel.		<u>'</u> 1
23 24 Legend No Soil Sample Recovery Continuous core 1.125" ID PROPOSED BY See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG	22							-		+2	22
Legend No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logged by: BMG Assessed by: BMG Assessed by: BMG										-	_
Legend No Soil Sample Recovery Continuous core 1.125" ID Logged by: BMG Assessed by: BMG MW-30	23							-		 	23
Legend No Soil Sample Recovery Continuous core 1.125" ID Logged by: BMG Assessed by: BMG MW-30	24									+2	24
No Soil Sample Recovery Continuous core 1.125" ID See Exploration Log Key for explanation of symbols Logg MW-30								-			
The soil sample recovery The soil sample re			o Poorvor	· -	Ctatic \^/-	etor Lovo!		See Explo	oration Log Key for explanation	Evaleration	_
S o o o o o o o o o o o o o o o o o o	pe e	Continuous co			olalic VV2	ilei Levei					
	San		New May				Logged by: BMG MW-30				

	Acn			Mor	ell's D	ry Cle	aners - 080	190		Environmental Ex			
7	CONSU	ect	608 N 1st	t Street,	Project Ad Tacoma \	ddress & Site NA 98403	e Specific Location I, East of Morell's -2	entrand	ce, east of	Coordinates NA	Exploration Num		
	Contracto			iipment		IVIVV-	Sampling Metho	d		Ground Surface (GS) Elev.	- MW-3		
	Holt			IE - 85			hammer; Ib hamr		rop	0' (est)	Ecology Well Ta BLI 161	ag No.	
	Operator John B		Exploration 8.5" OD Hollow-S	X 4.25"	ÍĎ I	l	Work Start/Completio 2/7/2019	n Dates		Top of Casing Elev. NA		Depth to Water (Below GS) 51.15' (Static)	
Depth		xploration C	ompletion	Sample		lytical Number &	Field Tests	Materi	al	Description	01.10 (Glass	Depti	
(feet)		and No	otes	Type/ID	Lab .	Test(s)		Туре		Y SILT (ML); hard, slightly mois	st, light brown; fine	(ft)	
26-							SPT=35, 50/3 PID=0.5		to coars	e sand; trace fine to coarse sul	pround gravel.	-26	
27-												-27	
28-												-28	
29-	-											-29	
30-	-						PID=0.6					-30	
31-							SPT=12, 50/6					-31	
32-												-32	
33-												-33	
34-	-											-34	
35-					B-30	0-35.5	PID=2.6			CUTWACU		35	
36-						by 8260	SPT=33, 50/5		SAND (OUTWASH (SP); very dense, slightly moist sand; trace silt; trace fine to co	red brown; fine to parse subround	-36	
37-	-								gravel.			-37	
38 -												-38	
39 -												-39	
080 S.T.T.S	-			T			PID=0					-40	
41 -	-	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					SPT=25, 34, 35					-41	
42-												-42	
43 -	-											-43	
HVPROJE	-											44	
45-		12/20 s 42'-61.5	and filter pack, 5' bgs				PID=0					-45	
46-							SPT=11, 30, 36		· : · : · :			-46	
ABISER/												-47	
48-												-48	
100 LOG TE												-49	
EXPLORAT	Legend No So	il Sample	Recovery		<u> </u>	Static W	ater Level	<u> </u>	See Explo	oration Log Key for explanation	Exploration	on	
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{VBISERVER1}\) ASPECT LOCALIPROJECTS\(\text{GNINTWPROJECTS\(\text{MORPIL'S 080190}\) 2019\(\text{SOT}\) 2019\(\text{SOT}\) \(\text{SOT}\) \(\	Contin		e 1.125" ID		Water Level	Statio VV	2.0. 2010		of symbo Logged b Approved	y: BMG	Log MW-30 Sheet 2 of 3		

	snect		More	ell's Dry Cle	aners - 080	190		Environmental Ex		
	CONSULTING	608 N 1s	t Street,	Project Address & Site Tacoma WA 98403 MW-	e Specific Location , East of Morell's e	entrance	, east of	Coordinates NA	Exploration Nun	
	Contractor		uipment	IVIVV-	-2 Sampling Metho	d		Ground Surface (GS) Elev.	- MW-3	
	Holt	CM	1E - 85	Auto	hammer; Ib hamn	ner; " dro	р	0' (est)	Ecology Well Ta BLI 161	ag No.
	Operator	Explorati	on Method X 4.25"	d(s)	Nork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Bel	low GS)
	John B	Hollow-S	Stem Au	ger	2/7/2019		Ι	NA	51.15' (Stati	ic)
Depth (feet)	Exploration C and No	ompletion	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 60 - 61 - 62 -	2" diam schedu screen,			B-30-60.5 VOCs by 8260	PID=0 SPT=15, 24, 31 PID=0.4 SPT=16, 36, 42		medium gravel. (d	OUTWASH SP); very dense, slightly moist, sand; trace silt; trace fine to cocontinued) es wet. of exploration at 61.5 ft. bgs.	red brown; fine to arse subround	-51 -52 -53 -54 -55 -56 -57 -58 -59 -60 -61
63-										-63
64										64
65										-65
66										-66
67										-67
68										-68
69										-69
70										70
71										-71
72-										-72
73-										-73
74-										-74
o C	egend No Soil Sample Continuous core			Water Level	ater Level		See Exploof symbo Logged b Approved	y: BMG	Explorati Log MW-30 Sheet 3 of 3	

Γ	<u></u>	Nanas t		Mor	ell's	Dry Clea	aners - 080	190		Environmental Ex		
		Aspect			Project	Address & Site	Specific Location			Coordinates	Exploration Num	
	J	CONSULTING Contractor		Street, T	acoma	WA 98403, I	MW corner of Mo Sampling Metho		rking area	NA Ground Surface (GS) Elev.	MW-3	1
				•		A - 4 - 1				` ´	Ecology Well Ta	
-		Holt Operator	Exploration Exploration	E - 85	4(e)		nammer; Ib hamn Vork Start/Completion		op	0' (est) Top of Casing Elev.	BLI 159 Depth to Water (Belo	- (CS)
		John B	8.5" OD Hollow-S	X 4.25"	ÌĎ	,	2/5/2019	i Dales		NA	51.36' (Static	
De (fe	epth	Exploration C and No	Completion	Sample Type/ID	Samp	nalytical ble Number & ab Test(s)	Field Tests	Materia Type	ı	Description	1	Dept (ft)
Ė	7	881				ib resi(s)		V//×	\ ASPHA	LT; Asphalt.		
	1 +	Flushm	ount						CONC	RETE; Concrete.		<u></u>
		monum thermos	ent, lockable s cap, concrete -2' bgs						GRAVE	Till LLY SILT WITH SAND (ML); ve	ery dense, wet,	
	2 +		-2 bgs						brown; lo	ow plasticity silt; fine to coarse s	and; fine to coarse	- 2
	3 +									- g		2
	٥											+ 3
	4 +	2" diam	eter, schedule									4
		connec	tions, 0'-9.5'									
	5 +						PID=0 SPT=50/5					+ 5
	6 +	Bentoni	ite chips, 2'-7.5'				0 00.0					- 6
		bgs										
	7 +											 7
	8 +											8
	•											
	9	12/20 s 7.5'-21.	and filter pack, 5' bgs									9
1	10+						PID=0.1		L SAND	WITH SILT (SP-SM); very dens		10
	11+						SPT=15, 38, 50/5		gray brow	wn; fine to medium sand (trace ubround gravel.	coarse); trace	-11
				8					-	-		
31, 201	12+											-12
n 1	13+								-			-13
6107061	14								-			14
080 5 1	15	2" diam	neter 0.020", le 40 PVC				PID=0.1		Gravel	content increases to SAND WIT	LH GII T VVID	15
O REL		screen,	9.5'-19.5' bgs			-31-15.5 Os by 8260	SPT=20, 50/5		GRAVEL		IN SILI AND	
	16+					,			-			- 16
0 2 1 1	17+											-17
190	18											18
1 JACOE	19-											- 19
CALI									-]			
	20+						PID=0.1 SPT=24, 50/6		gray brow	SILT WITH GRAVEL (ML); hawn; low plasticity silt; fine to coa		+20
Z Z	21+								coarse s	ubround gravel.		-21
WBISER 2	22-											-22
<u> </u>	23+											-23
<u>ا</u>												
	24+											-24
		Legend No Soil Sample	Poor		[·	T Ctotic M/s	otor Lovel		See Explo	pration Log Key for explanation	Evalerat!	
ARD S	9 P	○ No Soil SampleI Continuous core	-			▼ Static Wa	alei Levei		of symbol		Exploration Log	JΠ
N S I AIN	Type	GOIGITIOUS COR	C 1.120 ID		Water				Logged by Approved		MW-31 Sheet 1 of 3	

	Acne	nt	Mor	ell's Dry Cle	aners - 080	190		Environmental Ex	
7	Aspe CONSULTI		Straat T	Project Address & Sit	•	roll'a na-l	king oros	Coordinates NA	Exploration Number
	Contractor		uipment	acoma vva 96403,	Sampling Metho		King area	Ground Surface (GS) Elev.	- MW-31
	Holt		1E - 85	Auto	hammer; Ib hamn		nn	0' (est)	Ecology Well Tag No. BLI 159
	Operator	Explorati	on Method	d(s)	Work Start/Completion		'	Top of Casing Elev.	Depth to Water (Below GS)
	John B	8.5" OD Hollow-S	X 4.25" Stem Au	ger	2/5/2019			NA	51.36' (Static)
Depth (feet)	Explor	ation Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description	Dep (ft)
26-		2" diameter, schedule 10 PVC, threaded			SPT=18, 50/4 PID=0		gray brov	SILT WITH GRAVEL (ML); hawn; low plasticity silt; fine to coaubround gravel. (continued)	ard, slightly moist, arse sand, fine to
27-		connections, 19.5'-44.5' bgs							-27
28-									-28
29-									-29
30-		Bentonite chips, 21.5'-41.5' bgs			PID=0.1 SPT=31, 50/3		to mediu	SAND (SM); very dense, slightly m sand (trace coarse); trace co	
31-							gravel.		-31
32-									+32 +33
34-									-34
35-					PID=0.3				-35
36-			Н		SPT=37, 50/6				-36
37-									-37
38-									-38
39-									-39
41				B-31-40.5	PID=1.0 SPT=28, 42, 37			OUTWASH SP); very dense, moist, brown; ace silt; trace fine gravel.	fine to medium
42-			H	VOCs by 8260			Saria, tra	ace siit, trace iiie gravei.	-42
43-									-43
44-									-44
37 - 38 - 39 - 40 - 41 - 42 - 43 - 45 - 46 - 47 - 48 - 49 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 -		12/20 sand filter pack, 11.5'-60' bgs			PID=0				- 45
46-					SPT=17, 39, 46				-46
47-									-47
48-									-48
49-									
e ole	Legend No Soil Sa	ample Recovery		∑ Static W	/ater Level		See Explo	oration Log Key for explanation s	Exploration Log
Sample Type	Continuou	s core 1.125" ID		Water			Logged by Approved	y: BMG by: DAH	MW-31 Sheet 2 of 3

	snect		More	ell's Dry Cle	aners - 080	190		Environmental Ex		
X	pheci	600 N 1at 9	Street T	Project Address & Site acoma WA 98403,	•	ممم ماللم	king araa	Coordinates	Exploration Nun	
	ONSULTING Contractor		ipment	acoma WA 96403,	Sampling Method		Kirig area	NA Ground Surface (GS) Elev.	- MW-3	
	Holt	'	E - 85	Auto	hammer; Ib hamm		ac	0' (est)	Ecology Well Ta BLI 159	ag No.
	Operator	Exploration	n Method	I(s) I	Work Start/Completion			Top of Casing Elev.	Depth to Water (Bel	low GS)
	John B	8.5" OD Hollow-S	X 4.25" Stem Aug	ger	2/5/2019	1		NA	51.36' (Stati	ic)
epth feet)	Exploration C and No	ompletion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 - 53 -	▼ 2/5/20 2" diam schedul screen,	019 eter 0.020", le 40 PVC 44.5'-59.5' bgs			SPT=11, 39, 49 PID=0.3		SAND (OUTWASH SP); very dense, moist, brown; ice silt; trace fine gravel. (contin	fine to medium ued)	-51 -52 -53
54										-54
55			\mathbf{T}		PID=1.5					-55
56				B-31-55.5 VOCs by 8260	SPT=22, 31, 50/6					-56
57										-57
58+										-58
59-										-59
60-	Threade	ed PVC endcap			PID=1.3					-60
61 –				B-31-60.5 VOCs by 8260	SPT=20, 33, 50/5					-61
62+							Bottom o	of exploration at 61.5 ft. bgs.		62
63+										-63
64 –										-64
65-										-65
66 +										-66
67										-67
68-										-68
69-										-69
70-										-70
71 –										-71
72-										-72
73-										-73
74 -										-74
	egend 〗No Soil Sample 〗Continuous core			Vater Fevel Fevel ▼ Static W	ater Level		See Explo of symbol Logged by Approved	y: BMG	Explorati Log MW-31 Sheet 3 of 3	

	Aspa	-1		Mor	ell's Dry Cle	aners - 080	190		Environmental Ex	ploration L	og
7	CONSULTIN	CT	608 N 1s	t Street	Project Address & Si , Tacoma WA 9840 B-3	te Specific Location 3, Parking Lot eas	t of More	ll's and	Coordinates NA	Exploration Nur	
	Contractor			ipment	D-3	Sampling Metho	od		Ground Surface (GS) Elev.	− MW-3	
	Holt			E - 85		ohammer; Ib hamr		р	0' (est)	Ecology Well Table BLR 934	ag No.
	Operator John B		Exploration 8.5" OD Hollow-S	X 4.25'	'ÌĎ	Work Start/Completion 3/13/2019 to 3/14			Top of Casing Elev. NA	Depth to Water (Be 50.09' (Stat	-
Depth (feet)	Explora	ation Con and Note	npletion	Sample Type/ID	Analytical	Field Tests	Material Type		Description	30.03 (Glat	Depth (ft)
					Lab Test(s)				ALT; Asphalt.		
1 -	l KM KM n	lushmou	it. lockable					CONC	RETE; Concrete.		√ 1
2 -	t s	hermos c eal, 0'-2'	ap, concrete bgs								- 2
3 -											+ 3
4 -											- 4
5 -				0		SPT=50/3					- 5
6 -											- 6
7 -											7
8 -											8
9 -											9
10-		diamete	er, schedule hreaded ns, 0'-45'	0		SPT=50/4					10
11-		igs	115, 0 -43								-11
12-											12
13-											13
14-											14
080 S. 15 -					B-32-15.5 VOCs by 8260	PID=1		SILTY	SAND (SM); Very dense, slight	ly moist, light	15
TS/MOR						SPT=24, 50/5		brown; f	ine to medium sand, trace fine	subround gravel.	16
17-											17
18 TIS											-18
ALYPROJE	+ 1401 1401										19
20 -		Bentonite igs	chips, 2'-42'			PID=1			WITH SILT (SP-SM); Very den		-20
VER1.ASP						SPT=30, 50/5		gravel.	wn; fine to medium sand; trace	fine subround	-21
22-											-22
EMPLATE											-23
24-											-24
SIE	Legend Continuou	s core	 1.125" ID	<u> </u>	Ψ Static W	/ater Level		See Explo of symbo	oration Log Key for explanation	Explorati	ion
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{NBISERVERT} \) ASPECT. LOCALIPROJECTS \(\text{GINTWPROJECTS (MOREULS 080190 2019 GPJ July 31, 2019} \) \(\text{Sample} \) \(Sample					Water			Logged b Approved		Log MW-32 Sheet 1 of 3	

	Aspect		More	ell's Dry Cle	aners - 080	Environmental Exploration Log				
			st Street	Project Address & Site	e Specific Location	Coordinates	Exploration Number			
	Contractor		uipment	B-3	e Specific Location B, Parking Lot east of Morell's and Sampling Method			NA Ground Surface (GS) Elev.	MW-32	
	Holt		CME - 85		Autohammer; Ib hammer; " drop			0' (est)	Ecology Well Tag No. BLR 934	
	Operator		Exploration Method(s) 8.5" OD_X 4.25" ID		Work Start/Completion Dates			Top of Casing Elev.	Depth to Water (Belo	ow GS)
	John B	Hollow-S	Stem Au	ger	3/13/2019 to 3/14/2019			NA	50.09' (Static)	
Depth (feet)	Exploration and	Completion Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depti (ft)
26-					SPT=24, 50/4 PID=5			/ SILT (ML); Hard, slightly mois / silt; trace fine sand.	t, light gray; low	-26
27-										-27
28-										-28
29-										-29
30-					PID=1.5		SILTY	SAND (SM); Very dense, moist	 , light brown; fine	30
31-					SPT=23, 50/6		to mediu	m sand; trace fine subround gr	avel.	-31
32-							· ·			-32
33-										-33
34-										-34
35-					PID=1.5		No grav	<i>y</i> el.		-35
36-					SPT=15, 50/6					-36
_{ලි} 37 -										-37
38-										-38
39- 39-										-39
31080 S.T.	rwirwi				PID=0		SAND	(SP); Very dense, moist, red bro		40
BWORE 41					SPT=17, 28, 30		medium	sand; trace silt.	····,	- 41
12 42 42 A2										-42
VINDS 43										-43
44 44										-44
45 45	- 12/20	sand filter pack, 1.5' bgs								-45
181.ASPEC	- - - - -	595			SPT=44, 30/4					-46
ayaa 47 –			0							-47
MPLATE 48							·			-48
901 49										-49
ORATIO	Logand								[
IND EXPL	Legend Continuous co	 ore 1.125" ID			ater Level		See Explo	pration Log Key for explanation s	Exploration	on
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{VBISERVER} \) \(\text{ASPECT LOCALIPROJECTS GINTWPROJECTS MORELL'S 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS GINTWPROJECTS MORELL'S 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS GINTWPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS GINTWPOT GINTWPOT GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(\text{ASPECT LOCALIPROJECTS 080190 2019 GF)} \) \(ASPECT LOCALIPROJECTS 080190 20				Water Level			Logged by Approved		Log MW-32 Sheet 2 of 3	3

	cpost		More	ell's Dry Cle	aners - 080	190		Environmental Ex		
X	pheci	608 N 1s	t Street,	Project Address & Site Tacoma WA 98403 B-30	e Specific Location 3, Parking Lot east	of More	ell's and	Coordinates	Exploration Nur	mber
	ONSULTING Contractor	Fau	ipment	B-30	O Sampling Metho	d		NA Ground Surface (GS) Elev.	⊢ MW-3	2
	Holt		E - 85	Auto	hammer; Ib hamn		ac	0' (est)	Ecology Well To BLR 934	ag No.
	Operator	Exploration	on Method	(s) I	Work Start/Completion		-	Top of Casing Elev.	Depth to Water (Be	low GS)
	John B	8.5" OD Hollow-S	X 4.25 Stem Aug	ger	3/13/2019 to 3/14	2019	T	NA	50.09' (Stati	ic)
Depth (feet)	Exploration C and No	completion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
	3/14/2	2019					SAND medium	(SP); Very dense, moist, red bro sand; trace silt. (continued)	own; fine to	
51					SPT=17, 24, 28 PID=0		Becom	es wet.		-51
52	2" diam	eter 0.020",								-52
	screen,	eter 0.020", le 40 PVC 45'-60' bgs								
53+										-53
54 🕂							1			-54
55 +										-55
				B-32-55.5	PID=0					
56+				VOCs by 8260	SPT=21, 33, 40					-56
57 +										-57
F0							-			50
58+										-58
59										-59
60+	Threade	ed PVC endcap			PID=0					-60
					SPT=34, 50/5					
61+										- 61
62							Bottom	of exploration at 61.5 ft. bgs.		-62
63 +										-63
64+										+ 64
65										-65
66 +										-66
67+										- 67
68										-68
69+										-69
70										-70
71										- 71
72										70
72+										-72
73										-73
74										-74
	egend			▼ Static W	ater Level			oration Log Key for explanation	Explorati	ion
Sample Type	Continuous core	e 1.125" ID		Water Level	aici ECVCI		of symbo	ls	Log	
Sal T				אַ אַ			Logged b	y: BMG by: DAH	MW-32 Sheet 3 of 3	
'				1					Sileet 3 Of a	J

	Aspost		More	ll's Dry Clea	aners - 080	190		Environmental Ex		
	Aspect CONSULTING	608 N 1et S		Project Address & Site	•	oor in r	arking lot	Coordinates NA	Exploration Number	
	Contractor		pment	Coma WA 90403,	Sampling Metho		arking lot	Ground Surface (GS) Elev.	MW-33	
	Holt	CME	≣ - 85	Autol	nammer; Ib hamn	ner; " dro	op g	0' (est)	Ecology Well Tag N BLR 933	No.
	Operator	Exploration	n Method(s) V	Vork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Below	GS,
	John B	Hollow-S	X 4.25" ÌÉ tem Auge	er 3	3/12/2019 to 3/13	2019		NA	51.8' (Static)	
Depth (feet)	Exploration of and N	Completion lotes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Materia Type		Description		Dept (ft)
				255 100(0)		V//		LT; Asphalt.		
1 +	Flushr	nount					CONCE	RETE; Concrete		- 1
	monur	ment, lockable os cap, concrete l'-2' bgs						TILL SILT (ML); Hard, very moist, gr	ray; low plasticity	
2 +		7-2 bys					silt; fine f	to coarse sand; few fine, subrou	und to subangular	- 2
3 +							3.2			- 3
										3
4 +									+	- 4
5 +					5.5				†	- 5
6 +					PID=2 SPT=18, 27, 50/3					- 6
7 +									+	7
8 -										- 8
										0
9 +									+	- 9
4.0										40
10+	M2 M2 40 PV	meter, schedule C, threaded ctions, 0'-45'		B-33-10.0	CDT-0 F0/6		SANDY	SILT WITH GRAVEL (ML); Haticity silt; fine to coarse sand; fin	ard, moist, gray;	-10
11	bgs	,		VOCs by 8260	SPT=8, 50/6 PID=2			lar gravel.		-11
12+									Ť	-12
13-										-13
14+									†	-14
15-							L			- 15
					PID=0 SPT=27, 50/6		SILTY S	SAND WITH GRAVEL (SM); Ve int brown; fine to coarse sand; f	ery dense, slightly	
16							subround			-16
17-							· -			- 17
''									Γ	17
18-									+	-18
										40
19+									Ţ	-19
20-	Bentor	nite chips, 2'-42'			PID=1				+	-20
	Bentor bgs				SPT=40, 50/6		}			_
21+									†	-21
22-							:		_	-22
23-							:		+	-23
24-										-24
										_7
	Legend			T 0: " 1::		1 1	See Explo	pration Log Key for explanation	F 1	
ple pe	No Soil Sample		وَ	▼ Static Wa	ater Level		of symbol		Exploration Log	1
Sample Type	Continuous co	ie 1.125° ID	Wat.	Level			Logged by		MW-33	
~							Approved	by: DAH	Sheet 1 of 3	

	Aspo	<u></u>		More	ell's	Dry Cle	aners - 080	190		Environmental Ex		
7	Aspe (N 1ct Ct	troot T	-		e Specific Location South of Copper	Door in n	arking lot	Coordinates NA	Exploration Num	
	Contractor	NG 600		ment	acoma	WA 90403,	Sampling Metho		arking iot	Ground Surface (GS) Elev.	− MW-3 ;	
	Holt		CME	- 85		Auto	hammer; lb hami	mer; " dro	ор	0' (est)	Ecology Well Ta BLR 933	ag No.
	Operator	E	xploration .5" OD X	Method	d(s)		Work Start/Completio	n Dates		Top of Casing Elev.	Depth to Water (Beld	ow GS)
	John B	<u> </u> H	iollow-St	em Au	ger		3/12/2019 to 3/13	3/2019		NA	51.8' (Static)
Depth (feet)	Explor	ation Complet and Notes	tion	Sample Type/ID	Samp La	nalytical le Number & ab Test(s)	Field Tests	Material Type		Description		Dept (ft)
26-			-				SPT=26, 50/6 PID=0		sAND brown; fi	WITH SILT (SP-SM); Very den ne to medium sand; few fine to	se, moist, light coarse subround	-26
27-												-27
28-									-			-28
29-									-			-29
30-							PID=0 SPT=50/6		SAND	WITH SILT (SW-SM); Very de	nse, slightly moist,	-30
31-									gravel.	wn; fine to coarse sand; trace fi	ine subround	-31
32-									-			-32
33-									· - -			-33
34-												-34
35-				\mathbf{I}			PID=0.5	4	SAND	(SP); Very dense, slightly moist	t, light brown; fine	+35
36-							SPT=28, 30, 36		to mediu	m sand; trace silt.		-36
37-] :			-37
8 - 38 -												-38
39 -									· ·			-39
080 S,TTE				\mathbf{H}			PID=0			OUTWASH		-40
41 -							SPT=15, 24, 37		Become	es red brown.		-41
42-												-42
43-									·			-43
AL/PROJE												-44
45-		12/20 sand filt 12'-61.5' bgs	ter pack,				DIF. 6		:			-45
VER1.ASP							PID=0 SPT=22, 31, 35					-46
MBSER 47-												-47
48-												-48
49-												-49
D EXPLORA	Legend No Soil Sa	ample Reco	overy		 	▼ Static W	ater Level	[]	See Explo	oration Log Key for explanation	Exploration	on
NEW STANDARD EXPLORATION LOG TEMPLATE 'UBISERVER! ASPECT LOCALIPROJECTS GINTWIPROJECTS MORELL'S 080190 2019 (SP. 1) 1 2019 Sample 6 8 4 4 9 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Continuou	is core 1.12	25" ID		Water				Logged by Approved	y: BMG	Log MW-33 Sheet 2 of 3	3

	Aspect		More	ell's Dry Cle	aners - 080	190		Environmental Ex		
X	CONSULTING	608 N 164 9		Project Address & Site acoma WA 98403,	•	oor in n	arking lot	Coordinates NA	Exploration Num	
	Contractor		ipment	acoma WA 96403,	Sampling Metho		arking lot	Ground Surface (GS) Elev.	MW-33	
	Holt	CM	E - 85	Auto	hammer; Ib hamn	ner; " dro	p	0' (est)	Ecology Well Ta BLR 933	ag No.
	Operator	Exploration 8.5" OD	on Method	(s)	Work Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Beld	ow GS)
	John B	Hollow-S	Stem Aug	ger	3/12/2019 to 3/13/	2019		NA	51.8' (Static	<u>;) </u>
epth feet)	Exploration C and No	ompletion ites	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 - 52 -	▼ 3/13/2 2" diam schedul	2019 eter 0.020", e 40 PVC 45'-60' bgs	٥		SPT=24, 35, 35 PID=0			(SP); Very dense, slightly moist, m sand; trace silt. (continued) es wet.	ight brown; fine	-51 -52
53	Scient,	40-00 bgs								-53
54										-54
55-				B-33-55.5	PID=0 SPT=24, 30, 37		Trace fi	ine subround gravel.		-55
56 + 57 +				VOCs by 8260	C1 1 24, 00, 01					+56 +57
58-										-58
59-										-59
60	Threade	ed PVC endcap			PID=0		SAND	WITH SILT (SP-SM); Very dens	e, wet, light	60
61					SPT=9, 24, 38		prown,; f	ine sand.		61
62							Bottom o	of exploration at 61.5 ft. bgs.		-62
63										-63
64										-64
65										-65
66+										-66
67+										- 67
68+										- 68
69+										-69
70+										+70 -71
71+										+71 -72
72+										-72 -72
73+										-73 -74
o [_egend ☑ No Soil Sample ☑ Continuous core			Mater Fevel Fevel ▼ Static W	ater Level		See Explo of symbol Logged by Approved	y: BMG	Exploration Log MW-33 Sheet 3 of 3	

	Acros		Mor	ell's Dry Cle	aners - 080	190		Environmental Ex	
	Aspec	-	a	Project Address & Site	•	=1 011/		Coordinates	Exploration Number
	Contractor		Street, uipment	Tacoma WA 98403,	South of Morell's Sampling Metho		f MW-20	NA Ground Surface (GS) Elev.	MW-34
	Holt		лЕ-75	Auto	hammer; Ib hamn		ac	0' (est)	Ecology Well Tag No. BMF673
	Operator	Explorati	on Method	d(s)	Work Start/Completion		· r	Top of Casing Elev.	Depth to Water (Below GS)
	Kyle	Hollow-	X 4.25" Stem Au	ger	7/8/2019 to 7/9/2	2019	1	NA	47.7' (ATD)
Depth (feet)	Explorati	on Completion d Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description	Dept (ft)
							SAND	LT; Asphalt WITH SILT AND GRAVEL (SP	
1 -	l KM KM ma	shmount nument, lockable rmos cap, concrete al, 0'-2' bgs					slightly n	noist, brown; fine to medium sa to coarse subround gravel.	
2 -							_		+ 2
3 -							-		+ 3
4 -							-		- 4
5 -					DID 0		-		- 5
6 -					PID=2 SPT=42, 42, 50/3		-		- 6
7 -							-		- 7
8 -							_		- 8
9 -							-		- 9
10-	2" (diameter, schedule PVC, threaded nnections, 0'-44'			SPT=50/4]		-10
11-	- 2" (40 cor	nections, 0°-44°			PID=N/A		-		-11
ا 12-							-		-12
13-							-		-13
19.019.01 14 -							-		-14
TF.2 0801					PID=0.8	71	SAND	(SP); Very dense, slightly moist	
18 16 -			H		SPT=37, 50/4			sand; trace silt; trace fine subro	
27 17 -									- 17
NI 18-									-18
19-									- 19
CT.LOCAL	Bel	ntonite chips, 2'-42'			PID=N/A				-20
ER1.ASPE					PID=N/A SPT=50/5				-21
3 RISERVE 22 -									-22
MPLATE 23 -									-23
24-	Bee bg:								-24
LORATIC	Legend								
B EX	No Soil Son	ple Recovery		ু ∑ Water Lo	evel ATD		See Explo of symbol	oration Log Key for explanation is	Exploration
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{NBISERVER}\) ASPECT LOCALIPROJECTS\(GNINTWPROJECTS\(\text{MNPROJECTS\(\text{MNPROJECTS\(\text{NNPROJE\(\text{NNPROJE\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Continuous	core 1.125" ID		Water			Logged by	y: BMG	Log MW-34 Sheet 1 of 3

	Voncet	I	Morell'	s Dry Cle	aners - 080'	190		Environmental Ex		
	-pheci		Proj	ect Address & Sit	e Specific Location		C N A 4 C C C	Coordinates	Exploration Nun	
	Contractor	608 N 1st St		ma WA 98403,	Sampling Method		f MW-20	NA Ground Surface (GS) Elev.	- MW-3⋅	4
	Holt	CME		Auto	hammer; Ib hamm		ac	0' (est)	Ecology Well Ta BMF673	ag No.
	Operator	Exploration	Method(s)		Work Start/Completion			Top of Casing Elev.	Depth to Water (Bel	low GS)
	Kyle	8.5" OD X Hollow-Ste	em Auger		7/8/2019 to 7/9/2	019		NA	47.7' (ATD)
Depth (feet)	Exploration C and No	ompletion Stres	Sample Type/ID	Analytical Imple Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
26-					SPT=29, 50/5 PID=1.5		to mediu subangu	SAND (SM); Very dense, moist m sand; low plasticity silt; trace lar gravel; broken rock in samp plased high.	e fine to coarse	-26
27-										-27
28-							· ·			-28
29-										-29
30-					PID=0.5					-30
31-					SPT=28, 45, 50/4					-31
32-										-32
33-										-33
34-										-34
35-		Ь			PID=0.5	, 1	SAND	(SP); Very dense, moist, red br	own; fine to	35
36-					SPT=11, 40, 40		medium	sand; trace silt.		-36
و و 37 -										-37
GPJ July										-38
39 -										-39
-04 RELL's 08					PID=0.5 SPT=42, 50/5					-40
41-					0					-41
084WI 42-										-42
43-							· - -			-43
AL/PROJ										-44
45-	12/20 s	and filter pack, 5' bgs			DID. 0					45
VERT.ASP					PID=0 SPT=33, 35, 43					-46
88ER 47-										-47
48-	7/9/20	019								-48
49-										-49
EXPLORAT	Legend No Soil Sample	Recovery		☑ Water L	evel ATD			oration Log Key for explanation	Explorati	or
New Standard Exploration Log Template NBISERVER1. ASPECT. LOCALIPROJECTS GINTWPROJECTS MORELL'S 080190 2019 GPJ July 31, 2019 Sample	Continuous core		Water		CVGI ATU		of symbol Logged by Approved	y: BMG	Log MW-34 Sheet 2 of 3	ı

	Acnost		More	ell's Dry Clea Project Address & Site	aners - 080 [,]	190		Environmental Ex	ploration Log	<u> </u>
7	CONSULTING	609 N 1ot		Project Address & Site acoma WA 98403,			F NAVA / 20	Coordinates NA	Exploration Numbe	
	Contractor		ipment	acoma vva 96403,	Sampling Metho		1 10100-20	Ground Surface (GS) Elev.	MW-34	
	Holt		1E-75	Auto	hammer; Ib hamn	ner; " dro	р	0' (est)	Ecology Well Tag BMF673	No.
	Operator	Exploration	n Method	(s)	Work Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Below	(GS)
	Kyle	8.5" OD Hollow-S	Stem Aug		7/8/2019 to 7/9/2	019	1	NA	47.7' (ATD)	
Depth (feet)	Exploration C and No	completion	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
51 -		eter 0 020"			SPT=24, 35, 42 PID=0.2		SAND medium Becom	(SP); Very dense, moist, red bro sand; trace silt. (continued) es wet		-51 -52
53-	schedul screen,	eter 0.020", le 40 PVC 44'-59' bgs								-53
54 - 55 -					PID=0.1 SPT=50/5				+	-54 -55
56-			-		SP1=50/5					-56
58-										-57 -58
59-	Threade	ed PVC endcap								-59
61					PID=0.1 SPT=12, 17, 30		Becom	es dense	1	-60 -61
62						<u></u>	Bottom	of exploration at 61.5 ft. bgs.		-62
63 - 63										-63
6105 061080										-64
65 65 66 66 66 66 66 66										-65 -66
97 67 67 67 67 67 67 67 67 67 67 67 67 67										-67
WTNIS/GINTM										-68
SALIPROJEC										-69
70 - 70 - 70 - 70 - 70 - 70 - 70 - 70 -										-70
ERVER1.AS										-71
72 - AIE										-72 -72
73 - 73 - 74 - 74 - 74 - 74 - 74 - 74 -										-73 -74
PLORATIO	Legend									
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{BISERVER1}\) ASPECT. LOCALIPROJECTS GINTWIPROJECTS (MORRELL'S 080190 2019 GPJ July 31, 2019) Sample	No Soil Comple			Water Level	evel ATD		See Explo of symbo Logged b Approved	y: BMG	Exploration Log MW-34 Sheet 3 of 3	n

	Aar			Mor	ell's	Dry Cle	aners - 080' Specific Location	190		Environmental Ex	ploration Lo	og
		DECT	COO NI 4-4						E N 4) A / OO	Coordinates	Exploration Num	ber
	Contra			ipment	racom	18 WA 98403,	South of Morell's Sampling Metho		I IVIVV-20	NA Ground Surface (GS) Elev.	- MW-3	
	Hol	lt	CM	E-75			No Sampling			0' (est)	Ecology Well Ta BMF672	g No.
	Opera		Exploration 8.5" OD	n Metho	d(s)		Nork Start/Completion			Top of Casing Elev.	Depth to Water (Beld	ow GS)
	Kyl	e	8.5" OD Hollow-S	tem Au	1	Analytical	7/10/2019 to 7/11/	/2019		NA	50.8' (Static	
Depth (feet)		Exploration C and No	ompletion otes	Sample Type/ID	Sam	nple Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
									ASPHA	ALT; Asphalt.		4
1 -		Flushme	ount ent, lockable s cap, concrete 2' bgs						No logo	ging or sampling		 1
2 -		seal, 0'-	2' bgs									- 2
3 -												- 3
4 -												+ 4
5 -												- 5
6 -												- 6
7 -												+ 7
8 -												8
9 -												- 9
10-		2" diam	eter, schedule									- 10
		40 PVC connect bgs	tions, 0'-43'									
11-												+11
12-												-12
13-		2" diam 40 PVC connect bgs										13
14-												14
15-		b≼r 1si										-15
3MORE 16-												16
17-												-17
WTMINS 18-												- 18
19-												- 19
LOCALIP		Nontani	te chips, 2'-42'									
20 –		bgs	te criips, 2 -42									-20
ERVER1.A												-21
35 22 -												-22
23-												-23
901 NOI.		Bentoni bys										-24
XPLORAT	Legeno					— 0: :: :::		1	See Expl	pration Log Key for explanation	F 1	
NEW STANDARD EXPLORATION LOG TEMPLATE \(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\					Water Level	▼ Static W	aler Level		of symbol Logged b Approved	ls y: BMG	Exploration Log MW-35 Sheet 1 of 3	

	spect		More	ell's Dry Clea Project Address & Site	ners - 080	190	Environmental Ex	ploration Log
	ONSULTING	608 N 1st		Project Address & Site acoma WA 98403,			Coordinates 0 NA	Exploration Number
	Contractor		ipment .		Sampling Meth		Ground Surface (GS) Elev.	MW-35
	Holt		/IE-75		No Sampling		0' (est)	Ecology Well Tag N BMF672
	Operator Kyle	8.5" OD	on Method X 4.25" Stem Aug	(s) V ID per 7	Vork Start/Completion 7/10/2019 to 7/11		Top of Casing Elev. NA	Depth to Water (Below (50.8' (Static)
epth eet)	Exploration C	ompletion	Sample Type/ID	Analytical Sample Number &	Field Tests	Material Type	Description	D
			7,1	Lab Test(s)		No.		
26								-
27 -								
28 -								+
29 -								
30 +								
31 —								
32+								
33+								
34 —								
5+								
86+								
37+								
88+								
89+								
+0+								+
11+								
12+								
13-								_
4								
ļ5 -	12/20 s 42'-61.5	and filter pack, 5' bgs						+
6-								
7-								†
18-								+
19 -								
	egend			▼ Static Wa	ater Level	See Exof sym	ploration Log Key for explanation bols	Exploratio
Type				Water Level		Logge Approv	d by: BMG ved by: DAH	Log MW-35 Sheet 2 of 3

	Aspect		Mor	ell's Dry Cle	aners - 080	190		Environmental Ex	ploration Log
7	Aspect CONSULTING	608 N 1st	Street :	Project Address & Site		15' W of	f MW-20	Coordinates NA	Exploration Number
	Contractor		ipment	Tacoma VVA 90405	Sampling Metho		1 10100-20	Ground Surface (GS) Elev.	MW-35
	Holt	CM	1E-75		No Sampling	ı		0' (est)	Ecology Well Tag No. BMF672
	Operator	Exploration	n Method	d(s)	Work Start/Completion			Top of Casing Elev.	Depth to Water (Below GS)
	Kyle	Exploration 8.5" OD Hollow-S	X 4.25 Stem Au	 	7/10/2019 to 7/11	/2019		NA	50.8' (Static)
Depth (feet)	Exploration C and No	completion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description	Dept (ft)
51 –	▼ 7/11/:	2019							- 51
52-	2" diam	eter 0.020", le 40 PVC 43'-58' bgs							-52
53	screen,	43°-58° bgs							-53
54-									-54
55-									- 55
56+									- 56
57+									-57
58+ 59+	Threade	ed PVC endcap							-58 -59
60-		ou i i o onuoup							-60
61 –									-61
66 62							Bottom	of exploration at 61.5 ft. bgs.	-62
15 ylut 14.									-63
64 -									-64
80 S. T									-65
Hectsimo									-66
08-WTW 67 -									- 67
68 +									-68
69 1.LOCAL/PRC									-69 -70
31.ASPECT									+71
BSERVE 72 -									-72
73 - 73 - 73 - 73 - 73 - 73 - 73 - 73 -									- 73
74 -									- 74
EXPLORAT	Legend			▼ Static W	lator Leval		See Expl	oration Log Key for explanation	Evelous4:
NEW STANDARD EXPLORATION LOG TEMPLATE \(\text{VBISERVER1}\) ASPECT LOCALIPROJECTSIGNITW/PROJECTSIMORELL'S 080190 2019.6PJ July 31, 2019 \\ Sample \qquad \qquad \qquad \qquad \qqqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \q				Water Level	aici Level		of symbo Logged b Approved	ls y: BMG	Exploration Log MW-35 Sheet 3 of 3

		Manag	- +					oring Well Construction Log	
		Loher	4 			ect Numb	oer	Well Number Sheet	
		OCON SULTIN			0	80190		VE-1 1 of 1	2 (1
Project Na	ame:	Walker Chev	rolet					Ground Surface Elev. (site datum) 273.99	Jπ
ocation:		Tacoma, WA						Top of Casing Elev. (site datum)	
riller/Me	thod:	Cascade Drilling	/ Hollow Stem	n Auger - Ar	ngle			Depth to Water	
ampling	Metho	d: No samples						Start/Finish Date 10/21/2013	
Depth / Elevation	Е	Borehole Completion	Sample	Tests	PID	Blows/	Material	Description	
(feet)	Kri Ni	7	Type/ID	10313	(ppm)	6"	Туре	·	
1 🕂 🔝		Flushmount monument, lockable						Concrete. No logging or sampling, strong solvent-like odor in	/
2		thermos cap, concrete						cuttings.	+
3 🕂 🔝		seal 0'-2'							-
. +									-
;		4" diameter, schedule						 Boring drilled 45 degrees from vertical, perpendicula	r to
; +		40 PVC, threaded connections, 0'-25'						the building.	11 10 -
' 		Connections, 0-25						3	-
; +									-
) +									-
) 		Hydrated bentonite							-
1+		chips, 2'-22'							
2+									
3+									
·+									
;+									
+									
·+									
+									
+									
+									
+									
:+	100								
3+		10/20 sand filter pack,							
ı+		22'-45'						 Well screen is completed in glacial till beneath Morre	وااام
5+								Dry Cleaners building, 18 to 32 feet west-northwest	of
6+		:						near-surface manifold, and 18 to 32 feet below ground	nd
7+								surface	
3+									
+									
)+									
2+	:]							
3+		:							
۱+ ا									
;†		4" diameter, 0.020-inch, schedule							
<u> </u>		40 PVC screen, 25'-45'							
'†	:								
1	 	:-							
+	目	-							
)+		.]							
†		:]							
:†									
3+		:-							
!†									
5+		Threaded PVC endcap						Bottom of boring is 32 feet below ground surface.	
3+								_	
7+									
3+									
9+									
	mpler T		<u></u>	PID - P	hotoioniz	ation De	tector	Logged by: AET	
No Re	ecovery	<i>'</i>		▼ St	atic Wate	er Level		A ALAI	
				∇	ater Leve			Approved by: ALN	
				- vva	ater FEAG	י (תוע)		Elmina Na	
								Figure No.	

		Manag	- ‡					oring Well Construction Log	
		<i>Lighter</i>	.			ect Numb	per	Well Number Sheet	
		OCON SULTIN			0	80190		VE-2 1 of 1	24.61
Project Na	ame:	Walker Chev	rolet					Ground Surface Elev. (site datum) 273.8	31 ft
ocation:		Tacoma, WA						Top of Casing Elev. (site datum)	
riller/Me	thod:	Cascade Drilling	/ Hollow Ste	m Auger - Aı	ngle			Depth to Water	
ampling	Metho	d: No samples						Start/Finish Date 10/21/2013	
Depth / Elevation	Е	Borehole Completion	Sample	Tests	PID	Blows/	Material	Description	
(feet)	KIRI NA	d <u>.</u>	Type/ID	1000	(ppm)	6"	Туре	·	-
1 🕂 📗		Flushmount monument, lockable						Concrete. No logging or sampling, strong solvent-like odor in	
2	er er	thermos cap, concrete						cuttings.	-
3 +		seal 0'-2'							-
·									-
;		4" diameter, schedule						 Boring drilled 45 degrees from vertical, perpendicu	lar to
;		40 PVC, threaded connections, 0'-25'						the building.	iai io .
' + I		Connections, 0-25						S .	
+									
· +									
)+		Hydrated bentonite							
1+		chips, 2'-22'							
<u>:</u> +									
3+									
+									
+									
+									
+									
+									
+									
'†									
†									
<u>?</u> †									
3+		10/20 sand filter pack, 22'-45'							
		. 22-43						Well screen is completed in glacial till beneath Mor	rell's
<u>;</u> †	. ∃ .							Dry Cleaners building, 18 to 32 feet west-northwes	t of
3+								near-surface manifold, and 18 to 32 feet below gro surface.	una
(†									
3									
)+									
)+ +									
2+									
3+	. ⊟.	•							
<u> </u>									
5 +		4" diameter,							
<u> </u>		0.020-inch, schedule							
		40 PVC screen, 25'-45'							
;	: 目:								
,		.]							
1									
+		:-							
<u>.</u>		1							
3+		.]							
ı+		.]							
;+	.:	Threaded PVC endcap						Bottom of boring is 32 feet below ground surface.	
s+								bottom or boning is 32 leet below ground surface.	
'									
3+									
9+									
 Sar	mpler T	Type:		PID - P	 hotoioniz	ation De	tector	Logged by: AET	
No Re				_	atic Wate				
•	,			∇				Approved by: ALN	
				→ W	ater Leve	ı (AID)			
								Figure No.	

		Manag	-T			ľ	Monit	oring Well Construction I	Log	
		Aspe				ect Numl 80190	oer	Well Number VE-3	Sheet 1 of 2	
roject N	lame:	Walker Chev			-	00.5		Ground Surface Elev. (site dat		
ocation:		Tacoma, WA						Top of Casing Elev. (site datur		
riller/Me		Cascade Drilling	/ Hollow Sten	n Auger - Ar	nale			Depth to Water	,	
		d: No samples	17.1.4.	····	·5··				10/22/2013	
Depth / Elevation		Borehole Completion	Sample	Tests	PID	Blows/	Material	Description		
(feet)	KAN 19	Flushmount	Type/ID		(ppm)	6"	Туре	∖Concrete.		7
1 +		monument, lockable						No logging or sampling, strong solver	nt-like odor in	7
2		thermos cap, concrete seal 0'-2'						cuttings.		1
3 + 1 +]
5 +		4" diameter, schedule								
3 +		40 PVC, threaded						Boring drilled 45 degrees from vertica the building.	ıl, perpendicular to)
7 🕂		connections, 0'-44'						and ballang.		+
3 +										†
9 +										t
0+ 1+		Hydrated bentonite chips, 2'-41'								1
2+										_
3+										-
4 🕂										-
5+										-
3+										•
7+										-
3+ 9+										
0+										-
1 +										-
2+										-
3+										-
4+										-
5+ 6+										
7+										-
8										1
9 🕂										-
0+										-
1+										-
2+ 3+										_
4										-
5 +										-
6+										-
7+										-
8+										-
9+ 0+										
1+										
2+		. 10/20 sand filter pack,						Wall screen is completed in adverse.	outwach honooth	-
3+		41'-64'						Well screen is completed in advance Morrell's Dry Cleaners building, 31 to	45 feet	-
4+	目	.]						west-northwest of near-surface maniferet below ground surface.	old, and 31 to 45	-
5+		· <u> </u>						1001 Dolow ground Suridoe.		-
6+ 7+										
8+		·]								-
9										-
Sa	mpler 1	·· Гуре:		PID - P	 hotoioniz	ation De	tector	Logged by: AE	ET	
No R	ecovery	/		▼ St	atic Wate	er Level			NI	
				∑ wa	ater Leve	el (ATD)		Approved by: AL	-IN	
						,		Figure No.		
								rigure No.		

		N A == = =					Monite	oring Well Constructi	on Log	
		Aspec			-	ct Numl	oer	Well Number	Sheet	
		OCON SULTIN			0	80190		VE-3	2 of 2	
roject N		Walker Chev	rolet					Ground Surface Elev. (s		t
ocation:		Tacoma, WA						Top of Casing Elev. (site	datum)	
riller/Me		Cascade Drilling	/ Hollow Ste	em Auger - An	gle			Depth to Water	10/22/2013	
Depth /	Method	l: No samples				T		Start/Finish Date	10/22/2013	
Elevation (feet)	В	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _j
51 -		4" diameter, 0.020-inch, schedule								-5
52		40 PVC screen, 44'-64'								-5
3+										-5
4+		•								+5
5+ 6+										+5
7+										+;
8+										+
9+										+;
0+										+
1+										+
2+										+
3+ 4+		Threaded PVC endcap								
5+								Bottom of boring is 45 feet belo	w ground surface.	+
6 🕂										+
7 🕂										+
8+										+
9+										+
0+ 1+										+
2+										1
3+										+
4 🕂										+:
5+										+:
6+										+:
7+ 8+										+
9+										
0+										+
1 +										+
2+										+
3+										t
4+ 5+										+
6 										+
7										+
8+										+
9+										+
0+										t
1 2 										‡
2										Į
4										+
5 🕂										+
6+										+:
7+										+
8+ 9+										+;
	manula v Ti			DID DI		5		Lagrand by	AET	Τ,
_	mpler Ty ecovery	ype.		PID - Ph ▼ Sta	iotoloniz atic Wate		ector	Logged by:		
				$\overline{}$	iter Leve			Approved b	by: ALN	
				***		. ()		Figure No.		

		Asp	@ (- +		Drois	ect Numl	Monit	oring Well Constructi	on Log Sheet	
		CONSU		_			80190		VE-4	1 of 2	
Project N	lama:	Walker C					00130		Ground Surface Elev. (s		t
-				IOICI						<u> </u>	_
ocation:		Tacoma, \							Top of Casing Elev. (site	e <u>datum)</u>	
riller/Me				/ Hollow Ste	em Auger - A	ngle			Depth to Water	40/40/0040	
	Meth	od: No samples	S						Start/Finish Date	10/18/2013	
Depth / Elevation (feet)		Borehole Completion		Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		
. T	M	Flushmount						12 No. 12 No. 12 No. 1	\Concrete.		Ī
l + 2 +		monument, lockat							No logging or sampling, strong	solvent-like odor in	
-		thermos cap, cond seal 0'-2'	ciele						cuttings.		
' I											
1		4" diameter, sche	علياه								
1		40 PVC, threaded							Boring drilled 40 degrees from	vertical, perpendicular	to
. 1		connections, 0'-39	9'						the building.		
1											
1											
) +		Hydrated bentonit	e								
í		chips, 2'-37'									
2+											
;+											
.+											
;+											
;+											
·+											
+											
+											
+											
+											
2+											
3+											
+											
5+											
<u>;</u> +											
<u> </u>											
3+ 9+											
,											
í											
<u>.</u>											
3+											
ı.‡											
; 											
;+											
·‡		7							Well screen is completed in ad-	rance outwork honorth	1
3+		10/20 sand filter p	ack,						Well screen is completed in adv Morrell's Dry Cleaners building,	25 to 38 feet	
+		37'-59'							west-northwest of near-surface	manifold, and 30 to 45	,
+									feet below ground surface.		
+											
2+		밁									
3+											
! 											
5+											
5+ 7-1	目										
7+											
3+ 9+		:·]									
		Type:					<u> </u>	<u> </u>	1	ΛΕΤ	
Sa No Re	mpler ecove				_	hotoioniz tatic Wate		etector	Logged by:		
,		-			∇				Approved b	y: ALN	
					≚ W	ater Leve	er (ATD)		<u></u>		
									Figure No.		

	1	Mana	-1			N	/lonit	oring Well Constructi	on Log	
		Aspec	JT			ct Numb 80190	er	Well Number VE-4	Shee 2 of	
Project Na	amo:	Walker Chev			U	80190		Ground Surface Elev. (s		2 3.53 ft
	arrie.		10161					Top of Casing Elev. (site	,	J.33 II
_ocation:	الم ما،	Tacoma, WA	. / I Jallani Cti	A A				Depth to Water	: <u>uatum)</u>	
Oriller/Met		Cascade Drilling	/ Hollow Ste	em Auger - Ar	ngie				10/18/2013	
Depth /	Method	: No samples				1		Start/Finish Date	10/10/2013	
Elevation (feet)	Во	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (f
51-		4" diameter, 0.020-inch, schedule								-5
52		40 PVC screen, 39'-59'								-5
53 +										-5
54 +										 -5
55 +										- 5
56+										+5
57 +										+5
58+		Three de 150/0								+ 5
59 +		Threaded PVC endcap						Bottom of boring is 45 feet belo	w ground surface	. 5
60 + 61 +										+6 +6
62 +										+6 +6
33+										-6
64 +										-6
65 +										-6
86+										+6
67 +										+6
88+										+6
9+										+6
70+										+7
71 +										+7
72+										 7
73+										 7
74 +										+7
75+										 7
76 77 -										+7 +7
78 -										
79 -										' -7
80+										-8
81 -										-8
82 -										-8
33+										-8
84 +										-8
35+										+8
36+										+8
37 +										+8
38+										+8
39+										+8
90+										+9
91+										+9
92+ 93+										+9
94 +										+6
95 +										-9
96+										+9
97										-9
98										+6
99 +										-6
San	npler Ty	/pe:		PID - P	hotoioniz	ation De	tector	Logged by:	AET	L
O No Re				_	atic Wate					
				-	ater Leve			Approved t	y: ALN	
						,		Figure No.		

	Aar		L	Morel	l's Dry Clea	aners - 080	190		Environmental Ex	ploration Log
	Azk	ec	608 N 1st	P. t Street, Ta	roject Address & Site	e Specific Location 3. Off of Morell's r /IW-21	northeast	corner.	Coordinates	Exploration Number
	Contra	ULTING	G Four	ipment	south of N	/IW-21 Sampling Metho	nd		NA Ground Surface (GS) Elev.	VE-5
			,	•					, ,	Ecology Well Tag No. BLI 188
	Ho Opera			nic 150 cc n Method(s)		Rotary core Work Start/Completio			0' (est) Top of Casing Elev.	BLI 188 Depth to Water (Below GS)
	•		'	()	"	2/26/2019	II Dales		, ,	No Water Encountered
Dist.	Be Depth			onic	Analytical	2/20/2019			NA NA	Dist.
Along (feet)	(feet	Exploratio and	n Completion I Notes	Sample Type/ID	Sample Number & Lab Test(s)	Field Tests	Materia Type		Description ALT; Asphalt	Along (ft)
1 -	1	com	Monument, well pleted sub ace for future SVE	T				SILTY Solution of the subroun	TILL SAND WITH GRAVEL (SM); Sli ine to medium and trace course d gravel.	ghtly moist, gray sand; fine - 2
3 -	. 2	theri	nection, lockable mos cap			PID=7				- 3 - 4
5 -	3		l installed at 45 ree angle			PID=12		- - - -		- 5
6 -	4					PID=3			Y SILT WITH GRAVEL (ML); Slipow plasticity silt; fine to medium	
7 -	5					PID=21		subroun		 7
8 -	6	2" di 40 P conr bgs	iameter, schedule PVC, threaded nections, 1'-25'			PID=15				- 8 - 9
10-	- 7					7107		SILTY	SAND WITH GRAVEL (SM); Ve	10
11-	8								nedium sand; fine to course sub-	
12-						PID=39				-12
inc (13-	9 💥					PID=30				-13
7 05 1080 S 15 -	10	Beni	tonite chips, 1'-22'			PID=41		- - - -		- 14 - 15
16 - 16 -	11					PID=41		- - - -		-16
17-	- 12							SAND	WITH SILT AND GRAVEL (SP-	SM); Very moist,
18-	13	***************************************				PID=24		gray bro gravel.	wn; fine to medium sand; fine to	course, subround -18
19-	14					PID=14		- - -		-19
20 - 21 21 -									SAND WITH GRAVEL (SM); Meand; fine to course subround gr	
21 gige 22 -	15					PID=508		-		-22
23-	16				A-5-22.5 VOCs by 8260C	PID=666		-		-23
24-	-	12/2	0 sand filter pack, 45' bgs					-		-24
Sample Type	Legend Cor	itinuous c	core 7" ID	Water	No Wate	r Encountered	<u> </u>	See Explo of symbo Logged b Approved	y: BMG	Exploration Log VE-5 Sheet 1 of 2

	Λ.	cno	~ T		Мо	rell's	Dry Clea	aners - 080	190		Environmental Ex	ploration L	og
		SPE	LT NG	608 N 1	st Stree	Proje et, Taco	ct Address & Site ma WA 98403	aners - 080 e Specific Location 3. Off of Morell's I MW-21	northeast	corner,	Coordinates NA	Exploration Nul	mber
		Contractor		Eq	uipment		South of it	Sampling Meth	od		Ground Surface (GS) Elev.	- VE-5	
		Holt		TerraS	onic 15	0 сс		Rotary core	;		0' (est)	Ecology Well T BLI 188	ag No.
	(Operator		Explorat	ion Meth	od(s)	1	Nork Start/Completic	n Dates		Top of Casing Elev.	Depth to Water (Be	•
Dist	Donath	Ben			Sonic			2/26/2019	_	T	NA	No Water Encou	
Along	Depth (feet bgs)	Explora	ation Co and Not	ompletion tes	Samp Type/		Analytical nple Number & Lab Test(s)	Field Tests	Materia Type		Description		Dist. Along (ft)
Along	20 21 22 23 23 24 25 26 27 28	Explora	2" diame		Type/	D	nple Number &	PID=100 PID=109 PID=109 PID=18 PID=126 PID=24 PID=13 PID=7 PID=9 PID=9 PID=10 PID=10		SILTY course s	SAND WITH GRAVEL (SM); Mand; fine to course subround grand; fine to course subround grand; fine to medium SAND; fine to medium SAND; fine	-SM); Very moist, to course	Along
146-	33									Note: A-	5 was advanced at a 45 degree	angle	-46 -47
SIB 47													-47 -48
48 TOO TEMP	34												-48 -49
RATION													
Sample		gend Continuou	s core	e 7" ID	- 1 - 1	Water Level	No Wate	er Encountered	1	See Explo of symbo Logged b Approved	y: BMG	Explorati Log VE-5 Sheet 2 of	

A	ASPH.	Coordinates NA Ground Surface (GS) Elev. 0' (est) Top of Casing Elev. NA Description ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. Exploration Number VE-6 Ecology Well Tag No BLI 190 Depth to Water (Below GS No Water Encountere
Contractor Equipment Holt TerraSonic 150 cc Operator Exploration Method(s) Ben Sonic Dist. Non Monument, well completed sub surface for future SVE connection, lockable thermos cap Well installed at 45 degree angle	Sampling Method Rotary core Work Start/Completion Dates 2/27/2019 to 2/28/2019 er & Field Tests Material Type ASPH. SILTY Course:	Ground Surface (GS) Elev. 0' (est) Top of Casing Elev. NA Description ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. PCOORTING WEIL 190 Depth to Water (Below GS) No Water Encountere (ft) Alor (ft) - 1
Operator Ben Sonic Sonic Sonic Exploration Method(s) Sonic Sample Type/ID Analytical Sample Number and Notes No Monument, well completed sub surface for future SVE connection, lockable thermos cap Well installed at 45 degree angle	Work Start/Completion Dates 2/27/2019 to 2/28/2019 er & Field Tests Material Type ASPH. SILTY course:	Top of Casing Elev. NA No Water Encountere Description ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. - 1 - 2 - 3
Ben Sonic St. Depth ong (feet eet) bgs) Exploration Completion and Notes Sample Type/ID Sample Number Lab Test(s)	2/27/2019 to 2/28/2019 er & Field Tests Material Type ASPH. SILTY course:	Top of Casing Elev. NA No Water Encountere Description ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. - 2 - 3
st. Depth ong (feet bet) bgs) Exploration Completion and Notes Exploration Completion Sample Type/ID Analytical Sample Number Lab Test(s) No Monument, well completed sub surface for future SVE connection, lockable thermos cap Well installed at 45 degree angle	er & Field Tests Material Type ASPH. SILTY course:	Description ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel.
long (feet eet) bgs) Exploration Completion and Notes Sample Number Type/ID Sample Number Lab Test(s) No Monument, well completed sub surface for future SVE connection, lockable thermos cap Well installed at 45 degree angle	ASPH. SILTY course:	Description Alc (f ALT; Asphalt SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. - 1 - 2 - 3
No Monument, well completed sub surface for future SVE connection, lockable thermos cap Well installed at 45 degree angle	SILTY	SAND (SM); Slightly moist, light brown; fine to sand; trace fine subround gravel. - 1 - 2 - 3
8 - 6 2" diameter, schedule 40 PVC, threaded connections, 1'-45' bgs 10 - 7 11 - 8 12 - 13 - 9	PID=19 PID=126 PID=87 SAND brown; 1 gravel. PID=12 PID=17 PID=99	WITH SILT (SP-SM); Very moist, light brown; fine um sand; fine subround gravel. WITH SILT AND GRAVEL (SP-SM); Moist, gray fine to medium sand; fine to course, subround 1 -1: -1: -1: -1: -1: -1: -1: -1: -1:

		ЭN						,	aners - 080			Environmental Ex	pioration Lo	<u>y</u>
	-	ME	1117	ING	608 N 1	et Stroc	-		e Specific Location O3, East of More	ll'e couth	of A. 5	Coordinates NA	Exploration Numb	oer
		Contrac		ING		ipment	i, raci	IIIa WA 9640	Sampling Meti		01 A-3	Ground Surface (GS) Elev.	∀ VE-6	
		Holt			TerraSc	nic 150	СС		Rotary cor			0' (est)	Ecology Well Tag BLI 190	g No
	(Operat	tor		Exploration			ı	Nork Start/Completi			Top of Casing Elev.	Depth to Water (Belo	w GS
		Ben	l		s	onic		:	2/27/2019 to 2/2	8/2019		NA	No Water Encoun	itere
Dist. Along feet)	Depth (feet bgs)	ו	Explo	oration C and No	ompletion	Sample Type/ID	Sam	Analytical ple Number &ab Test(s)	Field Tests	Material Type		Description		Dist Alor (fi
26-	18		XXXXXXX						PID=86			SAND WITH GRAVEL (SM); M ledium sand; fine subround gra		-26
27-	_ 19	******	***************************************						PID=38 PID=25					-2
28 - 29 -	20		*******						PID=22					+28 +29
30-	21	*******	XXXXXX	Bentoni bgs	te chips, 1'-42'	\parallel					-			-30
31- 32-	22		XXXXXX						PID=25					-3 ²
33-	23		***************************************								Silt con only fine	tent dereases; gravel content d	ecreases and is	-3:
34-	- 24		XXXXXX						PID=50					-34
35- 36-	25		XXXXXX								Become to course	es very moist, gravel content in e.	ncreases and is fine	+3 +3
37-	26	******	XXXXXX						PID=57					-3
38-	27							A-6-36.0 Cs by 8260C	PID=71					-38
39 - 40 -	28		XXXXXX						PID=43		SAND	WITH SILT (SP-SM); Moist, bro	own: fine to	+3: +4:
41-	- 29	*******	XXXXXX						PID=33		medium	sand; trace fine subround grave	el.	-4
42- 43-	30	X	×						PID=28		-			-4 -4
44-	_ 31								PID=41		-			-4
45- 46-	32			12/20 sa 42'-65' t	and filter pack, bgs				PID=10		SAND silt.	(SP); Moist, brown; fine to med	ium sand; trace	+4 +4
47-	33													-4
48-	34								PID=35 PID=12		GRAVE brown; fi	EL WITH SILT AND SAND (GW ne to course sand; fine to cours	/-GM); Moist, light se subround gravel.	-4 -4
Sample		gend Cont	inuc	ous core	e 7" ID		Water Level	No Wate	r Encountered	8.181	See Explor		Exploratio Log VE-6	_ on

	Δ	spec	+	Mor	ell's Dry Cle	eaners - 080	0190		Environmental Ex		
	C	DUSULTIN		1st Stree	Project Address & S. et, Tacoma WA 984	•	ll's, south	of A-5	Coordinates NA	Exploration Numb	ber
		Contractor		uipment	.,	Sampling Meth			Ground Surface (GS) Elev.	VE-6	NI
		Holt		onic 150		Rotary core			0' (est)	Ecology Well Tag BLI 190	_
	(Operator _		on Method	d(s)	Work Start/Completi			Top of Casing Elev.	Depth to Water (Belo	
Dist.	Depth	Ben		Sonic	Analytical	2/27/2019 to 2/2	8/2019		NA NA	No Water Encoun	ntere Dist
Along	(feet bgs)	Explorati ar	on Completion d Notes	Sample Type/ID	Sample Number &	Field Tests	Materia Type		Description		Aloi (ft
51 -	36	scr	diameter 0.020", nedule 40 PVC een, 45'-65' bgs			PID=8		SAND sand; tra	(SP); Very moist, light brown; fi ace silt.	ne to medium	-5 ⁻
52-	37					PID=13		SILT W	/ITH SAND (ML); Moist, light breat to medium sand.	rown;low-plasticity	-52
53-	38							SAND	(SP); Moist, red brown; fine to r	modium cand: faw	53
54-	Ť					PID=23		fine sub	round gravel.	nedidiri sand, rew	-54
55 - 56 -											+58 +56
57-	40				A-6-57.5 VOCs by 8260C	PID=42		· · ·			-5
58-	- 41				7 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3						-58
59-	42					PID=33					-59
61-	43					PID=37		Gravel	deminishes, trace silt.		+6 +6
62-	44										-6 :
63-	"					PID=27		-			-6
62- 63- 64- 65- 66- 67- 68- 71- 72- 73- 74-	45										-64
65-	46	Thi	readed PVC endcap			PID=55			of exploration at 65 ft. bgs.		6
66-	47							Note: A-	6 was advanced at a 45 degree	angle	-6
67 - 68 -	48										+6 +6
69-	49										-6
70-											-7
71-	50										-7
72-											-7
73 -	52										 7
74-											+7·
Sample		gend Continuous	core 7" ID		Mater Personal No Water Person	er Encountered		of symbo		Exploration Log	on
Sai	-				N N			Logged b Approved	y: BMG I by: DAH	VE-6 Sheet 3 of 3	

	٨٥٠		_1		Мо	rell's	Dry Clea	aners - 080	190		Environmental Ex	ploration Log
	Hal)e(CT	608 N 1st	Street	Project, Tacon	ct Address & Site	e Specific Location East of Morell's, V-17	betweer	MW-16	Coordinates	Exploration Number
	Contra	octor	NG	Fau	ipment		and MV	V-17 Sampling Metho	nd		NA Ground Surface (GS) Elev.	VE-7
	Ho			TerraSo	•	0.00		, •			0' (est)	Ecology Well Tag No.
	Oper			Exploration			<u> </u>	Rotary core Work Start/Completion			Top of Casing Elev.	BLI 191 Depth to Water (Below GS)
	Ве			·	onic	00(0)		2/28/2019 to 3/1/			NA	No Water Encountered
Along	Depth (feet	Explora	ation Co	ompletion	Sampl Type/II	e Sam	Analytical sple Number &	Field Tests	Materia Type	ı	Description	Dist. Alon
(feet)	bgs)	•	and Not		Турси		_ab Test(s)		1ypc	↑ ASPHA	ALT; Asphalt	(ft)
									MA		RETE; Concrete	
2 -	1 33	S s	omplete urface f	ument, well ed sub for future SVE on, lockable	T				00.000. 00.000.	SILTY (TILL GRAVEL WITH SAND (GM); Sli nedium sand; fine to course sub	round gravel. 2
3 -	. 2	₩ t	hermos	cap	Ш			PID=4				+ 3
4 -	3	***************************************						PID=9		SILTY brown; f	SAND WITH GRAVEL (SM); SI ine to medium sand; fine subrou	und gravel. + 4
5			Vell inst legree a	talled at 45 angle	П							- 5
6 -	4 💸	***************************************						PID=20		SANDY brown; lo subroun	SILT WITH GRAVEL (MH); SI OW plasticity silt; fine to medium d gravel.	sand; fine + 6
7 -	5											- 7
8 -	6	4	OPVC,	eter, schedule threaded ons, 1'-25'				PID=48			SAND WITH GRAVEL (SM); W Im sand; fine subround gravel. \$	Strong solvent + 8
9 -								PID=1921		-		- 9
10-	. 7				Н			PID=1921		Cuana	at concrete phase liquid 7! 10! by	- 10
11-	8									Suspec	ct separate-phase liquid 7'-10' b	gs. 11
12-		XXXXX						PID=762		- - - -		-12
13-	9							PID=210		· · ·		- 13
14	10		Bentonito gs	e chips, 1'-22'				PID=256			SAND (SM); Moist, light brown; w fine subround gravel. Strong	
15	11							DID 4044		· · ·		- 15 - 16
17	- 12							PID=1641 PID=700				17
2								1 10-700		moist, gr	WITH SILT AND GRAVEL (SW ray; fine to medium sand; fine to	course subround
18	13							PID=30		gravel; fe	ew cobbles.	-18
19-	. 🖁									. †		- 19
20-	. 14									CDA\#	EL WITH SILT AND SAND (GP	-GM): Wet grav:
21-	15								1000 kg	fine to co	ourse subround gravel, fine to codor.	ourse sand. Strong21
22-	. 💥						A-7-22.0 Cs by 8260C	PID=2489			(SP); Slightly moist, gray; fine to . Strong solvent odor. Separate- ed.	
23-	16						25 27 02000	PID=30		SILTY	SAND (SM); Slightly moist, gray w fine subround gravel.	y; fine to medium 23
24-	-		2/20 sa 2'-45' b	ind filter pack, gs				PID=30		- - -		-24
lple Street	Legend II Cor		s core	7" ID	<u> </u>	el er	No Wate	r Encountered	_ * - * . *	See Explo	oration Log Key for explanation Is	Exploration Log
Sample						Water Level				Logged by Approved		VE-7 Sheet 1 of 2

	Λ	coot		Mor	ell's Dry Cle	eaners - 080	190		Environmental Ex		
	X	spect	608 N 1st	Street,	Project Address & S Tacoma WA 9840: and M	ite Specific Location 3, East of Morell's,	between	MW-16	Coordinates	Exploration Num	nber
-		ONSULTING Contractor		ipment	and M	W-17 Sampling Meth	od		NA Ground Surface (GS) Elev.	∀ VE-7	
		Holt	TerraSor	•	cc	Rotary core			0' (est)	Ecology Well Ta BLI 191	ag No.
		Operator	Exploration			Work Start/Completic			Top of Casing Elev.	Depth to Water (Bel	low GS)
		Ben	Sc	onic		2/28/2019 to 3/1	/2019		NA	No Water Encour	ntered
Dist. Along (feet	Depti (feet) bgs)		completion	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Dist. Along (ft)
Along	g (feet) bgs) 18	Exploration C and No 2" diam schedu screen,	etter 0.020", le 40 PVC 25'-45' bgs	Sample Type/ID	Sample Number &	PID=20 PID=26 PID=40 PID=75 PID=59		SILTY sand; fer SILTY fine to m	SAND (SM); Slightly moist, gray w fine subround gravel. (continual states of the subround gravel. (continual states of the subround gravel. (SM); Slandium sand; fine to course subredum sand; fine to course subredum sand; fine to medium sand	ightly moist, gray; round gravel. increases. oist, light brown; ine to course SM); Very moist, rse subround	Along
48 49 49											-48 -49
MATION											
NEW STANDARD EXPLORA		gend Continuous con	e 7" ID	<u> </u>	Water Level No Mat	er Encountered		See Explo of symbol Logged b Approved	y: BMG	Exploration Log VE-7 Sheet 2 of 2	

	Ā	spe	ect			ell's Dry Clea Project Address & Site	Specific Location			Environmental Ex	ploration Log Exploration Number
			TING			Tacoma WA 98403,			MW-18	NA (20) 51	VE-8
		ontractor	•	'	ipment		Sampling Meth			Ground Surface (GS) Elev.	
		Holt		TerraSo Exploration			Rotary core Vork Start/Completic			0' (est) Top of Casing Elev.	Ecology Well Tag N BLI 189 Depth to Water (Below)
		perator Ben		,			vork รเลก/Completic 2/26/2019 to 2/27			,	
st.	Depth (feet		ploration C		onic Sample	Analytical	Field Tests	Material		NA Description	No Water Encounte
	bgs)	'	and No	tes	Type/ID	Lab Test(s)	Field Tests	Туре		ALT; Asphalt	
										RETE; Concrete	
1 -	1		3						SILTY	SAND (SM); Moist, light brown; w fine to course subround grave	fine to course
2 -	-		No Mon	ument, well ted sub			PID=18		Saliu, le	w line to course subround grave	ai.
			∡ surface	ted sub for future SVE tion, lockable							
-	_ 2		thermos	s cap			PID=109		1		+
			$\stackrel{\star}{\otimes}$								
	3		$\stackrel{>}{\sim}$				PID=683				Ţ
_	-			stalled at 45	Ш						+
	4		degree a	angle					<u> </u>		
-	- '						PID=192				+
			₹						SILTY	SAND WITH GRAVEL (SM); S	lightly moist, light
-	5		$\stackrel{>}{\sim}$				PID=402		brown; f	ine to medium sand; fine to cou	rse subround +
_	-		2" diam	eter, schedule			PID=965		9.2.5		+
	6		40 PVC connect	tions, 1'-45'							
-	-		≯ bgs								+
	- 7						PID=651				
	- /		$\stackrel{>}{\sim}$								†
	-		*						}		1
	8		3				PID=440				
	-										+
	9		$\stackrel{\star}{\approx}$				PID=893			WITH SILT (SP-SM); Moist, lig	
-	_		3						course s	and; few fine to course subrour	nd gravel.
ļ -	- 10		3			A-8-14.0	PID=1508				+
	10		3			VOCs by 8260C			-		
; -	-		$\stackrel{\checkmark}{}$		H						+
3 -	11		×						-		
,			3				PID=414			WITH SILT AND GRAVEL (SW ourse sand; fine to course subre	/-SM); Moist, gray;
	- 12		3				PID=228		cobbles.	ourse sand, fine to course subm	burid graver, rew
			₹				PID=1277				
-	- 13		$\stackrel{>}{\sim}$								†
) –	- 13		3				DID 040		Gravel	content increases, no cobbles	_
			3				PID=343				
) –	_ 14				H			272.7	SVND	(SP); Slightly moist, light gray; f	fine to modium
			3							th silt; few fine subround gravel	, and few cobbles.
-	15		3								†
2 -	_		3				PID=25				_
-	16		$\stackrel{*}{\Rightarrow}$						CALIE	MITH OUT AND ODAYEL (CO	
3 -	-		\$						moist, q	WITH SILT AND GRAVEL (SPray; fine to medium sand, fine to	-SM); Slightly o course subround
			3				PID=7		gravel.	,	
4-	-										†
	Leg	end	\$								
			uous core	= 7" ID			r Encountered		See Explo	oration Log Key for explanation	Exploration
Tyne				-		Water Level			•		Log
}⊢						≶ –			Logged b Approved		VE-8
	1					T			1.12.3.30	•	Sheet 1 of 3

	Aar			Mor	ell's	Dry Clea	aners - 080	190		Environmental Ex	ploration Lo	og	
	Us l	DECT			Projec	t Address & Site	e Specific Location			Coordinates	Exploration Num	nber	
	Contra	ULTING		Street, pment	Tacom	ia WA 98403.	, East of Morell's, Sampling Metho		f MW-18	NA Ground Surface (GS) Elev.	VE-8		
	Но		TerraSoi	•	00		Rotary core			0' (est)	Ecology Well Ta	ag No.	
	Opera		Exploratio			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Nork Start/Completion			Top of Casing Elev.	BLI 189 Depth to Water (Bel	Depth to Water (Below GS)	
	, Be			onic	()		2/26/2019 to 2/27			NA NA	No Water Encou		
Dist. Along (feet)	(feet	Exploration C	Completion	Sample Type/ID	Sam	L Analytical ple Number & ab Test(s)	Field Tests	Materia Type	ıl	Description	<u>I</u>	Dist. Along	
26- 27- 28-	18						PID=14 PID=6		Few co	obbles. (SP); Moist, gray; fine to mediur subround gravel.	n sand; trace silt;	-26 -27 -28	
30 - 31 - 32 - 33 - 34 - 35 -	- 21 - 22 - 22 - 23 - 24	Benton	ite chips, 1'-42'			4-8-34.0 Cs by 8260C	PID=16 PID=341 PID=1404		sand; fe	SAND (SM); Moist, light brown; w fine subround gravel. WITH SILT (SP-SM); Moist, light sand; trace fine subround grave	nt brown; fine to	-29 -30 -31 -32 -33 -34 -35	
36 - 37 - 37 - 37 - 37 - 37 - 37 - 37 -	- 26 - 27 - 27 - 28 - 29						PID=820 PID=69			SAND (SM); Moist, light brown; le to course subround gravel.	fine to course	-36 -37 -38 -39 -40 -41	
410 HONG TOOL TOOL TOOL TOOL TOOL TOOL TOOL TOO	30	12/20 s 42'-65'	and filter pack, bgs			A-8-47.0 Ss by 8260C	PID=26 PID=36 PID=39 PID=68 PID=47		fine to m	WITH SILT (SP-SM); Slightly m nedium sand; few fine subround SAND (SM); Moist, light brown; WITH SILT (SP-SM); Slightly m sand; few fine subround gravel.	gravel. fine to medium	-42 -43 -44 -45 -46 -47 -48 -49	
Sample	Legend II Cor	ntinuous cor	e 7" ID		Water Level	No Wate	r Encountered	1	See Explo of symbo Logged b Approved	y: BMG	Exploration Log VE-8		

	Δ	spe	~ +		Mor	ell's	Dry Cle	aners - 080	190		Environmental Ex	ploration Log
7		SHE NEULTI		608 N 1st	Street	-		Specific Location , East of Morell's,	South of	MW-18	Coordinates NA	Exploration Number
		Contractor			ipment	1400111	W/100400	Sampling Meth		10100	Ground Surface (GS) Elev.	VE-8
		Holt		TerraSc	nic 150	СС		Rotary core	!		0' (est)	Ecology Well Tag No. BLI 189
	(Operator		Exploration	on Method	d(s)	I	Nork Start/Completic	n Dates		Top of Casing Elev.	Depth to Water (Below GS)
	l=	Ben		Sonic			;	2/26/2019 to 2/27	/27/2019		NA	No Water Encountered
Dist. Along (feet)	Depth (feet bgs)	Exploi	and Not		Sample Type/ID	Sam	Analytical ple Number & ab Test(s)	Field Tests	Material Type		Description	Dist. Along (ft)
	26	$1 \cdot \cdot \cdot 1 + 1 \cdot \cdot \cdot 1 \cdot 1 \cdot 1 \cdot 1 \cdot 1 \cdot $	schedule	eter 0.020", e 40 PVC 45'-65' bgs				PID=7		SAND trace silt	(SP); Very moist, red brown; fir	
51-	_ 30							PID=12.5				+ 51
52-	37											-52
53-												-53
54-	38							PID=14				-54
55-	39									-		-55
56-	-					VOC	A-8-56.0 Cs by 8260C	PID=19				-56
57-	40					100	70 by 02000					-57
58-	41							PID=7		+		-58
59-												- 59
60-	42											-60
61-	43											- 61
								PID=4.5				
31, 2018 1, 2019 1, 20	44							PID=3.5				-62
19.GPJ	45									1		-63
07 061080								PID=2				+ 64
OSELL'S	46		Threade	d PVC endcap							of exploration at 65 ft. bgs.	65
66 -	47									Note: A-	8 was advanced at a 45 degree	angle -66
84 67 -	-											-67
68 -	48											-68
-69	49											-69
70 -												-70
ER1.ASP - 12	50											- 71
%BSE% 72−	51											-72
∄ 73-	<u> </u>											-73
[74 -	52											- 74
ORATIO		nond.										
RD EXP.		gend Continuou	ıs core			ار ا	No Wate	er Encountered		See Explo	oration Log Key for explanation ls	Exploration
New Standbard Exploration to General Respect Local Product Scients (1974) 1979	5					Water				Logged by Approved	y: BMG by: DAH	Log VE-8 Sheet 3 of 3

APPENDIX B

Waste Disposal Documentation

A	NON-HAZARDOUS 1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	e 4. Waste T	racking Nur	nber 0						
	WASTE MANIFEST WAD988477873	1	(800) 337-7455		TP-020\$19-60							
	5. Generator's Name and Mailing Address Thrifbway Properties LLC 710 2nd Ave., See: 550 Seattle, WA 98104 Generator's Phone: (206) 838-5831 Attn: Dave Heffin 6. Transporter 1 Company Name	ner	FRENTE SP Propertion 608 North 1" Street Tacoma, WA 98403	errot ther mailing addr								
	DH Environmental, Inc. WAH000047217											
	7. Transporter 2 Company Name Chemical Waste Management of the Northwest U.S. EPA ID Number ORD089452353											
	8. Designated Facility Name and Site Address Chemical Waste Management of the Northwest 17629 Cedar Springs Lane Artington, OR 97812 U.S. EPA ID Number U.S. EPA ID Number U.S. EPA ID Number U.S. EPA ID Number U.S. EPA ID Number U.S. EPA ID Number U.S. EPA ID Number											
П	Facilit 's Phone 541 454-2643 9. Waste Shipping Name and Description		10. Containers	11. Total	12. Unit							
Ш			No. Typ	ne Quantity	Wt./Vol.							
GENERATOR	1 Material Not Regulated by DOT (non-Regulated IDW water)		17 D	M 11,500	P	X094						
GE	2.											
	3.											
ı	4.											
	13. Special Handling Instructions and Additional Information OR328266 — LF01/STAB01, non-reg											
	1. IDW sail											
П				MHHM	970	272						
П	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this marked and labeled/placarded, and are in all respects in proper condition for transport according	consignment a	re fully and accurately described a	above by the proper ship								
V	Generator's/Offeror's Printed/Typed Name CV1 120 121 CV1 1/10 1/10 CV1 1/10 121 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/10 CV1 1/1		nature	Maye	11.	Month Day Year						
INT	15. International Shipments Import to U.S.	Export from (777									
	Transporter Signature (for exports only): 16. Transporter Acknowledgment of Receipt of Materials		Date leaving U.S.	\	/	/						
THANSPORTER	Transporter 1 Printed/yped Name Navd Transporter 2 Printed/Typed Name.		nature Toward	4 War	al	Month Day Year O2 3 / 9 Month Day Year						
TRA	G. Pinculla	Jag	4/	/		Z 5 19						
A	17a. Discrepancy Indication Space Quantity Type		Residue	Partial Reje	ction	Full Rejection						
CILITY	17b. Alternate Facility (or Generator)		Manifest Reference Number:	U.S. EPA ID N	lumber							
D FA	Facility's Phone:					Month Book M						
INATE	17c. Signature of Alternate Facility (or Generator)					Month Day Year						
DESIGNATED FACILITY												
	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the	manifest excent	noted in hem 17s									
V	Printed/Typen Name On (a)		ture du la	de		Month Day Year						
169	-BLC-O 6 10498 (Rev. 9/09)			DESIGNATE	D FACI	LITY TO GENERATOR						

A	NON-HAZARDOUS WASTE MANIFEST 1. Generator ID Number 2. Page 20 F	1 of 3. Emergency Response Phone	4. Waste Tracking Number	+19-01							
	5. Generator's Name and Mailing Address Generator's Site Address (if different than mailing address)										
	Generator's Phone: 6. Transporter 1 Company Name won Pactic Roul 7. Transporter 2 Company Name Company Name Company Name										
	6. Transporter 1 Company Name Wion Pacific Rail Road NED 001792910										
	7. Transporter 2 Company Name Communical Ridge Land Fill U.S. EPA ID Number OPD 987173457										
	Designated Facility Name and Site Address	and file	U.S. EPA ID Number	1112424							
	Facility's Phone:		1								
Ш	Facility's Phone:	10. Containers	11, Total 12, Unit								
	Waste Shipping Name and Description	No. Type	Quantity Wt./Vol.								
GENERATOR	1.										
GENE	2.										
	3.										
				1							
	4.										
	13. Special Handling Instructions and Additional Information										
			WHYLL 9	10272							
	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignme marked and labeled/placarded, and are in all respects in proper condition for transport according to a	ent are fully and accurately described above	by the proper shipping name, ar								
	Generator's/Offeror's Printed/Typed Name	Signature	nental regulations.	Month Day Year							
*	15. International Shipments										
INT.	Import to U.S. Export from Transporter Signature (for exports only):	om U.S. Port of entry/exit: Date leaving U.S.:									
띮	16. Transporter Acknowledgment of Receipt of Materials										
POR	Transporter 1 Printed/Typed Name Tanks Kuppet	Signature 47	_	Month Day Year							
TRANSPORTER	Transporter 2 Printed/Typed Name Labber (Signature Aug (abben	Month Day Year							
A	17. Discrepancy	- June									
	17a. Discrepancy Indication Space Quantity Type	Residue	Partial Rejection	Full Rejection							
l		Manifest Reference Number:									
ILITY	17b. Alternate Facility (or Generator)		U.S. EPA ID Number								
FAC	Facility's Phone:										
DESIGNATED FACILITY	17c. Signature of Alternate Facility (or Generator)			Month Day Year							
- DESIC											
	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest ex	cept as noted in Item 17a									

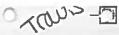
Pleas	se print or type.									Approved. Ol	MB No. 2050-0)039
	UNIFORM HAZARDOUS WASTE MANIFEST			2. Page 1 of	(800)	ency Response -337-7455		4. Manifest	012	1083	JJK	
	5. Generator's Name and Mailin Thriftoway Properti 401 2nd Ave S #2 Seattle V/A 9810 Generator's Phone: 2.0	esLLC 01 4 8 838	- 8 5 9 2	Att. Alan Noel	633 E	's Site Address way Prope Division Avi ma WA 98	e e					
	Transporter 1 Company Nan	ne						U.S. EPA ID N				
	OH Environmen	stal Inc.								0 0 4 7	2 1 7	
	7. Transporter 2 Company Nan	ne						U.S. EPA ID N	lumber			
	Chemical Wast		it e					ORE	0 8	9 4 5 2	3 5 3	
	8. Designated Facility Name ar CHEMICAL WAS 17829 CEDAR S ARLINGTON OF	TE MANAGEM PRINGS LANE R 97812						U.S. EPA ID I				
	Facility's Phone: 541 4	54-2643						ORI	908	9 4 5 2	3 5 3	
	9a. 9b. U.S. DOT Descript and Packing Group (if		ipping Name, Hazard Class	, ID Number,		10. Contai No.	ners Type	11. Total Quantity	12. Unit Wt./Vol.	13. Wa	ste Codes	
GENERATOR -	X Tetrachlorceth		quid, n.o.s. (Trich)	oroethene,		015	DM	4,500	P	F002		
GEN	3.											
	4.											
					9 1							
	14. Special Handling Instruction 15. GENERATOR'S/OFFER	ERG#171		ontents of this consignment	nt are fully a	nd accurately de	escribed abov	e by the proper s	hipping nam	4980	fied, packaged,	
	Exporter, I certify that the I certify that the waste mi	contents of this consignation statement ide	nment conform to the terms entified in 40 CFR 262.27(a)	of the attached EPA Ackno (if I am a large quantity go	wledgment enerator) or	of Consent. (b) (if I am a sm			i. ii export si			,
	Generator's/Offeror's Printed/7	yped Name	KNall of 1	hritimay s	ignature	7-7	l_	ACC-000-000-000		Month	Day \	ear G
INT.L	16. International Shipments Transporter signature (for exp	Import to U	.S.	Export from	ı U.S.	Port of e Date leav						-
2	17. Transporter Acknowledgme	ent of Receipt of Material	S					1				
TRANSPORTER	Transporter 1 Printed/Typed N Transporter 2 Printed/Typed N	IRVIS	Forslyn)	ignature Signature	1	A			Month		Year
TRA	MI	CHAEL	GSTANED	4		4. 7	1	in the same of the			- 11	9
	18. Discrepancy Indication S	pace Quantit	у	Туре		Residue anifest Reference	oo Number	Partial Ro	ejection		Full Rejection	
LITY	18b. Alternate Facility (or Gen	erator)			IVI	annest Keleren	se Number.	U.S. EPA ID	Number			4
-AC	Facility's Phone:											
DESIGNATED FACILITY	18c. Signature of Alternate Fa	cility (or Generator)								Mon	th Day	Year
MAT												
Sign	19. Hazardous Waste Report	Management Method C	odes (i.e., codes for hazard	ous waste treatment, dispo	sal, and re	cycling systems)		-312			
- DE	1.	32	2.	3				4.				
	20. Designated Facility Owne	r or Operator: Certification	on of receipt of hazardous n	naterials covered by the m	anifest exce	ept as noted in It	em 18a		12.5			
	Printed/Typed Name				Signature	h.	///			Mon	th Day	Year
1)aun	L Dunias	1.4657	1	Ilu6	. /			=	120	15

Please print or type. Form Approved. OMB No. 2050-0039 23. Manifest Tracking Number 21. Generator ID Number 22. Page UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet) 24. Generator's Name U.S. EPA ID Number 25. Transporter Company Name U.S. EPAID Number 26. Transporter Company Name 28. Containers 27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 29. Total 30. Unit 31. Waste Codes Quantity and Packing Group (if any)) Wt./Vol. No. Type 32. Special Handling Instructions and Additional Information MXU 980684 33. Transporter _____3 Acknowledgment of Receipt of Materials TRANSPORTER Printed/Typed Name___ Signature Acknowledgment of Receipt of Materials 34. Transporter Printed/Typed Name Signature 35. Discrepancy DESIGNATED FACILITY 36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

468770 Please print or type.

	11	JNIFORM HAZARDOUS WAST MANIFEST Generator's Name and Mailin	WAD STERRY	373	1.1	3. Emergency Res (800)-337-7-	455	02	st Tracking N	1088	8 JJ	
		Thriftway Properti 401 2nd Ave S #2 Seattle WA 9810	es LLC 01 4	Att /	Alan Noell	Generator's Site Add	operties LL	c i		- W - Ole		_
ĺ	6	enerator's Phone: Transporter 1 Company Name	8 929 9599			Tacoma WA	6002 4	2-19 n	er Sco	H St 3	Taha /c	U a
1	11	R Transport Inc	- Aug 1									
1	7.	Transporter 2 Company Name	8		0			WA	HOO	0 0 2	8 3 3	8
1		Chemical Waste	Management	1	73			U.S. EPA ID				
	8.	Designated Facility Name and	d Site Address		-			U.S. EPA ID	Number	045	235	₹ .
	Fa	17829 CEDAR SF ARLINGTON OR Icility's Phone: 544 45	97812					7				
	9.	9b. U.S. DOT Description and Packing Group (if ar	n (including Proper Shipping Name, Hazard C	Class, ID Number,		10. Co	ntainers	11, Total	12. Unit	9 4 5	2 3 5 3	Ş
	"					No.	Туре	Quantity	Wt./Vol.	13. W	aste Codes	
CENEDATOR	No least	X 9, PGIII	rdous waste, solid, n.o.s. (Tet	rachloroethe	ene, Soil)	001	CM	10	T	F002		
12	3											_
		3.				200						
		4.										
П	1						,		1 1			
	14.	Special Handling Instructions	and Additional Information	-								
		1) OR341097-Bulk	ERG#171	1200	4.30	A =						
	16	CCUPATANAMA	The second state of the se	M	wxd	875	7					
	13.	marked and labeled/placarde	S CERTIFICATION: I hereby declare that the Ed. and are in all respects in proper condition intents of this consignment conform to the term	e contents of this c	consignment are	fully and accurately	described above	by the proper sh	тipping пате,	and are classifi	ied, packaged,	_
		Exporter, I certify that the con	tents of this consignment conform to the term	ns of the attached	EPA Acknowled	gment of Consent.	iauonai governme	ental regulations.	. If export ship	ment and I am	the Primary	
	Gene	erator's/Offeror's Printed/Typed	ization statement identified in 40 CFR 262.27 d Name	(a) I am a large	quantity genera Signal	ilor) or (b) (if I am a s	mall quantity gen	erator) is true.				
1	1	mostles 10	urs forsional	7	I		W.	9		Month	Day Y	ear
1	16. Ja	nternational Shipments	Import to U.S.		Support from LLC	-//	entry/exit:				111	4
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ומי	Trans	porter 2 Printed/Typed Name	monds		1	-/-	_			13	111 11	1
ZA S		Junes R.	brett		Signati	an =	\Rightarrow			Month	Day Y	ar
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1	_	Discrepancy Indication Space	П									
		,	Quantity	Туре		Residue		Partial Reje	ection		Full Rejection	
			The state of the s			Manifest Defense	ne klumbaa					
	18b. A	Iternate Facility (or Generator				Manifest Reference	ce Number:	U.S. EPA ID N	umber			-
		y's Phone:										
	106. 3	ignature of Alternate Facility (o	or Generator)							Month	Day Ye	ear
1	Ф н-	Zamlaue Meste De 111									1 1	
1	э. п а	zaidous vyaste Report Manag	gement Method Codes (i.e., codes for hazard	ous waste treatme		d recycling systems)						
1		H137			3.			4.	nana a santa			
2	0. De:	signated Facility Owner or On	erator: Certification of receipt of hazardous n	natariala ancesa 11	witho ==="							
F	rinted	Typed Name	Section of receipt of Hazardous II	noterials covered b	y the manifest Signalin		m 18a			-		
		10 au	in Dina		1 7	ni	6	11		Month	Day Yea	ar
AF	om i	8700-22 (Rev. 12-17) Pre	vious editions are obsolete.			DES	IGNATED I	ACILITY T	O EPA's	e-MANIFE	ST SYSTE	1 M

Please print or type. ↑ UNIFORM HAZARDOUS WASTE MANIFEST 21. Generator ID Number,	1 22 0	22 Mars	ford T I for all	Form A	pproved. OMB No.	2050-00
(Continuation Sheet) WAD 027 559	5/84 22. Page	ZJ. Mani	Tracking N	12/C	188 UK	
24. Generator's Name This tway Propet	ires LL	C	Ŷ			
25. Transporter Company Name CRL			U.S. EPAUD	198 J	71734	57
26. Transporter Company Name			U.S. EPA ID	Number		
27a. 27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, HM and Packing Group (if any))	28. Coni No.	Type	29. Total Quantity	30. Unit Wt./Vol.	31, Waste Code	s
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			4.			
32. Special Handling Instructions and Additional Information						_
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23 Temporaries Ashanuladamental Passial - (Matairie)	Signature	7 6	XU	919		
Jan L Janbey 4	Orginature	19	ann	en l	Month/ Day	17
34. Transporter Acknowledgment of Receipt of Materials Printed/Typed Name	Signature	0	6		Month Day	Year
35. Discrepancy		55,94				
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, dispo	osal, and recycling systems)			1		
A Form 8700-22A (Rev. 12-17) Previous editions are obsolete.	nes	UCNATED	FACILITY:	TO EDA's s	-MANIFEST S	Veter





MANIFEST DOC, NO. _

Chemical Waste Management Of The Northwest

17629 Cedar Springs Lane Arlington, Oregon 97812 541-454-2643 EPA I.D.# ORDO89452353

LOAD NO			

INBOUND T/D: 15:02:30 2019-04-11 ID: 468770 TRK ID: 8753 L14 70700 lb G

OUTBOUND
T/D: 15:17:47 2019-04-11
ID: 468770 TRK ID: 8753 L14
70700 lb G
48800 lb FT
21900 lb N

NET 10.95 TONS

GENERATOR _

468677 Please print or type. Form Approved. OMB No. 2050-0039 1. Generator ID Numb UNIFORM HAZARDOUS 2. Page 1 of 3. Emergency Response Phone 02012100 WASTE MANIFEST WAD988477873 (800) 337-7455 5. Generator's Name and Mailing Address Thrifbaray Properties LLC (seemble griffism and formally lighter of Colorse) 491 2" Ave. 5 #201 Tacomu, WA 98403 Souttle, WA 90104 Generator's Phone: 6. Transporter 1 Company Name (205) 780-7729 Attn: Bob Hanford U.S. EPA IO Number 7. Transporter 2 Company Name HAMINATE. 8. Display Facilities & Francisco of the Horsburg Chemical Waste Management of the Northwest 17629 Carlos Springs Lane Facility's Phone Artimeters, OR 97812 Sa. Sh. U.S. [504] 411345 (Reuding Proper Shipping Name, Hazard Class, ID Number, ORD089452353 10. Containers and Packing Group (if any)) tf Total 12 Unit HM 13. Waste Codes No. Тура Outsetile MA2077, Hazar dous Waste Sulld, n.o.s., 9, PG No-GENERATOR (tetrachioroethylene) none NA3082, Hazardous Waste Liquid, n.o.s., 9 PG III (tetrachlorosthene, trichlorosthene) F40.22 50m Material Not Regulated by DOT, (norregulate) 19W-soil) 14 Specialization of the Particular (171) OR328813-STAISLS, F002 IDW wester, missels LDR's ERG: (171) OR320200 - LFO1 mon-regulated IDW soil 16. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, GERREATON SIGN FERRIA'S GERTIFICATION: I hereby deciate that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, package marked and labeled/placented, and are in all respects in proper condition for transport according to applicable international contents of this consignment contents of the tagms of the attached EPA Acknowledgment of Company (cartify that the waste minimization statement (fortified by 40 CFR (acaditia) (if large quantity generator) or (b) (if large a small quantity payment of trust) instruction of the content of the large quantity generator) or (b) (if large a small quantity payment of trust).

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DESIGNATED FACILITY TO EPA'S e-MANIFEST SYSTEM

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

Form Approved. OMB No. 2050-0039 Please print or type. (Form designed for use on elite (12-pitch) typewriter. Manifest Tracking Number 017543359 2. Page 1 of | 3. Emergency Response Phone UNIFORM HAZARDOUS 1. Generator ID Numb (801) 337 - 74.53 WASTE MANIFEST Generator's Phone: U.S. EPA ID Number
WA H 000047217
U.S. EPA ID Number 6. Transporter 1 Company Na U.S. EPA ID Number Management of the ORD 037 452 353 341 454-2643 Facility's Phone: 12. Unit 9b. U.S. DOT Description (inc ding Proper Shipping Name, Hazard Class, ID Number, 13. Waste Codes Quantity WL/Vol. and Packing Group (if any)) Type HM 9, PGILL (tetractionedly fre) tace GENERATOR 00 70 o 14. Special Handling Instructions and Additional Information
1. CR34 3 1297 - Incol, Foo2 IDW Soil ERG:(171) 16. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPAAcknowledgment of Consent.

I certify that the wester minimization statement identified in 40 CFR 282.27(a) (if I am a targe quantity generator) or (b) (if I am a small quantity generator) is true. Day ara/Ollaro's Printed/Typed Name Con be by If 20 Export from U.S. Port of entry/exit: Import to U.S. Date leaving U.S.: Transporter signature (for exports only): 17, Transporter Acknowledgment of Receipt of Materials Month Transporter 1 Printed/Typed Name 3/2/1 43TANEDA MICHAGE 16. Discrepancy Full Rejection 18a. Discrepancy Indication Space Type Residue Partial Rejection Quantity Manifest Reference Number. U.S. EPAID Number 18b. Alternate Facility (or Generator) DESIGNATED FACILITY Facility's Phone: Day 19c. Signature of Atternate Facility (or Generator) 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) HOYD 20. Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Signature Sa

	NON-HAZARDOUS WASTE MANIFEST 5. Generator's Name and Mailing	1. Gerierator ID Number WAD 988477873 Address Theriffcomy P.		2. Page 1 of 3. Err	(800) 33	7-7455		acking Numb	32019-01
	Generator's Phone:	401 2 nd Ave. Seattle, WA	98104	7	602 North Tacoma, V	1st Street			
	Transporter 1 Company Name DH Environm Transporter 2 Company Name	nental Inc.	729 Assa; Bub Ha		1	ı n	U.S. EPAID I	MOODOM	7217
	B. Designated Facility Name and	, reconscious Aprelonation - Duch	Silver III			-	1	D089452	ES
100	17625 Fight's Phone Arling	ical Waste Management : I Cedar Springs Lane Iton, OR 97812	file Northwest			V.	CR	D089452	2353
	9. Waste Shipping Name a	950-2843 and Description	The second		10. Con		11. Total	12. Unit	7. 2
TOTAL DAMPS	1. Material	Not Regulated by D	OT, (non-regula	ited IDW so	019	Туре	Quentity 11,40	Wr.Val.	X004
1	inaritor's/Offeror's Printed/Type	CERTIFICATION: I hereby declare, and are in all respects in proper or distance on behalf.	that the contents of this condition for transport accord	ing to applicable inte	nd accurately demands and nat	scribed above	but the amount chie	MXU ping name, an	Month Day Yes
ì	5. International Shipments	import to U.S.		Export Imm U.S.	Port of er		= -		13129119
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í		GNEAT			Ha	Upp	6		3 20 19 Month Day Yes
	Discrepancy Indication Space	Quantity	Туре		Residue		Partial Rejec	tion	Full Rejection
	b. Alternate Facility (or Generato	,		5.a., 1	last Reference t	Yumber;	U.S. EPA ID Nu	mber	
	city's Phone: c. Signature of Alternate Facility (18.						Month Day Yea

iON-HAZARDOUS WASTE MANIFEST 19. Generator ID Number (Continuation Sheet)	U27672	20, Page 2		Tracking Num		20.2
(Continuation Sheet) WAD 989 Senerator's Name THRIETWAY PROPE	OT SHEET WAS A STREET	2		ELLC	-03	2019-0
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ecial Handling Instructions and Additional Information		表			7.	
rsporter Acknowledgment of Receipt of Materials				WM	X4	180614
Typed Name T C	Signature	7-				Month Day
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		ī.	Die .		071-088	386

APPENDIX C

Laboratory Reports

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 9, 2015

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr. Noell:

Included are the results from the testing of material submitted on January 21, 2015 from the Walker Chevrolet 080190, F&BI 501270 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman ASP0209R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 21, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet 080190, F&BI 501270 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
501270 -01	MW-20-012015
501270 -02	MW-21-012015
501270 -03	MW-8-012015

The samples were sent to Aquatic Research for nitrate, nitrite, and sulfate analyses. Review of the enclosed report indicates that all quality assurance were acceptable.

Samples MW-21-012015 and MW-8-012015 were diluted due to matrix effects (foamy). The reporting limits were raised accordingly.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-20-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/23/15 Lab ID: 501270-01 x50
Date Analyzed: 01/23/15 Data File: 501270-01 x50.055

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 91 60 125

Concentration

Analyte: ug/L (ppb)

Iron 50,600

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-21-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/23/15 Lab ID: 501270-02 x100
Date Analyzed: 01/23/15 Data File: 501270-02 x100.052

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 87 60 125

Concentration

Analyte: ug/L (ppb)

Iron 42,200

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-8-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/23/15 Lab ID: 501270-03 x100
Date Analyzed: 01/23/15 Data File: 501270-03 x100.053

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 85 60 125

Concentration

Analyte: ug/L (ppb)

Iron 89,100

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/23/15 Lab ID: I5-036 mb 01/23/15 Data File: I5-036 mb.042 Date Analyzed: Matrix: Water Instrument: ICPMS1 Units:

ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit: Germanium 99 60 125

Concentration

Analyte: ug/L (ppb)

Iron < 50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-20-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/22/15 Lab ID: 501270-01 Data File: Date Analyzed: 01/22/15 012212.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	97	93	107
4-Bromofluorobenzene	96	76	126

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	7.4
Vinyl chloride	1.8	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	51	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	79	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	38	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	5.3	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	25	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-21-012015 cf Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/22/15 Lab ID: 501270-02 1/5 Data File: Date Analyzed: 01/22/15 012213.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	98	93	107
4-Bromofluorobenzene	99	76	126

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<5
Chloromethane	< 50	Tetrachloroethene	15
Vinyl chloride	<1	Dibromochloromethane	<5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<5
Chloroethane	<5	Chlorobenzene	<5
Trichlorofluoromethane	<5	Ethylbenzene	<5
Acetone	200	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	<5	m,p-Xylene	<10
Methylene chloride	<25	o-Xylene	<5
Methyl t-butyl ether (MTBE)	<5	Styrene	<5
trans-1,2-Dichloroethene	<5	Isopropylbenzene	<5
1,1-Dichloroethane	<5	Bromoform	<5
2,2-Dichloropropane	<5	n-Propylbenzene	<5
cis-1,2-Dichloroethene	270	Bromobenzene	<5
Chloroform	<5	1,3,5-Trimethylbenzene	<5
2-Butanone (MEK)	100	1,1,2,2-Tetrachloroethane	<5
1,2-Dichloroethane (EDC)	<5	1,2,3-Trichloropropane	<5
1,1,1-Trichloroethane	<5	2-Chlorotoluene	<5
1,1-Dichloropropene	<5	4-Chlorotoluene	<5
Carbon tetrachloride	<5	tert-Butylbenzene	<5
Benzene	<1.7	1,2,4-Trimethylbenzene	<5
Trichloroethene	12	sec-Butylbenzene	<5
1,2-Dichloropropane	<5	p-Isopropyltoluene	<5
Bromodichloromethane	<5	1,3-Dichlorobenzene	<5
Dibromomethane	<5	1,4-Dichlorobenzene	<5
4-Methyl-2-pentanone	< 50	1,2-Dichlorobenzene	<5
cis-1,3-Dichloropropene	<5	1,2-Dibromo-3-chloropropane	< 50
Toluene	<5	1,2,4-Trichlorobenzene	<5
trans-1,3-Dichloropropene	<5	Hexachlorobutadiene	<5
1,1,2-Trichloroethane	<5	Naphthalene	<5
2-Hexanone	< 50	1,2,3-Trichlorobenzene	<5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-8-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/22/15 Lab ID: 501270-03 1/5 Date Analyzed: Data File: 01/22/15 012214.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	96	93	107
4-Bromofluorobenzene	102	76	126

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<5
Chloromethane	< 50	Tetrachloroethene	14
Vinyl chloride	9.4	Dibromochloromethane	<5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<5
Chloroethane	<5	Chlorobenzene	<5
Trichlorofluoromethane	<5	Ethylbenzene	<5
Acetone	71	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	6.4	m,p-Xylene	<10
Methylene chloride	<25	o-Xylene	<5
Methyl t-butyl ether (MTBE)	<5	Styrene	<5
trans-1,2-Dichloroethene	<5	Isopropylbenzene	<5
1,1-Dichloroethane	<5	Bromoform	<5
2,2-Dichloropropane	<5	n-Propylbenzene	<5
cis-1,2-Dichloroethene	1,400 ve	Bromobenzene	<5
Chloroform	<5	1,3,5-Trimethylbenzene	<5
2-Butanone (MEK)	< 50	1,1,2,2-Tetrachloroethane	<5
1,2-Dichloroethane (EDC)	<5	1,2,3-Trichloropropane	<5
1,1,1-Trichloroethane	<5	2-Chlorotoluene	<5
1,1-Dichloropropene	<5	4-Chlorotoluene	<5
Carbon tetrachloride	<5	tert-Butylbenzene	<5
Benzene	<1.7	1,2,4-Trimethylbenzene	<5
Trichloroethene	8.5	sec-Butylbenzene	<5
1,2-Dichloropropane	<5	p-Isopropyltoluene	<5
Bromodichloromethane	<5	1,3-Dichlorobenzene	<5
Dibromomethane	<5	1,4-Dichlorobenzene	<5
4-Methyl-2-pentanone	< 50	1,2-Dichlorobenzene	<5
cis-1,3-Dichloropropene	<5	1,2-Dibromo-3-chloropropane	< 50
Toluene	<5	1,2,4-Trichlorobenzene	<5
trans-1,3-Dichloropropene	<5	Hexachlorobutadiene	<5
1,1,2-Trichloroethane	<5	Naphthalene	<5
2-Hexanone	< 50	1,2,3-Trichlorobenzene	<5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-8-012015 Client: Aspect Consulting, LLC

Date Received: 01/21/15 Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/26/15 Lab ID: 501270-03 1/50 Data File: Date Analyzed: 01/27/15 012716.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	94	93	107
4-Bromofluorobenzene	97	76	126

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	< 50	1,3-Dichloropropane	< 50
Chloromethane	< 500	Tetrachloroethene	< 50
Vinyl chloride	<10	Dibromochloromethane	< 50
Bromomethane	< 50	1,2-Dibromoethane (EDB)	< 50
Chloroethane	< 50	Chlorobenzene	< 50
Trichlorofluoromethane	< 50	Ethylbenzene	< 50
Acetone	< 500	1,1,1,2-Tetrachloroethane	< 50
1,1-Dichloroethene	< 50	m,p-Xylene	<100
Methylene chloride	<250	o-Xylene	< 50
Methyl t-butyl ether (MTBE)	< 50	Styrene	< 50
trans-1,2-Dichloroethene	< 50	Isopropylbenzene	< 50
1,1-Dichloroethane	< 50	Bromoform	< 50
2,2-Dichloropropane	< 50	n-Propylbenzene	< 50
cis-1,2-Dichloroethene	1,200	Bromobenzene	< 50
Chloroform	< 50	1,3,5-Trimethylbenzene	< 50
2-Butanone (MEK)	< 500	1,1,2,2-Tetrachloroethane	< 50
1,2-Dichloroethane (EDC)	< 50	1,2,3-Trichloropropane	< 50
1,1,1-Trichloroethane	< 50	2-Chlorotoluene	< 50
1,1-Dichloropropene	< 50	4-Chlorotoluene	< 50
Carbon tetrachloride	< 50	tert-Butylbenzene	< 50
Benzene	<17	1,2,4-Trimethylbenzene	< 50
Trichloroethene	< 50	sec-Butylbenzene	< 50
1,2-Dichloropropane	< 50	p-Isopropyltoluene	< 50
Bromodichloromethane	< 50	1,3-Dichlorobenzene	< 50
Dibromomethane	< 50	1,4-Dichlorobenzene	< 50
4-Methyl-2-pentanone	< 500	1,2-Dichlorobenzene	< 50
cis-1,3-Dichloropropene	< 50	1,2-Dibromo-3-chloropropane	< 500
Toluene	< 50	1,2,4-Trichlorobenzene	< 50
trans-1,3-Dichloropropene	< 50	Hexachlorobutadiene	< 50
1,1,2-Trichloroethane	< 50	Naphthalene	< 50
2-Hexanone	< 500	1,2,3-Trichlorobenzene	< 50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Walker Chevrolet 080190, F&BI 501270

Date Extracted: 01/22/15 Lab ID: 05-0109 mb Date Analyzed: 01/22/15 Data File: 012208.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	101	93	107
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration	Compounds:	Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Date of Report: 02/09/15 Date Received: 01/21/15

Project: Walker Chevrolet 080190, F&BI 501270

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 501279-03 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	138	104	100	50-150	4

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	93	70-130

ENVIRONMENTAL CHEMISTS

Date of Report: 02/09/15 Date Received: 01/21/15

Project: Walker Chevrolet 080190, F&BI 501270

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	113	114	54-149	1
Chloromethane Vinyl chloride	ug/L (ppb) ug/L (ppb)	50 50	94 98	98 101	67-133 73-132	4 3
Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	112	117	69-123	3 4
Chloroethane	ug/L (ppb)	50	102	105	68-126	3
Trichlorofluoromethane	ug/L (ppb)	50	102	106	70-132	4
Acetone	ug/L (ppb)	250	104	108	44-145	4
1,1-Dichloroethene Methylene chloride	ug/L (ppb) ug/L (ppb)	50 50	97 98	99 101	75-119 63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	96	99	70-122	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	95	96	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	97	99	80-116	2
2,2-Dichloropropane cis-1.2-Dichloroethene	ug/L (ppb)	50 50	99 96	104 99	62-141 81-111	5 3
Chloroform	ug/L (ppb) ug/L (ppb)	50 50	96 96	100	81-111	3 4
2-Butanone (MEK)	ug/L (ppb)	250	97	97	53-140	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	98	102	79-109	4
1,1,1-Trichloroethane	ug/L (ppb)	50	101	104	80-116	3
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb)	50 50	98 105	100 108	78-112 72-128	2
Benzene	ug/L (ppb) ug/L (ppb)	50 50	93	95	72-128 81-108	3 2
Trichloroethene	ug/L (ppb)	50	95	97	77-108	2
1,2-Dichloropropane	ug/L (ppb)	50	103	105	82-109	2
Bromodichloromethane	ug/L (ppb)	50	107	110	76-120	3
Dibromomethane 4-Methyl-2-pentanone	ug/L (ppb) ug/L (ppb)	50 250	98 107	102 108	80-110 59-142	4 1
cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	50 50	112	115	76-128	3
Toluene	ug/L (ppb)	50	96	98	83-108	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	109	111	76-128	2
1,1,2-Trichloroethane	ug/L (ppb)	50	104	105	82-110	1
2-Hexanone	ug/L (ppb)	250 50	106 101	106 103	53-145 83-110	0 2
1,3-Dichloropropane Tetrachloroethene	ug/L (ppb) ug/L (ppb)	50 50	100	100	78-109	0
Dibromochloromethane	ug/L (ppb)	50	112	114	63-140	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	102	104	85-113	2
Chlorobenzene	ug/L (ppb)	50	96	98	84-108	2
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	95 107	98 108	84-110 76-125	3 1
m,p-Xylene	ug/L (ppb)	100	99	100	84-112	1
o-Xylene	ug/L (ppb)	50	99	101	82-113	2
Styrene	ug/L (ppb)	50	102	103	84-116	1
Isopropylbenzene	ug/L (ppb)	50	98 107	100	81-122	2 3
Bromoform n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	95	110 95	40-161 81-115	3 0
Bromobenzene	ug/L (ppb)	50	95	96	80-113	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	100	83-117	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	104	79-118	1
1,2,3-Trichloropropane 2-Chlorotoluene	ug/L (ppb)	50 50	96 95	97 95	74-116 79-112	1 0
4-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	97	97	81-113	0
tert-Butylbenzene	ug/L (ppb)	50	101	101	81-119	0
1,2,4-Trimethylbenzene	ug/L (ppb)	50	100	101	83-116	1
sec-Butylbenzene	ug/L (ppb)	50	97	97	83-116	0
p-Isopropyltoluene 1.3-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	100 93	101 95	82-119 83-111	1 2
1,4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	93 97	96 96	82-109	1
1,2-Dichlorobenzene	ug/L (ppb)	50	91	92	83-111	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	105	107	62-133	2
1,2,4-Trichlorobenzene	ug/L (ppb)	50	91	94	77-117	3
Hexachlorobutadiene Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	86 100	89 103	74-118 75-131	3 3
1.2.3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	91	94	82-115	3 3
-,-,	28, 5 (PPs)	-	V.	••	OZ 110	Ü

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.



IEH - AQUATIC RESEARCH LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER: FBI013-69 PAGE 1

REPORT DATE: 02/04/15

DATE SAMPLED: 01/20/15 DATE RECEIVED: 01/21/15

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 501270

CASE NARRATIVE

Three water samples were received by the laboratory in good condition and analyzed according to the chain of custody. Due to the high turbidity of two of the samples they had to be analyzed at a dilution of 100. No other difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on subsequent pages.

SAMPLE DATA

	SULFATE	NO3+NO2
SAMPLE ID	(mg/L)	(mg/L)
MW-20-012015	<1.00	0.057
MW-21-012015	<100	4.06
MW-8-012015	<100	15.8



IEH - AQUATIC RESEARCH

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:

FBI013-69

PAGE 2

REPORT DATE: DATE SAMPLED: 02/04/15

01/20/15

DATE RECEIVED:

01/21/15

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 501270

QA/QC DATA

QC PARAMETER	SULFATE	NO3+NO2
	(mg/L)	(mg/L)
METHOD	SM184500SO4E	
DATE ANALYZED	01/28/15	01/21/15
DETECTION LIMIT	1.00	0.010
DUPLICATE		
SAMPLE ID	BATCH	BATCH
ORIGINAL	16.0	0.112
DUPLICATE	16.2	0.113
RPD	0.90%	1.24%
SPIKE SAMPLE		
SAMPLE ID	BATCH	BATCH
ORIGINAL	16.0	0.112
SPIKED SAMPLE	26.3	0.296
SPIKE ADDED	10.0	0.200
% RECOVERY	103.01%	91.99%
QC СНЕСК		
FOUND	10.0	0.402
TRUE	10.0	0.408
% RECOVERY	100.00%	98.53%
BLANK	<1.00	< 0.010

RPD = RELATIVE PERCENT DIFFERENCE.

NA = NOT APPLICABLE OR NOT AVAILABLE.

NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.

OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TO LOW RELATIVE TOO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski Project Manager

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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	Fax (206) 283-5044	Ph. (206) 285-8282	Seatte, WA 98119-2029	Sould forn Abenue West	Friedman & Bruya, Inc.										NW-8-012015	S10210 -12MW.	MW-20-012015		Phone # (206) 285-8282	City, State, ZIP_Seat		Company Frie	Send Report To Mic
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SAMPLE CHAIN OF CUSTODY

01-21-15

Phone # 206-838-6592 Fax #206-838-585 City, State, ZIP SeOHE, WA 98104 Address 401 and Auf S, Sto. at Company Aspect Consulting Send Report To Alan Nocl

SAMPLERS (signature) REMARKS PROJECT NAME/NO. walker Chevrolet 080190 e-mail results to anoell (e) aspections ultimo com

PO# Standard (2 Weeks) C RUSH_ Page #_ TURNAROUND TIME

□ Return samples Dispose after 30 days SAMPLE DISPOSAL Rush charges authorized by

☐ Will call with instructions

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FORMS\COC\COC.DOC

Fax (206) 283-5044 Ph. (206) 285-8282

Received by:

Seattle, WA 98119-2029 3012 16th Avenue West

Received by:

222

Relinquished by:

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 9, 2015

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr. Noell:

Included are the results from the testing of material submitted on January 22, 2015 from the Walker Chevrolet 080190, F&BI 501293 project. There are 14 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman ASP0209R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 22, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet 080190, F&BI 501293 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
501293 -01	MW-19-012115
501293 -02	MW-16-012115
501293 -03	MW-2-012115

The samples were sent to Aquatic Research for nitrate, nitrite, and sulfate analyses. Review of the enclosed report indicates that all quality assurance were acceptable.

Samples MW-19-012015 and MW-16-012015 were diluted due to matrix effects (foamy). The reporting limits were raised accordingly.

Several 8260C compounds failed below the acceptance criteria in the matrix spike samples. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-19-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/23/15 Lab ID: 501293-01 x50
Date Analyzed: 01/23/15 Data File: 501293-01 x50.066

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Germanium 91 60 125

Concentration

Analyte: ug/L (ppb)

Iron 59,400

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-16-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/23/15 Lab ID: 501293-02 x50
Date Analyzed: 01/23/15 Data File: 501293-02 x50.067

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 91 60 125

Concentration

Analyte: ug/L (ppb)

Iron 62,500

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-2-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/23/15 Lab ID: 501293-03 x100
Date Analyzed: 01/23/15 Data File: 501293-03 x100.068

Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 93 60 125

Concentration

Analyte: ug/L (ppb)

Iron 294,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/23/15 Lab ID: I5-036 mb
Date Analyzed: 01/23/15 Data File: I5-036 mb.042
Matrix: Water Instrument: ICPMS1

Units: ug/L (ppb) Operator: AP

Lower Upper Internal Standard: % Recovery: Limit: Limit:

Germanium 99 60 125

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-19-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/26/15 Lab ID: 501293-01 1/5 Date Analyzed: 01/26/15 Data File: 012611.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<5
Chloromethane	< 50	Tetrachloroethene	9.7
Vinyl chloride	<1	Dibromochloromethane	<5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<5
Chloroethane	<5	Chlorobenzene	<5
Trichlorofluoromethane	<5	Ethylbenzene	<5
Acetone	130	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	<5	m,p-Xylene	<10
Methylene chloride	<25	o-Xylene	<5
Methyl t-butyl ether (MTBE)	<5	Styrene	<5
trans-1,2-Dichloroethene	<5	Isopropylbenzene	<5
1,1-Dichloroethane	<5	Bromoform	<5
2,2-Dichloropropane	<5	n-Propylbenzene	<5
cis-1,2-Dichloroethene	45	Bromobenzene	<5
Chloroform	<5	1,3,5-Trimethylbenzene	<5
2-Butanone (MEK)	57	1,1,2,2-Tetrachloroethane	<5
1,2-Dichloroethane (EDC)	<5	1,2,3-Trichloropropane	<5
1,1,1-Trichloroethane	<5	2-Chlorotoluene	<5
1,1-Dichloropropene	<5	4-Chlorotoluene	<5
Carbon tetrachloride	<5	tert-Butylbenzene	<5
Benzene	<1.7	1,2,4-Trimethylbenzene	<5
Trichloroethene	<5	sec-Butylbenzene	<5
1,2-Dichloropropane	<5	p-Isopropyltoluene	<5
Bromodichloromethane	<5	1,3-Dichlorobenzene	<5
Dibromomethane	<5	1,4-Dichlorobenzene	<5
4-Methyl-2-pentanone	< 50	1,2-Dichlorobenzene	<5
cis-1,3-Dichloropropene	<5	1,2-Dibromo-3-chloropropane	< 50
Toluene	<5	1,2,4-Trichlorobenzene	<5
trans-1,3-Dichloropropene	<5	Hexachlorobutadiene	<5
1,1,2-Trichloroethane	<5	Naphthalene	<5
2-Hexanone	73	1,2,3-Trichlorobenzene	<5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-16-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/26/15 Lab ID: 501293-02 1/5 Date Analyzed: 01/26/15 Data File: 012612.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<5
Chloromethane	< 50	Tetrachloroethene	14
Vinyl chloride	2.2	Dibromochloromethane	<5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<5
Chloroethane	<5	Chlorobenzene	<5
Trichlorofluoromethane	<5	Ethylbenzene	<5
Acetone	210	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	<5	m,p-Xylene	<10
Methylene chloride	<25	o-Xylene	<5
Methyl t-butyl ether (MTBE)	<5	Styrene	<5
trans-1,2-Dichloroethene	<5	Isopropylbenzene	<5
1,1-Dichloroethane	<5	Bromoform	<5
2,2-Dichloropropane	<5	n-Propylbenzene	<5
cis-1,2-Dichloroethene	180	Bromobenzene	<5
Chloroform	<5	1,3,5-Trimethylbenzene	<5
2-Butanone (MEK)	< 50	1,1,2,2-Tetrachloroethane	<5
1,2-Dichloroethane (EDC)	<5	1,2,3-Trichloropropane	<5
1,1,1-Trichloroethane	<5	2-Chlorotoluene	<5
1,1-Dichloropropene	<5	4-Chlorotoluene	<5
Carbon tetrachloride	<5	tert-Butylbenzene	<5
Benzene	<1.7	1,2,4-Trimethylbenzene	<5
Trichloroethene	6.3	sec-Butylbenzene	<5
1,2-Dichloropropane	<5	p-Isopropyltoluene	<5
Bromodichloromethane	<5	1,3-Dichlorobenzene	<5
Dibromomethane	<5	1,4-Dichlorobenzene	<5
4-Methyl-2-pentanone	< 50	1,2-Dichlorobenzene	<5
cis-1,3-Dichloropropene	<5	1,2-Dibromo-3-chloropropane	< 50
Toluene	<5	1,2,4-Trichlorobenzene	<5
trans-1,3-Dichloropropene	<5	Hexachlorobutadiene	< 5
1,1,2-Trichloroethane	<5	Naphthalene	<5
2-Hexanone	< 50	1,2,3-Trichlorobenzene	<5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-2-012115 cf Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/26/15 Lab ID: 501293-03 Data File: Date Analyzed: 01/26/15 012613.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	19
Vinyl chloride	0.77	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	160 ve	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	27	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	25	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	22	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-2-012115 Client: Aspect Consulting, LLC

Date Received: 01/22/15 Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/26/15 Lab ID: 501293-03 1/50 Date Analyzed: 01/27/15 Data File: 012710.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	97	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	< 50	1,3-Dichloropropane	< 50
Chloromethane	< 500	Tetrachloroethene	< 50
Vinyl chloride	<10	Dibromochloromethane	< 50
Bromomethane	< 50	1,2-Dibromoethane (EDB)	< 50
Chloroethane	< 50	Chlorobenzene	< 50
Trichlorofluoromethane	< 50	Ethylbenzene	< 50
Acetone	< 500	1,1,1,2-Tetrachloroethane	< 50
1,1-Dichloroethene	< 50	m,p-Xylene	<100
Methylene chloride	<250	o-Xylene	< 50
Methyl t-butyl ether (MTBE)	< 50	Styrene	< 50
trans-1,2-Dichloroethene	< 50	Isopropylbenzene	< 50
1,1-Dichloroethane	< 50	Bromoform	< 50
2,2-Dichloropropane	< 50	n-Propylbenzene	< 50
cis-1,2-Dichloroethene	150	Bromobenzene	< 50
Chloroform	< 50	1,3,5-Trimethylbenzene	< 50
2-Butanone (MEK)	< 500	1,1,2,2-Tetrachloroethane	< 50
1,2-Dichloroethane (EDC)	< 50	1,2,3-Trichloropropane	< 50
1,1,1-Trichloroethane	< 50	2-Chlorotoluene	< 50
1,1-Dichloropropene	< 50	4-Chlorotoluene	< 50
Carbon tetrachloride	< 50	tert-Butylbenzene	< 50
Benzene	<17	1,2,4-Trimethylbenzene	< 50
Trichloroethene	< 50	sec-Butylbenzene	< 50
1,2-Dichloropropane	< 50	p-Isopropyltoluene	< 50
Bromodichloromethane	< 50	1,3-Dichlorobenzene	< 50
Dibromomethane	< 50	1,4-Dichlorobenzene	< 50
4-Methyl-2-pentanone	< 500	1,2-Dichlorobenzene	< 50
cis-1,3-Dichloropropene	< 50	1,2-Dibromo-3-chloropropane	<500 ca
Toluene	< 50	1,2,4-Trichlorobenzene	<50 ca
trans-1,3-Dichloropropene	< 50	Hexachlorobutadiene	< 50
1,1,2-Trichloroethane	< 50	Naphthalene	<50 ca
2-Hexanone	< 500	1,2,3-Trichlorobenzene	<50 ca

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Walker Chevrolet 080190, F&BI 501293

Date Extracted: 01/26/15 Lab ID: 05-0112 mb 01/26/15 Date Analyzed: Data File: 012607.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

G .	0/ P	Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	99	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Date of Report: 02/09/15 Date Received: 01/22/15

Project: Walker Chevrolet 080190, F&BI 501293

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 501279-03 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	138	104	100	50-150	4

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	93	70-130

ENVIRONMENTAL CHEMISTS

Date of Report: 02/09/15 Date Received: 01/22/15

Project: Walker Chevrolet 080190, F&BI 501293

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

Laboratory Code: 501321-07 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	97	10-172
Chloromethane	ug/L (ppb)	50	<10	87	25-166
Vinyl chloride	ug/L (ppb)	50	< 0.2	98	36-166
Bromomethane	ug/L (ppb)	50	<1	120	47-169
Chloroethane Trichlorofluoromethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	105 111	46-160 44-165
Acetone	ug/L (ppb)	250	<10	98	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	104	60-136
Methylene chloride	ug/L (ppb)	50	< 5	103	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	99	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	72-129
1,1-Dichloroethane	ug/L (ppb)	50 50	<1 <1	98 98	70-128
2,2-Dichloropropane cis-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	98 102	36-154 71-127
Chloroform	ug/L (ppb)	50	<1	100	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	107	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	102	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	107	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	100	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	113	56-152
Benzene Trichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<0.35 <1	94 101	76-125 66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	98	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	107	61-150
Dibromomethane	ug/L (ppb)	50	<1	104	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	116	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	111	72-132
Toluene	ug/L (ppb)	50	<1	90	76-122
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	110 99	76-130 68-131
2-Hexanone	ug/L (ppb)	250	<10	117	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	98	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	97	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	118	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	104	69-134
Chlorobenzene	ug/L (ppb)	50 50	<1 <1	97 94	77-122 69-135
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	94 111	73-137
m,p-Xylene	ug/L (ppb)	100	<2	94	69-135
o-Xylene	ug/L (ppb)	50	<1	98	60-140
Styrene	ug/L (ppb)	50	<1	92	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	94	65-142
Bromoform	ug/L (ppb)	50	<1	118	65-142
n-Propylbenzene Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	95 98	58-144 75-124
1,3,5-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50	<1	96	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	101	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	95	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	95	65-130
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	100 96	65-137 59-146
sec-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	96 97	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	94	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	97	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	74	32-164
1,2,4-Trichlorobenzene Hexachlorobutadiene	ug/L (ppb)	50 50	<1	67 81	66-136
Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	81 43 vo	60-143 44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	43 vo	69-148
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ENVIRONMENTAL CHEMISTS

Date of Report: 02/09/15 Date Received: 01/22/15

Project: Walker Chevrolet 080190, F&BI 501293

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	103	90	25-158	13
Chloromethane	ug/L (ppb)	50	94	90	45-156	4
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	100 118	95 118	50-154 55-143	5 0
Chloroethane	ug/L (ppb) ug/L (ppb)	50 50	102	104	58-146	2
Trichlorofluoromethane	ug/L (ppb)	250	117	104	50-150	8
Acetone	ug/L (ppb)	250	102	96	53-131	6
1,1-Dichloroethene	ug/L (ppb)	50	103	96	67-136	7
Methylene chloride	ug/L (ppb)	50	99	95	39-148	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50 50	98 97	95 93	64-147 68-128	3
trans-1,2-Dichloroethene 1,1-Dichloroethane	ug/L (ppb) ug/L (ppb)	50 50	97 97	93	79-121	4 4
2,2-Dichloropropane	ug/L (ppb)	50	93	96	55-143	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	96	80-123	4
Chloroform	ug/L (ppb)	50	98	94	80-121	4
2-Butanone (MEK)	ug/L (ppb)	250	98	93	57-149	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	100	95	73-132	5
1,1,1-Trichloroethane	ug/L (ppb)	50 50	105 99	100 94	83-130 77-129	5 5
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb) ug/L (ppb)	50 50	99 111	104	77-129 75-158	5 7
Benzene	ug/L (ppb)	50	94	89	69-134	5
Trichloroethene	ug/L (ppb)	50	97	93	80-120	4
1,2-Dichloropropane	ug/L (ppb)	50	97	93	77-123	4
Bromodichloromethane	ug/L (ppb)	50	106	101	81-133	5
Dibromomethane	ug/L (ppb)	50	102	97	82-125	5
4-Methyl-2-pentanone cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	250 50	109 110	103 106	65-138 82-132	6 4
Toluene	ug/L (ppb) ug/L (ppb)	50	91	86	72-122	6
trans-1,3-Dichloropropene	ug/L (ppb)	50	108	103	80-136	5
1,1,2-Trichloroethane	ug/L (ppb)	50	100	94	75-124	6
2-Hexanone	ug/L (ppb)	250	99	96	60-136	3
1,3-Dichloropropane	ug/L (ppb)	50	97	92	76-126	5
Tetrachloroethene Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50 50	97 118	89 112	76-121 84-133	9 5
1,2-Dibromoethane (EDB)	ug/L (ppb) ug/L (ppb)	50 50	102	96	82-125	6
Chlorobenzene	ug/L (ppb)	50	96	91	83-114	5
Ethylbenzene	ug/L (ppb)	50	95	89	77-124	7
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	110	104	84-127	6
m,p-Xylene	ug/L (ppb)	100	95	90	83-125	5
o-Xylene	ug/L (ppb)	50 50	98 93	93 88	81-121 84-119	5 6
Styrene Isopropylbenzene	ug/L (ppb) ug/L (ppb)	50	95 95	89	85-117	7
Bromoform	ug/L (ppb)	50	118	113	74-136	4
n-Propylbenzene	ug/L (ppb)	50	94	88	74-126	7
Bromobenzene	ug/L (ppb)	50	96	90	80-121	6
1,3,5-Trimethylbenzene	ug/L (ppb)	50	94	88	78-123	7
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	99	93 91	66-126	6 5
1,2,3-Trichloropropane 2-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	96 92	87	67-124 77-127	5 6
4-Chlorotoluene	ug/L (ppb)	50	93	87	78-128	7
tert-Butylbenzene	ug/L (ppb)	50	98	91	80-123	7
1,2,4-Trimethylbenzene	ug/L (ppb)	50	94	88	79-122	7
sec-Butylbenzene	ug/L (ppb)	50	96	89	80-125	8
p-Isopropyltoluene	ug/L (ppb)	50	94	87 90	81-123	8
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	95 91	90 85	85-116 84-121	5 7
1.2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	94	89	85-116	5
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	104	99	57-141	5
1,2,4-Trichlorobenzene	ug/L (ppb)	50	99	91	72-130	8
Hexachlorobutadiene	ug/L (ppb)	50	97	88	53-141	10
Naphthalene	ug/L (ppb)	50	96	91	64-133	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	96	89	65-136	8

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.



IEH - AQUATIC RESEARCH

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:

FBI013-76

PAGE 1

REPORT DATE:

02/04/15

DATE RECEIVED:

01/22/15

DATE SAMPLED:

01/21/15

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 501293

CASE NARRATIVE

Three water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on subsequent pages.

SAMPLE DATA

	SULFATE	NO3+NO2
SAMPLE ID	(mg/L)	(mg/L)
MW-19-012115	<1.00	0.048
MW-16-012115	<1.00	0.055
MW-2-012115	1.01	0.134



IEH - AQUATIC RESEARCH

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER:

FBI013-76

PAGE 2

REPORT DATE:

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01/22/15

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 501293

QA/QC DATA

00010110000		2700.2700
QC PARAMETER	SULFATE	NO3+NO2
	(mg/L)	(mg/L)
METHOD	SM184500SO4E	SM184500N03F
DATE ANALYZED	01/29/15	01/23/15
DETECTION LIMIT	1.00	0.010
DUPLICATE		
SAMPLE ID	BATCH	BATCH
ORIGINAL	9.38	0.706
DUPLICATE	9.17	0.714
RPD	2.19%	1.11%
SPIKE SAMPLE		
SAMPLE ID	BATCH	BATCH
ORIGINAL	9.38	0.706
SPIKED SAMPLE	18.7	0.903
SPIKE ADDED	10.0	0.200
% RECOVERY	92.84%	98.68%
		,
OC CHECK		
(1 11111111111111111111111111111111111		
FOUND	9.75	0.424
TRUE	10.0	0.408
% RECOVERY	97.50%	103.92%
BLANK	<1.00	< 0.010

RPD = RELATIVE PERCENT DIFFERENCE.

NA = NOT APPLICABLE OR NOT AVAILABLE. NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT. OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TO LOW RELATIVE TOO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski Project Manager

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

	FB1013-
•	7

1.cm (200) 200-0044	Fr. (200) 200-0202	Ph (906) 985 9999	Seattle WA 08110 9090	Friedman & Bruya, Inc.											W- 2 -0/2/5	S17610-01-M12	MW-19-01215		Phone # (206) 285-8282	City, State, ZIP Seattle, WA 98119	Address 3012	Company Fried	Send Report To Mic
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wecetved by:	Pomina h.	Palletos		-	· .										*		112/18	Date Sampled	Fax # (20	98119	Ave W	<u>Friedman and Bruya, Inc.</u>	dahl
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	-	Ro	Mic			-					,	-						# of	- 	KEMARKS	ۍ	PROJECT NAME/NO.	SUBCONTRACTER
		Roselvel Martin	Michael Erdahl		-													Dioxins and Furans by 8290	Please Email Results	. 02	501293	NAMI	TRACT
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		1/22/15	species	DATE									,				1000	Z	□ Return samples □ Will call with instructions	SAMPLE DISPOSAL Dispose after 30 days	Rush charges authorized by:	AStandard (2 Weeks)	Page # of
		230	A1:1	IMIT														Notes	ion.s	SAL	l by:		TIME -

TURNAROUND TIME

SAMPLE DISPOSAL

Company ASDAC-Send Report To Phone # 206-838-659 Bx # 206-838-585 B City, State, ZIP SOUTHO, Address 401 And Auc. REMARKS

6-mail SAMPLERS (signature) PROJECT NAME/NO ander e aspections with a common will call with instructions results PO# Rush charges authorized by Standard (2 Weeks) □ RUSH_ Dispose after 30 days

M 22-1 712-3 MN-10 Sample ID Lab ID Sampled | Sampled Date Time Sample Type | containers # of H-Diesel Gasoline by 8021B cs by8260 ANALYSES REQUESTED HFS Notes

Seattle, WA Fax (206) 283-5044 Ph. (206) 285-8282 3012 16th Friedman .

Relinquished by

Received by:

FORMS\COC\COC.DOC

h Avenue West A 98119-2029	6 D					2-0121	16-012119	19-0121	•
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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 7, 2015

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr. Noell:

Included are the results from the testing of material submitted on April 30, 2015 from the Walker Chevrolet, PO 080190, F&BI 504572 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman ASP0507R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 30, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, PO 080190, F&BI 504572 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
504572 -01	MW-5-042815
504572 -02	MW-8D-042815
504572 -03	MW-13D-042915
504572 -04	MW-12D-042915
504572 -05	MW-14D-042915

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-5-042815	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190

Date Extracted: 05/01/15 Lab ID: 504572-01 Data File: Date Analyzed: 05/01/15 050108.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	95	63	127
4-Bromofluor obenzene	101	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	67
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	6.4	Bromobenzene	<1
Chloroform	1.1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	2.1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	6.2	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8D-042815	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190
Data Fataratada	05/01/15	I - L ID.	TO 4570 00

Date Extracted: 05/01/15 Lab ID: 504572-02 Data File: 050109.D Date Analyzed: 05/01/15 Matrix: Water Instrument: GCMS4 ug/L (ppb) Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	54	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	1.7	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13D-042915	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190

Date Extracted: 05/01/15 Lab ID: 504572-03 Data File: Date Analyzed: 05/01/15 050110.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Compounds.	ug/L (ppb)	Compounds.	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	14	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12D-042915	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190

Date Extracted: 05/01/15 Lab ID: 504572-04 Data File: Date Analyzed: 05/01/15 050111.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	105	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	99	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	13	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14D-042915	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190

Date Extracted: 05/01/15 Lab ID: 504572-05 Data File: Date Analyzed: 05/01/15 050112.D Matrix: Water Instrument: GCMS4 ug/L (ppb) Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration	Compounds:	Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	2.2
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	2.5	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet, PO 080190

Date Extracted: 05/01/15 Lab ID: 05-0797 mb Date Analyzed: 05/01/15 Data File: 050107.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	98	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	< 0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

ENVIRONMENTAL CHEMISTS

Date of Report: 05/07/15 Date Received: 04/30/15

Project: Walker Chevrolet, PO 080190, F&BI 504572

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

Laboratory Code: 504572-05 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	94	10-172
Chloromethane	ug/L (ppb)	50	<10	85	25-166
Vinyl chloride	ug/L (ppb)	50	< 0.2	93	36-166
Bromomethane	ug/L (ppb)	50	<1	87	47-169
Chloroethane Trichlorofluoromethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	90 88	46-160 44-165
Acetone	ug/L (ppb)	250	<10	91	10-182
1.1-Dichloroethene	ug/L (ppb)	50	<1	82	60-136
Methylene chloride	ug/L (ppb)	50	< 5	86	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	82	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	87	72-129
1,1-Dichloroethane	ug/L (ppb)	50 50	<1 <1	84 76	70-128
2,2-Dichloropropane cis-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	2.5	83	36-154 71-127
Chloroform	ug/L (ppb)	50	<1	80	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	100	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	81	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	84	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	83	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	97	56-152
Benzene Trichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<0.35 <1	82 85	76-125 66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	83	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	90	61-150
Dibromomethane	ug/L (ppb)	50	<1	85	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	95	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	92	72-132
Toluene	ug/L (ppb)	50	<1	83	76-122
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	96 91	76-130 68-131
2-Hexanone	ug/L (ppb) ug/L (ppb)	250	<10	95	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	88	71-128
Tetrachloroethene	ug/L (ppb)	50	2.2	85	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	101	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	95	69-134
Chlorobenzene	ug/L (ppb)	50	<1	83	77-122
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	83 94	69-135 73-137
m,p-Xylene	ug/L (ppb) ug/L (ppb)	100	<2	85	69-135
o-Xylene	ug/L (ppb)	50	<1	86	60-140
Styrene	ug/L (ppb)	50	<1	85	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	85	65-142
Bromoform	ug/L (ppb)	50	<1	97	65-142
n-Propylbenzene Bromobenzene	ug/L (ppb)	50 50	<1 <1	89 88	58-144 75-124
1,3,5-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	88	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	93	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	95	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	87	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	87	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	89	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50 50	<1 <1	87 88	59-146
sec-Butylbenzene p-Isopropyltoluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	87	64-140 65-141
1.3-Dichlorobenzene	ug/L (ppb)	50	<1	85	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	83	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	86	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	103	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	85	66-136
Hexachlorobutadiene	ug/L (ppb)	50 50	<1	87 93	60-143
Naphthalene 1,2,3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	93 88	44-164 69-148
1,5,0 IIICIIIOI ODCIIZCIIC	ug/L (PPD)	30	\1	00	00-140

ENVIRONMENTAL CHEMISTS

Date of Report: 05/07/15 Date Received: 04/30/15

Project: Walker Chevrolet, PO 080190, F&BI 504572

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

Laboratory Code: Laboratory Control Sample

Laboratory Code. Laboratory Co	na or sample		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane		50 50	102	110	25-158	
Chloromethane	ug/L (ppb) ug/L (ppb)	50 50	95	100	25-158 45-156	8 5
Vinyl chloride	ug/L (ppb)	50	107	110	50-154	3
Bromomethane	ug/L (ppb)	50	101	101	55-143	0
Chloroethane	ug/L (ppb)	50	102	104	58-146	2
Trichlorofluoromethane	ug/L (ppb)	250	100	101	50-150	1
Acetone	ug/L (ppb)	250	97	105	53-131	8
1,1-Dichloroethene	ug/L (ppb)	50 50	92 99	95 102	67-136	3 3
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	96 96	102 99	39-148 64-147	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	100	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	95	98	79-121	3
2,2-Dichloropropane	ug/L (ppb)	50	92	94	55-143	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	93	97	80-123	4
Chloroform	ug/L (ppb)	50	91	94	80-121	3
2-Butanone (MEK)	ug/L (ppb)	250	110	114	57-149	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50 50	91 97	95 100	73-132 83-130	4 3
1,1,1-Trichloroethane 1,1-Dichloropropene	ug/L (ppb) ug/L (ppb)	50 50	93	96	83-130 77-129	3
Carbon tetrachloride	ug/L (ppb)	50	112	114	75-158	2
Benzene	ug/L (ppb)	50	92	95	69-134	3
Trichloroethene	ug/L (ppb)	50	98	99	80-120	1
1,2-Dichloropropane	ug/L (ppb)	50	95	96	77-123	1
Bromodichloromethane	ug/L (ppb)	50	104	107	81-133	3
Dibromomethane	ug/L (ppb)	50	95	97	82-125	2
4-Methyl-2-pentanone cis-1,3-Dichloropropene	ug/L (ppb)	250 50	106 107	109 111	65-138 82-132	3 4
Toluene	ug/L (ppb) ug/L (ppb)	50	94	96	72-122	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	114	117	80-136	3
1,1,2-Trichloroethane	ug/L (ppb)	50	100	104	75-124	4
2-Hexanone	ug/L (ppb)	250	106	110	60-136	4
1,3-Dichloropropane	ug/L (ppb)	50	98	102	76-126	4
Tetrachloroethene	ug/L (ppb)	50	97	98	76-121	1
Dibromochloromethane	ug/L (ppb)	50	118	121	84-133	3
1,2-Dibromoethane (EDB) Chlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	104 92	108 95	82-125 83-114	4 3
Ethylbenzene	ug/L (ppb)	50	94	96	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	104	109	84-127	5
m,p-Xylene	ug/L (ppb)	100	95	98	83-125	3
o-Xylene	ug/L (ppb)	50	96	99	81-121	3
Styrene	ug/L (ppb)	50	96	99	84-119	3
Isopropylbenzene Bromoform	ug/L (ppb)	50 50	96 116	99 121	85-117 74-136	3 4
n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	100	103	74-136 74-126	3
Bromobenzene	ug/L (ppb) ug/L (ppb)	50	98	102	80-121	4
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	105	78-123	5
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	107	66-126	4
1,2,3-Trichloropropane	ug/L (ppb)	50	105	109	67-124	4
2-Chlorotoluene	ug/L (ppb)	50	98	101	77-127	3
4-Chlorotoluene	ug/L (ppb)	50	97 101	102 105	78-128 80-123	5
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	97	103	80-123 79-122	4 6
sec-Butylbenzene	ug/L (ppb) ug/L (ppb)	50	101	103	80-125	3
p-Isopropyltoluene	ug/L (ppb)	50	98	102	81-123	4
1,3-Dichlorobenzene	ug/L (ppb)	50	96	99	85-116	3
1,4-Dichlorobenzene	ug/L (ppb)	50	93	96	84-121	3
1,2-Dichlorobenzene	ug/L (ppb)	50	95	100	85-116	5
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	116	122	57-141	5
1,2,4-Trichlorobenzene	ug/L (ppb)	50 50	96 102	100 104	72-130	4 2
Hexachlorobutadiene Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	102 104	104 110	53-141 64-133	6
1,2,3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50	99	103	65-136	4
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ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.

SAMPLE CHAIN OF CUSTODY ME 04/30/

SAMPLERS (signature)

City, State, ZIP Seathe WA 98104 Address 401 and Aves, Ste. 201 Send Report To HIMA NOC Company Aspect Consulting

Phone # 206-838-6596ax #206-838-5853 anoell@aspectconsulting.com REMARKS C-mail results to PROJECT NAME/NO. Walker Chevroletto 80190

> Standard (2 Weeks) TURNAROUND TIME

Rush charges authorized by

Spispose after 30 days SAMPLE DISPOSAL

☐ Return samples
☐ Will call with instructions

					MW-14D-042915 05-14/29/15/16:30 moundurator 3	MW-12D-042915 / 12/15/15:30 groundwater 3		MW-8D-049815 /2 4/28/15/11:35 proundwater 3	MW-5-042815 or 474/28/5 08:35 groundwiter 3	Sample ID Lab Date Time Sample Type containers	
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3012 16th Avenue West Fax (206) 283-5044 Ph. (206) 285-8282 Seattle, WA 98119-2029

Friedman & Bruya, Inc.

SIGNATURE

Received by: Relinquished by

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PRINT NAME

20 25

COMPANY

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

August 7, 2015

Judy Enyeart, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Ms. Enyeart:

Included are the results from the testing of material submitted on August 3, 2015 from the Walker Chev, PO 080190, F&BI 508023 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman ASP0807R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 3, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chev, PO 080190, F&BI 508023 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
508023 -01	MW-2-073015
508023 -02	MW-8-073015

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-073015	Client:	Aspect Consulting, LLC
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Date Received: 08/03/15 Project: Walker Chev, PO 080190, F&BI 508023

Date Extracted: 08/04/15 Lab ID: 508023-01 Data File: Date Analyzed: 08/04/15 080416.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

	Concentration	
Compounds:	ug/L (ppb)	
Vinyl chloride	15	
Chloroethane	<1	
1,1-Dichloroethene	<1	
Methylene chloride	<5	
trans-1,2-Dichloroethene	1.8	
1,1-Dichloroethane	<1	
cis-1,2-Dichloroethene	590 ve	
1,2-Dichloroethane (EDC)	<1	
1,1,1-Trichloroethane	<1	
Trichloroethene	46	
Tetrachloroethene	17	

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-073015	Client:	Aspect Consulting, LLC
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Date Received: 08/03/15 Project: Walker Chev, PO 080190, F&BI 508023

Date Extracted: 08/03/15 Lab ID: 508023-01 1/10 Data File: Date Analyzed: 08/05/15 080521.D Matrix: GCMS4 Water Instrument: Units: ug/L (ppb) Operator: JS

	Lower	Upper
% Recovery:	Limit:	Limit:
100	57	121
99	63	127
98	60	133
	100 99	% Recovery: Limit: 100 57 99 63

1.1-Dichloroethene <10 Methylene chloride < 50 trans-1,2-Dichloroethene <10 1,1-Dichloroethane <10 cis-1,2-Dichloroethene 600 1,2-Dichloroethane (EDC) <10 1,1,1-Trichloroethane <10 Trichloroethene 45 Tetrachloroethene 19

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-073015	Client:	Aspect Consulting, LLC
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Date Received: 08/03/15 Project: Walker Chev, PO 080190, F&BI 508023

Date Extracted: 08/04/15 Lab ID: 508023-02 Data File: Date Analyzed: 080414.D 08/04/15 Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	8.9
Chloroethane	<1
1,1-Dichloroethene	1.5
Methylene chloride	<5
trans-1,2-Dichloroethene	1.1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	700 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	17
Tetrachloroethene	41

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-073015	Client:	Aspect Consulting, LLC
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Date Received: 08/03/15 Project: Walker Chev, PO 080190, F&BI 508023

Date Extracted: 08/03/15 Lab ID: 508023-02 1/10 Data File: Date Analyzed: 08/05/15 080522.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	8.6
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	740
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	19
Tetrachloroethene	56

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Date Received: Not Applicable Project: Walker Chev, PO 080190, F&BI 508023

Date Extracted: 08/04/15 Lab ID: 05-1515 mb Date Analyzed: 08/04/15 Data File: 080409.D Matrix: GCMS4 Water Instrument: Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

Chloroethane <1 1.1-Dichloroethene <1 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene <1 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene <1 Tetrachloroethene <1

ENVIRONMENTAL CHEMISTS

Date of Report: 08/07/15 Date Received: 08/03/15

Project: Walker Chev, PO 080190, F&BI 508023

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

Laboratory Code: 508025-01 (Matrix Spike)

Edbordtory Code. Cocozo or (Wi	ici in Spine)				
				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	102	36-166
Chloroethane	ug/L (ppb)	50	<1	129	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	104	60-136
Methylene chloride	ug/L (ppb)	50	<5	104	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	106	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	104	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	4.6	105	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	104	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	117	60-146
Trichloroethene	ug/L (ppb)	50	51	99 b	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	98	10-226
	~				

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	99	100	50-154	1
Chloroethane	ug/L (ppb)	50	125	124	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	101	102	67-136	1
Methylene chloride	ug/L (ppb)	50	103	103	39-148	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	104	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	103	103	79-121	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	101	103	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	103	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	115	113	83-130	2
Trichloroethene	ug/L (ppb)	50	100	101	80-120	1
Tetrachloroethene	ug/L (ppb)	50	98	97	76-121	1

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

Fri. Ph. Sea 33 Phone # 206.931.743 Fax # Company ASDECT City, State, ZIP Address Send Report To JUCY SAMPLE CHAIN OF CUSTODY HE 08-03-15 REMARKS PROJECT NAME/NO. SAMPLERS (signature) jenyear to aspect consulting Worker Chev

090190

PO#

TURNAROUND TIME
Standard (2 Weeks)
D RUSH

Page #

Rush charges authorized by

SAMPLE DISPOSAL

Seattle, WA 98119-2029 Received:	Relinquisher Relin	Friedman & Briva Inc SIGNATIIRE DRINT NAME COMBANY	Samples				NW-8-073015102 743415 17:10 Water 4 X	MW-2-07301501297130151530004er 4 X	Sample ID Lab Date Time Sampled Sample Type containers TPH-Diesel TPH-Gasoline BTEX by 8021B VOCs by 8270 HFS	ANALYSES REQUESTED	Phone # 206.931.7437 Fax # jenyear to aspect consulting.
	ASpect	COMBAN	San							NALYSES REQUESTED	m consulting.
15151 State	7/3///5 16:15	T. ATT	Se As position and at				VACS ONN	chiorinated	Notes		B Dispose after 30 days ☐ Return samples ☐ Will call with instructions

FORMS\COC\COC.DOC

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

September 21, 2015

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr. Noell:

Included are the results from the testing of material submitted on September 10, 2015 from the Walker, PO 080190-13, F&BI 509175 project. There are 20 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman

ASP0921R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 10, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker, PO 080190-13, F&BI 509175 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
509175 -01	MW-8D-090815
509175 -02	MW-2-090815
509175 -03	MW-15-090815
509175 -04	MW-20-090915
509175 -05	MW-5-090915
509175 -06	MW-19-090915
509175 -07	MW-14D-090915
509175 -08	MW-13D-090915
509175 -09	MW-21-090815
509175 -10	MW-12D-091015
509175 -11	MW-8-091015

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8D-090815	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175 Date Extracted: 09/11/15 Lab ID: 509175-01 Date Analyzed: Data File: 09/11/15 091119.D

Matrix: GCMS4 Water Instrument: Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	105	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	97	60	133

Concentration Compounds: ug/L (ppb)

Vinyl chloride < 0.2 Chloroethane <1 1.1-Dichloroethene <1 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 65 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene <1 Tetrachloroethene <1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-090815	Client:	Aspect	Consulting, LLC
		_		

 Date Received:
 09/10/15
 Project:
 Walker, PO 080190-13, F&BI 509175

 Date Extracted:
 09/11/15
 Lab ID:
 509175-02

Date Analyzed: 09/12/15 Data File: 091135.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

Compounds:	ug/L (ppb)
Vinyl chloride	17
Chloroethane	<1
1,1-Dichloroethene	1.6
Methylene chloride	<5
trans-1,2-Dichloroethene	2.0
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	600 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	77
Tetrachloroethene	18

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-090815	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175

Date Extracted: 09/11/15 Lab ID: 509175-02 1/10 Data File: Date Analyzed: 09/11/15 091120.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	17
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	610
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	85
Tetrachloroethene	26

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-090815	Client:	Aspect Consulting, LLC

Project: Date Received: 09/10/15 Walker, PO 080190-13, F&BI 509175 Date Extracted: 09/11/15 Lab ID: 509175-03 Data File: Date Analyzed: 09/11/15 091121.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	4.0
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	220 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	53
Tetrachloroethene	86

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-090815	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175
Date Extracted: 09/15/15 Lab ID: 509175-03 1/10

Date Extracted: 09/15/15 Lab ID: 509175-03 1/10

Date Analyzed: 09/15/15 Data File: 091516.D

Matrix: Water Instrument: GCMS4

Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	96	60	133

Concentration ug/L (ppb)

Vinyl chloride	3.1
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	220
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	53
Tetrachloroethene	86

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-090915	Client:	Aspect Consulting, LLC

Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175
Date Extracted: 09/11/15 Lab ID: 509175-04

Date Analyzed: 09/11/15 Data File: 091122.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	1.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	150
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.8
Tetrachloroethene	11

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-5-090915	Client:	Aspect Consulting, LLC

Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175 Date Extracted: 09/11/15 Lab ID: 509175-05 Data File: Date Analyzed: 09/11/15 091123.D Matrix: Instrument: GCMS4 Water Units: ug/L (ppb) Operator: JS

60

133

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

ug/L (ppb)

Toluene-d8 102 4-Bromofluorobenzene 99 Concentration

Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	< 5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.6
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.6
Tetrachloroethene	31

Compounds:

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-090915	Client:	Aspect Consulting, LLC
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 Date Received:
 09/10/15
 Project:
 Walker, PO 080190-13, F&BI 509175

 Date Extracted:
 09/11/15
 Lab ID:
 509175-06

 Date Analyzed:
 09/11/15
 Data File:
 091124.D

 Matrix:
 Water
 Instrument:
 GCMS4

Matrix: Water Instrument: GC Units: ug/L (ppb) Operator: JS

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

Compounds:	ug/L (ppb)
Vinyl chloride	1.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	35
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.9
Tetrachloroethene	7.6

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-	-14D-090915	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175
Date Extracted: 09/11/15 Lab ID: 509175-07

Date Extracted. 09/11/15 Lab ID. 309173-07
Date Analyzed: 09/11/15 Data File: 091125.D
Matrix: Water Instrument: GCMS4
Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	98	60	133

Concentration ug/L (ppb)

Compounds:	ug/L (ppb
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	15
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.9
Tetrachloroethene	9.2

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13D-090915	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175

Date Extracted: 09/11/15 Lab ID: 509175-08

Date Extracted: 09/11/15 Lab ID: 509175-08

Date Analyzed: 09/11/15 Data File: 091126.D

Matrix: Water Instrument: GCMS4

Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	99	60	133

Chloroethane 1.1-Dichloroethene <1 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 22 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 2.2 Tetrachloroethene 4.1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-090815	Client:	Aspect Consulting, LLC
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Project: Date Received: 09/10/15 Walker, PO 080190-13, F&BI 509175 Date Extracted: 09/11/15 Lab ID: 509175-09 Data File: Date Analyzed: 09/12/15 091136.D Matrix: Water Instrument: GCMS4

Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	7.4
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.6
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	460 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	9.2
Tetrachloroethene	7.1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-090815	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175

Date Extracted: 09/11/15 Lab ID: 509175-09 1/10 Data File: Date Analyzed: 09/11/15 091127.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

	Concentration
Compounds:	ug/L (ppb)
Vinyl chloride	8.1
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	510
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	10
Tetrachloroethene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12D-091015	Client:	Aspect Consulting, LLC
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 Date Received:
 09/10/15
 Project:
 Walker, PO 080190-13, F&BI 509175

 Date Extracted:
 09/11/15
 Lab ID:
 509175-10

Date Analyzed:09/11/15Data File:091128.DMatrix:WaterInstrument:GCMS4Units:ug/L (ppb)Operator:JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	9.1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-091015	Client:	Aspect Consulting, LLC

Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175 Date Extracted: 09/11/15 Lab ID: 509175-11 Data File: Date Analyzed: 09/12/15 091137.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	12
Chloroethane	<1
1,1-Dichloroethene	4.2
Methylene chloride	<5
trans-1,2-Dichloroethene	1.5
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1,000 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	13
Tetrachloroethene	18

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-091015	Client:	Aspect Consulting, LLC
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Date Received: 09/10/15 Project: Walker, PO 080190-13, F&BI 509175

Date Extracted: 09/11/15 Lab ID: 509175-11 1/10 Data File: Date Analyzed: 09/11/15 091129.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

Concentration ug/L (ppb) Vinyl chloride 11

villyi cilioriae	11
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	1,000
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	13
Tetrachloroethene	15

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Date Received: Not Applicable Project: Walker, PO 080190-13, F&BI 509175

Date Extracted: 09/11/15 Lab ID: 05-1848 mb 09/11/15 Data File: Date Analyzed: 091107.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	96	60	133

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

ENVIRONMENTAL CHEMISTS

Date of Report: 09/21/15 Date Received: 09/10/15

Project: Walker, PO 080190-13, F&BI 509175

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

Laboratory Code: 509173-04 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	101	36-166
Chloroethane	ug/L (ppb)	50	<1	128	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	108	60-136
Methylene chloride	ug/L (ppb)	50	<5	97	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	101	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	110	60-146
Trichloroethene	ug/L (ppb)	50	<1	96	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	91	10-226

ENVIRONMENTAL CHEMISTS

Date of Report: 09/21/15 Date Received: 09/10/15

Project: Walker, PO 080190-13, F&BI 509175

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

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	106	110	50-154	4
Chloroethane	ug/L (ppb)	50	130	137	58-146	5
1,1-Dichloroethene	ug/L (ppb)	50	113	116	67-136	3
Methylene chloride	ug/L (ppb)	50	100	106	39-148	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	103	108	68-128	5
1,1-Dichloroethane	ug/L (ppb)	50	101	103	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	105	107	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	104	106	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	115	116	83-130	1
Trichloroethene	ug/L (ppb)	50	101	101	80-120	0
Tetrachloroethene	ug/L (ppb)	50	94	96	76-121	2

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.

Send Report To Mash Noc. 509175

SAMPLE CHAIN OF CUSTODY

SAMPLERS (signature) PROJECT NAME/NO.

Marker

City, State, ZIP SEONHE, NA 98104

Address 401 2nd Avc S, Stc. 201

Company Aspect Consulting

Phone # (206) 838-6592 Fax # (206) 838-5853 email to anoell @aspect consulting REMARKS

ME 09-10-15

Page #

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08090-13

SAMPLE DISPOSAL

Dispose after 30 days Rush charges authorized by **★**Standard (2 Weeks) □ RUSH_ TURNAROUND TIME

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☐ Will call with instructions	☐ Return samples	Croposo mior so cujo

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Fax (206) 283-5044 Ph. (206) 285-8282

Received by:

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Seattle, WA 98119-2029 3012 16th Avenue West

Received by:

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SAMPLE CHAIN OF CUSTODY

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Phone #(206)838-6592 Fax # (206)838-5853 and elle aspections	City, State, ZIP Scottle NA 98107 REMARKS to:	Address 401 2nd Aves., Ste 201	ting	Send Report To Alan Noell
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080P0-13 PO#

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TURNAROUND TIME

Rush charges authorized by

SAMPLE DISPOSAL

'□ Return samples
□ Will call with instructions Dispose after 30 days

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Fax (206) 283-5044

Received by:

Ph. (206) 285-8282

Seattle, WA 98119-2029

Received by

Relinquished by

ENVIRONMENTAL CHEMISTS

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

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

February 11, 2016

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr. Noell:

Included are the results from the testing of material submitted on February 4, 2016 from the 080190-Walker Task 13, F&BI 602059 project. There are 21 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com, Parker Wittman

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 4, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 080190-Walker Task 13, F&BI 602059 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
602059 -01	MW-8-020116
602059 -02	MW-21-020116
602059 -03	MW-15-020116
602059 -04	MW-20-020216
602059 -05	MW-5-020216
602059 -06	MW-19-020216
602059 -07	MW-12D-020216
602059 -08	MW-14D-020216
602059 -09	MW-8D-020216
602059 -10	MW-13D-020216
602059 -11	MW-2-020216

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-020116	Client:	Aspect Consulting, LLC
Date Received:	02/04/16	Project:	080190-Walker Task 13, F&BI 602059

02/04/16 Lab ID: 602059-01 Date Extracted: Data File: Date Analyzed: 02/04/16 020416.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	7.1
Chloroethane	<1
1,1-Dichloroethene	2.5
Methylene chloride	<5
trans-1,2-Dichloroethene	1.2
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	740 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	13
Tetrachloroethene	21

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-020116	Client:	Aspect Consulting, LLC	

Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059
Date Extracted: 02/09/16 Lab ID: 602059-01 1/10

Date Extracted: 02/09/16 Lab ID: 602059-01 1/10
Date Analyzed: 02/09/16 Data File: 020921.D
Matrix: Water Instrument: GCMS4
Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	7.4
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	830
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	15
Tetrachloroethene	25

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-020116	Client:	Aspect Consulting, LLC	;
D . D . 1	00/04/10	ъ.	000100 117 11 111 111 110	

Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059 Date Extracted: 02/04/16 Lab ID: 602059-02 Data File: Date Analyzed: 02/04/16 020430.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	9.7
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.7
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	640 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	17
Tetrachloroethene	18

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-020116	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/04/16 Lab ID: 602059-02 1/10 Data File: Date Analyzed: 02/05/16 020515.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	101	60	133

	Concentration
Compounds:	ug/L (ppb)
Vinyl chloride	7.7
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	650
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	15
Tetrachloroethene	17

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-020116	Client:	Aspect Consulting, LLC	7

 Date Received:
 02/04/16
 Project:
 080190-Walker Task 13, F&BI 602059

 Date Extracted:
 02/04/16
 Lab ID:
 602059-03

 Date Analyzed:
 02/04/16
 Data File:
 020431.D

 Matrix:
 Water
 Instrument:
 GCMS4

Matrix: Water Instrument: GC Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	108	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	7.4
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	280 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	25
Tetrachloroethene	43

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-15-020116	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/04/16 Lab ID: 602059-03 1/10 Data File: Date Analyzed: 02/05/16 020516.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	6.6
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	290
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	23
Tetrachloroethene	37

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-020216	Client:	Aspect Consulting, LLC

Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059
Date Extracted: 02/04/16 Lab ID: 602059-04

Date Extracted: 02/04/16 Lab iD: 602059-04

Date Analyzed: 02/04/16 Data File: 020432.D

Matrix: Water Instrument: GCMS4

Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	108	60	133

Concentration

<1

Compounds:	ug/L (ppb)
Vinyl chloride	1.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	260 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1

Tetrachloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/04/16 Lab ID: 602059-04 1/10 Data File: Date Analyzed: 02/05/16 020517.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

Compounds:	ug/L (ppb)
Vinyl chloride	<2
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	250
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-5-020216	Client:	Aspect Consulting, LLC

 Date Received:
 02/04/16
 Project:
 080190-Walker Task 13, F&BI 602059

 Date Extracted:
 02/04/16
 Lab ID:
 602059-05

 Date Extracted:
 02/05/14
 Date Extracted:
 02/05/14

Date Analyzed:02/05/16Data File:020514.DMatrix:WaterInstrument:GCMS4Units:ug/L (ppb)Operator:JS

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

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.5
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.7
Tetrachloroethene	27

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-020216	Client:	Aspect Consulting, LLC
		_	

 Date Received:
 02/04/16
 Project:
 080190-Walker Task 13, F&BI 602059

 Date Extracted:
 02/04/16
 Lab ID:
 602059-06

 Date Analyzed:
 02/04/16
 Data File:
 020434.D

Date Analyzed:02/04/16Data File:020434.DMatrix:WaterInstrument:GCMS4Units:ug/L (ppb)Operator:JS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	107	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	43
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.1
Tetrachloroethene	8.5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-12D-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059
Date Extracted: 02/04/16 Lab ID: 602059-07

Date Extracted:02/04/16Lab ID:602059-07Date Analyzed:02/04/16Data File:020435.DMatrix:WaterInstrument:GCMS4Units:ug/L (ppb)Operator:JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	112	60	133

Concentration ug/L (ppb)

•	0 11
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	9.2
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Compounds:

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14D-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059
Date Extracted: 02/04/16 Lab ID: 602059-08

Date Extracted: 02/04/16 Lab ID: 602059-08
Date Analyzed: 02/04/16 Data File: 020436.D
Matrix: Water Instrument: GCMS4
Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	111	60	133

Compounds:	ug/L (ppb)
compounds.	28, 2 (PP2)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.2
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	1.8

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8D-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/04/16 Lab ID: 602059-09 Data File: Date Analyzed: 02/05/16 020437.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	111	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	62
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-13D-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059
Date Extracted: 02/04/16 Lab ID: 602059-10

Date Extracted. 02/04/10 Lab ID. 002039-10
Date Analyzed: 02/05/16 Data File: 020438.D
Matrix: Water Instrument: GCMS4
Units: ug/L (ppb) Operator: JS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	108	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	23
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.1
Tetrachloroethene	2.2

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-020216	Client:	Aspect Consulting, LLC
Date Received:	02/04/16	Project:	080190-Walker Task 13, F&BI 602059

Project: Date Extracted: 02/04/16 Lab ID: 602059-11 Data File: Date Analyzed: 020505.D 02/05/16 Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	91	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	106	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	15
Chloroethane	<1
1,1-Dichloroethene	4.2
Methylene chloride	<5
trans-1,2-Dichloroethene	1.8
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	650 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	190 ve
Tetrachloroethene	22

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-020216	Client:	Aspect Consulting, LLC
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Date Received: 02/04/16 Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/09/16 Lab ID: 602059-11 1/10 Data File: Date Analyzed: 02/09/16 020922.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	ug/L (ppb)
Vinyl chloride	14
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	640
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	190
Tetrachloroethene	22

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Date Received: Not Applicable Project: 080190-Walker Task 13, F&BI 602059

Date Extracted: 02/04/16 Lab ID: 06-0205 mb 02/04/16 Data File: Date Analyzed: 020407.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

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

ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/16 Date Received: 02/04/16

Project: 080190-Walker Task 13, F&BI 602059

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

Laboratory Code: 602047-01 (Matrix Spike)

	Percent					
	Reporting	Spike	Sample	Recovery	Acceptance	
Analyte	Units	Level	Result	MS	Criteria	
Vinyl chloride	ug/L (ppb)	50	< 0.2	93	36-166	
Chloroethane	ug/L (ppb)	50	<1	123	46-160	
1,1-Dichloroethene	ug/L (ppb)	50	<1	98	60-136	
Methylene chloride	ug/L (ppb)	50	<5	107	67-132	
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129	
1,1-Dichloroethane	ug/L (ppb)	50	<1	101	70-128	
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	71-127	
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	69-133	
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	98	60-146	
Trichloroethene	ug/L (ppb)	50	<1	93	66-135	
Tetrachloroethene	ug/L (ppb)	50	<1	91	10-226	

ENVIRONMENTAL CHEMISTS

Date of Report: 02/11/16 Date Received: 02/04/16

Project: 080190-Walker Task 13, F&BI 602059

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

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	91	91	50-154	0
Chloroethane	ug/L (ppb)	50	120	117	58-146	3
1,1-Dichloroethene	ug/L (ppb)	50	99	99	67-136	0
Methylene chloride	ug/L (ppb)	50	105	103	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	98	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	101	100	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	100	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	99	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	100	99	83-130	1
Trichloroethene	ug/L (ppb)	50	95	94	80-120	1
Tetrachloroethene	ug/L (ppb)	50	91	88	76-121	3

ENVIRONMENTAL CHEMISTS

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.
- dy Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

MW-120-020 MW-130-0208 MW-19-020 MN-8D-020 MW-14D-00001 MW-5-0202 Fax (206) 283-5044 Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. 911080-51-0W Mw - 31 - Daone MU JO- DABAIL Phone # 2010. 838. 10542 Fax # 206 938 5853 City, State, ZIP SCATTLE, LA 98104 Address 401 2NO AVE 5 Company __ Send Report To MW-8-030116 Sample ID Haper Camerina Relinquished by: STE SKI **SIGNATURE** ANDELL @ OSPECTONSWHING. COM SAMPLERS (signature) REMARKS PROJECT NAME/NO. 680190 - WALKER Mhan Judy Enveart PRINT NAME el Ph an ne 21B 60 270 ANALYSES REQUESTED Task PO# COMPANY

SAMPLE CHAIN OF CUSTODY HE 02/04/16

602059

Rush charges authorized by

Mandard (2 Weeks) **RUSH** TURNAROUND TIME

Page #

SAMPLE DISPOSAL

Dispose after 30 days ☐ Will call with instructions ☐ Return samples

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FaPhSec 30. Address 401 and aux S., SHE 201 City, State, ZIP Seattle WA 98104 MW-2-020216 Phone #206 - 838 - 6574-16 # company Aspect Consulting Send Report To Alan Noell Sample ID Olto Data Lab ID Sampled Date Sampled 12:34 Time Maxer Sample Type PROJECT NAME/NO. REMARKS 080190-Wasker containers # of TPH-Diesel TPH-Gasoline BTEX by 8021B X VOCs by8260 ANALYSES REQUESTED SVOCs by 8270 **HFS** u g

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Notes

vocs only

RUSH (2 Weeks) Rush charges authorized by **TURNAROUND TIME** Page #

602059

SAMPLE CHAIN OF CUSTODY

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

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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

September 19, 2016

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr Noell:

Included are the results from the testing of material submitted on September 9, 2016 from the Walker Chev/Morell's 080190, F&BI 609166 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com

ASP0919R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 9, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chev/Morell's 080190, F&BI 609166 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
609166 -01	MW-20-090716
609166 -02	MW-5-090716
609166 -03	MW-19-090716
609166 -04	MW-14D-090716
609166 -05	MW-12D-090716
609166 -06	MW-13D-090716
609166 -07	MW-15-090916
609166 -08	MW-8D-090916
609166 -09	MW-8-090916

Samples MW-20-090716, MW-19-090716, MW-15-090916, and MW-8-090916 were diluted due to matrix effects (foamy). The reporting limits were raised accordingly.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-20-090716	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/13/16	Lab ID:	609166-01 1/20
Date Analyzed:	09/14/16	Data File:	091405B.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluor obenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<4
Chloroethane	<20
1,1-Dichloroethene	<20
Methylene chloride	<100
trans-1,2-Dichloroethene	<20
1,1-Dichloroethane	<20
cis-1,2-Dichloroethene	250
1,2-Dichloroethane (EDC)	<20
1,1,1-Trichloroethane	<20
Trichloroethene	<20
Tetrachloroethene	<20

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received:	MW-5-090716 09/09/16	Client: Project:	Aspect Consulting, LLC Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	609166-02
Date Analyzed:	09/12/16	Data File:	091210.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

	Lower	Upper
% Recovery:	Limit:	Limit:
100	57	121
101	63	127
101	60	133
	100 101	% Recovery: Limit: 100 57 101 63

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.4
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.4
Tetrachloroethene	12

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-19-090716	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/13/16	Lab ID:	609166-03 1/20
Date Analyzed:	09/14/16	Data File:	091407.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<4
Chloroethane	<20
1,1-Dichloroethene	<20
Methylene chloride	<100
trans-1,2-Dichloroethene	<20
1,1-Dichloroethane	<20
cis-1,2-Dichloroethene	<20
1,2-Dichloroethane (EDC)	<20
1,1,1-Trichloroethane	<20
Trichloroethene	<20
Tetrachloroethene	<20

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-14D-090716	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	609166-04
Date Analyzed:	09/12/16	Data File:	091213.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.6
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.1
Tetrachloroethene	3.2

ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received:	MW-12D-090716 09/09/16	Client: Project:	Aspect Consulting, LLC Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	609166-05
Date Analyzed:	09/12/16	Data File:	091214.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.4
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-13D-090716	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	609166-06
Date Analyzed:	09/12/16	Data File:	091215.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	13
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.7
Tetrachloroethene	2.3

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-15-090916	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/13/16	Lab ID:	609166-07 1/5
Date Analyzed:	09/13/16	Data File:	091325.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.0
Chloroethane	<5
1,1-Dichloroethene	<5
Methylene chloride	<25
trans-1,2-Dichloroethene	<5
1,1-Dichloroethane	<5
cis-1,2-Dichloroethene	330
1,2-Dichloroethane (EDC)	<5
1,1,1-Trichloroethane	<5
Trichloroethene	8.4
Tetrachloroethene	15

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8D-090916	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	609166-08
Date Analyzed:	09/12/16	Data File:	091217.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	104	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	69
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8-090916	Client:	Aspect Consulting, LLC
Date Received:	09/09/16	Project:	Walker Chev/Morell's 080190
Date Extracted: Date Analyzed:	09/13/16	Lab ID:	609166-09 1/50
	09/14/16	Data File:	091408.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<10
Chloroethane	< 50
1,1-Dichloroethene	< 50
Methylene chloride	<250
trans-1,2-Dichloroethene	< 50
1,1-Dichloroethane	< 50
cis-1,2-Dichloroethene	560
1,2-Dichloroethane (EDC)	< 50
1,1,1-Trichloroethane	< 50
Trichloroethene	< 50
Tetrachloroethene	< 50

ENVIRONMENTAL CHEMISTS

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chev/Morell's 080190
Date Extracted:	09/12/16	Lab ID:	06-1846 mb
Date Analyzed:	09/12/16	Data File:	091209.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

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

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

ENVIRONMENTAL CHEMISTS

Date of Report: 09/19/16 Date Received: 09/09/16

Project: Walker Chev/Morell's 080190, F&BI 609166

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

Laboratory Code: 609166-02 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	101	36-166
Chloroethane	ug/L (ppb)	50	<1	119	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	105	60-136
Methylene chloride	ug/L (ppb)	50	<5	105	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	103	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	1.4	107	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	94	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	60-146
Trichloroethene	ug/L (ppb)	50	1.4	99	66-135
Tetrachloroethene	ug/L (ppb)	50	12	116 b	10-226

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	100	99	50-154	1
Chloroethane	ug/L (ppb)	50	119	115	58-146	3
1,1-Dichloroethene	ug/L (ppb)	50	107	104	67-136	3
Methylene chloride	ug/L (ppb)	50	103	101	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	103	101	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	102	101	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	103	101	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	93	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	103	102	83-130	1
Trichloroethene	ug/L (ppb)	50	96	96	80-120	0
Tetrachloroethene	ug/L (ppb)	50	92	93	76-121	1

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

609166

Report To A. ... Vicas

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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

October 3, 2016

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr Noell:

Included are the results from the testing of material submitted on September 23, 2016 from the Walker Chev Morrell's, PO 080190, F&BI 609415 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com

ASP1003R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 23, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chev Morrell's, PO 080190, F&BI 609415 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
609415 -01	MW-20-092216
609415 -02	MW-19-092216
609415 -03	MW-8-092216
609415 -04	MW-2-092216
609415 -05	MW-21-092216

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-092216	Client:	Aspect Cor	nsulting, LLC

Date Received: 09/23/16 Project: Walker Chev Morrell's, PO 080190 Date Extracted: 09/27/16 Lab ID: 609415-01 Data File: Date Analyzed: 09/28/16 092815.D Matrix: GCMS4 Water Instrument: Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	92	63	127
4-Bromofluorobenzene	98	60	133

Concentration ug/L (ppb)

Vinyl chloride 1.8 Chloroethane <1 1.1-Dichloroethene 1.1 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 250 ve 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 1.7 Tetrachloroethene 4.9

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-092216	Client:	Aspect Consulting, LLC
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Date Received: 09/23/16 Project: Walker Chev Morrell's, PO 080190

Date Extracted: 09/27/16 Lab ID: 609415-01 1/10 Data File: Date Analyzed: 09/28/16 092814.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	101	60	133

Concentration

Compounds:	ug/L (ppb)
Vinyl chloride	2.0
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	250
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-092216	Client:	Aspect Consulting, LLC
Date Received:	09/23/16	Project:	Walker Chev Morrell's, PO 080190

Date Received: 09/23/16 Project: Date Extracted: 09/27/16 Lab ID: 609415-02 Data File: Date Analyzed: 092740.D 09/27/16 Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	101	60	133

Concentration

Compounds:	ug/L (ppb)
Vinyl chloride	0.43
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	16
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	4.1
Tetrachloroethene	8.5

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-092216	Client:	Aspect	Cons	ulting,	LLC	\mathcal{I}
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Date Received: Project: Walker Chev Morrell's, PO 080190 09/23/16 Date Extracted: 09/27/16 Lab ID: 609415-03 Data File: Date Analyzed: 09/27/16 092742.D Matrix: GCMS4 Water Instrument: Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	94	63	127
4-Bromofluorobenzene	99	60	133

Concentration Compounds: ug/L (ppb) Vinyl chloride 5.4 Chloroethane <1 1.1-Dichloroethene 2.2 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 510 ve

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-8-092216	Client:	Aspect Consu	ılting, LLC
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 Date Received:
 09/23/16
 Project:
 Walker Chev Morrell's, PO 080190

 Date Extracted:
 09/27/16
 Lab ID:
 609415-03 1/10

 Date Analyzed:
 09/28/16
 Data File:
 092813.D

Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	99	60	133

Concentration

	Concentrate acros
Compounds:	ug/L (ppb)
Vinyl chloride	5.0
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	500
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	11
Tetrachloroethene	15

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-092216	Client:	Aspect Consulting, LLC
Date Received:	09/23/16	Project:	Walker Chev Morrell's, PO 080190

09/27/16 Lab ID: 609415-04 Date Extracted: Date Analyzed: 09/27/16 Data File: 092743.D GCMS4 Matrix: Water Instrument: Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	94	63	127
4-Bromofluorobenzene	99	60	133

Concentration Compounds: ug/L (ppb) Vinyl chloride 7.8 Chloroethane <1 1.1-Dichloroethene 3.8 Methylene chloride < 5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 470 ve

1,1-Dichloroethane<1</td>cis-1,2-Dichloroethene4701,2-Dichloroethane (EDC)<1</td>1,1,1-Trichloroethane<1</td>Trichloroethene110Tetrachloroethene16

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2-092216	Client:	Aspect Consulting, LLC
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 Date Received:
 09/23/16
 Project:
 Walker Chev Morrell's, PO 080190

 Date Extracted:
 09/27/16
 Lab ID:
 609415-04 1/10

Date Analyzed: 09/27/16 Data File: 092738.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	101	60	133

Concentration

	Concentration
Compounds:	ug/L (ppb)
Vinyl chloride	7.7
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	480
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	110
Tetrachloroethene	17

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-092216	Client:	Aspect	Consu	lting,	LLC	2

Date Received: 09/23/16 Project: Walker Chev Morrell's, PO 080190 Date Extracted: 09/27/16 Lab ID: 609415-05 Data File: 092744.D Date Analyzed: 09/28/16 Matrix: Instrument: GCMS4 Water

Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	94	63	127
4-Bromofluorobenzene	96	60	133

Concentration

Compounds:	ug/L (ppb)
Vinyl chloride	4.1
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	320 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	13
Tetrachloroethene	12

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-21-092216	Client:	Aspect Consulting, LLC
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 Date Received:
 09/23/16
 Project:
 Walker Chev Morrell's, PO 080190

 Date Extracted:
 09/27/16
 Lab ID:
 609415-05 1/10

Date Analyzed: 09/27/16 Data File: 092739.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	100	60	133

Concentration

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.2
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	320
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	14
Tetrachloroethene	13

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Date Received: Not Applicable Project: Walker Chev Morrell's, PO 080190

Date Extracted: 09/27/16 Lab ID: 06-1974 mb 09/27/16 Data File: 092715.D Date Analyzed: Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

Concentration

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

ENVIRONMENTAL CHEMISTS

Date of Report: 10/03/16 Date Received: 09/23/16

Project: Walker Chev Morrell's, PO 080190, F&BI 609415

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

Laboratory Code: 609442-05 (Matrix Spike)

Euboratory Coue. Goo 112 GO (17)	acris Spine)				
				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	0.33	96	36-166
Chloroethane	ug/L (ppb)	50	<1	111	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	60-136
Methylene chloride	ug/L (ppb)	50	<5	95	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	92	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	1.9	94	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	85	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	94	60-146
Trichloroethene	ug/L (ppb)	50	<1	89	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	95	10-226

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	100	95	50-154	5
Chloroethane	ug/L (ppb)	50	115	112	58-146	3
1,1-Dichloroethene	ug/L (ppb)	50	103	98	67-136	5
Methylene chloride	ug/L (ppb)	50	98	96	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	95	68-128	3
1,1-Dichloroethane	ug/L (ppb)	50	96	94	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	97	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	88	87	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	99	96	83-130	3
Trichloroethene	ug/L (ppb)	50	93	94	80-120	1
Tetrachloroethene	ug/L (ppb)	50	100	98	76-121	2

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

\$ 092216 Mw-19-092216 mw-2-092216 Mw-20-092216 City, State, ZIP Sente, WA 98104 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. MW-21-092216 Address_ Company HSPECT CONSULTENIE Ph. (206) 285-8282 Sample ID 401 200 AVE. S, STENDI Email ANDELL ASPECT CONSULTENG. COM Received by Relinquishe Received by Remquis 2 3 20 8 9 Lab ID A-D 9/22/16 0925 SIGNATURE Sampled SAMPLE CHAIN OF CUSTODY 0 1 0 1 0 1 5455 1400 200 Sampled SAMPLER8 (signature) Time REMARKS PROJECT NAME Warken CHEV/Morrer's CHARRY Sample LNOEDLER VINH Jars 丰 上 二 F 工 PRINT NAME TPH-HCID TPH-Diesel NAKETAR TPH-Gasoline BTEX by 8021B 080190 ANALYSES REQUESTED × × × × X VOCs by 8260C INVOICE TO SVOCs by 8270D PO# ASPECT CTC, PAHs 8270D SIM Samples received at COMPANY □ Other_ A Dispose after 30 days KStandard Turnaround ☐ Archive Samples Rush charges authorized by: D RUSH TURNAROUND TIME SAMPLE DISPOSAL CHLOGENATED 123 DATE જ Notes TIME

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

January 12, 2017

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr Noell:

Included are the results from the testing of material submitted on January 5, 2017 from the Morrell's, F&BI 701037 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com

ASP0112R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 5, 2017 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrell's, F&BI 701037 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
701037 -01	MW-5-010417
701037 -02	MW-20-010417
701037 -03	MW-19-010417
701037 -04	MW-21-010417
701037 -05	MW-15-010417
701037 -06	MW-2-010417
701037 -07	MW-8-010517

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-5-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-01
Date Analyzed:	01/05/17	Data File:	010512.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Concentration ug/L (ppb)
< 0.2
<1
<1
<5
<1
<1
1.3
<1
<1
1.4
14

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-20-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-02
Date Analyzed:	01/05/17	Data File:	010513.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		_	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

4-Bromofluorobenzene	98	60
Compounds:	Concentration ug/L (ppb)	
Vinyl chloride	2.5	
Chloroethane	<1	
1,1-Dichloroethene	1.1	
Methylene chloride	<5	
trans-1,2-Dichloroethene	<1	
1,1-Dichloroethane	<1	
cis-1,2-Dichloroethene	240 ve	
1,2-Dichloroethane (EDC)	<1	
1,1,1-Trichloroethane	<1	
Trichloroethene	2.0	
Tetrachloroethene	6.2	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-20-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-02 1/10
Date Analyzed:	01/06/17	Data File:	010609.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
	= ==	=	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	100	60	133

4-Bromoffuorobenzene	100	60
Compounds:	Concentration ug/L (ppb)	
Vinyl chloride	2.4	
Chloroethane	<10	
1,1-Dichloroethene	<10	
Methylene chloride	< 50	
trans-1,2-Dichloroethene	<10	
1,1-Dichloroethane	<10	
cis-1,2-Dichloroethene	240	
1,2-Dichloroethane (EDC)	<10	
1,1,1-Trichloroethane	<10	
Trichloroethene	<10	
Tetrachloroethene	<10	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-19-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-03
Date Analyzed:	01/05/17	Data File:	010514.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		•	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	95	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	98	60	133

Concentration ug/L (ppb)
0.97
<1
<1
<5
<1
<1
36
<1
<1
4.6
12

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-21-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-04
Date Analyzed:	01/05/17	Data File:	010515.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		•	

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	93	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	340 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	14
Tetrachloroethene	15

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-21-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-04 1/10
Date Analyzed:	01/06/17	Data File:	010610.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
	~	-	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	103	60	133

4-Bromoffuorobenzene	103	60
Compounds:	Concentration ug/L (ppb)	
Vinyl chloride	3.9	
Chloroethane	<10	
1,1-Dichloroethene	<10	
Methylene chloride	< 50	
trans-1,2-Dichloroethene	<10	
1,1-Dichloroethane	<10	
cis-1,2-Dichloroethene	340	
1,2-Dichloroethane (EDC)	<10	
1,1,1-Trichloroethane	<10	
Trichloroethene	16	
Tetrachloroethene	17	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-15-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-05
Date Analyzed:	01/05/17	Data File:	010516.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		-	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	94	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

4-Bromofluorobenzene	101	60
	Concentration	
Compounds:	ug/L (ppb)	
Vinyl chloride	4.9	
Chloroethane	<1	
1,1-Dichloroethene	<1	
Methylene chloride	<5	
trans-1,2-Dichloroethene	<1	
1,1-Dichloroethane	<1	
cis-1,2-Dichloroethene	460 ve	
1,2-Dichloroethane (EDC)	<1	
1,1,1-Trichloroethane	<1	
Trichloroethene	3.3	
Tetrachloroethene	6.6	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-15-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-05 1/10
Date Analyzed:	01/06/17	Data File:	010611.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
	= ==	=	

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	99	60	133

1 Bromondorobenzene	00
Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.0
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	520
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	<10

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-2-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-06
Date Analyzed:	01/05/17	Data File:	010517.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		_	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	93	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

4-Bromofluorobenzene	100	60
	Concentration	
Compounds:	ug/L (ppb)	
Vinyl chloride	7.4	
Chloroethane	<1	
1,1-Dichloroethene	3.8	
Methylene chloride	<5	
trans-1,2-Dichloroethene	<1	
1,1-Dichloroethane	<1	
cis-1,2-Dichloroethene	490 ve	
1,2-Dichloroethane (EDC)	<1	
1,1,1-Trichloroethane	<1	
Trichloroethene	80	
Tetrachloroethene	18	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-2-010417	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-06 1/10
Date Analyzed:	01/06/17	Data File:	010612.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
	· · ·	-	

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

4-Bromofluorobenzene	101	60
Compounds:	Concentration ug/L (ppb)	
Compounds.	ug/L (ppb)	
Vinyl chloride	7.7	
Chloroethane	<10	
1,1-Dichloroethene	<10	
Methylene chloride	< 50	
trans-1,2-Dichloroethene	<10	
1,1-Dichloroethane	<10	
cis-1,2-Dichloroethene	520	
1,2-Dichloroethane (EDC)	<10	
1,1,1-Trichloroethane	<10	
Trichloroethene	90	
Tetrachloroethene	21	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8-010517	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-07
Date Analyzed:	01/05/17	Data File:	010518.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
		_	

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	95	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

Concentration ug/L (ppb)
5.6
<1
1.8
<5
<1
<1
440 ve
<1
<1
12
19

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8-010517	Client:	Aspect Consulting, LLC
Date Received:	01/05/17	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	701037-07 1/10
Date Analyzed:	01/06/17	Data File:	010613.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS
	~	-	

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

4-Bromofluorobenzene	101	60
	Concentration	
Compounds:	ug/L (ppb)	
Vinyl chloride	5.6	
Chloroethane	<10	
1,1-Dichloroethene	<10	
Methylene chloride	< 50	
trans-1,2-Dichloroethene	<10	
1,1-Dichloroethane	<10	
cis-1,2-Dichloroethene	480	
1,2-Dichloroethane (EDC)	<10	
1,1,1-Trichloroethane	<10	
Trichloroethene	12	
Tetrachloroethene	21	

ENVIRONMENTAL CHEMISTS

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morrell's, F&BI 701037
Date Extracted:	01/05/17	Lab ID:	07-031 mb
Date Analyzed:	01/05/17	Data File:	010510.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	98	60	133

98	60
Concentration ug/L (ppb)	
< 0.2	
<1	
<1	
<5	
<1	
<1	
<1	
<1	
<1	
<1	
<1	
	Concentration ug/L (ppb) <0.2 <1 <1 <5 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1

ENVIRONMENTAL CHEMISTS

Date of Report: 01/12/17 Date Received: 01/05/17

Project: Morrell's, F&BI 701037

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

Laboratory Code: 701037-01 (Matrix Spike)

			Percent	
Reporting	Spike	Sample	Recovery	Acceptance
Units	Level	Result	MS	Criteria
ug/L (ppb)	50	< 0.2	101	36-166
ug/L (ppb)	50	<1	108	46-160
ug/L (ppb)	50	<1	94	60-136
ug/L (ppb)	50	<5	98	67-132
ug/L (ppb)	50	<1	95	72-129
ug/L (ppb)	50	<1	94	70-128
ug/L (ppb)	50	1.3	94	71-127
ug/L (ppb)	50	<1	91	69-133
ug/L (ppb)	50	<1	99	60-146
ug/L (ppb)	50	1.4	94	66-135
ug/L (ppb)	50	14	91 b	10-226
	Units ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb)	Units Level ug/L (ppb) 50 Units Level Result ug/L (ppb) 50 <0.2	Reporting Units Spike Level Sample Result Recovery MS ug/L (ppb) 50 <0.2	

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	91	93	50-154	2
Chloroethane	ug/L (ppb)	50	108	103	58-146	5
1,1-Dichloroethene	ug/L (ppb)	50	99	100	67-136	1
Methylene chloride	ug/L (ppb)	50	110	110	39-148	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	102	68-128	0
1,1-Dichloroethane	ug/L (ppb)	50	101	101	79-121	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	102	80-123	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	103	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	105	106	83-130	1
Trichloroethene	ug/L (ppb)	50	100	101	80-120	1
Tetrachloroethene	ug/L (ppb)	50	102	101	76-121	1

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.

Samples received at3°C	Sample							Received by:	Ph. (206) 285-8282
		9	(Relinquished by:	Seattle, WA 98119-2029 H
(T) T) T) W	1100		S	6	FI			Ranciniya	
1/5/17 /45	Asect		6	Cooper	iu			Kulinquished by:	: •
DATE 1	COMPANY	AME	PRINT NAM	PRI			SIGNATURE) SI	
1-	*			£	1	0830	1/5/17	1 20	Mw-8-010517
	× -			ء	<u> </u>	1450	+	8	Mw-2-010417
	*			F		1330	-	20	MW-15-010417
	*			£		1135		04	Mw-21-010417
	*	7		Ŧ		020		03	Mw-19-010417
	*	7		T		900		02	MW-20-010417
CHLORIDATED VOCS	×			F	WATER	0800	14/17	01 A-D	Nw-5-010417
Notes	VOCs by 8260C SVOCs by 8270D PAHs 8270D SIM	TPH-Diesel TPH-Gasoline BTEX by 8021B	TPH-HCID	# of Jars	Sample Type	Time Sampled	Date Sampled	Lab ID	Sample II)
ED	ANALYSES REQUESTED	AP							
Other						D.65, CO™	BELL CONSULT	Email ANOGL PASPET CONSULTING COM	PhoneEmai
SAMPLE DISPOSAL Lispose after 30 days	INVOICE TO				S	REMARKS		48104 AM	City, State, ZIP Scame, last
Rush charges authorized by:	, inde				r, v	Moceen's			194
XStandard Turnaround	PO#				T NAME	PROJECT NAME		SPET CONSULTING	D
TURNAROUND TIME	/			rurey	SAMPLERS (signature)	SAMPLE)eth	eport '
17	ME 01-05	TODY	CUS	OF,	CHAIN	SAMPLE CHAIN OF CUSTO			£ 701037

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

January 18, 2017

Alan Noell, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr Noell:

Included are the results from the testing of material submitted on January 13, 2017 from the Morrell's 080190, F&BI 701134 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: data@aspectconsulting.com

ASP0118R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 13, 2017 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrell's 080190, F&BI 701134 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
701134 -01	MW-13D-011217
701134 -02	MW-14D-011217
701134 -03	MW-12D-011217
701134 -04	MW-8D-011217

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-13D-011217	Client:	Aspect Consulting, LLC
Date Received:	01/13/17	Project:	Morrell's 080190, F&BI 701134
Date Extracted:	01/13/17	Lab ID:	701134-01
Date Analyzed:	01/13/17	Data File:	011314.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	102	91	108
4-Bromofluorobenzene	99	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	16
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.2
Tetrachloroethene	11

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-14D-011217	Client:	Aspect Consulting, LLC
Date Received:	01/13/17	Project:	Morrell's 080190, F&BI 701134
Date Extracted:	01/13/17	Lab ID:	701134-02
Date Analyzed:	01/13/17	Data File:	011315.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	101	91	108
4-Bromofluorobenzene	99	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.8
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.9
Tetrachloroethene	7.4

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-12D-011217	Client:	Aspect Consulting, LLC
Date Received:	01/13/17	Project:	Morrell's 080190, F&BI 701134
Date Extracted:	01/13/17	Lab ID:	701134-03
Date Analyzed:	01/13/17	Data File:	011316.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	100	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8D-011217	Client:	Aspect Consulting, LLC
Date Received:	01/13/17	Project:	Morrell's 080190, F&BI 701134
Date Extracted:	01/13/17	Lab ID:	701134-04
Date Analyzed:	01/13/17	Data File:	011317.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	96	76	126

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	77
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morrell's 080190, F&BI 701134
Date Extracted:	01/13/17	Lab ID:	07-072 mb
Date Analyzed:	01/13/17	Data File:	011313.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	97	76	126

Toluene-d8	100	91	108
4-Bromofluorobenzene	97	76	126
Compounds:	Concentration ug/L (ppb)		
Vinyl chloride	< 0.2		
Chloroethane	<1		
1,1-Dichloroethene	<1		
Methylene chloride	<5		
trans-1,2-Dichloroethene	<1		
1,1-Dichloroethane	<1		
cis-1,2-Dichloroethene	<1		
1,2-Dichloroethane (EDC)	<1		
1,1,1-Trichloroethane	<1		
Trichloroethene	<1		
Tetrachloroethene	<1		

ENVIRONMENTAL CHEMISTS

Date of Report: 01/18/17 Date Received: 01/13/17

Project: Morrell's 080190, F&BI 701134

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

Laboratory Code: 701134-03 (Matrix Spike)

Edbordeory Code: 101101 00 (Macri	i Spine)				
				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	105	61-139
Chloroethane	ug/L (ppb)	50	<1	96	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	104	71-123
Methylene chloride	ug/L (ppb)	50	<5	109	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	108	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	101	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	3.0	106	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	102	75-121
Trichloroethene	ug/L (ppb)	50	<1	101	75-109
Tetrachloroethene	ug/L (ppb)	50	<1	97	72-113

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	107	109	70-119	2
Chloroethane	ug/L (ppb)	50	100	100	66-149	0
1,1-Dichloroethene	ug/L (ppb)	50	105	105	75-119	0
Methylene chloride	ug/L (ppb)	50	108	109	63-132	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	106	107	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	102	103	80-116	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	107	106	80-112	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	100	79-109	1
1,1,1-Trichloroethane	ug/L (ppb)	50	104	105	80-116	1
Trichloroethene	ug/L (ppb)	50	103	102	77-108	1
Tetrachloroethene	ug/L (ppb)	50	99	97	78-109	2

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

Mw-80-611217 Mw-120-011217 Seattle, WA 98119-2029 3012 16th Avenue West Mw-140-011217 Ph. (206) 285-8282 Friedman & Bruya, Inc. Mw-130-011217 City, State, ZIP Sourie, WA 98104 Address_ Company HSPECT CONSULTING Report To_ Sample ID 401 2 NO Ave. S STE 201 HAN Noar Email ANDEW CASET CONSULTING. COM Received by: Relinquished by: Received by: Redring hed by: 100 0/A-D 11/12/17 Lab ID m (M/ams SIGNATURE Sampled Date 135 SAMPLE CHAIN OF CUSTODY 1340 1555 1450 Sampled Time SAMPLERS (signature) REMARKS PROJECT NAME Morreus MATTER Sample Type Ride bangul Ohn E. KNOEDLER -/ HANKS Jars ستك 上 1 二 PRINT NAME 080190 TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B ANALYSES REQUESTED X X X × VOCs by 8260C INVOICE TO ME 01-13-17 SVOCs by 8270D Aspect PO# 64x TO ST PAHs 8270D SIM COMPANY Samples received at MDispose after 30 days ☐ Archive Samples Rush charges authorized by: **DRUSH** XStandard Turnaround aceived at TURNAROUND TIME Page# SAMPLE DISPOSAL South CHLORDVATED VOCA ニシャン DATE /13/17 0 LY Y Notes ˈef Sign Sign ずつ TIME

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

December 10, 2018

Delia Massey, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Ms Massey:

Included are the results from the testing of material submitted on November 29, 2018 from the Morrell's Dry Cleaners Walker Chevrolet 080190, F&BI 811461 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures

c: Data Aspect, Dave Heffner

ASP1210R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 29, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrell's Dry Cleaners Walker Chevrolet 080190, F&BI 811461 project. Samples were logged in under the laboratory ID's listed below.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-5-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-01
Date Analyzed:	11/30/18	Data File:	113012.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	13
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	1.3	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.4	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-19-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-02
Date Analyzed:	11/30/18	Data File:	113013.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	100	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	2.5
Vinyl chloride	0.56	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	53	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.6	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	19		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-20-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-03
Date Analyzed:	11/30/18	Data File:	113039.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	4.9
Vinyl chloride	0.84	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	59	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	34	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	32		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-04
Date Analyzed:	11/30/18	Data File:	113014.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates: 1,2-Dichloroethane-d4 Toluene-d8	% Recovery: 97 100	Lower Limit: 50 50	Upper Limit: 150 150
4-Bromofluorobenzene	98	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	14
Vinyl chloride	3.7	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	170	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	260 ve	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	130	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	5.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	56		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-04 1/10
Date Analyzed:	12/03/18	Data File:	120311.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	96	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	12
Vinyl chloride	3.7	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	< 500	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	< 50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	<10
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	280	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	120	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	< 3.5	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-21-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-05
Date Analyzed:	11/30/18	Data File:	113015.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	14
Vinyl chloride	2.3	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	210 ve	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	27	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	7.6	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	27		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-21-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-05 1/10
Date Analyzed:	12/03/18	Data File:	120312.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	13
Vinyl chloride	2.1	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	< 500	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	< 50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	<10
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	190	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	< 3.5	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-15-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-06
Date Analyzed:	11/30/18	Data File:	113016.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	3.3
Vinyl chloride	0.78	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	65	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.6	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-2-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-07
Date Analyzed:	11/30/18	Data File:	113017.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	28
Vinyl chloride	5.9	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	3.8	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	510 ve	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	14	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	120		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-2-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-07 1/10
Date Analyzed:	12/03/18	Data File:	120314.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	23
Vinyl chloride	5.5	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	< 500	1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	< 50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzen e	<10
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	490	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	< 3.5	sec-Butylbenzene	<10
Trichloroethene	14	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	120		

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-16-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-08
Date Analyzed:	11/30/18	Data File:	113018.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
_	9	-	
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	11
Vinyl chloride	2.6	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	230 ve	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.8	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-16-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-08 1/10
Date Analyzed:	12/03/18	Data File:	120313.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	13
Vinyl chloride	2.8	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	< 500	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	< 50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	<10
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	230	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	< 3.5	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-17-112818	Client:	Aspect Consulting, LLC
Date Received:	11/29/18	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	811461-09
Date Analyzed:	11/30/18	Data File:	113019.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	9.7
Vinyl chloride	0.72	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	83	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	31	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	31		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morrell's Dry Cleaners
Date Extracted:	11/30/18	Lab ID:	08-2680 mb
Date Analyzed:	11/30/18	Data File:	113009.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS
	0 11	-	

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/18 Date Received: 11/29/18

Project: Morrell's Dry Cleaners Walker Chevrolet 080190, F&BI 811461

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

Laboratory Code: 811461-01 (Matrix Spike)

·	-			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	112	55-137
Chloromethane Vinyl chloride	ug/L (ppb)	50 50	<10 <0.2	97 96	61-120 61-139
Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<1	98	20-265
Chloroethane	ug/L (ppb)	50	<1	104	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	99	71-128
Acetone	ug/L (ppb)	250	< 50	79	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	71-123
Hexane Mathadana aldanida	ug/L (ppb)	50	<1	90	44-139
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	<5 <1	85 96	61-126 68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50 50	<1	95	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	93	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	84	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	89	63-126
Chloroform	ug/L (ppb)	50	1.3	91	77-117
2-Butanone (MEK)	ug/L (ppb)	250	<10	85	70-135
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	95 91	70-119 75-121
1,1-Dichloropropene	ug/L (ppb)	50 50	<1	97	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	90	70-132
Benzene	ug/L (ppb)	50	< 0.35	91	75-114
Trichloroethene	ug/L (ppb)	50	1.4	92	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	97	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	93	78-117
Dibromomethane	ug/L (ppb)	50 250	<1 <10	90 103	73-125
4-Methyl-2-pentanone cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	250 50	<10 <1	93	79-140 76-120
Toluene	ug/L (ppb)	50	<1	89	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	91	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	89	81-116
2-Hexanone	ug/L (ppb)	250	<10	96	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	94	80-113
Tetrachloroethene Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50 50	13 <1	87 b 92	72-113 69-129
1.2-Dibromoethane (EDB)	ug/L (ppb) ug/L (ppb)	50 50	<1	92 95	79-120
Chlorobenzene	ug/L (ppb)	50	<1	89	75-115
Ethylbenzene	ug/L (ppb)	50	<1	93	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	88	76-130
m,p-Xylene	ug/L (ppb)	100	<2	94	63-128
o-Xylene	ug/L (ppb)	50	<1	100	64-129
Styrene Isopropylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	98 99	56-142 74-122
Bromoform	ug/L (ppb)	50 50	<1	91	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	94	65-129
Bromobenzene	ug/L (ppb)	50	<1	92	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	98	60-138
1,1,2,2-Tetrachloroethan e	ug/L (ppb)	50	<1	93	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	91	62-125
2-Chlorotoluene 4-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	94 92	40-159 76-122
tert-Butylbenzene	ug/L (ppb)	50	<1	99	74-125
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	97	59-136
sec-Butylbenzene	ug/L (ppb)	50	<1	96	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	98	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	91	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50 50	<1	85 90	75-110 70-120
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	ug/L (ppb) ug/L (ppb)	50 50	<1 <10	90 93	70-120 69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50 50	<10	97	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	90	53-136
Naphthalene	ug/L (ppb)	50	<1	95	60-145
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	89	59-130

ENVIRONMENTAL CHEMISTS

Date of Report: 12/10/18 Date Received: 11/29/18

Project: Morrell's Dry Cleaners Walker Chevrolet 080190, F&BI 811461

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

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	116	121	50-157	4
Chloromethane	ug/L (ppb)	50	97	101	62-130	4
Vinyl chloride	ug/L (ppb)	50	94	101	70-128	7
Bromomethane	ug/L (ppb)	50	95 101	100	62-188	5 5
Chloroethane Trichlorofluoromethane	ug/L (ppb) ug/L (ppb)	50 50	97	106 101	66-149 70-132	4
Acetone	ug/L (ppb)	250	86	89	44-145	3
1,1-Dichloroethene	ug/L (ppb)	50	97	101	75-119	4
Hexane	ug/L (ppb)	50	93	97	51-153	4
Methylene chloride	ug/L (ppb)	50	88	90	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	99	104	70-122	5
trans-1,2-Dichloroethene	ug/L (ppb)	50	96	100	76-118	4
1,1-Dichloroethane	ug/L (ppb)	50 50	94 83	98 84	77-119 62-141	4 1
2,2-Dichloropropane cis-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	91	95	76-119	4
Chloroform	ug/L (ppb)	50	92	96	78-117	4
2-Butanone (MEK)	ug/L (ppb)	250	93	97	49-147	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	98	103	78-114	5
1,1,1-Trichloroethane	ug/L (ppb)	50	91	95	80-116	4
1,1-Dichloropropene	ug/L (ppb)	50	98	102	78-119	4
Carbon tetrachloride	ug/L (ppb)	50	91	95	72-128	4
Benzene	ug/L (ppb)	50	92	96	75-116	4
Trichloroethene	ug/L (ppb)	50 50	94 101	98 107	72-119 79-121	4
1,2-Dichloropropane Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	95	107	79-121 76-120	5
Dibromomethane	ug/L (ppb)	50	92	97	79-121	5
4-Methyl-2-pentanone	ug/L (ppb)	250	108	114	54-153	5
cis-1,3-Dichloropropene	ug/L (ppb)	50	97	102	76-128	5
Toluene	ug/L (ppb)	50	92	96	79-115	4
trans-1,3-Dichloropropene	ug/L (ppb)	50	95	99	76-128	4
1,1,2-Trichloroethane	ug/L (ppb)	50	92	98	78-120	6
2-Hexanone 1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	250 50	102 98	109 103	49-147 81-115	7 5
Tetrachloroethene	ug/L (ppb)	50	92	95	78-109	3
Dibromochloromethane	ug/L (ppb)	50	95	99	63-140	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	104	82-118	7
Chlorobenzene	ug/L (ppb)	50	92	96	80-113	4
Ethylbenzene	ug/L (ppb)	50	95	100	83-111	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	90	95	76-125	5
m,p-Xylene o-Xylene	ug/L (ppb) ug/L (ppb)	100 50	95 102	101 107	84-112 81-117	6 5
Styrene	ug/L (ppb) ug/L (ppb)	50 50	101	106	83-121	5
Isopropylbenzene	ug/L (ppb)	50	99	105	81-122	6
Bromoform	ug/L (ppb)	50	92	97	40-161	5
n-Propylbenzene	ug/L (ppb)	50	98	103	81-115	5
Bromobenzene	ug/L (ppb)	50	96	101	80-113	5
1,3,5-Trimethylbenzene	ug/L (ppb)	50	101	107	83-117	6
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ug/L (ppb)	50 50	96 95	103 101	79-118 74-116	7 6
2-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	98 98	103	79-112	5
4-Chlorotoluene	ug/L (ppb)	50	96	100	80-116	4
tert-Butylbenzene	ug/L (ppb)	50	102	109	81-119	7
1,2,4-Trimethylbenzene	ug/L (ppb)	50	100	105	81-121	5
sec-Butylbenzene	ug/L (ppb)	50	98	105	83-123	7
p-Isopropyltoluene	ug/L (ppb)	50	100	106	81-122	6
1,3-Dichlorobenzene	ug/L (ppb)	50	94	99	80-115	5
1,4-Dichlorobenzene 1,2-Dichlorobenzene	ug/L (ppb)	50 50	88 92	92 97	77-112 79-115	4 5
1,2-Dichloropenzene 1,2-Dibromo-3-chloropropane	ug/L (ppb) ug/L (ppb)	50 50	92 96	103	62-133	5 7
1,2,4-Trichlorobenzene	ug/L (ppb)	50	99	105	75-119	6
Hexachlorobutadiene	ug/L (ppb)	50	92	99	70-116	7
Naphthalene	ug/L (ppb)	50	98	104	72-131	6
1,2,3-Trichlorobenzene	ug/L (ppb)	50	91	98	74-122	7

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{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.

Phone 206-812-474/Bmail J.Massey Ouspert consulting for City, State, ZIP Scatte, WA, 98104 Address 710 3nd Auc. Company 45 Rect to Della Massey / Duce He 名からの SAMPLE CHAIN OF CUSTODY REMARKS Morrelly Dy Cleanes / Dalky SAMPLERS (signature) ANALYSES REQUESTED **CHECKS** INVOICE TO Payable PO# 11-29-18 XDispose after 30 days Archive Samples 0 Other XStandard Turnaround Rush charges authorized by: SAMPLE DISPOSAL TURNAROUND TIME 1 WW4

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 1, 2019

Dave Heffner, Project Manager Aspect Consulting, LLC 401 2nd Ave S, Suite 201 Seattle, WA 98104

Dear Mr Heffner:

Included are the results from the testing of material submitted on January 29, 2019 from the Morell's Walker Chevy 080190, F&BI 901382 project. There are 8 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 ASP0201R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 29, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's Walker Chevy 080190, F&BI 901382 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
901382 -01	B-25-5.5
901382 -02	B-25-10.5
901382 -03	B-25-15.5
901382 -04	B-25-20.5
901382 -05	B-25-25.5
901382 -06	B-25-30.5
901382 -07	B-25-35.5
901382 -08	B-25-40.5
901382 -09	B-25-45.5
901382 -10	B-25-50.5
901382 -11	B-25-55.5
901382 -12	B-25-60.6

The 8260C dichlorodifluoromethane failed below the acceptance criteria in the matrix spike samples. In addition, hexane failed the relative percent difference. The laboratory control sample met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-25-5.5	Client:	Aspect Consulting, LLC
Date Received:	01/29/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 01/29/19 Lab ID: 901382-01 Date Analyzed: 01/29/19 Data File: 012932.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	106	55	145
4-Bromofluorobenzene	97	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-25-30.5	Client:	Aspect Consulting, LLC
Date Received:	01/29/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 01/29/19 Lab ID: 901382-06 Data File: Date Analyzed: 01/29/19 012933.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	95	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-25-50.5	Client:	Aspect Consulting, LLC
Date Received:	01/29/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 01/29/19 Lab ID: 901382-10 Date Analyzed: 01/29/19 Data File: 012934.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's Walker Chevy 080190

Date Extracted: 01/29/19 Lab ID: 09-0192 mb 01/29/19 Date Analyzed: Data File: 012909.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	90	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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/01/19 Date Received: 01/29/19

Project: Morell's Walker Chevy 080190, F&BI 901382

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

Laboratory Code: 901386-01 (Matrix Spike)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	< 0.5	6 vo	7 vo	10-142	15
Chloromethane	mg/kg (ppm)	2.5	< 0.5	28	30	10-126	7
Vinyl chloride	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	26 43	28 48	10-138 10-163	7 11
Bromomethane Chloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.5	43 36	48 40	10-163 10-176	11
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	24	29	10-176	19
Acetone	mg/kg (ppm)	12.5	0.46	69	70	10-163	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	35	40	10-160	13
Hexane	mg/kg (ppm)	2.5	< 0.25	10	13	10-137	26 vo
Methylene chloride	mg/kg (ppm)	2.5	< 0.5	52	55	10-156	6
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	60	64	21-145	6
trans-1,2-Dichloroethene 1.1-Dichloroethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	43 50	47 55	14-137 19-140	9 10
2,2-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	45	51	10-158	12
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	52	57	25-135	9
Chloroform	mg/kg (ppm)	2.5	< 0.05	54	58	21-145	7
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	66	70	19-147	6
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	55	59	12-160	7
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	46	52	10-156	12
1,1-Dichloropropene Carbon tetrachloride	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	42 43	49 49	17-140 9-164	15 13
Benzene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.03	50	55	29-129	10
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	48	54	21-139	12
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	56	63	30-135	12
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	56	62	23-155	10
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	57	62	23-145	8
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	<0.5 <0.05	67 59	72 65	24-155 28-144	7 10
Toluene	mg/kg (ppm)	2.5	<0.05	48	55	35-130	14
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	54	60	26-149	11
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	57	63	10-205	10
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	61	67	15-166	9
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	57	61	31-137	7
Tetrachloroethene Dibromochloromethane	mg/kg (ppm)	2.5 2.5	<0.025 <0.05	43 57	50 65	20-133 28-150	15 13
1,2-Dibromoethane (EDB)	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	55	62	28-142	12
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	51	57	32-129	11
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	48	55	32-137	14
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	56	62	31-143	10
m,p-Xylene	mg/kg (ppm)	5	<0.1	49	57	34-136	15
o-Xylene Styrene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	51 56	56 62	33-134 35-137	9 10
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	49	59	31-142	19
Bromoform	mg/kg (ppm)	2.5	< 0.05	61	69	21-156	12
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	45	52	23-146	14
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	50	56	34-130	11
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	44	51	18-149	15
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	58 55	63 59	28-140 25-144	8 7
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	47	53	31-134	12
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	48	54	31-136	12
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	46	52	30-137	12
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	45	52	10-182	14
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	44	51	23-145	15
p-Isopropyltoluene 1,3-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	43 45	51 53	21-149 30-131	17 16
1,3-Dichlorobenzene 1.4-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	45 46	53 53	29-129	16
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	46	54	31-132	16
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	< 0.5	48	57	11-161	17
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	36	41	22-142	13
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	35	42	10-142	18
Naphthalene 1,2,3-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.25	44 38	47 43	14-157 20-144	7 12
1,2,5-11 ICHIOI ODEHZEHE	mg/vg (hhiii)	۵.5	٧٥.٤٥	30	43	2U-144	12

ENVIRONMENTAL CHEMISTS

Date of Report: 02/01/19 Date Received: 01/29/19

Project: Morell's Walker Chevy 080190, F&BI 901382

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

Laboratory Code: Laboratory Control Sample

•	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	45	10-146
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	71 84	27-133 22-139
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	91	38-114
Chloroethane	mg/kg (ppm)	2.5	93	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	102	10-196
Acetone	mg/kg (ppm)	12.5	107	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	101	47-128
Hexane	mg/kg (ppm)	2.5	83	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	110 93	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	102	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	105	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	104	72-113
Chloroform	mg/kg (ppm)	2.5	102	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	96	57-123
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	95 102	56-135 62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	102	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	102	60-139
Benzene	mg/kg (ppm)	2.5	97	68-114
Trichloroethene	mg/kg (ppm)	2.5	99	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	99	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	101	72-130
Dibromomethane 4-Methyl-2-pentanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	99 96	70-120 45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	102	75-136
Toluene	mg/kg (ppm)	2.5	97	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	97	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	97	75-113
2-Hexanone	mg/kg (ppm)	12.5	85	33-152
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm)	2.5 2.5	95 105	72-130 72-114
Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106	72-114 74-125
1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	97	74-123
Chlorobenzene	mg/kg (ppm)	2.5	99	76-111
Ethylbenzene	mg/kg (ppm)	2.5	99	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	109	69-135
m,p-Xylene	mg/kg (ppm)	5 2.5	102	78-122
o-Xylene Styrene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	98 104	77-124 74-126
Isopropylbenzene	mg/kg (ppm)	2.5	111	76-127
Bromoform	mg/kg (ppm)	2.5	113	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	106	74-124
Bromobenzene	mg/kg (ppm)	2.5	103	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	108	76-126
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106 97	56-143 61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	107	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	105	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	103	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	102	71-130
p-Isopropyl toluene	mg/kg (ppm)	2.5	104	70-132
1,3-Dichlorobenzene 1,4-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	102 100	75-121 74-117
1,2-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103	74-117 76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	103	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	104	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	110	50-153
Naphthalene	mg/kg (ppm)	2.5	104	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	109	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Address HO 2nd Ave Ste 550 Company Aspect Report To Bare Heffmer 901382 SAMPLE CHAIN OF CUSTODY MCPROJECT NAME

City, State, ZIP Seattle WA 98104

Page#_

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REMARKS Morell's / Wedker Cury 080190 INVOICE TO PO#

Other XRUSH 4-Day ☐ Standard Turnaround ☐ Archive Samples MDispose after 30 days Rush charges authorized by: TURNAROUND TIME SAMPLE DISPOSAL

Friedman & Branca Inc. Relinquished by: SIGNATURE	8-25-50.5 10 1/29 0150	8-25-45.5 69 1/29 0100	B-25-40,5 08 1/28 2350	B-25-35.5 07 1/28 23io	B-25-30.5 06 1/28 2250	B-25-25.5 05 1/28 2230	B-25-20,5 ON 1/28 2210	B-25-15.5 03 1/28 2155	B-25-10.5 02 1/28 2130	B-25-5.5 0/A-N 1/28 2116	Sample ID Lab ID Date Time Sampled Sampled		Directional and Jean of	Phone 20 638 5831 Email other Cy
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Ph. (206) 285-8282

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Seattle, WA 98119-2029

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3012 I6th Avenue West

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Friedman & Bruya, Inc.

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David Heftner

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Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. City, State, ZIP Seattle wit 98104 Phone 206 636 5831 Emaild Weffur (bgreer Address 710 2nd Are Ste. 550 Company 175 pect B-25-55.5 B-25-60,6 901382 of the Heffner Sample ID Relinquished by: Dany H Received by: Relinquished by Received by: Lab ID AU A-1) 1/29 SIGNATURE Sampled 129 Date 0250 SAMPLE CHAIN OF CUSTODY 0220 Sampled PROJECT NAME Time REMARKS Morell's I Walter Church Sample Type HOUSE V XUED NEWWOO David Heffner S Jars # of PRINT NAME ٥ struger/ TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B ME 01/291 ANALYSES REQUESTED VOCs by 8260C INVOICE TO 080190 FRI SVOCs by 8270D PO# CO Aspect PAHs 8270D SIM COMPANY Sample received at [] Other_ RUSH 4-Day ☐ Archive Samples Dispose after 30 days Rush charges authorized by: Page#_ TURNAROUND TIME SAMPLE DISPOSAL 458 Please 1/29/19 DATE 129/19 12 pt 4 Notes HOLV 9:50 70.54 003 TIME

ENVIRONMENTAL CHEMISTS

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

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

February 1, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on January 30, 2019 from the Walker Chevy Morell's 080190, F&BI 901399 project. There are 8 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, Breeyn Greer

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 30, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevy Morell's 080190, F&BI 901399 project. Samples were logged in under the laboratory ID's listed below.

Aspect Consulting, LLC
B-26-5.5
B-26-10.5
B-26-15.5
B-26-20.5
B-26-25.5
B-26-30.5
B-26-35.5
B-26-40.5
B-26-45.5
B-26-50.5
B-26-55.5
B-26-60.0

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-26-5.5	Client:	Aspect Consulting, LLC
Date Received:	01/30/19	Project:	Walker Chevy Morell's 080190

Date Extracted: 01/30/19 Lab ID: 901399-01 Date Analyzed: 01/30/19 Data File: 013037.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	96	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-26-30.5	Client:	Aspect Consulting, LLC
Date Received:	01/30/19	Project:	Walker Chevy Morell's 080190

Date Extracted: 01/30/19 Lab ID: 901399-06 01/30/19 Data File: Date Analyzed: 013038.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	101	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-26-50.5	Client:	Aspect Consulting, LLC
Date Received:	01/30/19	Project:	Walker Chevy Morell's 080190

Date Extracted: 01/30/19 Lab ID: 901399-10 Date Analyzed: 01/30/19 Data File: 013039.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevy Morell's 080190

Date Extracted: 01/30/19 Lab ID: 09-0197 mb Date Analyzed: 01/30/19 Data File: 013021.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: MS/JS Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	93	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/01/19 Date Received: 01/30/19

Project: Walker Chevy Morell's 080190, F&BI 901399

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

Laboratory Code: 901327-01 (Matrix Spike)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	< 0.5	17	17	10-142	0
Chloromethane	mg/kg (ppm)	2.5	< 0.5	49	48	10-126	2
Vinyl chloride Bromomethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	53 72	53 70	10-138 10-163	0 3
Chloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	<0.5	64	65	10-103	2
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	59	59	10-176	õ
Acetone	mg/kg (ppm)	12.5	< 0.5	82	88	10-163	7
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	71	70	10-160	1
Hexane	mg/kg (ppm)	2.5	< 0.25	29	33	10-137	13
Methylene chloride	mg/kg (ppm)	2.5	< 0.5	80	83 86	10-156 21-145	4
Methyl t-butyl ether (MTBE) trans-1,2-Dichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83 73	86 79	21-145 14-137	4 8
1.1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	82	86	19-140	5
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	74	79	10-158	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	84	88	25-135	5
Chloroform	mg/kg (ppm)	2.5	< 0.05	84	90	21-145	7
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	87	95	19-147	9
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	79	87	12-160	10
1,1,1-Trichloroethane 1,1-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	76 69	84 75	10-156 17-140	10 8
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	71	79	9-164	8 11
Benzene	mg/kg (ppm)	2.5	< 0.03	75	79	29-129	5
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	72	79	21-139	9
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	81	83	30-135	2
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	83	88	23-155	6
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	82	87	23-145	6
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	<0.5 <0.05	90 82	94 87	24-155 28-144	4 6
Toluene	mg/kg (ppm)	2.5	0.15	68	75	35-130	10
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	80	84	26-149	5
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	88	93	10-205	6
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	83	88	15-166	6
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	79	85	31-137	7
Tetrachloroethene Dibromochloromethane	mg/kg (ppm)	2.5 2.5	0.044	58 83	67 88	20-133 28-150	14
1,2-Dibromoethane (EDB)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83 78	83	28-150 28-142	6 6
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	76 74	80	32-129	8
Ethylbenzene	mg/kg (ppm)	2.5	0.23	65	70	32-137	7
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	81	87	31-143	7
m,p-Xylene	mg/kg (ppm)	5	0.79	63	70	34-136	11
o-Xylene	mg/kg (ppm)	2.5	0.42	62	67	33-134	8
Styrene Isopropylbenzene	mg/kg (ppm)	2.5 2.5	<0.05 0.14	76 62	83 68	35-137 31-142	9 9
Bromoform	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	< 0.05	87	93	21-156	9 7
n-Propylbenzene	mg/kg (ppm)	2.5	0.54	57 b	62 b	23-146	8 b
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	73	78	34-130	7
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	0.72	53 b	59 b	18-149	11 b
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	100	101	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	80	80	25-144	0
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	75 68	79 72	31-134 31-136	5 6
tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	55	60	31-136 30-137	9
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	2.1	51 b	59 b	10-182	15 b
sec-Butylbenzene	mg/kg (ppm)	2.5	0.28	52	58	23-145	11
p-Isopropyltoluene	mg/kg (ppm)	2.5	0.25	51	58	21-149	13
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	66	71	30-131	7
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	67	71	29-129	6
1,2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05	71	75	31-132	5 0
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	83 60	83 66	11-161 22-142	0 10
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	51	58	10-142	13
Naphthalene	mg/kg (ppm)	2.5	0.42	74	78	14-157	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	66	72	20-144	9

ENVIRONMENTAL CHEMISTS

Date of Report: 02/01/19 Date Received: 01/30/19

Project: Walker Chevy Morell's 080190, F&BI 901399

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

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	42	10-146
Chloromethane	mg/kg (ppm)	2.5	70	27-133
Vinyl chloride	mg/kg (ppm)	2.5	84	22-139
Bromomethane	mg/kg (ppm)	2.5	91	38-114
Chloroethane Trichlorofluoromethane	mg/kg (ppm)	2.5 2.5	89 97	10-163 10-196
Acetone	mg/kg (ppm) mg/kg (ppm)	12.5	94	52-141
1.1-Dichloroethene	mg/kg (ppm)	2.5	96	47-128
Hexane	mg/kg (ppm)	2.5	79	43-142
Methylene chloride	mg/kg (ppm)	2.5	97	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	99	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	102	68-115
2,2-Dichloropropane cis-1.2-Dichloroethene	mg/kg (ppm)	2.5 2.5	104 104	52-170 72-113
Chloroform	mg/kg (ppm) mg/kg (ppm)	2.5	104	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	104	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	106	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	111	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	102	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	111	60-139
Benzene	mg/kg (ppm)	2.5	100	68-114
Trichloroethene	mg/kg (ppm)	2.5	106	64-117
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm)	2.5 2.5	102 107	72-127 72-130
Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	107	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	106	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	75-136
Toluene	mg/kg (ppm)	2.5	97	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	100	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	101	75-113
2-Hexanone	mg/kg (ppm)	12.5	94	33-152
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 104	72-130 72-114
Dibromochloromethane	mg/kg (ppm)	2.5	104	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	102	74-132
Chlorobenzene	mg/kg (ppm)	2.5	102	76-111
Ethylbenzene	mg/kg (ppm)	2.5	101	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	108	69-135
m,p-Xylene	mg/kg (ppm)	5	103	78-122
o-Xylene Styrene	mg/kg (ppm)	2.5 2.5	98 108	77-124 74-126
Isopropylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	108	76-127
Bromoform	mg/kg (ppm)	2.5	109	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	107	74-124
Bromobenzene	mg/kg (ppm)	2.5	109	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	108	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	109	56-143
1,2,3-Trichloropropane 2-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106 109	61-137 74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	110	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	104	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	103	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	101	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	104	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	105	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	102	74-117
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	104 97	76-121 58-138
1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	102	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	102	50-153
Naphthalene	mg/kg (ppm)	2.5	102	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	105	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. 901399 Phone 2068 38583 | Email d/ne ffloor Caspect Consulting Com City, State, ZIP Seathle WA 98104 Address 710 2nd Ave Ste 550 Company_ Report To_ 6-26-5.5 B-26-35.5 8-26-30.5 B-26-25.5 B-26-20,5 B-26-10,5 B-26-405 B-26-155 13-26-45.5 15-26-505 Sample ID)ave Relinquished by: Received by: Relinguished by: Received by: 20 30 3 2 8 <u>_</u> 0 0 2 8 Lab ID AU SIGNATURE 129/19 Sampled W1/30 Date 738 シャジー 2315 2215 2330 2230 SAMPLE CHAIN OF CUSTODY ME 01/30/19 28 2355 2200 0100 2300 Sampled Time SAMPLERS (signature) Bleen bree REMARKS PROJECT NAME Walker Cherry / Morrell's Sample Туре S Breeze Greek Jars # of PRINT NAME _ TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B ANALYSES REQUESTED 080190 VOCs by 8260C INVOICE TO SVOCs by 8270D PO# Samples received at T S PAHs 8270D SIM 45pect COMPANY □ Other ☐ Archive Samples ADispose after 30 days Rush charges authorized by: Standard Turnaround TURNAROUND TIME SAMPLE DISPOSAL Page # 130/19 S C 130119 glease DATE Pleast Hold ----= ___ Notes ハくく of _ e e 88 更更 TIME

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 6, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on January 31, 2019 from the Morell's Walker Chevy 080190, F&BI 901423 project. There are 8 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 ASP0206R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's Walker Chevy 080190, F&BI 901423 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
901423 -01	B-24-5.5
901423 -02	B-24-10.5
901423 -03	B-24-15.5
901423 -04	B-24-20.5
901423 -05	B-24-25.5
901423 -06	B-24-30.5
901423 -07	B-24-35.5
901423 -08	B-24-40.5
901423 -09	B-24-45.5
901423 -10	B-24-50.5
901423 -11	B-24-55.5
901423 -12	B-24-60.5

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-24-5.5	Client:	Aspect Consulting, LLC
Date Received:	01/31/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 901423-01 Date Analyzed: Data File: 02/01/19 020113.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-24-30.5	Client:	Aspect Consulting, LLC
Date Received:	01/31/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 901423-06 Data File: Date Analyzed: 02/01/19 020114.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	95	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-24-50.5	Client:	Aspect Consulting, LLC
Date Received:	01/31/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 901423-10 Data File: Date Analyzed: 02/01/19 020115.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 09-0199 mb Data File: Date Analyzed: 02/01/19 020110.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	95	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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/06/19 Date Received: 01/31/19

Project: Morell's Walker Chevy 080190, F&BI 901423

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

Laboratory Code: 901411-01 (Matrix Spike)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	16	16	10-142	0
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	46 48	44 46	10-126 10-138	4 4
Bromomethane	mg/kg (ppm)	2.5	< 0.5	64	62	10-163	3
Chloroethane	mg/kg (ppm)	2.5	<0.5	60	57	10-176	5
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	52	49	10-176	6
Acetone	mg/kg (ppm)	12.5	0.64	76	78	10-163	3
1,1-Dichloroethene Hexane	mg/kg (ppm)	2.5 2.5	<0.05 <0.25	64 27	62 26	10-160 10-137	3 4
Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5	<0.25 <0.5	77	73	10-156	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	81	74	21-145	9
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	72	66	14-137	9
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	79	74	19-140	7
2,2-Dichloropropane cis-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	81 82	74 78	10-158 25-135	9 5
Chloroform	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83	78 80	25-135 21-145	5 4
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	76	84	19-147	10
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	74	75	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	75	72	10-156	4
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	68	68	17-140	0
Carbon tetrachloride Benzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.03	70 72	68 72	9-164 29-129	3 0
Trichloroethene	mg/kg (ppm)	2.5	<0.03	72	68	21-139	6
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	72	73	30-135	1
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	77	80	23-155	4
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	77	76	23-145	1
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm)	12.5 2.5	<0.5 <0.05	76 70	81 78	24-155 28-144	6 11
Toluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	68	78 68	28-144 35-130	0
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	71	78	26-149	9
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	80	86	10-205	7
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	67	81	15-166	19
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	70	80	31-137	13
Tetrachloroethene Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.025 <0.05	60 81	62 82	20-133 28-150	3 1
1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	71	76	28-142	7
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	71	72	32-129	1
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	65	65	32-137	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	86	79	31-143	8
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	5 2.5	<0.1 <0.05	65 64	65 62	34-136 33-134	0 3
Styrene	mg/kg (ppm)	2.5	< 0.05	73	75	35-137	3
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	64	63	31-142	2
Bromoform	mg/kg (ppm)	2.5	< 0.05	86	89	21-156	3
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	57	58	23-146	2 6
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	69 55	73 52	34-130 18-149	6
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	102	103	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	75	79	25-144	5
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	66	64	31-134	3
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	64	64	31-136	0
tert-Butylbenzene 1,2,4-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	57 57	53 54	30-137 10-182	7 5
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	54	50	23-145	8
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	52	49	21-149	6
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	67	66	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	67	67	29-129	0
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	73 90	69 80	31-132 11-161	6 12
1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	90 66	60	22-142	10
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	46	44	10-142	4
Naphthalene	mg/kg (ppm)	2.5	< 0.05	87	79	14-157	10
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	73	66	20-144	10

ENVIRONMENTAL CHEMISTS

Date of Report: 02/06/19 Date Received: 01/31/19

Project: Morell's Walker Chevy 080190, F&BI 901423

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

Laboratory Code: Laboratory Control Sample

· ·	-			
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	47	10-146
Chloromethane	mg/kg (ppm)	2.5	67	27-133
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	80 89	22-139 38-114
Chloroethane	mg/kg (ppm)	2.5	94	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	101	10-196
Acetone	mg/kg (ppm)	12.5	100	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	102	47-128
Hexane	mg/kg (ppm)	2.5	82	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	109 101	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	107	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	108	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	117	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	111	72-113
Chloroform	mg/kg (ppm)	2.5	110	66-120
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	93 101	57-123 56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	112	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	104	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	112	60-139
Benzene	mg/kg (ppm)	2.5	98	68-114
Trichloroethene	mg/kg (ppm)	2.5	103	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	96	72-127
Bromodichloromethane Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 99	72-130 70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	90	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	93	75-136
Toluene	mg/kg (ppm)	2.5	100	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	90	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	93	75-113
2-Hexanone	mg/kg (ppm)	12.5	77 88	33-152 72-130
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106	72-130 72-114
Dibromochloromethane	mg/kg (ppm)	2.5	104	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	91	74-132
Chlorobenzene	mg/kg (ppm)	2.5	99	76-111
Ethylbenzene	mg/kg (ppm)	2.5	100	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	69-135
m.p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	5 2.5	102 101	78-122 77-124
Styrene	mg/kg (ppm)	2.5	103	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	108	76-127
Bromoform	mg/kg (ppm)	2.5	108	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	101	74-124
Bromobenzene	mg/kg (ppm)	2.5	98	72-122
1,3,5-Trimethylbenzene 1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	105 101	76-126 56-143
1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5	92	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	104	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	99	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	107	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	103	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	105	71-130
p-Isopropyltoluene 1.3-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	106 102	70-132 75-121
1,4-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	98	75-121 74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	105	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	112	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	108	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	108	50-153
Naphthalene	mg/kg (ppm)	2.5	111	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	110	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Ph. (206) 285-8282	3012 16th Avenue West Seattle, WA 98119-2029	Friedman & Bruya, Inc.								B-24-60.5	8-24-55.5	Sample ID		Phone 206 8385831 Er	City, State, ZIP	Address	Report To	901423
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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 6, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 1, 2019 from the Morell's Walker Chevy 080190, F&BI 902014 project. There are 8 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 ASP0206R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 1, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's Walker Chevy 080190, F&BI 902014 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
902014 -01	B-27-5.5
902014 -02	B-27-10.5
902014 -03	B-27-15.5
902014 -04	B-27-20.5
902014 -05	B-27-25.5
902014 -06	B-27-30.5
902014 -07	B-27-35.5
902014 -08	B-27-40.5
902014 -09	B-27-45.5
902014 -10	B-27-50.5
902014 -11	B-27-55.5
902014 -12	B-27-60.5

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-27-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/01/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 902014-01 Date Analyzed: 02/01/19 Data File: 020121.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: MS/JS Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	94	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-27-30.5	Client:	Aspect Consulting, LLC
Date Received:	02/01/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 902014-06 Data File: Date Analyzed: 02/01/19 020122.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	97	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-27-50.5	Client:	Aspect Consulting, LLC
Date Received:	02/01/19	Project:	Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 902014-10 Data File: Date Analyzed: 02/01/19 020123.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	96	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's Walker Chevy 080190

Date Extracted: 02/01/19 Lab ID: 09-0199 mb Date Analyzed: 02/01/19 Data File: 020110.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: MS/JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	95	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/06/19 Date Received: 02/01/19

Project: Morell's Walker Chevy 080190, F&BI 902014

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

Laboratory Code: 901411-01 (Matrix Spike)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	16	16	10-142	0
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	46 48	44 46	10-126 10-138	4 4
Bromomethane	mg/kg (ppm)	2.5	<0.5	64	62	10-163	3
Chloroethane	mg/kg (ppm)	2.5	<0.5	60	57	10-176	5
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	52	49	10-176	6
Acetone	mg/kg (ppm)	12.5	0.64	76	78	10-163	3
1,1-Dichloroethene Hexane	mg/kg (ppm)	2.5 2.5	<0.05 <0.25	64 27	62 26	10-160 10-137	3 4
Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5	<0.25 <0.5	77	73	10-156	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	81	74	21-145	9
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	72	66	14-137	9
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	79	74	19-140	7
2,2-Dichloropropane cis-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	81 82	74 78	10-158 25-135	9 5
Chloroform	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83	78 80	25-135 21-145	5 4
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	76	84	19-147	10
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	74	75	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	75	72	10-156	4
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	68	68	17-140	0
Carbon tetrachloride Benzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.03	70 72	68 72	9-164 29-129	3 0
Trichloroethene	mg/kg (ppm)	2.5	<0.03	72	68	21-139	6
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	72	73	30-135	1
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	77	80	23-155	4
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	77	76	23-145	1
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm)	12.5 2.5	<0.5 <0.05	76 70	81 78	24-155 28-144	6 11
Toluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	68	78 68	28-144 35-130	0
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	71	78	26-149	9
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	80	86	10-205	7
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	67	81	15-166	19
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	70	80	31-137	13
Tetrachloroethene Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.025 <0.05	60 81	62 82	20-133 28-150	3 1
1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	71	76	28-142	7
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	71	72	32-129	1
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	65	65	32-137	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	86	79	31-143	8
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	5 2.5	<0.1 <0.05	65 64	65 62	34-136 33-134	0 3
Styrene	mg/kg (ppm)	2.5	< 0.05	73	75	35-137	3
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	64	63	31-142	2
Bromoform	mg/kg (ppm)	2.5	< 0.05	86	89	21-156	3
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	57	58	23-146	2 6
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	69 55	73 52	34-130 18-149	6
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	102	103	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	75	79	25-144	5
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	66	64	31-134	3
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	64	64	31-136	0
tert-Butylbenzene 1,2,4-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	57 57	53 54	30-137 10-182	7 5
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	54	50	23-145	8
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	52	49	21-149	6
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	67	66	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	67	67	29-129	0
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	73 90	69 80	31-132 11-161	6 12
1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	90 66	60	22-142	10
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	46	44	10-142	4
Naphthalene	mg/kg (ppm)	2.5	< 0.05	87	79	14-157	10
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	73	66	20-144	10

ENVIRONMENTAL CHEMISTS

Date of Report: 02/06/19 Date Received: 02/01/19

Project: Morell's Walker Chevy 080190, F&BI 902014

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

Laboratory Code: Laboratory Control Sample

	_			
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	47	10-146
Chloromethane	mg/kg (ppm)	2.5 2.5	67 80	27-133
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	89	22-139 38-114
Chloroethane	mg/kg (ppm)	2.5	94	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	101	10-196
Acetone	mg/kg (ppm)	12.5	100	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	102	47-128
Hexane	mg/kg (ppm)	2.5	82	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	109 101	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	107	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	108	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	117	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	111	72-113
Chloroform	mg/kg (ppm)	2.5	110	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	93	57-123
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101 112	56-135 62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	104	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	112	60-139
Benzene	mg/kg (ppm)	2.5	98	68-114
Trichloroethene	mg/kg (ppm)	2.5	103	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	96	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	100	72-130
Dibromomethane 4-Methyl-2-pentanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	99 90	70-120 45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	93	75-136
Toluene	mg/kg (ppm)	2.5	100	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	90	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	93	75-113
2-Hexanone	mg/kg (ppm)	12.5	77	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	88	72-130 72-114
Tetrachloroethene Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106 104	72-114 74-125
1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	91	74-123
Chlorobenzene	mg/kg (ppm)	2.5	99	76-111
Ethylbenzene	mg/kg (ppm)	2.5	100	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	69-135
m,p-Xylene	mg/kg (ppm)	5	102	78-122
o-Xylene Styrene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101 103	77-124 74-126
Isopropylbenzene	mg/kg (ppm)	2.5	103	76-127
Bromoform	mg/kg (ppm)	2.5	108	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	101	74-124
Bromobenzene	mg/kg (ppm)	2.5	98	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	105	76-126
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101 92	56-143 61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	104	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	99	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	107	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	103	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	105	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	106	70-132
1,3-Dichlorobenzene 1,4-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	102 98	75-121 74-117
1,2-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	98 105	74-117 76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	112	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	108	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	108	50-153
Naphthalene	mg/kg (ppm)	2.5	111	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	110	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. Phone_ Company 145 peet Report To Dave Heffner HORDH City, State, ZIP Seattle WA 98104 Address 710 2nd Are 8-27-55.5 8-27-60,5 Sample ID Email dhethrer byreer Received by Relinquished by: Dan's Hefferer Relinquished by: Received by: F - A-D Ste 550 Lab ID 7 SIGNATURE Trace Sampled Date -0110 0040 SAMPLE CHAIN OF CUSTODY Sampled SAMPLERS (signature) Buyn (7em Time REMARKS Movell's / Walker Chary PROJECT NAME Sample Shin Туре S S David Heffner ۲ Jars # of PRINT NAME 7 FLAS TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B 080190 ANALYSES REQUESTED VOCs by 8260C INVOICE TO A ME OD/OI なる SVOCs by 8270D PO# Aspect PAHs 8270D SIM COMPANY Samples received at **W**Dispose after 30 days □ Archive Samples Other Rush charges authorized by: ☐ Standard Turnaround TURNAROUND TIME Page #_ SAMPLE DISPOSAL Please, 2/1/19 DATE 2 of_ Notes HOLD 2 8:20 1/05 TIME ŝ

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 12, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 6, 2019 from the Morell's 080190, F&BI 902073 project. There are 9 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 ASP0212R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902073 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
902073 -01	B-31-5.5
902073 -02	B-31-10.5
902073 -03	B-31-15.5
902073 -04	B-31-20.5
902073 -05	B-31-25.5
902073 -06	B-31-30.5
902073 -07	B-31-35.5
902073 -08	B-31-40.5
902073 -09	B-31-45.5
902073 -10	B-31-50.5
902073 -11	B-31-55.5
902073 -12	B-31-60.5

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-31-15.5	Client:	Aspect Consulting, LLC
Date Received:	02/06/19	Project:	Morell's 080190, F&BI 902073

Date Extracted: 02/07/19 Lab ID: 902073-03 Date Analyzed: 02/07/19 Data File: 020725.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-31-40.5	Client:	Aspect Consulting, LLC
Date Received:	02/06/19	Project:	Morell's 080190, F&BI 902073

Date Extracted: 02/07/19 Lab ID: 902073-08 Date Analyzed: Data File: 02/07/19 020726.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-31-55.5	Client:	Aspect Consulting, LLC
Date Received:	02/06/19	Project:	Morell's 080190, F&BI 902073

Date Extracted: 02/07/19 Lab ID: 902073-11 Date Analyzed: Data File: 02/07/19 020727.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.058
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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-31-60.5 Client: Aspect Consulting, LLC
Date Received: 02/06/19 Project: Morell's 080190, F&BI 902073

Date Extracted: 02/07/19 Lab ID: 902073-12 Data File: Date Analyzed: 020728.D 02/07/19 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.058
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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902073

Date Extracted: 02/07/19 Lab ID: 09-0271 mb 02/07/19 Data File: Date Analyzed: 020711.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/12/19 Date Received: 02/06/19

Project: Morell's 080190, F&BI 902073

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

Laboratory Code: 902082-01 (Matrix Spike)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Ûnits	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	35	33	10-56	6
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	<0.5 <0.05	58 63	58 62	10-90 10-91	0 2
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	<0.5	74	73	10-91	1
Chloroethane	mg/kg (ppm)	2.5	<0.5	68	70 70	10-110	3
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	67	68	10-95	1
Acetone	mg/kg (ppm)	12.5	< 0.5	98	99	11-141	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	76	76	22-107	0
Hexane	mg/kg (ppm)	2.5	< 0.25	62	63	10-95	2
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	83 85	86 87	14-128 17-134	4 2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	83	85	13-112	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	85	88	23-115	3
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	90	92	18-117	2
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	85	89	25-120	5
Chloroform	mg/kg (ppm)	2.5	< 0.05	85	86	29-117	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	92	90	20-133	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	90 91	92 93	22-124 27-112	2 2
1,1,1-Trichloroethane 1,1-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83	93 85	26-107	2
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	88	90	28-126	2
Benzene	mg/kg (ppm)	2.5	< 0.03	86	87	26-114	1
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	87	87	30-112	0
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	92	92	31-119	0
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	94	95	31-131	1
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	89	89	27-124	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	99	98	16-147	1
cis-1,3-Dichloropropene Toluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	95 87	96 89	28-137 34-112	1 2
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	94	95	30-136	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	94	94	32-126	0
2-Hexanone	mg/kg (ppm)	12.5	<0.5	98	97	17-147	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	92	91	29-125	1
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	87	89	25-114	2
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	98	99	32-143	1
1,2-Dibromoethane (EDB) Chlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	101 86	100 87	32-126 37-113	1
Ethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	89	90	34-115	1
1.1.1.2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	102	103	35-126	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	88	90	25-125	2
o-Xylene	mg/kg (ppm)	2.5	< 0.05	88	90	27-126	2
Styrene	mg/kg (ppm)	2.5	< 0.05	91	94	39-121	3
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	90	92	34-123	2
Bromoform	mg/kg (ppm)	2.5	< 0.05	97 90	100 90	18-155 31-120	3
n-Propylbenzene Bromobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	90	90 92	40-115	2
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	91	94	24-130	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	94	96	27-148	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	93	92	33-123	1
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	91	92	39-110	1
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	91	91	39-111	0
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	91 90	93	36-116	2
1,2,4-Trimethylbenzene sec-Butylbenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	90 91	93 93	35-116 33-118	3
p-Isopropyltoluene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	90	93 92	32-119	2
1.3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	89	90	38-111	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	86	87	39-109	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	90	91	40-111	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	< 0.5	97	95	47-127	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	84	87	31-121	4
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	86	90	24-128	5
Naphthalene 1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.25	87 85	88 88	24-139 35-117	1 3
1,6,5-11 ICHIOI ODEHZEHE	mg/kg (ppm)	د.۵	\0.23	99	00	35-117	ა

ENVIRONMENTAL CHEMISTS

Date of Report: 02/12/19 Date Received: 02/06/19

Project: Morell's 080190, F&BI 902073

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

Laboratory Code: Laboratory Control Sample

•	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	62	10-76
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	80 90	34-98 42-107
Bromomethane	mg/kg (ppm)	2.5	102	46-113
Chloroethane	mg/kg (ppm)	2.5	96	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	98	53-112
Acetone	mg/kg (ppm)	12.5	97	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	99	65-110
Hexane Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	87 115	55-107 50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	96	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	99	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	118	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	73-110
Chloroform	mg/kg (ppm)	2.5 12.5	97	76-110
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	86 97	60-121 73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	107	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	95	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	107	67-123
Benzene	mg/kg (ppm)	2.5	94	72-106
Trichloroethene	mg/kg (ppm)	2.5	94	72-107
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm)	2.5 2.5	96 102	74-115 75-126
Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	92	75-126 76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	97	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	97	71-138
Toluene	mg/kg (ppm)	2.5	97	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	97	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	95	77-116
2-Hexanone 1,3-Dichloropropane	mg/kg (ppm)	12.5 2.5	87 90	70-129 75-115
Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5	96	73-113
Dibromochloromethane	mg/kg (ppm)	2.5	107	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	100	77-117
Chlorobenzene	mg/kg (ppm)	2.5	91	76-109
Ethylbenzene	mg/kg (ppm)	2.5	96	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	119	76-125
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	5 2.5	97 99	77-115 76-115
Styrene	mg/kg (ppm)	2.5	97	76-113 76-119
Isopropylbenzene	mg/kg (ppm)	2.5	103	76-120
Bromoform	mg/kg (ppm)	2.5	106	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	99	77-115
Bromobenzene	mg/kg (ppm)	2.5	97	76-112
1,3,5-Trimethylbenzene 1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	105 104	77-121 74-121
1,1,2,2-1 etrachioroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	96	74-121 74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	101	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	96	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	105	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	103	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	105	78-120
p-Isopropyltoluene 1.3-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	104 95	77-120 76-112
1,3-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	95 92	76-112 74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	100	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	106	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	100	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	105	74-130
Naphthalene	mg/kg (ppm)	2.5	100	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	102	75-117

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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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Report To Dave Heffner Breeze Greek Address 710 2nd Au Ste 550 Company___ Phone 206 835 583 | City, State, ZIP Seathy WA 98/04 Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. 8-31-5.5 8-31-155 8-31-30,5 6-31-25.5 8-31-2015 8-31-35.5 6-31-40,5 8-31-10.5 8-31-505 B-31-45.5 902073 Sample ID topert Email du ffur Caspect consulting, com Relinquished 5: Relinquished by Received by Received by 2 02 4 00 S S 0 00 0 δ Lab ID A-D SIGNATURE 2/5/19 Sampled Date SAMPLE CHAIN OF CUSTODY 0000 0940 0930 Sampled joo 2007 1100 1030 SAMPLERS (signature) PROJECT NAME 1045 1130 REMARKS Time Morell's Sample Type **(**) のなかってかれ Viz Nebber-Brixe Jars # of _ eaboxylo PRINT NAME \leftarrow TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B ANALYSES REQUESTED VOCs by 8260C INVOICE TO 080190 ME PO# SVOCs by 8270D 8 62 PAHs 8270D SIM 02 F78 COMPANY PER PO 706-19 Samples received at | Standard Turnaround Dispose after 30 days
Of Archive Samples Rush charges authorized by: TURNAROUND TIME Page# SAMPLE DISPOSAL 461 DATE 2 Notes 8 TIME

City, State, ZIP Address Company_ Report To_ Phone 206838 583 | Seattle, WA 98119-2029 Friedman & Bruya, Inc. Ph. (206) 285-8282 3012 16th Avenue West B-31-555 B-31-60.5 Sample ID Dave Heffner / Breeyn Greer 9020F3 Hopeot Email Multine Relinquished Received by Received by: L Relinguished by: 7 II A-D Lab ID SIGNATURE 12/5/19 11/5/19 barret Sampled Date SAMPLE CHAIN OF CUSTODY Time Sampled ミス 1200 SAMPLERS (signature) PROJECT NAME REMARKS Monells Sample Туре S S 分死 13 Newber Banga baroar Jars # of _____ PRINT NAME NPCACE TPH-HCID TPH-Diesel TPH-Gasoline BTEX by 8021B ANALYSES REQUESTED VOCs by 8260C INVOICE TO F 080190 SVOCs by 8270D P0# Fig PAHs 8270D SIM COMPANY Dispose after 30 days
☐ Archive Samples Rush charges authorized by: XRUSH Turnaround □ Other_ Page# TURNAROUND TIME SAMPLE DISPOSAL 16:19 DATE 9° ° Notes 200 TIME

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 14, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 7, 2019 from the Morrells 080190, F&BI 902103 project. There are 10 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, Breeyn Greer ASP0214R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 7, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrells 080190, F&BI 902103 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
902103 -01	B-23-5.5
902103 -02	B-23-10.5
902103 -03	B-23-20.5
902103 -04	B-23-25.5
902103 -05	B-23-30.5
902103 -06	B-23-35.5
902103 -07	B-23-55.5

Methylene chloride was detected in the 8260C analysis of samples B-23-10.5, B-23-20.5, and B-23-55.5. The data were flagged as due to laboratory contamination.

The 8260C matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The laboratory control sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-23-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/07/19	Project:	Morrells 080190, F&BI 902103

Date Extracted: 02/08/19 Lab ID: 902103-01 Data File: Date Analyzed: 02/11/19 021150.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

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	0.14
Benzene	< 0.03	sec-Butylbenzene	0.059
Trichloroethene	< 0.02	p-Isopropyltoluene	0.058
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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-23-10.5 Client: Aspect Consulting, LLC
Date Received: 02/07/19 Project: Morrells 080190, F&BI 902103

Lab ID: Date Extracted: 02/08/19 902103-02 Date Analyzed: 02/11/19 Data File: 021153.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.40
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	1.4 lc	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	0.19	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	0.18	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-23-20.5 Client: Aspect Consulting, LLC Date Received: 02/07/19 Project: Morrells 080190, F&BI 902103

Lab ID: Date Extracted: 02/08/19 902103-03 Date Analyzed: 02/11/19 Data File: 021148.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.045
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	0.50 lc	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-23-25.5 Client: Aspect Consulting, LLC Date Received: 02/07/19 Project: Morrells 080190, F&BI 902103

Lab ID: Date Extracted: 02/08/19 902103-04 Date Analyzed: 02/12/19 Data File: 021154.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	2.3
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	0.11
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	0.064
Trichloroethene	< 0.02	p-Isopropyltoluene	0.094
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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-23-55.5 Client: Aspect Consulting, LLC Date Received: 02/07/19 Project: Morrells 080190, F&BI 902103

Lab ID: Date Extracted: 02/08/19 902103-07 Date Analyzed: 02/11/19 Data File: 021149.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.095
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	0.83 lc	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC Date Received: Not Applicable Project: Morrells 080190, F&BI 902103

02/08/19 Lab ID: Date Extracted: 09-0272 mb 02/08/19 Date Analyzed: Data File: 020810.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	100	50	150

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-Trimethylbenzen e	< 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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/14/19 Date Received: 02/07/19

Project: Morrells 080190, F&BI 902103

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

Laboratory Code: 902035-36 (Matrix Spike)

3	1 ,		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	28	26	10-56	7
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	<0.5 <0.05	39 40	48 49	10-90 10-91	21 vo 20
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05 <0.5	50	65	10-110	26 vo
Chloroethane	mg/kg (ppm)	2.5	<0.5	48	60	10-110	22 vo
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	44	53	10-95	19
Acetone	mg/kg (ppm)	12.5	0.51	75	95	11-141	24 vo
1,1-Dichloroethene Hexane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.25	51 36	63 42	22-107 10-95	21 vo 15
Methylene chloride	mg/kg (ppm)	2.5	<0.5	70	84	14-128	18
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	71	88	17-134	21 vo
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	56	73	13-112	26 vo
1,1-Dichloroethane 2,2-Dichloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	64 70	82 90	23-115 18-117	25 vo 25 vo
cis-1,2-Dichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	64	82	25-120	25 vo
Chloroform	mg/kg (ppm)	2.5	< 0.05	65	84	29-117	26 vo
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	72	92	20-133	24 vo
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	69	88	22-124	24 vo
1,1,1-Trichloroethane 1,1-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	68 60	86 76	27-112 26-107	23 vo 24 vo
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	65	82	28-126	23 vo
Benzene	mg/kg (ppm)	2.5	< 0.03	63	80	26-114	24 vo
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	61	79	30-112	26 vo
1,2-Dichloropropane	mg/kg (ppm)	2.5 2.5	< 0.05	70 71	89 93	31-119	24 vo
Bromodichloromethane Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	65	93 84	31-131 27-124	27 vo 26 vo
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	80	104	16-147	26 vo
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	71	92	28-137	26 vo
Toluene	mg/kg (ppm)	2.5	< 0.05	65	83	34-112	24 vo
trans-1,3-Dichloropropene 1.1.2-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	71 71	92 94	30-136 32-126	26 vo 28 vo
2-Hexanone	mg/kg (ppm)	12.5	<0.05	78	102	17-147	27 vo
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	70	91	29-125	26 vo
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	61	80	25-114	27 vo
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	75 74	98	32-143	27 vo
1,2-Dibromoethane (EDB) Chlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	74 64	95 81	32-126 37-113	25 vo 23 vo
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	68	86	34-115	23 vo
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	80	102	35-126	24 vo
m,p-Xylene	mg/kg (ppm)	5	< 0.1	66	85	25-125	25 vo
o-Xylene Styrene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	67 67	86 88	27-126 39-121	25 vo 27 vo
Isopropylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	71	89	34-123	22 vo
Bromoform	mg/kg (ppm)	2.5	< 0.05	74	97	18-155	27 vo
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	68	86	31-120	23 vo
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	66	85	40-115	25 vo
1,3,5-Trimethylbenzene 1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	71 80	89 100	24-130 27-148	22 vo 22 vo
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	75	94	33-123	22 vo
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	69	87	39-110	23 vo
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	67	86	39-111	25 vo
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05 <0.05	72 68	90 87	36-116	22 vo 25 vo
1,2,4 Trimethylbenzene sec-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	72	90	35-116 33-118	25 vo 22 vo
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	70	88	32-119	23 vo
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	64	81	38-111	23 vo
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	62	78	39-109	23 vo
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	66 73	84 94	40-111 47-127	24 vo 25 vo
1,2-Dibromo-3-chioropropane 1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	73 57	94 73	47-127 31-121	25 Vo 25 vo
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	70	87	24-128	22 vo
Naphthalene	mg/kg (ppm)	2.5	< 0.05	60	77	24-139	25 vo
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	59	75	35-117	24 vo

ENVIRONMENTAL CHEMISTS

Date of Report: 02/14/19 Date Received: 02/07/19

Project: Morrells 080190, F&BI 902103

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

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	58	10-76
Chloromethane	mg/kg (ppm)	2.5	77	34-98
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	87 97	42-107 46-113
Chloroethane	mg/kg (ppm)	2.5	97 91	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	95	53-112
Acetone	mg/kg (ppm)	12.5	105	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	96	65-110
Hexane Mathydana ablavida	mg/kg (ppm)	2.5 2.5	92 108	55-107 50-127
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	97	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	102	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	114	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	101 98	73-110
Chloroform 2-Butanone (MEK)	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	98 95	76-110 60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	102	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	108	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	97	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	106	67-123
Benzene Trichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	97 96	72-106 72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	100	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	103	75-126
Dibromomethane	mg/kg (ppm)	2.5	96	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	102	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	102	71-138
Toluene trans-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	97 103	74-111 77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	100	77-116
2-Hexanone	mg/kg (ppm)	12.5	98	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	96	75-115
Tetrachloroethene Dibromochloromethane	mg/kg (ppm)	2.5 2.5	96 109	73-111 64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	105	77-117
Chlorobenzene	mg/kg (ppm)	2.5	93	76-109
Ethylbenzene	mg/kg (ppm)	2.5	98	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	76-125
m,p-Xylene	mg/kg (ppm)	5 2.5	97 100	77-115
o-Xylene Styrene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100	76-115 76-119
Isopropylbenzene	mg/kg (ppm)	2.5	103	76-120
Bromoform	mg/kg (ppm)	2.5	107	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	99	77-115
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	99 103	76-112 77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103	77-121 74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	98	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	102	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	99	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	102	77-123
1,2,4 Trimethylbenzene sec-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	102 104	77-119 78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	98	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	94	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	100	75-114
1,2-Dibromo-3-chloropropane 1,2,4 Trichlorobenzene	mg/kg (ppm)	2.5 2.5	108 97	68-122 75-122
Hexachlorobutadiene	mg/kg (ppm) mg/kg (ppm)	2.5	103	74-130
Naphthalene	mg/kg (ppm)	2.5	99	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	99	75-117

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.

3012 16th Avenue West 8-23-25.5 B-23 - 10.5 Ph. (206) 285-8282 Seastle, WA 98119-2029 3-13-36.5 Friedman & Bruya, Inc. D-23-55.5 Company 75 tect 3.23-55 City, State, ZIP Report To Dauc Hen Phone 6122327343 Email Address dhettrever en spilons uttig um いない Sample ID by nearly aspect consulting an Relinquished by: Received by: Received by: Relinquished by D 3 R 20 20 \mathcal{Z} OIA-D Lab ID SIGNATURE 2/6/19 Sampled Date عبند البعا 100 55:0 10:10 2420 11:25 12:00 Sampled Time PROJECT NAME

SAMPLERS (signature)

Mathemy Vander Ah REMARKS Morrells 30° Sample がらり Breum Gren # of Jars PRINT NAME TPH-HCID 17 ACO TPH-Diesel TPH-Gasoline BTEX by 8021B MALYSES REQUESTED 080190 VOCs by 8260C INVOICE TO SVOCs by 8270D PO# 多色 FEBT PAHs 8270D SIM Great COMPANY Ç less in the property of the second se □ Other_

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TURNAROUND TIME

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 14, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 8, 2019 from the Morell's 080190, F&BI 902125 project. There are 8 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 ASP0214R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 8, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902125 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
902125 -01	B-30-5.5
902125 -02	B-30-10.5
902125 -03	B-30-20.5
902125 -04	B-30-25.5
902125 -05	B-30-30.5
902125 -06	B-30-35.5
902125 -07	B-30-50.5
902125 -08	B-30-60.5

Methylene chloride was detected in the 8260C method blank. The data were flagged as due to laboratory contamination.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-30-10.5	Client:	Aspect Consulting, LLC
Date Received:	02/08/19	Project:	Morell's 080190, F&BI 902125

Date Extracted: 02/11/19 Lab ID: 902125-02 Date Analyzed: 02/11/19 Data File: 021141.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	<0.5	Tetrachloroethene	0.084
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	0.021	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-30-35.5	Client:	Aspect Consulting, LLC
Date Received:	02/08/19	Project:	Morell's 080190, F&BI 902125

Date Extracted: 02/11/19 Lab ID: 902125-06 Date Analyzed: 02/11/19 Data File: 021142.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.10
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-pentanon e	< 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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-30-60.5 Client: Aspect Consulting, LLC Date Received: 02/08/19 Project: Morell's 080190, F&BI 902125

Lab ID: Date Extracted: 02/11/19 902125-08 Date Analyzed: 02/11/19 Data File: 021143.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.026
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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902125

Lab ID: Date Extracted: 02/11/19 09-0274 mb Date Analyzed: 02/11/19 Data File: 021128.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

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	0.90 lc	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		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/14/19 Date Received: 02/08/19

Project: Morell's 080190, F&BI 902125

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

Laboratory Code: 902114-21 (Matrix Spike)

Laboratory Code. 902114-2	i (Matrix Spike)			_	_		
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	31	26	10-56	18
Chloromethane	mg/kg (ppm)	2.5	<0.5	57	52	10-90	9
Vinyl chloride	mg/kg (ppm)	2.5	< 0.05	60	56	10-91	7
Bromomethane	mg/kg (ppm)	2.5	< 0.5	70	65	10-110	7
Chloroethane	mg/kg (ppm)	2.5	< 0.5	69	64	10-101	8
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	66	61	10-95	8
Acetone	mg/kg (ppm)	12.5	< 0.5	97	98	11-141	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	78 58	74	22-107	5
Hexane Methylene chloride	mg/kg (ppm)	2.5 2.5	<0.25 <0.5	58 113	54 132 vo	10-95 14-128	7 16
Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	88	132 V0 84	17-134	5
trans-1,2-Dichlor oethene	mg/kg (ppm)	2.5	< 0.05	84	80	13-112	5
1.1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	88	84	23-115	5
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	84	81	18-117	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	88	85	25-120	3
Chloroform	mg/kg (ppm)	2.5	< 0.05	88	84	29-117	5
2-Butanone (MEK)	mg/kg (ppm)	12.5	< 0.5	91	89	20-133	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	90	87	22-124	3
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	92	89	27-112	3
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	85 90	80	26-107	6
Carbon tetrachloride Benzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.03	90 87	86 84	28-126 26-114	5 4
Benzene Trichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.03 <0.02	87 90	84 86	26-114 30-112	4 5
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	94	90	31-119	4
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	96	92	31-131	4
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	91	88	27-124	3
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	< 0.5	103	99	16-147	4
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	97	93	28-137	4
Toluene	mg/kg (ppm)	2.5	< 0.05	90	86	34-112	5
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	95	92	30-136	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	96	93	32-126	3
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	100	95	17-147	5
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	93	89	29-125	4
Tetrachloroethene Dibromochloromethane	mg/kg (ppm)	2.5 2.5	<0.025 <0.05	91 102	85 97	25-114 32-143	7 5
1,2-Dibromoethane (EDB)	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	102	99	32-145	4
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	89	86	37-113	3
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	92	88	34-115	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	105	102	35-126	3
m,p-Xylene	mg/kg (ppm)	5	< 0.1	91	87	25-125	4
o-Xylene	mg/kg (ppm)	2.5	< 0.05	92	88	27-126	4
Styrene	mg/kg (ppm)	2.5	< 0.05	96	92	39-121	4
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	94	90	34-123	4
Bromoform	mg/kg (ppm)	2.5	< 0.05	101	98	18-155	3
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	92	88	31-120	4
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	95 95	90 91	40-115 24-130	5 4
1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	98	95	27-148	3
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	95	93	33-123	2
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	94	89	39-110	5
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	93	89	39-111	4
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	95	90	36-116	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	93	89	35-116	4
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	95	89	33-118	7
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	94	90	32-119	4
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	93	88	38-111	6
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	89	85	39-109	5
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	93	88	40-111	6
1,2-Dibromo-3-chloropropane 1,2,4 Trichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.5 <0.25	99 89	96 86	47-127 31-121	3 3
Hexachlorobutadiene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.25 <0.25	89 91	86	24-128	3 6
Naphthalene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.25 <0.05	91 92	88	24-128	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	90	86	35-117	5
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ENVIRONMENTAL CHEMISTS

Date of Report: 02/14/19 Date Received: 02/08/19

Project: Morell's 080190, F&BI 902125

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

Laboratory Code: Laboratory Control Sample

Laboratory Code. Laboratory Con-	er or Sumpre		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	57	10-76
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	74 84	34-98 42-107
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	90	46-113
Chloroethane	mg/kg (ppm)	2.5	86	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	90	53-112
Acetone	mg/kg (ppm)	12.5	102	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	65-110
Hexane Methyl ene chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	84 119	55-107 50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	94	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	97	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	97	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	95	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	98 95	73-110
Chloroform 2-Butanone (MEK)	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	95 96	76-110 60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	100	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	104	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	96	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	101	67-123
Benzene Trichloroethene	mg/kg (ppm)	2.5 2.5	96 95	72-106 72-107
1,2-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101	72-107 74-115
Bromodichloromethane	mg/kg (ppm)	2.5	104	75-126
Dibromomethane	mg/kg (ppm)	2.5	99	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	108	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	104	71-138
Toluene	mg/kg (ppm)	2.5	97	74-111
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	mg/kg (ppm)	2.5 2.5	102 102	77-135 77-116
2-Hexanone	mg/kg (ppm) mg/kg (ppm)	12.5	105	70-110
1,3-Dichloropropane	mg/kg (ppm)	2.5	99	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	97	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	109	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	110	77-117
Chlorobenzene Ethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	95 97	76-109 75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	113	76-125
m,p-Xylene	mg/kg (ppm)	5	98	77-115
o-Âylene	mg/kg (ppm)	2.5	97	76-115
Styrene	mg/kg (ppm)	2.5	102	76-119
Isopropylbenzene	mg/kg (ppm)	2.5 2.5	99 108	76-120 50-174
Bromoform n-Propylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	98	77-115
Bromobenzene	mg/kg (ppm)	2.5	101	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	101	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	99	74-116
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm)	2.5 2.5	100 99	75-113 77-115
tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	100	77-113
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	77-123
sec-Butylbenzene	mg/kg (ppm)	2.5	100	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	99	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	98	76-112
1,4-Dichlorobenzene 1.2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	94 99	74-109 75-114
1,2-Dichioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	99 104	75-114 68-122
1,2,4 Trichlorobenzene	mg/kg (ppm)	2.5	95	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	97	74-130
Naphthalene	mg/kg (ppm)	2.5	97	73-122
1,2,3 Trichlorobenzene	mg/kg (ppm)	2.5	96	75-117

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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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2/8/19 945	FŽAI	ran	Bre	7	Nebr		2;	7	B-W/ C	Relinquished by	Seattle, WA 98119-2029
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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 21, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 14, 2019 from the Morrell's Walker Chevrolet 080190, F&BI 902192 project. There are 15 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 ASP0221R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 14, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrell's Walker Chevrolet 080190, F&BI 902192 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
902192 -01	MW-24-021319
902192 -02	MW-25-021319
902192 -03	MW-26-021319
902192 -04	MW-27-021319

The samples were sent to Fremont Analytical for nitrate, nitrite, sulfate, chloride, and TOC analysis. The report is enclosed.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-24-021319 Client: Aspect Consulting, LLC

Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

 Date Extracted:
 02/19/19
 Lab ID:
 902192-01 x5

 Date Analyzed:
 02/19/19
 Data File:
 902192-01 x5.046

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 3,640

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-25-021319 Client: Aspect Consulting, LLC

Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/19/19 Lab ID: 902192-02 x5
Date Analyzed: 02/19/19 Data File: 902192-02 x5.047

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 1,670

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-26-021319 Client: Aspect Consulting, LLC

Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

 Date Extracted:
 02/19/19
 Lab ID:
 902192-03 x5

 Date Analyzed:
 02/19/19
 Data File:
 902192-03 x5.048

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 4,240

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-27-021319 Client: Aspect Consulting, LLC

Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/19/19 Lab ID: 902192-04 x5
Date Analyzed: 02/19/19 Data File: 902192-04 x5.049

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 3,220

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/19/19 Lab ID: I9-108 mb
Date Analyzed: 02/19/19 Data File: I9-108 mb.036
Matrix: Water Instrument: ICPMS2

Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-24-021319	Client:	Aspect Consulting, LLC
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Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/15/19 Lab ID: 902192-01 Data File: Date Analyzed: 02/15/19 021513.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

Surrogatos	9/ Pagayany	Lower Limit:	Upper Limit:
Surrogates: 1,2-Dichloroethane-d4	% Recovery: 101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	66
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	5.4	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	12	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-25-021319	Client: A	spect Consulting, LLC
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Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/15/19 Lab ID: 902192-02 Data File: Date Analyzed: 02/15/19 021514.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

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

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	37
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	3.0	1,3,5-Trimethylbenzene	<1
Chloroform	1.2	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	3.6	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-26-021319	Client:	Aspect Consulting, LLC
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Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/15/19 Lab ID: 902192-03 Data File: Date Analyzed: 02/15/19 021515.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	93	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	106	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	20
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.1	1,3,5-Trimethylbenzene	<1
Chloroform	1.1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.4	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-27-021319	Client:	Aspect Consulting, LLC
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Date Received: 02/14/19 Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/15/19 Lab ID: 902192-04 Data File: Date Analyzed: 02/15/19 021516.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

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

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	9.4
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.6	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlor obenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Morrell's Walker Chevrolet 080190

Date Extracted: 02/15/19 Lab ID: 09-0283 mb 02/15/19 Data File: Date Analyzed: 021511.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

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

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 02/21/19 Date Received: 02/14/19

Project: Morrell's Walker Chevrolet 080190, F&BI 902192

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

Laboratory Code: 902232-01 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	142	76	75	75-125	1

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	106	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 02/21/19 Date Received: 02/14/19

Project: Morrell's Walker Chevrolet 080190, F&BI 902192

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

Laboratory Code: 902192-01 (Matrix Spike)

			Percent			
	Reporting	Spike	Sample	Recovery	Acceptance	
Analyte	Units	Level	Result	MS	Criteria	
Dichlorodifluoromethane	ug/L (ppb)	50	<1	117	10-172	
Chloromethane	ug/L (ppb)	50	<10	109	25-166	
Vinyl chloride	ug/L (ppb)	50	<0.2	113	36-166	
Bromomethane	ug/L (ppb)	50	<1	109	47-169	
Chloroethane Trichlorofluoromethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	108 114	46-160 44-165	
Acetone	ug/L (ppb)	250	<50	90	10-182	
1.1-Dichloroethene	ug/L (ppb)	50	<1	105	60-136	
Hexane	ug/L (ppb)	50	<1	115	52-150	
Methylene chloride	ug/L (ppb)	50	<5	116	67-132	
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	114	74-127	
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	114	72-129	
1,1-Dichloroethane	ug/L (ppb)	50 50	<1	116 115	70-128 36-154	
2,2-Dichloropropane cis-1.2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 5.4	110	30-134 71-127	
Chloroform	ug/L (ppb) ug/L (ppb)	50	<1	99	65-132	
2-Butanone (MEK)	ug/L (ppb)	250	<10	102	10-129	
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	101	69-133	
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	101	60-146	
1,1-Dichloropropene	ug/L (ppb)	50	<1	101	69-133	
Carbon tetrachloride	ug/L (ppb)	50	<1	106	56-152	
Benzene	ug/L (ppb)	50	< 0.35	99	76-125	
Trichloroethene	ug/L (ppb)	50 50	12 <1	96 b 101	66-135 78-125	
1,2-Dichloropropane Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	<1	100	61-150	
Dibromomethane	ug/L (ppb) ug/L (ppb)	50	<1	98	66-141	
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	100	10-185	
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	72-132	
Toluene	ug/L (ppb)	50	<1	97	76-122	
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	95	76-130	
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	97	68-131	
2-Hexanone	ug/L (ppb)	250	<10	102	10-185	
1,3-Dichloropropane Tetrachloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 66	98 109 b	71-128 10-226	
Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50	<1	105 b	70-139	
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	101	69-134	
Chlorobenzene	ug/L (ppb)	50	<1	97	77-122	
Ethylbenzene	ug/L (ppb)	50	<1	99	69-135	
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	73-137	
m,p-Xylene	ug/L (ppb)	100	<2	100	69-135	
o-Xylene Styrene	ug/L (ppb)	50 50	<1 <1	106 109	60-140 71-133	
Isopropylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	109	65-142	
Bromoform	ug/L (ppb)	50	<1	116	65-142	
n-Propylbenzene	ug/L (ppb)	50	<1	110	58-144	
Bromobenzene	ug/L (ppb)	50	<1	110	75-124	
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	106	66-137	
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	114	51-154	
1,2,3-Trichloropropane 2-Chlorotoluene	ug/L (ppb)	50 50	<1 <1	112 107	53-150 66-127	
4-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50	<1	107	65-130	
tert-Butylbenzene	ug/L (ppb)	50	<1	99	65-137	
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	98	59-146	
sec-Butylbenzene	ug/L (ppb)	50	<1	98	64-140	
p-Isopropyltoluene	ug/L (ppb)	50	<1	98	65-141	
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	100	72-123	
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	98	69-126	
1,2-Dichlorobenzene	ug/L (ppb)	50 50	<1 <10	97 106	69-128	
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<10 <1	106	32-164 66-136	
Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50	<1	102	60-130	
Naphthalene	ug/L (ppb)	50	<1	103	44-164	
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	104	69-148	

ENVIRONMENTAL CHEMISTS

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

Laboratory Code: Laboratory Control Sample

Zaboratory Coue. Zaboratory Co	oner or Sample		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
A 1 .	1 0	•			Acceptance	
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	99	110	25-158	11
Chloromethane Vinyl chloride	ug/L (ppb) ug/L (ppb)	50 50	92 94	104 107	45-156 50-154	12 13
Bromomethane	ug/L (ppb)	50	90	107	55-143	12
Chloroethane	ug/L (ppb)	50	93	103	58-146	10
Trichlorofluoromethane	ug/L (ppb)	250	97	107	50-150	10
Acetone	ug/L (ppb)	250	81	89	53-131	9
1,1-Dichloroethene	ug/L (ppb)	50	93	101	67-136	8
Hexane	ug/L (ppb)	50	100	101	57-137	1
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb)	50 50	103 96	104 97	39-148 64-147	1 1
trans-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	96 99	97 98	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	101	100	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	105	103	55-143	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	98	80-123	1
Chloroform	ug/L (ppb)	50	98	95	80-121	3
2-Butanone (MEK)	ug/L (ppb)	250	98	94	57-149	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	100	73-132	3
1,1,1-Trichloroethane	ug/L (ppb)	50 50	97 98	97 97	83-130	0
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb) ug/L (ppb)	50 50	100	100	77-129 75-158	0
Benzene	ug/L (ppb)	50	94	94	69-134	0
Trichloroethene	ug/L (ppb)	50	92	91	80-120	1
1,2-Dichloropropane	ug/L (ppb)	50	96	98	77-123	2
Bromodichloromethane	ug/L (ppb)	50	101	103	81-133	2
Dibromomethane	ug/L (ppb)	50	98	104	82-125	6
4-Methyl-2-pentanone	ug/L (ppb)	250	97	97	65-138	0
cis-1,3-Dichloropropene	ug/L (ppb)	50 50	100	97 88	82-132	3 12
Toluene trans-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	50 50	99 94	88 90	72-122 80-136	12 4
1,1,2-Trichloroethane	ug/L (ppb)	50	95	89	75-124	7
2-Hexanone	ug/L (ppb)	250	91	87	60-136	4
1,3-Dichloropropane	ug/L (ppb)	50	94	89	76-126	5
Tetrachloroethene	ug/L (ppb)	50	100	92	76-121	8
Dibromochloromethane	ug/L (ppb)	50	103	102	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	92	82-125	6
Chlorobenzene Ethylbenzene	ug/L (ppb)	50 50	94 95	96 98	83-114 77-124	2 3
1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	100	101	84-127	3 1
m,p-Xylene	ug/L (ppb)	100	97	98	83-125	1
o-Xylene	ug/L (ppb)	50	94	98	81-121	4
Styrene	ug/L (ppb)	50	97	101	84-119	4
Isopropylbenzene	ug/L (ppb)	50	96	98	85-117	2
Bromoform	ug/L (ppb)	50	109	108	74-136	1
n-Propylbenzene	ug/L (ppb)	50 50	105	105	74-126	0
Bromobenzene 1,3,5-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	104 99	107 96	80-121 78-123	3 3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	112	66-126	8
1,2,3-Trichloropropane	ug/L (ppb)	50	105	108	67-124	3
2-Chlorotoluene	ug/L (ppb)	50	99	98	77-127	1
4-Chlorotoluene	ug/L (ppb)	50	97	96	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	97	94	80-123	3
1,2,4-Trimethylbenzene	ug/L (ppb)	50	97	95	79-122	2
sec-Butylbenzene p-Isopropyltoluene	ug/L (ppb)	50 50	97 97	94 96	80-125 81-123	3 1
1,3-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	97 97	97	85-116	0
1,4-Dichlorobenzene	ug/L (ppb)	50	94	95	84-121	1
1,2-Dichlorobenzene	ug/L (ppb)	50	97	94	85-116	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	104	107	57-141	3
1,2,4-Trichlorobenzene	ug/L (ppb)	50	97	96	72-130	1
Hexachlorobutadiene	ug/L (ppb)	50	102	103	53-141	1
Naphthalene	ug/L (ppb)	50	99	98	64-133	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	99	99	65-136	0

ENVIRONMENTAL CHEMISTS

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.
- dy 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.
- \boldsymbol{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.
- $\mbox{\it pc}$ The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ 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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F: (206) 352-7178
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Friedman & Bruya Michael Erdahl 3012 16th Ave. W.

Seattle, WA 98119

RE: 902192

Work Order Number: 1902155

February 19, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 2/14/2019 for the analyses presented in the following report.

Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Jul c. Redy

Sincerely,

Mike Ridgeway Laboratory Director

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)

Date: 02/19/2019



CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 902192 **Work Order:** 1902155

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1902155-001	MW-24-021314	02/13/2019 10:10 AM	02/14/2019 4:15 PM
1902155-002	MW-25-021314	02/13/2019 11:15 AM	02/14/2019 4:15 PM
1902155-003	MW-26-021314	02/13/2019 12:30 PM	02/14/2019 4:15 PM
1902155-004	MW-27-021314	02/13/2019 1:55 PM	02/14/2019 4:15 PM



Case Narrative

WO#: **1902155**Date: **2/19/2019**

CLIENT: Friedman & Bruya

Project: 902192

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: **1902155**

Date Reported: 2/19/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: **1902155**Date Reported: **2/19/2019**

Client: Friedman & Bruya Collection Date: 2/13/2019 10:10:00 AM

Project: 902192

Lab ID: 1902155-001 **Matrix:** Water

Client Sample ID: MW-24-021314

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EP	A Method 300.0			Bato	h ID: 23	557 Analyst: GM
Chloride	32.9	2.00	D	mg/L	20	2/15/2019 3:26:00 PM
Nitrogen, Nitrite	0.186	0.200	JDH	mg/L	2	2/15/2019 3:49:00 PM
Nitrogen, Nitrate	0.606	0.200	DH	mg/L	2	2/15/2019 3:49:00 PM
Sulfate	12.6	0.600	D	mg/L	2	2/15/2019 3:49:00 PM
NOTES: Diluted due to matrix.						
Total Organic Carbon by SI	M 5310C			Bato	h ID: R4	9498 Analyst: GM
Total Organic Carbon	0.751	0.500		mg/L	1	2/15/2019 3:46:24 PM



Analytical Report

Work Order: **1902155**Date Reported: **2/19/2019**

Client: Friedman & Bruya Collection Date: 2/13/2019 11:15:00 AM

Project: 902192

Lab ID: 1902155-002 **Matrix:** Water

Client Sample ID: MW-25-021314

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Ion Chromatography by EPA Method 300.0					Batch ID: 23557 Analyst: GM		
Chloride	48.5	5.00	D	mg/L	50	2/15/2019 4:12:00 PM	
Nitrogen, Nitrite	0.308	0.200	DH	mg/L	2	2/15/2019 4:35:00 PM	
Nitrogen, Nitrate	0.624	0.200	DH	mg/L	2	2/15/2019 4:35:00 PM	
Sulfate	16.1	0.600	D	mg/L	2	2/15/2019 4:35:00 PM	
NOTES: Diluted due to matrix.							
Total Organic Carbon by SI	M 5310C			Bato	h ID: R4	9498 Analyst: GM	
Total Organic Carbon	0.862	0.500		mg/L	1	2/15/2019 4:06:10 PM	



Analytical Report

Work Order: **1902155**Date Reported: **2/19/2019**

Client: Friedman & Bruya Collection Date: 2/13/2019 12:30:00 PM

Project: 902192

Lab ID: 1902155-003 **Matrix:** Water

Client Sample ID: MW-26-021314

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Ion Chromatography by EPA Method 300.0					Batch ID: 23557 Analyst: GM		
Chloride	46.9	5.00	D	mg/L	50	2/15/2019 4:58:00 PM	
Nitrogen, Nitrite	0.154	0.200	JDH	mg/L	2	2/15/2019 5:21:00 PM	
Nitrogen, Nitrate	1.78	0.200	DH	mg/L	2	2/15/2019 5:21:00 PM	
Sulfate	14.4	0.600	D	mg/L	2	2/15/2019 5:21:00 PM	
NOTES: Diluted due to matrix.							
Total Organic Carbon by SM 5310C Batch ID: R49498 Ana				9498 Analyst: GM			
Total Organic Carbon	ND	0.500		mg/L	1	2/15/2019 4:25:52 PM	



Analytical Report

Work Order: 1902155

Date Reported: 2/19/2019

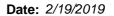
Client: Friedman & Bruya Collection Date: 2/13/2019 1:55:00 PM

Project: 902192

Lab ID: 1902155-004 **Matrix:** Water

Client Sample ID: MW-27-021314

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EP	A Method 300.0			Bato	h ID: 235	557 Analyst: GM
Chloride	298	20.0	D	mg/L	200	2/15/2019 5:44:00 PM
Nitrogen, Nitrite	ND	1.00	DH	mg/L	10	2/15/2019 6:07:00 PM
Nitrogen, Nitrate	2.41	1.00	DH	mg/L	10	2/15/2019 6:07:00 PM
Sulfate	18.9	3.00	D	mg/L	10	2/15/2019 6:07:00 PM
NOTES: Diluted due to matrix.						
Total Organic Carbon by SI	M 5310C			Bato	h ID: R4	9498 Analyst: GM
Total Organic Carbon	0.719	0.500		mg/L	1	2/15/2019 4:45:39 PM





Work Order: 1902155

Nitrogen, Nitrite

13.1

2.00

15.00

QC SUMMARY REPORT

DSH

Friedman & Bruya CLIENT:

Ion Chromatography by EPA Method 300.0

Project: 902192	•						Ion Ch	romatogra	ohy by EP	A Method	300.
Sample ID MB-23557	SampType: MBLK			Units: mg/L		Prep Da	te: 2/15/2 ()19	RunNo: 49	499	
Client ID: MBLKW	Batch ID: 23557					Analysis Da	te: 2/15/2 0)19	SeqNo: 97	0441	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.100									
Nitrogen, Nitrite	ND	0.100									
Nitrogen, Nitrate	ND	0.100									
Sulfate	ND	0.300									
Sample ID LCS-23557	SampType: LCS			Units: mg/L		Prep Da	te: 2/15/2 0)19	RunNo: 49	499	
Client ID: LCSW	Batch ID: 23557					Analysis Da	te: 2/15/2 0	019	SeqNo: 97	0442	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.779	0.100	0.7500	0	104	90	110				
Nitrogen, Nitrite	0.778	0.100	0.7500	0	104	90	110				
Nitrogen, Nitrate	0.783	0.100	0.7500	0	104	90	110				
Sulfate	3.80	0.300	3.750	0	101	90	110				
Sample ID 1902152-001BDUP	SampType: DUP			Units: mg/L		Prep Da	te: 2/15/2 0)19	RunNo: 49	499	
Client ID: BATCH	Batch ID: 23557					Analysis Da	te: 2/15/2 0	019	SeqNo: 97	0444	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	17.3	2.00						17.28	0.231	20	D
Nitrogen, Nitrite	3.76	2.00						3.800	1.06	20	DH
Nitrogen, Nitrate	ND	2.00						0		20	DH
Sulfate	25.9	6.00						25.96	0.231	20	D
Sample ID 1902152-001BMS	SampType: MS			Units: mg/L		Prep Da	te: 2/15/2 0)19	RunNo: 49	499	
Client ID: BATCH	Batch ID: 23557					Analysis Da	te: 2/15/2 0	019	SeqNo: 97	0445	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.1	2.00	15.00	17.28	105	80	120				D

Page 9 of 13 Original

3.800

61.7

80

120

Date: 2/19/2019



Work Order: 1902155

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

902192

Ion Chromatography by EPA Method 300.0

Sample ID 1902152-001BMS	SampType: MS			Units: mg/L		•	te: 2/15/20		RunNo: 494		
Client ID: BATCH	Batch ID: 23557	RL	CDK value	SPK Ref Val	%REC	Analysis Da		119 RPD Ref Val	SeqNo: 970 %RPD	0445 RPDLimit	Ougl
Analyte	Result							KPD Rei Vai	70KPD	RPDLIMIL	Qual
Nitrogen, Nitrate Sulfate	14.9 100	2.00 6.00	15.00 75.00	1.100 25.96	92.1 99.2	80 80	120 120				DH D

NOTES:

Project:

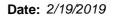
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID 1902152-001BMSD	SampType: MSD			Units: mg/L		Prep Da	te: 2/15/20)19	RunNo: 494	199	
Client ID: BATCH	Batch ID: 23557					Analysis Da	te: 2/15/20)19	SeqNo: 970	0446	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.2	2.00	15.00	17.28	106	80	120	33.08	0.302	20	D
Nitrogen, Nitrite	12.9	2.00	15.00	3.800	60.9	80	120	13.06	0.923	20	DSH
Nitrogen, Nitrate	15.0	2.00	15.00	1.100	92.4	80	120	14.92	0.268	20	DH
Sulfate	101	6.00	75.00	25.96	99.9	80	120	100.4	0.517	20	D

NOTES:

Original Page 10 of 13

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





Work Order: 1902155

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Project: 902192	·						То	tal Orga	nic Carbo	n by SM	5310C
Sample ID MB-49498	SampType: MBLK			Units: mg/L		Prep Date:	2/15/2019		RunNo: 494	198	
Client ID: MBLKW	Batch ID: R49498					Analysis Date:	2/15/2019		SeqNo: 970	0414	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									
Sample ID LCS-49498	SampType: LCS			Units: mg/L		Prep Date:	2/15/2019		RunNo: 494		
Client ID: LCSW	Batch ID: R49498					Analysis Date:	2/15/2019		SeqNo: 970	0415	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	4.84	0.500	5.000	0	96.8	80	120				
Sample ID 1902123-001EDUI	P SampType: DUP			Units: mg/L		Prep Date:	2/15/2019		RunNo: 494	198	
Client ID: BATCH	Batch ID: R49498					Analysis Date:	2/15/2019		SeqNo: 970	0418	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.20	0.500						1.171	2.61	20	
Sample ID 1902123-001EMS	SampType: MS			Units: mg/L		Prep Date:	2/15/2019		RunNo: 494		
Client ID: BATCH	Batch ID: R49498					Analysis Date:	2/15/2019		SeqNo: 970	0419	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.14	0.500	5.000	1.171	99.4	70	130				
Sample ID 1902123-001EMS	D SampType: MSD			Units: mg/L		Prep Date:	2/15/2019		RunNo: 494	198	
Client ID: BATCH	Batch ID: R49498					Analysis Date:	2/15/2019		SeqNo: 970	0420	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.14	0.500	5.000	1.171	99.4	70	130	6.142	0.0163	30	

Page 11 of 13 Original



Sample Log-In Check List

CI	ient Name:	FB				Work Or	der Numb	per: 1902155		
Lo	gged by:	Brianna Ba	rnes			Date Re	ceived:	2/14/2019	4:15:00 PM	
Cha	in of Custo	ody								
1.	Is Chain of C	ustody comp	lete?			Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	ered?			<u>FedE</u>	<u>x</u>			
1 00	In									
Log		10						\Box		
3.	Coolers are p	resent?				Yes	V	No 🗀	NA L	
4.	Shipping conf	tainer/cooler	in good condition	?		Yes	✓	No 🗌		
			shipping contain			Yes		No 🗌	Not Required ✓	
			ustody Seals not							
6.	Was an atten	npt made to	cool the samples	?		Yes	✓	No 🗌	NA \square	
				_	- 4					
7.	Were all item	s received a	t a temperature of	f >0°C to 10	0.0°C *	Yes	✓	No 🗀	na 🗌	
8.	Sample(s) in	proper conta	iner(s)?			Yes	✓	No 🗌		
_			for indicated test	's)?		Yes		No 🗆		
-	Are samples			(0).			✓	No 🗆		
	Was preserva					Yes		No 🗸	NA 🗌	
12.	Is there head	space in the	VOA vials?			Yes		No 🗌	NA 🗸	
13.	Did all sample	es containers	s arrive in good co	ondition(unb	roken)?	Yes	✓	No 🗌		
14.	Does paperw	ork match bo	ottle labels?			Yes	✓	No 🗌		
4.5	A		atitiaal aa Obaia a	£ 0ata di .0		V		No. 🗆		
			ntified on Chain o	T Custody?		Yes	✓	No L		
		-	vere requested?			Yes Yes		No ∟ No ✓		
17.	Were all hold	ing times abi	e to be met?			165		NO 💌		
Spe	cial Handli	ing (if app	licable)							
18.	Was client no	otified of all d	iscrepancies with	this order?		Yes		No 🗌	NA 🗸	
	Person	Notified:		1	Date					
	By Who	m:			Via:	eMa	il 🗌 Ph	one Fax	☐ In Person	
	Regardi									
	Client In	structions:								
19.	Additional rer	marks:								1
_	nformation									
itelli I	inormation	Item #		Temp ⁰C						
	Cooler	ROIII II		2.7						
	Sample			4.4						

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 9025

Send Report To Michae Company Friedm Address 3012 16 City, State, ZIP Seattle. Phone # (206) 285-8282	Michael Erdahl Friedman and Bruya, Inc 3012 16th Ave W Seattle, WA 98119 Seattle, Fax #(206) 2	ya, Inc. (206) 283-5044	SUI PRO	SUBCONTRACTER PROJECT NAME/NO. 902192 REMARKS Please Email	NTRACTER Famel T NAME/NO. 902192 KS Please Email Results		Fament Results	NAL P	PO# 6-136 (6-136)	PO# 3 8	JEST		Page # TURNAROI Standard (2-Wee Rush charges auth SAMPLE I Dispose after 30 Will call with in Will call with in Will call with in Turn Page #_ [URNA] dard (9-1) H H harges a harges aften SAMPL ose aften rn samp call with	TURNAROUND TIME Standard (2-Weeks) //ww/ Rush charges authorized by: Rush charges authorized by: SAMPLE DISPOSAL Dispose after 30 days Return samples Will call with instructions		
Sample ID Lab	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	ЕРН	VPH	N. trate	Nitrite	Sulfite	TOC	Chlorida				Notes
MW-24-021314	2/13/15	010	Water				-	' ×.	×	×	×	: ×				
MW-25-021814	_ `	رادی				_	-	<u> </u>	×	*	~	c ×				
MW-26-021314		1230				_		×	×	· ×	× ×	× >	_			
MW-27-021314	_	1355	-				-	*	7	7	7		-	\perp		
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Friedman & Bruya, Inc.		SIGNATURE			I I	PRINT	NAME			질.	dm CO	COMPANY	NY Y	+	DATE	, [
3012 16th Avenue West	Betinguished by:	gy:		Mic	Michael Erdahl	dahl	5		1	Fri	Friedman & Bruya	1 & BI	uya		1/14/15.	2
Seattle, WA 98119-2029	Received by:	THE STATE OF THE S	\	80	donal	D	Carta		8		7	7		-	MAN	2
Ph. (206) 285-8282	Relinquished by:	by:/											-	-		
Fax (206) 283-5044	Received by:													_		

1618 2:14. TIME

Page 13 of 13

Company 1-15 peet Consulting Address 710 2 nd Arc, 6tc.550 SAMPLE CHAIN OF CUSTODY SAMPLERS (signature) PROJECT NAME

City, State, ZIP Sculle, WA, 981104 Phone (200) 838 -582 Email Alethor Ouspect consulty, com Morrell's / Walker Chevolet ¥ INVOICE TO PO# ☐ Dispose after 30 days Standard Turnaround ☐ Archive Samples Rush charges authorized by: SAMPLE DISPOSAL TURNAROUND TIME

Friedman & Bruya, Inc. 3012 16 th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282				MW-27-02/3/9	mw-26-02/3/9	ME180-25-071319	MW-24-021319	Sample ID
Received by: Received by: Received by: Received by:				04 1	03	02	01 A.F 2/13119	Lab ID
SIGNATURE				4			2/13/19	Date Sampled
		J		1355	1230	IIIS	1010	Time Sampled
				+			W.	Sample Type
PRINT NAME	E.:		,	*			b	# of Jars
J N T N N						Š		TPH-HCID
ME								TPH-Diesel
								TPH-Gasoline
				-	ş.	>		BTEX by 8021B
		-					Χ	VOCs by 8260C
172						_		SVOCs by 8270D
COMPANY	Sai			*			×	PAHS 8270D SIM NITHER BANGOO TOWN FE
ANA ANTA	nple			<u>,</u>			×	10tul F2 57A 6020
d berry	ec lec			_			×	TOL SW9060
DATE 02/14	Samples received at					4		
D42	2 °C				sè	And the second s	÷ .	Notes

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

March 7, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 26, 2019 from the Morell's 080190, F&BI 902383 project. There are 11 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, Breeyn Greer

ASP0307R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 26, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902383 project. Samples were logged in under the laboratory ID's listed below.

Aspect Consulting, LLC
MW-31-022519
MW-30-022519
A-5-7.0
A-5-15.0
A-5-22.5
A-5-32.0
A-5-43.0

Samples MW-31-022519 and MW-30-022519 were sent to Fremont Analytical for nitrate, nitrite, chloride, sulfate, and TOC analyses. The report is enclosed.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-31-022519 Client: Aspect Consulting, LLC
Date Received: 02/26/19 Project: Morell's 080190, F&BI 902383

 Date Extracted:
 03/01/19
 Lab ID:
 902383-01 x10

 Date Analyzed:
 03/04/19
 Data File:
 902383-01 x10.067

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 8,680

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-30-022519 Client: Aspect Consulting, LLC
Date Received: 02/26/19 Project: Morell's 080190, F&BI 902383

 Date Extracted:
 03/01/19
 Lab ID:
 902383-02

 Date Analyzed:
 03/01/19
 Data File:
 902383-02.078

 Matrix:
 Water
 Instrument:
 ICPMS2

Units: water instrument: ICPMS2
Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 4,530

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902383

Date Extracted: 03/01/19 Lab ID: I9-136 mb 03/04/19 Data File: Date Analyzed: I9-136 mb.061 Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-5-22.5	Client:	Aspect Consulting, LLC
Date Received:	02/26/19	Project:	Morell's 080190, F&BI 902383

Date Extracted: 02/28/19 Lab ID: 902383-05 Date Analyzed: Data File: 02/28/19 022819.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	96	50	150

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	1,1,2-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	0.069
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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-5-32.0	Client:	Aspect Consulting, LLC
Date Received:	02/26/19	Project:	Morell's 080190, F&BI 902383

Date Extracted: 02/28/19 Lab ID: 902383-06 Data File: Date Analyzed: 02/28/19 022818.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	105	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 902383

Date Extracted: 02/28/19 Lab ID: 09-0308 mb Data File: Date Analyzed: 02/28/19 022808.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/07/19 Date Received: 02/26/19

Project: Morell's 080190, F&BI 902383

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

Laboratory Code: 902435-01 x10 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	49,200	0 b	0 b	75-125	0 b

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	101	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 03/07/19 Date Received: 02/26/19

Project: Morell's 080190, F&BI 902383

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

Laboratory Code: 902419-09 (Matrix Spike)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	13	14	10-56	7
Chloromethane	mg/kg (ppm)	2.5 2.5	<0.5 <0.05	29 27	31 28	10-90 10-91	7 4
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.5	34	28 37	10-91	8
Chloroethane	mg/kg (ppm)	2.5	<0.5	31	35	10-110	12
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	27	30	10-95	11
Acetone	mg/kg (ppm)	12.5	< 0.5	62	69	11-141	11
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	36	39	22-107	8
Hexane Mahadana ahlarida	mg/kg (ppm)	2.5 2.5	<0.25	29 50	32 54	10-95	10
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	55	54 59	14-128 17-134	8 7
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	43	47	13-112	9
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	48	52	23-115	8
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	45	48	18-117	6
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	52	55	25-120	6
Chloroform	mg/kg (ppm)	2.5 12.5	< 0.05	53 83	57 88	29-117	7 6
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	2.5	<0.5 <0.05	63	67	20-133 22-124	6
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	47	51	27-112	8
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	51	55	26-107	8
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	45	48	28-126	6
Benzene	mg/kg (ppm)	2.5	< 0.03	54	57	26-114	5
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	56	62	30-112	10 6
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	64 62	68 67	31-119 31-131	8
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	60	64	27-124	6
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	79	85	16-147	7
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	72	77	28-137	7
Toluene	mg/kg (ppm)	2.5	1.1	61 b	62 b	34-112	2 b
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	71	76	30-136	7
1,1,2-Trichloroethane 2-Hexanone	mg/kg (ppm)	2.5 12.5	<0.05 <0.5	69 84	73 91	32-126 17-147	6 8
1,3-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	69	72	29-125	4
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	54	60	25-114	11
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	64	68	32-143	6
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	71	74	32-126	4
Chlorobenzene	mg/kg (ppm)	2.5 2.5	< 0.05	61 70 b	66	37-113	8
Ethylbenzene 1.1.1.2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	3.3 <0.05	70 b 60	53 b 65	34-115 35-126	28 b 8
m,p-Xylene	mg/kg (ppm)	5	17	87 b	32 b	25-125	92 b
o-Xylene	mg/kg (ppm)	2.5	4.3	57 b	36 b	27-126	45 b
Styrene	mg/kg (ppm)	2.5	< 0.05	68	72	39-121	6
Isopropylbenzene	mg/kg (ppm)	2.5	0.11	59	62	34-123	5
Bromoform	mg/kg (ppm)	2.5 2.5	<0.05 0.31	70 60	74 64	18-155 31-120	6 6
n-Propylbenzene Bromobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	< 0.05	63	70	40-115	ь 11
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	0.55	61 b	64 b	24-130	5 b
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	71	77	27-148	8
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	66	72	33-123	9
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	68	71	39-110	4
4-Chlorotoluene tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	65 62	70 69	39-111 36-116	7 11
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	2.1	64 b	58 b	35-116	10 b
sec-Butylbenzene	mg/kg (ppm)	2.5	0.080	62	67	33-118	8
p-Isopropyltoluene	mg/kg (ppm)	2.5	0.092	61	65	32-119	6
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	0.036	61	66	38-111	8
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	0.29	62	64	39-109	3
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	1.7 <0.5	66 b 61	54 b 66	40-111 47-127	20 b 8
1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	54	59	47-127 31-121	8 9
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	55	60	24-128	9
Naphthalene	mg/kg (ppm)	2.5	0.14	57	61	24-139	7
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	54	58	35-117	7

ENVIRONMENTAL CHEMISTS

Date of Report: 03/07/19 Date Received: 02/26/19

Project: Morell's 080190, F&BI 902383

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	37	10-76
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	58 62	34-98 42-107
Bromomethane	mg/kg (ppm)	2.5	67	46-113
Chloroethane	mg/kg (ppm)	2.5	65	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	71	53-112
Acetone	mg/kg (ppm)	12.5	90	39-147
1,1-Dichloroethene Hexane	mg/kg (ppm)	2.5 2.5	77 86	65-110 55-107
Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5	81	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	84	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	82	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	88	74-109
2,2-Dichloropropane cis-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	76 87	64-151 73-110
Chloroform	mg/kg (ppm) mg/kg (ppm)	2.5	88	76-110 76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	119	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	103	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	86	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	98	72-112
Carbon tetrachloride Benzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	87 94	67-123 72-106
Trichloroethene	mg/kg (ppm)	2.5	104	72-100
1,2-Dichloropropane	mg/kg (ppm)	2.5	107	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	105	75-126
Dibromomethane	mg/kg (ppm)	2.5	99	76-116
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	113 118	80-128 71-138
Toluene	mg/kg (ppm)	2.5	100	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	118	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	114	77-116
2-Hexanone	mg/kg (ppm)	12.5	122	70-129
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm)	2.5 2.5	114 102	75-115 73-111
Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5	109	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	117	77-117
Chlorobenzene	mg/kg (ppm)	2.5	103	76-109
Ethylbenzene	mg/kg (ppm)	2.5	100	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	99 101	76-125
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	5 2.5	95	77-115 76-115
Styrene	mg/kg (ppm)	2.5	107	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	97	76-120
Bromoform	mg/kg (ppm)	2.5	115	50-174
n-Propylbenzene Bromobenzene	mg/kg (ppm)	2.5 2.5	102 110	77-115 76-112
1,3,5-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	100	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	110	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	103	75-113
4-Chlorotoluene tert-Butylbenzene	mg/kg (ppm)	2.5 2.5	107 107	77-115 77-123
1,2,4-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	102	77-123
sec-Butylbenzene	mg/kg (ppm)	2.5	105	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	104	76-112
1,4-Dichlorobenzene 1,2-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101 99	74-109 75-114
1,2-Dichioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	99 96	75-114 68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	90	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	89	74-130
Naphthalene	mg/kg (ppm)	2.5	93	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	88	75-117

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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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Friedman & Bruya Michael Erdahl 3012 16th Ave. W.

Seattle, WA 98119

RE: 902383

Work Order Number: 1902335

March 06, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 2 sample(s) on 2/27/2019 for the analyses presented in the following report.

Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Jul c. Redy

Sincerely,

Mike Ridgeway Laboratory Director

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)



Date: 03/06/2019

CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 902383 **Work Order:** 1902335

 Lab Sample ID
 Client Sample ID
 Date/Time Collected
 Date/Time Received

 1902335-001
 MW-31-022519
 02/25/2019 7:30 PM
 02/27/2019 9:59 AM

 1902335-002
 MW-30-022519
 02/25/2019 11:00 PM
 02/27/2019 9:59 AM



Case Narrative

WO#: **1902335**Date: **3/6/2019**

CLIENT: Friedman & Bruya

Project: 902383

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: 1902335

Date Reported: 3/6/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: 1902335

Date Reported: 3/6/2019

Client: Friedman & Bruya Collection Date: 2/25/2019 7:30:00 PM

Project: 902383

Lab ID: 1902335-001 **Matrix:** Water

Client Sample ID: MW-31-022519

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
lon Chromatography by EP	A Method 300.0			Bato	h ID: 23	656 Analyst: GM
Chloride	23.7	1.00	D	mg/L	10	3/4/2019 5:23:00 PM
Nitrite (as N)	0.166	0.200	JD	mg/L	2	2/27/2019 1:48:00 PM
Nitrate (as N)	1.09	0.200	D	mg/L	2	2/27/2019 1:48:00 PM
Sulfate	13.3	0.600	D	mg/L	2	2/27/2019 1:48:00 PM
NOTES: Diluted due to matrix.						
Total Organic Carbon by SI	<u>M 5310C</u>			Bato	h ID: R4	9834 Analyst: GM
Total Organic Carbon	0.723	0.500		mg/L	1	3/5/2019 6:47:00 PM

Original



Analytical Report

Work Order: **1902335**Date Reported: **3/6/2019**

Client: Friedman & Bruya Collection Date: 2/25/2019 11:00:00 PM

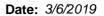
Project: 902383

Lab ID: 1902335-002 **Matrix:** Water

Client Sample ID: MW-30-022519

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EP	A Method 300.0			Bato	h ID: 23	656 Analyst: GM
Chloride	10.1	1.00	D	mg/L	10	3/4/2019 5:46:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	2/27/2019 2:11:00 PM
Nitrate (as N)	1.17	0.200	D	mg/L	2	2/27/2019 2:11:00 PM
Sulfate	24.2	0.600	D	mg/L	2	2/27/2019 2:11:00 PM
NOTES: Diluted due to matrix.						
Total Organic Carbon by SI	W 5310C			Bato	h ID: R4	9834 Analyst: GM
Total Organic Carbon	1.24	0.500		mg/L	1	3/5/2019 8:06:00 PM

Original





Work Order: 1902335

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project:	902383							Ion Ch	romatogra	ohy by EP	A Method	300.
Sample ID ME	3-23656	SampType: MBL	K		Units: mg/L		Prep Date	e: 2/27/2 0	019	RunNo: 49	735	
Client ID: ME	BLKW	Batch ID: 2365	i6				Analysis Date	e: 2/27/2 0	019	SeqNo: 974	1986	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		ND	0.100									
Nitrite (as N)		ND	0.100									
Nitrate (as N)		ND	0.100									
Sulfate		ND	0.300									
Sample ID LC	S-23656	SampType: LCS			Units: mg/L		Prep Date	e: 2/27/2 0	019	RunNo: 49	735	
Client ID: LC	sw	Batch ID: 2365	66				Analysis Date	e: 2/27/2 0	019	SeqNo: 974	1987	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		0.742	0.100	0.7500	0	98.9	90	110				
Nitrite (as N)		0.732	0.100	0.7500	0	97.6	90	110				
Nitrate (as N)		0.747	0.100	0.7500	0	99.6	90	110				
Sulfate		3.66	0.300	3.750	0	97.5	90	110				
Sample ID 19	02336-001ADUP	SampType: DUP			Units: mg/L		Prep Date	e: 2/27/2 0	D19	RunNo: 49	735	
Client ID: BA	тсн	Batch ID: 2365	66				Analysis Date	e: 2/27/2 0	019	SeqNo: 974	1994	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		3.15	0.100						3.112	1.09	20	Е
Nitrite (as N)		ND	0.100						0		20	Н
Nitrate (as N)		ND	0.100						0		20	Н
Sulfate		9.41	0.300						9.360	0.533	20	
NOTES: E - Estimate	d value. The amour	nt exceeds the linear v	vorking range of	the instrumen	t.							
Sample ID 19	02336-001AMS	SampType: MS			Units: mg/L		Prep Date	e: 2/27/2 0	D19	RunNo: 49	735	
Client ID: BA	тсн	Batch ID: 2365	i6				Analysis Date	e: 2/27/2 0	019	SeqNo: 974	1995	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		4.03	0.100	0.7500	3.112	122	80	120				ES

Original Page 7 of 12

Date: 3/6/2019



Work Order: 1902335

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

902383

Ion Chromatography by EPA Method 300.0

Sample ID 1902336-001AMS	SampType: MS			Units: mg/L		Prep Da	te: 2/27/2 0)19	RunNo: 497	735	
Client ID: BATCH	Batch ID: 23656					Analysis Da	te: 2/27/2 0)19	SeqNo: 974	1995	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.682	0.100	0.7500	0	90.9	80	120				Н
Nitrate (as N)	0.762	0.100	0.7500	0.05200	94.7	80	120				Н
Sulfate	13.4	0.300	3.750	9.360	108	80	120				

NOTES:

Project:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID 1902336-001AMSD	SampType: MSD			Units: mg/L		Prep Da	te: 2/27/2 0)19	RunNo: 497	735	
Client ID: BATCH	Batch ID: 23656					Analysis Da	te: 2/27/2 0)19	SeqNo: 974	4998	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.01	0.100	0.7500	3.112	120	80	120	4.029	0.498	20	E
Nitrite (as N)	0.534	0.100	0.7500	0	71.2	80	120	0.6820	24.3	20	RSH
Nitrate (as N)	0.753	0.100	0.7500	0.05200	93.5	80	120	0.7620	1.19	20	Н
Sulfate	13.4	0.300	3.750	9.360	108	80	120	13.42	0.0298	20	

NOTES:

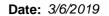
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range (Nitrite).

E - Estimated value. The amount exceeds the linear working range of the instrument.

Original Page 8 of 12

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range (Chloride).

R - High RPD observed. The method is in control as indicated by the LCS.





Work Order: 1902335

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Total Organic Carbon by SM 5310C

Project:	902383								Total Orga	nic Carbo	on by SM	5310C
Sample ID	MB-49834	SampType: MBLK			Units: mg/L		Prep Date:	3/5/201	9	RunNo: 49	834	
Client ID:	MBLKW	Batch ID: R49834					Analysis Date	3/5/201	9	SeqNo: 97	7061	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organ	nic Carbon	ND	0.500									
Sample ID	LCS-49834	SampType: LCS			Units: mg/L		Prep Date:	3/5/201	9	RunNo: 49	834	
Client ID:	LCSW	Batch ID: R49834					Analysis Date	3/5/201	9	SeqNo: 97	7062	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organ	nic Carbon	5.08	0.500	5.000	0	102	80	120				
Sample ID	1902335-001BDUP	SampType: DUP			Units: mg/L		Prep Date:	3/5/201	9	RunNo: 49	834	
Client ID:	MW-31-022519	Batch ID: R49834					Analysis Date	3/5/201	9	SeqNo: 97	7064	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organ	nic Carbon	0.733	0.500						0.7230	1.37	20	
Sample ID	1902335-001BMS	SampType: MS			Units: mg/L		Prep Date:	3/5/201	9	RunNo: 49	834	
Client ID:	MW-31-022519	Batch ID: R49834					Analysis Date	3/5/201	9	SeqNo: 97	7065	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organ	nic Carbon	5.96	0.500	5.000	0.7230	105	70	130				
Sample ID	1902335-001BMSD	SampType: MSD			Units: mg/L		Prep Date:	3/5/201	9	RunNo: 49	834	
Client ID:	MW-31-022519	Batch ID: R49834					Analysis Date	3/5/201	9	SeqNo: 97	7066	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organ	nic Carbon	5.77	0.500	5.000	0.7230	101	70	130	5.957	3.24	30	

Original Page 9 of 12

Date: 3/6/2019



Work Order: 1902335

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

902383

Total Organic Carbon by SM 5310C

Sample ID 1903018-001ADUP SampType: DUP Units: mg/L Prep Date: 3/5/2019 RunNo: 49834

Client ID: BATCH Batch ID: R49834 Analysis Date: 3/5/2019 SeqNo: 977076

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

 Total Organic Carbon
 4.79
 0.500
 5.022
 4.77
 20

Sample ID 1903018-001AMS Prep Date: 3/5/2019 SampType: MS Units: mg/L RunNo: 49834 Client ID: BATCH Batch ID: R49834 Analysis Date: 3/5/2019 SeqNo: 977077 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 9.63 0.500 5.000 5.022 92.1 70 130

Original Page 10 of 12



Sample Log-In Check List

С	lient Name:	FB		Work O	rder Numl	ber: 1902335	
Lo	ogged by:	Brianna Barnes		Date Re	ceived:	2/27/2019	9:59:00 AM
Cha	nin of Cust	<u>ody</u>					
		ustody complete?		Yes	✓	No 🗌	Not Present
2.	How was the	sample delivered?		<u>FedE</u>	<u>x</u>		
1.00	ı İn						
Log		araa ant?		Voo		No 🗹	NA 🗆
3.	Coolers are p	oresent?	Sample re	Yes	nnronria		
4	Shipping con	tainer/cooler in good condition?	•	Yes		te temperature No	<u>z.</u>
5.	Custody Sea	ls present on shipping containe nments for Custody Seals not in	er/cooler?	Yes		No 🗹	Not Required
6.	Was an atter	npt made to cool the samples?		Yes	✓	No 🗌	NA \square
7.	Were all item	s received at a temperature of	>0°C to 10.0°C*	Yes	✓	No 🗆	NA 🗌
8.	Sample(s) in	proper container(s)?		Yes	✓	No 🗌	
9.	Sufficient sar	mple volume for indicated test(s	s)?	Yes	✓	No 🗌	
10.	Are samples	properly preserved?		Yes	✓	No 🗌	
11.	Was preserv	ative added to bottles?		Yes		No 🗸	NA \square
12	Is there head	space in the VOA vials?		Yes		No 🗌	NA 🗹
		es containers arrive in good co	ndition(unbroken)?	Yes	✓	No 🗌	
14.	Does paperw	ork match bottle labels?		Yes	✓	No 🗌	
15	Are matrices	correctly identified on Chain of	Custody?	Yes	✓	No 🗌	
		at analyses were requested?	Cucicay.	Yes	<u>✓</u>	No 🗌	
_		ling times able to be met?			✓	No 🗌	
		ing (if applicable)					_
18.	Was client no	otified of all discrepancies with	this order?	Yes		No 🗆	NA 🔽
	Person	Notified:	Dar	te 📗			
	By Who	m:	Via	і: 🗌 еМа	il 🗌 Ph	one 🗌 Fax [In Person
	Regardi	ng:					
	Client Ir	nstructions:					
19.	Additional rei	marks:					
ltem	<u>Information</u>						
		Item #	Temp °C				
	Sample		3.1				

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

					-									Received by:		Fax (206) 283-5044
			-		_								y :	Relinquished by:		Ph. (206) 285-8282
5	2		I	7		2	XO&)	7	2	7		MOONE	Received by:	029	Seattle, WA 98119-2029
16/14 1504	7	Friedman & Bruya	ıan &	riedn	H				rdahl	Michael Erdahl	Mich	6	70	Relinquished-by:	est	3012 16th Avenue West
DATE TI		ANY	COMPANY				ME	PRINT NAME	PRIN				SIGNATURE		Inc.	Friedman & Bruya, Inc.
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		3.7%							-							, v
	h At y Y south															
et 1									-							
	2 BI		ん	x	×	x	×				2	+	2300	+		MW-30-0225 19
		×		×	×	<u>/</u> ×	×				2	HZO	1930	2/25/14		MW-31-0225/9
Notes		TOC		Sulta.	Chlorde.	Nitote.	Nitrale	VPH	EPH	Dioxins/Furans	# of jars	Matrix	Time Sampled	Date Sampled	Lab ID	Sample ID
×			STE	TUPE	ANALYSES REQUESTED	SYTY	ANA			H						
☐ Return samples ☐ Will call with instructions	eturn san ill call wi	O R					lts	Please Email Results	Emai	lease	۳		(206) 283-5044	Fax #(2	-8282	Phone # <u>(206) 285-8282</u>
SAMPLE DISPOSAL Dispose after 30 days	SAMP ispose afte	□ D ;								S	REMARKS	RE		Seattle, WA 98119	eattle,	City, State, ZIP_S
Rush charges authorized by:	h charges	Rus		7	8-152			N	59820p	qu		I		3012 16th Ave W	012 16	
Weeks)	□ Standard (2 Weeks) □ RUSH			#	P0#			٦	Œ/N([NAN	PROJECT NAME/NO.	PR	a, Inc.	Friedman and Bruya,	riedm	
Page # _ t _ of TURNAROUND TIME	Page #1					•	Frank	77	TER	TRAC	SUBCONTRACTER	su		Michael Erdahl	Michae	Send Report To 1

Page 12 of 12

902383

Report To Dave Heffner 1 bruga Grus

Address 710 2nd 3.5 Ste SSO

Company

Front

Consulting

City, State, ZIP Scattu WA 48194

SAMPLE CHAIN OF CUSTODY ME 02-26-19

Phone 206838 5831 Email dhe fra Paspect on sulfing com SAMPLERS REMARKS PROJECT N Mor

S (signature)		Page # 1 of / AT 4 TURNAROUND TIME
NAME ,	PO#	XStandard Turnaround
. U's	080190	Rush charges authorized by:
	INVOICE TO	SAMPLE DISPOSAL
	AF	# Dispose after 30 days Archive Samples Other
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11. (200) 200-0202	Dh (906) 985 8989	7-111-1111-1111	3012 16th Avenue West	Friedman & Bruya, Inc.) - · · · · · · · · · · · · · · · · · ·	engelejel de Aljein im IAA venera noore van den daaren 21 - Alpenda kun mannen moon esperjaktelekse seos moone				A-5-43-0	A-5-32.0	A-5-22.5	A-5-15.0	A-5-7.0	mw-30-022519	MW-31-022519	Sample ID
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A secretary	Remind by:	The state of	Received by:	Relinquished by: Daund Had	SIC				-	67/	20	25	09	63A-0	02	6/AC	Lab ID
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	Liz Webber-Bruga	M NOW	1	David Heffner						5	\sim	И	У	৸	3	٤	Sample Type
	West	1.4	*	Het	PRINT NAME					٠ تــ	ح	_c	1	7	W	W	# of Jars
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		3	,	7	AME	ļ	_										TPH-Diesel
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Idu	33	2	,	20	AMC		_								X	×	nitrate nitrite
esr		7		Aspect Consulting	COMPANY										X	×	nitrate/nitrite Cl'/sulfate 556,0 Total Fe EPA 6020
Samples received at			-	Š	. 7		-								×	Х	TOE 8M 5310
ed ;	2	7		0			-	_									
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ငိ	1358	97.71		9:45	BMIL				·								Notes

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

March 8, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 26, 2019 from the Morell's 080190, F&BI 902384 project. There are 8 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, Breeyn Greer

ASP0308R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 26, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902384 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
902384 -01	MW-31-022519
902384 -02	MW-30-022519

The 8260C calibration standard for 2-butanone and 2-hexanone did not pass the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-31-022519	Client:	Aspect Consulting, LLC
Date Received:	02/26/19	Project:	Morell's 080190, F&BI 902384

Date Extracted: 02/28/19 Lab ID: 902384-01 Data File: Date Analyzed: 02/28/19 022814.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	160 ve
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	28	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10 ca	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	45	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-31-022519	Client:	Aspect Consulting, LLC
Date Received:	02/26/19	Project:	Morell's 080190, F&BI 902384

Date Extracted: 03/05/19 Lab ID: 902384-01 1/10 Data File: Date Analyzed: 03/05/19 030532.D Matrix: Water Instrument: GCMS4 ug/L (ppb) Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	96	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	150
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	< 500	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	< 50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	<10
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	28	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	< 3.5	sec-Butylbenzene	<10
Trichloroethene	45	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-30-022519	Client:	Aspect Consulting, LLC
Date Received:	02/26/19	Project:	Morell's 080190, F&BI 902384

Date Extracted: 02/28/19 Lab ID: 902384-02 Data File: Date Analyzed: 02/28/19 022815.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	97	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	27
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	6.3	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10 ca	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	6.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 902384

Date Extracted: 02/28/19 Lab ID: 09-0307 mb Data File: Date Analyzed: 02/28/19 022807.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/19 Date Received: 02/26/19

Project: Morell's 080190, F&BI 902384

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

Laboratory Code: 902387-02 (Matrix Spike)

· ·	-			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	90	55-137
Chloromethane Vinyl chloride	ug/L (ppb) ug/L (ppb)	50 50	<10 <0.2	79 80	61-120 61-139
Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<1	77	20-265
Chloroethane	ug/L (ppb)	50	<1	75	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	83	71-128
Acetone	ug/L (ppb)	250	< 50	96	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	82	71-123
Hexane	ug/L (ppb)	50	<1	107	44-139
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	<5 <1	84 86	61-126 68-125
trans-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50	<1	83	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	85	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	85	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	86	63-126
Chloroform	ug/L (ppb)	50	<1	86	77-117
2-Butanone (MEK)	ug/L (ppb)	250	<10	123	70-135
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	ug/L (ppb)	50 50	<1	97 87	70-119 75-121
1,1-1richloropenane 1,1-Dichloropropene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	87 96	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	89	70-132
Benzene	ug/L (ppb)	50	< 0.35	91	75-114
Trichloroethene	ug/L (ppb)	50	<1	95	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	103	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	101	78-117
Dibromomethane	ug/L (ppb)	50	<1	93	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250 50	<10	122 111	79-140 76-120
cis-1,3-Dichloropropene Toluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	92	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	110	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	103	81-116
2-Hexanone	ug/L (ppb)	250	<10	127	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	104	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	93	72-113
Dibromochloromethane 1.2-Dibromoethane (EDB)	ug/L (ppb)	50 50	<1 <1	105 107	69-129 79-120
Chlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	95	75-120 75-115
Ethylbenzene	ug/L (ppb)	50	<1	92	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	96	76-130
m,p-Xylene	ug/L (ppb)	100	<2	94	63-128
o-Xylene	ug/L (ppb)	50	<1	88	64-129
Styrene	ug/L (ppb)	50	<1	99	56-142
Isopropylbenzene	ug/L (ppb)	50	<1	91	74-122
Bromoform n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	105 94	49-138 65-129
Bromobenzene	ug/L (ppb)	50	<1	99	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	100	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	94	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	99	76-122
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	99 95	74-125 59-136
sec-Butylbenzene	ug/L (ppb)	50	<1	97	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	92	70-120
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	94	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50 50	<1	85 86	66-123
Hexachlorobutadiene Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	86 91	53-136 60-145
1,2,3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	85	59-130
I,w,o IIIomorobelleelle	ag, E (PPD)	00	~1	00	00 100

ENVIRONMENTAL CHEMISTS

Date of Report: 03/08/19 Date Received: 02/26/19

Project: Morell's 080190, F&BI 902384

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

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	79	80	50-157	1
Chloromethane	ug/L (ppb)	50	77	79	62-130	3
Vinyl chloride	ug/L (ppb)	50	78	82	70-128	5
Bromomethane	ug/L (ppb)	50	76	78	62-188	3
Chloroethane Trichlorofluoromethane	ug/L (ppb) ug/L (ppb)	50 50	75 81	77 84	66-149 70-132	3 4
Acetone	ug/L (ppb) ug/L (ppb)	250	91	91	44-145	0
1,1-Dichloroethene	ug/L (ppb)	50	82	85	75-119	4
Hexane	ug/L (ppb)	50	92	95	51-153	3
Methylene chloride	ug/L (ppb)	50	84	87	63-132	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	86	88	70-122	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	83	86	76-118	4
1,1-Dichloroethane	ug/L (ppb)	50 50	87	89 81	77-119	2 5
2,2-Dichloropropane cis-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	77 87	81 89	62-141 76-119	5 2
Chloroform	ug/L (ppb) ug/L (ppb)	50 50	88	91	78-117	3
2-Butanone (MEK)	ug/L (ppb)	250	120	119	49-147	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	104	78-114	3
1,1,1-Trichloroethane	ug/L (ppb)	50	89	91	80-116	2
1,1-Dichloropropene	ug/L (ppb)	50	99	100	78-119	1
Carbon tetrachloride	ug/L (ppb)	50	88	92	72-128	4
Benzene	ug/L (ppb)	50	93	95	75-116	2
Trichloroethene 1,2-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	98 108	100 109	72-119 79-121	2 1
Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	108	108	79-121 76-120	2
Dibromomethane	ug/L (ppb)	50	99	100	79-121	1
4-Methyl-2-pentanone	ug/L (ppb)	250	117	117	54-153	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	116	118	76-128	2
Toluene	ug/L (ppb)	50	96	98	79-115	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	116	119	76-128	3
1,1,2-Trichloroethane	ug/L (ppb)	50	113	113	78-120	0
2-Hexanone 1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	250 50	123 112	124 112	49-147 81-115	1
Tetrachloroethene	ug/L (ppb) ug/L (ppb)	50 50	99	100	78-109	1
Dibromochloromethane	ug/L (ppb)	50	113	114	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	116	118	82-118	2
Chlorobenzene	ug/L (ppb)	50	101	102	80-113	1
Ethylbenzene	ug/L (ppb)	50	97	99	83-111	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	98	101	76-125	3
m,p-Xylene o-Xylene	ug/L (ppb) ug/L (ppb)	100 50	98 93	100 94	84-112 81-117	2 1
Styrene	ug/L (ppb) ug/L (ppb)	50 50	104	107	83-121	3
Isopropylbenzene	ug/L (ppb)	50	95	97	81-122	2
Bromoform	ug/L (ppb)	50	113	116	40-161	3
n-Propylbenzene	ug/L (ppb)	50	99	102	81-115	3
Bromobenzene	ug/L (ppb)	50	105	111	80-113	6
1,3,5-Trimethylbenzene	ug/L (ppb)	50	98	102	83-117	4
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ug/L (ppb) ug/L (ppb)	50 50	112 107	115 111	79-118 74-116	3 4
2-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	99	103	79-112	4
4-Chlorotoluene	ug/L (ppb)	50	104	107	80-116	3
tert-Butylbenzene	ug/L (ppb)	50	104	107	81-119	3
1,2,4-Trimethylbenzene	ug/L (ppb)	50	99	103	81-121	4
sec-Butylbenzene	ug/L (ppb)	50	101	105	83-123	4
p-Isopropyltoluene	ug/L (ppb)	50	100	104	81-122	4
1,3-Dichlorobenzene	ug/L (ppb)	50 50	101	104	80-115	3
1,4-Dichlorobenzene 1,2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	98 97	102 100	77-112 79-115	4 3
1,2-Dictrior oberizene 1,2-Dibromo-3-chloropropane	ug/L (ppb) ug/L (ppb)	50 50	99	103	62-133	3 4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	87	91	75-119	4
Hexachlorobutadiene	ug/L (ppb)	50	85	89	70-116	5
Naphthalene	ug/L (ppb)	50	95	98	72-131	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	87	91	74-122	4

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Report To_ Dam Hoffner Bruge Greet

Company_ Aspect Consulting

Address 710 2nd Arc Stesso

Phone 2006385831 Email dhefther Caspection Suction com

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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

March 6, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 27, 2019 from the Morell's 080190, F&BI 902407 project. There are 8 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 ASP0306R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 27, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902407 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
902407 -01	A-8-8.0
902407 -02	A-8-14.0
902407 -03	A-8-34.0
902407 -04	A-8-47.0
902407 -05	A-8-56.0

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: A-8-14.0 Client: Aspect Consulting, LLC
Date Received: 02/27/19 Project: Morell's 080190, F&BI 902407

Date Extracted: 02/28/19 Lab ID: 902407-02 Data File: Date Analyzed: 02/28/19 022831.D Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.089
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	1,1,2-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	0.084
trans-1,2-Dichloroethene	< 0.05	Bromoform	< 0.05
1,1-Dichloroethane	< 0.05	n-Propylbenzene	0.27
2,2-Dichloropropane	< 0.05	Bromobenzene	< 0.05
cis-1,2-Dichloroethene	0.34	1,3,5-Trimethylbenzene	1.0
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	0.91
Benzene	< 0.03	sec-Butylbenzene	0.35
Trichloroethene	< 0.02	p-Isopropyltoluene	0.57
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	0.10
1,1,2-Trichloroethane	< 0.05	1,2,3-Trichlorobenzene	< 0.25
2-Hexanone	< 0.5		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-8-34.0	Client:	Aspect Consulting, LLC
Date Received:	02/27/19	Project:	Morell's 080190, F&BI 902407

Date Extracted: 02/28/19 Lab ID: 902407-03 Date Analyzed: Data File: 02/28/19 022832.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	112	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	7.3
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	1,1,2-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	0.12
trans-1,2-Dichloroethene	< 0.05	Bromoform	< 0.05
1,1-Dichloroethane	< 0.05	n-Propylbenzene	0.40
2,2-Dichloropropane	< 0.05	Bromobenzene	< 0.05
cis-1,2-Dichloroethene	< 0.05	1,3,5-Trimethylbenzene	0.76
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	0.88
Benzene	< 0.03	sec-Butylbenzene	1.2
Trichloroethene	0.15	p-Isopropyltoluene	0.55
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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-8-47.0	Client:	Aspect Consulting, LLC
Date Received:	02/27/19	Project:	Morell's 080190, F&BI 902407

Date Extracted: 02/28/19 Lab ID: 902407-04 Date Analyzed: Data File: 02/28/19 022817.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.047
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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902407

Date Extracted: 02/28/19 Lab ID: 09-0308 mb 02/28/19 Data File: Date Analyzed: 022808.D Matrix: Instrument: GCMS9 Soil Units: mg/kg (ppm) Dry Weight Operator: MS

G .	0/ P	Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/06/19 Date Received: 02/27/19

Project: Morell's 080190, F&BI 902407

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

Laboratory Code: 902419-09 (Matrix Spike)

Reporting	· ·	-		Sample	Percent	Percent		
Analyte Units Leve Wet with MS MSD Criteria (Limit 20)		Reporting	Spike		Recovery	Recovery	Acceptance	RPD
Chloromethene mpkg (ppm) 2.5	Analyte						•	(Limit 20)
Vary Ichorlode mögke (ppm) 2.5 c.0.65 27 28 10.91 4 Extramementane mögke (ppm) 2.5 c.0.5 34 37 10.10 18 Chloredtane mögke (ppm) 2.5 c.0.5 34 37 10.10 11 8 Chloredtane mögke (ppm) 2.5 c.0.5 34 37 10.10 11 12 11 11 11 11 11 11 11 11 11 11 11								
Bromomethane								
Chlorechane								
Trichloroducomethane mg/kg (ppm) 2.5 -0.5 27 30 10-95 11								
1.1-Dichloroethene		mg/kg (ppm)						
Hexane								
Methylen chloride								
Methyl-butyl ether (MTBE)		mg/kg (ppiii)						
trans-12-Dichlorocthane mg/kg (ppm)								
2-2-Dichloropropane		mg/kg (ppm)						
cis-12-Dichlorosethene mg/kg (ppm) 2.5 -0.05 52 55 25-120 6								
Chloroform (MEK) (mg/kg (ppm) (ppm								
2-Butanone (MEK) mg/kg (ppm) 12.5		mg/kg (ppm)						
1.2-Dichloroethane (EDC)								
1,1,1-Trichlororethane								
Carbon tetrachioride								
Benzene								
Trichloroethene mg/kg (ppm) 2.5 <0.02 56 62 30-112 10 L2-Dichloropropane mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
1.2-Dichloropropane								
Bromodichloromethane								
4-Methyl-2-pentanone mg/kg (ppm) 12.5 <0.5 79 85 16-147 7 cis-13-Dichloropropene mg/kg (ppm) 2.5 <0.05 72 77 28-137 7 Toluene mg/kg (ppm) 2.5 <0.05 71 76 30-136 7 1.1.2 Trichloroethane mg/kg (ppm) 2.5 <0.05 69 73 32-126 6 2.1-Evanone mg/kg (ppm) 2.5 <0.05 69 73 32-126 6 2.1-Evanone mg/kg (ppm) 2.5 <0.05 69 72 29-125 4 1.3-Dichloropropane mg/kg (ppm) 2.5 <0.05 69 72 29-125 4 1.1-2-Dibromochloromethane (EDB) mg/kg (ppm) 2.5 <0.05 64 68 32-143 6 1.2-Dibromochloromethane (EDB) mg/kg (ppm) 2.5 <0.05 61 66 37-113 8 Ethylberzene mg/kg (ppm) 2.5 <0.05 61	Bromodichloromethane							
cis-13-Dichloropropene mg/kg (ppm) 2.5 <0.05 72 77 28-137 7 Toluene mg/kg (ppm) 2.5 1.1 61 b 62 b 34-112 2 b trans-1,3-Dichloropropene mg/kg (ppm) 2.5 <0.05								
Toluene		mg/kg (ppm)						
trans-13-Dichloropropene mg/kg (ppm) 2.5 <0.05 71 76 30-136 7 1.12-Trichlorochane mg/kg (ppm) 2.5 <0.05								
1,12-Trichloroethane								
1.3 Dichloropropane mg/kg (ppm) 2.5 <0.05 69 72 29-125 4 Tetrachloroethene mg/kg (ppm) 2.5 <0.025		mg/kg (ppm)	2.5			73		6
Tetrachloroethene mg/kg (ppm) 2.5 <0.025 54 60 25-114 11 Dibromochloromethane mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
Dibromochlaromethane mg/kg (ppm) 2.5 < 0.05 64 68 32.143 6 1.2. Dibromochlane (EDB) mg/kg (ppm) 2.5 < 0.05 71 74 32.126 4 32.12		mg/kg (ppm)						
1.2-Dibromeethane (EDB) mg/kg (ppm) 2.5 < 0.05								
Chlorobenzene mg/kg (ppm) 2.5 <0.05 61 66 37-113 8 Ethylbenzene mg/kg (ppm) 2.5 <0.05								
Ethylenzene mg/kg (ppm) 2.5 3.3 70 b 53 b 34-115 28 b 1,1,1,2-Tertachloroethane mg/kg (ppm) 2.5 <0.05								
mp-Xylene mg/kg (ppm) 5 17 87 b 32 b 25-125 92 b o-Xylene mg/kg (ppm) 2.5 4.3 57 b 36 b 27-126 45 b Styrene mg/kg (ppm) 2.5 -0.05 68 72 39-121 6 Isopropylbenzene mg/kg (ppm) 2.5 -0.05 70 74 18-155 6 n-Propylbenzene mg/kg (ppm) 2.5 -0.05 70 74 18-155 6 n-Propylbenzene mg/kg (ppm) 2.5 -0.05 63 70 40-115 11 scombenzene mg/kg (ppm) 2.5 -0.05 63 70 40-115 11 1,3.5-Trinethylbenzene mg/kg (ppm) 2.5 -0.05 63 70 40-115 11 1,2.2-Tetrachloroethane mg/kg (ppm) 2.5 -0.05 63 70 40-115 11 1,2.2-Tetrachloroethane mg/kg (ppm) 2.5 -0.05 66 72		mg/kg (ppm)						28 b
o-Xylene mg/kg (ppm) 2.5 4.3 57 b 36 b 27-126 45 b Styrene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
Styrene mg/kg (ppm) 2.5 <0.05 68 72 39-121 6 Isopropylbenzene mg/kg (ppm) 2.5 0.11 59 62 34-123 5 Bromoform mg/kg (ppm) 2.5 -0.05 70 74 18-155 6 n-Propylbenzene mg/kg (ppm) 2.5 0.31 60 64 31-120 6 Bromobenzene mg/kg (ppm) 2.5 -0.05 63 70 40-115 11 1,3.5-Trimethylbenzene mg/kg (ppm) 2.5 -0.05 61 64 b 24-130 5 b 1,1,2.2-Tetrachloroethane mg/kg (ppm) 2.5 -0.05 61 64 b 24-130 5 b 1,2.3-Trichloropropane mg/kg (ppm) 2.5 -0.05 66 72 33-123 9 2-Chlorotoluene mg/kg (ppm) 2.5 -0.05 68 71 39-111 7 tert-Butylbenzene mg/kg (ppm) 2.5 -0.05 65								
Sopropylbenzene								
Bromoform mg/kg (ppm) 2.5 <0.05 70 74 18-155 6 n-Propylbenzene mg/kg (ppm) 2.5 0.01 60 64 31-120 6 Bromobenzene mg/kg (ppm) 2.5 0.05 63 70 40-115 11 1.3.5-Trimethylbenzene mg/kg (ppm) 2.5 0.55 61 b 64 b 24-130 5 b 1.1.2.2-Tetrachloroethane mg/kg (ppm) 2.5 0.05 71 77 27-148 8 1.2.3-Trichloropropane mg/kg (ppm) 2.5 <0.05								
Bromobenzene mg/kg (ppm) 2.5 <0.05 63 70 40-115 11 1,3.5-Trimethylbenzene mg/kg (ppm) 2.5 0.55 61 b 64 b 24-130 5 b 1,1.2.2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05 71 77 27-148 8 1,2.3-Trichloropropane mg/kg (ppm) 2.5 <0.05 66 72 33-123 9 2.Chlorotoluene mg/kg (ppm) 2.5 <0.05 68 71 39-110 4 4.Chlorotoluene mg/kg (ppm) 2.5 <0.05 65 70 39-111 7 4.Chlorotoluene mg/kg (ppm) 2.5 <0.05 65 70 39-111 7 4.Chlorotoluene mg/kg (ppm) 2.5 <0.05 62 69 36-116 11 1,2.4-Trimethylbenzene mg/kg (ppm) 2.5 2.1 64 b 58 b 35-116 10 b 5.Eurylbenzene mg/kg (ppm) 2.5 0.080 62 67 33-118 8 9.Fuspropyltoluene mg/kg (ppm) 2.5 0.092 61 65 32-119 6 1,3-Dichlorobenzene mg/kg (ppm) 2.5 0.036 61 66 38-111 8 1,4-Dichlorobenzene mg/kg (ppm) 2.5 0.29 62 64 39-109 3 1,2-Dichlorobenzene mg/kg (ppm) 2.5 0.29 62 64 39-109 3 1,2-Dichlorobenzene mg/kg (ppm) 2.5 0.5 61 66 47-127 8 1,2-Trichlorobenzene mg/kg (ppm) 2.5 0.5 54 59 31-121 9 1,2-Trichlorobenzene mg/kg (ppm) 2.5 0.25 55 60 24-128 9	Bromoform	mg/kg (ppm)	2.5	< 0.05	70	74	18-155	6
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		mg/kg (ppm)						
1,1,2,2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05 71 77 27-148 8 1,2,3-Trichloropropane mg/kg (ppm) 2.5 <0.05								
1.2.3-Trichloropropane mg/kg (ppm) 2.5 <0.05								
2-Chlorotoluene mg/kg (ppm) 2.5 <0.05 68 71 39-110 4 4-Chlorotoluene mg/kg (ppm) 2.5 <0.05 65 70 39-111 7 4-Chlorotoluene mg/kg (ppm) 2.5 <0.05 65 70 39-111 7 1.2.4-Trimethylbenzene mg/kg (ppm) 2.5 <0.05 62 69 36-116 11 1.2.4-Trimethylbenzene mg/kg (ppm) 2.5 2.1 64 b 58 b 35-116 10 b sec-Butylbenzene mg/kg (ppm) 2.5 0.080 62 67 33-118 8 p-Isopropyltoluene mg/kg (ppm) 2.5 0.092 61 65 32-119 6 1.3-Dichlorobenzene mg/kg (ppm) 2.5 0.036 61 66 38-111 8 1.4-Dichlorobenzene mg/kg (ppm) 2.5 0.036 61 66 38-111 8 1.4-Dichlorobenzene mg/kg (ppm) 2.5 0.29 62 64 39-109 3 1.2-Dichlorobenzene mg/kg (ppm) 2.5 1.7 66 b 54 b 40-111 20 b 1.2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5 61 66 47-127 8 1.2.4-Trichlorobenzene mg/kg (ppm) 2.5 <0.25 55 60 24-128 9								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	68	71	39-110	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		mg/kg (ppm)						
sec-Butylbenzene mg/kg (ppm) 2.5 0.080 62 67 33-118 8 p-Isopropyltoluene mg/kg (ppm) 2.5 0.092 61 65 32-119 6 1,3-Dichlorobenzene mg/kg (ppm) 2.5 0.036 61 66 38-111 8 1,4-Dichlorobenzene mg/kg (ppm) 2.5 0.29 62 64 39-109 3 1,2-Dichlorobenzene mg/kg (ppm) 2.5 1,7 66 b 54 b 40-111 20 b 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5								
p-Isopropyltoluene mg/kg (ppm) 2.5 0.092 61 65 32-119 6 1,3-Dichlorobenzene mg/kg (ppm) 2.5 0.036 61 66 38-111 8 1,4-Dichlorobenzene mg/kg (ppm) 2.5 0.29 62 64 39-109 3 1,2-Dichlorobenzene mg/kg (ppm) 2.5 1.7 66 b 54 b 40-111 20 b 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								
1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5		mg/kg (ppm)						3
1,2,4-Trichlorobenzene mg/kg (ppm) 2.5 <0.25								
Hexachlorobutadiene mg/kg (ppm) 2.5 <0.25 55 60 24-128 9								
		mg/kg (ppm)						
1.2.3-Trichlorobenzene ng/kg (ppm) 2.5 <0.25 54 58 35-117 7	1,2,3-Trichlorobenzene		2.5	< 0.25	54	58	35-117	7

ENVIRONMENTAL CHEMISTS

Date of Report: 03/06/19 Date Received: 02/27/19

Project: Morell's 080190, F&BI 902407

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

Laboratory Code: Laboratory Control Sample

	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	37	10-76
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	58 62	34-98 42-107
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	67	46-113
Chloroethane	mg/kg (ppm)	2.5	65	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	71	53-112
Acetone	mg/kg (ppm)	12.5	90	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	77	65-110
Hexane Methylana shlarida	mg/kg (ppm)	2.5 2.5	86 81	55-107 50-127
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5	84	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	82	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	88	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	76	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	87	73-110
Chloroform	mg/kg (ppm)	2.5	88	76-110
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm)	12.5 2.5	119 103	60-121 73-111
1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103 86	73-111 72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	98	72-110
Carbon tetrachloride	mg/kg (ppm)	2.5	87	67-123
Benzene	mg/kg (ppm)	2.5	94	72-106
Trichloroethene	mg/kg (ppm)	2.5	104	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	107	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	105	75-126
Dibromomethane	mg/kg (ppm)	2.5 12.5	99	76-116
4-Methyl-2-pentanone cis-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5	113 118	80-128 71-138
Toluene	mg/kg (ppm)	2.5	100	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	118	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	114	77-116
2-Hexanone	mg/kg (ppm)	12.5	122	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	114	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	102	73-111
Dibromochloromethane 1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5 2.5	109 117	64-152 77-117
Chlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103	77-117 76-109
Ethylbenzene	mg/kg (ppm)	2.5	100	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	99	76-125
m,p-Xylene	mg/kg (ppm)	5	101	77-115
o-Xylene	mg/kg (ppm)	2.5	95	76-115
Styrene	mg/kg (ppm)	2.5	107	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	97	76-120
Bromoform n-Propylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	115 102	50-174 77-115
Bromobenzene	mg/kg (ppm)	2.5	110	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	110	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	103	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	107	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5 2.5	107 102	77-123 77-119
1,2,4-Trimethylbenzene sec-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	102	77-119 78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	104	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	101	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	99	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	96	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	90	75-122
Hexachlorobutadiene Naphthalene	mg/kg (ppm)	2.5 2.5	89 93	74-130 73-122
1,2,3-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	93 88	75-122 75-117
1,m,o 1.1cmorobenzene	6, v.e (bbiii)	<i>ω.</i> υ	00	70 117

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

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

March 11, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on February 28, 2019 from the Morell's 080190, F&BI 902435 project. There are 12 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 ASP0311R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 28, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 902435 project. Samples were logged in under the laboratory ID's listed below.

Aspect Consulting, LLC
MW-2-022719
MW-20-022819
A-6-13.0
A-6-21.0
A-6-36.0
A-6-57.5
A-6-65.0

Samples MW-31-022519 and MW-30-022519 were sent to Fremont Analytical for nitrate, nitrite, chloride, sulfate, and TOC analyses. The report is enclosed.

Several compounds in the 8260C matrix spike and laboratory control sample exceeded the acceptance criteria. The analyte was not detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-2-022719 Client: Aspect Consulting, LLC
Date Received: 02/28/19 Project: Morell's 080190, F&BI 902435

 Date Extracted:
 03/01/19
 Lab ID:
 902435-01 x10

 Date Analyzed:
 03/04/19
 Data File:
 902435-01 x10.095

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 49,200

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-20-022819 Client: Aspect Consulting, LLC
Date Received: 02/28/19 Project: Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: 902435-02 x10
Date Analyzed: 03/04/19 Data File: 902435-02 x10.098

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 71,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: I9-136 mb 03/04/19 Data File: Date Analyzed: I9-136 mb.061 Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-6-13.0	Client:	Aspect Consulting, LLC
Date Received:	02/28/19	Project:	Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: 902435-03 Date Analyzed: Data File: 03/01/19 030119.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.47
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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-6-36.0	Client:	Aspect Consulting, LLC
Date Received:	02/28/19	Project:	Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: 902435-05 Data File: Date Analyzed: 03/01/19 030120.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	106	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	A-6-57.5	Client:	Aspect Consulting, LLC
Date Received:	02/28/19	Project:	Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: 902435-06 Date Analyzed: Data File: 03/01/19 030121.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	104	50	150

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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 902435

Date Extracted: 03/01/19 Lab ID: 09-0434 mb Date Analyzed: 03/01/19 Data File: 030114.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	105	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/11/19 Date Received: 02/28/19

Project: Morell's 080190, F&BI 902435

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

Laboratory Code: 902435-01 x10 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	49,200	0 b	0 b	75-125	0 b

Laboratory Code: Laboratory Control Sample

			Percent		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Iron	ug/L (ppb)	100	101	80-120	_

ENVIRONMENTAL CHEMISTS

Date of Report: 03/11/19 Date Received: 02/28/19

Project: Morell's 080190, F&BI 902435

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

Laboratory Code: 902261-29 (Matrix Spike)

·	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	27	24	10-56	12
Chloromethane	mg/kg (ppm)	2.5 2.5	<0.5 <0.05	58 59	50	10-90 10-91	15 15
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.5	72	51 62	10-91	15
Chloroethane	mg/kg (ppm)	2.5	<0.5	72 71	59	10-110	18
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	69	60	10-95	14
Acetone	mg/kg (ppm)	12.5	< 0.5	106	101	11-141	5
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	82	71	22-107	14
Hexane	mg/kg (ppm)	2.5	<0.25	81 97	78 81	10-95	4 18
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	101	88	14-128 17-134	18
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	92	80	13-112	14
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	97	85	23-115	13
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	98	81	18-117	19
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	101	88	25-120	14
Chloroform	mg/kg (ppm)	2.5 12.5	< 0.05	102 122	89 132	29-117 20-133	14 8
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	2.5	<0.5 <0.05	108	102	20-133 22-124	6
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	99	87	27-112	13
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	104	96	26-107	8
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	99	87	28-126	13
Benzene	mg/kg (ppm)	2.5	< 0.03	100	93	26-114	7
Trichloroethene	mg/kg (ppm)	2.5 2.5	< 0.02	106	101	30-112	5
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	112 111	107 103	31-119 31-131	5 7
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	103	98	27-124	5
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	< 0.5	126	128	16-147	2
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	120	119	28-137	1
Toluene	mg/kg (ppm)	2.5	< 0.05	105	97	34-112	8
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	120	121	30-136	1
1,1,2-Trichloroethane 2-Hexanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	<0.05 <0.5	116 123	113 137	32-126 17-147	3 11
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	111	112	29-125	1
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	108	100	25-114	8
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	115	109	32-143	5
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	113	115	32-126	2
Chlorobenzene Ethylbenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	109 107	103 99	37-113 34-115	6 8
1.1.1.2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	118	103	35-126	8 14
m,p-Xylene	mg/kg (ppm)	5	<0.1	109	101	25-125	8
o-Xylene	mg/kg (ppm)	2.5	< 0.05	108	97	27-126	11
Styrene	mg/kg (ppm)	2.5	< 0.05	111	106	39-121	5
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	112	99	34-123	12
Bromoform n-Propylbenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	122 112	114 101	18-155 31-120	7 10
Bromobenzene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	112	106	40-115	6
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	116	100	24-130	15
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	115	107	27-148	7
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	112	107	33-123	5
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	114 vo	101	39-110	12
4-Chlorotoluene tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	114 vo 122 vo	105 107	39-111 36-116	8 13
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	115	107	35-116	13
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	122 vo	106	33-118	14
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	117	103	32-119	13
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	111	103	38-111	7
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	108	100	39-109	8
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	110 105	99 97	40-111 47-127	11 8
1,2-Dibromo-3-chioropropane 1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.25	105 109	97 91	47-127 31-121	8 18
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	109	94	24-128	15
Naphthalene	mg/kg (ppm)	2.5	< 0.05	111	95	24-139	16
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	108	90	35-117	18

ENVIRONMENTAL CHEMISTS

Date of Report: 03/11/19 Date Received: 02/28/19

Project: Morell's 080190, F&BI 902435

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	63	10-76
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	82 87	34-98 42-107
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	94	46-113
Chloroethane	mg/kg (ppm)	2.5	90	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	96	53-112
Acetone	mg/kg (ppm)	12.5	120	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	99	65-110
Hexane Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	113 vo 104	55-107 50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	103	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	103	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	102	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	115	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	105	73-110
Chloroform 2-Butanone (MEK)	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	103 118	76-110 60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	103	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	106	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	106	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	105	67-123
Benzene	mg/kg (ppm)	2.5	99	72-106
Trichloroethene 1,2-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 105	72-107 74-115
Bromodichloromethane	mg/kg (ppm)	2.5	103	75-126
Dibromomethane	mg/kg (ppm)	2.5	96	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	121	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	107	71-138
Toluene	mg/kg (ppm)	2.5	103	74-111
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	105 105	77-135 77-116
2-Hexanone	mg/kg (ppm)	12.5	116	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	101	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	108	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	107	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	101	77-117
Chlorobenzene Ethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103 106	76-109 75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	119	76-125
m,p-Xylene	mg/kg (ppm)	5	108	77-115
o-Xylene	mg/kg (ppm)	2.5	110	76-115
Styrene	mg/kg (ppm)	2.5	107	76-119
Isopropylbenzene Bromoform	mg/kg (ppm)	2.5 2.5	113 113	76-120 50-174
n-Propylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	108	77-115
Bromobenzene	mg/kg (ppm)	2.5	106	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	113	77-121
1,1,2,2-Tetrac hloroethane	mg/kg (ppm)	2.5	112	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	104	74-116
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm)	2.5 2.5	111 107	75-113 77-115
tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	118	77-113
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	113	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	118	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	116	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	106	76-112
1,4-Dichlorobenzene 1,2-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	102 107	74-109 75-114
1,2-Dichioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	107	75-114 68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	108	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	110	74-130
Naphthalene	mg/kg (ppm)	2.5	114	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	109	75-117

ENVIRONMENTAL CHEMISTS

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.
- dy 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.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W.

Seattle, WA 98119

RE: 902435

Work Order Number: 1902363

March 07, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 2 sample(s) on 2/28/2019 for the analyses presented in the following report.

Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

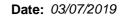
Thank you for using Fremont Analytical.

Jul c. Rady

Sincerely,

Mike Ridgeway Laboratory Director

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 902435 **Work Order:** 1902363

 Lab Sample ID
 Client Sample ID
 Date/Time Collected
 Date/Time Received

 1902363-001
 MW-2-022719
 02/27/2019 8:45 PM
 02/28/2019 3:26 PM

 1902363-002
 MW-20-022818
 02/28/2019 2:45 AM
 02/28/2019 3:26 PM



Case Narrative

WO#: **1902363**Date: **3/7/2019**

CLIENT: Friedman & Bruya

Project: 902435

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: 1902363

Date Reported: 3/7/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: **1902363**Date Reported: **3/7/2019**

Client: Friedman & Bruya Collection Date: 2/27/2019 8:45:00 PM

Project: 902435

Lab ID: 1902363-001 **Matrix:** Water

Client Sample ID: MW-2-022719

Analyses	Result	Result RL		Units	DF	Date Analyzed		
lon Chromatography by EPA Method 300.0			Batch ID: 1		Analyst: GM			
Chloride	50.6	5.00	D	mg/L	50	3/4/2019 4:37:00 PM		
Nitrite (as N)	0.675	0.100		mg/L	1	2/28/2019 6:23:00 PM		
Nitrate (as N)	ND	0.100		mg/L	1	2/28/2019 6:23:00 PM		
Sulfate	1.22	1.20	D	mg/L	4	3/4/2019 6:56:00 PM		
Total Organic Carbon by SM	<u>// 5310C</u>			Bato	th ID: 1	Analyst: GM		
Total Organic Carbon	209	10.0	D	mg/L	20	3/6/2019 10:49:00 AM		

Original



Analytical Report

Work Order: **1902363**Date Reported: **3/7/2019**

Client: Friedman & Bruya Collection Date: 2/28/2019 2:45:00 AM

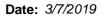
Project: 902435

Lab ID: 1902363-002 **Matrix:** Water

Client Sample ID: MW-20-022818

Analyses	Result	Result RL		Units	DF	Date Analyzed		
Ion Chromatography by EPA Method 300.0			Bato	ch ID: 1	Analyst: GM			
Chloride	31.4	2.00	D	mg/L	20	3/4/2019 5:00:00 PM		
Nitrite (as N)	0.128	0.100		mg/L	1	2/28/2019 9:29:00 PM		
Nitrate (as N)	ND	0.100		mg/L	1	2/28/2019 9:29:00 PM		
Sulfate	ND	0.300		mg/L	1	2/28/2019 9:29:00 PM		
Total Organic Carbon by SM	<u>// 5310C</u>			Bato	h ID: 1	Analyst: GM		
Total Organic Carbon	179	10.0	D	mg/L	20	3/6/2019 12:37:00 PM		

Original





Work Order: 1902363

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Proiect:	902435
riolect.	302433

Sample ID MB-23680	SampType: MBLK		Units: mg/L Prep Da		te: 2/28/2 0	019	RunNo: 49776				
Client ID: MBLKW	Batch ID: 23680				Analysis Date: 2/28/2019				SeqNo: 97		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID LCS-23680	SampType: LCS	mpType: LCS Units: mg/L				Prep Date: 2/28/2019				RunNo: 49776		
Client ID: LCSW	Batch ID: 23680					Analysis Date: 2/28/2019				SeqNo: 975828		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chloride	0.760	0.100	0.7500	0	101	90	110					
Nitrite (as N)	0.735	0.100	0.7500	0	98.0	90	110					
Nitrate (as N)	0.754	0.100	0.7500	0	101	90	110					
Sulfate	3.60	0.300	3.750	0	95.9	90	110					

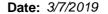
Sample ID 1902354-001BDUP	SampType: DUP		Units: mg/L	Units: mg/L Prep Date:			te: 2/28/2019		RunNo: 49776		
Client ID: BATCH	Batch ID: 23680	Analysis Date: 2/28/2019)19	SeqNo: 97				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.3	0.100						32.31	0.111	20	QE
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	ND	0.100						0		20	
Sulfate	6.21	0.300						6.252	0.706	20	

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

E - Estimated value. The amount exceeds the linear working range of the instrument.

Original Page 7 of 12





Work Order: 1902363

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

902435

Ion Chromatography by EPA Method 300.0

Sample ID 1902354-001BMS	SampType: MS			Units: mg/L		Prep Da	ite: 2/28/20	019	RunNo: 49	776	
Client ID: BATCH	Batch ID: 23680					Analysis Da	nte: 2/28/2 0	019	SeqNo: 97	5833	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.1	0.100	0.7500	32.31	111	80	120				Е
Nitrite (as N)	0.571	0.100	0.7500	0	76.1	80	120				S
Nitrate (as N)	0.739	0.100	0.7500	0.05300	91.5	80	120				
Sulfate	9.98	0.300	3.750	6.252	99.5	80	120				
NOTEC:											

NOTES:

Project:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID 1902354-001BMSD	SampType: MSD			Units: mg/L		Prep Da	te: 2/28/2 0)19	RunNo: 497	776	
Client ID: BATCH	Batch ID: 23680					Analysis Da	te: 2/28/2 0)19	SeqNo: 97	5834	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.2	0.100	0.7500	32.31	122	80	120	33.15	0.238	20	ES
Nitrite (as N)	0.605	0.100	0.7500	0	80.7	80	120	0.5710	5.78	20	
Nitrate (as N)	0.749	0.100	0.7500	0.05300	92.8	80	120	0.7390	1.34	20	
Sulfate	10.0	0.300	3.750	6.252	101	80	120	9.982	0.520	20	

NOTES:

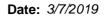
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID CCV-23680F	SampType: CCV			Units: mg/L		Prep Da	te: 3/4/201	9	RunNo: 497	776	
Client ID: CCV	Batch ID: 23680					Analysis Da	te: 3/4/201	9	SeqNo: 976	6381	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.746	0.100	0.7500	0	99.5	90	110				
Sulfate	3.79	0.300	3.750	0	101	90	110				

Original Page 8 of 12

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range (Chloride).





Friedman & Bruya

Work Order: 1902363

CLIENT:

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Project:	902435	•				Total Organic Carbon by SM 5310
Sample ID	MB-49834	SampType: MBLK			Units: mg/L	Prep Date: 3/5/2019 RunNo: 49834
Client ID:	MBLKW	Batch ID: R49834				Analysis Date: 3/5/2019 SeqNo: 977061
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organ	nic Carbon	ND	0.500			
Sample ID	LCS-49834	SampType: LCS			Units: mg/L	Prep Date: 3/5/2019 RunNo: 49834
Client ID:	LCSW	Batch ID: R49834				Analysis Date: 3/5/2019 SeqNo: 977062
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organ	nic Carbon	5.08	0.500	5.000	0	102 80 120
Sample ID	1902335-001BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/5/2019 RunNo: 49834
Client ID:	ВАТСН	Batch ID: R49834				Analysis Date: 3/5/2019 SeqNo: 977064
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organ	nic Carbon	0.733	0.500			0.7230 1.37 20
Sample ID	1902335-001BMS	SampType: MS			Units: mg/L	Prep Date: 3/5/2019 RunNo: 49834
Client ID:	ВАТСН	Batch ID: R49834				Analysis Date: 3/5/2019 SeqNo: 977065
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organ	nic Carbon	5.96	0.500	5.000	0.7230	105 70 130
Sample ID	1902335-001BMSD	SampType: MSD			Units: mg/L	Prep Date: 3/5/2019 RunNo: 49834
Client ID:	ВАТСН	Batch ID: R49834				Analysis Date: 3/5/2019 SeqNo: 977066
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organ	nic Carbon	5.77	0.500	5.000	0.7230	101 70 130 5.957 3.24 30

Original Page 9 of 12

Date: 3/7/2019



Work Order: 1902363

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

902435

Total Organic Carbon by SM 5310C

Sample ID 1903018-001ADUP SampType: DUP Units: mg/L Prep Date: 3/5/2019 RunNo: 49834

Client ID: BATCH Batch ID: R49834 Analysis Date: 3/5/2019 SeqNo: 977076

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 4.79 0.500 5.022 4.77 20

Sample ID 1903018-001AMS Prep Date: 3/5/2019 SampType: MS Units: mg/L RunNo: 49834 Client ID: BATCH Batch ID: R49834 Analysis Date: 3/5/2019 SeqNo: 977077 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 9.63 0.500 5.000 5.022 92.1 70 130

Original Page 10 of 12



Sample Log-In Check List

C	ient Name:	FB		Work O	rder Num	nber: 1902363		
Lo	ogged by:	Brianna Barnes		Date Re	ceived:	2/28/201	9 3:26:00 PM	
<u>Cha</u>	in of Custo	<u>ody</u>						
1.	Is Chain of C	ustody complete?		Yes	✓	No 🗌	Not Present	
2.	How was the	sample delivered?		FedE	<u>x</u>			
<u>Log</u>	ı İn							
	Coolers are p	resent?		Yes		No 🗸	NA 🗆	
٥.	Occioio die p	rosont:	Sample			ate temperatu		
4.	Shipping conf	tainer/cooler in good condition	_	Yes		No 🗌	<u></u>	
5.		s present on shipping contain ments for Custody Seals not		Yes		No 🗹	Not Required	
6.	Was an atten	npt made to cool the samples	?	Yes	✓	No 🗌	NA \square	
7.	Were all item	s received at a temperature o	f >0°C to 10.0°C*	Yes	•	No 🗌	NA \square	
8.	Sample(s) in	proper container(s)?		Yes	✓	No 🗌		
9.	Sufficient san	nple volume for indicated test	(s)?	Yes	✓	No \square		
10.	Are samples	properly preserved?		Yes	✓	No \square		
11.	Was preserva	ative added to bottles?		Yes		No 🗸	NA \square	
12.	Is there head	space in the VOA vials?		Yes		No 🗌	NA 🗹	
13.	Did all sample	es containers arrive in good c	ondition(unbroken)	? Yes	✓	No \square		
14.	Does paperw	ork match bottle labels?		Yes	✓	No 🗌		
15	Are matrices	correctly identified on Chain of	of Custody?	Yes	✓	No 🗌		
_		at analyses were requested?	•	Yes	✓	No 🗌		
17.	Were all hold	ing times able to be met?		Yes	✓	No \square		
Sno	oial Handli	ing (if applicable)						
		otified of all discrepancies with	this order?	Yes		No 🗌	NA 🗸	
	Person			ate				
	By Who	m:		ia: eMa	il 🗌 Pl	hone Fax	☐ In Person	
	Regardi							
	Client In	structions:						
19.	Additional rer	marks:						J
ltem	<u>Information</u>							
		Item #	Temp ⁰C					
	Sample		3.2					

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Company Friedm Address 3012 10 City, State, ZIP Seattle Phone # (206) 285-8282 Phone # 100 Lab ID MW-2-021419 Lab MW-2-071818 Lab	Michael Erdahl Friedman and Bruya, 3012 16th Ave W Seattle, WA 98119 S-8282 Fax # (20) Lab Date ID Sampled 2/27		PRO REI	PROJECT NAME/NO. QOZ 435 REMARKS Please Email Ploxins/Furans EPH EPH	PROJECT NAME/NO. QC2 435 REMARKS Please Email Results Please From Ph Ph Ph Ph Ph Ph			X X TOC NALYS		X X Nitrite. X X Chloride X X Sulfate PO# PO# PO# PO# PO# PO# PO# PO	X X CILL BE		Page #TURNAROI SStandard (2 Wee RUSH Rush charges auth Rush charges after 30 Return samples Will call with in		of
			Matrix	# of jars	Dioxins/Fura	ЕРН	VPH		Nitrate	Nitrite.	Chloride	Sultate			Z
	7/27		water					•		\vdash			-		
MW-20-0728 18	2/28		4				*	_	_	_	-	.,			
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					, i										
							_	_	-	-					
Friedman & Bruya, Inc. 3012 16th Avenue West	Relinquished by:	SIGNATURE		Mich	PRIN Michael Erdahl	PRINT NAME rdahl	VAME			Friedi	COM nan &	COMPANY Friedman & Bruya		DATE 2/28/16	
Seattle, WA 98119-2029	Received by:	i by:		2	rus	ä	Ohnson	2	\	石山	H			2/28/19	
Ph. (206) 285-8282	Relinqui	Relinquished by:													
Fax (206) 283-5044	Received by:	l by:							\downarrow						

Page 12 of 12

Report To Dave Heffur

Company Aspect
Address 710 2nd Ave Ste 550
City, State, ZIP Seathle with 48108
Phone 2008385831 Email dheftuur Caspect cons

Ţ,	SAMPLE CHAIN OF CUSTODY	ME 2/28/14	€.
1	SAMPLERS (signature)		\
	PROJECT NAME	PO#	
	Morell's	080190	
20,	REMARKS	INVOICE TO	
•		F	

Other_

☐ Archive Samples

SAMPLE DISPOSAL Dispose after 30 days Standard Turnaround

TURNAROUND TIME

Page#_

Rush charges authorized by:

Ph. (206) 285-8282	2029	Τ-	 ن				A-6-65.0	A-6-57-5	A-6-36.0	A-6-21.0	A-6-13.0 ME	MW-20-0228189	MW-2-022719	Sample ID	
Received by:	Relinquis K ed by:	Received by: M. B. M. B.	Kelinquished by:	SIC			07AD	o6AD	05AD 2/27	OYAO	03/10	0246	OIAC	Lab ID	
		D. W-B	mbn	SIGNATURE			2/28	2/28	2/27	2/27	2/27	2/28	2/27	Date Sampled	
		ζ,					0110	0040	23.30	2300	2220	0245	2045	Time Sampled	
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		1	6/	AME										TPH-Diesel	
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		A.	A	2		 				_				PAHs 8270D SIM	SRE
	•		Oec	COMPANY	က္က	 						×	<u> </u>	CI / Sulfate 300	QUE
		#	4	YNA								×	\times	FPA 6020	ANALYSES REQUESTED
		F?BI			es T	 						\times	\times	nitrate/nitrite CI-/Sulfate EPA Total Fe EPA GOZO TOC SM 5310	
		13			eCP.										
		2/28/19	19	MPANY DATE	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Hold			Hold				Notes	
		1320	0500	TIME										Ϋ́	

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

March 18, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 1, 2019 from the Morell's 080190, F&BI 903011 project. There are 9 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 ASP0318R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 1, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903011 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
903011 -01	A-7-9.5
903011 -02	A-7-16.0
903011 -03	A-7-22.0
903011 -04	A-7-37.0
903011 -05	A-7-41.0

The 8260C calibration standard failed the acceptance criteria for 2-hexanone in the dilution of sample A-7-22.0. The data were flagged accordingly.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: A-7-9.5 Client: Aspect Consulting, LLC
Date Received: 03/01/19 Project: Morell's 080190, F&BI 903011

Lab ID: Date Extracted: 03/01/19 903011-01 Date Analyzed: 03/01/19 Data File: 030138a.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: MS/bat

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	98	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	1.4
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	0.16	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	0.16	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: A-7-22.0 Client: Aspect Consulting, LLC Date Received: 03/01/19 Project: Morell's 080190, F&BI 903011

Lab ID: Date Extracted: 03/01/19 903011-03 Date Analyzed: 03/01/19 Data File: 030139.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: MS/bat

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	113	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	110 ve
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	0.43
trans-1,2-Dichloroethene	< 0.05	Bromoform	< 0.05
1,1-Dichloroethane	< 0.05	n-Propylbenzene	1.6
2,2-Dichloropropane	< 0.05	Bromobenzene	< 0.05
cis-1,2-Dichloroethene	< 0.05	1,3,5-Trimethylbenzene	3.0
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	0.094
Carbon tetrachloride	< 0.05	1,2,4-Trimethylbenzene	5.4
Benzene	< 0.03	sec-Butylbenzene	1.6
Trichloroethene	1.5	p-Isopropyltoluene	0.12
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	0.44
1,1,2-Trichloroethane	< 0.05	1,2,3-Trichlorobenzene	< 0.25
2-Hexanone	< 0.5		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: A-7-22.0 Client: Aspect Consulting, LLC
Date Received: 03/01/19 Project: Morell's 080190, F&BI 903011

Lab ID: Date Extracted: 03/08/19 903011-03 1/10 Date Analyzed: 03/08/19 Data File: 030823.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	< 0.5
Chloromethane	<5	Tetrachloroethene	120
Vinyl chloride	< 0.5	Dibromochloromethane	< 0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	< 0.5
Chloroethane	<5	Chlorobenzene	< 0.5
Trichlorofluoromethane	<5	Ethylbenzene	< 0.5
Acetone	<5	1,1,1,2-Tetrachloroethane	< 0.5
1,1-Dichloroethene	< 0.5	m,p-Xylene	<1
Hexane	< 2.5	o-Xylene	< 0.5
Methylene chloride	<5	Styrene	< 0.5
Methyl t-butyl ether (MTBE)	< 0.5	Isopropylbenzene	< 0.5
trans-1,2-Dichloroethene	< 0.5	Bromoform	< 0.5
1,1-Dichloroethane	< 0.5	n-Propylbenzene	1.5
2,2-Dichloropropane	< 0.5	Bromobenzene	< 0.5
cis-1,2-Dichloroethene	< 0.5	1,3,5-Trimethylbenzene	2.8
Chloroform	< 0.5	1,1,2,2-Tetrachloroethane	< 0.5
2-Butanone (MEK)	<5	1,2,3-Trichloropropane	< 0.5
1,2-Dichloroethane (EDC)	< 0.5	2-Chlorotoluene	< 0.5
1,1,1-Trichloroethane	< 0.5	4-Chlorotoluene	< 0.5
1,1-Dichloropropene	< 0.5	tert-Butylbenzene	< 0.5
Carbon tetrachloride	< 0.5	1,2,4-Trimethylbenzene	5.3
Benzene	< 0.3	sec-Butylbenzen e	1.6
Trichloroethene	1.4	p-Isopropyltoluene	< 0.5
1,2-Dichloropropane	< 0.5	1,3-Dichlorobenzene	< 0.5
Bromodichloromethane	< 0.5	1,4-Dichlorobenzene	< 0.5
Dibromomethane	< 0.5	1,2-Dichlorobenzene	< 0.5
4-Methyl-2-pentanone	<5	1,2-Dibromo-3-chloropropane	<5
cis-1,3-Dichloropropene	< 0.5	1,2,4-Trichlorobenzene	< 2.5
Toluene	< 0.5	Hexachlorobutadiene	< 2.5
trans-1,3-Dichloropropene	< 0.5	Naphthalene	< 0.5
1,1,2-Trichloroethane	< 0.5	1,2,3-Trichlorobenzene	< 2.5
2-Hexanone	<5 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: A-7-37.0 Client: Aspect Consulting, LLC
Date Received: 03/01/19 Project: Morell's 080190, F&BI 903011

Lab ID: Date Extracted: 03/01/19 903011-04 Date Analyzed: 03/01/19 Data File: 030137.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	105	55	145
4-Bromofluorobenzene	101	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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 903011

03/01/19 Lab ID: Date Extracted: 09-0438 mb Date Analyzed: 03/01/19 Data File: 030132.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	97	60	133

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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/19 Date Received: 03/01/19

Project: Morell's 080190, F&BI 903011

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

Laboratory Code: 902238-06 (Matrix Spike)

Reporting Spike Result Recovery Acceptance Analyte Units Level Wet wit MS Criteria	Laboratory Code. 302230-00 (Matrix Spike)					
Analyte				Sample	Percent	
Dichlorodifluoromethane		Reporting	Spike	Result	Recovery	Acceptance
Dictiouredifueromethane	Analyte	Units	Level	(Wet wt)	MS	Criteria
Chloromethame	Dichlorodifluoromethane		2.5	<0.5	29	10-142
Brommethane					52	10-126
Chlorochane mg/kg (ppm) 2.5		mg/kg (ppm)				10-138
Trichlorofluoromethane mg/kg (ppm) 1.5						
Acetone						
1.1-Dichloroethene						
Hexane						
Methyle-berloride mg/kg (ppm) 2.5 <.0.5 88 10.156						
Methyl:butyl ether (MTBE)						
trans-1.2-Dichloroethane mg/kg (ppm) 2.5						
22-Dichloropropane	trans-1,2-Dichloroethene		2.5	< 0.05	85	14-137
cis-12 Dichloroethene mg/kg (ppm)	1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	88	19-140
Chloroform						
2-Butanone (MEK)						
1.2-Dichloroethane (EDC)						
1,1-Trichloroethane						
1.1-Dichloropropene						
Carbon tetrachloride						
Benzene						
Trichloroethene	Benzene		2.5		86	29-129
Bromodichloromethane	Trichloroethene		2.5	< 0.02	85	21-139
Dibromomethane						
A-Methyl-2-pentanone						
cis-13-Dichloropropene mg/kg (ppm) 2.5 <0.05 91 28-144 Toluene mg/kg (ppm) 2.5 <0.05						
Toluene mg/kg (ppm) 2.5 <0.05 95 35.130 trans-1.3-Dichloropropene mg/kg (ppm) 2.5 <0.05						
Trans-1.3-Dichloropropene						
1,1,2-Trichloroethane						
2-Hexanone						
1.3-Dichloropropane						
Dibromochloromethane mg/kg (ppm) 2.5 < 0.05 95 28-150 1,2-Dibromochlarome (EDB) mg/kg (ppm) 2.5 < 0.05 92 28-142 Chlorobenzene mg/kg (ppm) 2.5 < 0.05 91 32-129 Ethylbenzene mg/kg (ppm) 2.5 < 0.05 92 32-137 1,1,1,2-Tetrachloroethane mg/kg (ppm) 2.5 < 0.05 97 31-143 mp-Xylene mg/kg (ppm) 2.5 < 0.05 94 33-134 o-Xylene mg/kg (ppm) 2.5 < 0.05 94 33-134 Styrene mg/kg (ppm) 2.5 < 0.05 95 35-137 Isopropylbenzene mg/kg (ppm) 2.5 < 0.05 95 33-137 Isopropylbenzene mg/kg (ppm) 2.5 < 0.05 95 31-142 Bromoform mg/kg (ppm) 2.5 < 0.05 98 21-156 n-Propylbenzene mg/kg (ppm) 2.5 < 0.05 98 21-156 n-Propylbenzene mg/kg (ppm) 2.5 < 0.05 94 33-146 Bromobenzene mg/kg (ppm) 2.5 < 0.05 94 33-146 Bromobenzene mg/kg (ppm) 2.5 < 0.05 94 34-130 1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 92 28-140 1,2,2-Tetrachloroethane mg/kg (ppm) 2.5 < 0.05 92 28-140 1,2,2-Trichloropropane mg/kg (ppm) 2.5 < 0.05 92 31-134 2-Chlorotoluene mg/kg (ppm) 2.5 < 0.05 92 31-134 2-Chlorotoluene mg/kg (ppm) 2.5 < 0.05 92 31-134 2-Chlorotoluene mg/kg (ppm) 2.5 < 0.05 92 30-137 1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 91 10-182 sec-Butylbenzene mg/kg (ppm) 2.5 < 0.05 91 10-182 sec-Butylbenzene mg/kg (ppm) 2.5 < 0.05 93 31-134 1,3-Dichlorobenzene mg/kg (ppm) 2.5 < 0.05 93 31-134 1,2-Dichlorobenzene mg/kg (ppm) 2.5 < 0.5 88 11-161 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <	1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	95	31-137
1,2-Dibromoethane (EDB)						
Chlorobenzene mg/kg (ppm) 2.5 < 0.05 91 32-129 Ethylbenzene mg/kg (ppm) 2.5 < 0.05 92 32-137 1,1,1.2-Tetrachloroethane mg/kg (ppm) 2.5 < 0.05 97 31-143 mp-Xylene mg/kg (ppm) 5 < 0.1 95 34-136 o-Xylene mg/kg (ppm) 2.5 < 0.05 94 33-134 Styrene mg/kg (ppm) 2.5 < 0.05 95 33-137 Isopropylbenzene mg/kg (ppm) 2.5 < 0.05 95 33-137 Isopropylbenzene mg/kg (ppm) 2.5 < 0.05 95 33-134 Bromoform mg/kg (ppm) 2.5 < 0.05 95 31-142 Bromoform mg/kg (ppm) 2.5 < 0.05 98 21-156 n-Propylbenzene mg/kg (ppm) 2.5 < 0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 < 0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 < 0.05 94 34-130 1,3.5-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 94 34-130 1,3.5-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 92 18-149 1,1,2,2-Tetrachloroethane mg/kg (ppm) 2.5 < 0.05 92 28-140 1,2,3-Trichloropropane mg/kg (ppm) 2.5 < 0.05 92 28-140 1,2,3-Trichloropropane mg/kg (ppm) 2.5 < 0.05 92 31-134 4-Chlorotoluene mg/kg (ppm) 2.5 < 0.05 92 31-134 4-Chlorotoluene mg/kg (ppm) 2.5 < 0.05 92 31-136 tetr-Butylbenzene mg/kg (ppm) 2.5 < 0.05 92 31-136 tetr-Butylbenzene mg/kg (ppm) 2.5 < 0.05 92 30-137 1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 92 30-137 1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 92 30-137 1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 < 0.05 93 31-136 tetr-Butylbenzene mg/kg (ppm) 2.5 < 0.05 93 30-131 1,4-Dichlorobenzene mg/kg (ppm) 2.5 < 0.05 93 30-131 1,4-Dichlorobenzene mg/kg (ppm) 2.5 < 0.05 93 30-131 1,4-Dichlorobenzene mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 < 0.05 93 31-132 1,2-Dibromo-3-chloropropane mg/kg						
Ethylbenzene mg/kg (ppm) 2.5 <0.05 92 32-137 1,1,1,2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05						
1,1,1,2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05						
mp-Xylene mg/kg (ppm) 5 <0.1 95 34-136 o-Xylene mg/kg (ppm) 2.5 <0.05						
o-Xylene mg/kg (ppm) 2.5 <0.05 94 33-134 Styrene mg/kg (ppm) 2.5 <0.05 95 35-137 Isopropylbenzene mg/kg (ppm) 2.5 <0.05 95 31-142 Bromoform mg/kg (ppm) 2.5 <0.05 98 21-156 n-Propylbenzene mg/kg (ppm) 2.5 <0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 <0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 <0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 <0.05 94 34-130 1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05 92 18-149 1,1,2,2-Trichloroperopane mg/kg (ppm) 2.5 <0.05 92 28-140 1,2,2-Trichloroperopane mg/kg (ppm) 2.5 <0.05 92 28-144 2,-Chlorotoluene mg/kg (ppm) 2.5 <0.05 92 31-134 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
Styrene mg/kg (ppm) 2.5 <0.05 95 35-137 Isopropylbenzene mg/kg (ppm) 2.5 <0.05						
Bromoform mg/kg (ppm) 2.5 <0.05 98 21-156 n-Propylbenzene mg/kg (ppm) 2.5 <0.05						
n-Propylbenzene mg/kg (ppm) 2.5 <0.05 94 23-146 Bromobenzene mg/kg (ppm) 2.5 <0.05	Isopropylbenzene	mg/kg (ppm)		< 0.05		31-142
Brombenzene						
1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05						
1,1,2,2-Tetrachloroethane						
1,2,3-Trichloropropane						
2-Chlorotoluene mg/kg (ppm) 2.5 <0.05						
4-Chlorotoluene mg/kg (ppm) 2.5 <0.05 90 31-136 tert-Butylbenzene mg/kg (ppm) 2.5 <0.05						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	tert-Butylbenzene		2.5	< 0.05	92	30-137
P-Isopropyltoluene mg/kg (ppm) 2.5 <0.05 93 21-149 1.3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 93 30-131 1.4-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 92 29-129 1.2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 93 31-132 1.2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5 88 11-161 1.2.4-Trichlorobenzene mg/kg (ppm) 2.5 <0.25 92 22-142 1.2-A-Trichlorobenzene mg/kg (ppm) 2.5 <0.25 101 10-142 Naphthalene mg/kg (ppm) 2.5 <0.05 87 14-157 Naphthalene mg/kg (ppm) 2.5 <0.05 87 Naphthalene mg/kg (ppm) 2.5 <0.05 30 Naphthalene mg/kg (ppm) 2.5 <0.05 30 Naphthalene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)				
1.3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05						
1,4-Dichlorobenzene mg/kg (ppm) 2.5 <0.05						
1,2-Dichlorobenzene						
1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5						
1,2,4 Trichlorobenzene mg/kg (ppm) 2.5 <0.25						
Hexachlorobutadiene mg/kg (ppm) 2.5 <0.25 101 10-142 Naphthalene mg/kg (ppm) 2.5 <0.05						
Naphthalene mg/kg (ppm) 2.5 <0.05 87 14-157						
	1,2,3-Trichlorobenzene		2.5	< 0.25	91	

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/19 Date Received: 03/01/19

Project: Morell's 080190, F&BI 903011

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

Laboratory Code: Laboratory Control Sample

Zaboracory code. Zaboracory co	ner er Sumpre		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	50	56	10-146	11
Chloromethane	mg/kg (ppm)	2.5 2.5	66 77	73 84	27-133 22-139	10 9
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	71	84 78	22-139 38-114	9
Chloroethane	mg/kg (ppm)	2.5	80	90	10-163	12
Trichlorofluoromethane	mg/kg (ppm)	2.5	86	95	10-196	10
Acetone	mg/kg (ppm)	12.5	84	102	52-141	19
1,1-Dichloroethene	mg/kg (ppm)	2.5	83	91	47-128	9
Hexane Mathedona ablasida	mg/kg (ppm)	2.5 2.5	104 95	114 107	43-142 42-132	9 12
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	95 98	107	42-132 60-123	12
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	96	105	67-127	9
1,1-Dichloroethane	mg/kg (ppm)	2.5	97	108	68-115	11
2,2-Dichloropropane	mg/kg (ppm)	2.5	92	103	52-170	11
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	92	101	72-113	9
Chloroform	mg/kg (ppm)	2.5 12.5	89 93	102	66-120	14
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	2.5	93 92	104 101	57-123 56-135	11 9
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	89	98	62-131	10
1,1-Dichloropropene	mg/kg (ppm)	2.5	88	98	69-128	11
Carbon tetrachloride	mg/kg (ppm)	2.5	90	100	60-139	11
Benzene	mg/kg (ppm)	2.5	89	98	68-114	10
Trichloroethene	mg/kg (ppm)	2.5	85	95	64-117	11
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm)	2.5 2.5	90 90	101 98	72-127 72-130	12 9
Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	90 89	98 98	72-130 70-120	10
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	102	117	45-145	14
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	96	103	75-136	7
Toluene	mg/kg (ppm)	2.5	88	98	66-126	11
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	84	93	72-132	10
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	90 92	102	75-113	12
2-Hexanone 1,3-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	92 90	102 99	33-152 72-130	10 10
Tetrachloroethene	mg/kg (ppm)	2.5	94	101	72-130	7
Dibromochloromethane	mg/kg (ppm)	2.5	92	101	74-125	9
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	93	101	74-132	8
Chlorobenzene	mg/kg (ppm)	2.5	95	100	76-111	5
Ethylbenzene	mg/kg (ppm)	2.5	96	101	64-123	5
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5 5	98 100	108 103	69-135 78-122	10 3
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5	97	103	78-122 77-124	3 10
Styrene	mg/kg (ppm)	2.5	99	109	74-126	10
Isopropylbenzene	mg/kg (ppm)	2.5	100	108	76-127	8
Bromoform	mg/kg (ppm)	2.5	101	110	56-132	9
n-Propylbenzene	mg/kg (ppm)	2.5	96	103	74-124	7
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	97 94	108 103	72-122 76-126	11 9
1,3,3-1 rimethylbenzene 1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	94 94	103	56-143	10
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	91	104	61-137	13
2-Chlorotoluene	mg/kg (ppm)	2.5	95	102	74-121	7
4-Chlorotoluene	mg/kg (ppm)	2.5	92	100	75-122	8
tert-Butylbenzene	mg/kg (ppm)	2.5	97	100	73-130	3
1,2,4 Trimethylbenzene	mg/kg (ppm)	2.5	94	100	76-125	6
sec-Butylbenzene p-Isopropyltoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	94 98	100 101	71-130 70-132	6 3
1.3-Dichlorobenzene	mg/kg (ppm)	2.5	96 96	101	70-132 75-121	5 5
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	96	100	74-117	4
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	97	101	76-121	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	98	105	58-138	7
1,2,4 Trichlorobenzene	mg/kg (ppm)	2.5	92	106	64-135	14
Hexachlorobutadiene	mg/kg (ppm)	2.5	96	109	50-153	13
Naphthalene 1,2,3-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	85 88	102 105	63-140 63-138	18 18
1,8,0 IIICHIOLOBEHZEHE	mg/kg (ppm)	۵.3	00	100	00-100	10

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.

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

March 18, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 12, 2019 from the Morell's 080190, F&BI 903193 project. There are 7 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 ASP0318R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 12, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903193 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
903193 -01	B-29-15.0
903193 -02	B-29-40.0
903193 -03	B-29-50.0
903193 -04	B-29-55.0

The 8260C calibration standard failed the acceptance criteria for acetone and 2-hexanone. The data were flagged accordingly.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-29-15.0 Client: Aspect Consulting, LLC
Date Received: 03/12/19 Project: Morell's 080190, F&BI 903193

Lab ID: Date Extracted: 03/13/19 903193-01 Date Analyzed: 03/14/19 Data File: 031351.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.043
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 ca	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 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-29-50.0 Client: Aspect Consulting, LLC
Date Received: 03/12/19 Project: Morell's 080190, F&BI 903193

Lab ID: Date Extracted: 03/13/19 903193-03 Date Analyzed: 03/14/19 Data File: 031352.D Matrix: Soil Instrument: GCMS9 Units: mg/kg (ppm) Dry Weight Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.043
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 ca	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 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 903193

03/13/19 Lab ID: Date Extracted: 09-564 mb Date Analyzed: 03/13/19 Data File: 031311.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: VM

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

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/19 Date Received: 03/12/19

Project: Morell's 080190, F&BI 903193

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

Laboratory Code: 903196-05 (Matrix Spike)

Laboratory Code. 903190-03 (Ma	iti ix Spike)			_	_		
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	21	17	10-142	21 vo
Chloromethane	mg/kg (ppm)	2.5	<0.5	49	45	10-126	9
Vinyl chloride	mg/kg (ppm)	2.5	< 0.05	52	49	10-138	6
Bromomethane	mg/kg (ppm)	2.5	< 0.5	66	64	10-163	3
Chloroethane	mg/kg (ppm)	2.5	< 0.5	65	62	10-176	5
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	59	57	10-176	3
Acetone	mg/kg (ppm)	12.5	< 0.5	78	79	10-163	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	70	67	10-160	4
Hexane	mg/kg (ppm)	2.5	< 0.25	53	51	10-137	4
Methylene chloride	mg/kg (ppm)	2.5 2.5	< 0.5	80 83	77 81	10-156	4 2
Methyl t-butyl ether (MTBE) trans-1,2-Dichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	80	77	21-145 14-137	4
1.1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	80	76	19-140	5
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	79	76 77	10-158	3
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	77	74	25-135	4
Chloroform	mg/kg (ppm)	2.5	< 0.05	83	80	21-145	4
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	83	84	19-147	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	83	81	12-160	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	80	78	10-156	3
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	81	77	17-140	5
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	81	80	9-164	1
Benzene	mg/kg (ppm)	2.5	< 0.03	80	78	29-129	3
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	82	81	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	86	82	30-135	5
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	88	86	23-155	2
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	87	85	23-145	2
4-Methyl-2-pentanone	mg/kg (ppm)	12.5 2.5	< 0.5	90 88	90 86	24-155	0 2
cis-1,3-Dichloropropene Toluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	88 76	86 75	28-144 35-130	2 1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	91	73 88	26-149	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	90	87	10-205	3
2-Hexanone	mg/kg (ppm)	12.5	<0.5	87	85	15-166	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	89	86	31-137	3
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	86	84	20-133	2
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	88	87	28-150	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	89	87	28-142	2
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	86	83	32-129	4
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	85	83	32-137	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	94	92	31-143	2
m,p-Xylene	mg/kg (ppm)	5	< 0.1	85	83	34-136	2
o-Xylene	mg/kg (ppm)	2.5	< 0.05	85	83	33-134	2
Styrene	mg/kg (ppm)	2.5	< 0.05	92	89	35-137	3 2
Isopropylbenzene Bromoform	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	89 83	87 82	31-142 21-156	2 1
n-Propylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	88	86	23-146	2
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	88	85	34-130	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	89	87	18-149	2
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	89	87	28-140	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	90	88	25-144	2
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	87	84	31-134	4
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	87	85	31-136	2
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	90	88	30-137	2
1,2,4 Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	89	87	10-182	2
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	91	88	23-145	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	90	89	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	89	88	30-131	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	87	84	29-129	4
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	88 92	87 90	31-132 11-161	1 2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.5 <0.25	92 92	90 90	22-142	2
Hexachlorobutadiene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.25 <0.25	92 95	90 93	10-142	2
Naphthalene	mg/kg (ppm)	2.5 2.5	<0.25 <0.05	95 92	93 90	14-157	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	93	91	20-144	2
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ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/19 Date Received: 03/12/19

Project: Morell's 080190, F&BI 903193

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

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	57	10-146
Chloromethane	mg/kg (ppm)	2.5	76	27-133
Vinyl chloride Bromomethane	mg/kg (ppm)	2.5 2.5	82 93	22-139 38-114
Chloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	93 94	38-114 10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	93	10-196
Acetone	mg/kg (ppm)	12.5	95	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	94	47-128
Hexane	mg/kg (ppm)	2.5	97	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 99	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	102	67-127
1.1-Dichloroethane	mg/kg (ppm)	2.5	99	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	100	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	93	72-113
Chloroform	mg/kg (ppm)	2.5	100	66-120
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	105 103	57-123 56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	101	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	101	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	103	60-139
Benzene	mg/kg (ppm)	2.5	97	68-114
Trichloroethene	mg/kg (ppm)	2.5 2.5	99 102	64-117 72-127
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	102	72-127 72-130
Dibromomethane	mg/kg (ppm)	2.5	103	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	108	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	107	75-136
Toluene	mg/kg (ppm)	2.5	91	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	110	72-132
1,1,2-Trichloroethane 2-Hexanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	105 107	75-113 33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	107	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	103	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	110	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	106	74-132
Chlorobenzene Ethylbenzene	mg/kg (ppm)	2.5 2.5	100 100	76-111 64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	110	69-135
m.p-Xvlene	mg/kg (ppm)	5	100	78-122
o-Xylene	mg/kg (ppm)	2.5	100	77-124
Styrene	mg/kg (ppm)	2.5	108	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	105	76-127
Bromoform n-Propylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103 105	56-132 74-124
Bromobenzene	mg/kg (ppm)	2.5	102	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	106	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	108	61-137
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm)	2.5 2.5	103 104	74-121 75-122
tert-Butylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	105	73-122
1,2,4 Trimethylbenzene	mg/kg (ppm)	2.5	105	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	107	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	106	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	104	75-121
1,4-Dichlorobenzene 1.2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	101 103	74-117 76-121
1,2-Dichioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103 114	76-121 58-138
1,2,4 Trichlorobenzene	mg/kg (ppm)	2.5	107	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	111	50-153
Naphthalene	mg/kg (ppm)	2.5	108	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	108	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- $\mbox{\sc vo}$ 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.

SAMPLE CHAIN OF CUSTODY

Company Aspect Consulting City, State, ZIP Seath WA 98104 Report To Dave Heff ner Address 710 2nd Are Ste 550 Breeyn Green

Phone_

Emaildheffwerforspectconsulting.com SAMPLERS (signature) / Keyn Green REMARKS PROJECT NAME Morellis INVOICE TO 080190 PO#

Standard Turnaround RUSH 3 224
Rush charges authorized by: XDispose after 30 days □ Archive Samples TURNAROUND TIME SAMPLE DISPOSAL

Other_

3012 16 th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282	Friedman & Bruya, Inc.		- A second secon		8-29-55.0	8-29-50.0	6-29-40,0	B-29-15.0	Sample ID	
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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

March 19, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 13, 2019 from the Morell's 080190, F&BI 903200 project. There are 7 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, Breeyn Greer

ASP0319R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 13, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903200 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
903200 -01	B-33-5.5
903200 -02	B-33-10.0
903200 -03	B-33-35.5
903200 -04	B-33-55.5

The 8260C dichlorodifluoromethane failed below the acceptance criteria in the matrix spike samples. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-33-10.0	Client:	Aspect Consulting, LLC
Date Received:	03/13/19	Project:	Morell's 080190, F&BI 903200

Date Extracted: 03/14/19 Lab ID: 903200-02 Data File: Date Analyzed: 03/14/19 031434.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS/IJL

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	97	50	150

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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-33-55.5 Client: Aspect Consulting, LLC
Date Received: 03/13/19 Project: Morell's 080190, F&BI 903200

Date Extracted: 03/14/19 Lab ID: 903200-04 Data File: Date Analyzed: 031435.D 03/14/19 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: MS/IJL

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	98	50	150

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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 903200

Date Extracted: 03/14/19 Lab ID: 09-0567 mb Date Analyzed: Data File: 03/14/19 031433.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS/IJL

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/19 Date Received: 03/13/19

Project: Morell's 080190, F&BI 903200

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

Laboratory Code: 903157-03 (Matrix Spike)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	9 vo	9 vo	10-142	0
Chloromethane	mg/kg (ppm)	2.5	< 0.5	35	34	10-126	3
Vinyl chloride	mg/kg (ppm)	2.5	< 0.05	35	34	10-138	3
Bromomethane	mg/kg (ppm)	2.5	< 0.5	49	48	10-163	2
Chloroethane	mg/kg (ppm)	2.5	< 0.5	45	42	10-176	7
Trichlorofluoromethane Acetone	mg/kg (ppm)	2.5 12.5	<0.5 <0.5	37 59	34 58	10-176 10-163	8 2
1,1-Dichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	48	45	10-160	6
Hexane	mg/kg (ppm)	2.5	<0.25	22	21	10-137	5
Methylene chloride	mg/kg (ppm)	2.5	<0.5	62	56	10-156	10
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	75	68	21-145	10
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	60	56	14-137	7
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	66	62	19-140	6
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	80	72	10-158	11
cis-1,2-Dichloroethene Chloroform	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	70 72	66 66	25-135 21-145	6 9
2-Butanone (MEK)	mg/kg (ppm) mg/kg (ppm)	12.5	<0.5	64	63	19-147	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	72	68	12-160	6
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	70	64	10-156	9
1,1-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	62	59	17-140	5
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05	67	61	9-164	9
Benzene	mg/kg (ppm)	2.5	< 0.03	66	61	29-129	8
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	63	60	21-139	5
1,2-Dichloropropane Bromodichloromethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	70 78	67 72	30-135 23-155	4 8
Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	78 71	68	23-135	4
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	68	66	24-155	3
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	77	73	28-144	5
Toluene	mg/kg (ppm)	2.5	< 0.05	68	64	35-130	6
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	76	71	26-149	7
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	71	67	10-205	6
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	59	61	15-166	3
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.025	68 70	67 65	31-137 20-133	1 7
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.025	70 79	74	28-150	7
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	69	66	28-142	4
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	70	65	32-129	7
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	70	66	32-137	6
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	81	72	31-143	12
m,p-Xylene	mg/kg (ppm)	5	<0.1	69	65	34-136	6
o-Xylene Styrene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	70 71	66 68	33-134 35-137	6 4
Isopropylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	75	70	31-142	7
Bromoform	mg/kg (ppm)	2.5	< 0.05	85	81	21-156	5
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	71	65	23-146	9
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	70	66	34-130	6
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	73	67	18-149	9
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	77 66	73	28-140 25-144	5 3
1,2,3-Trichloropropane 2-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	71	64 66	25-144 31-134	3 7
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	71	67	31-134	6
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	75	69	30-137	8
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	73	67	10-182	9
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	74	67	23-145	10
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	75	69	21-149	8
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	71	67	30-131	6
1,4-Dichlorobenzene 1,2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	69 72	64 66	29-129 31-132	8 9
1,2-Dictrioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.5	72 79	73	31-132 11-161	8
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	73 72	66	22-142	9
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	7 6	72	10-142	5
Naphthalene	mg/kg (ppm)	2.5	< 0.05	71	67	14-157	6
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	73	66	20-144	10

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/19 Date Received: 03/13/19

Project: Morell's 080190, F&BI 903200

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

Laboratory Code: Laboratory Control Sample

•	-	Percent			
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Dichlorodifluoromethane	mg/kg (ppm)	2.5	51	10-146	
Chloromethane	mg/kg (ppm)	2.5	73	27-133	
Vinyl chloride	mg/kg (ppm)	2.5	86	22-139	
Bromomethane	mg/kg (ppm)	2.5	101	38-114	
Chloroethane	mg/kg (ppm)	2.5	94	10-163	
Trichlorofluoromethane	mg/kg (ppm)	2.5 12.5	99 79	10-196 52-141	
Acetone 1.1-Dichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5	79 98	52-141 47-128	
Hexane	mg/kg (ppm)	2.5	81	43-142	
Methylene chloride	mg/kg (ppm)	2.5	100	42-132	
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	109	60-123	
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	105	67-127	
1,1-Dichloroethane	mg/kg (ppm)	2.5	107	68-115	
2,2-Dichloropropane	mg/kg (ppm)	2.5	136	52-170	
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	107	72-113	
Chloroform	mg/kg (ppm)	2.5	106	66-120	
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm)	12.5 2.5	77 99	57-123 56-135	
1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	112	62-131	
1,1-Dichloropropene	mg/kg (ppm)	2.5	99	69-128	
Carbon tetrachloride	mg/kg (ppm)	2.5	114	60-139	
Benzene	mg/kg (ppm)	2.5	97	68-114	
Trichloroethene	mg/kg (ppm)	2.5	93	64-117	
1,2-Dichloropropane	mg/kg (ppm)	2.5	96	72-127	
Bromodichloromethane	mg/kg (ppm)	2.5	103	72-130	
Dibromomethane	mg/kg (ppm)	2.5	94	70-120	
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	83	45-145	
cis-1,3-Dichloropropene Toluene	mg/kg (ppm)	2.5 2.5	98 96	75-136 66-126	
trans-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5	96	72-132	
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	92	75-113	
2-Hexanone	mg/kg (ppm)	12.5	71	33-152	
1,3-Dichloropropane	mg/kg (ppm)	2.5	88	72-130	
Tetrachloroethene	mg/kg (ppm)	2.5	101	72-114	
Dibromochloromethane	mg/kg (ppm)	2.5	101	74-125	
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	87	74-132	
Chlorobenzene	mg/kg (ppm)	2.5	95	76-111	
Ethylbenzene 1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	98 116	64-123 69-135	
n,p-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5 5	96	78-122	
o-Xylene	mg/kg (ppm)	2.5	100	77-124	
Styrene	mg/kg (ppm)	2.5	97	74-126	
Isopropylbenzene	mg/kg (ppm)	2.5	109	76-127	
Bromoform	mg/kg (ppm)	2.5	107	56-132	
n-Propylbenzene	mg/kg (ppm)	2.5	101	74-124	
Bromobenzene	mg/kg (ppm)	2.5	95	72-122	
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	106	76-126	
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm)	2.5 2.5	105 89	56-143 61-137	
2-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	89 102	74-121	
4-Chlorotoluene	mg/kg (ppm)	2.5	98	75-122	
tert-Butylbenzene	mg/kg (ppm)	2.5	107	73-130	
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	76-125	
sec-Butylbenzene	mg/kg (ppm)	2.5	108	71-130	
p-Isopropyltoluene	mg/kg (ppm)	2.5	109	70-132	
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	97	75-121	
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	94	74-117	
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	102	76-121	
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5 2.5	106 109	58-138 64-135	
1,2,4-1 richiorobenzene Hexachlorobutadiene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	117	50-153	
Naphthalene	mg/kg (ppm)	2.5	106	63-140	
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	110	63-138	
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ENVIRONMENTAL CHEMISTS

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.
- dy 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.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. Phone_ O B-33-5.5 B-33-35,5 City, State, ZIP Address 710 2nd Au Ste 550 Company Aspect B-33-10.0 Report To Dave Hoffner/Breyn Green 3 903200 Sample ID -85.5 Septhy WA 98108 Email dheffwer Oaspeet consulting, com Received by: Relinquished by Received by: Relinquished by: 20 00 NO 01A-Lab ID SIGNATURE miles terms Breezenther 13/13 13/12 13/12 13/12 Sampled Date 2210 0030 2320 Time Sampled 2200 SAMPLE CHAIN OF CUSTODY REMARKS SAMPLERS (signature) Blanch PROJECT NAME Marell's MAKIN NECONCE Sample Туре Nhan Phan Breezen Green PRINT NAME # of Jars TPH-HCID TPH-Diesel TPH-Gasoline ANALYSES REQUESTED m VOCs by 8260C080190 A INVOICE TO からなり ME 3/13/19 P0# troped PAHs 8270D SIM COMPANY RUSH DA 3/2.

Rush charges authorized by: Samples received at □ Other AlDispose after 30 days ☐ Archive Samples TURNAROUND TIME SAMPLE DISPOSAL 3/13/19 0600 DATE PAT PAT を変 Notes PHOP HMIT

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

March 19, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 14, 2019 from the Morell's 080190, F&BI 903259 project. There are 7 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, Breeyn Greer

ASP0319R.DOC

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

March 21, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 15, 2019 from the Morell's 080190, F&BI 903291 project. There are 13 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, Breeyn Greer

ASP0321R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 15, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903291 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
903291 -01	B-28-10.5
903291 -02	B-28-15.5
903291 -03	B-28-30.5
903291 -04	B-28-55.5
903291 -05	MW-23-031419

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-28-30.5	Client:	Aspect Consulting, LLC
Date Received:	03/15/19	Project:	Morell's 080190, F&BI 903291

Date Extracted: 03/15/19 Lab ID: 903291-03 Date Analyzed: Data File: 03/19/19 031920.D Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: **AEN**

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	97	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	0.038
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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B-28-55.5 Client: Aspect Consulting, LLC
Date Received: 03/15/19 Project: Morell's 080190, F&BI 903291

Date Extracted: 03/15/19 Lab ID: 903291-04 Data File: Date Analyzed: 03/19/19 031921.D Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: **AEN**

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	96	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 903291

Date Extracted: 03/15/19 Lab ID: 09-0568 mb Date Analyzed: Data File: 031529.D 03/15/19 Matrix: Soil Instrument: GCMS4 mg/kg (ppm) Dry Weight Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	99	55	145
4-Bromofluorobenzene	96	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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-23-031419	Client:	Aspect Consulting, LLC
Date Received:	03/15/19	Project:	Morell's 080190, F&BI 903291
Data Extracted	02/15/10	Lab ID:	002201 05

Date Extracted: 03/15/19 Lab ID: 903291-05 Date Analyzed: 03/15/19 Data File: 031543.D Matrix: Water GCMS4 Instrument: ug/L (ppb) Units: Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	100
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	18	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	25	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 903291

Date Extracted: 03/18/19 Lab ID: 09-0569 mb Date Analyzed: 03/18/19 Data File: 031817.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: MS

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

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: 903262-15 (Matrix Spike)

	,		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	24	20	10-142	18
Chloromethane	mg/kg (ppm)	2.5	< 0.5	52	49	10-126	6
Vinyl chloride	mg/kg (ppm)	2.5	< 0.05	55	51	10-138	8
Bromomethane	mg/kg (ppm)	2.5	< 0.5	69	70	10-163	1
Chloroethane	mg/kg (ppm)	2.5	< 0.5	70	63	10-176	11
Trichlorofluoromethane	mg/kg (ppm)	2.5	< 0.5	67	60	10-176	11
Acetone	mg/kg (ppm)	12.5	< 0.5	86	79	10-163	8
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	71	64	10-160	10
Hexane	mg/kg (ppm)	2.5	< 0.25	53	48	10-137	10
Methylene chloride	mg/kg (ppm)	2.5	<0.5	83	77	10-156	7
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	< 0.05	81	79	21-145	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	76	70	14-137	8
1,1-Dichloroethane	mg/kg (ppm)	2.5	< 0.05	76 76	73	19-140	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	95	73 89	10-158	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	81	77	25-135	5
Chloroform	mg/kg (ppm)	2.5	< 0.05	81	78	21-145	4
2-Butanone (MEK)		12.5	< 0.05	79	80	19-147	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	< 0.05	85	84	19-147 12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	80	77	10-156	4
	mg/kg (ppm)		<0.05 <0.05	75	77 73	10-136 17-140	3
1,1-Dichloropropene	mg/kg (ppm)	2.5		73 80		9-164	ა 8
Carbon tetrachloride	mg/kg (ppm)	2.5	< 0.05		74		
Benzene	mg/kg (ppm)	2.5	< 0.03	77 75	76	29-129	1
Trichloroethene	mg/kg (ppm)	2.5	< 0.02	75	73	21-139	3
1,2-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	77	77	30-135	0
Bromodichloromethane	mg/kg (ppm)	2.5	< 0.05	78 70	77	23-155	1
Dibromomethane	mg/kg (ppm)	2.5	< 0.05	78	77	23-145	1
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	< 0.5	86	87	24-155	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	79	80	28-144	1
Toluene	mg/kg (ppm)	2.5	< 0.05	77	75	35-130	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	< 0.05	77	77	26-149	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	< 0.05	85	84	10-205	1
2-Hexanone	mg/kg (ppm)	12.5	< 0.5	75	78	15-166	4
1,3-Dichloropropane	mg/kg (ppm)	2.5	< 0.05	79	80	31-137	1
Tetrachloroethene	mg/kg (ppm)	2.5	< 0.025	81	77	20-133	5
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.05	78	75	28-150	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	80	79	28-142	1
Chlorobenzene	mg/kg (ppm)	2.5	< 0.05	83	81	32-129	2
Ethylbenzene	mg/kg (ppm)	2.5	< 0.05	82	80	32-137	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	81	77	31-143	5
m,p-Xylene	mg/kg (ppm)	5	< 0.1	83	81	34-136	2
o-Xylene	mg/kg (ppm)	2.5	< 0.05	82	78	33-134	5

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: 903262-15 (Matrix Spike)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Styrene	mg/kg (ppm)	2.5	< 0.05	81	81	35-137	0
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	85	82	31-142	4
Bromoform	mg/kg (ppm)	2.5	< 0.05	71	70	21-156	1
n-Propylbenzene	mg/kg (ppm)	2.5	< 0.05	84	79	23-146	6
Bromobenzene	mg/kg (ppm)	2.5	< 0.05	81	78	34-130	4
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	84	78	18-149	7
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	< 0.05	89	85	28-140	5
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	< 0.05	82	80	25-144	2
2-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	84	78	31-134	7
4-Chlorotoluene	mg/kg (ppm)	2.5	< 0.05	81	77	31-136	5
tert-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	86	81	30-137	6
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	< 0.05	85	79	10-182	7
sec-Butylbenzene	mg/kg (ppm)	2.5	< 0.05	85	79	23-145	7
p-Isopropyltoluene	mg/kg (ppm)	2.5	< 0.05	88	82	21-149	7
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	82	79	30-131	4
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	83	80	29-129	4
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	81	77	31-132	5
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	< 0.5	82	75	11-161	9
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	88	81	22-142	8
Hexachlorobutadiene	mg/kg (ppm)	2.5	< 0.25	91	83	10-142	9
Naphthalene	mg/kg (ppm)	2.5	< 0.05	88	81	14-157	8
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	89	81	20-144	9

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: Laboratory Control Sample

, , , , , , , , , , , , , , , , , , ,	•		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Ûnits	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	47	10-146
Chloromethane	mg/kg (ppm)	2.5	67	27-133
Vinyl chloride	mg/kg (ppm)	2.5	78	22-139
Bromomethane	mg/kg (ppm)	2.5	90	38-114
Chloroethane	mg/kg (ppm)	2.5	83	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	93	10-196
Acetone	mg/kg (ppm)	12.5	79	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	90	47-128
Hexane	mg/kg (ppm)	2.5	81	43-142
Methylene chloride	mg/kg (ppm)	2.5	93	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	102	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	97	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	100	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	125	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	72-113
Chloroform	mg/kg (ppm)	2.5	103	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	92	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	105	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	106	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	100	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	108	60-139
Benzene	mg/kg (ppm)	2.5	97	68-114
Trichloroethene	mg/kg (ppm)	2.5	96	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	102	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	110	72-130
Dibromomethane	mg/kg (ppm)	2.5	101	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	95	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	111	75-136
Toluene	mg/kg (ppm)	2.5	98	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	111	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	100	75-113
2-Hexanone	mg/kg (ppm)	12.5	88	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	99	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	105	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	109	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	74-132
Chlorobenzene	mg/kg (ppm)	2.5	100	76-111
Ethylbenzene	mg/kg (ppm)	2.5	99	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	108	69-135
m,p-Xylene	mg/kg (ppm)	5	98	78-122
o-Xylene	mg/kg (ppm)	2.5	98	77-124

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Styrene	mg/kg (ppm)	2.5	102	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	105	76-127
Bromoform	mg/kg (ppm)	2.5	118	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	100	74-124
Bromobenzene	mg/kg (ppm)	2.5	98	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	102	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	94	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	99	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	100	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	103	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	102	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	102	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	105	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	97	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	99	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	104	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	98	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	107	50-153
Naphthalene	mg/kg (ppm)	2.5	98	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	99	63-138

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: 903261-01 (Matrix Spike)

•	-			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	108	10-172
Chloromethane	ug/L (ppb)	50	<10	100	25-166
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<0.2 <1	104 113	36-166 47-169
Chloroethane	ug/L (ppb)	50	<1	101	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	110	44-165
Acetone	ug/L (ppb)	250	< 50	90	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	94	60-136
Hexane Methylene chloride	ug/L (ppb)	50 50	<1 <5	93 97	52-150 67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	<1	92	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	90	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	109	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	92	71-127
Chloroform 2-Butanone (MEK)	ug/L (ppb) ug/L (ppb)	50 250	<1 <10	91 94	65-132 10-129
1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	50	<10	99	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	94	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	92	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	95	56-152
Benzene	ug/L (ppb)	50	< 0.35	91	76-125
Trichloroethene 1,2-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	87 90	66-135 78-125
Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	<1	89	61-150
Dibromomethane	ug/L (ppb)	50	<1	89	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	102	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	93	72-132
Toluene	ug/L (ppb)	50	<1	86	76-122
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	88 97	76-130 68-131
2-Hexanone	ug/L (ppb) ug/L (ppb)	250	<10	89	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	92	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	91	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	89	70-139
1,2-Dibromoethane (EDB) Chlorobenzene	ug/L (ppb)	50 50	<1 <1	91 92	69-134 77-122
Ethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	90	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	88	73-137
m,p-Xylene	ug/L (ppb)	100	<2	92	69-135
o-Xylene	ug/L (ppb)	50	<1	88	60-140
Styrene	ug/L (ppb)	50	<1	91	71-133
Isopropylbenzene Bromoform	ug/L (ppb) ug/L (ppb)	50 50	<1 <1 ca	90 83	65-142 65-142
n-Propylbenzene	ug/L (ppb)	50 50	<1 <1	88	58-144
Bromobenzene	ug/L (ppb)	50	<1	89	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	89	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50 50	<1	92 88	53-150
2-Chlorotoluene 4-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	88	66-127 65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	89	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	89	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	86	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	89	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50 50	<1	89 89	72-123
1,4-Dichlorobenzene 1,2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	89 87	69-126 69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	89	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	89	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	77	60-143
Naphthalene	ug/L (ppb)	50	<1	92	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	90	69-148

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/19 Date Received: 03/15/19

Project: Morell's 080190, F&BI 903291

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

Laboratory Code: Laboratory Control Sample

	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	105	105	25-158	0
Chloromethane Vinyl chloride	ug/L (ppb) ug/L (ppb)	50 50	93 104	95 105	45-156 50-154	2 1
Bromomethane	ug/L (ppb) ug/L (ppb)	50	105	106	55-143	1
Chloroethane	ug/L (ppb)	50	98	99	58-146	1
Trichlorofluoromethane	ug/L (ppb)	250	109	112	50-150	3
Acetone	ug/L (ppb)	250	84	84	53-131	0
1,1-Dichloroethene	ug/L (ppb)	50	98	101	67-136	3
Hexane Methylene chloride	ug/L (ppb) ug/L (ppb)	50 50	90 98	91 100	57-137 39-148	1 2
Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50	105	108	64-147	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	105	68-128	3
1,1-Dichloroethane	ug/L (ppb)	50	104	106	79-121	2
2,2-Dichloropropane	ug/L (ppb)	50	127	132	55-143	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	105	80-123	3
Chloroform 2-Butanone (MEK)	ug/L (ppb)	50 250	103 96	107 96	80-121 57-149	4 0
1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	50 50	106	108	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	110	113	83-130	3
1,1-Dichloropropene	ug/L (ppb)	50	103	105	77-129	2
Carbon tetrachloride	ug/L (ppb)	50	112	115	75-158	3
Benzene	ug/L (ppb)	50	100	102	69-134	2
Trichloroethene 1,2-Dichloropropane	ug/L (ppb)	50 50	97 103	97 106	80-120 77-123	0 3
Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	115	117	81-133	2
Dibromomethane	ug/L (ppb)	50	104	106	82-125	2
4-Methyl-2-pentanone	ug/L (ppb)	250	100	101	65-138	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	111	113	82-132	2
Toluene	ug/L (ppb)	50	98	100	72-122	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	116	117	80-136	1
1,1,2-Trichloroethane 2-Hexanone	ug/L (ppb) ug/L (ppb)	50 250	102 90	102 90	75-124 60-136	0
1,3-Dichloropropane	ug/L (ppb)	50	100	101	76-126	1
Tetrachloroethene	ug/L (ppb)	50	104	105	76-121	1
Dibromochloromethane	ug/L (ppb)	50	110	111	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	101	101	82-125	0
Chlorobenzene	ug/L (ppb)	50	100	100	83-114	0
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	100 112	101 115	77-124 84-127	1 3
m,p-Xylene	ug/L (ppb)	100	99	100	83-125	1
o-Xylene	ug/L (ppb)	50	98	100	81-121	2
Styrene	ug/L (ppb)	50	103	104	84-119	1
Isopropylbenzene	ug/L (ppb)	50	106	107	85-117	1
Bromoform	ug/L (ppb)	50 50	118 98	119 101	74-136 74-126	1 3
n-Propylbenzene Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	98 99	101	80-121	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	101	103	78-123	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	109	111	66-126	2
1,2,3-Trichloropropane	ug/L (ppb)	50	94	96	67-124	2
2-Chlorotoluene	ug/L (ppb)	50	98	100	77-127	2
4-Chlorotoluene tert-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	99 101	101 105	78-128 80-123	2 4
1,2,4-Trimethylbenzene	ug/L (ppb)	50	100	102	79-122	2
sec-Butylbenzene	ug/L (ppb)	50	101	104	80-125	3
p-Isopropyltoluene	ug/L (ppb)	50	104	107	81-123	3
1,3-Dichlorobenzene	ug/L (ppb)	50	99	102	85-116	3
1,4-Dichlorobenzene	ug/L (ppb)	50	95	98	84-121	3
1,2-Dichlorobenzene	ug/L (ppb)	50 50	98 111	102 115	85-116 57-141	4
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	97	115	57-141 72-130	4
Hexachlorobutadiene	ug/L (ppb)	50	103	105	53-141	2
Naphthalene	ug/L (ppb)	50	99	102	64-133	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	98	100	65-136	2

ENVIRONMENTAL CHEMISTS

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.
- dy 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.
- \boldsymbol{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.
- \boldsymbol{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.
- $\mbox{\it ve}$ 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.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 14, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903259 project. Samples were logged in under the laboratory ID's listed below.

Aspect Consulting, LLC
B-32-15.5
B-32-25.5
B-32-55.5

The 8260C dichlorodifluoromethane failed below the acceptance criteria in the matrix spike samples. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-32-15.5	Client:	Aspect Consulting, LLC
Date Received:	03/14/19	Project:	Morell's 080190, F&BI 903259

Date Extracted: 03/14/19 Lab ID: 903259-01 Data File: Date Analyzed: 03/14/19 031436.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS/IJL

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	98	50	150

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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-32-55.5	Client:	Aspect Consulting, LLC
Date Received:	03/14/19	Project:	Morell's 080190, F&BI 903259

Date Extracted: 03/14/19 Lab ID: 903259-03 Data File: Date Analyzed: 03/14/19 031437.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: MS/IJL Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 903259

Date Extracted: 03/14/19 Lab ID: 09-0567 mb Date Analyzed: Data File: 03/14/19 031433.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: MS/IJL

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

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	1,1,2-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		

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/19 Date Received: 03/14/19

Project: Morell's 080190, F&BI 903259

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

Laboratory Code: 903157-03 (Matrix Spike)

Reporting Spike Result Recovery Recovery Acceptance RPD	· ·	-		Sample	Percent	Percent		
Analyte		Reporting	Spike		Recovery	Recovery	Acceptance	RPD
Chloromethane	Analyte		Level	(Wet wt)		MSD	Criteria	(Limit 20)
Vinyl chloride								
Bromomethane								
Chlorechane								
Trichloredunomethane mg/sg (ppm) 2.5 0.5 37 34 10-176 8								
1.1-Dichlorecthene	Trichlorofluoromethane		2.5			34		8
Hexane								
Methylethedride mg/sk (ppm) 2.5 <.0.5 62 56 10 158 10								
Methyl-butyl-ther (MTBE)		mg/kg (ppm)						
trans-12-Dichlorecthene mg/kg (ppm) 2.5		mg/kg (ppm)						
1.1-Dichloroethane		mg/kg (ppiii)						
22-Dichloropropane		mg/kg (ppm)						
Chloroform			2.5		80			11
2-Butanone (MEK) mg/kg (ppm) 2.5 <0.05 72 68 19-147 2								
1.2-Dichloroethane (EDC)		mg/kg (ppm)						
1.1.1-Trichloropropen		mg/kg (ppm)						
1-1-Dichloropropene		mg/kg (ppm)						
Carbon tetrachloride								
Benzene								
Trichforoethene mykg (ppm) 12.5		mg/kg (ppm)						
1.2 Dichloropropane mg/kg (ppm) 2.5 < 0.05 70 67 30-135 4								
Bromodichloromethane mg/kg (ppm) 2.5 < 0.05 78 72 23-155 8 4 4 4 4 4 4 4 4 4		mg/kg (ppm)						4
4-Methyl-2-pentanone mg/kg (ppm) 1.2.5 <.0.5		mg/kg (ppm)						8
cis-1.3-Dichloropropene mg/kg (ppm) 2.5 <0.05 68 64 35-130 6 6 trans-1.3-Dichloropropene mg/kg (ppm) 2.5 <0.05 68 64 35-130 6 6 trans-1.3-Dichloropropene mg/kg (ppm) 2.5 <0.05 71 67 10-205 6 6 11.2-Trichlorocthane mg/kg (ppm) 2.5 <0.05 71 67 10-205 6 6 11.2-Trichlorocthane mg/kg (ppm) 2.5 <0.05 68 67 31-137 1 1 1 1 1 1 1 1 1								
Toluene mg/kg (ppm) 25								
trans-13-Dichloropropene mg/kg (ppm) 2.5 <0.05 76 71 28-149 7								
1,12-Trichloroethane		mg/kg (ppm)						
2-Hexanone mg/kg (ppm) 12.5	1 1 2-Trichloroethane	mg/kg (ppiii)						
1.3-Dichloropropane mg/kg (ppm) 2.5 <0.05 68 67 31-137 1 Tetrachloroethene mg/kg (ppm) 2.5 <0.025								
Tetrachloroethene mg/kg (ppm) 2.5								
1.2-Dibromoethane (EDB) mg/kg (ppm) 2.5 < < < < < < < < < < < < > < < < < < <		mg/kg (ppm)		< 0.025				
Chlorobenzene		mg/kg (ppm)						
Ethylenzene mg/kg (ppm) 2.5 <0.05 70 66 32-137 6 n,1,1,2-Tertachloroethane mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
1.1.1.2-Tetrachloroethane								
mp-Xylene mg/kg (ppm) 5 <0.1 69 65 34-136 6 o-Xylene mg/kg (ppm) 2.5 <0.05								
o-Xylene mg/kg (ppm) 2.5 <0.05 70 66 33-134 6 Styrene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
Styrene mg/kg (ppm) 2.5 <0.05 71 68 35-137 4 Isopropylbenzene mg/kg (ppm) 2.5 <0.05								
Isópropylbenzene								
n-Propylbenzene mg/kg (ppm) 2.5 <0.05 71 65 23-146 9 Bromobenzene mg/kg (ppm) 2.5 <0.05			2.5	< 0.05	75	70	31-142	7
Bromobenzene mg/kg (ppm) 2.5 <0.05 70 66 34-130 6 1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05 73 67 18-149 9 1,1,2,2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05 77 73 28-140 5 1,2,3-Trichloropropane mg/kg (ppm) 2.5 <0.05 66 64 25-144 3 2-Chlorotoluene mg/kg (ppm) 2.5 <0.05 71 66 31-134 7 4 4 4 4 4 4 4 4		mg/kg (ppm)						
1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
1,1,2,2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05								
1.2.3-Trichloropropane mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
2-Chlorotoluene mg/kg (ppm) 2.5 <0.05 71 66 31-134 7 4-Chlorotoluene mg/kg (ppm) 2.5 <0.05 71 67 31-136 6 tert-Butylbenzene mg/kg (ppm) 2.5 <0.05 75 69 30-137 8 1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 <0.05 73 67 10-182 9 sec-Butylbenzene mg/kg (ppm) 2.5 <0.05 74 67 23-145 10 p-Isopropyltoluene mg/kg (ppm) 2.5 <0.05 75 69 21-149 8 1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 75 69 21-149 8 1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 71 67 30-131 6 1,4-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 72 66 31-132 9 1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.05 72 66 21-149 8 1,2-Uirbomo-3-chloropropane mg/kg (ppm) 2.5 <0.05 72 66 21-142 9 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 72 66 22-142 9 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 72 66 22-142 9 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 8 1,2-Uirbomo-3-chloropropane mg/kg (ppm) 2.5 <0.05 72 66 22-142 9 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 8 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 76 72 10-161 5 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 71 67 14-157 6		mg/kg (ppm)						
4-Chlorotoluene mg/kg (ppm) 2.5 <0.05								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								
sec-Butylbenzene mg/kg (ppm) 2.5 <0.05 74 67 23-145 10 p-Isopropyltoluene mg/kg (ppm) 2.5 <0.05	tert-Butylbenzene	mg/kg (ppm)					30-137	8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		mg/kg (ppm)						
1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
1,4-Dichlorobenzene mg/kg (ppm) 2.5 <0.05								
1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		mg/kg (ppm)						
1,2,4-Trichlorobenzene mg/kg (ppm) 2.5 <0.25		mg/kg (ppiii)						
Hexachlorobutadiene mg/kg (ppm) 2.5 <0.25 76 72 10-142 5 Naphthalene mg/kg (ppm) 2.5 <0.05		mg/kg (ppm)						
Naphthalene mg/kg (ppm) 2.5 <0.05 71 67 14-157 6								
1,2,3-Trichlorobenzene mg/kg (ppm) 2.5 <0.25 73 66 20-144 10			2.5	< 0.05	71	67		6
	1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	< 0.25	73	66	20-144	10

ENVIRONMENTAL CHEMISTS

Date of Report: 03/19/19 Date Received: 03/14/19

Project: Morell's 080190, F&BI 903259

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	51	10-146
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	73 86	27-133 22-139
Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	101	38-114
Chloroethane	mg/kg (ppm)	2.5	94	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	99	10-196
Acetone	mg/kg (ppm)	12.5	79	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	98	47-128
Hexane	mg/kg (ppm)	2.5	81	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 109	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	105	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	107	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	136	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	107	72-113
Chloroform	mg/kg (ppm)	2.5	106	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	77	57-123
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	99 112	56-135 62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	99	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	114	60-139
Benzene	mg/kg (ppm)	2.5	97	68-114
Trichloroethene	mg/kg (ppm)	2.5	93	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	96	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	103	72-130
Dibromomethane 4-Methyl-2-pentanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	94 83	70-120 45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	98	75-136
Toluene	mg/kg (ppm)	2.5	96	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	96	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	92	75-113
2-Hexanone	mg/kg (ppm)	12.5	71	33-152
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm)	2.5 2.5	88 101	72-130 72-114
Dibromochloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101	72-114 74-125
1.2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	87	74-123
Chlorobenzene	mg/kg (ppm)	2.5	95	76-111
Ethylbenzene	mg/kg (ppm)	2.5	98	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	116	69-135
m,p-Xylene	mg/kg (ppm)	5 2.5	96 100	78-122
o-Xylene Styrene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	97	77-124 74-126
Isopropylbenzene	mg/kg (ppm)	2.5	109	76-127
Bromoform	mg/kg (ppm)	2.5	107	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	101	74-124
Bromobenzene	mg/kg (ppm)	2.5	95	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	106	76-126
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	105 89	56-143 61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	102	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	98	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	107	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	108	71-130
p-Isopropyltoluene 1.3-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	109 97	70-132 75-121
1,4-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	97 94	75-121 74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	102	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	106	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	109	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	117	50-153
Naphthalene	mg/kg (ppm)	2.5	106	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	110	63-138

ENVIRONMENTAL CHEMISTS

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.
- \boldsymbol{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.
- \mbox{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.
- $\mbox{\it ve}$ 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.

Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. Address 710 2nd Ave Ste 550 Company HSPect O City, State, ZIP_ B-32-55,5 Report To Dave Heffner B-32 1021 903259 Sample ID -25,s S, S Seather WA 98104 Email duffued aspect consulting on Received by: TANO W Relinquished by: Received by: Relinquished by: \mathcal{Z} Ş Lab ID AD|3/13/19 2200 B Green SIGNATURE 3/13/19/2235 3/12/19/2330 Sampled Date Ţ, SAMPLE CHAIN OF CUSTODY ME Sampled REMARKS SAMPLERS (signature) PROJECT NAME Morell's Sample Type N 0 **(**1) MONTE STEMMEN Breeze Greek C Jars PRINT NAME # of TPH-HCID TPH-Diesel TPH-Gasoline S. 3 ろ ANALYSES REQUESTED VOCs by 8260C 080190 INVOICE TO THE SVOCs by 8270D PO# The Char PAHs 8270D SIM COMPANY Kpeex Samples received at □ Other_ Dispose after 30 days

Archive Samples Standard Turnaround Rush charges authorized by: TURNAROUND TIME SAMPLE DISPOSAL 3/14/19 3/11/10 111110 3/14/19/0500 DATE Notes 18:37 TIME

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

April 2, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 27, 2019 from the Morell's 080190, F&BI 903505 project. There are 9 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, Breeyn Greer

ASP0402R.doc

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 27, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 903505 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
903505 -01	MW-28-032619
903505 -02	MW-29-032619
903505 -03	MW-32-032619
903505 -04	MW-33-032619

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-28-032619	Client:	Aspect Consulting, LLC
Date Received:	03/27/19	Project:	Morell's 080190, F&BI 903505
Date Extracted:	03/28/19	Lab ID:	903505-01
		D . D.1	000010 5

Date Extracted: 03/28/19 Lab ID: 903505-01
Date Analyzed: 03/28/19 Data File: 032842.D
Matrix: Water Instrument: GCMS9
Units: ug/L (ppb) Operator: MS

	Lower	Upper
% Recovery:	Limit:	Limit:
101	50	150
97	50	150
95	50	150
	101 97	% Recovery: Limit: 101 50 97 50

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	20
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	5.1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-29-032619	Client:	Aspect Consulting, LLC
Date Received:	03/27/19	Project:	Morell's 080190, F&BI 903505
Date Extracted:	03/28/19	Lab ID:	903505-02

Date Analyzed: 03/28/19 Data File: 032843.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	12
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-32-032619	Client:	Aspect Consulting, LLC
Date Received:	03/27/19	Project:	Morell's 080190, F&BI 903505
Date Extracted:	03/28/19	Lab ID:	903505-03
Date Analyzed:	03/28/19	Data File:	032844.D

Date Analyzed:03/28/19Data File:032844.DMatrix:WaterInstrument:GCMS9Units:ug/L (ppb)Operator:MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	95	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	36
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.8	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	8.7	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-33-032619	Client:	Aspect Consulting, LLC
Date Received:	03/27/19	Project:	Morell's 080190, F&BI 903505
Date Extracted:	03/28/19	Lab ID:	903505-04
D . A 1 1	00/00/10	D (D)	0000 47 D

Date Analyzed: 03/28/19 Data File: 032845.D

Matrix: Water Instrument: GCMS9

Units: ug/L (ppb) Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	70 Recovery.	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	28
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.6	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	3.9	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 903505

Lab ID: 09-670 mb Date Extracted: 03/28/19 Date Analyzed: 03/28/19 Data File: 032811.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 04/02/19 Date Received: 03/27/19

Project: Morell's 080190, F&BI 903505

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

Laboratory Code: 903514-01 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	85	55-137
Chloromethane	ug/L (ppb)	50	<10	87	61-120
Vinyl chloride	ug/L (ppb)	50	< 0.2	99	61-139
Bromomethane	ug/L (ppb)	50	<1	89	20-265
Chloroethane	ug/L (ppb)	50	<1	108	55-149
Trichlorofluoromethane Acetone	ug/L (ppb) ug/L (ppb)	50 250	<1 <50	106 99	71-128 48-149
1.1-Dichloroethene	ug/L (ppb) ug/L (ppb)	50	<1	101	71-123
Hexane	ug/L (ppb)	50	<1	80	44-139
Methylene chloride	ug/L (ppb)	50	<5	97	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	101	48-157
cis-1,2-Dichloroethene Chloroform	ug/L (ppb)	50 50	<1 <1	89 97	63-126 77-117
2-Butanone (MEK)	ug/L (ppb) ug/L (ppb)	250	<10	94	70-117
1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	50	<10	100	70-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	107	70-132
Benzene	ug/L (ppb)	50	< 0.35	91	75-114
Trichloroethene	ug/L (ppb)	50	<1	95	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	94	80-111
Bromodichloromethane Dibromomethane	ug/L (ppb)	50 50	<1 <1	106 97	78-117 73-125
4-Methyl-2-pentanone	ug/L (ppb) ug/L (ppb)	250	<10	107	79-125 79-140
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	102	76-120
Toluene	ug/L (ppb)	50	<1	94	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	100	81-116
2-Hexanone	ug/L (ppb)	250	<10	98	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	95	80-113
Tetrachloroethene Dibromochloromethane	ug/L (ppb)	50 50	<1 <1	96 109	72-113 69-129
1,2-Dibromoethane (EDB)	ug/L (ppb) ug/L (ppb)	50 50	<1	100	79-120
Chlorobenzene	ug/L (ppb)	50	<1	93	75-125
Ethylbenzene	ug/L (ppb)	50	<1	97	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	76-130
m,p-Xylene	ug/L (ppb)	100	<2	97	63-128
o-Xylene	ug/L (ppb)	50	<1	94	64-129
Styrene	ug/L (ppb)	50	<1	101	56-142
Isopropylbenzene Bromoform	ug/L (ppb)	50 50	<1 <1	101 107	74-122 49-138
n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	96	65-129
Bromobenzene	ug/L (ppb)	50	<1	97	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	102	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	101	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	93	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	96	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	97	76-122
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	105 100	74-125 59-136
sec-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	101	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	101	64-132
1.3-Dichlorobenzene	ug/L (ppb)	50	<1	96	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	70-120
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	106	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	95	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	91	53-136
Naphthalene 1,2,3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	101 97	60-145 59-130
1,2,5-11 CHIOLODEHZEHE	ug/L (ppu)	30	\1	31	J3-130

ENVIRONMENTAL CHEMISTS

Date of Report: 04/02/19 Date Received: 03/27/19

Project: Morell's 080190, F&BI 903505

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

Laboratory Code: Laboratory Control Sample

· ·	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	93	88	50-157	6
Chloromethane	ug/L (ppb)	50	87	85 97	62-130	2
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	98 95	97 95	70-128 62-188	1 0
Chloroethane	ug/L (ppb)	50 50	115	112	66-149	3
Trichlorofluoromethane	ug/L (ppb)	50	108	105	70-132	3
Acetone	ug/L (ppb)	250	103	95	44-145	8
1,1-Dichloroethene	ug/L (ppb)	50	106	103	75-119	3
Hexane	ug/L (ppb)	50	87	87	51-153	0
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	100 97	100 96	63-132 70-122	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	98	76-122	0
1,1-Dichloroethane	ug/L (ppb)	50	99	97	77-119	2
2,2-Dichloropropane	ug/L (ppb)	50	114	111	62-141	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	91	76-119	1
Chloroform	ug/L (ppb)	50	98	98	78-117	0
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	97 101	96 101	49-147 78-114	1
1,1,1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	106	106	80-116	0
1,1-Dichloropropene	ug/L (ppb)	50	100	99	78-119	1
Carbon tetrachloride	ug/L (ppb)	50	110	109	72-128	1
Benzene	ug/L (ppb)	50	92	92	75-116	0
Trichloroethene	ug/L (ppb)	50	95	95	72-119	0
1,2-Dichloropropane	ug/L (ppb)	50	96	95	79-121	1
Bromodichloromethane Dibromomethane	ug/L (ppb) ug/L (ppb)	50 50	107 98	107 98	76-120 79-121	0 0
4-Methyl-2-pentanone	ug/L (ppb) ug/L (ppb)	250	108	107	54-153	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	107	76-128	0
Toluene	ug/L (ppb)	50	95	95	79-115	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	101	103	76-128	2
1,1,2-Trichloroethane	ug/L (ppb)	50	101	102	78-120	1
2-Hexanone	ug/L (ppb)	250 50	97 95	97 96	49-147	0 1
1,3-Dichloropropane Tetrachloroethene	ug/L (ppb) ug/L (ppb)	50 50	95 97	96 98	81-115 78-109	1
Dibromochloromethane	ug/L (ppb)	50	111	110	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	100	100	82-118	0
Chlorobenzene	ug/L (ppb)	50	93	94	80-113	1
Ethylbenzene	ug/L (ppb)	50	98	98	83-111	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	106	107	76-125	1
m,p-Xylene o-Xylene	ug/L (ppb) ug/L (ppb)	100 50	99 96	99 96	84-112 81-117	0
Styrene	ug/L (ppb) ug/L (ppb)	50 50	102	103	83-121	1
Isopropylbenzene	ug/L (ppb)	50	104	104	81-122	0
Bromoform	ug/L (ppb)	50	110	109	40-161	1
n-Propylbenzene	ug/L (ppb)	50	98	98	81-115	0
Bromobenzene	ug/L (ppb)	50	98	99	80-113	1
1,3,5-Trimethylbenzene 1,1,2,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	103 103	102 103	83-117 79-118	1 0
1,2,3-Trichloropropane	ug/L (ppb) ug/L (ppb)	50 50	95	94	79-116	1
2-Chlorotoluene	ug/L (ppb)	50	97	96	79-112	1
4-Chlorotoluene	ug/L (ppb)	50	98	98	80-116	0
tert-Butylbenzene	ug/L (ppb)	50	107	105	81-119	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	102	102	81-121	0
sec-Butylbenzene	ug/L (ppb)	50	103	102	83-123	1 0
p-Isopropyltoluene 1,3-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	103 97	103 96	81-122 80-115	1
1,4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	93	93	77-112	0
1,2-Dichlorobenzene	ug/L (ppb)	50	98	97	79-115	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	110	109	62-133	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	98	96	75-119	2
Hexachlorobutadiene	ug/L (ppb)	50	97	95	70-116	2
Naphthalene	ug/L (ppb)	50 50	101 97	101 97	72-131 74-122	0
1,2,3-Trichlorobenzene	ug/L (ppb)	30	97	91	14-122	U

ENVIRONMENTAL CHEMISTS

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.
- $\mbox{\it ve}$ 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.

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

April 17, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on April 10, 2019 from the Morell's 080190, F&BI 904199 project. There are 7 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 ASP0417R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 10, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 904199 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
904199 -01	MW-8D-040919
904199 -02	MW-13D-040919
904199 -03	MW-14D-040919

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-8D-040919	Client:	Aspect Consulting, LLC
Date Received:	04/10/19	Project:	Morell's 080190, F&BI 904199
Date Extracted:	04/11/19	Lab ID:	904199-01
Date Analyzed:	04/11/19	Data File:	041141.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	97
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-13D-040919	Client:	Aspect Consulting, LLC
Date Received:	04/10/19	Project:	Morell's 080190, F&BI 904199
Date Extracted:	04/11/19	Lab ID:	904199-02
Date Analyzed:	04/11/19	Data File:	041142.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	12
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.9
Tetrachloroethene	3.1

ENVIRONMENTAL CHEMISTS

Client Sample ID:	MW-14D-040919	Client:	Aspect Consulting, LLC
Date Received:	04/10/19	Project:	Morell's 080190, F&BI 904199
Date Extracted:	04/11/19	Lab ID:	904199-03
Date Analyzed:	04/11/19	Data File:	041143.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

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

ENVIRONMENTAL CHEMISTS

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morell's 080190, F&BI 904199
Date Extracted:	04/11/19	Lab ID:	09-742 mb
Date Analyzed:	04/11/19	Data File:	041115.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	100	50	150

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

ENVIRONMENTAL CHEMISTS

Date of Report: 04/17/19 Date Received: 04/10/19

Project: Morell's 080190, F&BI 904199

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

Laboratory Code: 904199-01 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	81	61-139
Chloroethane	ug/L (ppb)	50	<1	84	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	71 - 123
Methylene chloride	ug/L (ppb)	50	<5	91	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	72 - 122
1,1-Dichloroethane	ug/L (ppb)	50	<1	103	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	104 b	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	102	75 - 121
Trichloroethene	ug/L (ppb)	50	<1	100	73 - 122
Tetrachloroethene	ug/L (ppb)	50	<1	103	72 - 113

Laboratory Code: Laboratory Control Sample

		Percent	Percent		
Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Units	Level	LCS	LCSD	Criteria	(Limit 20)
ug/L (ppb)	50	88	86	70-128	2
ug/L (ppb)	50	89	88	66-149	1
ug/L (ppb)	50	101	100	75 - 119	1
ug/L (ppb)	50	98	97	63-132	1
ug/L (ppb)	50	106	102	76-118	4
ug/L (ppb)	50	105	103	77-119	2
ug/L (ppb)	50	101	99	76-119	2
ug/L (ppb)	50	101	99	78-114	2
ug/L (ppb)	50	104	102	80-116	2
ug/L (ppb)	50	102	100	72 - 119	2
ug/L (ppb)	50	106	104	78-109	2
	Units ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb) ug/L (ppb)	Units Level ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50 ug/L (ppb) 50	Reporting Units Spike Level LCS ug/L (ppb) 50 88 ug/L (ppb) 50 89 ug/L (ppb) 50 101 ug/L (ppb) 50 98 ug/L (ppb) 50 106 ug/L (ppb) 50 105 ug/L (ppb) 50 101 ug/L (ppb) 50 101 ug/L (ppb) 50 104 ug/L (ppb) 50 102	Reporting Units Spike Level Recovery LCSD Recovery LCSD ug/L (ppb) 50 88 86 ug/L (ppb) 50 89 88 ug/L (ppb) 50 101 100 ug/L (ppb) 50 98 97 ug/L (ppb) 50 106 102 ug/L (ppb) 50 105 103 ug/L (ppb) 50 101 99 ug/L (ppb) 50 104 102 ug/L (ppb) 50 104 102 ug/L (ppb) 50 102 100	Reporting Units Spike Level Recovery LCS Recovery LCSD Acceptance Criteria ug/L (ppb) 50 88 86 70-128 ug/L (ppb) 50 89 88 66-149 ug/L (ppb) 50 101 100 75-119 ug/L (ppb) 50 98 97 63-132 ug/L (ppb) 50 106 102 76-118 ug/L (ppb) 50 105 103 77-119 ug/L (ppb) 50 101 99 76-119 ug/L (ppb) 50 101 99 78-114 ug/L (ppb) 50 104 102 80-116 ug/L (ppb) 50 102 100 72-119

ENVIRONMENTAL CHEMISTS

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.
- $\rm jl$ 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.

SAMPLE CHAIN OF CUSTODY

MF 04-10-17

Report To Dave Heffner Company Aspect Address 710 2 rd Ave City, State, ZIP Seattle & Phone 206 838 5831 Email dt Sample ID	2 0 0	B Ste SSO WH 78/04 Phur Caspect Cor Pate Sampled	SAMPLERS PROJECT I PROJECT I REMARKS REMARKS Sampled Sampled	SAMPLERS (signature) PROJECT NAME Morell's REMARKS REMARKS REMARKS Time Sample Type Jars TPH-Gasoline TPH-Gasoline	ture Br	TPH-HCID	TPH-Diesel 2	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C SVOCs by 8270D PAHs 8270D SIM PAHs 82	SVOCs by 8270D SIM	VOCs by 8260°C SVOCs by 8270D PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM PAHs 8270D SIM			TURNAROU TURNAROU TURNAROU Standard Turnar Rush charges auth SAMPLE DI ADispose after 30 Archive Samples Other ED	TURN TURN IN SH Charge af the Sami	RNurd 7	ARCO Furn			DISPC 80 days les	TURNAROUND TIN TURNAROUND TIN WStandard Turnaround Rush charges authorized I Rush charges authorized I Rush charges after 30 days Archive Samples Other ED Note	TURNAROUND TIME TURNAROUND TIME WStandard Turnaround RUSH Rush charges authorized by: SAMPLE DISPOSAL ADispose after 30 days Archive Samples Other ED Notes	DUND naroun thoriz thoriz DISP(80 day) les
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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

July 24, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on July 16, 2019 from the Morell's 080190, F&BI 907266 project. There are 9 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 ASP0724R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 16, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 907266 project. Samples were logged in under the laboratory ID's listed below.

Laboratory	· ID	Aspect	Consulting	g, LLC

907266 -01 MW-20-071519 907266 -02 MW-34-071519

The samples were sent to Fremont Analytical for RSK 175 analysis. In addition, sample MW-34-071519 was sent to Fremont for nitrate, nitrite, sulfate, and TOC analyses. The report is enclosed.

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-34-071519 Client: Aspect Consulting, LLC Date Received: 07/16/19 Project: Morell's 080190, F&BI 907266

Lab ID: 907266-02 Date Extracted: 07/18/19 Date Analyzed: 07/18/19 Data File: 907266-02.117 Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) SPOperator:

Concentration

Analyte: ug/L (ppb)

Iron 3,650

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 907266

07/18/19 Lab ID: I9-435 mbDate Extracted: Date Analyzed: 07/19/19 Data File: I9-435 mb.050 ICPMS2 Matrix: Water Instrument: Units: ug/L (ppb) SPOperator:

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-34-071519	Client:	Aspect Consulting, LLC
Date Received:	07/16/19	Project:	Morell's 080190, F&BI 907266
$\mathbf{D} + \mathbf{D} + 1$	07/10/10	T 1 ID	005000 00

Date Extracted: 07/18/19Lab ID: 907266-02Date Analyzed: 07/18/19 Data File: 071815.DMatrix: Water Instrument: GCMS4 Units: ug/L (ppb) MS/AEN Operator:

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	15	Tetrachloroethene	18
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	1.3	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.4	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 907266

Date Fertugated: 07(18/10) Lab ID: 00.1685 mb

07/18/19 Lab ID: 09-1685 mbDate Extracted: Date Analyzed: 07/18/19 Data File: 071813.DMatrix: Water Instrument: GCMS4 Units: ug/L (ppb) MS/AEN Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	96	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19 Date Received: 07/16/19

Project: Morell's 080190, F&BI 907266

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

Laboratory Code: 907256-02 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	254	95 b	120 b	75-125	23 b

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	82	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19 Date Received: 07/16/19

Project: Morell's 080190, F&BI 907266

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

Laboratory Code: 907241-36 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	110	10-172
Chloromethane	ug/L (ppb)	50	<10	99	25-166
Vinyl chloride	ug/L (ppb)	50	< 0.2	108	36-166
Bromomethane	ug/L (ppb)	50	<1	103	47-169
Chloroethane	ug/L (ppb)	50	<1	100	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	109	44-165
Acetone	ug/L (ppb)	250	<50	56	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	101 78	60-136
Hexane Methylene chloride	ug/L (ppb) ug/L (ppb)	50 50	<1 <5	78 102	52-150 67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	105	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	101	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	84	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	105	71-127
Chloroform	ug/L (ppb)	50	<1	102	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	76	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	104	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	101	69-133
Carbon tetrachloride Benzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <0.35	102 100	56-152 76-125
Trichloroethene	ug/L (ppb)	50 50	<1	98	66-135
1.2-Dichloropropane	ug/L (ppb)	50	<1	101	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	103	61-150
Dibromomethane	ug/L (ppb)	50	<1	106	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	108	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	102	72-132
Toluene	ug/L (ppb)	50	<1	94	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	99	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	104	68-131
2-Hexanone 1,3-Dichloropropane	ug/L (ppb)	250 50	<10 <1	98 103	10-185 71-128
Tetrachloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1	99	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	106	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	104	69-134
Chlorobenzene	ug/L (ppb)	50	<1	102	77-122
Ethylbenzene	ug/L (ppb)	50	<1	97	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	108	73-137
m,p-Xylene	ug/L (ppb)	100	<2	99	69-135
o-Xylene	ug/L (ppb)	50	<1	100	60-140
Styrene Isopropylbenzene	ug/L (ppb)	50 50	<1 <1	101 98	71-133 65-142
Bromoform	ug/L (ppb) ug/L (ppb)	50 50	<1	108	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	94	58-144
Bromobenzene	ug/L (ppb)	50	<1	100	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	95	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	107	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	103	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	97	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	96	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	94	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1 <1	96 90	59-146
sec-Butylbenzene p-Isopropyltoluene	ug/L (ppb) ug/L (ppb)	50 50	<1	90 91	64-140 65-141
1,3-Dichlorobenzene	ug/L (ppb)	50 50	<1	97	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	98	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	106	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	92	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	72	60-143
Naphthalene	ug/L (ppb)	50	<1	100	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	90	69-148

ENVIRONMENTAL CHEMISTS

Date of Report: 07/24/19 Date Received: 07/16/19

Project: Morell's 080190, F&BI 907266

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

Laboratory Code: Laboratory Control Sample

Education Court Education	oner or a dirip.		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	111	111	25-158	0
Chloromethane	ug/L (ppb)	50	102	105	45-156	3
Vinyl chloride	ug/L (ppb)	50	110	111	50-154	1
Bromomethane	ug/L (ppb)	50	103	105	55-143	2
Chloroethane	ug/L (ppb)	50	102	103	58-146	1
Trichlorofluoromethane	ug/L (ppb)	250	109	111	50-150	2
Acetone	ug/L (ppb)	250	56	57	53-131	2
1,1-Dichloroethene Hexane	ug/L (ppb) ug/L (ppb)	50 50	100 98	101 97	67-136 57-137	1 1
Methylene chloride	ug/L (ppb) ug/L (ppb)	50	100	100	39-148	0
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	105	105	64-147	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	103	103	68-128	0
1,1-Dichloroethane	ug/L (ppb)	50	102	101	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	113	113	55-143	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	106	105	80-123	1
Chloroform	ug/L (ppb)	50	102	102	80-121	0
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	78 99	78 99	57-149 73-132	0
1.1.1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	105	106	81-125	1
1,1-Dichloropropene	ug/L (ppb)	50	102	102	77-129	0
Carbon tetrachloride	ug/L (ppb)	50	104	105	75-158	1
Benzene	ug/L (ppb)	50	100	100	69-134	0
Trichloroethene	ug/L (ppb)	50	98	98	79-113	0
1,2-Dichloropropane	ug/L (ppb)	50	102	100	77-123	2
Bromodichloromethane	ug/L (ppb)	50	103	103	81-133	0
Dibromomethane	ug/L (ppb)	50	106	105	82-125	1
4-Methyl-2-pentanone cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	250 50	108 107	108 105	65-138 82-132	$0 \\ 2$
Toluene	ug/L (ppb)	50	94	94	72-122	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	105	103	80-136	2
1,1,2-Trichloroethane	ug/L (ppb)	50	103	102	75-124	1
2-Hexanone	ug/L (ppb)	250	99	99	60-136	0
1,3-Dichloropropane	ug/L (ppb)	50	102	101	76-126	1
Tetrachloroethene	ug/L (ppb)	50	102	100	76-121	2
Dibromochloromethane 1,2-Dibromoethane (EDB)	ug/L (ppb) ug/L (ppb)	50 50	108 103	107 102	84-133 82-115	1 1
Chlorobenzene	ug/L (ppb) ug/L (ppb)	50	103	102	83-114	0
Ethylbenzene	ug/L (ppb)	50	99	99	77-124	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	110	109	84-127	1
m,p-Xylene	ug/L (ppb)	100	101	100	81-112	1
o-Xylene	ug/L (ppb)	50	101	101	81-121	0
Styrene	ug/L (ppb)	50	103	103	84-119	0
Isopropylbenzene	ug/L (ppb)	50 50	104	103	80-117	1 0
Bromoform n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	111 103	111 102	74-136 74-126	1
Bromobenzene	ug/L (ppb)	50	103	103	80-121	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	104	103	78-123	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	109	110	66-126	1
1,2,3-Trichloropropane	ug/L (ppb)	50	104	104	67-124	0
2-Chlorotoluene	ug/L (ppb)	50	103	102	77-127	1
4-Chlorotoluene tert-Butylbenzene	ug/L (ppb)	50 50	103 103	102 102	78-128 80-123	1 1
1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	103	102	79-122	1
sec-Butylbenzene	ug/L (ppb)	50	104	103	80-116	1
p-Isopropyltoluene	ug/L (ppb)	50	104	104	81-123	0
1,3-Dichlorobenzene	ug/L (ppb)	50	103	103	83-113	0
1,4-Dichlorobenzene	ug/L (ppb)	50	99	98	83-107	1
1,2-Dichlorobenzene	ug/L (ppb)	50	103	103	84-112	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	111	111	57-141	0
1,2,4-Trichlorobenzene Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50 50	105 100	105 100	72-130 53-141	0
Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	105	107	64-133	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	103	65-136	1

ENVIRONMENTAL CHEMISTS

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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Seattle, WA 98103
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Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 907266

Work Order Number: 1907228

July 22, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 2 sample(s) on 7/17/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175 Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

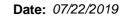
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 907266 **Work Order:** 1907228

 Lab Sample ID
 Client Sample ID
 Date/Time Collected
 Date/Time Received

 1907228-001
 MW-20-071519
 07/15/2019 3:50 PM
 07/17/2019 9:49 AM

 1907228-002
 MW-34-071519
 07/15/2019 5:25 PM
 07/17/2019 9:49 AM



Case Narrative

WO#: **1907228**Date: **7/22/2019**

CLIENT: Friedman & Bruya

Project: 907266

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: **1907228**

Date Reported: 7/22/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: 1907228

Date Reported: 7/22/2019

CLIENT: Friedman & Bruya

Project: 907266

Lab ID: 1907228-001 **Collection Date:** 7/15/2019 3:50:00 PM

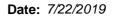
Client Sample ID: MW-20-071519 Matrix: Water

Analyses RL Qual Units DF **Date Analyzed** Result Batch ID: R52740 Analyst: WC **Dissolved Gases by RSK-175** Methane D 100 10.2 0.863 mg/L 7/18/2019 4:13:00 PM Ethene ND 0.0151 mg/L 1 7/18/2019 3:55:00 PM Ethane ND 0.0162 mg/L 7/18/2019 3:55:00 PM

Lab ID: 1907228-002 **Collection Date:** 7/15/2019 5:25:00 PM

Client Sample ID: MW-34-071519 Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date	e Analyzed
Dissolved Gases by RSK-175				Batc	h ID:	R52740	Analyst: WC
Methane	0.0309	0.00863		mg/L	1	7/18	/2019 4:07:00 PM
Ethene	ND	0.0151		mg/L	1	7/18	/2019 4:07:00 PM
Ethane	ND	0.0162		mg/L	1	7/18	/2019 4:07:00 PM
lon Chromatography by EPA Met	hod 300.0			Batc	h ID:	25231	Analyst: SS
Nitrite (as N)	0.125	0.100		mg/L	1	7/17	/2019 3:46:00 PM
Nitrate (as N)	0.484	0.100		mg/L	1	7/17	/2019 3:46:00 PM
Sulfate	15.1	0.600	D	mg/L	2	7/17	/2019 4:09:00 PM
Total Organic Carbon by SM 531	<u>0C</u>			Batc	h ID:	R52731	Analyst: SS
Total Organic Carbon	3.90	0.500		mg/L	1	7/17	/2019 3:52:00 PM





Work Order: 1907228

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 907266							Ion Ch	romatogra	ohy by EP	A Method	.000 t
Sample ID MB-25231	SampType: MBLK			Units: mg/L		Prep Date:	7/17/20	19	RunNo: 52	733	
Client ID: MBLKW	Batch ID: 25231					Analysis Date	7/17/20	19	SeqNo: 10	41582	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									
Sample ID LCS-25231	SampType: LCS			Units: mg/L		Prep Date:	7/17/20	19	RunNo: 52	733	
Client ID: LCSW	Batch ID: 25231					Analysis Date	7/17/20	19	SeqNo: 10	41583	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.727	0.100	0.7500	0	96.9	90	110				
Nitrate (as N)	0.723	0.100	0.7500	0	96.4	90	110				
Sulfate	3.57	0.300	3.750	0	95.2	90	110				
Sample ID 1907228-002CDUP	SampType: DUP			Units: mg/L		Prep Date:	7/17/20	19	RunNo: 52	733	
Client ID: MW-34-071519	Batch ID: 25231					Analysis Date	7/17/20	19	SeqNo: 10	41586	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.234	0.200						0.2340	0	20	D
Nitrate (as N)	0.530	0.200						0.5360	1.13	20	D
Sulfate	15.1	0.600						15.08	0.159	20	D
Sample ID 1907228-002CMS	SampType: MS			Units: mg/L		Prep Date:	7/17/20	19	RunNo: 52	733	
Client ID: MW-34-071519	Batch ID: 25231					Analysis Date	7/17/20	19	SeqNo: 10	41587	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.44	0.200	1.500	0.2340	80.5	80	120				D
Nitrate (as N)	1.93	0.200	1.500	0.5360	92.8	80	120				D
Sulfate	23.0	0.600	7.500	15.08	106	80	120				D

Original Page 6 of 12

Date: 7/22/2019



Work Order: 1907228

Project:

QC SUMMARY REPORT

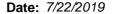
CLIENT: Friedman & Bruya

907266

Ion Chromatography by EPA Method 300.0

Sample ID 1907228-002CMSD	SampType: MSD			Units: mg/L		Prep Dat	e: 7/17/20	19	RunNo: 527	733	
Client ID: MW-34-071519	Batch ID: 25231					Analysis Da	te: 7/17/20	19	SeqNo: 104	11588	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.41	0.200	1.500	0.2340	78.4	80	120	1.442	2.24	20	DS
Nitrate (as N)	1.93	0.200	1.500	0.5360	92.9	80	120	1.928	0.104	20	D
Sulfate	23.0	0.600	7.500	15.08	105	80	120	23.02	0.191	20	D

Original Page 7 of 12





Work Order: 1907228

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

907266

Total Organic Carbon by SM 5310C

Sample ID MB-R52731 SampType: MBLK Units: mg/L Prep Date: 7/17/2019 RunNo: 52731

Client ID: MBLKW Batch ID: R52731 Analysis Date: 7/17/2019 SeqNo: 1041529

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon ND 0.500

Sample ID LCS-R52731 SampType: LCS Units: mg/L Prep Date: 7/17/2019 RunNo: 52731 Client ID: LCSW Batch ID: R52731 Analysis Date: 7/17/2019 SeqNo: 1041530 Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte **Total Organic Carbon** 5.07 0.500 5.000 0 101 80 120

Sample ID 1907228-002BDUP SampType: **DUP** Units: mq/L Prep Date: 7/17/2019 RunNo: 52731 Client ID: MW-34-071519 Batch ID: **R52731** Analysis Date: 7/17/2019 SeqNo: 1041534 SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte Result RL **Total Organic Carbon** 2.37 0.500 3.900 48.8 20 R

NOTES:

R - High RPD indicates matrix interference. The method is in control as indicated by the Laboratory Control Sample (LCS).

Sample ID 1907228-002BMS	SampType: MS			Units: mg/L		Prep Da	te: 7/17/2 0	119	RunNo: 527	731	
Client ID: MW-34-071519	Batch ID: R52731					Analysis Da	te: 7/17/20	19	SeqNo: 104	11535	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.36	0.500	5.000	3.900	49.3	70	130				S

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID 1907228-002BMSD	SampType: MSD			Units: mg/L		Prep Da	te: 7/17/2 0)19	RunNo: 52	731	
Client ID: MW-34-071519	Batch ID: R52731					Analysis Da	te: 7/17/2 0)19	SeqNo: 104	41536	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	6.13	0.500	5.000	3.900	44.7	70	130	6.364	3.70	30	S

Original Page 8 of 12

Date: 7/22/2019



Work Order: 1907228

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

907266

Total Organic Carbon by SM 5310C

Sample ID 1907228-002BMSD

SampType: MSD

Units: mg/L

Prep Date: 7/17/2019

%REC LowLimit HighLimit RPD Ref Val

RunNo: 52731

Client ID: MW-34-071519

Batch ID: **R52731**

Result

RL

Analysis Date: 7/17/2019

SeqNo: 1041536

%RPD RPDLimit

Qual

Analyte NOTES:

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

SPK value SPK Ref Val

Page 9 of 12 Original

Date: 7/22/2019



Work Order: 1907228

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

907266

Dissolved Gases by RSK-175

110,000	00.200				
Sample ID MB-R5	52740	SampType: MBLK	Units: mg/L	Prep Date: 7/18/2019	RunNo: 52740

Client ID: MBLKW Batch ID: R52740 Analysis Date: 7/18/2019 SeqNo: 1041768

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

 Methane
 ND
 0.00863

 Ethene
 ND
 0.0151

 Ethane
 ND
 0.0162

Sample ID LCS-R52740	SampType: LCS			Units: mg/L		Prep Dat	e: 7/18/20	19	RunNo: 527	'40	
Client ID: LCSW	Batch ID: R52740					Analysis Dat	e: 7/18/20	19	SeqNo: 104	1767	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,180 0.	.00863	1,000	0	118	70	130				
Ethene	1,200	0.0151	1,000	0	120	70	130				
Ethane	1,220	0.0162	1,000	0	122	70	130				

Sample ID 1907169-002CREP	SampType: REP	Units: mg/L	Prep Date: 7/18/2019	RunNo: 52740
Client ID: BATCH	Batch ID: R52740		Analysis Date: 7/18/2019	SeqNo: 1041755
Analyte	Result RL	SPK value SPK Ref Val %REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Methane	ND 0.00863		0	30
Ethene	ND 0.0151		0	30
Ethane	ND 0.0162		0	30

Original Page 10 of 12



Sample Log-In Check List

Client Name:	FB	Work Order Numb	per: 1907228	
Logged by:	Carissa True	Date Received:	7/17/2019	9 9:49:00 AM
Chain of Custo	ody			
1. Is Chain of C	ustody complete?	Yes 🗸	No 🗌	Not Present
2. How was the	sample delivered?	<u>FedEx</u>		
<u>Log In</u>				
3. Coolers are p	present?	Yes 🗸	No 🗌	na 🗆
4. Shipping con	tainer/cooler in good condition?	Yes 🗸	No 🗌	
	ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗸	Not Required
6. Was an atten	npt made to cool the samples?	Yes 🗸	No \square	NA \square
7. Were all item	es received at a temperature of >0°C to 10.0°C*	Yes 🗸	No 🗆	NA \square
8. Sample(s) in	proper container(s)?	Yes 🗸	No 🗌	
Sufficient sar	mple volume for indicated test(s)?	Yes 🗸	No 🗌	
10. Are samples	properly preserved?	Yes 🗸	No \square	
11. Was preserva	ative added to bottles?	Yes	No 🗸	NA \square
12 Is there head	space in the VOA vials?	Yes	No 🗸	na 🗆
	es containers arrive in good condition(unbroken)?	Yes 🗸	No 🗌	
_	ork match bottle labels?	Yes 🗸	No 🗌	
15 Are matrices	correctly identified on Chain of Custody?	Yes 🗹	No 🗌	
_	at analyses were requested?	Yes 🗸	No \square	
	ling times able to be met?	Yes 🗹	No \square	
Charles Harrell	ing (if applicable)			
-	ing (if applicable)	V [4	No. I	NA 🗔
18. was client no	otified of all discrepancies with this order?	Yes 🗸	No L	NA L
	Notified: Michael Date		7/17/2019	
By Who		✓ eMail ☐ Ph	one 🗌 Fax	☐ In Person
Regardi				
Client Ir	nstructions:			
19. Additional rer	marks:			

Item Information

Item #	Temp ⁰C
Cooler 1	1.4
Sample 1	1.3

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Phone # (206) 285-8282 Fax # (206) 283-5044	City, State, ZIP Seattle, WA 98119	Address 3012 16th Ave W	CompanyFriedman and Bruya, IncPRO	Detto treport to interrest rangin
Pleas	REMARKS	10	PROJECT NA	

	SUBCONTRACTER [Take	
	PROJECT NAME/NO.	PO#
	907266	A-324
	REMARKS	
١	Please Email Results	ż

			6) 285-8282 Fax # (206) 283-5044	IP_Seattle, WA 98119 REN	
uns	ANALYSES		Please Email Results	REMARKS	
e' f	ANALYSES REQUESTED				
			☐ Return samples ☐ Will call with instructions	SAMPLE DISPOSAL Dispose after 30 days	
		•	L		4

Fax (206) 283-5044	Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.		,					•			615120 - hg-MM	MW-20-071519	Sample ID	
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		1 Petro	in	SIGNATURE			7							1725	1550	Time Sampled	
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Report To Dave Heffner	¥		SAMPL	SAMPLERS (signature)	Sire.	•	r Com	3	•			- 11	_4] i]	Pa	Page #	Page # / of TURNAROUND TIME	TI DING	of ,	E	11
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Certificate of Analysis: Gene-Trac® Dehalococcoides Assay

Customer: Breeyn Greer, Aspect Consulting SiREM Reference: S-5416

Project: Not provided Report Date: 25-Jul-19

Customer Reference: 080190 Data Files: iQ5A-DHCT-TM-QPCR-1678

iQ5A-DB-DHC-TM-QPCR-1001

Table 1: Test Results

Sample ID	Deh	alococcoides (Dhc)
	Percent Dhc ⁽¹⁾	Enumeration/Liter ⁽²⁾
MW-34	NA	1 x 10 ⁴ U
MW-20	NA	1 x 10 ⁵ U

See final page for notes.

Analyst: / Jen Wilkinson

Senior Laboratory Technician

Approved.

Ximena Druar, B.Sc.

Genetic Testing Coordinator

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5416

Customer Sample ID	MW-34	MW-20
SiREM Dhc Test ID	DHC-17775	DHC-17776
Date Sampled ⁽³⁾	15-Jul-19	15-Jul-19
Matrix	Groundwater	Groundwater
Date Received (3)	17-Jul-19	17-Jul-19
Sample Temperature	0.3 °C	0.3 °C
Filtration Date ⁽³⁾	17-Jul-19	17-Jul-19
Volume Used for DNA Extraction	100 mL	10 mL
DNA Extraction Date	22-Jul-19	22-Jul-19
DNA Concentration in Sample (extractable)	2790 ng/L (J)	137475 ng/L
PCR Amplifiable DNA	Detected	Detected
Dhc qPCR Date Analyzed	24-Jul-19	24-Jul-19
Laboratory Controls (see Table 3)	Passed	Passed
Comments		

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5416

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	24-Jul-19	Genomic DNA (CSLD-1316)	1.5 x 10 ⁷	4.8 x 10 ^{6 (4)}	See Note 4
Positive Control High Concentration	24-Jul-19	Genomic DNA (CSHD-1316)	2.4 x 10 ⁹	2.1 x 10 ⁹	Passed
Extraction Control	24-Jul-19	Extraction Control (KB-0679)	1.6 x 10 ¹¹	1.3 x 10 ¹¹	Passed
DNA Extraction Blank	24-Jul-19	Sterile Water (EB-3334)	0	2.6 x 10 ³ U	Passed
Negative Control	24-Jul-19	Reagent Blank (TBD-1275)	0	2.6 x 10 ³ U	Passed

See final page for notes.

Notes:

Dhc = Dehalococcoides

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

²Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

³Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

⁴Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines.

⁵Acceptable as relevant test result is greater than 1 order of magnitude above DNA Extraction Blank result.

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

September 6, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on August 28, 2019 from the Morell's 080190, F&BI 908566 project. There are 15 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 ASP0906R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 28, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 908566 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
908566 -01	MW-24-082719
908566 -02	MW-26-082719
908566 -03	MW-34-082719
908566 -04	MW-35-082719

The samples were sent to Fremont Analytical for nitrate, sulfate, nitrite, TOC, and dissolved gasses analyses. The report is enclosed.

Methylene chloride was detected in the samples. The data were flagged accordingly.

Several 8260C compounds failed below the acceptance criteria in the matrix spike sample. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-24-082719 Client: Aspect Consulting, LLC

Date Received: 08/28/19 Project: Morell's 080190, F&BI 908566

Date Extracted: 08/30/19 Lab ID: 908566-01 x10
Date Analyzed: 08/30/19 Data File: 908566-01 x10.105

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 41,400

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-26-082719 Client: Aspect Consulting, LLC

Date Received: 08/28/19 Project: Morell's 080190, F&BI 908566

 Date Extracted:
 08/30/19
 Lab ID:
 908566-02 x10

 Date Analyzed:
 08/30/19
 Data File:
 908566-02 x10.106

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 49,400

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-34-082719 Client: Aspect Consulting, LLC

Date Received: 08/28/19 Project: Morell's 080190, F&BI 908566

 Date Extracted:
 08/30/19
 Lab ID:
 908566-03 x10

 Date Analyzed:
 08/30/19
 Data File:
 908566-03 x10.107

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 6,090

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-35-082719 Client: Aspect Consulting, LLC

Date Received: 08/28/19 Project: Morell's 080190, F&BI 908566

Date Extracted: 08/30/19 Lab ID: 908566-04 x10
Date Analyzed: 08/30/19 Data File: 908566-04 x10.108

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 6,170

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 908566

08/30/19 Lab ID: Date Extracted: I9-534 mb Date Analyzed: 08/30/19 Data File: I9-534 mb.100 ICPMS2 Matrix: Water Instrument: Units: ug/L (ppb) SPOperator:

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-24-082719	Client:	Aspect Consulting, LLC
Date Received:	08/28/19	Project:	Morell's 080190, F&BI 908566
Data Extracted	08/20/10	Lob ID:	009566 01

Date Extracted: 08/30/19 Lab ID: 908566-01 Date Analyzed: 08/30/19 Data File: 083040.DMatrix: Water Instrument: GCMS9ug/L (ppb) Units: Operator: MS/AEN

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	103	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	42
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	$5.6 \mathrm{lc}$	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	5.1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	10	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-26-082719	Client:	Aspect Consulting, LLC
Date Received:	08/28/19	Project:	Morell's 080190, F&BI 908566
Data Estuadad.	00/20/10	Tak ID.	000500 00

Date Extracted: 08/30/19 Lab ID: 908566-02Date Analyzed: 08/30/19 Data File: 083041.DMatrix: Water Instrument: GCMS9 ug/L (ppb) Units: MS/AEN Operator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	105	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	20
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	$6.2 \mathrm{\ lc}$	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.2	1,3,5-Trimethylbenzene	<1
Chloroform	1.2	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.7	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-34-082719 Client: Aspect Consulting, LLC
Date Received: 08/28/19 Project: Morell's 080190, F&BI 908566

Date February 10 08/20/10 Leb ID: 008766 03

08/30/19 Lab ID: 908566-03 Date Extracted: Date Analyzed: 08/30/19 Data File: 083042.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS/AEN

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	25
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	$5.6 \ \mathrm{lc}$	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.3	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-35-082719	Client:	Aspect Consulting, LLC
Date Received:	08/28/19	Project:	Morell's 080190, F&BI 908566
Date Extracted:	08/30/19	Lah ID:	908566-04

 Date Extracted:
 08/30/19
 Lab ID:
 908566-04

 Date Analyzed:
 08/30/19
 Data File:
 083043.D

 Matrix:
 Water
 Instrument:
 GCMS9

 Units:
 ug/L (ppb)
 Operator:
 MS/AEN

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	39
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	5.4 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.8	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	4.9	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	15 ca		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Morell's 080190, F&BI 908566

Date Extracted: 08/30/19 Leb ID: 09.2006 mb

08/30/19 Lab ID: Date Extracted: 09-2096 mb Date Analyzed: 08/30/19 Data File: 083026.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS/AEN

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	99	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	< 50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 09/06/19 Date Received: 08/28/19

Project: Morell's 080190, F&BI 908566

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

Laboratory Code: 908555-02 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	286	105	104	75 - 125	1

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	95	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 09/06/19 Date Received: 08/28/19

Project: Morell's 080190, F&BI 908566

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

Laboratory Code: 908566-03 (Matrix Spike)

Laboratory Code: 908966-03 (M	atrix Spike)	Percent						
	Reporting	Spike	Sample		Acceptance			
Analyte	Units	Level	Result	MS	Criteria			
Dichlorodifluoromethane	ug/L (ppb)	50	<1	97	55-137			
Chloromethane	ug/L (ppb)	50	<10	92	57-129			
Vinyl chloride	ug/L (ppb)	50	< 0.2	95	61-139			
Bromomethane	ug/L (ppb)	50	<1	94	20-265			
Chloroethane	ug/L (ppb)	50	<1	97	55-149			
Trichlorofluoromethane	ug/L (ppb)	50	<1	97	65-137			
Acetone	ug/L (ppb)	250	< 50	45 vo	48-149			
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	71-123			
Hexane	ug/L (ppb)	50	<1	97	44-139			
Methylene chloride	ug/L (ppb)	50 50	5.6	94	61-126			
Methyl t-butyl ether (MTBE) trans-1.2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	98 100	68-125 72-122			
1,1-Dichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1	96	72-122 79-113			
2,2-Dichloropropane	ug/L (ppb)	50 50	<1	96	48-157			
cis-1,2-Dichloroethene	ug/L (ppb)	50	1.3	99	63-126			
Chloroform	ug/L (ppb)	50	<1	97	77-117			
2-Butanone (MEK)	ug/L (ppb)	250	<10	65 vo	70-135			
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	94	70-119			
1.1.1-Trichloroethane	ug/L (ppb)	50	<1	100	75-121			
1,1-Dichloropropene	ug/L (ppb)	50	<1	99	67-121			
Carbon tetrachloride	ug/L (ppb)	50	<1	99	70-132			
Benzene	ug/L (ppb)	50	< 0.35	94	75-114			
Trichloroethene	ug/L (ppb)	50	2.2	96	73-122			
1,2-Dichloropropane	ug/L (ppb)	50	<1	98	80-111			
Bromodichloromethane	ug/L (ppb)	50	<1	100	78-117			
Dibromomethane	ug/L (ppb)	50	<1	96	73-125			
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	101	79-140			
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	96	76-120			
Toluene	ug/L (ppb)	50	<1	97	73-117			
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	99	75-122			
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	102	81-116			
2-Hexanone 1,3-Dichloropropane	ug/L (ppb)	250	<10 <1	85 95	74-127 80-113			
Tetrachloroethene	ug/L (ppb)	50 50	25	104 b	40-155			
Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50 50	25 <1	103	69-129			
1,2-Dibromoethane (EDB)	ug/L (ppb)	50 50	<1	98	79-120			
Chlorobenzene	ug/L (ppb)	50	<1	97	75-115			
Ethylbenzene	ug/L (ppb)	50	<1	95	66-124			
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	106	76-130			
m,p-Xylene	ug/L (ppb)	100	<2	97	63-128			
o-Xylene	ug/L (ppb)	50	<1	99	64-129			
Styrene	ug/L (ppb)	50	<1	100	56-142			
Isopropylbenzene	ug/L (ppb)	50	<1	101	74-122			
Bromoform	ug/L (ppb)	50	<1	100	49-138			
n-Propylbenzene	ug/L (ppb)	50	<1	101	65-129			
Bromobenzene	ug/L (ppb)	50	<1	96	70-121			
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	104	60-138			
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	103	77-120			
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	96	62-125			
2-Chlorotoluene	ug/L (ppb)	50	<1	99	40-159			
4-Chlorotoluene	ug/L (ppb)	50 50	<1 <1	99 107	76-122			
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	104	74-125 59-136			
sec-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	104	69-127			
p-Isopropyltoluene	ug/L (ppb)	50 50	<1	101	64-132			
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	97	77-113			
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	94	75-110			
1.2-Dichlorobenzene	ug/L (ppb)	50	<1	98	70-120			
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	100	69-129			
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	98	66-123			
Hexachlorobutadiene	ug/L (ppb)	50	<1	96	53-136			
Naphthalene	ug/L (ppb)	50	<1	94	60-145			
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	97	59-130			

ENVIRONMENTAL CHEMISTS

Date of Report: 09/06/19 Date Received: 08/28/19

Project: Morell's 080190, F&BI 908566

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting	Spike	Percent	Percent		
		эріке	Recovery	Recovery	Acceptance	RPD
	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	105	97	50-157	8
Chloromethane	ug/L (ppb)	50	97	92	62-130	5
Vinyl chloride	ug/L (ppb)	50 50	98 100	93 94	70-128	5 6
Bromomethane Chloroethane	ug/L (ppb) ug/L (ppb)	50 50	100	94 92	60-143 66-149	8
Trichlorofluoromethane	ug/L (ppb)	50 50	103	96 96	65-138	7
Acetone	ug/L (ppb)	250	56	56	44-145	0
1.1-Dichloroethene	ug/L (ppb)	50	100	94	72-121	6
Hexane	ug/L (ppb)	50	108	105	51-153	3
Methylene chloride	ug/L (ppb)	50	108	92	63-132	16
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	104	97	70-122	7
trans-1,2-Dichloroethene	ug/L (ppb)	50	104	97	76-118	7
1,1-Dichloroethane	ug/L (ppb)	50	100	95	77-119	5
2,2-Dichloropropane	ug/L (ppb)	50	123	112	62-141	9
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	97	76-119	5
Chloroform	ug/L (ppb)	50	101	95	78-117	6
2-Butanone (MEK)	ug/L (ppb)	250	70	73	48-150	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	99	96	75-116	3
1,1,1-Trichloroethane	ug/L (ppb)	50 50	105	99	80-116	6 5
1,1-Dichloropropene	ug/L (ppb)	50 50	105 106	100 101	78-119 72-128	5 5
Carbon tetrachloride Benzene	ug/L (ppb) ug/L (ppb)	50 50	106 98	95	72-128 75-116	5 3
Trichloroethene	ug/L (ppb)	50 50	101	98	72-119	3
1,2-Dichloropropane	ug/L (ppb)	50 50	102	102	79-121	0
Bromodichloromethane	ug/L (ppb)	50 50	107	106	76-121	1
Dibromomethane	ug/L (ppb)	50	101	101	79-121	0
4-Methyl-2-pentanone	ug/L (ppb)	250	107	108	54-153	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	110	114	76-128	4
Toluene	ug/L (ppb)	50	101	96	79-115	5
trans-1,3-Dichloropropene	ug/L (ppb)	50	113	112	76-128	1
1,1,2-Trichloroethane	ug/L (ppb)	50	107	104	78-120	3
2-Hexanone	ug/L (ppb)	250	89	94	49-147	5
1,3-Dichloropropane	ug/L (ppb)	50	102	102	81-111	0
Tetrachloroethene	ug/L (ppb)	50	106	101	78-109	5
Dibromochloromethane	ug/L (ppb)	50	113	109	63-140	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	105	106	82-118	1
Chlorobenzene	ug/L (ppb)	50 50	101	98	80-113	3
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	100 111	96 102	83-111 76-125	4 8
m,p-Xylene	ug/L (ppb)	100	101	98	81-112	3
o-Xylene	ug/L (ppb)	50	103	96	81-117	7
Styrene	ug/L (ppb)	50	106	104	83-121	2
Isopropylbenzene	ug/L (ppb)	50	106	98	78-118	8
Bromoform	ug/L (ppb)	50	115	111	40-161	4
n-Propylbenzene	ug/L (ppb)	50	108	102	81-115	6
Bromobenzene	ug/L (ppb)	50	102	101	80-113	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	111	103	83-117	7
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	110	106	79-118	4
1,2,3-Trichloropropane	ug/L (ppb)	50	103	101	74-116	2
2-Chlorotoluene	ug/L (ppb)	50	105	98	79-112	7
4-Chlorotoluene	ug/L (ppb)	50	105	103	80-116	2 9
tert-Butylbenzene	ug/L (ppb)	50 50	115	105	81-119	6
1,2,4-Trimethylbenzene	ug/L (ppb)	50 50	110	104	81-121 83-123	6 7
sec-Butylbenzene p-Isopropyltoluene	ug/L (ppb) ug/L (ppb)	50 50	111 107	104 101	83-123 81-117	6
1,3-Dichlorobenzene	ug/L (ppb)	50 50	107	99	80-115	4
1.4-Dichlorobenzene	ug/L (ppb)	50 50	100	97	77-112	3
1,2-Dichlorobenzene	ug/L (ppb)	50	103	97	79-115	6
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	110	100	62-133	10
1,2,4-Trichlorobenzene	ug/L (ppb)	50	107	98	75-119	9
Hexachlorobutadiene	ug/L (ppb)	50	106	98	70-116	8
Naphthalene	ug/L (ppb)	50	104	94	72-131	10
1,2,3-Trichlorobenzene	ug/L (ppb)	50	106	98	74-122	8

ENVIRONMENTAL CHEMISTS

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.



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 908566

Work Order Number: 1908384

September 05, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 8/28/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175 Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

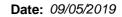
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 908566 **Work Order:** 1908384

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1908384-001	MW-24-082719	08/27/2019 9:20 PM	08/28/2019 3:21 PM
1908384-002	MW-26-082819	08/28/2019 2:10 AM	08/28/2019 3:21 PM
1908384-003	MW-34-082719	08/27/2019 11:30 PM	08/28/2019 3:21 PM
1908384-004	MW-35-082719	08/28/2019 1:00 AM	08/28/2019 3:21 PM



Case Narrative

WO#: **1908384**Date: **9/5/2019**

CLIENT: Friedman & Bruya

Project: 908566

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: 1908384

Date Reported: 9/5/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **1908384**Date Reported: **9/5/2019**

Client: Friedman & Bruya Collection Date: 8/27/2019 9:20:00 PM

Project: 908566

Lab ID: 1908384-001 **Matrix:** Water

Client Sample ID: MW-24-082719

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	h ID:	R53687 Analyst: AD
Methane	0.0278	0.00863		mg/L	1	9/5/2019 3:00:00 PM
Ethene	ND	0.0151		mg/L	1	9/5/2019 3:00:00 PM
Ethane	ND	0.0162		mg/L	1	9/5/2019 3:00:00 PM
Ion Chromatography by EPA Meth	nod 300.0			Bato	h ID:	25665 Analyst: TN
Nitrite (as N)	ND	0.200	D	mg/L	2	8/29/2019 2:02:00 PM
Nitrate (as N)	0.566	0.200	D	mg/L	2	8/29/2019 2:02:00 PM
Sulfate	11.6	0.600	D	mg/L	2	8/29/2019 2:02:00 PM
NOTES:				_		
Diluted due to matrix.						
Total Organic Carbon by SM 5310	<u>C</u>			Bato	h ID:	R53644 Analyst: SS
Total Organic Carbon	3.36	0.500		mg/L	1	8/30/2019 1:20:00 PM



Work Order: **1908384**Date Reported: **9/5/2019**

Client: Friedman & Bruya Collection Date: 8/28/2019 2:10:00 AM

Project: 908566

Lab ID: 1908384-002 **Matrix:** Water

Client Sample ID: MW-26-082819

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 25	665 Analyst: TN
Nitrite (as N)	ND	0.200	D	mg/L	2	8/29/2019 2:25:00 PM
Nitrate (as N)	1.92	0.200	D	mg/L	2	8/29/2019 2:25:00 PM
Sulfate	13.7	0.600	D	mg/L	2	8/29/2019 2:25:00 PM
NOTES:						
Diluted due to matrix.						
Total Organic Carbon by SM	<u>5310C</u>			Bato	h ID: R5	53644 Analyst: SS
Total Organic Carbon	ND	0.500		mg/L	1	8/30/2019 2:39:00 PM



Work Order: 1908384

Date Reported: 9/5/2019

Client: Friedman & Bruya Collection Date: 8/27/2019 11:30:00 PM

Project: 908566

Lab ID: 1908384-003 **Matrix:** Water

Client Sample ID: MW-34-082719

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	h ID: R	53687 Analyst: AD
Methane	ND	0.00863		mg/L	1	9/5/2019 3:02:00 PM
Ethene	ND	0.0151		mg/L	1	9/5/2019 3:02:00 PM
Ethane	ND	0.0162		mg/L	1	9/5/2019 3:02:00 PM
Ion Chromatography by EPA Meth	nod 300.0			Bato	h ID: 25	5665 Analyst: TN
Nitrite (as N)	ND	0.400	D	mg/L	4	8/29/2019 2:48:00 PM
Nitrate (as N)	0.284	0.400	JD	mg/L	4	8/29/2019 2:48:00 PM
Sulfate	7.48	1.20	D	mg/L	4	8/29/2019 2:48:00 PM
NOTES:						
Diluted due to matrix.						
Total Organic Carbon by SM 5310	<u>C</u>			Bato	h ID: R	53644 Analyst: SS
Total Organic Carbon	20.5	0.500		mg/L	1	8/30/2019 3:00:00 PM



Work Order: **1908384**Date Reported: **9/5/2019**

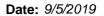
Client: Friedman & Bruya Collection Date: 8/28/2019 1:00:00 AM

Project: 908566

Lab ID: 1908384-004 **Matrix:** Water

Client Sample ID: MW-35-082719

Analyses	Result	Result RL		Units	DF	Date Analyzed
Ion Chromatography by EP	A Method 300.0			Bato	ch ID: 25	665 Analyst: TN
Nitrite (as N)	1.17	0.400	D	mg/L	4	8/29/2019 3:11:00 PM
Nitrate (as N)	0.268	0.400	JD	mg/L	4	8/29/2019 3:11:00 PM
Sulfate	7.27	1.20	D	mg/L	4	8/29/2019 3:11:00 PM
Total Organic Carbon by SI	<u>M 5310C</u>			Bato	ch ID: R	53644 Analyst: SS
Total Organic Carbon	132	2.00	D	mg/L	4	8/30/2019 6:07:00 PM





Work Order: 1908384

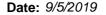
QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EBA Mothod 300 0

Project: 908566							Ion Ch	romatograp	ohy by EP	A Method	300.0
Sample ID: MB-25665	SampType: MBLK			Units: mg/L		Prep Dat	e: 8/29/2	019	RunNo: 535	576	
Client ID: MBLKW	Batch ID: 25665					Analysis Dat	e: 8/29/2	019	SeqNo: 106	60638	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									
Sample ID: LCS-25665	SampType: LCS			Units: mg/L		Prep Dat	e: 8/29/2	019	RunNo: 535	576	
Client ID: LCSW	Batch ID: 25665					Analysis Dat	e: 8/29/2	019	SeqNo: 106	60639	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.675	0.100	0.7500	0	90.0	90	110				
Nitrate (as N)	0.682	0.100	0.7500	0	90.9	90	110				
Sulfate	3.41	0.300	3.750	0	90.9	90	110				
Sample ID: 1908384-004ADUP	SampType: DUP			Units: mg/L		Prep Dat	e: 8/29/2	019	RunNo: 535	576	
Client ID: MW-35-082719	Batch ID: 25665					Analysis Dat	e: 8/29/2	019	SeqNo: 1060645		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.18	0.400						1.168	0.683	20	D
Nitrate (as N)	ND	0.400						0		20	D
Sulfate	7.55	1.20						7.272	3.78	20	D
NOTES: Diluted due to matrix.											
Sample ID: 1908384-004AMS	SampType: MS			Units: mg/L		Prep Dat	e: 8/29/2	019	RunNo: 535	576	
Client ID: MW-35-082719	Batch ID: 25665					Analysis Dat	e: 8/29/2	019	SeqNo: 106	60646	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	3.31	0.400	3.000	1.168	71.5	80	120				DS
Nitrate (as N)	2.70	0.400	3.000	0.2680	81.1	80	120				D
Sulfate	20.3	1.20	15.00	7.272	87.1	80	120				D

Page 9 of 14 Original





Work Order: 1908384

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

908566

Ion Chromatography by EPA Method 300.0

Sample ID: 1908384-004AMS

SampType: MS

Units: mq/L

Prep Date: 8/29/2019

RunNo: 53576

Client ID: MW-35-082719

Batch ID: 25665

Analysis Date: 8/29/2019

SeqNo: 1060646

Analyte

Result

SPK value SPK Ref Val

%REC

LowLimit HighLimit RPD Ref Val

%RPD RPDLimit Qual

NOTES:

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

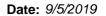
RL

Sample ID: 1908384-004AMSD	SampType: MSD	Units: mg/L				Prep Date: 8/29/2019			RunNo: 53576		
Client ID: MW-35-082719	Batch ID: 25665		Analysis Date: 8/29					SeqNo: 1060647			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	2.84	0.400	3.000	1.168	55.9	80	120	3.312	15.2	20	DS
Nitrate (as N)	2.82	0.400	3.000	0.2680	85.2	80	120	2.700	4.49	20	D
Sulfate	21.1	1.20	15.00	7.272	92.3	80	120	20.34	3.74	20	D

NOTES:

Page 10 of 14 Original

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





Work Order: 1908384

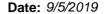
QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Total Organic Carbon by SM 5310C

Project: 908566					Total Organic Carbon by SM 531
Sample ID: MB-R53644	SampType: MBLK			Units: mg/L	Prep Date: 8/30/2019 RunNo: 53644
Client ID: MBLKW	Batch ID: R53644				Analysis Date: 8/30/2019 SeqNo: 1061965
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu
Total Organic Carbon	ND	0.500			
Sample ID: LCS-R53644	SampType: LCS			Units: mg/L	Prep Date: 8/30/2019 RunNo: 53644
Client ID: LCSW	Batch ID: R53644				Analysis Date: 8/30/2019 SeqNo: 1061966
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu
Total Organic Carbon	5.04	0.500	5.000	0	101 80 120
Sample ID: 1908384-001BDUP	SampType: DUP			Units: mg/L	Prep Date: 8/30/2019 RunNo: 53644
Client ID: MW-24-082719	Batch ID: R53644				Analysis Date: 8/30/2019 SeqNo: 1061968
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu
Total Organic Carbon	3.32	0.500			3.363 1.20 20
Sample ID: 1908384-001BMS	SampType: MS			Units: mg/L	Prep Date: 8/30/2019 RunNo: 53644
Client ID: MW-24-082719	Batch ID: R53644				Analysis Date: 8/30/2019 SeqNo: 1061969
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu
Total Organic Carbon	8.41	0.500	5.000	3.363	101 70 130
Sample ID: 1908384-001BMSD	SampType: MSD			Units: mg/L	Prep Date: 8/30/2019 RunNo: 53644
Client ID: MW-24-082719	Batch ID: R53644				Analysis Date: 8/30/2019 SeqNo: 1061970
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu
Total Organic Carbon	8.49	0.500	5.000	3.363	102 70 130 8.405 0.971 30

Original Page 11 of 14





908566

Work Order: 1908384

CLIENT:

Project:

QC SUMMARY REPORT

Friedman & Bruya **Dissolved Gases by RSK-175**

Sample ID: MB-R53687 SampType: MBLK Units: mq/L Prep Date: 9/5/2019 RunNo: 53687 Client ID: MBLKW Batch ID: **R53687** Analysis Date: 9/5/2019 SeqNo: 1062743 %RPD RPDLimit LowLimit HighLimit RPD Ref Val Analyte Result SPK value SPK Ref Val %REC Qual

ND 0.00863 Methane Ethene ND 0.0151 ND Ethane 0.0162

Sample ID: LCS-R53687 SampType: LCS Units: mg/L Prep Date: 9/5/2019 RunNo: 53687 Client ID: LCSW Batch ID: **R53687** Analysis Date: 9/5/2019 SegNo: 1062742 LowLimit HighLimit RPD Ref Val RL Result SPK value SPK Ref Val %REC %RPD RPDLimit Analyte Qual Methane 1,260 0.00863 1,000 0 126 70 130 Ethene 0.0151 1,000 0 70 130 1,270 127 70 Ethane 1.270 0.0162 1.000 0 127 130

Sample ID: 1908384-003CREP SampType: REP Units: mq/L Prep Date: 9/5/2019 RunNo: 53687 MW-34-082719 Batch ID: **R53687** Analysis Date: 9/5/2019 Client ID: SeqNo: 1062748 Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte Methane ND 0.00863 0 30 Ethene ND 0.0151 0 30 Ethane ND 0.0162 0 30

Page 12 of 14 Original



Sample Log-In Check List

Client Name: FB		Work Order Numb	per: 1908384		
Logged by: Carissa True		Date Received:	8/28/2019	9 3:21:00 PM	
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗸	No \square	Not Present	
2. How was the sample delivered?		<u>FedEx</u>			
<u>Log In</u>					
3. Coolers are present?		Yes 🗸	No 🗌	NA 🗆	
4. Shipping container/cooler in good cor	ndition?	Yes 🗸	No 🗌	_	
Custody Seals present on shipping of (Refer to comments for Custody Seal		Yes	No 🗸	Not Required	
6. Was an attempt made to cool the sar	mples?	Yes 🗸	No \square	NA \square	
7. Were all items received at a tempera	ture of >0°C to 10.0°C*	Yes 🗹	No 🗆	na 🗆	
8. Sample(s) in proper container(s)?		Yes 🗸	No 🗆		
9. Sufficient sample volume for indicate	d test(s)?	Yes 🗸	No \square		
10. Are samples properly preserved?		Yes 🗹	No \square		
11. Was preservative added to bottles?		Yes	No 🗸	NA \square	
12. Is there headspace in the VOA vials?	,	Yes	No 🗸	na 🗆	
13. Did all samples containers arrive in g	ood condition(unbroken)?	Yes 🗸	No 🗌		
14. Does paperwork match bottle labels?	•	Yes 🗸	No 🗌		
15. Are matrices correctly identified on C	hain of Custody?	Yes 🗸	No 🗌		
16. Is it clear what analyses were reques	ted?	Yes 🗸	No \square		
17. Were all holding times able to be me	t?	Yes 🗸	No 🗌		
Special Handling (if applicable)					
18. Was client notified of all discrepancie	es with this order?	Yes	No 🗌	NA 🗸	
Person Notified:	Date	5:			
By Whom:	Via:		one Fax	☐ In Person	
Regarding:			-		

Item #	Temp ⁰C
Cooler 1	5.9
Sample 1	4.4
Temp Blank 1	5.7

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

SUBCONTRACTER

+ remont

PROJECT NAME/NO.

908566

A-372

PO#

Send Report To Michael Erdahl

City, State, ZIP Seattle, WA 98119

Address_

3012 16th Ave W

REMARKS

Please Email Results

Company

Friedman and Bruya, Inc.

Far (206) 283-5044	Ph. (206) 285-8282	Seattle, WA 98119-2029	Friedman & Bruya, Inc. 3012 16th Avenue West										1 11200 CC-MW	5/54.00 -22-1M	11+280-18-MM	MW-26-082819	111700-L7-MW	2) 1007 (8	Sample ID		Phone # (200) 200-0202	
×	73			_	-						-	-	4	~	6	2	C		Lab ID S			
Received by:	Relinquished by:	Received by:	Relinquished-by											8/25/16	51/42/18	51/92/13	11 173	6/07/16	Date Sampled		- Can	Fay# (20
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			1430	TIME															, w			

SAMPLE DISPOSAL □ Dispose after 30 days □ Return samples □ Will call with instructions	RUSH	Page #of

Page 14 of 14

Ph. (206) 285-8282 Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. Phone 100 838 5831 Email Cheffrent aspect Company Appect Consulting
Address 710 2nd Ave Ste 550 City, State, ZIP Seattle WA 98/04 PHSB0-25-WM MW-34-08279 Mw-ib-082819 Report To Dave Hefner 64280-12-MW Sample ID 79590b Received by: Relinquished by: Received by: Relinquished by: 03 A-I 0 A-I 04 A-F 02 A-F I.ab ID SIGNATURE 97/13 t2/8 £2/3 8/28 Sampled Date 0710 0100 2330 2120 SAMPLE CHAIN OF CUSTODY Sampled Time SAMPLERS (signature) REMARKS PROJECT NAME Morells Mother Bouck Are Sample ξ, Type \mathcal{E} 3 3 スゥズの Jars PRINT NAME 6 2 6 ٥ TPH-HCID neum Green TPH-Diesel TPH-Gasoline BTEX by 8021B ANALYSES REQUESTED 080190 VOCs by 8260C INVOICE TO A releas 5 SVOCs by 8270D Aspect PO# ME PAHs 8270D SIM COMPANY Nitrate, Nihite, Sulfa Samples received at Total Fe MDispose after 30 days
☐ Archive Samples
☐ Other **X** Standard Turnaround □ RUSH Rush charges authorized by: toc TURNAROUND TIME SAMPLE DISPOSAL Methane lethane lethens DATE Hoc Notes 14.25 TIME JW2



Certificate of Analysis: Gene-Trac® Dehalococcoides Assay

Customer: Dave Heffner, Aspect Consulting

SiREM Reference: S-5473

Project: Morell's

Report Date: 10-Sep-19

Customer Reference: 080190 Data Files: iQ5A-DHCT-TM-QPCR-1693

iQ5A-DB-DHC-TM-QPCR-1015

Table 1: Test Results

Sample ID	Dehalococcoides (Dhc)								
	Percent Dhc ⁽¹⁾	Enumeration/Liter ⁽²⁾							
MW-34-082719	NA	4 x 10 ³ U							

See final page for notes.

Jen Wilkinson

Senior Laboratory Technician

Approved:

Ximena Druar, B.Sc.

Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5473

Customer Sample ID	MW-34-082719
SiREM Dhc Test ID	DHC-17965
Date Sampled ⁽³⁾	27-Aug-19
Matrix	Field Filter
Date Received (3)	29-Aug-19
Sample Temperature	18.3 °C
Filtration Date ⁽³⁾	27-Aug-19
Volume Used for DNA Extraction	300 mL
DNA Extraction Date	9-Sep-19
DNA Concentration in Sample (extractable)	1145 ng/L
PCR Amplifiable DNA	Detected
Dhc qPCR Date Analyzed	9-Sep-19
Laboratory Controls (see Table 3)	Passed
Comments	

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5473

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments	
Positive Control Low Concentration	9-Sep-19	Genomic DNA (CSLD-1331)	1.5 x 10 ⁷	6.3 x 10 ^{6 (4)}	See Note 4	
Positive Control High Concentration	9-Sep-19	Genomic DNA (CSHD-1331)	2.4 x 10 ⁹	1.7 x 10 ⁹	Passed	
Extraction Control	9-Sep-19	Extraction Control (KB-0687)	1.6 x 10 ¹¹	1.6 x 10 ¹¹	Passed	
DNA Extraction Blank	NA Extraction Blank 9-Sep-19 Sterile Water (FB-3366)		0	2.6 x 10 ³ U	Passed	
Negative Control	9-Sep-19	Reagent Blank (TBD-1290)	0	2.6 x 10 ³ U	Passed	

See final page for notes.

Notes:

Dhc = Dehalococcoides

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

²Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

³Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

⁴Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines.



Chain-of-Custody Form

siremlab.com

SiREM Knoxville 180A Market Place Blvd Knoxville, TN 37922 Phone: 865.330.0037

S5473

*Project Name MoreUS *Project # 090190			Analysis												
*Project Manager Dave Hollers *Company Acad													Preservative Key		
*Email Address Alleffner Cospect Consulting- Address (Street) Ho 2nd Ave Ste 550 City Scattle State/Province	OM					Gene-Trac FGA (vcrA, bvcA, tceA)		Г			59469				O. None 1. HCL
Ho 2" Ave ste 550						CA. P				<u>,</u>	arbon				2. Other
	A	Country	USA			FGA (v	暑	Gene-Trac DHG	Gene-Trac SRB	Volatile Fatty Acids	Dissolved hydrocarbon	frestability Study			3. Other
*Phone # 706 838 583)				i	Gene-Trac DHC	-Trac	Gene-Trac DHB	-Trac	Trac	ile Fai	Ived	ability			4. Other
*Sampler's Signature Steepen *Sar Nam	pler's Printed	reeyn 1	Srear	,	Gene	Gene	Gene	Gene	Gene	Volat	Disso	Trest			6. Other
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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

December 30, 2019

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on December 13, 2019 from the Morell's 080190, F&BI 912230 project. There are 17 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, Breeyn Greer

ASP1230R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2019 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's 080190, F&BI 912230 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
912230 -01	MW-24-121219
912230 -02	MW-20-121219
912230 -03	MW-34-121319
912230 -04	MW-35-121319
912230 -05	MW-26-121319

The samples were sent to Fremont Analytical for nitrate, sulfate, nitrite, TOC, and dissolved gasses analyses. The report is enclosed.

The 8260C calibration standard failed the acceptance criteria for acetone and 2,2-dichloropropane. The laboratory control sample and laboratory control sample duplicate failed the relative percent difference for acetone. The data were flagged accordingly. In addition, several compounds exceeded the acceptance criteria in the matrix spike sample. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

Methylene chloride was detected in the 8260C method blank. The data were flagged accordingly.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-24-121219 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

 Date Extracted:
 12/16/19
 Lab ID:
 912230-01 x10

 Date Analyzed:
 12/16/19
 Data File:
 912230-01 x10.118

 $\begin{array}{ccccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 4,070

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-20-121219 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

 Date Extracted:
 12/17/19
 Lab ID:
 912230-02 x100

 Date Analyzed:
 12/17/19
 Data File:
 912230-02 x100.176

 $\begin{array}{ccccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 114,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-34-121319 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

 Date Extracted:
 12/16/19
 Lab ID:
 912230-03 x10

 Date Analyzed:
 12/16/19
 Data File:
 912230-03 x10.128

 $\begin{array}{ccccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 7,320

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-35-121319 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

 Date Extracted:
 12/16/19
 Lab ID:
 912230-04 x10

 Date Analyzed:
 12/16/19
 Data File:
 912230-04 x10.129

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 4,660

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: MW-26-121319 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

 Date Extracted:
 12/16/19
 Lab ID:
 912230-05 x100

 Date Analyzed:
 12/16/19
 Data File:
 912230-05 x100.130

 $\begin{array}{ccccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 51,700

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: Method Blank Client: Aspect Consulting, LLC
Date Received: Not Applicable Project: Morell's 080190, F&BI 912230

12/16/19 Lab ID: I9-797 mb Date Extracted: Date Analyzed: 12/16/19 Data File: I9-797 mb.079 Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) SPOperator:

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-24-121219	Client:	Aspect Consulting, LLC
Date Received:	12/13/19	Project:	Morell's 080190, F&BI 912230
D-4- E-44-1.	10/10/10	T -1, TD.	010000 01

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	50
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	4.2	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	11	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-20-121219 Client: Aspect Consulting, LLC Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

Lab ID: 912230-02 Date Extracted: 12/16/19 Date Analyzed: 12/16/19 Data File: 121641.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	102	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.5	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	320 ca jl	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	14	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	500	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	15	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	58		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-34-121319 Client: Aspect Consulting, LLC
Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

Lab ID: 912230-03 Date Extracted: 12/16/19 Date Analyzed: 12/16/19 Data File: 121642.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	11
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	20	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	1.4	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-35-121319 Client: Aspect Consulting, LLC
Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

Lab ID: 912230-04 Date Extracted: 12/16/19 Date Analyzed: 12/16/19 Data File: 121643.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	102	50	150

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	23
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	7.2	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	3.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MW-26-121319 Client: Aspect Consulting, LLC
Date Received: 12/13/19 Project: Morell's 080190, F&BI 912230

Lab ID: 912230-05 Date Extracted: 12/16/19 Date Analyzed: 12/16/19 Data File: 121644.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

~ .	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	19
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	2.0	1,3,5-Trimethylbenzene	<1
Chloroform	1.5	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	2.3	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank Client: Aspect Consulting, LLC Date Received: Not Applicable Project: Morell's 080190, F&BI 912230

12/16/19 Lab ID: Date Extracted: 09-3016 mbDate Analyzed: 12/16/19 Data File: 121609.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Opper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	8.1 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/19 Date Received: 12/13/19

Project: Morell's 080190, F&BI 912230

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 912238-05 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	1,390	60 b	0 b	70-130	200 b

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	99	85-115

ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/19 Date Received: 12/13/19

Project: Morell's 080190, F&BI 912230

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

Laboratory Code: 912210-01 (Matrix Spike)

Laboratory Code: 912210-01 (Ma	itrix Spike)			Percent	
	Reporting	Spike	Sample		Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	122	55-137
Chloromethane	ug/L (ppb)	50	<10	119	57-129
Vinyl chloride	ug/L (ppb)	50	< 0.2	110	61-139
Bromomethane	ug/L (ppb)	50	<1	107	20-265
Chloroethane	ug/L (ppb)	50	<1	103	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	98	65-137
Acetone	ug/L (ppb)	250	< 50	139	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	71-123
Hexane	ug/L (ppb)	50	<1	115	44-139
Methylene chloride	ug/L (ppb)	50 50	<5	100	61-126
Methyl t-butyl ether (MTBE) trans-1.2-Dichloroethene	ug/L (ppb)	50 50	<1 <1	113 103	68-125 72-122
1,1-Dichloroethane	ug/L (ppb)	50 50	<1	103 114 vo	72-122 79-113
2,2-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	<1	96	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	63-126
Chloroform	ug/L (ppb)	50	<1	111	77-117
2-Butanone (MEK)	ug/L (ppb)	250	<10	145 vo	70-135
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	124 vo	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	107	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	115	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	107	70-132
Benzene	ug/L (ppb)	50	< 0.35	109	75-114
Trichloroethene	ug/L (ppb)	50	7.4	110	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	118 vo	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	121 vo	78-117
Dibromomethane	ug/L (ppb)	50	<1	108	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	137	79-140
cis-1,3-Dichloropropene	ug/L (ppb)	50 50	<1	118	76-120
Toluene trans-1,3-Dichloropropene	ug/L (ppb)	50 50	<1 <1	111 121	73-117 75-122
1,1,2-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1	121 119 vo	75-122 81-116
2-Hexanone	ug/L (ppb)	250	<10	142 vo	74-127
1.3-Dichloropropane	ug/L (ppb)	50	<1	117 vo	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	103	40-155
Dibromochloromethane	ug/L (ppb)	50	<1	110	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	119	79-120
Chlorobenzene	ug/L (ppb)	50	<1	109	75-115
Ethylbenzene	ug/L (ppb)	50	<1	113	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	118	76-130
m,p-Xylene	ug/L (ppb)	100	<2	112	63-128
o-Xylene	ug/L (ppb)	50	<1	113	64-129
Styrene	ug/L (ppb)	50	<1	86	56-142
Isopropylbenzene	ug/L (ppb)	50 50	<1	115	74-122 49-138
Bromoform n-Propylbenzene	ug/L (ppb)	50 50	<1 <1	118 114	49-138 65-129
Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	106	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	113	60-138
1.1.2.2-Tetrachloroethane	ug/L (ppb)	50	<1	136 vo	77-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	130 vo	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	113	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	113	76-122
tert-Butylbenzene	ug/L (ppb)	50	<1	116	74-125
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	110	59-136
sec-Butylbenzene	ug/L (ppb)	50	<1	118	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	114	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	109	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	108	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50 50	<1	111	70-120
1,2-Dibromo-3-chloropropane 1,2.4-Trichlorobenzene	ug/L (ppb)	50 50	<10	151 vo	69-129
1,2,4-Trichlorobenzene Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	117 110	66-123 53-136
Naphthalene	ug/L (ppb) ug/L (ppb)	50 50	<1	125	60-145
1,2,3-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	123	59-130
1,2,0 IIIOIIOIOUCIIZCIIC	ug/Li (ppb)	90	~1	120	00-100

ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/19 Date Received: 12/13/19

Project: Morell's 080190, F&BI 912230

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

Laboratory Code: Laboratory Control Sample

Dazeratery educ. Dazeratery edu	oror sampro		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	123	125	50-157	2
Chloromethane	ug/L (ppb)	50	121	125	62-130	3
Vinyl chloride	ug/L (ppb)	50	111	111	70-128	0
Bromomethane	ug/L (ppb)	50	100	104	60-143	4
Chloroethane	ug/L (ppb)	50	99	101	66-149	2
Trichlorofluoromethane Acetone	ug/L (ppb) ug/L (ppb)	$\frac{50}{250}$	98 112	97 88	65-138 $44-145$	1 24 vo
1,1-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	97	94	72-121	3
Hexane	ug/L (ppb)	50	110	112	51-153	2
Methylene chloride	ug/L (ppb)	50	113	102	63-132	10
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	104	98	70-122	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	100	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	110	110	77-119	0
2,2-Dichloropropane	ug/L (ppb)	50	99	96	62-141	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	100	76-119	2
Chloroform	ug/L (ppb)	50	105 109	105	78-117	0
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	109	$\frac{105}{114}$	48-150 75-116	4 3
1.1.1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	104	102	80-116	2
1,1-Dichloropropene	ug/L (ppb)	50	108	111	78-119	3
Carbon tetrachloride	ug/L (ppb)	50	105	103	72-128	2
Benzene	ug/L (ppb)	50	102	104	75-116	2
Trichloroethene	ug/L (ppb)	50	100	105	72-119	5
1,2-Dichloropropane	ug/L (ppb)	50	109	111	79-121	2
Bromodichloromethane	ug/L (ppb)	50	115	117	76-120	2
Dibromomethane	ug/L (ppb)	50	97	99	79-121	2
4-Methyl-2-pentanone cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	$\frac{250}{50}$	111 112	112 119	54-153	1 6
Toluene	ug/L (ppb) ug/L (ppb)	50 50	103	107	76-128 79-115	4
trans-1,3-Dichloropropene	ug/L (ppb)	50 50	112	120	76-118	7
1,1,2-Trichloroethane	ug/L (ppb)	50	105	111	78-120	6
2-Hexanone	ug/L (ppb)	250	108	114	49-147	5
1,3-Dichloropropane	ug/L (ppb)	50	102	109	81-111	7
Tetrachloroethene	ug/L (ppb)	50	99	102	78-109	3
Dibromochloromethane	ug/L (ppb)	50	105	109	63-140	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	102	109	82-118	7
Chlorobenzene	ug/L (ppb)	50 50	102 107	105 109	80-113	3 2
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	107	109	83-111 76-125	1
m,p-Xylene	ug/L (ppb) ug/L (ppb)	100	106	108	81-112	2
o-Xylene	ug/L (ppb)	50	106	108	81-117	2
Styrene	ug/L (ppb)	50	107	111	83-121	4
Isopropylbenzene	ug/L (ppb)	50	108	111	78-118	3
Bromoform	ug/L (ppb)	50	114	114	40-161	0
n-Propylbenzene	ug/L (ppb)	50	106	111	81-115	5
Bromobenzene	ug/L (ppb)	50	98	103	80-113	5
1,3,5-Trimethylbenzene	ug/L (ppb)	50 50	107	112	83-117	5
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ug/L (ppb) ug/L (ppb)	50 50	$\frac{114}{107}$	119 vo 112	79-118 74-116	4 5
2-Chlorotoluene	ug/L (ppb)	50	105	108	79-112	3
4-Chlorotoluene	ug/L (ppb)	50	104	110	80-116	6
tert-Butylbenzene	ug/L (ppb)	50	108	112	81-119	4
1,2,4-Trimethylbenzene	ug/L (ppb)	50	105	109	81-121	4
sec-Butylbenzene	ug/L (ppb)	50	110	114	83-123	4
p-Isopropyltoluene	ug/L (ppb)	50	107	111	81-117	4
1,3-Dichlorobenzene	ug/L (ppb)	50	101	105	80-115	4
1,4-Dichlorobenzene	ug/L (ppb)	50 50	100	104	77-112	4
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	ug/L (ppb)	50 50	103 125	105 129	79-115 62-133	2 3
1,2-Dibromo-3-chioropropane 1,2,4-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	110	129	62-133 75-119	3 1
Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50 50	107	106	70-119	1
Naphthalene	ug/L (ppb)	50	113	114	72-131	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	114	116	74-122	2

ENVIRONMENTAL CHEMISTS

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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Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 912230

Work Order Number: 1912228

December 20, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 5 sample(s) on 12/13/2019 for the analyses presented in the following report.

Dissolved Gases by RSK-175 Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

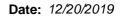
- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 912230 **Work Order:** 1912228

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1912228-001	MW-24-121219	12/12/2019 9:50 PM	12/13/2019 1:09 PM
1912228-002	MW-20-121219	12/12/2019 11:00 PM	12/13/2019 1:09 PM
1912228-003	MW-34-121319	12/13/2019 12:30 AM	12/13/2019 1:09 PM
1912228-004	MW-35-121319	12/13/2019 2:00 AM	12/13/2019 1:09 PM
1912228-005	MW-26-121319	12/13/2019 3:25 AM	12/13/2019 1:09 PM



Case Narrative

WO#: **1912228**Date: **12/20/2019**

CLIENT: Friedman & Bruya

Project: 912230

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: 1912228

Date Reported: 12/20/2019

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: 1912228 Date Reported: 12/20/2019

Client: Friedman & Bruya Collection Date: 12/12/2019 9:50:00 PM

Project: 912230

Lab ID: 1912228-001 Matrix: Water

Client Sample ID: MW-24-121219

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	ch ID: R5	66128 Analyst: AD
Methane	2.30	0.173	D	mg/L	20	12/9/2020 5:03:00 PM
Ethene	ND	0.0151		mg/L	1	12/9/2020 4:32:00 PM
Ethane	ND	0.0162		mg/L	1	12/9/2020 4:32:00 PM
Ion Chromatography by EPA Met	thod 300.0			Bato	ch ID: 26	875 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	12/18/2019 6:15:00 PM
Nitrite (as N)	ND	0.100	Q	mg/L	1	12/13/2019 7:11:00 PM
Nitrate (as N)	0.307	0.100	Н	mg/L	1	12/18/2019 6:15:00 PM
Nitrate (as N)	0.325	0.100	Q	mg/L	1	12/13/2019 7:11:00 PM
Sulfate	9.69	0.300		mg/L	1	12/13/2019 7:11:00 PM
NOTES: Q - Indicates an analyte with a continuing	g calibration that do	es not meet e	stablished a	acceptance	criteria	
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R5	66127 Analyst: SS

Total Organic Carbon by SM 5310C

Total Organic Carbon 2.43 0.500 12/18/2019 10:11:00 PM

Original



Batch ID: R56127

Analyst: SS

Work Order: **1912228**Date Reported: **12/20/2019**

Client: Friedman & Bruya Collection Date: 12/12/2019 11:00:00 PM

Project: 912230

Lab ID: 1912228-002 **Matrix:** Water

Client Sample ID: MW-20-121219

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	h ID: R5	6128 Analyst: AD
Methane	3.73	0.863	D	mg/L	100	12/9/2020 5:55:00 PM
Ethene	ND	0.0151		mg/L	1	12/9/2020 4:38:00 PM
Ethane	ND	0.0162		mg/L 1 12/9/2020 4:38:00		12/9/2020 4:38:00 PM
Ion Chromatography by EPA Met	hod 300.0			Bato	th ID: 268	Analyst: SS
Nitrite (as N)	2.74	0.200	DH	mg/L	2	12/18/2019 6:38:00 PM
Nitrite (as N)	0.749	0.100	Q	mg/L	1	12/13/2019 8:43:00 PM
Nitrate (as N)	0.252	0.200	DH	mg/L	2	12/18/2019 6:38:00 PM
Nitrate (as N)	0.299	0.100	Q	mg/L	1	12/13/2019 8:43:00 PM
Sulfate	ND	0.300		mg/L	1	12/13/2019 8:43:00 PM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria Diluted due to matrix.

Total Organic Carbon by SM 5310C

Total Organic Carbon 809 10.0 DB mg/L 20 12/19/2019 11:25:00 AM

NOTES:

Original

B - Detection in sample is 10x greater than detection in CCB. No further action required.



Work Order: 1912228
Date Reported: 12/20/2019

Client: Friedman & Bruya Collection Date: 12/13/2019 12:30:00 AM

Project: 912230

Lab ID: 1912228-003 **Matrix:** Water

Client Sample ID: MW-34-121319

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	h ID:	R56128 Analyst: AD
Methane	0.0646	0.00863		mg/L	1	12/9/2020 4:43:00 PM
Ethene	ND	0.0151		mg/L	1	12/9/2020 4:43:00 PM
Ethane	ND	0.0162		mg/L	1	12/9/2020 4:43:00 PM
Ion Chromatography by EPA Me	thod 300.0			Bato	h ID:	26875 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	12/18/2019 7:01:00 PM
Nitrite (as N)	ND	0.100	Q	mg/L	1	12/13/2019 9:06:00 PM
Nitrate (as N)	ND	0.100	Н	mg/L	1	12/18/2019 7:01:00 PM
Nitrate (as N)	0.208	0.100	Q	mg/L	1	12/13/2019 9:06:00 PM
Sulfate	4.26	0.300		mg/L	1	12/13/2019 9:06:00 PM
NOTES: Q - Indicates an analyte with a continuing	g calibration that do	oes not meet e	stablished a	cceptance	criteria	
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID:	R56127 Analyst: SS

Total Organic Carbon 6.76 0.500 mg/L 1 12/19/2019 12:57:00 AM



Work Order: 1912228
Date Reported: 12/20/2019

Client: Friedman & Bruya Collection Date: 12/13/2019 2:00:00 AM

Project: 912230

Lab ID: 1912228-004 **Matrix:** Water

Client Sample ID: MW-35-121319

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Bato	h ID: I	R56128 Analyst: AD
Methane	ND	0.00863		mg/L	1	12/9/2020 4:45:00 PM
Ethene	ND	0.0151		mg/L	1	12/9/2020 4:45:00 PM
Ethane	ND	0.0162		mg/L	1	12/9/2020 4:45:00 PM
lon Chromatography by EPA Me	ethod 300.0			Bato	h ID: 2	26875 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	12/18/2019 7:24:00 PM
Nitrite (as N)	ND	0.100	Q	mg/L	1	12/13/2019 9:29:00 PM
Nitrate (as N)	0.388	0.100	Н	mg/L	1	12/18/2019 7:24:00 PM
Nitrate (as N)	0.370	0.100	Q	mg/L	1	12/13/2019 9:29:00 PM
Sulfate	13.2	0.300		mg/L	1	12/13/2019 9:29:00 PM
NOTES:						
Q - Indicates an analyte with a continuin						

Total Organic Carbon 3.66 0.500 mg/L 1 12/19/2019 1:26:00 AM



Work Order: 1912228
Date Reported: 12/20/2019

Client: Friedman & Bruya Collection Date: 12/13/2019 3:25:00 AM

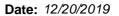
Project: 912230

Lab ID: 1912228-005 **Matrix:** Water

Client Sample ID: MW-26-121319

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by	EPA Method 300.0			Bato	h ID: 26	875 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	12/18/2019 7:47:00 PM
Nitrite (as N)	ND	0.100	Q	mg/L	1	12/13/2019 9:53:00 PM
Nitrate (as N)	1.85	0.100	Н	mg/L	1	12/18/2019 7:47:00 PM
Nitrate (as N)	1.78	0.100	Q	mg/L	1	12/13/2019 9:53:00 PM
Sulfate	12.9	0.300		mg/L	1	12/13/2019 9:53:00 PM
NOTES:						
Q - Indicates an analyte with a	a continuing calibration that doe	es not meet e	stablished a	acceptance (criteria	
Total Organic Carbon by	SM 5310C			Bato	h ID: R5	6127 Analyst: SS

Total Organic Carbon by SM 5310C				Batcl	h ID: R5	6127	Analyst: SS
Total Organic Carbon	ND	1.00	D	ma/L	2	12/19	9/2019 2:09:00 AM





QC SUMMARY REPORT

CLIENT: Friedman & Bruya

912230

Ion Chromatography by EPA Method 300.0

Sample ID: MB-26818	SampType: MBLK			Units: mg/L		Prep Da	te: 12/13/2	2019	RunNo: 560)70	
Client ID: MBLKW	Batch ID: 26818					Analysis Da	te: 12/13/2	2019	SeqNo: 11 1	16534	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									Q
Nitrate (as N)	ND	0.100									Q
Sulfate	ND	0.300									

NOTES:

Project:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Sample ID: LCS-26818	SampType: LCS			Units: mg/L		Prep Da	te: 12/13/2	2019	RunNo: 560	70	
Client ID: LCSW	Batch ID: 26818					Analysis Da	te: 12/13/2	2019	SeqNo: 111	6535	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.686	0.100	0.7500	0	91.5	90	110				
Nitrate (as N)	0.698	0.100	0.7500	0	93.1	90	110				
Sulfate	3.50	0.300	3.750	0	93.4	90	110				

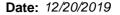
Sample ID: 1912228-001BDUP	SampType: DUP			Units: mg/L		Prep Da	e: 12/13/2	019	RunNo: 560	70	
Client ID: MW-24-121219	Batch ID: 26818					Analysis Da	te: 12/13/2	019	SeqNo: 111	6537	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	Q
Nitrate (as N)	0.334	0.100						0.3250	2.73	20	Q
Sulfate	10.1	0.300						9.690	3.86	20	

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Sample ID: 1912228-001BMS	SampType: MS			Units: mg/L		Prep Da	te: 12/13/2	2019	RunNo: 560	70	
Client ID: MW-24-121219	Batch ID: 26818					Analysis Da	te: 12/13/2	2019	SeqNo: 111	6538	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.636	0.100	0.7500	0.07500	74.8	80	120				S
Nitrate (as N)	1.02	0.100	0.7500	0.3250	93.2	80	120				
Sulfate	13.7	0.300	3.750	9.690	108	80	120				

Original Page 10 of 18





QC SUMMARY REPORT

CLIENT: Friedman & Bruya

912230

Ion Chromatography by EPA Method 300.0

Client ID: MW-24-121219 Batch ID: 26818 Analysis Date: 12/13/2019 SeqNo: 1116538

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

NOTES:

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range (Nitrite).

Sample ID: 1912228-001BMSD	SampType: MSD			Units: mg/L		Prep Dat	te: 12/13/2	019	RunNo: 560	70	
Client ID: MW-24-121219	Batch ID: 26818					Analysis Da	te: 12/13/2	019	SeqNo: 111	6539	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.684	0.100	0.7500	0.07500	81.2	80	120	0.6360	7.27	20	
Nitrate (as N)	1.08	0.100	0.7500	0.3250	100	80	120	1.024	5.14	20	
Sulfate	14.3	0.300	3.750	9.690	123	80	120	13.75	4.01	20	S

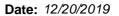
NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range (Sulfate).

Sample ID: MB-26875	SampType: MBLK			Units: mg/L		Prep Da	te: 12/18/2	2019	RunNo: 56	118	
Client ID: MBLKW	Batch ID: 26875					Analysis Da	te: 12/18/2	2019	SeqNo: 11	17820	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									

Sample ID: LCS-26875	SampType: LCS			Units: mg/L		Prep Da	te: 12/18/2019	RunNo: 56118	
Client ID: LCSW	Batch ID: 26875					Analysis Da	te: 12/18/2019	SeqNo: 1117821	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLin	nit Qual
Nitrite (as N)	0.683	0.100	0.7500	0	91.1	90	110		
Nitrate (as N)	0.700	0.100	0.7500	0	93.3	90	110		

Original Page 11 of 18





QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 912230							ion Cn	romatogra	ony by EP	A Wetho	300.
Sample ID: 1912263-001BDUP	SampType: DUP			Units: mg/L		Prep Date	e: 12/18/2	2019	RunNo: 56	118	
Client ID: BATCH	Batch ID: 26875					Analysis Date	e: 12/18/2	2019	SeqNo: 11	17831	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200						0		20	DH
Nitrate (as N)	0.248	0.200						0.2500	0.803	20	DH
Sample ID: 1912263-001BMS	SampType: MS			Units: mg/L		Prep Date	e: 12/18/2	2019	RunNo: 56	118	
Client ID: BATCH	Batch ID: 26875					Analysis Date	e: 12/18/2	2019	SeqNo: 11	17832	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.39	0.200	1.500	0	92.4	80	120				DH
Nitrate (as N)	1.63	0.200	1.500	0.2500	92.1	80	120				DH
Sample ID: 1912263-001BMSD	SampType: MSD			Units: mg/L		Prep Date	e: 12/18/2	2019	RunNo: 56	118	
Client ID: BATCH	Batch ID: 26875					Analysis Date	e: 12/18/2	2019	SeqNo: 11	17833	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.41	0.200	1.500	0	94.0	80	120	1.386	1.72	20	DH
Nitrate (as N)	1.64	0.200	1.500	0.2500	92.8	80	120	1.632	0.611	20	DH
Sample ID: 1912307-001BDUP	SampType: DUP			Units: mg/L		Prep Date	e: 12/18/2	2019	RunNo: 56	118	
Client ID: BATCH	Batch ID: 26875					Analysis Date	e: 12/19/2	2019	SeqNo: 11	17846	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	ND	0.100						0		20	
Sample ID: 1912307-001BMS	SampType: MS			Units: mg/L		Prep Date	e: 12/18/2	2019	RunNo: 56	118	
Client ID: BATCH	Batch ID: 26875			_		Analysis Date	e: 12/19/2	2019	SeqNo: 11	17847	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.712	0.100	0.7500	0	94.9	80	120				

Original Page 12 of 18

Date: 12/20/2019



Work Order: 1912228

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

912230

Ion Chromatography by EPA Method 300.0

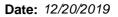
Sample ID: 1912307-001BMS SampType: MS Units: mg/L Prep Date: 12/18/2019 RunNo: 56118

Client ID: **BATCH** Batch ID: **26875** Analysis Date: **12/19/2019** SeqNo: **1117847**

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Nitrate (as N) 0.720 0.100 0.7500 0 96.0 80 120

Original Page 13 of 18





QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Total Organic Carbon by SM 5310C

Project: 912230							lotal Org	anic Carbon by SM	5310C
Sample ID: MB-R56127	SampType: MBLK			Units: mg/L		Prep Date:	12/18/2019	RunNo: 56127	
Client ID: MBLKW	Batch ID: R56127					Analysis Date:	12/18/2019	SeqNo: 1117988	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	ND	0.500							
Sample ID: LCS-R56127	SampType: LCS			Units: mg/L		Prep Date:	12/18/2019	RunNo: 56127	
Client ID: LCSW	Batch ID: R56127					Analysis Date:	12/18/2019	SeqNo: 1117989	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	5.43	0.500	5.000	0	109	88.3	117		
Sample ID: 1912228-001ADUP	SampType: DUP			Units: mg/L		Prep Date:	12/18/2019	RunNo: 56127	
Client ID: MW-24-121219	Batch ID: R56127					Analysis Date:	12/18/2019	SeqNo: 1117991	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	2.42	0.500					2.426	0.372 20	
Sample ID: 1912228-001AMS	SampType: MS			Units: mg/L		Prep Date:	12/18/2019	RunNo: 56127	
Client ID: MW-24-121219	Batch ID: R56127					Analysis Date:	12/18/2019	SeqNo: 1117992	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	7.55	0.500	5.000	2.426	102	66	142		
Sample ID: 1912228-001AMSD	SampType: MSD			Units: mg/L		Prep Date:	12/18/2019	RunNo: 56127	
Client ID: MW-24-121219	Batch ID: R56127					Analysis Date:	12/18/2019	SeqNo: 1117993	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	7.47	0.500	5.000	2.426	101	66	142 7.546	1.01 30	

Original Page 14 of 18

Date: 12/20/2019



Work Order: 1912228

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

912230

Total Organic Carbon by SM 5310C

Sample ID: 1912307-002CDUP SampType: DUP Units: mg/L Prep Date: 12/19/2019 RunNo: 56127

Client ID: **BATCH** Batch ID: **R56127** Analysis Date: **12/19/2019** SeqNo: **1118013**

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon ND 0.500 0 20

Sample ID: 1912307-002CMS Prep Date: 12/19/2019 SampType: MS Units: mg/L RunNo: 56127 Client ID: BATCH Batch ID: R56127 Analysis Date: 12/19/2019 SeqNo: 1118014 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 5.38 0.500 5.000 0.2660 102 66 142

Original Page 15 of 18

Date: 12/20/2019



Work Order: 1912228

Project:

Ethane

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

912230

Dissolved Gases by RSK-175

Sample ID: MB-R56128	SampType: MBLK			Units: mg/L		Prep Da	te: 12/9/2 0	20	RunNo: 56	128	
Client ID: MBLKW	Batch ID: R56128					Analysis Da	te: 12/9/20	20	SeqNo: 11	18030	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	ND	0.00863									
Ethene	ND	0.0151									

Sample ID: LCS-R56128	SampType: LCS			Units: mg/L		Prep Da	te: 12/9/20	20	RunNo: 561	28	
Client ID: LCSW	Batch ID: R56128					Analysis Da	te: 12/9/20	20	SeqNo: 111	8029	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1,140	0.00863	1,000	0	114	70	130				
Ethene	1,150	0.0151	1,000	0	115	70	130				
Ethane	1,160	0.0162	1,000	0	116	70	130				

Sample ID: 1912228-001CREP	SampType: REP	Units: mg/L	Prep Date: 12/9/2020	RunNo: 56128
Client ID: MW-24-121219	Batch ID: R56128		Analysis Date: 12/9/2020	SeqNo: 1118017
Analyte	Result RL	SPK value SPK Ref Val %REG	C LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Methane	1.59 0.00863		2.303	36.6 30 RE
Ethene	ND 0.0151		0	30
Ethane	ND 0.0162		0	30

NOTES:

ND

0.0162

Original Page 16 of 18

R - High RPD due to high analyte concentration. In this range, high RPD's may be expected.

E - Estimated value. The amount exceeds the linear working range of the instrument.



Sample Log-In Check List

CI	ient Name:	FB		Work O	rder Num	ber: 1912228		
Lo	ogged by:	Clare Griggs		Date Re	eceived:	12/13/2019	9 1:09:00 PM	
<u>Cha</u>	in of Custo	<u>ody</u>						
1.	Is Chain of C	ustody complete?		Yes	•	No 🗌	Not Present	
2.	How was the	sample delivered?		FedE	<u> </u>			
Log	<u>In</u>							
_	Coolers are p	present?		Yes	•	No 🗆	NA \square	
4.	Shipping con	tainer/cooler in good condition	?	Yes	✓	No \square		
5.		s present on shipping contain nments for Custody Seals not		Yes		No 🗌	Not Required 🗹	
6.	Was an atten	npt made to cool the samples?	?	Yes	✓	No 🗌	NA \square	
7.	Were all item	s received at a temperature of	>0°C to 10.0°C*	Yes	✓	No 🗆	NA \square	
8.	Sample(s) in	proper container(s)?		Yes	✓	No 🗆		
9.	Sufficient san	nple volume for indicated test(s)?	Yes	✓	No 🗆		
10.	Are samples	properly preserved?		Yes	✓	No 🗌		
11.	Was preserva	ative added to bottles?		Yes		No 🗸	NA 🗌	
12.	Is there head	space in the VOA vials?		Yes		No \square	NA 🗹	
13.	Did all sample	es containers arrive in good co	ondition(unbroken)?	Yes	✓	No 🗌		
14.	Does paperw	ork match bottle labels?		Yes	✓	No 🗌		
15.	Are matrices	correctly identified on Chain o	f Custody?	Yes	✓	No 🗌		
16.	Is it clear wha	at analyses were requested?		Yes	✓	No 🗌		
17.	Were all hold	ing times able to be met?		Yes	✓	No 🗌		
<u>Spe</u>	cial Handli	ing (if applicable)						
18.	Was client no	tified of all discrepancies with	this order?	Yes		No \square	NA 🗹	-
	Person	Notified:	Dat	e:				
	By Who	m:	Via	eMa	ail 🗌 Ph	none 🗌 Fax 🏻	In Person	
	Regardi	ng:						
	Client In	structions:						
19.	Additional rer	narks:						
<u>ltem l</u>	<u>Information</u>							
		Item #	Temp °C					
	Cooler		6.3					

2.2

Sample

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 41000

SUBCONTRACTER

PROJECT NAME/NO.

912230

Fax (206) 283-5044	Ph. (206) 285-8282	South Will of the West	Friedman & Bruya, Inc.									118121 97-79W	2 - (2 (7 B	MW-35-121215	WM-34-151218	WM-20-121219	MW-24-121218	Sample ID L			Phone # (206) 285-8282
Received by:	Relinquished by:	Today Carlina Tra	Political Control									+		-	12/13/19	12/12/15	12/12/19	Lab Date ID Sampled			Fax #
	Mr. NW	100	SIGNATURE									2150		0200	0030	: 2300	2150	Time Sampled			(206) 283-5044
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	30	Micha																# of jars			P
	Mayundy	Michael Erdahl	PI					_										Dioxins/Furans		1	Please Email Results
	No.	<u>a</u> hl	PRINT NAME						-		_		_	4				EPH			mail R
	3		VAME			_	_			ļ.	_	-	-	+				VPH			esults
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	THE	Fried		1					_		_	4	×	+	×	X	X	RSK methore, ethair,	ANALYSES REQUESTED		
	1	Friedman & Bruya	COMPANY									-NO PSKO	-	1	\dashv	-	-		JEST!		
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8 1	12.	12/13	D	-	•							2		+	+	_	+				l samp
	13/16	13/15	DATE					6			~	12/13/16						ы			☐ Return samples ☐ Will call with instructions
	12061	(106.	TIME															Notes			ctions

Page # of

Page # of

TURNAROUND TIME

PO #

| Standard (2 Weeks) |
| RUSH |
| Rush charges authorized by:
| SAMPLE DISPOSAL |
| Camples |
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Page 18 of 18

City, State, ZIP Seattle, WA 98119

REMARKS

Address

3012 16th Ave W

Company_

Friedman and Bruya, Inc.

Send Report To Michael Erdahl

Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.					PMW-26-12319	mw-35-121319	mw-34-121319	mw-20-121219	mw-24-121219	Sample ID		Phone (1/22327343 Email bgreen)	City, State, ZIP Seath	710 2md	Company Aspect	Report To Dave Het	912230
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Certificate of Analysis: Gene-Trac® Dehalococcoides Assay

Customer: Dave Heffner, Aspect Consulting SiREM Reference: S-5660

Project: Morell's Report Date: 8-Jan-20

Customer Reference: 080190 Data Files: iQ5A-DHCT-TM-QPCR-1735

iQ5A-DB-DHC-TM-QPCR-1056

Table 1: Test Results

Sample ID	Dehalococcoides (Dhc)									
·	Percent Dhc ⁽¹⁾	Enumeration/Liter ⁽²⁾								
MW-20-121219	NA	1 x 10 ⁴ U								
MW-34-121319	NA	3 x 10 ³ U								
MW-35-121319	NA	6 x 10 ³ U								

See final page for notes.

Analyst:

Jen Wilkinson

Senior Laboratory Technician II

Approved:

Ximena Druar, B.Sc.

Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5660

Customer Sample ID	MW-20-121219	MW-34-121319	MW-35-121319
SiREM Dhc Test ID	DHC-18685	DHC-18686	DHC-18687
Date Sampled ⁽³⁾	12-Dec-19	13-Dec-19	13-Jan-20
Matrix	Field Filter	Field Filter	Field Filter
Date Received (3)	20-Dec-19	20-Dec-19	20-Dec-19
Sample Temperature	11.2 °C	11.2 °C	11.2 ℃
Filtration Date (3)	12-Dec-19	13-Dec-19	13-Dec-19
Volume Used for DNA Extraction	100 mL	500 mL	200 mL
DNA Extraction Date	2-Jan-20	2-Jan-20	2-Jan-20
DNA Concentration in Sample (extractable)	8752 ng/L	513 ng/L	2538 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected
Dhc qPCR Date Analyzed	3-Jan-20	3-Jan-20	3-Jan-20
Laboratory Controls (see Table 3)	Passed	Passed	Passed
Comments			

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5660

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	3-Jan-20	Genomic DNA (CSLD-1373)	1.5 x 10 ⁷	7.3 x 10 ^{6 (4)}	See Note 4
Positive Control High Concentration	3-Jan-20	Genomic DNA (CSHD-1373)	2.4 x 10 ⁹	2.2 x 10 ⁹	Passed
Extraction Control	2-Jan-20	Extraction Control (KB-0704)	4.9 x 10 ¹⁰	5.1 x 10 ¹⁰	Passed
DNA Extraction Blank	3-Jan-20	Sterile Water (FB-3460)	0	2.6 x 10 ³ U	Passed
Negative Control	3-Jan-20	Reagent Blank (TBD-1332)	0	2.6 x 10 ³ U	Passed

See final page for notes.

Notes:

Dhc = Dehalococcoides

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

²Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

³Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

⁴Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines.



Chain-of-Custody Form

180A Market Place Blvd Knoxville, TN 37922 1-866-251-1747 S-5660

siremlab.com

Morells	roject#	30190								Analy	sis					
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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

April 3, 2020

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 25, 2020 from the Morrell's 080190, F&BI 003396 project. There are 42 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, Breeyn Greer

ASP0403R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 25, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morrell's 080190, F&BI 003396 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u> 003396 -01	Aspect Consulting, LLC MW-13D-032420
003396 -02	MW-12D-032420
003396 -03 003396 -04	MW-8D-032320 MW-15-032320
003396 -05	MW-19-032420
003396 -06	MW-20-032420
003396 -07	MW-27-032420
003396 -08 003396 -09	MW-17-032420 MW-34-032520
003396 -10	MW-14D-032520
003396 -11	MW-5-032520
003396 -12	MW-8-032520
003396 -13 003396 -14	MW-16-032520 MW-21-032520
003396 -15	MW-26-032520
003396 -16	MW-28-032520
003396 -17	MW-29-032520

The samples were sent to Fremont Analytical for nitrate, nitrite, sulfate, and TOC analyses. The report is enclosed.

Several analytes in the 8260D matrix spike failed the acceptance criteria. The laboratory control samples passed the acceptance criteria, therefore the results were due to matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-13D-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-01 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-01 x10.117

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 26,900

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-12D-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-02 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-02 x10.118

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 6,420

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-8D-032320 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-03 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-03 x10.119

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 502

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-15-032320 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-04 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-04 x10.120

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 3,630

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-19-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/26/20 Lab ID: 003396-05 x100
Date Analyzed: 03/27/20 Data File: 003396-05 x100.110

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 89,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-20-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-06 x100

 Date Analyzed:
 03/27/20
 Data File:
 003396-06 x100.111

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 73,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-27-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 6,940

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-17-032420 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/26/20 Lab ID: 003396-08 x10
Date Analyzed: 03/26/20 Data File: 003396-08 x10.127

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 36,400

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-34-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-09 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-09 x10.128

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 2,370

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-14D-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-10 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-10 x10.129

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 8,650

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-5-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 4,030

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-8-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 20,300

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-16-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/26/20 Lab ID: 003396-13 x10
Date Analyzed: 03/26/20 Data File: 003396-13 x10.132

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 21,500

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-21-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/26/20 Lab ID: 003396-14 x10
Date Analyzed: 03/26/20 Data File: 003396-14 x10.136

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 34,300

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-26-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-15 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-15 x10.137

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 45,300

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-28-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

 Date Extracted:
 03/26/20
 Lab ID:
 003396-16 x10

 Date Analyzed:
 03/26/20
 Data File:
 003396-16 x10.138

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 3,060

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-29-032520 Client: Aspect Consulting, LLC

Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/26/20 Lab ID: 003396-17 x10
Date Analyzed: 03/26/20 Data File: 003396-17 x10.139

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 17,200

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Morrell's 080190, F&BI 003396

Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-13D-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-01 Date Analyzed: 03/25/20 Data File: 032540.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	100	50	150

3.7

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 13 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 1.7

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-12D-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: Date Extracted: 03/25/20 003396-02 Date Analyzed: 03/25/20 Data File: 032541.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

<1

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	97	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 8.9 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene <1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-8D-032320	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-03 Date Analyzed: 03/25/20 Data File: 032542.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

<1

<1

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	99	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 110 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1

Trichloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-15-032320	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: Date Extracted: 03/25/20 003396-04 Date Analyzed: 03/25/20 Data File: 032543.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) MSOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	7.9
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	67
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	1.2

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-19-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: Date Extracted: 03/25/20 003396-05 Date Analyzed: 03/25/20 Data File: 032544.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) MSOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.51
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	46
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-20-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: 003396-06 Date Extracted: 03/25/20 Date Analyzed: 03/25/20 Data File: $032545.\mathrm{D}$ Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

<1

1.5

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride 0.65Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 9.8 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1

Trichloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-27-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

03/25/20 Project: Date Extracted: 03/25/20 Lab ID: 003396-07 Date Analyzed: 03/25/20 Data File: $032546.\mathrm{D}$ Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	97	50	150

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-17-032420	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-08 Date Analyzed: 03/25/20 Data File: 032547.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	95	50	150

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-34-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	97	50	150

•
Concentration ug/L (ppb)
< 0.2
<1
<1
<5
<1
<1
10
<1
<1
2.5
17

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-14D-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: Date Extracted: 03/25/20 003396-10 Date Analyzed: 03/25/20 Data File: 032549.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	95	50	150

<1

<1

1.8

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 1.8 1,2-Dichloroethane (EDC) <1

1,1,1-Trichloroethane

Trichloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-5-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190 F&BI 009

Date Extracted: 03/25/20 Lab ID: 003396-11 Date Analyzed: 03/25/20 Data File: $032550.\mathrm{D}$ Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) MSOperator:

<1

<1

9.6

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

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

Trichloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-8-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

03/25/20 Lab ID: 003396-12Date Extracted: Date Analyzed: 03/25/20 Data File: 032551.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) MSOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.4
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	190 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.9
Tetrachloroethene	8.4

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-8-032520 Client: Aspect Consulting, LLC
Date Received: 03/25/20 Project: Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-12 1/10 Date Analyzed: 03/31/20 Data File: 033110.DMatrix: Water Instrument: GCMS4Units: ug/L (ppb) VMOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	93	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.9
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	< 50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	210
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	<10

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-16-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-13 Date Analyzed: 03/25/20 Data File: 032552.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

<1

3.7

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride 0.83 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 74 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1

Trichloroethene

Tetrachloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Lab ID: 003396-14 Date Extracted: 03/25/20 Date Analyzed: 03/25/20 Data File: 032553.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	107	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	101	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride 1.5 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene $160 \mathrm{ve}$ 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 9.6 Tetrachloroethene 19

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-21-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

03/25/20 Date Extracted: 03/25/20 Lab ID: 003396-14 1/10 Date Analyzed: 03/27/20 Data File: 032741.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	93	50	150

$\begin{array}{cccc} & & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-26-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-15Date Analyzed: 03/27/20 Data File: $032736.\mathrm{D}$ Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	97	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene <1 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 1.4 Tetrachloroethene 15

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-28-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-16 Date Analyzed: 03/27/20 Data File: 032737.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

20

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene 1.8 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 2.7

Tetrachloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-29-032520	Client:	Aspect Consulting, LLC
Date Received:	03/25/20	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 003396-17 Date Analyzed: 03/26/20 Data File: 032556.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: MS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

Concentration Compounds: ug/L (ppb) Vinyl chloride < 0.2 Chloroethane <1 1,1-Dichloroethene <1 Methylene chloride <5 trans-1,2-Dichloroethene <1 1,1-Dichloroethane <1 cis-1,2-Dichloroethene <1 1,2-Dichloroethane (EDC) <1 1,1,1-Trichloroethane <1 Trichloroethene 1.4 Tetrachloroethene 14

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Morrell's 080190, F&BI 003396

Date Extracted: 03/25/20 Lab ID: 00-720 mbDate Analyzed: 03/25/20 Data File: 032539.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) MSOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	102	50	150

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

ENVIRONMENTAL CHEMISTS

Date of Report: 04/03/20 Date Received: 03/25/20

Project: Morrell's 080190, F&BI 003396

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

Laboratory Code: 003411-03 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	9,630	251 b	264 b	75-125	5 b

Laboratory Code: Laboratory Control Sample

			$\operatorname{Percent}$	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	97	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 04/03/20 Date Received: 03/25/20

Project: Morrell's 080190, F&BI 003396

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

Laboratory Code: 003396-01 (Matrix Spike)

Laboratory Code: 000000 or (Matrix Spike)								
				Percent				
	Reporting	Spike	Sample	Recovery	Acceptance			
Analyte	Units	Level	Result	MS	Criteria			
Vinyl chloride	ug/L (ppb)	50	< 0.2	67	61-139			
Chloroethane	ug/L (ppb)	50	<1	63	55-149			
1,1-Dichloroethene	ug/L (ppb)	50	<1	69 vo	71 - 123			
Methylene chloride	ug/L (ppb)	50	<5	63	61-126			
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	68 vo	72 - 122			
1,1-Dichloroethane	ug/L (ppb)	50	<1	70 vo	79-113			
cis-1,2-Dichloroethene	ug/L (ppb)	50	13	71 b	63-126			
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	65 vo	70-119			
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	68 vo	75 - 121			
Trichloroethene	ug/L (ppb)	50	1.7	69 vo	73 - 122			
Tetrachloroethene	ug/L (ppb)	50	3.7	72	40 - 155			

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	103	103	70-128	0
Chloroethane	ug/L (ppb)	50	101	101	66-149	0
1,1-Dichloroethene	ug/L (ppb)	50	103	103	72 - 121	0
Methylene chloride	ug/L (ppb)	50	93	96	63-132	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	99	76-118	0
1,1-Dichloroethane	ug/L (ppb)	50	102	102	77 - 119	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	103	104	76 - 119	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	93	95	75 - 116	2
1,1,1-Trichloroethane	ug/L (ppb)	50	103	103	80-116	0
Trichloroethene	ug/L (ppb)	50	97	99	72 - 119	2
Tetrachloroethene	ug/L (ppb)	50	100	103	78-109	3

ENVIRONMENTAL CHEMISTS

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.



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 003396

Work Order Number: 2003395

April 01, 2020

Attention Michael Erdahl:

Fremont Analytical, Inc. received 17 sample(s) on 3/25/2020 for the analyses presented in the following report.

Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

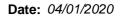
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 003396 **Work Order:** 2003395

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
	onone campio is	2410, 11110 001100104	
2003395-001	MW-13D-032420	03/24/2020 12:20 AM	03/25/2020 12:06 PM
2003395-002	MW-12D-032420	03/24/2020 2:25 AM	03/25/2020 12:06 PM
2003395-003	MW-8D-032320	03/23/2020 10:45 PM	03/25/2020 12:06 PM
2003395-004	MW-15-032320	03/23/2020 10:50 PM	03/25/2020 12:06 PM
2003395-005	MW-19-032420	03/24/2020 12:35 AM	03/25/2020 12:06 PM
2003395-006	MW-20-032420	03/24/2020 2:30 AM	03/25/2020 12:06 PM
2003395-007	MW-27-032420	03/24/2020 4:20 AM	03/25/2020 12:06 PM
2003395-008	MW-17-032420	03/24/2020 4:30 AM	03/25/2020 12:06 PM
2003395-009	MW-34-032520	03/25/2020 12:30 AM	03/25/2020 12:06 PM
2003395-010	MW-14D-032520	03/25/2020 12:40 AM	03/25/2020 12:06 PM
2003395-011	MW-5-032520	03/25/2020 3:15 AM	03/25/2020 12:06 PM
2003395-012	MW-8-032520	03/25/2020 6:20 AM	03/25/2020 12:06 PM
2003395-013	MW-16-032520	03/25/2020 2:40 AM	03/25/2020 12:06 PM
2003395-014	MW-21-032520	03/25/2020 6:10 AM	03/25/2020 12:06 PM
2003395-015	MW-26-032520	03/25/2020 1:30 AM	03/25/2020 12:06 PM
2003395-016	MW-28-032520	03/25/2020 5:00 AM	03/25/2020 12:06 PM
2003395-017	MW-29-032520	03/25/2020 4:45 AM	03/25/2020 12:06 PM



Case Narrative

WO#: **2003395**Date: **4/1/2020**

CLIENT: Friedman & Bruya

Project: 003396

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: **2003395**

Date Reported: 4/1/2020

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: 2003395

Date Reported: 4/1/2020

Analyst: SS

Batch ID: R58386

CLIENT: Friedman & Bruya

Project: 003396

Collection Date: 3/24/2020 12:20:00 AM Lab ID: 2003395-001

Client Sample ID: MW-13D-032420 Matrix: Water Daguile

Analyses	Result	RL C	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Method	d 300.0			Batcl	n ID: 279	907 Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/25/2020 8:02:00 PM
Nitrate (as N)	3.31	0.200	DH	mg/L	2	3/30/2020 6:35:00 PM
Nitrate (as N)	3.45	0.100	E	mg/L	1	3/25/2020 8:02:00 PM
Sulfate	19.8	0.600	D	mg/L	2	3/30/2020 6:35:00 PM
NOTES:						

E - Estimated value. The amount exceeds the linear working range of the instrument.

Total Organic Carbon by SM 5310C

Total Organic Carbon 0.538 0.500 mg/L 3/31/2020 4:16:00 PM

Lab ID: 2003395-002 Collection Date: 3/24/2020 2:25:00 AM

Client Sample ID: MW-12D-032420 Matrix: Water

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
lon Chromatography by E	PA Method 300.0			Batc	h ID: 27	907 Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/25/2020 9:34:00 PM
Nitrate (as N)	3.93	0.200	DH	mg/L	2	3/30/2020 8:07:00 PM
Nitrate (as N)	4.06	0.100	Е	mg/L	1	3/25/2020 9:34:00 PM
Sulfate	19.1	0.600	D	mg/L	2	3/30/2020 8:07:00 PM
NOTES:						
E - Estimated value. The amount	nt exceeds the linear working	range of the ir	nstrument.			

Total Organic Carbon by SM 5310C	Batch ID: R58386	Analyst: SS
----------------------------------	------------------	-------------

Total Organic Carbon ND 0.500 3/30/2020 9:40:00 PM mg/L



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-003 **Collection Date:** 3/23/2020 10:45:00 PM

Client Sample ID: MW-8D-032320 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
Ion Chromatography by EPA	A Method 300.0			Batc	h ID: 27	7907 Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/25/2020 9:57:00 PM
Nitrate (as N)	2.13	0.100		mg/L	1	3/25/2020 9:57:00 PM
Sulfate	21.2	0.600	D	mg/L	2	3/30/2020 9:17:00 PM
Total Organic Carbon by SM	<u>1 5310C</u>			Batc	h ID: R	58386 Analyst: SS
Total Organic Carbon	ND	0.500		mg/L	1	3/30/2020 10:11:00 PM

Lab ID: 2003395-004 **Collection Date:** 3/23/2020 10:50:00 PM

Client Sample ID: MW-15-032320 Matrix: Water

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Method 300.0				Batc	907 Analyst: SS	
Nitrite (as N)	ND	0.100		mg/L	1	3/25/2020 10:20:00 Pl
Nitrate (as N)	ND	0.100		mg/L	1	3/25/2020 10:20:00 Pl
Sulfate	16.0	0.600	D	mg/L	2	3/30/2020 9:40:00 PM
Total Organic Carbon by SI	<u>M 5310C</u>			Batc	h ID: R5	8386 Analyst: SS
Total Organic Carbon	6.59	2.50	D	mg/L	5	3/31/2020 12:38:00 Al



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-005 **Collection Date:** 3/24/2020 12:35:00 AM

Client Sample ID: MW-19-032420 Matrix: Water

Analyses	Result	RL (Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	thod 300.0			Batc	h ID: 27	940 Analyst: SS
Nitrite (as N)	ND	0.200	DH	mg/L	2	3/30/2020 10:03:00 PM
Nitrite (as N)	ND	0.500	D	mg/L	5	3/25/2020 11:29:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	3/30/2020 10:03:00 PM
Nitrate (as N)	ND	0.500	D	mg/L	5	3/25/2020 11:29:00 PM
Sulfate	ND	0.600	D	mg/L	2	3/30/2020 10:03:00 PM
NOTES: Diluted due to matrix.						
Total Organic Carbon by SM 531	<u>0C</u>			Batc	h ID: R5	58386 Analyst: SS
Total Organic Carbon	142	2.50	D	mg/L	5	3/31/2020 12:59:00 AM

Lab ID: 2003395-006 **Collection Date:** 3/24/2020 2:30:00 AM

Client Sample ID: MW-20-032420 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
lon Chromatography by EP	A Method 300.0			Batc	h ID: 27	907 Analyst: SS
Nitrite (as N)	1.30	0.200	D	mg/L	2	3/25/2020 11:52:00 PM
Nitrate (as N)	0.105	0.100	Н	mg/L	1	3/30/2020 10:26:00 PM
Nitrate (as N)	ND	0.200	D	mg/L	2	3/25/2020 11:52:00 PM
Sulfate	ND	0.300		mg/L	1	3/30/2020 10:26:00 PM
Total Organic Carbon by SN	<u>// 5310C</u>			Batc	h ID: R5	8386 Analyst: SS
Total Organic Carbon	304	10.0	D	mg/L	20	3/31/2020 4:39:00 PM



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-007 **Collection Date:** 3/24/2020 4:20:00 AM

Client Sample ID: MW-27-032420 Matrix: Water

Result **RL Qual Units** DF **Date Analyzed Analyses** Batch ID: 27907 Analyst: SS Ion Chromatography by EPA Method 300.0 Nitrite (as N) ND 0.200 D mg/L 2 3/26/2020 12:15:00 AM Nitrate (as N) 2.01 0.200 D mg/L 2 3/26/2020 12:15:00 AM 23.1 D 2 3/26/2020 12:15:00 AM Sulfate 0.600 mg/L NOTES: Diluted due to matrix. Batch ID: R58386 **Total Organic Carbon by SM 5310C** Analyst: SS Total Organic Carbon 0.506 0.500 3/31/2020 1:55:00 AM mg/L

Lab ID: 2003395-008 **Collection Date:** 3/24/2020 4:30:00 AM

Client Sample ID: MW-17-032420 Matrix: Water

Units DF **Date Analyzed Analyses** Result **RL Qual** Batch ID: 27907 Analyst: SS Ion Chromatography by EPA Method 300.0 Nitrite (as N) 0.402 0.200 D 2 3/26/2020 12:38:00 AM mg/L Nitrate (as N) 0.222 0.200 D 2 3/26/2020 12:38:00 AM mg/L 3/26/2020 12:38:00 AM Sulfate 1.93 0.600 D mg/L Batch ID: R58386 Analyst: SS **Total Organic Carbon by SM 5310C Total Organic Carbon** 258 5.00 D mg/L 10 3/31/2020 5:02:00 PM



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-009 **Collection Date:** 3/25/2020 12:30:00 AM

Client Sample ID: MW-34-032520 Matrix: Water

Analyses	Result	RL Qual	Units	DF	Date Analyzed		
Ion Chromatography by EPA Method 300.0				Batch ID: 27907 Analyst:			
Nitrite (as N)	ND	0.100	mg/L	1	3/26/2020 1:01:00 AM		
Nitrate (as N)	0.445	0.100	mg/L	1	3/26/2020 1:01:00 AM		
Sulfate	8.65	0.300	mg/L	1	3/26/2020 1:01:00 AM		
Total Organic Carbon by SI	<u> 1 5310C</u>		Bato	h ID: R	58386 Analyst: SS		
Total Organic Carbon	1.23	0.500	mg/L	1	3/31/2020 2:48:00 AM		

Lab ID: 2003395-010 **Collection Date:** 3/25/2020 12:40:00 AM

Client Sample ID: MW-14D-032520 Matrix: Water

ND

Analyses	Result	RL C	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Method 300.0				Batcl	h ID: 27	907 Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/26/2020 1:24:00 AM
Nitrate (as N)	3.38	0.200	DH	mg/L	2	3/30/2020 10:49:00 PM
Nitrate (as N)	3.50	0.100	Е	mg/L	1	3/26/2020 1:24:00 AM
Sulfate	20.2	0.600	D	mg/L	2	3/30/2020 10:49:00 PM
NOTES:						

E - Estimated value. The amount exceeds the linear working range of the instrument.

Total Organic Carbon by SM 5310C	Batch ID: R58386	Analyst: SS

0.500

mg/L

Total Organic Carbon

3/31/2020 3:17:00 AM



Work Order: 2003395

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-011 **Collection Date:** 3/25/2020 3:15:00 AM

Client Sample ID: MW-5-032520 Matrix: Water

Analyses	Result	RL Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Method 300.0			Batc	907 Analyst: SS	
Nitrite (as N)	ND	0.100	mg/L	1	3/26/2020 1:48:00 AM
Nitrate (as N)	0.492	0.100	mg/L	1	3/26/2020 1:48:00 AM
Sulfate	6.84	0.300	mg/L	1	3/26/2020 1:48:00 AM
Total Organic Carbon by SM	<u>1 5310C</u>		Batc	h ID: R	58386 Analyst: SS
Total Organic Carbon	2.66	0.500	mg/L	1	3/31/2020 3:48:00 AM

Lab ID: 2003395-012 **Collection Date:** 3/25/2020 6:20:00 AM

Client Sample ID: MW-8-032520 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date	Analyzed
lon Chromatography by EP	A Method 300.0			Batc	h ID: 27	913	Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/26/	2020 7:12:00 PM
Nitrate (as N)	ND	0.100		mg/L	1	3/26/	2020 7:12:00 PM
Sulfate	0.557	0.300		mg/L	1	3/26/	2020 7:12:00 PM
Total Organic Carbon by SI	M 5310C			Batc	h ID: R	58386	Analyst: SS
Total Organic Carbon	157	2.50	D	mg/L	5	3/31/	2020 4:54:00 AM



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-013 **Collection Date:** 3/25/2020 2:40:00 AM

Client Sample ID: MW-16-032520 Matrix: Water

Analyses	Result	RL Qu	al	Units	DF	Date A	Analyzed
lon Chromatography by EPA Method 300.0				Batch ID: 27913 Ar			Analyst: SS
Nitrite (as N)	ND	0.100		mg/L	1	3/26/20	020 8:44:00 PM
Nitrate (as N)	0.122	0.100		mg/L	1	3/26/20	020 8:44:00 PM
Sulfate	2.09	0.300		mg/L	1	3/26/20	020 8:44:00 PM
Total Organic Carbon by SM	<u>1 5310C</u>			Batc	h ID: R	58386	Analyst: SS
Total Organic Carbon	63.4	2.50	D	mg/L	5	3/31/20	020 5:17:00 AM

Lab ID: 2003395-014 **Collection Date:** 3/25/2020 6:10:00 AM

Client Sample ID: MW-21-032520 Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date	Analyzed
lon Chromatography by EP	A Method 300.0			Bato	h ID: 27	7913	Analyst: SS
Nitrite (as N)	1.10	0.200	D	mg/L	2	3/26	/2020 9:07:00 PM
Nitrate (as N)	0.566	0.200	D	mg/L	2	3/26	/2020 9:07:00 PM
Sulfate	8.42	0.600	D	mg/L	2	3/26	/2020 9:07:00 PM
Total Organic Carbon by SI	M 5310C			Bato	h ID: R	58386	Analyst: SS
Total Organic Carbon	241	2.50	D	mg/L	5	3/31	/2020 5:41:00 AM



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-015 **Collection Date:** 3/25/2020 1:30:00 AM

Client Sample ID: MW-26-032520 Matrix: Water

Analyses	Result	RL Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Method 300.0			Batc	7913 Analyst: SS	
Nitrite (as N)	ND	0.100	mg/L	1	3/26/2020 9:30:00 PM
Nitrate (as N)	1.69	0.100	mg/L	1	3/26/2020 9:30:00 PM
Sulfate	13.4	0.300	mg/L	1	3/26/2020 9:30:00 PM
Total Organic Carbon by SM	<u>1 5310C</u>		Batc	h ID: R	58386 Analyst: SS
Total Organic Carbon	ND	0.500	mg/L	1	3/31/2020 6:14:00 AM

Lab ID: 2003395-016 **Collection Date:** 3/25/2020 5:00:00 AM

Client Sample ID: MW-28-032520 Matrix: Water

Analyses	Result		Qual	Units	DF	Date Analyzed	
Ion Chromatography by EPA	A Method 300.0			Batc	h ID: 27	913 Analyst: SS	
Nitrite (as N)	ND	0.200	D	mg/L	2	3/26/2020 9:53:00 PM	
Nitrate (as N)	1.76	0.200	D	mg/L	2	3/26/2020 9:53:00 PM	
Sulfate NOTES: Diluted due to matrix.	18.5	0.600	D	mg/L	2	3/26/2020 9:53:00 PM	
Total Organic Carbon by SM	<u> 1 5310C</u>			Batc	h ID: R5	8386 Analyst: SS	
Total Organic Carbon	ND	0.500		mg/L	1	3/31/2020 5:34:00 PM	



Work Order: **2003395**

Date Reported: 4/1/2020

CLIENT: Friedman & Bruya

Project: 003396

Lab ID: 2003395-017 **Collection Date:** 3/25/2020 4:45:00 AM

Client Sample ID: MW-29-032520 Matrix: Water

Analyses	Result	RL Qual	Units	DF	Date Analyzed
Ion Chromatography by EP	A Method 300.0		Batc	h ID: 27	7913 Analyst: SS
Nitrite (as N)	ND	0.100	mg/L	1	3/26/2020 10:16:00 PM
Nitrate (as N)	1.29	0.100	mg/L	1	3/26/2020 10:16:00 PM
Sulfate	14.6	0.300	mg/L	1	3/26/2020 10:16:00 PM
Total Organic Carbon by SM	<u>// 5310C</u>		Batc	h ID: R	58386 Analyst: SS
Total Organic Carbon	ND	0.500	mg/L	1	3/31/2020 5:52:00 PM



Work Order: 2003395

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

003396

Ion Chromatography by EPA Method 300.0

Sample ID: MB-27907	SampType: MBLK			Units: mg/L		Prep Date:	3/25/2020	RunNo: 583	340	
Client ID: MBLKW	Batch ID: 27907					Analysis Date:	3/25/2020	SeqNo: 116	5507	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Hi	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual

 Nitrite (as N)
 ND
 0.100

 Nitrate (as N)
 ND
 0.100

 Sulfate
 ND
 0.300

Sample ID: LCS-27907	SampType: LCS			Units: mg/L		Prep Da	te: 3/25/20	20	RunNo: 583	40	
Client ID: LCSW	Batch ID: 27907					Analysis Da	te: 3/25/20	20	SeqNo: 116	5508	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.712	0.100	0.7500	0	94.9	90	110				
Nitrate (as N)	0.720	0.100	0.7500	0	96.0	90	110				
Sulfate	3.54	0.300	3.750	0	94.3	90	110				

Sample ID: 2003395-001ADUP	SampType: DUP			Units: mg/L		Prep Dat	te: 3/25/20	20	RunNo: 583	40	
Client ID: MW-13D-032420	Batch ID: 27907					Analysis Da	te: 3/25/20	20	SeqNo: 116	5510	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	3.45	0.100						3.447	0.0290	20	Е
Sulfate	20.7	0.300						20.74	0.0820	20	Е

NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2003395-001AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/25/20	20	RunNo: 583	40	
Client ID: MW-13D-032420	Batch ID: 27907					Analysis Da	te: 3/25/20	20	SeqNo: 116	5511	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.668	0.100	0.7500	0	89.1	80	120				
Nitrate (as N)	4.27	0.100	0.7500	3.447	110	80	120				Е
Sulfate	24.5	0.300	3.750	20.74	101	80	120				E

Original Page 14 of 24



Work Order: 2003395

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 003396
Sample ID: **2003395-001AMS**

SampType: MS Units: mg/L Prep Date: 3/25/2020 RunNo: 58340

Client ID: MW-13D-032420 Batch ID: 27907 Analysis Date: 3/25/2020 SeqNo: 1165511

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2003395-001AMSD	SampType: MSD			Units: mg/L		Prep Da	te: 3/25/20	20	RunNo: 583	340	
Client ID: MW-13D-032420	Batch ID: 27907					Analysis Da	te: 3/25/20	20	SeqNo: 116	55512	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.701	0.100	0.7500	0	93.5	80	120	0.6680	4.82	20	
Nitrate (as N)	4.29	0.100	0.7500	3.447	113	80	120	4.274	0.397	20	Е
Sulfate	24.6	0.300	3.750	20.74	104	80	120	24.54	0.334	20	Е

NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2003395-011ADUP	SampType: DUP			Units: mg/L		Prep Dat	e: 3/25/20	20	RunNo: 583	40	
Client ID: MW-5-032520	Batch ID: 27907					Analysis Da	e: 3/26/2 0	20	SeqNo: 116	5525	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	0.489	0.100						0.4920	0.612	20	
Sulfate	6.83	0.300						6.842	0.132	20	

Sample ID: 2003395-011AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/25/20	20	RunNo: 583	40	
Client ID: MW-5-032520	Batch ID: 27907					Analysis Da	te: 3/26/20	20	SeqNo: 116	5526	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.717	0.100	0.7500	0	95.6	80	120				
Nitrate (as N)	1.26	0.100	0.7500	0.4920	103	80	120				
Sulfate	10.8	0.300	3.750	6.842	105	80	120				

Original Page 15 of 24



Work Order: 2003395

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 003396

Sample ID: MB-27913	SampType: MBLK			Units: mg/L		Prep Da	te: 3/26/20)20	RunNo: 583	343	
Client ID: MBLKW	Batch ID: 27913					Analysis Da	te: 3/26/20	20	SeqNo: 116	5607	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: LCS-27913	SampType: LCS			Units: mg/L		Prep Dat	te: 3/26/20	20	RunNo: 583	43	
Client ID: LCSW	Batch ID: 27913					Analysis Dat	te: 3/26/20	20	SeqNo: 116	5608	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.701	0.100	0.7500	0	93.5	90	110				
Nitrate (as N)	0.729	0.100	0.7500	0	97.2	90	110				
Sulfate	3.65	0.300	3.750	0	97.3	90	110				

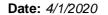
Sample ID: 2003395-012ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583	343	
Client ID: MW-8-032520	Batch ID: 27913					Analysis Da	te: 3/26/20	20	SeqNo: 116	55610	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	ND	0.100						0		20	
Sulfate	0.537	0.300						0.5570	3.66	20	

Sample ID: 2003395-012AMS Client ID: MW-8-032520	SampType: MS Batch ID: 27913			Units: mg/L		Prep Da Analysis Da	te: 3/26/20		RunNo: 583 SeqNo: 116	_	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.309	0.100	0.7500	0	41.2	80	120				S
Nitrate (as N)	0.742	0.100	0.7500	0.06400	90.4	80	120				
Sulfate	4.52	0.300	3.750	0.5570	106	80	120				

NOTES:

Original Page 16 of 24

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





Work Order: 2003395

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

003396

Ion Chromatography by EPA Method 300.0

Sample ID: 2003395-012AMSD	SampType: MSD			Units: mg/L		Prep Dat	te: 3/26/20	20	RunNo: 583	43	
Client ID: MW-8-032520	Batch ID: 27913					Analysis Da	te: 3/26/20	20	SeqNo: 116	5612	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.331	0.100	0.7500	0	44.1	80	120	0.3090	6.88	20	S
Nitrate (as N)	0.752	0.100	0.7500	0.06400	91.7	80	120	0.7420	1.34	20	
Sulfate	4.57	0.300	3.750	0.5570	107	80	120	4.515	1.21	20	

NOTES:

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2003411-001ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583	43	
Client ID: BATCH	Batch ID: 27913					Analysis Da	te: 3/27/20	20	SeqNo: 116	5622	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	0.611	0.100						0.6110	0	20	
Sulfate	13.2	0.300						13.06	0.968	20	

Sample ID: 2003411-001AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583	343	
Client ID: BATCH	Batch ID: 27913					Analysis Da	te: 3/27/20	20	SeqNo: 116	55623	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.677	0.100	0.7500	0	90.3	80	120				
Nitrate (as N)	1.39	0.100	0.7500	0.6110	104	80	120				
Sulfate	17.1	0.300	3.750	13.06	108	80	120				Е

NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: MB-27940	SampType: MBLK		Units: mg	g/L Prep Date: 3/30/2020 RunNo: 58360
Client ID: MBLKW	Batch ID: 27940			Analysis Date: 3/30/2020 SeqNo: 1165939
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrite (as N)	ND	0.100		
Nitrate (as N)	ND	0.100		
Sulfate	ND	0.300		

Original Page 17 of 24



Work Order: 2003395

QC SUMMARY REPORT

DH

D

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 003396

Sample ID: MB-27940

Nitrate (as N)

Sulfate

4.88

27.3

0.200

0.600

1.500

7.500

SampType: MBLK Units: mg/L Prep Date: 3/30/2020 RunNo: 58360

Client ID: **MBLKW** Batch ID: **27940** Analysis Date: **3/30/2020** SeqNo: **1165939**

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: LCS-27940	SampType: LCS			Units: mg/L		Prep Dat	te: 3/30/20	20	RunNo: 583	360	
Client ID: LCSW	Batch ID: 27940					Analysis Dat	te: 3/30/20	20	SeqNo: 116	65940	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.717	0.100	0.7500	0	95.6	90	110				
Nitrate (as N)	0.731	0.100	0.7500	0	97.5	90	110				
Sulfate	3.71	0.300	3.750	0	98.9	90	110				
Sample ID: 2003395-001ADUP	SampType: DUP			Units: mg/L		Prep Dat	te: 3/30/20	20	RunNo: 583	360	
Client ID: MW-13D-032420	Batch ID: 27940					Analysis Dat	te: 3/30/20	20	SeqNo: 116	65942	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Nitrite (as N)	ND	0.200						0		20	DH
Nitrate (as N)	3.27	0.200						3.306	1.22	20	DH
Sulfate	19.5	0.600						19.76	1.14	20	D
Sample ID: 2003395-001AMS	SampType: MS			Units: mg/L		Prep Dat	te: 3/30/20	20	RunNo: 583	360	
Client ID: MW-13D-032420	Batch ID: 27940					Analysis Dat	te: 3/30/20	20	SeqNo: 116	65943	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua

Original Page 18 of 24

3.306

19.76

105

101

80

80

120

120



Work Order: 2003395

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

003396

Ion Chromatography by EPA Method 300.0

Sample ID: 2003395-001AMSD	SampType: MSD			Units: mg/L		Prep Dat	te: 3/30/20	20	RunNo: 583	860	
Client ID: MW-13D-032420	Batch ID: 27940					Analysis Dat	te: 3/30/20	20	SeqNo: 116	55944	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.42	0.200	1.500	0	94.8	80	120	1.392	2.13	20	DH
Nitrate (as N)	4.87	0.200	1.500	3.306	104	80	120	4.876	0.205	20	DH
Sulfate	27.3	0.600	7.500	19.76	100	80	120	27.33	0.198	20	D

Sample ID: 2003411-009ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	60	
Client ID: BATCH	Batch ID: 27940					Analysis Da	te: 3/31/20	20	SeqNo: 116	5959	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.500						0		20	DH
Nitrate (as N)	11.0	0.500						11.12	1.13	20	DH
Sulfate	25.9	1.50						26.28	1.32	20	D

Sample ID: 2003411-009AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	60	
Client ID: BATCH	Batch ID: 27940					Analysis Da	te: 3/31/20	20	SeqNo: 116	5960	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	3.48	0.500	3.750	0	92.7	80	120				DH
Nitrate (as N)	15.1	0.500	3.750	11.12	106	80	120				DEH
Sulfate	45.1	1.50	18.75	26.28	101	80	120				D

NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Original Page 19 of 24



Work Order: 2003395

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Total Organic Carbon by SM 5310C

Project: 003396						l otal Org	anic Carbon by SW 53	3100
Sample ID: MB-R58386	SampType: MBLK			Units: mg/L		Prep Date: 3/30/2020	RunNo: 58386	
Client ID: MBLKW	Batch ID: R58386					Analysis Date: 3/30/2020	SeqNo: 1166812	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Q	Qual
Total Organic Carbon	ND	0.500						
Sample ID: LCS-R58386	SampType: LCS			Units: mg/L		Prep Date: 3/30/2020	RunNo: 58386	
Client ID: LCSW	Batch ID: R58386					Analysis Date: 3/30/2020	SeqNo: 1166813	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Q	Qual
Total Organic Carbon	5.30	0.500	5.000	0	106	88.3 117		
Sample ID: 2003395-003BDUP	SampType: DUP			Units: mg/L		Prep Date: 3/30/2020	RunNo: 58386	
Client ID: MW-8D-032320	Batch ID: R58386					Analysis Date: 3/30/2020	SeqNo: 1166819	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Q	Qual
Total Organic Carbon	ND	0.500				0	20	
Sample ID: 2003395-003BMS	SampType: MS			Units: mg/L		Prep Date: 3/30/2020	RunNo: 58386	
Client ID: MW-8D-032320	Batch ID: R58386					Analysis Date: 3/30/2020	SeqNo: 1166820	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Q	Qual
Total Organic Carbon	5.66	0.500	5.000	0.1150	111	66 142		
Sample ID: 2003395-003BMSD	SampType: MSD			Units: mg/L		Prep Date: 3/30/2020	RunNo: 58386	
Client ID: MW-8D-032320	Batch ID: R58386					Analysis Date: 3/30/2020	SeqNo: 1166821	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Q	Qual
Total Organic Carbon	5.62	0.500	5.000	0.1150	110	66 142 5.662	0.834 30	

Original Page 20 of 24



Work Order: 2003395

Project:

QC SUMMARY REPORT

20

D

CLIENT: Friedman & Bruya

003396

Total Organic Carbon by SM 5310C

Sample ID: 2003395-016BDUP SampType: DUP Units: mg/L Prep Date: 3/31/2020 RunNo: 58386

Client ID: MW-28-032520 Batch ID: R58386 Analysis Date: 3/31/2020 SeqNo: 1166851

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon ND 1.00 0

Sample ID: 2003395-016BMS SampType: MS Units: mg/L Prep Date: 3/31/2020 RunNo: 58386 Analysis Date: 3/31/2020 Client ID: MW-28-032520 Batch ID: R58386 SeqNo: 1166852 LowLimit HighLimit RPD Ref Val %RPD RPDLimit Result RL SPK value SPK Ref Val %REC Qual Analyte D **Total Organic Carbon** 11.3 10.00 0 113 66 142 1.00

Original Page 21 of 24



Sample Log-In Check List

С	lient Name:	FB	Work O	rder Numb	per: 2003395		
Lo	ogged by:	Carissa True	Date Re	ceived:	3/25/2020	12:06:00 PM	
<u>Cha</u>	in of Custo	<u>ody</u>					I.
1.	Is Chain of C	ustody complete?	Yes	✓	No 🗌	Not Present	
2.	How was the	sample delivered?	Clien	<u>ıt</u>			
Log	ıIn						
_	Coolers are p	present?	Yes	✓	No 🗌	NA \square	
4.	Shipping con	tainer/cooler in good condition?	Yes	✓	No 🗌		
5.		s present on shipping container/cooler? nments for Custody Seals not intact)	Yes		No 🗌	Not Required 🗹	
6.	Was an atten	npt made to cool the samples?	Yes	✓	No 🗌	NA \square	
7.	Were all item	s received at a temperature of >2°C to 6°C *	Yes	✓	No 🗌	na 🗆	
8.	Sample(s) in	proper container(s)?	Yes	✓	No 🗌		
9.	Sufficient sar	nple volume for indicated test(s)?	Yes	✓	No 🗌		
10.	Are samples	properly preserved?	Yes	✓	No 🗌		
11.	Was preserva	ative added to bottles?	Yes	✓	No 🗆	na 🗆	
					H2SO4 8	added to B fractions	
12.	Is there head	space in the VOA vials?	Yes		No 🗌	NA 🗸	
13.	Did all sample	es containers arrive in good condition(unbroken)?	Yes	✓	No 🗀		
14.	Does paperw	ork match bottle labels?	Yes	✓	No 📙		
15.	Are matrices	correctly identified on Chain of Custody?	Yes	✓	No 🗌		
16.	Is it clear wha	at analyses were requested?	Yes	✓	No 🗌		
17.	Were all hold	ing times able to be met?	Yes	✓	No 🗌		
Spe	cial Handl	ing (if applicable)					
18.	Was client no	otified of all discrepancies with this order?	Yes		No 🗌	NA 🗸	
	Person	Notified: Date:					
	By Who	m: Via:	eMa	il 🗌 Pho	one 🗌 Fax	☐ In Person	
	Regardi	ng:					
	Client In	structions:					
19.	Additional rer	narks:					
<u>ltem</u>	<u>Information</u>						
		Item # Temp %					

0.0

2.1

Cooler 1

Sample 1

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Company Friedman and Bruya, Inc.	Send Report To Michael Erdahl Company Friedman and B Address 3012 16th Ave W	Michael Erdahl Friedman and Bruya, Inc. 3012 16th Ave W
		3012 16th Ave W

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

A	REMARKS	003396	PROJECT NAME/NO.	SUBCONTRACTER
Aspeat EDD		8-156	PO#	1

									ANAI	YSE	SREC	LYSES REQUESTED	TED			
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	Toc	Suffate	Nitrate	Nitrate Nitrite				Notes
MW-13D-032420		03/24/20	0020	۲	N				×	×	×	×			+	
MW-12D-032420		03/24/20	0225	Z	2				×	×	×	×			1	
MW-8D-032320		03/23/20	2245	3	N				×	×	X	×				
MW-15-032320		03/20	2250	3	٢				×	X	×	Χ.				
MW-19-032420		03/24/20	0035	ξ	2				×	X	×	٠.				1
NW -20- 632420		03/24/20	0230	3	2				×	×	×	× >				
MW-27-032420		03/24/20	0420	S	2				×	Κ.	× :	X				1
MW-17- 032420		03/24/20	0430	٣	2				Y	X	×	K				
MW-34-032520		03/25/20	0030	٤	2				X	Y	×	X				
MW-14D, 032520		03/25/20	0040	3	2				×	×	×	Y				
MW 5 - 032520		03/25/20	0315	S	Ν				X	Ϋ́	×	Y				
MW - 8 -032520		03 25 20	0620	ω	P				Y	X	Y	Y				
MW-16-032520		03/25/20	0240	کے	7				X	<		×				
Friedman & Bruya, Inc.	199		SIGNATURE	2		P	PRINT NAME	NAM	EJ			1	COMPANY	AA.	DATE	
Seattle WA 98119 9099	11	Barring and har	The second	P	Mich	Michael Erdahl	ahl				Frie	Friedman & Bruya	& B ₁	uya.	spspa	1
Ph (206) 285-8282	_	Relinguished by	June 1	B	in	7	6	augston	20		T	A	1		3/25/20	-021
Far (906) 983 5041		Received hy	2													

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Page # of Z
TURNAROUND TIME

Standard TAT
RUSH
Rush charges authorized by:

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

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Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

Page # 24

P

☐ Return samples ☐ Will call with instructions

☐ Dispose after 30 days

SAMPLE DISPOSAL

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

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

City, State, ZIP Seattle, WA 98119

ROJECT NAME/NO.	PO#
003396	8-156

Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044	MW-29-032520	MW -20 -032520	MW -26-032520	NW- 21-032500	Sample ID	
					Lab ID	
Refinant by: Received by: Rehnquisted by: Received by:	03/5/20	63 25 20	05/25/20	05/25/20	Date Sampled	
SIGNATURE	Shho	0500	0130	0000	Time Sampled	
	3	3	2	3	Matrix	
Mich	٢	N	N	12	# of	
Michael Erdahl Maff Langston					Dioxins/Furans	
PRINT NAME					EPH	
MAN IMAN					VPH	
700	<	4	*	×	TUC	ANAI
	K	*	×	×	Sulhte	HSY
T Pri	*	×	×	×	Nitrate	SRE
COMPANY Friedman & Bruys	×	×	K	×	Sullite Nitrate Nitrate	LYSES REQUESTED
COMPANY man & Bruy					-	CERT
uya						
w_						
DATE \$\langle S\langle S\langle S\langle s					N _o	
TIME #					Notes	

2003395

Page # 2 of 2

SAMPLE DISPOSAL Dispose after 30 days Return samples Will call with instructions	Rush charges authorized by	XStandard TAT	TURNAROUND TIME
Pa	ge 24	1 of 2	24

City, State, ZIP SEATTLE WA 9804 Address 40 Report To Breeyn Greer; Dave Heffner Company & Spell AVE Sufe 530

Email bareer of a gettowinthing Project specific RLs? - Yes / No SAMPLE CHAIN OF CUSTODY ME 03/25/20 SAMPLERS (signature) PROJECT NAME REMARKS Morrell's 080190 INVOICE TO

Standard turnaround

Page#_

TURNAROUND TIME

Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples

Default: Dispose after 30 days

ANALYSES REQUESTED

Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16 th Avenue West	Friedman & Bruya, Inc.		WWW - 140-032520	MW - 34-032520	MW-17-032420	MW-27-032426	MW-20-032420	05H250- PI- MM	mw-15-032320	MW-80-032320	MW - 12 D-032420	15h250-051-MW	Sample ID
Received by:															
ed by:	Relinquished by:	ed by:	Relinquished by:	SI	10 1	20	80	9	06	05	po	03	02	OI A-F	Lab ID
		Mhas	(D)	SIGNATURE	03/25/20	03/25/20	03 24 70	03/24/20 04/20	0.3 24/20 0230	03 24 20 0035	03/23/20/20	03/23/20	3/24/20 0225	03/24/20 0020	Date Sampled
)			0040	0030	0430	0420	0230	0035	2250	2248	2220		Time Sampled
	-	Nonan	Amelia Oasles		Ł									mater	Sample Type
		1	آخ	PRII	٤		-	_		 		 	_	e	# of Jars
		Phan	FOC	PRINT NAME											NWTPH-Dx
		5	ES	AME	-				-		-	ļ <u>.</u>		 	NWTPH-Gx BTEX EPA 8021
						-		-		-		-	-		NWTPH-HCID
						\dagger									VOCs EPA 8260
		T	Z								<u> </u>	_			PAHs EPA 8270
		814	Spe	C	<u>_</u>	<u> </u>				-		<u> </u>			PCBs EPA 8082
		, ,	7	COMPANY	-									X X	CVOCS Nitrate/Nitrite/ SWIFALE
				YY	1	4		-	+-	-	-		+	×	Total Iron
						-	-	+		+				X	toc
		3/25/20	05/25/20	DATE			100 AV	166°	St Uros	Ò					Notes
		010	10/0	TIME		\\ \',	S SOR	<u>د</u>							

City, State, ZIP Seattle WA 2804 Company Aspect Consulting Address 716 2nd AVE Suit 550 MW-16-032520 MW-29 -032520 MM- 28-032520 MW-21-032520 MW-8-032570 MW-26-032520 MW-5-032520 Report To Break Green; Dave Helmer Seattle, WA 98119-2029 3012 16th Avenue West Friedman & Bruya, Inc. Ph. (206) 285-8282 Sample ID Email bywer o aspectrons of Project specific RLs? - Yes / No Received by Relinquished by Received by: Relinquished by: 7 \overline{w} S <u>Z</u> 4 7 Lab ID **↑** SIGNATURE 0325/20 03/25/20 2440 02/22/20 03/25/20 03 75 20 03/25/20 032520 Sampled Date SAMPLE CHAIN OF CUSTODY $ME \frac{03}{45}/40$ 0620 0(30 0610 0240 8 8 Sampled 0315 SAMPLERS (signature REMARKS PROJECT NAME Time Morrell's water Sample # of Jars 6 6 5 6 PRINT NAME 6 NWTPH-Dx NWTPH-Gx 080/90 INVOICE TO NWTPH-HCID ANALYSES REQUESTED VOCs EPA 8260 P0# PAHs EPA 8270 PCBs EPA 8082 CVOCS Nitrate/Nitrite/ Sulfate COMPANY 4 Samples received at Rush charges authorized by: Standard turnaround □ Other ☐ Archive samples Default: Dispose after 30 days total 1000 Page # 2 of 2 SAMPLE DISPOSAL TURNAROUND TIME TOC my/BIY 03/25/20 DATE Notes 1010 TIME 000

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

April 3, 2020

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

Dear Mr Heffner:

Included are the results from the testing of material submitted on March 26, 2020 from the Morell's Walker Chevrolet 080190, F&BI 003412 project. There are 29 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 ASP0403R.DOC

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 26, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Morell's Walker Chevrolet 080190, F&BI 003412 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Aspect Consulting, LLC
003412 -01	MW-35-032520
003412 -02	MW-25-032620
003412 -03	MW-24-032620
003412 -04	MW-23-032620
003412 -05	MW-31-032620
003412 -06	MW-2-032620
003412 -07	MW-30-032620
003412 -08	MW-32-032620
003412 -09	MW-33-032620
003412 -10	MW-7-032620

The samples were sent to Fremont Analytical for nitrate, nitrite, sulfate, and TOC analyses. The report is enclosed.

Methylene chloride was detected in MW-35-032520. The data were flagged as due to laboratory contamination.

1,1-Dichloroethane failed below the acceptance criteria in the matrix spike sample. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-35-032520 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Date Extracted: 03/26/20 Lab ID: 003412-01 x10
Date Analyzed: 03/26/20 Data File: 003412-01 x10.094

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 2,220

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-25-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

 Date Extracted:
 03/26/20
 Lab ID:
 003412-02 x10

 Date Analyzed:
 03/26/20
 Data File:
 003412-02 x10.095

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 829

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-24-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

 Date Extracted:
 03/26/20
 Lab ID:
 003412-03 x10

 Date Analyzed:
 03/26/20
 Data File:
 003412-03 x10.096

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 3,470

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-23-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 4,950

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-31-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

 Date Extracted:
 03/26/20
 Lab ID:
 003412-05 x10

 Date Analyzed:
 03/26/20
 Data File:
 003412-05 x10.098

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 8,820

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-2-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 38,000

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-30-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 6,920

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-32-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron 2,760

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-33-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 5,280

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: MW-7-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

 $\begin{array}{cccc} \text{Matrix:} & \text{Water} & \text{Instrument:} & \text{ICPMS2} \\ \text{Units:} & \text{ug/L (ppb)} & \text{Operator:} & \text{SP} \end{array}$

Concentration

Analyte: ug/L (ppb)

Iron 21,100

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID: Method Blank Client: Aspect Consulting, LLC

Date Received: Not Applicable Project: Morell's Walker Chevrolet 080190

Matrix: Water Instrument: ICPMS2 Units: ug/L (ppb) Operator: SP

Concentration

Analyte: ug/L (ppb)

Iron <50

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-35-032520	Client:	Aspect Consulting, LLC
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Morell's Walker Chevrolet 080190 Date Received: 03/26/20 Project: Lab ID: Date Extracted: 03/26/20 003412 - 01Date Analyzed: 03/26/20 Data File: 032617.DMatrix: Instrument: GCMS9 Water

Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	5.3 lc
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.9
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.6
Tetrachloroethene	22

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-25-032620	Client:	Aspect Consulting, LLC
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Date Analyzed: 03/26/20 Data File: 032618.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.2
Tetrachloroethene	36

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-24-032620	Client:	Aspect Consulting, LLC
		_	

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190
Date Extracted: 03/26/20 Lab ID: 003412-03

Date Analyzed: 03/26/20 Data File: 032619.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	ug/L (ppb)
-	0 41 /
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	11
Tetrachloroethene	58

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-23-032620	Client:	Aspect Consulting, LLC
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Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 003412-04Date Analyzed: 03/26/20 Data File: $032620.\mathrm{D}$ Matrix: Instrument: Water GCMS9 Units: ug/L (ppb) VMOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	20
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	23
Tetrachloroethene	170 ve

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-23-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 003412-04 1/10 Date Analyzed: 03/31/20 Data File: 033112.DMatrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: VM

Upper Lower Surrogates: % Recovery: Limit: Limit: 1,2-Dichloroethane-d4 104 57 121 Toluene-d8 105 63 127 4-Bromofluorobenzene 94 60 133

Concentration

Compounds: ug/L (ppb)

Tetrachloroethene 140

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-31-032620	Client:	Aspect Consulting, LLC
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Date Analyzed: 03/26/20 Data File: 032621.D

Matrix: Water Instrument: GCMS9

Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	34
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	40
Tetrachloroethene	160 ve

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-31-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 003412-05 1/10 Date Analyzed: 03/27/20 Data File: 032743.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

Upper Lower Surrogates: % Recovery: Limit: Limit: 1,2-Dichloroethane-d4 105 50 150 Toluene-d8 101 50 150 4-Bromofluorobenzene 92 50 150

Concentration

Compounds: ug/L (ppb)

Tetrachloroethene 160

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-2-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190
Date Extracted: 03/26/20 Lab ID: 003412-06

Date Extracted: 03/26/20 Lab ID: 003412-06
Date Analyzed: 03/26/20 Data File: 032622.D
Matrix: Water Instrument: GCMS9
Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

7.1

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	5.6
Chloroethane	<1
1,1-Dichloroethene	3.8
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	560 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1

Trichloroethene

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-2-032620 Client: Aspect Consulting, LLC

Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 003412-06 1/10 Date Analyzed: 03/31/20 Data File: 033113.DMatrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: VM

Upper Lower Surrogates: % Recovery: Limit: Limit: 1,2-Dichloroethane-d4 102 57 121 Toluene-d8 105 63 127 4-Bromofluorobenzene 97 60 133

Concentration

Compounds: ug/L (ppb)

cis-1,2-Dichloroethene 540

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-30-032620	Client:	Aspect Consulting, LLC
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Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 003412-07 Date Analyzed: 03/27/20 Data File: 032732.DMatrix: Instrument: GCMS9 Water Units: ug/L (ppb) VMOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	92	50	150

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-32-032620	Client:	Aspect Consulting, LLC
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Date Analyzed: 03/27/20 Data File: 032733.D Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4.9
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	9.1
Tetrachloroethene	45

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-33-032620	Client:	Aspect Consulting, LLC
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Project: Morell's Walker Chevrolet 080190 Date Received: 03/26/20 Lab ID: Date Extracted: 003412-09 03/26/20 Date Analyzed: 03/27/20 Data File: 032734.DMatrix: Instrument: GCMS9 Water

Units: ug/L (ppb) VMOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	< 0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.4
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.4
Tetrachloroethene	34

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-7-032620	Client:	Aspect Consulting, LLC
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Date Received: 03/26/20 Project: Morell's Walker Chevrolet 080190 Date Extracted: 03/26/20 Lab ID: 003412-10

Date Analyzed: 03/26/20 Data File: 032626.D

Matrix: Water Instrument: GCMS9

Units: ug/L (ppb) Operator: VM

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	98	50	150

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Date Received: Not Applicable Project: Morell's Walker Chevrolet 080190

Lab ID: Date Extracted: 03/26/20 00-723 mbDate Analyzed: 03/26/20 Data File: 032614.DMatrix: Water Instrument: GCMS9 Units: ug/L (ppb) VMOperator:

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	95	50	150

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

ENVIRONMENTAL CHEMISTS

Date of Report: 04/03/20 Date Received: 03/26/20

Project: Morell's Walker Chevrolet 080190, F&BI 003412

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

Laboratory Code: 003372-06 (Matrix Spike)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(Limit 20)
Iron	ug/L (ppb)	100	8,560	53 b	0 b	75-125	200 b

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Iron	ug/L (ppb)	100	93	80-120

ENVIRONMENTAL CHEMISTS

Date of Report: 04/03/20 Date Received: 03/26/20

Project: Morell's Walker Chevrolet 080190, F&BI 003412

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

Laboratory Code: 003404-04 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Vinyl chloride	ug/L (ppb)	50	< 0.2	117	61-139
Chloroethane	ug/L (ppb)	50	<1	118	55-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	118	71 - 123
Methylene chloride	ug/L (ppb)	50	<5	116	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	108	68 - 125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	112	72 - 122
1,1-Dichloroethane	ug/L (ppb)	50	<1	118 vo	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	115	63-126
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	113	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	115	75 - 121
Trichloroethene	ug/L (ppb)	50	<1	116	73 - 122
Tetrachloroethene	ug/L (ppb)	50	<1	94	40 - 155

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Vinyl chloride	ug/L (ppb)	50	107	102	70-128	5
Chloroethane	ug/L (ppb)	50	103	99	66-149	4
1,1-Dichloroethene	ug/L (ppb)	50	110	107	72 - 121	3
Methylene chloride	ug/L (ppb)	50	103	99	63-132	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	114	108	70 - 122	5
trans-1,2-Dichloroethene	ug/L (ppb)	50	106	102	76 - 118	4
1,1-Dichloroethane	ug/L (ppb)	50	107	104	77-119	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	109	106	76 - 119	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	96	75 - 116	1
1,1,1-Trichloroethane	ug/L (ppb)	50	107	105	80-116	2
Trichloroethene	ug/L (ppb)	50	100	101	72 - 119	1
Tetrachloroethene	ug/L (ppb)	50	109	106	78-109	3

ENVIRONMENTAL CHEMISTS

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.
- $\rm jl$ 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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F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya Michael Erdahl 3012 16th Ave. W. Seattle, WA 98119

RE: 003412

Work Order Number: 2003411

April 02, 2020

Attention Michael Erdahl:

Fremont Analytical, Inc. received 10 sample(s) on 3/26/2020 for the analyses presented in the following report.

Ion Chromatography by EPA Method 300.0 Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

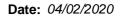
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005 ORELAP Certification: WA 100009-007 (NELAP Recognized)





CLIENT: Friedman & Bruya Work Order Sample Summary

Project: 003412 **Work Order:** 2003411

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2003411-001	MW-35-032520	03/25/2020 11:55 AM	03/26/2020 11:05 AM
2003411-002	MW-25-032620	03/26/2020 1:00 AM	03/26/2020 11:05 AM
2003411-003	MW-24-032620	03/26/2020 2:15 AM	03/26/2020 11:05 AM
2003411-004	MW-23-032620	03/26/2020 3:50 AM	03/26/2020 11:05 AM
2003411-005	MW-31-032620	03/26/2020 5:05 AM	03/26/2020 11:05 AM
2003411-006	MW-2-032620	03/26/2020 12:05 AM	03/26/2020 11:05 AM
2003411-007	MW-30-032620	03/26/2020 1:25 AM	03/26/2020 11:05 AM
2003411-008	MW-32-032620	03/26/2020 2:40 AM	03/26/2020 11:05 AM
2003411-009	MW-33-032620	03/26/2020 4:20 AM	03/26/2020 11:05 AM
2003411-010	MW-7-032620	03/26/2020 5:40 AM	03/26/2020 11:05 AM



Case Narrative

WO#: **2003411**Date: **4/2/2020**

CLIENT: Friedman & Bruya

Project: 003412

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers & Acronyms

WO#: **2003411**

Date Reported: **4/2/2020**

Qualifiers:

- * Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Analytical Report

Work Order: **2003411**Date Reported: **4/2/2020**

CLIENT: Friedman & Bruya

Project: 003412

Lab ID: 2003411-001 **Collection Date:** 3/25/2020 11:55:00 AM

Client Sample ID: MW-35-032520 Matrix: Water

Analyses	Result	RL Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	A Method 300.0		Batc	h ID: 27	7913 Analyst: SS
Nitrite (as N)	ND	0.100	mg/L	1	3/26/2020 11:48:00 PM
Nitrate (as N)	0.611	0.100	mg/L	1	3/26/2020 11:48:00 PM
Sulfate	13.1	0.300	mg/L	1	3/26/2020 11:48:00 PM
Total Organic Carbon by SM	<u>1 5310C</u>		Batc	h ID: R	58395 Analyst: SS
Total Organic Carbon	0.699	0.500	mg/L	1	3/31/2020 7:21:00 PM

Lab ID: 2003411-002 **Collection Date:** 3/26/2020 1:00:00 AM

Client Sample ID: MW-25-032620 Matrix: Water

Analyses	Result	RL G	Qual	Units	DF	Date Analyzed	
Ion Chromatography by EP/	A Method 300.0			Bato	h ID: 27	913 Analyst: SS	
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 12:58:00 AM	
Nitrate (as N)	0.556	0.200	D	mg/L	2	3/27/2020 12:58:00 AM	
Sulfate NOTES:	13.3	0.600	D	mg/L	2	2 3/27/2020 12:58:00 AM	
Diluted due to matrix.							
Total Organic Carbon by SM	<u>1 5310C</u>			Bato	h ID: R5	8395 Analyst: SS	
Total Organic Carbon	ND	0.500		mg/L	1	3/31/2020 8:56:00 PM	



Work Order: **2003411**Date Reported: **4/2/2020**

CLIENT: Friedman & Bruya

Project: 003412

Lab ID: 2003411-003 **Collection Date:** 3/26/2020 2:15:00 AM

Client Sample ID: MW-24-032620 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed		
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID: 27	913 Analyst: SS		
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 1:21:00 AM		
Nitrate (as N)	ND	0.200	D	mg/L	2	3/27/2020 1:21:00 AM		
Sulfate NOTES: Diluted due to matrix.	8.86	0.600	D	mg/L	2	3/27/2020 1:21:00 AM		
Total Organic Carbon by SM 53	10C			Batc	h ID: R5	58395 Analyst: SS		
Total Organic Carbon	3.25	0.500		mg/L	1	3/31/2020 9:18:00 PM		

Lab ID: 2003411-004 **Collection Date:** 3/26/2020 3:50:00 AM

Client Sample ID: MW-23-032620 Matrix: Water

Analyses	Result	RL G	Qual	Units	DF	Date Analyzed
Ion Chromatography by EP	A Method 300.0			Batc	h ID: 27	940 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	3/30/2020 11:58:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 2:30:00 AM
Nitrate (as N)	0.912	0.200	D	mg/L	2	3/27/2020 2:30:00 AM
Sulfate NOTES: Diluted due to matrix.	24.9	0.600	D	mg/L	2	3/27/2020 2:30:00 AM
Total Organic Carbon by SI	<u> </u>			Batc	h ID: R5	58395 Analyst: SS
Total Organic Carbon	ND	0.500		mg/L	1	3/31/2020 10:41:00 PM



Work Order: **2003411**Date Reported: **4/2/2020**

CLIENT: Friedman & Bruya

Project: 003412

Lab ID: 2003411-005 **Collection Date:** 3/26/2020 5:05:00 AM

Client Sample ID: MW-31-032620 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
Ion Chromatography by EPA N	lethod 300.0			Batc	h ID: 27	940 Analyst: SS
Nitrite (as N)	ND	0.100	Н	mg/L	1	3/31/2020 12:21:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 2:53:00 AM
Nitrate (as N)	0.462	0.200	D	mg/L	2	3/27/2020 2:53:00 AM
Sulfate NOTES: Diluted due to matrix.	13.3	0.600	D	mg/L	2	3/27/2020 2:53:00 AM
Total Organic Carbon by SM 5	310C			Batc	h ID: R5	88395 Analyst: SS
Total Organic Carbon	0.541	0.500		mg/L	1	3/31/2020 11:00:00 PM

Lab ID: 2003411-006 **Collection Date:** 3/26/2020 12:05:00 AM

Client Sample ID: MW-2-032620 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
lon Chromatography by EP	A Method 300.0			Batc	h ID: 27	913 Analyst: SS
Nitrite (as N)	0.726	0.200	D	mg/L	2	3/27/2020 3:16:00 AM
Nitrate (as N)	0.452	0.200	D	mg/L	2	3/27/2020 3:16:00 AM
Sulfate NOTES: Diluted due to matrix.	ND	0.600	D	mg/L	2	3/27/2020 3:16:00 AM
Total Organic Carbon by SM	<u>1 5310C</u>			Batc	h ID: R5	8395 Analyst: SS
Total Organic Carbon	209	5.00	D	mg/L	10	3/31/2020 11:33:00 PM



Work Order: **2003411**

Date Reported: 4/2/2020

CLIENT: Friedman & Bruya

Project: 003412

Lab ID: 2003411-007 **Collection Date:** 3/26/2020 1:25:00 AM

Client Sample ID: MW-30-032620 Matrix: Water

Result **RL Qual** Units DF **Date Analyzed Analyses** Batch ID: 27913 Analyst: SS Ion Chromatography by EPA Method 300.0 Nitrite (as N) ND 0.200 D mg/L 2 3/27/2020 3:39:00 AM Nitrate (as N) 1.71 0.200 D mg/L 2 3/27/2020 3:39:00 AM 35.3 D 5 3/31/2020 12:44:00 AM Sulfate 1.50 mg/L NOTES: Diluted due to matrix. Batch ID: R58395 **Total Organic Carbon by SM 5310C** Analyst: SS Total Organic Carbon 0.500 3/31/2020 11:52:00 PM 1.17 mg/L

Lab ID: 2003411-008 **Collection Date:** 3/26/2020 2:40:00 AM

Client Sample ID: MW-32-032620 Matrix: Water

Units DF **Date Analyzed Analyses** Result **RL Qual** Batch ID: 27913 Analyst: SS Ion Chromatography by EPA Method 300.0 Nitrite (as N) ND 0.200 D 2 3/27/2020 4:02:00 AM mg/L Nitrate (as N) 2.95 0.200 D 2 3/27/2020 4:02:00 AM mg/L 2 Sulfate 17.0 0.600 D mg/L 3/27/2020 4:02:00 AM NOTES: Diluted due to matrix. Batch ID: R58395 Analyst: SS **Total Organic Carbon by SM 5310C Total Organic Carbon** ND 0.500 mg/L 4/1/2020 12:14:00 AM



Batch ID: R58395

Work Order: **2003411**Date Reported: **4/2/2020**

Analyst: SS

CLIENT: Friedman & Bruya

Project: 003412

Lab ID: 2003411-009 **Collection Date:** 3/26/2020 4:20:00 AM

Client Sample ID: MW-33-032620 Matrix: Water

Analyses	Result	RL (RL Qual		DF	Date Analyzed
lon Chromatography by E	EPA Method 300.0			Batc	h ID: 27	913 Analyst: SS
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 4:26:00 AM
Nitrate (as N)	11.1	0.500	DH	mg/L	5	3/31/2020 1:07:00 AM
Nitrate (as N)	11.4	0.200	DE	mg/L	2	3/27/2020 4:26:00 AM
Sulfate	27.3	0.600	D	mg/L	2	3/27/2020 4:26:00 AM
NOTES:						

E - Estimated value. The amount exceeds the linear working range of the instrument.

Diluted due to high levels of non-target analytes.

Total Organic Carbon by SM 5310C

Total Organic Carbon ND 0.500 mg/L 1 4/1/2020 12:35:00 AM

Lab ID: 2003411-010 **Collection Date:** 3/26/2020 5:40:00 AM

Client Sample ID: MW-7-032620 Matrix: Water

Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
Ion Chromatography by EP	lon Chromatography by EPA Method 300.0			Batc	h ID: 27	913 Analyst: SS
Nitrite (as N)	ND	0.200	D	mg/L	2	3/27/2020 4:49:00 AM
Nitrate (as N)	1.75	0.200	D	mg/L	2	3/27/2020 4:49:00 AM
Sulfate NOTES: Diluted due to matrix.	29.6	0.600	D	mg/L	2	3/27/2020 4:49:00 AM
Total Organic Carbon by SM	<u>// 5310C</u>			Batc	h ID: R5	8395 Analyst: SS
Total Organic Carbon	ND	0.500		mg/L	1	4/1/2020 1:25:00 PM



Work Order: 2003411

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 003412

Sample ID: MB-27913	SampType: MBLK	SampType: MBLK		Units: mg/L		Prep Date: 3/26/2020		20	RunNo: 58343		
Client ID: MBLKW	Batch ID: 27913					Analysis Da	te: 3/26/20	20	SeqNo: 116	5607	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: LCS-27913	SampType: LCS			Units: mg/L		Prep Dat	te: 3/26/20	20	RunNo: 583	43	
Client ID: LCSW	Batch ID: 27913					Analysis Dat	te: 3/26/20	20	SeqNo: 116	5608	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.701	0.100	0.7500	0	93.5	90	110				
Nitrate (as N)	0.729	0.100	0.7500	0	97.2	90	110				
Sulfate	3.65	0.300	3.750	0	97.3	90	110				

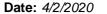
Sample ID: 2003395-012ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583	343	
Client ID: BATCH	Batch ID: 27913		Analysis Date: 3/26/2020						SeqNo: 1165610		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	ND	0.100						0		20	
Sulfate	0.537	0.300						0.5570	3.66	20	

Sample ID: 2003395-012AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583	343	
Client ID: BATCH	Batch ID: 27913					Analysis Da	te: 3/26/20	20	SeqNo: 116	5611	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.309	0.100	0.7500	0	41.2	80	120				S
Nitrate (as N)	0.742	0.100	0.7500	0.06400	90.4	80	120				
Sulfate	4.52	0.300	3.750	0.5570	106	80	120				

NOTES:

Original Page 10 of 16

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





Work Order: 2003411

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

003412

Ion Chromatography by EPA Method 300.0

Sample ID: 2003395-012AMSD	SampType: MSD	ampType: MSD Units: mg/L				Prep Da	te: 3/26/20	RunNo: 583				
Client ID: BATCH	Batch ID: 27913					Analysis Date: 3/26/2020				SeqNo: 1165612		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Nitrite (as N)	0.331	0.100	0.7500	0	44.1	80	120	0.3090	6.88	20	S	
Nitrate (as N)	0.752	0.100	0.7500	0.06400	91.7	80	120	0.7420	1.34	20		
Sulfate	4.57	0.300	3.750	0.5570	107	80	120	4.515	1.21	20		

NOTES:

Sulfate

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2003411-001ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/26/20	20	RunNo: 583		
Client ID: MW-35-032520	Batch ID: 27913		Analysis Date: 3/27/2020 S						SeqNo: 116		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100						0		20	
Nitrate (as N)	0.611	0.100						0.6110	0	20	
Sulfate	13.2	0.300						13.06	0.968	20	

Sample ID: 2003411-001AMS	SampType: MS			Units: mg/L		Prep Dat	te: 3/26/2020	•	RunNo: 583	43	
Client ID: MW-35-032520	Batch ID: 27913					Analysis Dat	te: 3/27/2020		SeqNo: 116	5623	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.677	0.100	0.7500	0	90.3	80	120				
Nitrate (as N)	1.39	0.100	0.7500	0.6110	104	80	120				
Sulfate	17.1	0.300	3.750	13.06	108	80	120				Е
NOTES:											

E - Estimated value. The amount exceeds the linear working range of the instrument.

ND

0.300

Sample ID: MB-27940	SampType: MBLK			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	360	
Client ID: MBLKW	Batch ID: 27940					Analysis Da	te: 3/30/20	20	SeqNo: 116	65939	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									

Original Page 11 of 16



Work Order: 2003411

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Ion Chromatography by EPA Method 300.0

Project: 003412

SampType: MBLK

Result

RL

Units: mg/L

Prep Date: 3/30/2020

RunNo: 58360

Sample ID: MB-27940 Client ID: MBLKW

Batch ID: 27940

Analysis Date: 3/30/2020

SeqNo: 1165939

Analyte

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit Qual

Sample ID: LCS-27940	SampType: LCS			Units: mg/L		Prep Dat	te: 3/30/20	20	RunNo: 583	60	
Client ID: LCSW	Batch ID: 27940					Analysis Dat	te: 3/30/20	20	SeqNo: 116	5940	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	0.717	0.100	0.7500	0	95.6	90	110				
Nitrate (as N)	0.731	0.100	0.7500	0	97.5	90	110				
Sulfate	3.71	0.300	3.750	0	98.9	90	110				

Sample ID: 2003395-001ADUP	SampType: DUP			Units: mg/L		Prep Dat	e: 3/30/2 0	20	RunNo: 583	60	
Client ID: BATCH	Batch ID: 27940					Analysis Dat	e: 3/30/2 0	20	SeqNo: 116	5942	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.200						0		20	DH
Nitrate (as N)	3.27	0.200						3.306	1.22	20	DH
Sulfate	19.5	0.600						19.76	1.14	20	D

Sample ID: 2003395-001AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	60	
Client ID: BATCH	Batch ID: 27940					Analysis Da	te: 3/30/20	20	SeqNo: 116	5943	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.39	0.200	1.500	0	92.8	80	120				DH
Nitrate (as N)	4.88	0.200	1.500	3.306	105	80	120				DH
Sulfate	27.3	0.600	7.500	19.76	101	80	120				D

Page 12 of 16 Original



Work Order: 2003411

Project:

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

003412

Ion Chromatography by EPA Method 300.0

Sample ID: 2003395-001AMSD	SampType: MSD			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	860	
Client ID: BATCH	Batch ID: 27940					Analysis Da	te: 3/30/20	20	SeqNo: 116	5944	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	1.42	0.200	1.500	0	94.8	80	120	1.392	2.13	20	DH
Nitrate (as N)	4.87	0.200	1.500	3.306	104	80	120	4.876	0.205	20	DH
Sulfate	27.3	0.600	7.500	19.76	100	80	120	27.33	0.198	20	D

Sample ID: 2003411-009ADUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	60	
Client ID: MW-33-032620	Batch ID: 27940					Analysis Da	te: 3/31/20	20	SeqNo: 116	5959	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	ND	0.500						0		20	DH
Nitrate (as N)	11.0	0.500						11.12	1.13	20	DH
Sulfate	25.9	1.50						26.28	1.32	20	D

Sample ID: 2003411-009AMS	SampType: MS			Units: mg/L		Prep Da	te: 3/30/20	20	RunNo: 583	360	
Client ID: MW-33-032620	Batch ID: 27940					Analysis Da	te: 3/31/20	20	SeqNo: 116	55960	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	3.48	0.500	3.750	0	92.7	80	120				DH
Nitrate (as N)	15.1	0.500	3.750	11.12	106	80	120				DEH
Sulfate	45.1	1.50	18.75	26.28	101	80	120				D

NOTES:

Original Page 13 of 16

E - Estimated value. The amount exceeds the linear working range of the instrument.



Work Order: 2003411

QC SUMMARY REPORT

CLIENT: Friedman & Bruya

Total Organic Carbon by SM 5310C

Project: 003412					Total Organic Carbon by SM 5310
Sample ID: MB-R58395	SampType: MBLK			Units: mg/L	Prep Date: 3/31/2020 RunNo: 58395
Client ID: MBLKW	Batch ID: R58395				Analysis Date: 3/31/2020 SeqNo: 1166938
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organic Carbon	ND	0.500			
Sample ID: LCS-R58395	SampType: LCS			Units: mg/L	Prep Date: 3/31/2020 RunNo: 58395
Client ID: LCSW	Batch ID: R58395				Analysis Date: 3/31/2020 SeqNo: 1166939
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organic Carbon	5.44	0.500	5.000	0	109 88.3 117
Sample ID: 2003411-001BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/31/2020 RunNo: 58395
Client ID: MW-35-032520	Batch ID: R58395				Analysis Date: 3/31/2020 SeqNo: 1166941
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organic Carbon	0.740	0.500			0.6990 5.70 20
Sample ID: 2003411-001BMS	SampType: MS			Units: mg/L	Prep Date: 3/31/2020 RunNo: 58395
Client ID: MW-35-032520	Batch ID: R58395				Analysis Date: 3/31/2020 SeqNo: 1166942
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organic Carbon	6.24	0.500	5.000	0.6990	111 66 142
Sample ID: 2003411-001BMSD	SampType: MSD			Units: mg/L	Prep Date: 3/31/2020 RunNo: 58395
Client ID: MW-35-032520	Batch ID: R58395				Analysis Date: 3/31/2020 SeqNo: 1166943
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Organic Carbon	6.16	0.500	5.000	0.6990	109 66 142 6.242 1.40 30

Original Page 14 of 16



Sample Log-In Check List

CI	ient Name:	FB	Work Order Num	ber: 2003411		
Lo	ogged by:	Carissa True	Date Received:	3/26/2020 1	1:05:00 AM	
<u>Cha</u>	in of Cust	od <u>y</u>				
1.	Is Chain of C	ustody complete?	Yes 🗹	No \square	Not Present	
2.	How was the	sample delivered?	<u>FedEx</u>			
Log	<u>In</u>					
_	Coolers are p	present?	Yes	No 🗸	NA \square	
0.	·		No cooler prese	<u>ent</u>		
4.	Shipping con	tainer/cooler in good condition?	Yes 🗹	No \square		
5.		s present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗸	Not Required	
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No 🗆	NA \square	
7.	Were all item	s received at a temperature of >2°C to 6°C *	Yes 🗸	No 🗌	NA \square	
8.	Sample(s) in	proper container(s)?	Yes 🗸	No 🗆		
9.	Sufficient sar	nple volume for indicated test(s)?	Yes 🗸	No 🗌		
10.	Are samples	properly preserved?	Yes 🗸	No 🗌		
11.	Was preserva	ative added to bottles?	Yes	No 🗸	NA \square	
12.	Is there head	space in the VOA vials?	Yes	No 🗌	NA 🗸	
13.	Did all sampl	es containers arrive in good condition(unbroken)?	Yes 🗸	No 🗌		
14.	Does paperw	ork match bottle labels?	Yes 🗸	No 🗌		
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No 🗌		
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No 🗌		
17.	Were all hold	ing times able to be met?	Yes 🗸	No 🗌		
<u>Spe</u>	cial Handl	ing (if applicable)				
18.	Was client no	otified of all discrepancies with this order?	Yes	No 🗌	NA 🗸	
	Person	Notified: Date	:			
	By Who	m: Via:	eMail P	none 🗌 Fax 📋] In Person	
	Regardi	ng:				
	Client Ir	structions:				
19.	Additional rer	narks:				
<u>ltem</u>	Information					
		Item # Temp °C				

3.6

Sample 1

^{*} Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 2003411

Send Report To Michael Erdah							1								Received by:		Fax (206) 283-5044
POTO Michael Ecdah POSS POTO PROJECT NAME/NO. POSS	-	11 - 03	Julia					4	2			- 1		9	Relinquished by		Ph. (206) 285-8282
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Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.		MW-7-032620	MW-33-032620	MW-32-032620	30	03	Nw-21-032620	Mw-13-032620	MW-24-032620	MW-25-032670	MW-35-032520	-	Sample ID	1 1	なな	Ħ	Address 710 2 nd Ave	1	二 小	003412
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APPENDIX D

Stemen Environmental Inc. Inspection Letter

STEMEN ENVIRONMENTAL, INC.

P.O. Box 3644 LACEY, WASHINGTON 98509-3644 CONTR. LIC. #STEMEEI081J9

Telephone 360-438-9521 Fax 360-412-1225

May 17, 2009

Mr. Aaron Morrell 608 N. 1st Street Tacoma, Washington 98403

Dear Mr. Morrell:

RE: SITE INSPECTIONS OF COMMERCIAL PROPERTY LOCATED AT 608 N. 1ST STREET, TACOMA, WASHINGTON.

Our company performed various environmental investigations on the subject property and neighboring properties. The following facts and information was obtained during these investigations:

- 1. Subsurface soils, at depths greater than 3 feet b.g.s. (below ground surface), beneath substantial portions of the subject properties consist of densely compacted gravelly sands.
- 2. Groundwater is present at depths of 50+ feet b.g.s. Groundwater elevations were measured via the on-site groundwater monitoring wells. Soil samples obtained from locations directly surrounding the on-site Dry Cleaners/Office Building produced dry soil samples to an approximate depth of 50 feet b.g.s.
- 3. On May 7, 2007, I was on-site to obtain soil gas vapors from the shallow subsurface soils at selected locations within the boundaries of the commercial building located at 608 N. 1st Street and currently occupied by Morrell's Dry Cleaners. Our company contracted with Environmental Services Network Northwest, Inc., Olympia, Washington to provide Licensed Well Drillers to perform the required drilling activities.

To provide reasonable access to the subsurface soils, holes were drilled through the concrete floor at two (2) selected locations on the northern portion of the site. Steel probes were then mechanically advanced into the soils using a roto-hammer. The initial probe was easily advanced into the subsurface soils to a depth of 3 ft. PVC tubing was advanced into the probe, and a peristaltic pump was used to pump vapors into a Tedler bag. It was immediately noticed that we were pumping liquids not vapors. A sample was obtained from the liquids and was placed in an appropriate container.

An additional probe was advanced to a depth of 1 ft. It was immediately determined that water was present in this shallow probe also. You (Mr. Aaron Morrell) were on-site for these drilling activities.

The presence of very shallow water was discovered beneath the concrete floor of the Thriftway Office portion of the building also.

I have included a Boring Log for this event.

All interested parties and the Tacoma-Pierce County Health Department were informed of the presence of water at very shallow depths beneath the building. You (Mr. Aaron Morrell) were on-site for these drilling activities.

4. On June 29, 2007, Licensed Drillers and Geologists from Environmental Services Network, Inc. were on-site to install dewatering/monitoring wells at selected location inside the Dry Cleaners portion of the on-site building. Large holes were cored in the concrete floor to provide reasonable access for well installation activities. Water and water laden sand was observed just below the concrete.

Due to the liquidity/instability of the sands beneath the slab, the on-site Drillers and Geologist were unable to install a well.

I have included a Geologists Boring Log for this event.

5. On July 5th, 2007, I attempted to pump down the water level beneath the on-site building. The pumped water contained a significant amount of particulates.

I pumped approximately 200 gallons of water from beneath the building and the measured water level stayed stable. Ms. Sharon Bell of the Tacoma-Pierce County Health Department was on-site during these water pumping activities.

- 6. I was on-site with Ms Sharon Bell and representatives of the City of Tacoma to observe the excavation activities associated with the installation of new underground utilities on N. 1st Street. The northern extension of the excavation trenches was located approximately 25 feet southwest of the southwest corner of the on-site Dry Cleaners/Thriftway Office Building. The trenches were advanced to approximate depths of 13 feet b.g.s. No water was observed in these trenches.
- 7. It was discovered that the Tully's Coffee Shop had a water leak that, according to available records, had been leaking a substantial amount of water for an extended period of time. When the water leak was repaired, all of the waters beneath the Dry Cleaners/Thriftway Office Building drained in a few hours.

When the waters had drained, I observed an open space between the surface of the subsurface sands/soils and the bottom of the concrete slab.

If you have any questions or require further information please feel free to contact us at the above phone number.

Sincerely,

Ecology-Registered Site Assessor IFCI #0874201-U2

ASTM Certified

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT (SUBMIT ONE WELL REPORT PER WELL INSTALLED)		CURRENT Notice of Intent No. A127970							
(SUBMIT ONE WELL REPORT PER WI Construction/Decommission ("x" in box)	ELL INSTALLED)		Type of Well ("x in box)						
		Resource Protection							
Decommission	47501	Geotech Soil Boring Property Owner Titus-Will							
ORIGINAL INSTALLATION Notice of Intent	Number:								
E006830 Consulting Firm Stemen Environmental Unique Ecology Well IDTag No		Site Address 633 Division Street City Tacoma County Pierce							
						Location <u>NW</u> 1/4-1/4 <u>SE</u> 1/4 Sec <u>32</u> Twn <u>21N</u> R <u>3E</u> EWM ⊠ or WWM □			
			Lat Deg MinSec						
				still REQUIRED)	Long Degwithsec				
		☐ Driller ☐ Engineer ☒ Trainee Name (Print Last, First Name) Haun, Marty		Tax Parcel No					
		Driller/Engineer /Trainee Signature	15-	Cased or Uncased Diameter Static Level/, Work/Decommission Start Date 5/7/07					
Driller or Trainee License No. T2827									
If the ince licensed duillen's Signature and	Licence Number	Work/Decommissio	on Completed Date 5/7/07						
If trainee, licensed driller's Signature and	License Number:	WORN DOCUMENTS SEC	on completed Date <u>5/1/01</u>						
Construction Design	Well D	ata	Formation Description						
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SCALE: 1"= ____ PAGE _ ___ PAGE _ ____

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Inter-

(SUBMIT ONE WELL DEPORT DED		CURRENT	Notice of Intent No. <u>A129880</u>		
(SUBMIT ONE WELL REPORT PER Construction/Decommission ("x" in box)		Type of Well ("x in box)		
Construction	26596	8	Resource Protection		
□ Decommission		O	Geotech Soil Boring		
ORIGINAL INSTALLATION Notice of Inte	ent Number:	Property Owner Bruce-Titus			
		Site Address 633 Division			
Consulting Firm Stemen Environmental	D /	City Tacoma	County Pierce		
Unique Ecology Well IDTag No.	<u> </u>	Location <u>NW</u> 1/4-1/4 <u>SE</u> 1/4 Sec <u>32</u> Twn <u>21N</u> R <u>3E</u>			
WELL CONSTRUCTION CERTIFICAT		EWM 🔯 or WWM	1 🔲		
accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information		Lat/Long (s. t. r	Lat Deg MinSec		
reported above are true to my best knowledge and be		still REQUIRED)	Long DegMinSec		
☐ Driller ☐ Engineer ☒ Trainee		Tax Parcel No	Long Degwillsec		
Name (Print Last, First Name) Mefford, John Driller/Engineer /Trainee Signature	7.1 M 11. 1	Cased or Uncased I	Diameter Static Level _ 2 '		
Driller or Trainee License No. T2815	ahn Mefford				
			Work/Decommission Start Date 6/29/07		
If trainee, licensed driller's Signature as	id License Number:	Work/Decommission	on Completed Date 6/29/07		
· Company					
Construction Design	Well l	Data	Formation Description		
.07 M. 12 A8:36	Drove a retractable stainless steel / P to depth and collect sumple. Boring Depth: Screen: Screen: Type: Shuble:	VC screen down ted a water	0-3- gravelly son		
	Removed all rods at boring and backfilled		RECEIVED JUL 13 2007 DEPARTMENT OF COOLUGY WELL DRILLING UNIT		

SCALE: 1"= NA PAGE | OF |

Cover Letter.

To: Kevin Chang

From: Aaron Morrell

Morrells Dry Cleaners 608 No 18+ ST TACOMA, WA 28403

R.E.

TullyS WATER LEAK

5 pg. to follow.

Tully's Coffee Corportion/ BP 400030657 Service Address 24 North Tacoma Avenue, Tacoma WA Contract Account 100231059

Consumption History Report

Read Dates:			Vater		stewater
		Consumption		Consumption	
From	То	(in CCFs)	Amount billed	(in CCFs)	Amount billed
9/6/2003	11/5/2003	61.03	\$77.78	61.03	\$204.22
11/6/2003	1/9/2004	43.09	\$64.58	43.09	\$149.86
1/10/2004	3/11/2004	42.17	\$68.28	42.17	\$155.56
3/12/2004	5/10/2004	45.42	\$71.01	45.42	\$166.45
5/11/2004	7/9/2004	49.94	\$74.81	49.94	\$181.61
7/10/2004	9/8/2004	45.31	\$70.92	45.31	\$166.08
9/9/2004	11/5/2004	44.48	\$70.22	44.48	\$163.30
11/6/2004	1/10/2005	43.61	\$70.43	43.61	\$160.64
1/11/2005	3/11/2005	40.89	\$73.18	40.89	\$152.91
3/12/2005	5/10/2005	38.82	\$71.27	38.82	\$145.92
5/11/2005	7/11/2005	46.82	\$78.63	46.82	\$172.96
7/12/2005	9/8/2005	47.52	\$79.28	47.52	\$175.32
9/9/2005	11/5/2005	59.59	\$90.38	59.59	\$216.11
11/6/2005	1/10/2006	73.84	\$104.91	73.84	\$265.14
1/11/2006	3/10/2006	64.04	\$102.97	64.04	\$236.09
3/11/2006	5/9/2006	58.76	\$97.65	58.76	\$217.86
5/10/2006	7/10/2006	77.46	\$116.48	77.46	\$282.42
7/11/2006	9/7/2006	83.86	\$122.93	83.86	\$304.52
9/8/2006	11/4/2006	103.83	\$143.04	103.83	\$373.47
11/5/2006	1/9/2007	150.22	\$191.72	150.22	\$540.64
1/10/2007	3/12/2007	154.62	\$208.98	154.62	\$601.68
3/13/2007	5/9/2007	173.49	\$229.46	173.49	\$673.40
5/10/2007	7/10/2007	345.94	\$415.56	345.94	[\$1,328.84
7/11/2007	9/7/2007	197.39	\$255.39	197.39	\$764.24
9/8/2007	11/6/2007	52.42	\$98.10	52.42	\$213.25
11/7/2007	1/9/2008	59.23	\$106.61	59.23	\$241.35
1/10/2008	3/11/2008	55.57	\$109.20	55.57	\$239.95
3/12/2008	5/8/2008	52.53	\$105.64	52.53	\$227.61
5/9/2008	7/9/2008	58.49	\$112.61	58.49	\$251.81
7/10/2008	9/8/2008	60.37	\$114.81	60.37	\$259.44
9/9/2008	11/5/2008	72.87	\$129.44	72.87	\$310.21
11/6/2008	1/9/2009	78.38	\$135.88	78.38	\$336.09
1/10/2009	3/11/2009	53.75	\$112.77	53.75	\$249.90

1 CCF=100 cubic feet

Amounts listed are amounts billed on original invoice-a leak adjustment was performed for the May 10,2007 thru July 10th 2007 water and wastewater charges

COMPLETED LEAK ADJUSTMENT FOR BILLING PERIOD 5/9/07-7/10/07 - LEAK ONGOING FOR OVER A YEAR - DID ADJUSTMENT BASED ON 2005 CONSUMPTION FOR JULY BILLING PERIOD - WROTE OFF 345.94 CCF AT 416.56 WATER AND 1328.84 SEWER - BILLED 46.82 CCF AT 92.02 WATER AND 191.97 SEWER - EDJ*

Water Consumption

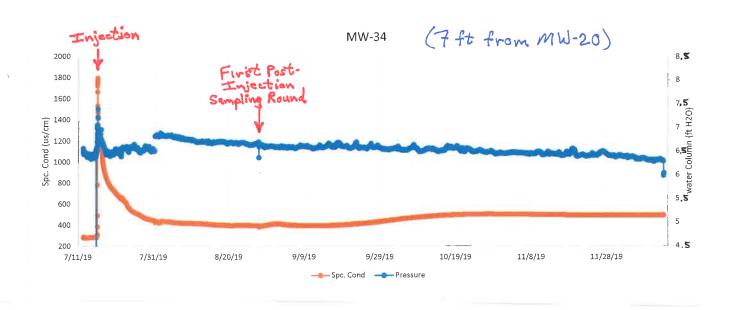
Water Consumption

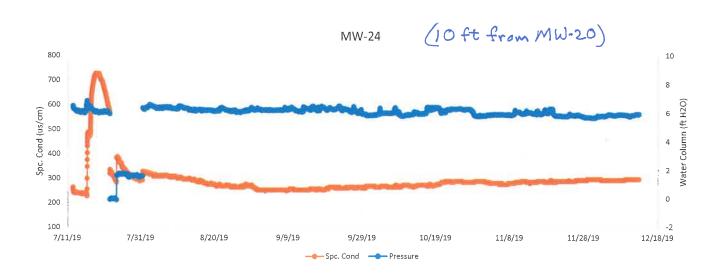
Water Consumption

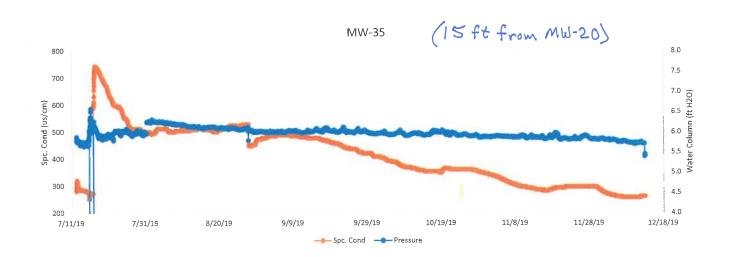
APPENDIX E

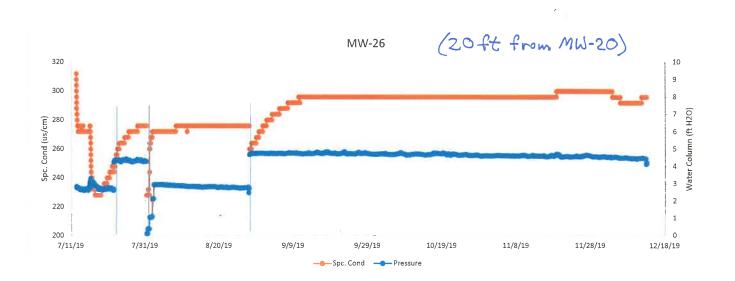
Data Logger Output, 2019 Remediation Product Injection Test

Data Logger Output Injection Test, Morrell's Dry Cleaners







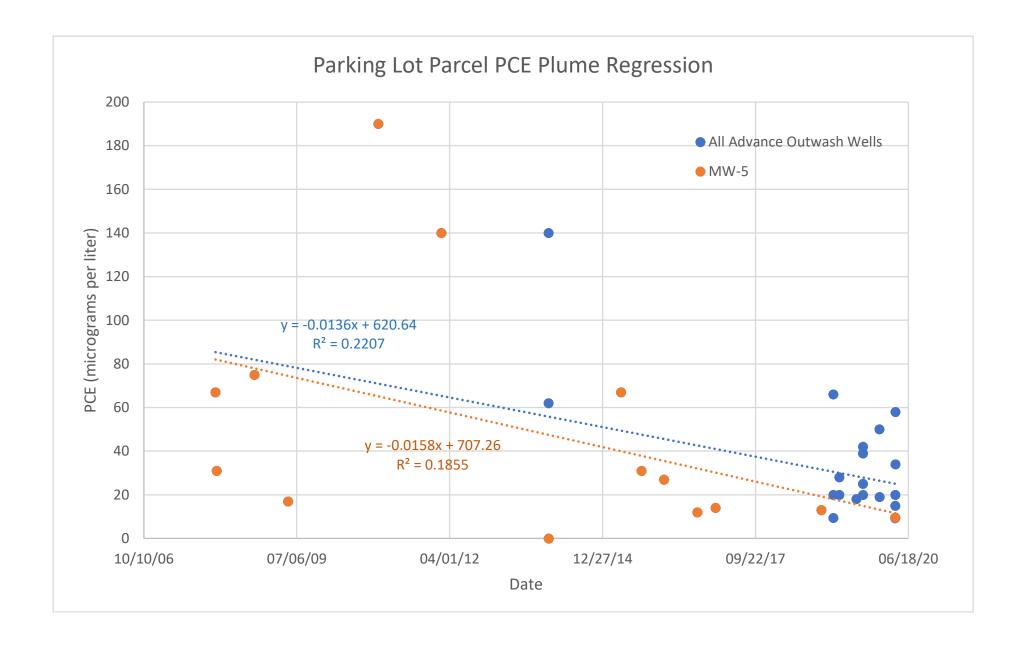


D. Heffner Aspect Consulting 1/27/20

APPENDIX F

Parking Lot Parcel PCE Plume Regression

Morell's Dry Cleaner, Tacoma, Washington 080190



APPENDIX G

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.