FOCUSED FEASIBILITY STUDY

Former Walker Chevrolet

Prepared for: David Shaw, Successor to Walker Chevrolet

Project No. 080190-004-12 • May 16, 2014 Final

Aspect CONSULTING

earth + water

FOCUSED FEASIBILITY STUDY

Former Walker Chevrolet

Prepared for: David Shaw, Successor to Walker Chevrolet

Project No. 080190-004-12 • May 16, 2014 Final

Aspect Consulting, LLC

5-16-2014

Alan Noell, PhD, PE, CHMM
Associate Remediation Engineer
anoell@aspectconsulting.com

Joe Morrice, LHG
Associate Hydrogeologist
jmorrice@aspectconsulting.com

V:\080190 Stadium Thriftway LLC\Deliverables\FFS\FFS Walker\Final 5-16-14\Former Walker Chevrolet Final FFS.docx

Contents

List of Tables

List of Figures

List of Appendices

List of Acronyms

Aspect	Aspect Consulting, LLC
BTEX	benzene, toluene, ethylbenzene, and xylenes
Bison	Bison Environmental Northwest, Inc.
COC	chemicals of concern
COPC	chemical of potential concern
Ecology	Washington Department of Ecology
FFS	Focused Feasibility Study
HCID	hydrocarbon identification
MCL	maximum contaminant level
$\mu g/m^3$	micrograms per cubic meter
mg/kg	milligrams per kilogram
µg/L	micrograms per liter
MTCA	Model Toxics Control Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
RI	Remedial Investigation
Site	Former Walker Chevrolet Site
Stemen	Stemen Environmental, Inc.
SVE	soil vapor extraction
SVOC	semi-volatile organic compound
TCE	trichloroethylene
TPH	total petroleum hydrocarbons
TPN	tax parcel number
UST	underground storage tank
VCP	Voluntary Cleanup Program
VOC	volatile organic compound

1 Introduction

1.1 Site Description

The Former Walker Chevrolet (Site) is located at 633 Division Avenue in Tacoma, Washington. As shown in Figure 1, the Site is located on a triangular city block located between North First Street on the northwest, Tacoma Avenue on the northeast, and Division Avenue on the southeast.

This block includes two sites registered with the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP), including Morrell's Dry Cleaners (VCP No. SW1039) and Former Walker Chevrolet (VCP No. SW1040). The two sites were originally entered into the VCP as one site (VCP No. SW1039), and the site assessments overlap, including the Remedial Investigation (RI) Report (Aspect, 2011) and Data Gaps Investigation Report (Aspect, 2012). After consultation with Ecology the sites were separated for remediation and administrative purposes because:

- The contamination releases are derived from separate sources associated with distinct, unrelated business activities located on separate property parcels;
- The groundwater plumes are distinct and separate; and
- The sources of contamination have been removed from the Former Walker Chevrolet Site, and the released contamination has generally attenuated to below applicable screening levels, as discussed later in this report.

The Morrell's Dry Cleaner site (VCP No. SW1039) extends to four parcels and the City of Tacoma right-of-way that contain chlorinated volatile organic compounds (VOCs) associated with historical dry cleaning operations in groundwater above the applicable screening levels. These parcels, shown on Figure 1, include:

- Tax Parcel No. (TPN) 2030120031 (7,928 square feet, Thriftway Properties, LLC): Contains a 3,600 square foot building that is leased to Morrell's Dry Cleaner and a non-occupied storage space for Stadium Thriftway.
- TPN 2030120033 (13,451 square feet, Thriftway Properties, LLC): Paved parking lot used by Stadium Thriftway.
- TPN 2030120012 (8,364 square feet, 4 the Boys Company, LLC): Contains Franco the Tailor, Tully's Coffee, and office space.
- TPN 2030120013 (11,156 square feet, Stadium LLC): Contains retail space.

Aspect Consulting, LLC (Aspect) prepared a Focused Feasibility Study (FFS; Aspect, 2013) and is currently implementing cleanup actions at Morrell's Dry Cleaners.

The Former Walker Chevrolet Site (VCP No. SW1040) is limited to TPN 2030120032 (Figure 1), which contains the building occupied by Stadium Thriftway, CARSTAR Auto Body, and Titus-Will Service and Tire. The releases from Morrell's Dry Cleaners currently do not extend to this Site and there does not appear to be comingling of

contamination between the two sites. This FFS was prepared to identify, evaluate, and recommend cleanup actions for the Former Walker Chevrolet Site.

1.2 Current and Former Site Uses

The Phase I Environmental Site Assessment (ESA; Bison Environmental Northwest [Bison], 1994a) describes the historical use of the Site. The Site property was used by the Annie Wright Seminary boarding school until at least 1912, and included a large building, gymnasium, and housing. The current building was constructed in 1925. The building was used as car dealership and maintenance shop beginning in 1925; the northern portion of the building (currently containing a Thriftway grocery) has been used as a grocery store since about 1940. Allen Motor Company and Packard Tacoma, Inc. operated a dealership from about 1925 to 1933 and Walker Chevrolet began operations in about 1933. A gas station (referred to in the Phase I ESA report as the South Gas Station) operated at the south end of the property from 1930 to 1949, under the names Wright Park Auto Service, Roy Colyar Service Station, and Bob Hofer Gas and Oils. Additionally, a gas station (North Gas Station) operated in the dealership parking lot on the northwest side of North First Street from the 1940s to the 1960s. The former North Gas Station is outside of the Site boundary. David Shaw and Darrell Wickham purchased the property in June 1981. Walker Chevrolet continued to operate at the property, eventually rebranding as Bruce Titus Chevrolet. The property was sold to Stadium District Properties LLC in 2013. The building is currently occupied by Stadium Thriftway, CARSTAR Auto Body, and Titus-Will Service and Tire.

1.3 Environmental Setting

The Site is entirely covered by the existing building and a paved parking and driveway area at the southern tip of the property. The Site is underlain by Vashon Till, which is a dense, low-permeability mix of sand, silt, and gravel, to about 30 feet below ground surface (bgs) and Vashon Advance Outwash sand from about 30 to 60 feet bgs. The Vashon Sand is underlain by Olympia Bed Interglacial Deposits and Undifferentiated Glacial and Interglacial Deposits from approximately 60 feet bgs to the lowermost boring depth of 146 feet bgs.

The uppermost water bearing unit is in the advance outwash sand with a depth to water of about 53 feet bgs. Groundwater is likely recharged from south of the Site, including from Wright Park, and then discharges horizontally toward the Morrell's Dry Cleaners site and vertically through lower glacial units towards Commencement Bay, which is approximately 1,500 feet northeast of the Site and approximately 250 feet below the Site elevation. The uppermost groundwater table is also approximately 53 feet bgs beneath the Morrell's Dry Cleaners site. However, the advance outwash becomes dry along North First Street in decommissioned wells MW-3 and MW-6 and along Tacoma Avenue in decommissioned well MW-4 and existing wells MW-9 and MW-10.

1.4 Remediation and Investigation History

The Phase I ESA (Bison, 1994a) identified the South Gas Station, the North Gas Station, and a Paint Booth and former heating oil underground storage tank (UST) as recognized environmental conditions. Bison conducted three remedial actions in 1994 to remove sources of contamination from the property (Bison, 1994b, 1994c, 1994d, and 1994e).

These reports were previously submitted to Ecology; and figures and data tables from these reports are provided for the South Gas Station, the North Gas Station, and the Paint Booth and UST in Appendix A. Additionally, Appendix A includes figures and data tables from due diligence sampling performed by Stemen Environmental, Inc. (Stemen) in 2006 and 2008; these non-organized data were also included in Appendix C of the Site Conditions Report (Aspect, 2009). Remedial actions and subsequent characterization of the South Gas Station, the North Gas Station, and the Paint Booth and UST are described below. These include summarized results reported in the Site Conditions Summary report (Aspect, 2009), the RI (Aspect, 2011), and additional sampling conducted in December 2013 and January 2014.

1.4.1 South Gas Station

Remediation Activities

The South Gas Station is located on the south end of the current building, between North First Street and Division Avenue. Seven USTs and a pump island and associated piping were removed from the south corner of the property in July and August 1994 (Bison, 1994b). The removal and characterization of the USTs and pump island are described below.

Gasoline USTs

One 2,100-gallon and two 2,000-gallon gasoline USTs were located in the parking area adjacent and within 25 feet south of the current building. Two overburden soil samples were collected and submitted for analysis by the hydrocarbon identification (HCID) method, and no hydrocarbons were detected. Soil was excavated to 10 feet bgs beneath the tank area, and one soil confirmation sample was collected from beneath each tank and submitted for analysis of gasoline-range total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds; and lead. One bottom sample contained 39 milligrams per kilogram (mg/kg) of gasoline-range TPH, 0.33 mg/kg of ethylbenzene, 3.3 mg/kg of total xylenes, and 6 mg/kg of lead, which were below the Model Toxics Control Act (MTCA) Method A soil cleanup levels[1] and reuse criteria. No hydrocarbons were detected in the other two bottom samples. Four sidewall samples were collected and submitted for analysis by the HCID method, and no hydrocarbons were detected. The excavated soil was reused as backfill because the concentrations were below the Method A cleanup levels.

Waste Oil UST

A 500-gallon waste oil UST was located about 35 feet south of the building. A soil sample from the overburden soil contained 1,900 mg/kg of oil-range TPH. Approximately 30 cubic yards of petroleum-impacted soil was excavated to 8 feet bgs from a 10-foot by 12-foot area surrounding the former waste oil UST and the petroleum-impacted soil was disposed off-site. One bottom and four sidewall confirmation samples were collected and submitted for analysis by the HCID method, and no hydrocarbons were detected.

[1] The applicable gasoline-range TPH MTCA Method A Soil cleanup level is 100 mg/kg when detectable benzene is not present or 30 mg/kg when detectable benzene is present.

Pump Island

The pump island was located about 45 feet south of the building. A soil sample from 2 feet beneath the pump island contained 570 mg/kg of gasoline-range TPH and 1.42 mg/kg of benzene. Soils were excavated to 5 feet bgs beneath the pump island and approximately 30 cubic yards of petroleum-contaminated soil was disposed off-site. One bottom and two sidewall confirmation sample were collected and submitted for analysis by the HCID method and no hydrocarbons were detected.

USTs in Embankment

Three USTs were located in an embankment beneath the elevated side walk adjacent to Division Avenue, which slopes downward to the northwest. The embankment contained a 600-gallon UST with oily product, potentially aged diesel fuel, and 300- and 600-gallon USTs with water, which were likely abandoned gasoline tanks. Two overburden soil samples were collected and submitted for analysis by the HCID method and no hydrocarbons were detected. However, the surrounding soil contained faint hydrocarbon odors and staining. Approximately 40 cubic yards of soil were removed from the embankment, to an approximate depth of 9 feet bgs measured from the sidewalk, and disposed off-site. One bottom sample was collected beneath each tank and four sidewall soil confirmation samples were collected and submitted for analysis by the HCID method, and no hydrocarbons were detected.

Post-Remediation Site Characterization Activities

Soil Quality Investigations

Stemen performed due diligence Site assessment activities between 2006 and 2008. Sampling methods and sample locations are poorly documented and complete laboratory reports were not provided in Stemen's materials. Available maps, sample data, and boring logs are provided in Appendix C of the Site Conditions Summary (Aspect, 2009). Stemen directed drilling and collected soil samples from borings S-1 to S-7 at the South Gas Station on August 31, 2006. One soil sample was collected from each boring at a depth of 15 or 16 feet bgs except at S-6 where a sample was collected at a depth of 8 feet bgs. All samples were submitted for analysis of TPH and BTEX.

Boring S-1 was drilled near the UST embankment and a soil sample was collected from 15 feet bgs, which is below the 9 foot depth of excavation in 1994. Sample S-1 contained 920 mg/kg of gasoline-range TPH, which exceeds the 30 mg/kg Method A soil cleanup level when benzene is present. Sample S-1 also contained 6.1 mg/kg of benzene, 4.1 mg/kg of toluene, 6 mg/kg of ethylbenzene, and 12 mg/kg of total xylenes. The benzene concentration exceeded the 0.03 mg/kg Method A soil cleanup level by a factor of 20, whereas the concentration of xylenes slightly exceeded the 9 mg/kg Method A soil cleanup level and the concentration of ethylbenzene equaled the 6 mg/kg Method A soil cleanup level. Sample S-1 was also submitted for analysis of semivolatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs); SVOCs and PCBs were not detected.

Boring S-7 was sampled near the southwest corner of the property, southwest of the former pump island, and a sample was collected from 16 feet bgs. Sample S-7 contained 360 mg/kg of gasoline-range TPH. The sample was not submitted for analysis of BTEX compounds but exceeds both the 30 mg/kg and 100 mg/kg Method A soil cleanup levels when benzene is absent or present, respectively.

The remaining borings did not detect contamination, including boring S-2 near the embankment, boring S-3 beneath the former gasoline USTs, borings S-4 and S-5 adjacent to North First Street, and boring S-6 near the former waste oil UST and former pump island. TPH and BTEX compounds were not detected in samples from these borings.

To characterize the vertical extent of TPH-impacted soil and assess the potential for fuel-related compounds to migrate to groundwater Aspect directed the drilling of soil boring AB-1 near the center of the former UST pits on December 20, 2013. The boring was drilled to below the water table using hollow-stem auger methods and split-spoon soil samples were collected every 5 feet for field screening of VOCs using a photoionization detector (PID). The boring log is shown in Appendix B.

Elevated soil PID readings were recorded at depths of 15, 20, and 25 feet bgs, with readings decreasing with depth below 15 feet; no PID response was recorded above 15 feet bgs or at or below 30 feet bgs. Aspect selected soil samples from 15, 25, 45, and 61.5 feet bgs for laboratory analysis of gasoline-range TPH, BTEX, lead, and fuel oxygenates. Sample results are summarized in Table 1-1 and the analytical results are provided in Appendix C. Gasoline-range TPH (37 mg/kg) and xylenes (0.33 mg/kg) were detected in the 15-foot bgs sample at concentrations below the applicable Method A soil cleanup levels, in the absence of benzene. A very minor amount of gasoline-range TPH (3 mg/kg) was detected in the 25-foot bgs sample interval; no other hydrocarbons were detected in the 25-, 45-, and 61.5-foot bgs sample intervals of AB-1. The highest concentration of lead was 2.59 mg/kg, which is well below the 250 mg/kg Method A Table Value, and is more reflective of natural background concentrations.

Groundwater Quality Investigations

Stemen constructed MW-1 near the former waste oil UST and former pump island on January 22, 2007. Stemen collected groundwater samples on August 28, 2007 and January 30, 2008, and Aspect collected five rounds of groundwater samples between January 30, 2008 and January 10, 2014. These samples were submitted for analysis of VOCs; the January 2014 sample was also analyzed for gasoline-range TPH, diesel-range TPH, polycyclic aromatic hydrocarbons (PAHs), and lead. Table 1-2 shows the historical depths to groundwater and relative groundwater elevations for the groundwater monitoring well network at the Former Walker Chevrolet and Morrell's Dry Cleaners sites, and Table 1-3 shows the historical concentrations of VOCs. Depth to water beneath the former South Gas Station USTs has varied between about 52 and 53 feet bgs.

In August 2007, the concentration of benzene was 2.2 micrograms per liter (µg/L) and the concentration of tetrachloroethylene (PCE) was 1.3 µg/L, which were below the 5 µg/L MTCA Method A groundwater cleanup level for both compounds. Benzene and PCE were not detected in any subsequent groundwater samples. Trichloroethylene (TCE) was detected at a concentration of 0.4 µg/L in January 2014, which is below the 5 µg/L Method A groundwater cleanup level, and chloroform was detected at a concentration of 0.39 µg/L in January 2014, which is well below the 80 µg/L federal maximum contaminant level (MCL). Table 1-4 summarizes the groundwater analytical results from January 2014 and these analytical results are provided in Appendix D. No TPH, PAHs, or BTEX compounds were detected. Total lead was detected at a concentration of 2 µg/L, which is well below the 15 µg/L Method A groundwater cleanup level.

1.4.2 North Gas Station

The North Gas Station is located in the parking area on the northwest corner of North First Street and North G Street, and is located outside the boundary of the Former Walker Chevrolet Site. However, given the historical relationship to Site operations and ownership, results of the 1994 remediation and post-remediation characterization activities are summarized below.

Remediation Activities

Three 500-gallon USTs and associated products lines were removed from the property in August 1994 (Bison, 1994c). The USTs were in fair to poor condition, but had no observed holes or defects, and were filled with sand at the time of removal. Gasoline- and oil-range hydrocarbons were detected in soil samples collected beneath the tanks. The most contaminated soil sample near the tanks was submitted for analysis of additional constituents, including PCBs, PAHs, metals, and VOCs. No halogenated VOCs, PCBs, or carcinogenic PAHs were detected in the soil samples, and the maximum concentration of lead was 30 mg/kg, which is well below the 250 mg/kg Method A soil cleanup level. Petroleum-contaminated soil was excavated beneath the USTs and product lines in August and September 1994. After a second layer of contamination was detected between 14 and 16 feet bgs, the excavation was expanded to remove the impacted soil. The maximum dimensions of the irregular-shaped excavation were 47 feet by 44 feet and the maximum depth was 21 feet bgs. Four bottom and six sidewall soil confirmation samples were collected and submitted for analysis by the HCID method, and no hydrocarbons were detected. Approximately 300 cubic yards of petroleum-contaminated soil were disposed off-site and several hundred cubic yards of clean overburden soil was used as backfill.

Post-Remediation Characterization Activities

Stemen sampled soil from borings NPL-1 to NPL-6 within the parking lot that covers the former North Gas Station on August 31, 2006. Six soil samples were collected from 19 to 21 feet bgs and submitted for analysis of TPH and BTEX. The concentrations of BTEX compounds and gasoline-, diesel-, and oil-range TPH were below the detection limits.

Stemen constructed MW-3 on the northeast corner of the North Gas Station on February 1, 2007. The boring encountered dense, dry glacial till from 3 to 54 feet bgs, moist dense sand from 54 to 65 feet bgs, and very dense glacial till from 65 to 67 feet bgs. The well screen was set from 52 to 67 feet bgs. MW-3 did not produce water and was reported as dry in February 2008, October 2008, and May 2009. MW-3 was subsequently decommissioned.

1.4.3 Former Paint Booth and UST

Decommissioning and Characterization Activities

Walker Chevrolet operated a Paint Booth that opened to North First Street, near the middle of the current building (Figure 1). The Paint Booth had two floor drains: one appeared to connect to the stormwater sewer and the other connected to a vault and to a 1,000-gallon heating oil UST. A boiler room was located adjacent and north of the Paint Booth. The second floor of the building contained a waste oil room directly above the Paint Booth, which contained a 500-gallon, waste oil above-ground storage tank in 1994.

The north drain was about 2.5-feet deep, and contained about 1.5 feet of wet sediment in 1994. The north drain was connected to the cleanout access and the effluent pipe extended southwest, and Bison presumed the pipe previously connected to the stormwater sewer along North First Street. Sediment sample D1 was collected from the north drain and analyzed for the HCID method, VOCs, and metals. Sample D1 contained gasoline-, diesel-, and oil-range hydrocarbons, and contained lead, cadmium, benzene, xylenes, and PCE at concentrations above the Method A soil cleanup levels.

The south drain was a manhole that accessed a 4-foot-deep, concrete cinder block vault, which had another access to a 1,000-gallon heating oil UST beneath the vault. The south drain did not discharge to a pipe. The south drain contained about 1 foot of dry sediment in 1994, which reportedly exhibited a solvent-like odor (Bison, 1994d). Sediment sample D2 was collected from the south drain and submitted for analysis of the HCID method, VOCs, and metals. Sample D2 contained gasoline- and diesel-range TPH, and contained lead and cadmium above the Method A soil cleanup levels.

The contents of the drains, cleanout access, and heating oil UST were pumped out and cleaned on August 2, 1994, and the contents and rinse water were disposed of off-site. The drains, cleanout access, and heating oil UST were then filled with concrete slurry on August 3, 1994 and closed in-place (Bison, 1994d).

Bison collected soil samples from soil borings B1 to B4 in the Paint Booth on August 3, 1994 (Bison, 1994d). Sample B1, which was collected from 5.5 feet bgs near the UST, contained 8,000 mg/kg of TPH (analyzed via Method WTPH-418.1)[2], 85 mg/kg of toluene, and 143 mg/kg of xylenes; these contaminant concentrations exceeded Method A soil cleanup levels. Benzene was not detected above the 0.23 mg/kg detection limit. Several organic compounds were also detected at concentrations below the Method A soil cleanup levels, including ethylbenzene, TCE, and naphthalene, and the concentrations of metals were below the Method A soil cleanup levels. In sample B4, which was collected from 3 feet bgs near the UST, the concentration of TPH was 480 mg/kg, and trace levels of toluene and xylenes were detected. The concentrations of TPH were below the 100 mg/kg Method A soil cleanup levels in the two other soil samples, which were collected between the north drain and clean-out and west of the UST.

On September 6, 1994, Bison collected soil samples from borings B5 to B9 (Bison, 1994e). Boring B5 was located adjacent to the UST and about 5 feet south of boring B1, and borings B6 to B9 were generally located within 5 feet of the UST. Samples were collected from the 5-, 7.5-, 9-, and 10-foot bgs intervals of B5. Oil-range TPH was detected at concentrations ranging from 260 to 4,400 mg/kg. Two of the samples exceeded the 2,000 mg/kg Method A soil cleanup level for heavy oils. The concentration of toluene was 8.6 mg/kg in the 5-foot bgs interval of boring B6, which slightly exceeds the current Method A soil cleanup level of 7 mg/kg, but was below the 20 mg/kg Method A limit at the time. The concentrations of TPH and VOCs were below the Method A soil cleanup levels in the remaining samples.

[2] Method WTPH-418.1 does not distinguish between different ranges of TPH (e.g., gasoline-range versus oil-range), and instead provides the total concentration of all TPH ranges.

Bison recommended no further action for soils beneath the former Paint Booth because soil excavation might subject the building to structural damage.

Property Use Changes

The lower floor of the current building is currently used by the Stadium Thriftway grocery store and CARSTAR Auto Body. In late 2009 Stadium Thriftway expanded into the former Paint Booth area, constructing a walk-in grocery cooler. The grocery cooler has a concrete floor that was constructed at the time of the expansion and the cooler is fully enclosed. Access to the cooler is limited to grocery store employees.

Post-Decommissioning Characterization

Soil Quality Investigation

Stemen sampled borings PB-2 and PB-3 apparently near the former Paint Booth on August 31, 2006. Soil samples were collected from 4 feet bgs at PB-2 and from 8 feet bgs at PB-3, and submitted for analysis of VOCs; the sample from PB-3 was also analyzed for gasoline- and diesel-range TPH. The PB-2 sample contained 0.16 mg/kg of PCE (above the 0.05 mg/kg Method A soil cleanup level) and 0.12 mg/kg of xylenes (below the 9 mg/kg Method A soil cleanup level). The PB-3 sample contained 0.16 mg/kg of PCE (above the 0.05 mg/kg Method A soil cleanup level), 0.13 mg/kg of xylenes (below the 9 mg/kg Method A soil cleanup level), and 30 mg/kg of gasoline-range TPH (below the 100 mg/kg Method A soil cleanup level in the absence of benzene).

Groundwater Quality Investigation

Aspect constructed MW-11 in the Paint Booth area of the Site on May 12, 2009 to assess potential impacts to groundwater. The depth to groundwater is about 52 feet bgs at the former Paint Booth. Samples were collected from MW-11 in May 2009, December 2010, and January 2014 and submitted for analysis of VOCs. The January 2014 sample was also analyzed for gasoline- and diesel-range TPH, PAHs, PCBs, and lead. Table 1-3 summarizes the historical concentrations of VOCs. No petroleum-related BTEX compounds were detected in MW-11. TCE was detected at concentrations ranging from 1.4 to 4.6 µg/L, which is below the 5 µg/L Method A groundwater cleanup level. Carbon tetrachloride and chloroform were detected at concentrations ranging from 1.4 to 2.8 µg/L in May 2009 and December 2010, but the concentrations were below the 1 µg/L detection limit in January 2014; Method A cleanup levels are not established for these constituents, but all concentrations were below the 5 µg/L federal MCL for carbon tetrachloride and 80 µg/L federal MCL for chloroform. No TPH, PAH, or PCB compounds were detected in the January 2014 sample; and the concentration of lead was 2.44 µg/L, which is well below the 15 µg/L Method A groundwater cleanup level.

Soil Gas and Indoor Air Quality Investigations

Stemen collected soil gas samples from GV-1 to GV-3 on May 8, 2008, which appear to be beneath the concrete slab for the former Paint Booth, and submitted them for analysis of VOCs by Method 8260. The concentrations of PCE ranged from 110 to 1,000 micrograms per cubic meter (µg/m^3), the concentrations of toluene ranged from 130 to 240 µg/m^3, and the concentrations of xylenes ranged from less than 100 to 230 µg/m^3. Aspect collected additional air samples on January 22 and 23, 2014, including an indoor air sample, a sub-slab air sample, and an ambient air sample, and submitted them for analysis of chlorinated ethylenes by Method TO-15. The indoor air sample was collected inside the grocery cooler and above the former Paint Booth, and the sub-slab sample was

collected beneath the concrete sidewalk, adjacent to the building and former Paint Booth. The ambient air sample was collected in the parking lot west of North First Street (above the former North Gas Station). The concentration of PCE was 270 $\mu g/m^3$ in the sub-slab sample, 0.61 $\mu g/m^3$ in the indoor air sample, and less than the 0.21 $\mu g/m^3$ reporting limit in the ambient air sample. TCE was detected at a concentration of 1.2 $\mu g/m^3$ in the sub-slab air sample, but was not detected in the indoor air or ambient air samples. Table 1-5 summarizes the air samples results and compares them with applicable screening levels. The air sampling analytical results from January 2014 are provided in Appendix E. Although the concentrations of PCE exceed the 96 $\mu g/m^3$ screening level[3] in all of the sub-slab air samples, the concentration of PCE in the indoor air sample was more than an order-of-magnitude beneath the 9.6 $\mu g/m^3$ MTCA Method B indoor air cleanup level. The concentrations of TCE, toluene, and xylenes were below the sub-slab air screening levels. The pressure gradients between the refrigerated cooler, the adjacent indoor air, and the sub-surface have not been evaluated.

1.5 Conceptual Site Model

1.5.1 Soil

The 1994 remedial actions removed the USTs from the South Gas Station and North Gas Station and removed TPH-impacted soil. Soil confirmation samples and subsequent sampling in 2006 and 2014 indicate the 1994 remedial action removed the majority of contaminated soil from beneath the parking lot south of the current building. Some residual soil contamination appears to remain at depth on the east edge of the parking lot, where three small, apparent gasoline and diesel USTs were removed from an embankment beneath the sidewalk along Division Avenue. Accessible petroleum-impacted soil was excavated to 9 feet bgs near the USTs in 1994. Subsequently in 2006, gasoline-range TPH and benzene were detected at concentrations exceeding the Method A soil cleanup level in samples collected at about 15 foot bgs. The residual contamination on the south side of the property is generally inaccessible beneath existing pavement and does not pose a threat to the direct contact, groundwater, or indoor air exposure pathways.

Soil confirmation sampling at the time of the UST removal and subsequent sampling in 2006 indicates that 1994 remedial action removed contaminated soil from the former North Gas Station, and that no further actions are needed.

The floor drains, cleanout access, and heating oil UST in the former Paint Booth were cleaned out and filled with concrete in 1994. Soil confirmation samples were collected near the decommissioned drains and UST. Although PCE, TPH, toluene, and xylenes remained above the Method A soil cleanup levels, the concentrations of other chlorinated solvent and petroleum hydrocarbon compounds were below the Method A soil cleanup levels. Bison recommended that no further remedial actions be performed under the former Paint Booth to avoid potential structural damage to the building. Residual contamination in the soil is under the concrete slab of the current grocery store and is inaccessible for direct-contact exposure.

[3] This screening level is based on a conservative vapor attenuation factor of 0.1, in accordance with Ecology's draft vapor intrusion guidance (Ecology, 2009).

1.5.2 Groundwater

The former South Gas Station and North Gas Station have not impacted groundwater at the Site. The groundwater beneath the former Paint Booth contains TCE, carbon tetrachloride, and chloroform at concentrations below the applicable cleanup levels. These compounds were likely released from solvent usage in and near the former Paint Booth. PCE has been detected in soil, soil gas, and indoor air near the former Paint Booth, but was not detected in groundwater. PCE can biodegrade to TCE by reductive dechlorination under anaerobic conditions. The presence of TCE in groundwater may be from PCE biodegradation or from the use of TCE solvents near the former Paint Booth. Carbon tetrachloride has been used as a solvent and cleaning agent, and was likely used in or near the former Paint Booth. Carbon tetrachloride can biodegrade to chloroform by reductive dechlorination under anaerobic conditions.

Limited detections of carbon tetrachloride and chloroform have occurred downgradient at the Morrell's Dry Cleaner site. There is no Method A groundwater cleanup level established for carbon tetrachloride, but detected concentrations are generally below the 5 µg/L federal MCL. The only exception is in planned biostimulation well MW-19 on the south side of the dry cleaning building, where the concentration of carbon tetrachloride was 7 µg/L.

The TCE detected in groundwater at the former Paint Booth is not commingled with the PCE and TCE releases at the Morrell's Dry Cleaners site. The PCE releases from Morrell's Dry Cleaners have historically extended upgradient to MW-5, which is on the Morrell's Dry Cleaners site and is adjacent to the Former Walker Chevrolet Site. The upgradient migration of PCE from Morrell's Dry Cleaners is likely attributable to a 2006/2007 water leak at the commercial business (Tully's Coffee) immediately north of the dry cleaners (Stemen, 2009). After discovering water beneath the foundation of Morrell's Dry Cleaners, an analysis of the Tully's Coffee water bill indicates that 600,000 gallons of chlorinated water was released between May 2006 and September 2007. As shown in Table 1-3, the concentrations of PCE and TCE in MW-5 were indicative of a PCE release. In the latest groundwater sample collected in January 2014, the concentration of PCE decreased to below the detection limit and the concentration of TCE decreased to 0.46 µg/L.

1.5.3 Indoor Air/Soil Vapor

The soil vapor intrusion exposure pathway is potentially complete in the current grocery store cooler, which is above the former Paint Booth, but the concentrations of VOCs in indoor air in the cooler in January 2014 were well below the standard Method B indoor air cleanup levels.

A Tier I soil vapor intrusion assessment was performed in May 2008, which included only sub-slab soil vapor samples, and then a Tier II soil vapor assessment was performed in January 2014, which included the collection of sub-slab, indoor, and ambient air samples.

The sub-slab vapor data are compared to a soil vapor screening level, which is calculated by dividing the Method B air cleanup level by a vapor attenuation factor, to evaluate the potential for soil vapor intrusion to result in exceedances of indoor air cleanup levels. Ecology defined a default vapor attenuation factor of 0.1 in the 2009 draft vapor intrusion

guidance (Ecology, 2009), which is derived from the U.S. Environmental Protection Agency's (EPA) draft vapor intrusion guidance (EPA, 2002).

In Table 1-5, air sample results are compared with applicable screening levels. PCE was detected at concentrations ranging from 110 to 1,000 $\mu g/m^3$ in four sub-slab soil vapor samples collected in 2008 and 2014; these concentrations exceed the 96 $\mu g/m^3$ screening level. TCE was detected at a concentration of 1.2 $\mu g/m^3$ in 2014, which is below the 3.7 $\mu g/m^3$ screening limit, but was not detected above the 20 $\mu g/m^3$ detection limit in 2008. BTEX compounds were not evaluated in 2014. In 2008, the maximum concentration of xylenes was 230 $\mu g/m^3$, which is below the 460 $\mu g/m^3$ screening limit. The maximum concentration of toluene was about two orders-of-magnitude below the screening limit. Although benzene was not detected above the 20 $\mu g/m^3$ detection limit, the screening limit is 3.2 $\mu g/m^3$. However, benzene appears to have attenuated in soil samples that were collected from the Paint Booth in 1994. In the 10 soil samples that were submitted for analysis of VOCs, toluene was detected in 9 samples and only 1 sample contained benzene, which was present at 0.024 mg/kg, which is below the 0.030 mg/kg Method A soil cleanup level.

PCE was detected in the indoor air sample collected from the grocery cooler at a concentration of 0.61 $\mu g/m^3$, which is more than an order-of-magnitude below the 9.6 $\mu g/m^3$ MTCA Method B cleanup level. The cooler is expected to be most susceptible to migration of sub-slab vapors to indoor air space due to several factors:

- The cooler is above the former Paint Booth;
- Although the cooler has a concrete floor, a groundwater monitoring well is located within it that could provide a route for vapor migration; and
- The cooler is a small enclosed space with recirculated refrigerated air.

Although the grocery cooler is the most vulnerable space to vapor intrusion, attenuation of vapors across the slab appears to be sufficient to reduce concentrations to below applicable indoor air cleanup levels. Further, the grocery cooler is not designed, intended, or used for long-term occupancy, and access to it is restricted to adult employees of the grocery store. As such, the standard Method B indoor air cleanup levels are highly conservative for the current property use. For example, the cleanup levels for carcinogenic compounds are calculated with a default adult exposure scenario, assuming continuous exposure (168 hours per week) for 30 years. If the exposure frequency is reduced to 10 percent (i.e., 16 hours per week of exposure in the cooler for 30 years), the indoor air remediation level for PCE would increase by an order of magnitude over the standard value, along with the sub-slab soil gas screening level.

1.6 Overview of Recommended Alternative

This Focused Feasibility Study (FFS) identifies the cleanup action objectives, and develops and evaluates cleanup action alternatives for the Site. The recommend cleanup action alternative includes the following components:

- Soil removal and UST closure actions completed to date;
- Decommissioning of MW-1 and MW-11; and

- Institutional controls consisting of an environmental covenant to require maintenance of the existing building and parking lot surface cover as a cap, restrict future disturbance of residual impacted soil, and provide notification requirements to Ecology.

2 Cleanup Action Objectives

This FFS evaluates cleanup alternatives that address the soil, groundwater, and soil vapor intrusion exposure pathways at the Site. Table 2-1 summarizes the proposed chemicals of concern (COCs), points of compliance, and cleanup levels in soil, groundwater, and indoor air.

2.1 Soil

The COCs include the TPHs and VOCs that were detected above the applicable soil screening levels at the former Paint Booth and South Gas Station, including PCE and TCE, toluene, total xylenes, and gasoline- and oil-range TPH. The proposed cleanup levels are the MTCA Soil, Method A, Unrestricted Land Use, Table Values. The proposed cleanup levels are protective of the direct contact and leaching to groundwater exposure pathways. The point of compliance for leaching is all soil at the Site and the point of compliance for direct contact is the upper 15 feet of soil.

Residual soil contamination remains above the cleanup levels at the South Gas Station and the former Paint Booth. The residual contamination at the South Gas Station was detected at 15 feet bgs beneath an embankment adjacent to Division Avenue during due diligence sampling in 2006. The contamination was beneath the 9-foot depth of excavation in 1994, and further excavation was constrained due to practicality limitations. Although benzene remains at about 20 times the groundwater-protective cleanup level, benzene has not been detected in groundwater, which is first encountered about 52 feet bgs. Although TPH remains at about 30 times the cleanup level, the soil is inaccessible (i.e., beneath concrete) and at the limit of the 15 feet bgs point of exposure for direct contact. TPH was also detected about 10 times the cleanup level at 16 feet bgs adjacent to North First Street. This soil is beneath the direct contact point of exposure and the soil is inaccessible for removal.

The residual VOC and TPH contamination beneath the current grocery store cooler does not contribute to groundwater contamination and is inaccessible for direct contact exposure. Residual VOCs in soil partition to soil gas, and PCE was detected in sub-slab soil gas near the applicable screening limits for subsurface vapor intrusion. The cleanup objective for soil is to prevent the direct contact exposure, vapor migration to indoor air, and leaching to groundwater. The protection of groundwater and indoor air are discussed below in Sections 2.2 and 2.3, respectively.

2.2 Groundwater

The potential groundwater COCs are the constituents detected in MW-1 and MW-11 at the Site, including TCE, carbon tetrachloride, chloroform, and naphthalene. The proposed cleanup levels are the MTCA Groundwater, Method A, Table Values. The point of compliance is all groundwater at the Site.

The concentrations of the chemicals of potential concern (COPCs) are below the proposed cleanup levels in on-site wells MW-1 and MW-11 and off-site boundary wells MW-5 and MW-7. The chlorinated ethylene release from the former Paint Booth does not appear to commingle with the PCE releases from the downgradient Morrell's Dry

Cleaner site. Although the 600,000-gallon water leak from Tully's Coffee from May 2006 and September 2007 appears to have contributed to the upgradient distribution of the PCE release from Morrell's Dry Cleaners, the natural discharge of groundwater from the Site appears to have reversed that migration and flushed the PCE away from the Site. The carbon tetrachloride release from the former Paint Booth appears to have impacted groundwater wells on the Morrell's Dry Cleaners site. However, carbon tetrachloride was only detected above the proposed cleanup level in one sample at MW-19, where the 7 µg/L detection slightly exceeds the proposed 5 µg/L cleanup level.

There are currently no cleanup action objectives for groundwater since, with the exception of the single, minor detection of carbon tetrachloride at MW-19, there are no known or suspected exceedances of COPCs in Site groundwater.

2.3 Indoor Air

The COPCs include the VOCs in the former Paint Booth area, including PCE, TCE, and BTEX compounds. The point of compliance is the indoor air in the building, and in particular, the indoor air above the former Paint Booth. The proposed cleanup levels are the most stringent MTCA Air, Standard Method B, Formula Values. The sub-slab vapor is not a point of compliance, and no cleanup levels are proposed.

Although the concentrations of PCE are near the screening levels (based on 10 times the indoor air cleanup level) in soil vapor beneath the foundation of the grocery store cooler, the concentration of PCE in the indoor air within the grocery store cooler was more than an order-of-magnitude below the air cleanup level. The indoor air within the grocery store cooler is the most vulnerable to soil vapor intrusion because it is above the former Paint Booth. The cooler is a small, enclosed, insulated room with an unfinished concrete floor and MW-11, a potential pathway for vapor migration, is located within the cooler; in addition, the refrigerated air recirculates within the cooler.

There are currently no cleanup action objectives for indoor air since the concentration of PCE in the most vulnerable indoor air space was more than an order-of-magnitude beneath the cleanup level. Additionally, the exposure risk is limited within the cooler because access is limited to adult employees and the refrigerated room was not designed nor intended for extended occupancy. The proposed Standard Method B air cleanup levels assume an adult exposure scenario for carcinogens (e.g., PCE) and are very conservative because they assume continuous exposure within the cooler for 30 years.

3 Description and Evaluation of Cleanup Alternatives

This FFS develops four cleanup alternatives. Alternative 1 does not include any additional cleanup actions beyond the source control cleanup actions previously performed in 1994. However, Alternative 1 does include decommissioning of the monitoring wells on the Site, including MW-11 within the grocery store cooler. Alternative 2 applies an environmental covenant to require maintenance of the existing pavement and building cover as a cap to prevent direct contact exposure, limit soil vapor migration, and limit potential leaching to groundwater, and to require notification to Ecology of planned disturbance of the recorded cap or a change in Site use that increases the risk of exposure. Alternative 3 expands on Alternative 2 to include an active cleanup of soil contamination beneath the former Paint Booth. Alternative 4 is a permanent cleanup alternative as required by MTCA, which removes Site contamination such that no further action or institutional controls are necessary. Table 3-1 summarizes the components of the cleanup alternatives and Tables 3-2 to 3-5 detail the estimated cleanup costs for each alternative.

3.1 Alternative 1 – No Additional Action

The no additional action alternative includes the source control cleanup actions performed at the South Gas Station and former Paint Booth in 1994. As described in Section 1.3, the source control cleanup actions included the following:

- Seven (7) petroleum USTs were removed from the property, including a 2,100-gallon gasoline UST, two 2,000-gallon gasoline USTs, a 500-gallon waste oil UST, a 600-gallon UST with oily product, and 300- and 600-gallon USTs with water.
- Soil was excavated beneath the gasoline USTs to 10 feet bgs with confirmation samples from the excavation showing the concentrations of TPH, BTEX, and lead to be less than the Method A cleanup levels. After evaluating the soils for reuse criteria, they were placed back in the excavation as fill material.
- Approximately 30 cubic yards of petroleum-contaminated soil was excavated from beneath the waste oil UST to 8 feet bgs and disposed off-site. No hydrocarbons were detected in the confirmation samples from the excavation bottom and sidewalls.
- Approximately 30 cubic yards of petroleum-contaminated soil was excavated beneath the former pump island to 5 feet bgs and disposed off-site. No hydrocarbons were detected in the confirmation samples from the excavation bottom and sidewalls.
- Approximately 40 cubic yards of petroleum-contaminated soil were excavated from the embankment to 9 feet below the sidewalk and disposed off-site. No hydrocarbons were detected in confirmation samples collected beneath the tanks and the excavation sidewalls.

- The south drain vault in the former Paint Booth area above the 1,000-gallon heating oil UST was decommissioned by cleaning out the contents and filling with concrete slurry.
- The north drain and connected cleanout access in the former Paint Booth area were decommissioned by cleaning out the contents and filling with concrete slurry.

Residual Soil Contamination above the Cleanup Levels

Residual soil contamination remains beneath the current grocery store cooler and in inaccessible soil at the south boundary of the Site that was beyond the limits of excavation in 1994. The soil contamination beneath the grocery store cooler is beneath the concrete slab foundation of the building, and is not accessible. The residual soil contamination on the south side of the property was identified at 15 and 16 feet bgs, beneath a concrete parking lot, and is inaccessible for direct contact. The building and existing paved surfaces prevent direct contact exposure with soil.

Residual Groundwater Contamination below the Cleanup Levels

The concentrations of the COCs are less than the groundwater cleanup levels on the Site, and have not exceeded the cleanup levels in seven rounds of sampling in MW-1 and three rounds of sampling in MW-11. Monitoring wells MW-1 and MW-11 were constructed to evaluate the potential impact to groundwater from the former South Gas Station and the former Paint Booth, which were remediated in 1994. Residual soil contamination is not anticipated to have any additional impact to groundwater. The no additional action alternative includes the decommissioning of MW-1 and MW-11.

Evaluation of Vapor Intrusion Pathway

The grocery store cooler has the greatest potential for vapor intrusion because it is located over residual VOC soil contamination, has an unfinished concrete floor and contains a monitoring well, and is a small fully-enclosed refrigerated room. The concentration of PCE was more than an order-of-magnitude less than the air cleanup level in January 2014. The decommissioning of MW-11 will reduce the potential for vapor intrusion into the grocery store cooler. No other actions will be performed for the vapor intrusion pathway.

3.2 Alternative 2 – Institutional Controls

Alternative 2 includes the well decommissioning components of Alternative 1 and applies institutional controls to maintain the current protective controls (capping) at the Site. The residual contamination near the former South Gas Station and former Paint Booth are covered by the building and/or pavement that prevents direct contact with soil, and inhibits infiltration and potential leaching of residual contamination into groundwater. Although PCE was detected at a concentration exceeding applicable screening levels in sub-slab soil vapor, sampling of indoor air indicates that the concentration of PCE was more than an order-of-magnitude less than the air cleanup level in the most vulnerable room, which is only accessible to adult employees and is occupied intermittently for short durations. No other potential COCs were detected in indoor air.

An environmental covenant, consistent with WAC 173-340-440(9), would be recorded to restrict certain uses to minimize the risk of exposure to any residual soil contamination on

the property. The covenant would require the maintenance of the existing building and parking surface as a protective cap. The covenant would identify that PCE has been detected at concentrations exceeding applicable screening levels for soil vapor intrusion, and that PCE, TPH, toluene, and xylenes remain in soil at concentrations exceeding Method A soil cleanup levels. The covenant would require notification to Ecology for any planned disturbance of the cap above the former South Gas Station or the former Paint Booth that could reasonably allow direct contact exposure or the removal of contaminated soil. The covenant would also require notification to Ecology of any change in Site use that would potentially result in an increased risk of contaminant migration to indoor air or groundwater. The environmental covenant would not be recorded with Pierce County until and unless Ecology requires its use in achieving closure for the property.

3.3 Alternative 3 – Soil Vapor Extraction for Former Paint Booth

This alternative is developed to provide active remediation of soil contamination beneath the former Paint Booth by performing soil vapor extraction (SVE). Because residual contamination would likely remain at concentrations exceeding cleanup levels at the former Paint Booth and the South Gas Station, Alternative 3 would also include an environmental covenant as outlined in Alternative 2.

As described in Section 1.4.3, Bison collected subsurface soil samples following the decommissioning of the two floor drains, cleanout, and heating oil UST in 1994. The soil borings encountered about 6 inches of gravel subgrade beneath the 8-inch concrete slab. The underlying soil had a till-like structure with moderately dense to very dense gravelly, silty, sand. The borings met refusal at depths ranging from 4 to 10 feet bgs. The investigation mainly detected petroleum contamination, and the highest levels of contamination were between 5.5and 10 feet bgs and within 5 feet of the heating oil UST. Samples contained BTEX compounds, PCE, and oil-range TPH at concentrations up to one to two orders-of-magnitude greater than their respective soil cleanup levels. In the two soil samples collected near the north floor drain, the only detected COCs were toluene and xylene, which were at concentrations well below the Method A cleanup levels.

SVE involves applying a vacuum to the soil to volatilize contamination and to remove it from the soil. SVE can be effective for removing BTEX and PCE from soil, but is less effective for TPH removal. SVE is most-suitable in coarse grain soil, and the radius of influence may be limited to a few feet in glacial till. This means the SVE could be effective for the removal of VOCs from the gravel subgrade, but would likely have limited success removing residual contamination from the underlying till. SVE would likely be operated intermittently for an unknown duration to remove accessible contamination that diffuses from the low-permeability glacial till.

This alternative includes an SVE pilot test to evaluate the vacuum pressure and air flow from the wells, the radius of influence, and the sustainability of the mass removal rate. The SVE pilot test wells would likely be constructed on the sidewalk adjacent to the former Paint Booth. The pilot test would include a 4-inch SVE extraction well that would be constructed to 15 feet bgs, and several observation wells.

Based on the small anticipated radius of influence, SVE wells would likely be constructed on 10-foot centers in the current grocery store cooler. The wells would be constructed using limited access drilling equipment that is capable of entry into the building and cooler. The construction of wells deeper than 10 feet bgs would likely require a drilling rig, which would be impracticable in the building. The SVE wells would be manifolded below grade and conveyance pipes would be constructed beneath the concrete slab and extended to the exterior of the building. The SVE system could not be installed on the sidewalk; therefore, it would have to be located within the garage and tenant space for CARSTAR Auto Body or located on the roof of the two-story building. The SVE system would include a moisture separator, water pump and wastewater tank, a blower, two drums of granular activated carbon, and discharge stack, along with noise abatement, control valves, system controls, and sample ports. The SVE system would require a minimum 200 square feet of space. The system would require intermediate- to long-term accommodation by the CARSTAR Auto Body business or it could be placed on the roof, with structural support requirements and access restrictions that could prevent construction and operations and maintenance. For cost estimation purposes, it is assumed the SVE system would be operated for 2 years.

The construction of the SVE wells and conveyance pipes would take about a week. During this period, the grocery store cooler would be emptied and the grocery counters, shelving, displays, and merchandise would be moved to allow entry of construction equipment through the front door of the business and to the cooler. The grocery business would need to close for 1 to 2 weeks during the construction phase. The SVE collection system would have to be sealed and left in-place to avoid closing the grocery store after completion of SVE activities.

3.4 Alternative 4 – Permanent Cleanup

The permanent cleanup alternative would remove contamination such that no further action is necessary.

Technology Evaluation

The presence of glacial till beneath the former Paint Booth and former South Gas Station limits the performance of *in situ* chemical oxidation or biostimulation remedies. In addition, SVE is generally not suitable for the remediation of residual oil-range hydrocarbons.

Excavation or thermal remediation may be the only means to actively address the residual contamination. Thermal remediation would involve the sustained heating of the soil with electrodes and the capture of volatilized contamination by SVE. Thermal remediation requires sustained heating and effective capture of volatilized contamination, and has high set-up and operating costs that are disproportionate to the low residual levels of contamination. Thermal remediation would require the treatment areas to be fenced and inaccessible during several months of treatment, which would disrupt business operations for two businesses at the Site.

Excavation Actions

Excavation was not performed deeper than 9 feet bgs beneath USTs in the embankment because of limited accessibility and the maintenance of sidewall stability between the parking lot and Division Avenue. Additionally, excavation was not performed to 16 feet

bgs along North First Avenue because of the presence of the road. After cleaning and filling the drains, clean-out, and heating oil UST at the former Paint Booth, the residual soil damage was not removed because of potential damage to the two-story building.

In this alternative, shoring would be required to allow the excavation of residual contamination at the former UST embankment and beneath the grocery store cooler. The storage building constructed along the embankment would be removed and the underlying soil would be excavated to 15 feet bgs. Shoring would be installed on the north and east sidewalls of the excavation to prevent damage to the building, Division Avenue, and unidentified utilities. The top 9 feet of soil would be evaluated for reuse criteria and then placed back into the excavation. Any impacted soil from 9 to 15 feet bgs would be removed and disposed as petroleum-contaminated soil. Confirmation samples would be collected from the bottom and sidewalls of the excavation.

Excavation within the grocery store cooler would require the grocery store to be closed during remediation activities. The business has only one door to allow the entry of small excavation equipment into the building. Counters, shelving, displays, and merchandise would be relocated to allow the equipment to be positioned next to the cooler. The interior walls of the cooler would be removed, along with the associated refrigeration equipment. The interior walls would be laterally braced to protect the structure. A small excavator would then remove the concrete floor, and then excavate the accessible soil around the plugged drains, pipes, and 1,000-gallon UST. A jack hammer would be used to break-up the concrete-filled pipes, vaults, and USTs to allow their removal. The sidewalls would be braced to allow excavation and the entry of construction workers into the excavation. The small excavator would be unable to extend into the glacial till beyond about 6 or 7 feet bgs. Larger equipment could not be used without removing sections of the building and risking structural damage. Excavated soil would be characterized and disposed off-site. The soil would likely require a contained-out determination from Ecology to allow disposal in a Subtitle D landfill. The excavation would be backfilled with clean fill. Because residual contamination would remain in the inaccessible glacial till, the excavation would be covered with an impermeable liner. The floor and interior walls would be reconstructed, and the refrigeration system reconnected or replaced. After disrupting business operations for about 2 weeks, the grocery store interior would be restored to its original condition.

This alternative assumes that all contaminated soil would be removed and that an environmental covenant would not be needed.

4 Detailed Evaluation of Cleanup Alternatives

This section provides a comparative evaluation of the four alternatives. The cleanup alternatives must meet minimum threshold requirements to be accepted by Ecology. The cleanup alternatives that meet the threshold requirements are then comparatively evaluated based on permanence, restoration time frame, and public concerns. Tables 4-1 to 4-3 are the evaluation tables for the cleanup alternatives and apply criteria from the Washington Administrative Code (WAC), 173-340-360.

4.1 Threshold Requirements

Threshold requirements are identified in WAC 173-340-360, and include the following:

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

Table 4-1 describes the degree that each cleanup alternative meets the threshold requirements.

All four alternatives provide protection of human health and the environment under the current Site use. There are no current Site risks. Remedial actions performed in 1994 removed seven USTs from the former South Gas Station and about 100 cubic yards of petroleum-contaminated soil from the Site. Additional soil was excavated and reused as backfill following evaluation, and confirmation samples were collected from the bottom and sidewalls of the excavation areas to confirm the removal of contamination. Subsequently during due diligence sampling in 2006, residual soil contamination was encountered in inaccessible soil about 15 feet bgs. In the December 2013 soil boring beneath the former South Gas Station, gasoline-range TPH and xylenes were detected at 15 feet bgs, but at concentrations well below the soil cleanup levels. Also in 1994, the floor drains, cleanout, and former heating oil UST in the former Paint Booth were cleaned out and decommissioned by filling with concrete. The extent of residual contamination was evaluated near the former heating oil UST, but was left in-place because the impacted soil was inaccessible to excavation inside the building. The accessibility has been further reduced by the operation of a grocery store and the construction of a grocery store cooler over the former Paint Booth.

The residual soil contamination at the Site is capped beneath the existing building or beneath parking lot pavement, and is inaccessible for direct contact. The residual soil contamination has not impacted groundwater, and the COPCs have either not been detected or detected at concentrations less than the cleanup levels in groundwater samples collected from 2007 to 2014. The concentrations of VOCs were sampled in sub-slab soil beneath the current grocery store cooler (former Paint Booth) in May 2008 and January 2014. Although PCE was detected at concentrations near the sub-slab soil vapor screening levels, the concentration of PCE was more than an order-of-magnitude below the indoor air cleanup level in January 2014.

In Alternative 1, no additional remedial actions are performed other than decommissioning of the Site monitoring wells.

Alternative 2 has an increased the long-term effectiveness relative to Alternative 1 by recording an environmental covenant for the property with Pierce County. The covenant would identify the residual soil contamination and apply the existing building and parking surface as a cap. The covenant would provide notification requirements to Ecology for any planned disturbance of the cap or change in Site use that could change the exposure risk, and ensure that the impacted soil is managed appropriately.

In Alternative 3, SVE is applied to reduce the total mass of VOCs in the glacial till soil beneath the current grocery store cooler. SVE would be anticipated to quickly remove the accumulated VOCs in the gravel bedding beneath the building, but would have limited effectiveness to remove soil contamination from the underlying glacial till, which becomes increasingly dense and impermeable below 6 to 10 feet bgs. Although SVE provides some long-term protectiveness, it does not decrease the current Site risk and it would not be anticipated to decrease the residual concentrations of COCs to less than soil cleanup levels in the top 15 feet of soil.

Alternative 4 is the permanent cleanup alternative, as required by MTCA, which removes contamination from the Site. This alternative provides long-term protectiveness and complies with cleanup standards and applicable laws.

None of the alternatives have provisions for compliance monitoring since the groundwater exposure pathway is incomplete and the concentrations of VOCs are well below the indoor air cleanup levels in the most susceptible room directly above the former Paint Booth.

4.2 Permanence Requirements and Disproportionate Cost Analysis

WAC 173-340-360 requires that the cleanup action uses permanent solutions to the maximum extent practicable, based on the development of a disproportionate cost analysis that compares the costs and benefits for the following criteria:

- Protectiveness (30%)
- Permanence (20%)
- Cost
- Long-term effectiveness (20%)
- Short-term risks (10%)
- Implementability (10%)
- Public concerns (10%)

These criteria include the discretionary weighting factors (percentages) listed above to facilitate the calculation of an environmental benefit. Table 4-2 provides the permanence criteria and disproportionate cost analysis for Alternatives 1 to 4. As described in the footnotes in Table 4-2, a numerical ranking of 1 to 5 is assigned to each criterion for each

alternative based on the relative degree that the cleanup alternative satisfies the criterion. The environmental benefit for each cleanup alternative is calculated as the sum of the products of the weighting factor and numerical ranking for each criterion. Figure 2 provides a graphical comparison of costs and environmental benefit rankings for the alternatives.

All four alternatives rank high in protectiveness, permanence, and long-term effectiveness. The no additional action alternative ranks slightly lower than the other alternatives because it leaves contamination in-place without recording an environmental covenant. This leaves the potential that soil could be mismanaged during unforeseen Site redevelopment in the future. Alternatives 1 and 2 also have slightly lower long-term effectiveness because they do not actively remediate residual soil contamination.

Although Alternatives 3 and 4 rank marginally better in permanence and long-term effectiveness, they are ranked lower in short-term risk management, implementability, and public concerns. The remedial construction and operation creates short-term exposure risk, and the short-term exposure risk is greatest for the excavation actions included in the permanent cleanup alternative. Whereas Alternatives 1 and 2 rank high for public concerns, Alternatives 3 and 4 rank much lower because of the adverse impacts to the existing businesses.

As shown in Table 4-2, Alternative 2 has the highest environmental benefit ranking of 4.8 at a cost of $40,000. Alternative 1 has the second highest ranking of 4.6 at a cost of $25,000. The active remediation alternatives have lower rankings because they do not reduce current Site risk, they increase the short-term risk, they are difficult to implement, and they are disruptive. Alternative 3 has an environmental benefit of 4.5 at a cost of $578,000 and Alternative 4 has an environmental benefit of 4.1 at a cost of $912,000. Based on this analysis, the cost of implementing an environmental covenant in Alternative 2 is not disproportionately costly. The disproportionately high active remediation costs in Alternatives 3 and 4 also have reduced environmental benefit, and are not recommended.

4.3 Restoration Time Frame Requirements

WAC 173-340-360 requires that the cleanup action provides a reasonable restoration time frame by evaluating the following criteria:

- Potential risks posed to human health and the environment;
- Practicality of achieving a shorter restoration time frame;
- Current use of the site and surrounding properties;
- Potential future use of the site and surrounding areas;
- Availability of alternative water supplies;
- Likely effectiveness and reliability of institutional controls;
- Ability to control and monitor migration of hazardous substances;
- Toxicity of hazardous substances; and
- Natural attenuation processes.

Table 4-3 describes the degree that each cleanup alternative meets the restoration time frame requirements.

There are no Site risks to human health and the environment under the current use scenario. Alternative 2 records an environmental covenant with Pierce County to provide a degree of protectiveness during potential future Site redevelopment. Alternatives 3 and 4 increase potential Site risk to human health during remediation, but decrease the environmental risk to human health and the environment in the long-term. Alternatives 3 and 4 adversely impact current Site use due to their short-term exposure risks and disruption of business operations. Alternatives 2 and 3 provide an environmental covenant to control long-term impacts and to reduce the environmental uncertainty for the Site. Alternative 4 is the only alternative that removes impacts to future Site use; however, this alternative is disruptive to current Site use and is technically impracticable in general.

The residual contamination at the South Gas Station was generated during gas station operations between 1930 and 1949, and the source contamination was removed in 1994. The residual petroleum contamination is about 15 feet bgs, based on sampling in 2006, and has not impacted groundwater that is present from about 45 to 60 feet bgs. The residual contamination is amenable to natural attenuation processes, which includes bioattenuation and sorption within the glacial till soil.

The residual contamination beneath the former Paint Booth was associated with historical operations in the car dealership, which ceased in 1994 with the clean out and decommissioning of the floor drains, cleanout, and heating oil UST. Residual petroleum and chlorinated solvent contamination exceeding the cleanup levels was identified in soil in 1994. The contamination is amenable to natural attenuation processes in the glacial till, including bioattenuation, sorption, and volatilization. TCE and carbon tetrachloride have been detected in groundwater samples from MW-11 at concentrations less than the Method A groundwater cleanup levels and they do not pose a continuing threat to groundwater. Although PCE was detected in soil vapor at concentrations near the sub-slab soil vapor screening levels, the concentration of PCE was less than the indoor air cleanup level by more than an order-of-magnitude in January 2014.

Contamination has not been detected in groundwater at concentrations exceeding the drinking-water-protective Method A groundwater cleanup levels. All four alternatives include the decommissioning of the two monitoring wells on the Site (i.e., MW-1 and MW-11), and a monitoring program is not necessary to monitor contaminant migration. Groundwater is not currently used at the Site, and the property and surrounding properties are serviced by a public water supply.

5 Conclusions

The Former Walker Chevrolet Site has two areas of residual soil contamination due to past commercial operations. A remedial action was performed in 1994 to remove seven USTs and associated impacted soil near the southern boundary of the property. Soil was excavated to about 10 feet bgs beneath the USTs and to about 5 feet bgs beneath the former pump island. The soil beneath the three gasoline USTs was excavated and reused as backfill after sampling and evaluation, and about 100 cubic yards of petroleum-contaminated soil was removed from beneath the waste oil UST, the former pump island, and the three USTs in the embankment. Clean confirmation samples were collected from beneath the USTs and the bottoms and sidewalls of the excavations. Additional contamination was detected at about 15 feet bgs beneath the embankment along Division Avenue and along North First Street during due diligence sampling in 2006. Gasoline-range TPH and xylenes were detected, at concentrations less than the soil cleanup levels, at 15 feet bgs in soil boring AB-1 beneath the former waste oil UST in December 2013. Removal of the relatively deep contamination is difficult to implement and is unnecessary to reduce risks of groundwater impacts or exposure by direct contact with soil. Although residual contamination remains near the bottom of the standard point of compliance for soil for the direct contact exposure pathway, the direct contact pathway is protected by the current parking lot surface and a storage building. Monitoring well MW-1 at the former South Gas Station was sampled seven times between August 2007 and January 2014, and no petroleum hydrocarbons were detected.

A remedial action and subsequent investigations were performed for the former Paint Booth starting in 1994. Contamination was removed from the floor drains, a cleanout, and a former heating oil UST, and then they were filled with concrete to decommission them. Nine direct-push soil borings were subsequently sampled near the floor drains and UST to refusal depths that ranged from 6 to 10 feet bgs. BTEX compounds, TPH, PCE, and TCE were detected at concentrations exceeding the soil cleanup levels within a few feet of the heating oil UST. Bison (1994e) recommended that the residual contamination be left in-place because of access limitations within the building and to avoid potential structural damage to the building. Access to contamination is currently more limited because the contamination is located beneath the cooler in the grocery store. Removal of residual soil contamination beneath the former Paint Booth is impracticable because of the building, the current Site use, and the limited radius of influence for *in situ* treatment in the underlying glacial till. Monitoring well MW-11 was installed within the current grocery store cooler in May 2009 and groundwater samples were collected three times between May 2009 and January 2014. TCE and carbon tetrachloride were detected at concentrations less than the Method A groundwater cleanup level, and the residual soil contamination beneath the former Paint Booth does not pose a groundwater exposure risk. Sub-slab vapor samples were collected in May 2008 and January 2014. Although PCE was detected at a concentration near the sub-slab vapor screening levels, the concentration of PCE was more than an order-of-magnitude less than the indoor air cleanup levels in January 2014.

The residual soil contamination at the property does not pose a risk to human health and the environment, and the groundwater, direct contact, and indoor air exposure pathways are currently incomplete. We recommend that Alternative 2 be implemented for the Site.

Alternative 2 includes the decommissioning of MW-1 and MW-11 and the implementation of an environmental covenant, consistent with WAC 173-340-440(9). The covenant would require the maintenance of the existing building and parking surface as a protective cap to minimize potential future direct contact risks, migration of contaminants to indoor air, or leaching to groundwater. The covenant would identify that PCE has been detected at concentrations exceeding applicable screening levels for soil vapor intrusion and that PCE, TPH, toluene, and xylenes remain in soil at concentrations exceeding Method A soil cleanup levels. The covenant would require notification to Ecology for any planned disturbance of the cap above the former South Gas Station or the former Paint Booth, which could reasonably allow direct contact exposure or the removal of contaminated soil. The covenant would also require Ecology notification of any change in Site use that could potentially increase the risk of indoor air contamination, or leaching to groundwater.

References

Aspect Consulting, LLC (Aspect), 2009, Site Conditions Summary, Former Walker Chevrolet Property, Prepared for David Shaw, Successor to Walker Chevrolet, July 14, 2009; Stemen Environmental, Inc. data provided in Appendix C.

Aspect Consulting, LLC (Aspect), 2011, Remedial Investigation Report, Morrell's Dry Cleaners, Prepared for David Shaw, Successor to Walker Chevrolet, February 18, 2011.

Aspect Consulting, LLC (Aspect), 2012, Data Gaps Investigation, Former Walker Chevrolet and Morrell's Dry Cleaners, VCP Site SW1039, May 1, 2012.

Aspect Consulting (Aspect), 2013, Focused Feasibility Study, Morrell's Dry Cleaners, Prepared for David Shaw, Successor to Walker Chevrolet, March 26, 2013.

Bison Environmental Northwest (Bison), 1994a, Phase I Environmental Site Assessment, Walker Chevrolet, August 1994.

Bison Environmental Northwest (Bison), 1994b, Underground Storage Tank Removal Site Assessment and Independent Remedial Action Report, Walker Chevrolet (South Gas Station), August 1994.

Bison Environmental Northwest (Bison), 1994c, Underground Storage Tank Removal Site Assessment and Independent Remedial Action Report, Walker Chevrolet (North Gas Station), August 1994.

Bison Environmental Northwest (Bison), 1994d, Phase 2 Studies, Floor Drain and Heating Oil UST Closure, Walker Chevrolet – Paint Booth, August 15, 1994.

Bison Environmental Northwest (Bison), 1994e, Phase 2B Subsurface Sampling, Walker Chevrolet – Paint Booth, September 12, 1994.

Stemen Environmental, Inc., 2009, Site Inspections of Commercial Property Located at 608 North First Street, Tacoma, Washington, May 17, 2009.

U.S. Environmental Protection Agency (EPA), 2002, OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soil (Subsurface Vapor Intrusion Guidance), EPA/530/D-02-004, November 2002.

U.S. Environmental Protection Agency (EPA), 2008, Indoor Air Vapor Intrusion Mitigation Approaches, EPA/600/R-08-115, October 2008.

Washington State Department of Ecology (Ecology), 2009, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Review Draft, Publication No. 09-09-047, October 2009.

Limitations

Work for this project was performed for David Shaw, 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.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

TABLES

Table 1-1 - Soil Sample Results from Exploratory Boring near Former Underground Storage Tanks

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Description/Chemical Name	Soil, MTCA Method A, Unrestricted Land Use, Table Value (mg/kg)	AB-1-15 12/20/2013	AB-1-25 12/20/2013	AB-1-45 12/20/2013	AB-1-61.5 12/20/2013
Sample Depth		15 ft	25 ft	45 ft	61.5 ft
Total Petroleum Hydrocarbons					
Gasoline-Range Hydrocarbons (mg/kg) (no detectable benzene)	100	37	3	2 U	2 U
Volatile Petroleum Compounds					
Benzene (mg/kg)	0.03	0.02 U	0.02 U	0.02 U	0.02 U
Toluene (mg/kg)	7	0.02 U	0.02 U	0.02 U	0.02 U
Ethylbenzene (mg/kg)	6	0.02 U	0.02 U	0.02 U	0.02 U
Xylenes,total (mg/kg)	9	0.33	0.06 U	0.06 U	0.06 U
Fuel Additives and Blending Compounds					
1,2-Dibromoethane (EDB; mg/kg)	0.005	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane (EDC; mg/kg)		0.05 U	0.05 U	0.05 U	0.05 U
Methyl tert-butyl ether (MTBE; mg/kg)	0.1	0.05 U	0.05 U	0.05 U	0.05 U
Lead (mg/kg)	250	1.49	2.59	2.31	1.90
Other Petroleum Compounds					
Naphthalene (mg/kg)	5	0.05 U	0.05 U	0.05 U	0.05 U

Notes:
Potential chemicals of concern include gasoline-range organics from Table 830-1 in Model Toxics Control Act.
ft = feet
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act
U = analyte was not detected at or above the reported result.

Table 1-2 - Groundwater Elevation Data

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Well ID	Date	Vertical Angle	Screened Interval (feet bgs)	Top of Casing Elevation (feet, site datum)	Depth to Water (feet)	Groundwater Elevation (feet, site datum)
Advance Outwash Wells						
MW-1	2/27/2008	0	50 to 65	275.25	52.32	222.93
	10/2/2008				53.09	222.16
	5/11/2009				53.68	221.57
	12/22/2010				53.61	221.64
	2/6/2012				52.93	222.32
	1/10/2014				53.21	222.04
MW-2	2/27/2008	0	50 to 65	273.14	51.50	221.64
	10/2/2008				51.84	221.30
	5/12/2009				52.42	220.72
	12/22/2010				52.44	220.70
	2/6/2012				51.77	221.37
	12/12/2013				52.74	220.40
MW-3	2/27/2008	0	52 to 67	272.77	dry	dry
(Decommissioned)	10/2/2008				dry	dry
	5/11/2009				dry	dry
MW-4	2/27/2008	0	49 to 64	273.01	dry	dry
(Decommissioned)	10/2/2008				dry	dry
	5/11/2009				dry	dry
MW-5	2/27/2008	0	50 to 65	273.13	50.87	222.26
	10/2/2008				51.65	221.48
	5/11/2009				52.28	220.85
	12/22/2010				52.21	220.92
	2/6/2012				51.60	221.53
	1/9/2014				52.68	220.45
MW-6	2/27/2008	0	49 to 64	272.55	dry	dry
	10/2/2008				dry	dry
	5/11/2009				dry	dry
MW-7	2/27/2008	0	50 to 65	274.44	52.90	221.54
	10/2/2008				53.08	221.36
	5/11/2009				53.69	220.75
	12/22/2010				53.73	220.71
	2/6/2012				52.98	221.46
	1/7/2014				54.10	220.34
MW-8	10/2/2008	0	51 to 61	273.14	52.68	220.46
	5/12/2009				53.28	219.86
	12/22/2010				53.32	219.82
	2/6/2012				52.58	220.56
	12/7/2013				53.64	219.50
MW-9	5/11/2009	0	60 to 70	273.78	dry	dry
	12/22/2010				dry	dry
	2/6/2012				dry	dry
	12/16/2013				dry	dry
MW-10	5/11/2009	0	60 to 70	274.45	dry	dry
	12/22/2010				dry	dry
	2/6/2012				dry	dry
	12/16/2013				dry	dry
MW-11	5/12/2009	0	53 to 63	273.52	52.20	221.32
	12/22/2010				52.24	221.28
	1/23/2014				52.69	220.83
MW-15	12/17/2013	37	44 to 60	273.84	53	221
MW-16	12/13/2013	23	41 to 60	272.88	53	220
MW-17	12/13/2013	32	43 to 60	272.97	53	220
MW-18	12/12/2013	45	46 to 60	272.80	60	212
MW-19	1/8/2014	0	45 to 60	273.15	52.72	220.43
MW-20	1/8/2014	0	45 to 60	273.03	52.64	220.39
MW-21	12/17/2013	0	45 to 60	274.03	53.66	220.37
Interglacial Deposit Wells						
MW-8D	5/11/2009	0	96 to 116	273.11	112.56	160.55
	12/22/2010				112.58	160.53
	2/6/2012				112.52	160.59
	1/10/2014				112.56	160.55
MW-12D	12/22/2010	0	113 to 123	272.72	129.96	142.76
	2/6/2012				129.80	142.92
	1/10/2014				129.94	142.78
MW-13D	12/22/2010	0	125 to 145	271.96	137.88	134.08
	2/6/2012				137.43	134.53
	12/16/2013				137.70	134.26
MW-14D	2/6/2012	0	123 to 143	272.46	134.02	138.44
	1/10/2014				134.26	138.20

Notes:
All measurements are in feet.
bgs = below ground surface

Table 1-3 - Concentrations of Volatile Organic Compounds in Groundwater at Updgradient Former Walker Chevrolet Site and Downgradient Morrell's Dry Cleaners Site

Project #080190 - Tacoma, Washington

Well ID	Screen Interval (feet bgs)	Date	Volatile Organic Compounds								
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Carbon Tetrachloride	Chloroform	Naphthalene
MTCA Method A, Groundwater CUL, Table Value (µg/L)			**5**	**5**	**-**	**-**	**-**	**0.2**	**-**	**-**	**160**
Federal and State Maximum Contaminant Level (µg/L)			**5**	**5**	**70**	**100**	**7**	**2**	**5**	**80**	**-**
Groundwater Cleanup Level (µg/L)			**5**	**5**	**70**	**100**	**7**	**0.2**	**5**	**80**	**160**
Advance Outwash Wells											
Former Walker Chevrolet Site											
MW-1	50 - 65	8/28/07	1.3	<1	<1	<1	<1	<0.2	<1	<1	<1
		1/30/08	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
		10/2/08	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
		5/11/09	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
		12/22/10	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
		2/6/12	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
		1/10/14	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	0.39	<0.5
MW-11	53 - 63	5/12/09	<1	2.3	<1	<1	<1	<0.2	1.4	1.9	<1
		12/22/10	<1	4.6	<1	<1	<1	<0.2	2.8	2.0	<1
		1/23/14	<1	1.4	<1	<1	<1	<0.2	<1	<1	0.15
Morrell's Dry Cleaners Site (Upgradient to Downgradient Order)											
MW-5	50 - 65	1/22/08	**67**	3	13	<1	<1	<0.2	3.3	2.1	<1
		1/30/08	**31**	1.1	4.5	<1	<1	<0.2	2.0	1.8	<1
		10/2/08	**75**	3.2	17	<1	<1	<0.2	1.2	1.9	<1
		5/11/09	**17**	1.1	44	<1	<1	<0.2	<1	<1	<1
		12/22/10	**190**	**14**	41	<1	<1	<0.2	3.2	2.9	<1
		2/6/12	**140**	**8.7**	25	<1	<1	<0.2	<1	<1	<1
		1/9/14	<0.2	0.46	<0.2	<0.2	<0.2	<0.2	<0.2	0.35	0.14
MW-19	45 - 60	1/8/14	**62**	4.8	20	<1	<1	<0.2	**7**	3.8	<1
MW-20	45 - 60	1/8/14	**140**	**16**	43	<1	<1	<0.2	3.6	2.2	<1
MW-18 (angled with 45 degree vertical angle)	46 - 60	12/12/13	**490**	**57**	**350**	<1	<1	**0.53**	<1	1.3	<1
MW-2	50 - 65	8/28/07	**2,900**	**1,800**	**7,100**	7.4	<1	**19**	1.0	1	<1
		1/30/08	**1,400**	**520**	**2,000**	3	<1	<0.2	<1	2.5	<1
		10/2/08	**1,900**	**880**	**2,300**	5.3	<1	**3.1**	1.0	3.5	<1
		5/12/09	**1,600**	**930**	**2,400**	5.7		**2.7**	<1	4.0	<1
		12/22/10	**2,100**	**1,100**	**2,100**	4.8	<1	**2.7**	<1	5.0	<1
		2/6/12	**1,600**	**810**	**1,400**	<100	<100	**<20**	<100	<100	<100
		12/12/13	**1,600**	**840**	**1,100**	2.7	<1	**0.84**	<1	3.3	<1
MW-17 (angled with 32 degree vertical angle)	43 - 60	12/13/13	**170**	**24**	**81**	<1	<1	<0.2	3	2.4	<1
MW-16 (angled with 23 degree vertical angle)	41 - 60	12/13/13	**490**	**98**	**350**	<1	<1	**0.49**	2.2	2.5	<1
MW-7	50 - 65	1/22/08	**6.6**	<1	<1	<1	<1	<0.2	<1	<1	<1
		1/30/08	1.5	<1	<1	<1	<1	<0.2	1.5	<1	<1
		10/2/08	<1	<1	<1	<1	<1	<0.2	1.5	<1	<1
		5/11/09	1.1	<1	<1	<1	<1	<0.2	2.0	<1	<1
		12/22/10	1.4	<1	<1	<1	<1	<0.2	3.3	<1	<1
		2/6/12	<1	<1	<1	<1	<1	<0.2	2.2	<1	<1
		1/7/14	1.4	<1	<1	<1	<1	<0.2	1.6	<1	<1
MW-8	51 - 61	4/22/08	**1,300**	**780**	**2,400**	6.3	<1	**0.2**	<1	2.5	<1
		10/2/08	**680**	**390**	**3,600**	7.6	**10**	**6.9**	<1	2.5	<1
		5/12/09	**780**	**370**	**2,600**	3.7		**2.0**	<1	2.5	
		12/22/10	**470**	**150**	**1,800**	3.3	3.7	**1.4**	<1	2.2	<1
		2/6/12	**960**	**610**	**1,600**	<100	<100	**<20**	<100	<100	<100
		12/17/13	**940**	**560**	**1,300**	<50	<50	**<10**	<50	<50	<50
MW-15 (angled with 37 degree vertical angle)	44 - 60	12/17/13	**460**	**110**	**380**	<10	<10	**<2**	<10	<10	<10
		12/17/13	**480**	**110**	**370**	<10	<10	**<2**	<10	<10	<10
MW-21	45 - 60	12/17/13	**500**	**130**	**460**	<10	<10	**<2**	<10	<10	<10

Table 1-3 - Concentrations of Volatile Organic Compounds in Groundwater at Updgradient Former Walker Chevrolet Site and Downgradient Morrell's Dry Cleaners Site

Project #080190 - Tacoma, Washington

Well ID	Screen Interval (feet bgs)	Date	Volatile Organic Compounds								
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Carbon Tetrachloride	Chloroform	Naphthalene
MTCA Method A, Groundwater CUL, Table Value (µg/L)			**5**	**5**	**-**	**-**	**-**	**0.2**	**-**	**-**	**160**
Federal and State Maximum Contaminant Level (µg/L)			**5**	**5**	**70**	**100**	**7**	**2**	**5**	**80**	**-**
Groundwater Cleanup Level (µg/L)			**5**	**5**	**70**	**100**	**7**	**0.2**	**5**	**80**	**160**
Interglacial Deposit Wells											
Morrell's Dry Cleaners Site											
MW-8D	96 - 116	5/11/09	<1	<1	11	<1	<1	<0.2	1.9	<1	<1
		12/22/10	<1	<1	21	<1	<1	<0.2	2.0	<1	<1
		2/6/12	<1	<1	26	<1	<1	<0.2	1.8	<1	<1
		1/10/14	<0.2	<0.2	42	<0.2	<0.2	<0.2	1.7	0.68	0.8
MW-12D	113 - 133	12/22/10	**6.1**	<1	22	<1	<1	<0.2	<1	<1	<1
		2/6/12	<1	<1	17	<1	<1	<0.2	<1	<1	<1
		1/10/14	0.7	0.34	22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5
MW-13D	125 - 145	12/22/10	**14**	3.2	30	<1	<1	<0.2	<1	<1	<1
		2/6/12	4.2	2.4	28	<1	<1	<0.2	<1	<1	<1
		12/16/13	**5.9**	3.7	32	<1	<1	<0.2	<1	<1	<1
MW-14D	123 - 143	2/6/12	4.2	3.3	28	<1	<1	<0.2	<1	<1	<1
		1/10/14	2.4	1.0	4.5	<1	<1	<0.2	<1	<1	2.0

Notes:

BOLD Highlighted signifies exceedance of proposed Groundwater Cleanup Level (most stringent of MTCA Method A, Table Value and Federal and State MCL).

All values are in units of micrograms per liter (µg/L).

Dashes indicate no value available

1,1-DCE = 1,1-dichloroethylene

cis-1,2-DCE = cis-1,2-dichloroethylene

MCL = maximum contaminant level

MTCA = Model Toxics Control Act

PCE = tetrachloroethylene

TCE = trichloroethylene

trans-1,2-DCE = trans-1,2-dichloroethylene

Table 1-4 - Groundwater Sample Results for Chemicals of Potential Concern and Natural Attenuation Parameters

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Chemical Name	Groundwater, Method A, Table Value (µg/L)	Federal and State Maximum Contaminant Level (µg/L)	MW-1 1/10/2014	MW-5 1/9/2014	MW-7 1/7/2014	MW-11 1/23/2014
Location Description			**Upgradient, Former UST Area**	**Downgradient of Property**	**Downgradient of Property**	**Former Paint Booth Area**
Total Petroleum Hydrocarbons						
Gasoline-Range Hydrocarbons (µg/L) (no detectable benzene)	1,000		0.25 U			100 U
Diesel-Range Hydrocarbons (µg/L)	500		0.1 U			50 U
Oil-Range Hydrocarbons (µg/L)	500		0.2 U			250 U
Volatile Organic Compounds (COPCs and Other Detected Compounds)						
Benzene (µg/L)	5	5	0.2 U	0.2 U	0.35 U	0.35 U
Toluene (µg/L)	1,000	1,000	0.2 U	0.2 U	1 U	1 U
Ethylbenzene (µg/L)	700	700	0.2 U	0.2 U	1 U	1 U
Xylenes, total (µg/L)	1,000	10,000	0.6 U	0.6 U	3 U	3 U
Tetrachloroethylene (µg/L)	5	5	0.2 U	0.2 U	1.4	1 U
Trichloroethylene (µg/L)	5	5	0.4	0.46	1 U	1.4
cis-1,2-Dichloroethylene (µg/L)		70	0.2 U	0.2 U	1 U	1 U
trans-1,2-Dichloroethylene (µg/L)		100	0.2 U	0.2 U	1 U	1 U
1,1-Dichloroethylene (µg/L)		7	0.2 U	0.2 U	1 U	1 U
Vinyl Chloride (µg/L)	0.2	2	0.2 U	0.2 U	0.2 U	0.2 U
Carbon Tetrachloride (µg/L)		5	0.2 U	0.2 U	1.6	1 U
Chloroform (µg/L)		80	0.39	0.35	1 U	1 U
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene (µg/L)			0.1 U	0.1 U		0.05 U
Benzo(a)pyrene (µg/L)	0.1	0.2	0.1 U	0.1 U		0.05 U
Benzo(b)fluoranthene (µg/L)			0.1 U	0.1 U		0.05 U
Benzo(k)fluoranthene (µg/L)			0.1 U	0.1 U		0.05 U
Chrysene (µg/L)			0.1 U	0.1 U		0.05 U
Dibenzo(a,h)anthracene (µg/L)			0.1 U	0.1 U		0.05 U
Indeno(1,2,3-cd)pyrene (µg/L)			0.1 U	0.1 U		0.05 U
Total cPAHs TEQ (µg/L; calculated)	0.1		ND	ND		ND
Naphthalene (µg/L)	160		0.1 U	0.14	1 U	0.15
Fuel Additives						
Lead (µg/L)	15	15	2.0	5.8	3.53	2.44
Polychlorinated Biphenyls (PCBs)						
PCB Mixtures (µg/L)	0.1	0.5		0.1 U	0.1 U	0.1 U
Natural Attenuation Parameters						
Dissolved oxygen (mg/L)			0.4	2.1	8.5	2.3
Oxidation-reduction potential (mV)			114	74	53	73
Nitrate (mg/L)		10	0.2	0.7	1.39	
Nitrite (mg/L)		1	0.1 U	0.1 U	0.006	
Sulfate (mg/L)			8.8	20.6	28.4	
Iron, total (mg/L)			4.07	11.5	14.3	
Total organic carbon (TOC; mg/L)			1.5 U	1.5 U	0.25 U	

Notes:
Blank cell = indicate not sampled or no standard exists
COPC = chemical of potential concern
CPAH = carcinogenic polycyclic aromatic hydrocarbon
mg/L = milligrams per liter
MTCA = Model Toxics Control Act
mV = millivolts
TEQ = toxic equivalent quotient
U = analyte was not detected at or above the reported result.
UST = underground storage tank
µg/L = micrograms per liter

Table 1-5 - Indoor, Ambient, and Sub-Slab Air Sample Results near Former Paint Booth

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Description/ Chemical Name	Acceptable Indoor Air Screening Level (SL_{IA}), MTCA Method B, Air, Screening Level	Indoor Air, Above Former Paint Booth	Outdoor Air, Ambient Conditions	Screening Level in Soil Gas Protective of Indoor Air (SL_{SG})	Sub-slab Air, Beneath Former Paint Booth			Sub-slab Air, Adjacent to Former Paint Booth
Location		Inside current produce cooler and former paint booth area	Parking lot on west side of North 1st Street		East side of paint booth	Middle of paint booth	West side of paint booth	Beneath concrete sidewalk adjacent to building and former roll-up door for paint booth
Sample ID		Indoor-012214	Outdoor Air-012214		GV-1	GV-2	GV-3	Subslab-012314
Sample duration (hours)		8	8					1
Date and time collected		1/22/14 3:55 PM	1/22/14 4:15 PM		5/8/2008	5/8/2008	5/8/2008	1/23/14 1:15 PM
	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
PCE	9.6	0.61	<0.21	96	**110**	**1,000**	**160**	**270**
TCE	0.37	<0.32	<0.17	3.7	<20	<20	<20	1.2
cis-1,2-DCE	-	<0.24	<0.12	-	<50	<50	<50	<0.27
trans-1,2-DCE	-	<1.2	<0.61	-	<50	<50	<50	<1.3
Vinyl chloride	0.28	<0.077	<0.04	2.8	<200	<200	<200	<0.087
Benzene	0.32	NA	NA	3.2	<20	<20	<20	NA
Toluene	2,300	NA	NA	23,000	130	240	160	NA
Ethylbenzene	460	NA	NA	4,600	<100	<100	<100	NA
Xylenes	46	NA	NA	460	<100	150	230	NA

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
Dashes indicate no value available.
DCE = dichloroethylene
in-Hg = inches of mercury
µg/m^3 = micrograms per cubic meter
NA = not analyzed
PCE = tetrachloroethylene
SL_{IA} = Acceptable indoor air screening level.
SL_{SG} = Screening level in soil gas protective of indoor air.
TCE = trichloroethylene
VAF = Vapor attenuation factor (unitless); default value of 0.1 should be assumed in Tier I Evaluations (Draft Vapor Intrusion Guidance, Ecology, 2009).

SL_{SG} = SL_{IA} / VAF (Equation 2 in Draft Vapor Intrusion Guidance, Ecology, 2009).
Ecology, 2009, Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Publication No. 09-09-047

Table 2-1 - Proposed Chemicals of Concern, Points of Compliance, and Cleanup Levels

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

	Proposed Chemicals of Concern										
	PCE	**TCE**	**Carbon Tetrachloride**	**Choroform**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes**	**Naphthalene**	**TPH-GRO**	**TPH-ORO**
Soil											
Point of Compliance: All Site Soil											
Soil, Method A, Unrestricted Land Use, Table Value (mg/kg)	0.05	0.03	NE	NE	0.03	7	6	9	5	30	2,000
Proposed Soil Cleanup Level (mg/kg)	0.05	0.03	NE	NE	0.03	7	6	9	5	30	2,000
Maximum detected concentration (mg/kg) at South Gas Station	NS	NS	NS	NS	**6.1**	4.1	6	**12**	ND	**920**	NS
Exceedance at South Gas Station	No	No	No	No	**Yes**	No	No	**Yes**	No	**Yes**	No
Maximum detected concentration (mg/kg) at Former Paint Booth	**0.21**	ND	ND	ND	0.024	**85**	2.2	**143**	1.1	**100**	**8,000**
Exceedance at Former Paint Booth	**Yes**	No	No	No	No	**Yes**	No	**Yes**	No	**Yes**	**Yes**
Groundwater											
Point of Compliance: Site Groundwater											
Groundwater, Method A, Table Value (µg/L)	5	5	NE	NE	5	1,000	700	1,000	160	800	500
Federal and State MCL (µg/L)	5	5	5	80	5	1,000	700	1,000	NE	NE	NE
Proposed Groundwater Cleanup Level (µg/L)	5	5	5	80	5	1,000	700	1,000	160	800	500
Maximum detected concentration (µg/L)	<1	1.4	<0.2	0.39	<0.35	<1	<1	<3	0.15	ND	ND
Exceedance	No	No	No	No	No	No	No	No	No	No	No
Indoor Air											
Point of compliance: All normally-occupied indoor spaces											
Air, Method A, Formula Value, most stringent (µg/m^3)	9.6	0.37	0.42	0.11	0.32	2,300	460	46	1.4	NE	NE
Proposed Indoor Air Cleanup Levels (µg/m^3)	9.6	0.37	NE	NE	NE	NE	NE	NE	NE	NE	NE
Maximum detected concentration (µg/m^3)	0.61	<0.32	NS	NS	NS	NS	NS	NS	NS	NS	NS
Exceedance	No	No	No	No	No	No	No	No	No	No	No

Notes:
MCL - maximum contaminant level
µg/L - micrograms per liter
µg/m^3 - micrograms per cubic meter
mg/kg - milligrams per kilogram
ND - not detected
NE - not established
NS - not sampled
PCE - tetrachloroethylene
TCE - trichloroethylene
TPH-GRO - total petroleum hydrocarbons, gasoline range
TPH-ORO - total petroleum hydrocarbons, oil range

Table 3-1 - Summary of Components and Cost Estimates for Cleanup Alternatives

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Cleanup Alternative Components	**Alternative 1** No Additional Action	**Alternative 2** Institutional Controls	**Alternative 3** SVE for Former Paint Booth	**Alternative 4** Permanent Cleanup
Decommissioning of MW-1 and MW-11	X	X	X	X
Environmental Covenant		X	X	
Soil Vapor Extraction beneath Former Paint Booth			X	
Excavation of Residual Soil Contamination beneath Former Paint Booth				X
Excavation of Residual Soil Contamination beneath South Gas Station				X
Present Value of Future Costs[1,2]	$25,000	$40,000	$578,000	$912,000

Notes:
1) These FS-level cost estimates have an accuracy of -30/+50 percent.
2) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent, and estimates are rounded to the nearest $1,000.

Table 3-2 - Cost Estimate for Alternative 1: No Additional Action

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

	No. of Units	Units	Unit Cost	Year of Expenditure	Itemized Present Value Cost[(1)]	Consolidated Present Value Cost[(1)]
Project Management						
Consulting, negotiation with Ecology, and reporting	1	LS	$15,000.00	2014	$15,000	$15,000
Decommission Monitoring Wells						
Decommission MW-1 and MW-11	1	LS	$10,000.00	2014	$10,000	$10,000
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$25,000**

Notes:
1) These FS-level cost estimates have an accuracy of -30/+50 percent.
2) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent (approximate 20 year treasury real yield).
3) Units: LS = lump sum.

Table 3-3 - Cost Estimate for Alternative 2: Institutional Controls

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

	No. of Units	Units	Unit Cost	Year of Expenditure	Itemized Present Value Cost[(1)]	Consolidated Present Value Cost[(1)]
Project Management						
Consulting, negotiation with Ecology, and reporting	1	LS	$15,000.00	2014	$15,000	$15,000
Decommission Monitoring Wells						
Decommission MW-1 and MW-11	1	LS	$10,000.00	2014	$10,000	$10,000
Institutional Controls						
Environmental covenant	1	LS	$15,000.00	2014	$15,000	$15,000
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$40,000**

Notes:
1) These FS-level cost estimates have an accuracy of -30/+50 percent.
2) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent (approximate 20 year treasury real yield).
3) Units: LS = lump sum.

Table 3-4 - Cost Estimate for Alternative 3: Soil Vapor Extraction for Former Paint Booth

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

	No. of Units	Units	Unit Cost	Year of Expenditure	Itemized Present Value Cost[(1)]	Consolidated Present Value Cost[(1)]
Project Management						
Consulting, negotiation with Ecology, and reporting	1	LS	$25,000.00	2014	$25,000	$25,000
Decommission Monitoring Wells						
Decommission MW-1 and MW-11	1	LS	$10,000.00	2014	$10,000	$10,000
Institutional Controls						
Environmental covenant	1	LS	$15,000.00	2014	$15,000	$15,000
Soil Vapor Extraction (SVE) Pilot Test						
Engineering and design	1	LS	$10,000	2014	$10,000	
Mobilization and private utility locate	1	LS	$3,000	2014	$3,000	
Construction of SVE well and two observation wells	3	EA	$5,000	2014	$15,000	
SVE pilot test	1	LS	$5,000	2014	$5,000	
Subtotal						$33,000
Construction of Full-Scale SVE Interim Action						
Engineering and design	1	LS	$20,000	2015	$19,782	
Mobilization and private utility locate	1	LS	$3,000	2015	$2,967	
Removal and restoration of commercial activities	1	LS	$10,000	2015	$9,891	
Business loss allowance per week[3]	1	WK	$153,300	2015	$151,632	
Removal and restoration of concrete floor	1,200	SF	$20	2015	$23,739	
Construction of 4 SVE wells	4	EA	$6,000	2015	$23,739	
Construction of sub-slab piping and wall penetrations	1	LS	$25,000	2015	$24,728	
Disposal of non-hazardous waste with contained-in determination	15	TON	$60	2015	$890	
Disposal of construction and demolition waste	60	TON	$50	2015	$2,967	
Purchase of small-scale SVE system	1	LS	$40,000	2015	$39,565	
Installation and start-up testing of SVE system	1	LS	$30,000	2015	$29,674	
Subtotal						$329,575
Operation and Maintenance (O&M) of SVE System						
O&M visits, twice per month, with PID sampling	24	MO	$3,000	2015 -2016	$71,182	
O&M, remote monitoring	24	MO	$1,000	2015 -2016	$23,727	
Compliance sampling	8	QR	$500	2015 -2016	$3,951	
Status Reports	8	QR	$2,500	2015 -2016	$19,755	
Telemetry charges	24	MO	$60	2015 -2016	$1,424	
Utilities, 2-HP blower, $0.12/KWH, plus $60/month service charge	24	MO	$205	2015 -2016	$4,869	
Business loss allowance[4]	2	YR	$8,000	2015 -2016	$15,740	
Subtotal						$140,647
SVE System Completion Activities						
Interim Action Completion Report	1	LS	$20,000	2017	$19,354	
Remove and salvage SVE system	1	LS	$5,000	2017	$4,839	
Seal sub-surface piping and SVE wells in place without plugging	1	LS	$1,000	2017	$968	
Subtotal						$25,161
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$578,000**

Notes:
1) These FS-level cost estimates have an accuracy of -30/+50 percent.
2) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent (approximate 20 year treasury real yield).
3) Business loss allowance is based on $10.22 of sales per square feet per week (Source: Food Marketing Institute, https://www.fmi.org/research-resources/supermarket-facts) for 15,000 square foot store.
4) Business loss allowance is based on $20 per square foot per year for Tacoma metro retail property rental (Source: http://www.loopnet.com/TACOMA_Washington_Market-Trends) for 400 square foot area of adjacent business for 2 years.
5) Disposal tonnage is based on assumed density of 1.8 tons/BCY.
6) Units: EA = each, LS = lump sum, SF = square feet, YR = year, QR = quarter, MO = month, WK = week.

Table 3-5 - Cost Estimate for Alternative 4: Permanent Cleanup

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

	No. of Units	Units	Unit Cost	Year of Expenditure	Itemized Present Value Cost[(1)]	Consolidated Present Value Cost[(1)]
Project Management						
Consulting, negotiation with Ecology, and reporting	1	LS	$25,000.00	2014	$25,000	$25,000
Decommission Monitoring Wells						
Decommission MW-1 and MW-11	1	LS	$10,000.00	2014	$10,000	$10,000
Excavation of South Gas Station						
Engineering, design, and permitting	1	LS	$40,000	2015	$39,565	
Mobilization and private utility locate	1	LS	$5,000	2015	$4,946	
Removal and restoration of parking lot	3,200	SF	$8	2015	$25,321	
Removal and replacement of storage building	300	SF	$100	2015	$29,674	
Rental of steel sheet piling and wales, first month	24	TON	$325	2015	$7,715	
Sheet pile shoring, 20-ft deep, 27 psf, drive, extract & salvage	4,200	SF	$30	2015	$124,629	
Construct staging piles across street	2	EA	$2,500	2015	$4,946	
Excavation to 15 ft bgs, staging, and placement of soil on stockpiles	1,778	BCY	$12	2015	$21,104	
Transport and dispose petroleum contaminated soil	640	TON	$60	2015	$37,982	
Re-use and place clean fill	2,560	TON	$20	2015	$50,643	
Import and place clean fill	640	TON	$30	2015	$18,991	
Confirmation sampling	1	LS	$3,000	2015	$2,967	
Stand-by time	3	DAY	$5,000	2015	$14,837	
Subtotal						$383,319
Excavation beneath Former Paint Booth						
Engineering, design, and permitting	1	LS	$40,000	2015	$39,565	
Structural support, design and placement	1	LS	$25,000	2015	$24,728	
Mobilization and private utility locate	1	LS	$5,000	2015	$4,946	
Removal and restoration of commercial activities	1	LS	$10,000	2015	$9,891	
Removal and restoration of grocery cooler	1	LS	$15,000	2015	$14,837	
Business loss allowance per week[3]	2	WK	$153,300	2015	$303,264	
Removal and restoration of concrete floor	1,200	SF	$20	2015	$23,739	
Interior excavation, staging, and direct loading	230	BCY	$25	2015	$5,687	
Disposal of non-hazardous waste with contained-in determination	414	TON	$60	2015	$24,570	
Import and place clean fill	414	TON	$35	2015	$14,332	
60-mil HDPE liner	1,200	SF	$2	2015	$2,374	
Disposal of construction and demolition waste	60	TON	$50	2015	$2,967	
Confirmation sampling	1	LS	$3,000	2015	$2,967	
Subtotal						$473,867
Construction Completion Activities						
Interim Action Completion Report	1	LS	$20,000	2015	$19,782	
Subtotal						$19,782
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$912,000**

Notes:
1) These FS-level cost estimates have an accuracy of -30/+50 percent.
2) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent (approximate 20 year treasury real yield).
3) Business loss allowance is based on $10.22 of sales per square feet per week (Source: Food Marketing Institute, https://www.fmi.org/research-resources/supermarket-facts) for 15,000 square foot store.
4) Disposal tonnage is based on assumed density of 1.8 tons/BCY.
5) Units: BCY = bank cubic yard (in-place volume), EA = each, LS = lump sum, SF = square feet, WK = week.

Table 4-1 - Evaluation of Cleanup Alternatives for Threshold Criteria

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Cleanup Alternatives	Protection of Human Health and the Environment	Compliance with Cleanup Standards and Applicable Laws	Provision for Compliance Monitoring	Conclusions
Alternative 1 No Additional Action	There are no current exposure risks. Remedial actions in 1994 removed the sources of contamination and accessible soil contamination. Residual soil contamination exists beneath the grocery store cooler in the building and current development prevents exposure beneath the building. Additional inaccessible residual soil contamination is likely about 15 feet bgs at the former gas station, which is covered by a building or pavement. The concentrations of COCs are well below groundwater CULs and have never exceeded them. Although PCE was detected above sub-slab air screening levels beneath the grocery store cooler, the concentration was more than an order-of-magnitude beneath the indoor air CUL. The cooler is more susceptible to soil vapor intrusion than other areas of the building, but access is limited to adult employees and the cooler is not designed or intended for extended occupancy. Decommissioning of MW-11 in the cooler will reduce the soil vapor intrusion risk.	Contaminants would remain in inaccessible soil above the Method A Soil CULs.	No provision is made for compliance monitoring. The groundwater and indoor air pathways are below the applicable CULs.	Retained
Alternative 2 Institutional Controls	In addition to Alternative 1 components, provides an environmental covenant, which provides a record of contamination and maintains existing surfaces as a cap. Requires notification to Ecology of any planned disturbance of the cap or change of Site use that would allow removal of impacted soil or increased Site risk.	Contaminants would remain in inaccessible soil above the Method A Soil CULs. Environmental covenant ensures that impacted soils are handled appropriately during unforeseen future Site development.	No provision is made for compliance monitoring. The groundwater and indoor air pathways are below the applicable CULs.	Retained

Notes:
bgs = below ground surface
COC = chemical of concern
COPC = chemical of potential concern
CUL = cleanup level
SVE = soil vapor extraction
PCE = tetrachloroethylene
TPH = total petroleum hydrocarbons
VOC = volatile organic compounds

Table 4-1 - Evaluation of Cleanup Alternatives for Threshold Criteria

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Cleanup Alternatives	Protection of Human Health and the Environment	Compliance with Cleanup Standards and Applicable Laws	Provision for Compliance Monitoring	Conclusions
Alternative 3 Soil Vapor Extraction for Former Paint Booth	In adddition to Alternative 2 components, SVE is performed for about 2 years to remove accessible soil contamination from beneath the grocery store cooler. SVE is anticipated to remove volatile contamination that has diffused into the gravel bedding beneath the building, but to have a limited radius of influence in the underlying glacial till, which becomes increasely consolidated and impermeable beneath 6 to 10 feet bgs. SVE does not reduce site risk to inaccessible soil contamination. The indoor air pathway is currently well below indoor air CULs, and sub-slab PCE concentrations would be anticipated to partially rebound following completion of SVE.	Although SVE reduces the total mass of VOCs beneath the grocery store cooler, residual VOCs would remain trapped in inaccessible glacial till. Additionally, SVE has limited ability to remove oil-range TPH from soil. Residual contamination would likely exceed Method A CULs under the grocery store cooler. No additional action would be performed for suspected contamination about 15 feet bgs near the former south gas station.	No provision is made for compliance monitoring. The groundwater and indoor air pathways are below the applicable CULs.	Retained
Alternative 4 Permanent Cleanup	Excavation is performed to permanently remove residual contamination beneath the foundation of the building and from about 15 feet bgs beneath a storage building and adjacent to the building and city streets. This eliminates the direct-contact exposure pathway at the Site.	Residual contamination is removed from the direct contact pathway, but potential contamination remains beneath 15 feet bgs. COPCs have not been detected above applicable screening levels in groundwater.	No provision is made for compliance monitoring.	Retained

Notes:
bgs = below ground surface
COC = chemical of concern
COPC = chemical of potential concern
CUL = cleanup level
SVE = soil vapor extraction
PCE = tetrachloroethylene
TPH = total petroleum hydrocarbons
VOC = volatile organic compounds

Table 4-2 - Evaluation of Cleanup Alternatives for Permanence Criteria and Disproportionate Cost Analysis

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Perrmance Criteria (Weighting Factor)	**Alternative 1** No Additional Action	**Alternative 2** Institutional Controls	**Alternative 3** Soil Vapor Extraction for Former Paint Booth	**Alternative 4** Permanent Cleanup
Protectiveness (30%)	(5) Residual soil contamination is capped beneath building foundation and parking lot. Residual soil contamination at south end of property is suspected near the bottom of the direct-contact exposure pathway. The groundwater exposure pathway is incomplete. PCE was detected within the most susceptible room (grocery store cooler) more than an order-of-magnitude beneath air CUL. Access is limited to adult employees and the cooler is not designed or intented for extended occupancy. Decommissioning of MW-11 in the grocery cooler furthur reduces sub-slab vapor intrusion pathway risk.	(5) Has same protectiveness as Alternative 1 for the current Site use. Environmental covenant records residual contamination and requires notification of planned disturbances of existing cap and property use, which allows protection for any unforeseen future Site conditions.	(5) Reduces soil contamination beneath existing capped surface; therefore, does not provide any additional protectiveness under the current Site use. Although it reduces sub-slab vapor concentrations, PCE was more than an order-of-magnitude beneath indoor air CULs.	(5) Removes inaccessible soil for direct-contact exposure pathway. Does not reduce direct-contact risk under the current Site use. Subjects the building and adjacent streets to potential structural damage.
Permanence (20%)	(4) Provides protection under the current Site use and conditions.	(5) Provides protection under the current Site use and conditions. Environmental covenant maintains existing cover as cap and has notification provisions to allow future mitigation for changed conditions or Site use.	(5) Reduces the concentrations of VOCs in soil beneath the former paint booth. Residual contamination would remain in glacial till and inaccessible soil near the bottom of the direct contact exposure pathway near the former south gas station.	(5) Permanently removes residual soil contamination from the direct-contact exposure pathway.
Long-Term Effectiveness (20%)	(4) The residual soil contamination is subject to natural bioattenuation processes. The soil samples with CUL exceedances were sampled in 1994.	(4) The residual soil contamination is subject to natural bioattenuation processes. The soil samples with CUL exceedances were sampled in 1994.	(5) SVE removes accessible VOCs from the soil and reduces the total mass of residual contamination.	(5) Permanently removes residual soil contamination from the direct-contact exposure pathway.
Short-Term Risk Management (10%)	(5) The short-term risk is currently managed by the existing building and parking lot.	(5) The short-term risk is currently managed by the existing building and parking lot.	(4) Construction of SVE collection system creates a short-term exposure risk.	(3) Excavation actions create a short-term exposure risk.

Table 4-2 - Evaluation of Cleanup Alternatives for Permanence Criteria and Disproportionate Cost Analysis

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Perrmance Criteria (Weighting Factor)	**Alternative 1** No Additional Action	**Alternative 2** Institutional Controls	**Alternative 3** Soil Vapor Extraction for Former Paint Booth	**Alternative 4** Permanent Cleanup
Implementability (10%)	(5) MW-11 would be decommissioned from within the grocery store, and may need to be performed when the store is closed for business.	(5) MW-11 would be decommissioned from within the grocery store, and may need to be performed when the store is closed for business.	(3) Requires closure of the grocery store for at least a week during construction. SVE system would be installed within workspace of CARSTAR Auto Body for about 2 years.	(1) Excavation within the building requires closure of the grocery store for about 2 weeks. Depth of excavation would be limited by equipment access in the building. Excavation of deeper contamination at the former south gas station would be limited by the building, street, and utilities. Excavation would be performed using sheet pile shoring installed as close to the building and street as possible, and performed to the maximum extent practicable using backhoe.
Public Concerns (10%)	(5) There are no public concerns regarding risks for the current Site use.	(5) There are no public concerns regarding risks for the current site use.	(3) There are no public concerns regarding risks for the current site use. The SVE construction and operation would adversely impact existing businesses.	(2) Construction activities would have major adverse impacts to exisitng businesses.
Environmental Benefit[(2)]	4.6	4.8	4.5	4.1
Present Value Cost[(3)]	$25,000	$40,000	$578,000	$912,000

Notes:

1) A numeric scale of 1 to 5 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;

2 - meets criterion to a low degree;

3 - meets criterion to a moderate degree;

4 - meets criterion to a high degree; and

5 - meets criterion to a very high degree.

2) The environmental benefit is calculated as the sum of the products of the weighting factor and numerical ranking for each criterion.

3) Present value costs are based on 2014 dollars and are calculated using a discount factor of 1.1 percent, and estimates are rounded to the nearest $1,000. Itemized estimates are provided in Tables 3-2 to 3.5.

CUL = cleanup level

PCE = tetrachloroethylene

VOC = volatile organic compound

Table 4-3 - Evaluation of Cleanup Alternatives for Reasonable Restoration Time Frame

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Reasonable Restoration Time Frame Criteria	**Alternative 1** No Additional Action	**Alternative 2** Institutional Controls	**Alternative 3** Soil Vapor Extraction for Former Paint Booth	**Alternative 4** Permanent Cleanup
Potential Risk	The are no Site risks under the current use scenario.	The are no Site risks under the current use scenario. Provides notification provisions for changes to the existing cover or Site use.	Reduces the total mass of VOCs in soil beneath the current grocery store cooler.	Removal of inaccessible residual soil contamination creates more risk than leaving the contamination in place.
Practicality of Achieving Shorter Time Frame	No remediation would be performed.	No remediation would be performed.	SVE could be implemented within 6 months, with adverse impacts to existing businesses. SVE would quickly remove accumulated VOCs from the higher permeability gravel bedding, but would have limited effectiveness for remediation of the underlying glacial till.	Excavation could be performed within 6 months, but would have major adverse impacts to existing businesses.
Impact to Current Use	None.	None.	Requires closure of the grocery store for about a week during construction, and would be nuisance for CARSTAR Auto Body for about 2 years.	Would require closure of the grocery store for about 2 weeks. Would have major adverse impacts to CARSTAR Auto Body.
Impact to Future Use	Remaining environmental uncertainty impacts transactions and business decisions.	Environmental covenant and anticipated No Further Action letter provide resolution of environmental risks for business decisions.	Environmental covenant and anticipated No Further Action letter provide resolution of environmental risks for business decisions.	Permanently removes environmental burden from the property.
Availability of Alternate Water Supplies	No impact. Properties connected to public water supply.	No impact. Properties connected to public water supply.	No impact. Properties connected to public water supply.	No impact. Properties connected to public water supply.
Likely Effectiveness and Reliability of Institutional Controls	Not applicable.	Maintains existing controls and requires notification to Ecology for changed conditions.	Maintains existing controls and requires notification to Ecology for changed conditions.	Not applicable.

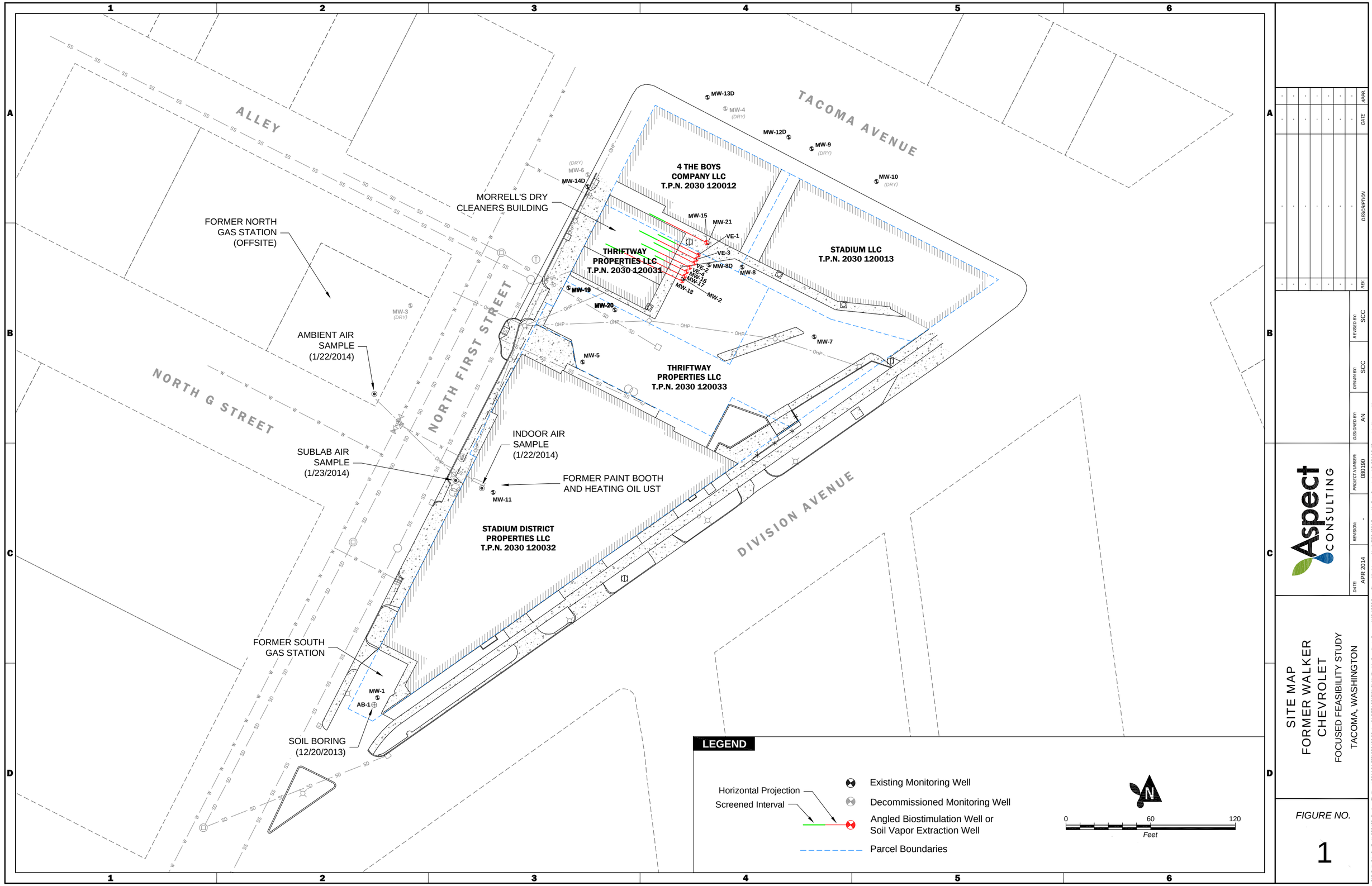
Table 4-3 - Evaluation of Cleanup Alternatives for Reasonable Restoration Time Frame

Project #080190 - Former Walker Chevrolet Site
Tacoma, Washington

Reasonable Restoration Time Frame Criteria	**Alternative 1** No Additional Action	**Alternative 2** Institutional Controls	**Alternative 3** Soil Vapor Extraction for Former Paint Booth	**Alternative 4** Permanent Cleanup
Ability to Control and Monitor Contaminant Migration	Not applicable.	Not applicable.	Not applicable.	Not applicable.
Toxicity of Contamination	Existing building and parking surface prevent exposure to soil contamination.	Existing building and parking surface prevent exposure to soil contamination.	Existing building and parking surface prevent exposure to soil contamination. SVE reduces the total mass of VOCs from beneath the capped surfaces.	Removes residual contamination from the soil to the maximum extent possible.
Potential for Contaminant Degradation Over Time	The hydrocarbon and chlorinated solvent exceedances in soil were sampled in 1994 at the former paint booth and in 1994 and 2006 at the former south gas station. These compounds can naturally bioattenuate in soil beneath the building and parking lot.	The hydrocarbon and chlorinated solvent exceedances in soil were sampled in 1994 at the former paint booth and in 1994 and 2006 at the former south gas station. These compounds can naturally bioattenuate in soil beneath the building and parking lot.	The hydrocarbon and chlorinated solvent exceedances in soil were sampled in 1994 at the former paint booth and in 1994 and 2006 at the former south gas station. These compounds can naturally bioattenuate in soil beneath the building and parking lot.	Not applicable.
Conclusions	There are no exposure risks under the current Site use. Soil contamination is inaccessible, no COPCs have been detected above the CULs in groundwater, and the concentration of PCE was more than an order-of-magnitude below the air CUL inside the grocery store cooler. Decommissioning the monitoring well inside the grocery store cooler reduces the soil vapor intrusion exposure risk.	Recording an environmental covenant would document existing contamination and require maintenance of the existing building and parking surfaces as a cap. Environmental covenant includes notification requirements for planned disturbances of the cap or changes of Site use, which would allow the residual soil contamination to addressed appropriately.	SVE reduces, but does not eliminate, soil contamination beneath the grocery store cooler. The construction the SVE system would adversely impact the grocery store and require closure for about a week. The operation of the SVE system would require accommodation from the adjacent CARSTAR Auto Body business for about 2 years. SVE has limited effectiveness, likely leaves contamination above the soil CULs, and does not decrease the current Site risk. SVE is disproportionately costly.	Excavation of residual sources of contamination is highly disruptive for current Site use, technically impracticable, disproportionately costly, and does not reduce the existing Site risk.

Notes:
CUL = cleanup level
COPC = chemical of potential concern
PCE = tetrachloroethylene
SVE = soil vapor extraction
VOC = volatile organic compound

FIGURES



APPR.	DATE	DESCRIPTION	REV.

REVISED BY: SCC
DRAWN BY: SCC
DESIGNED BY: AN

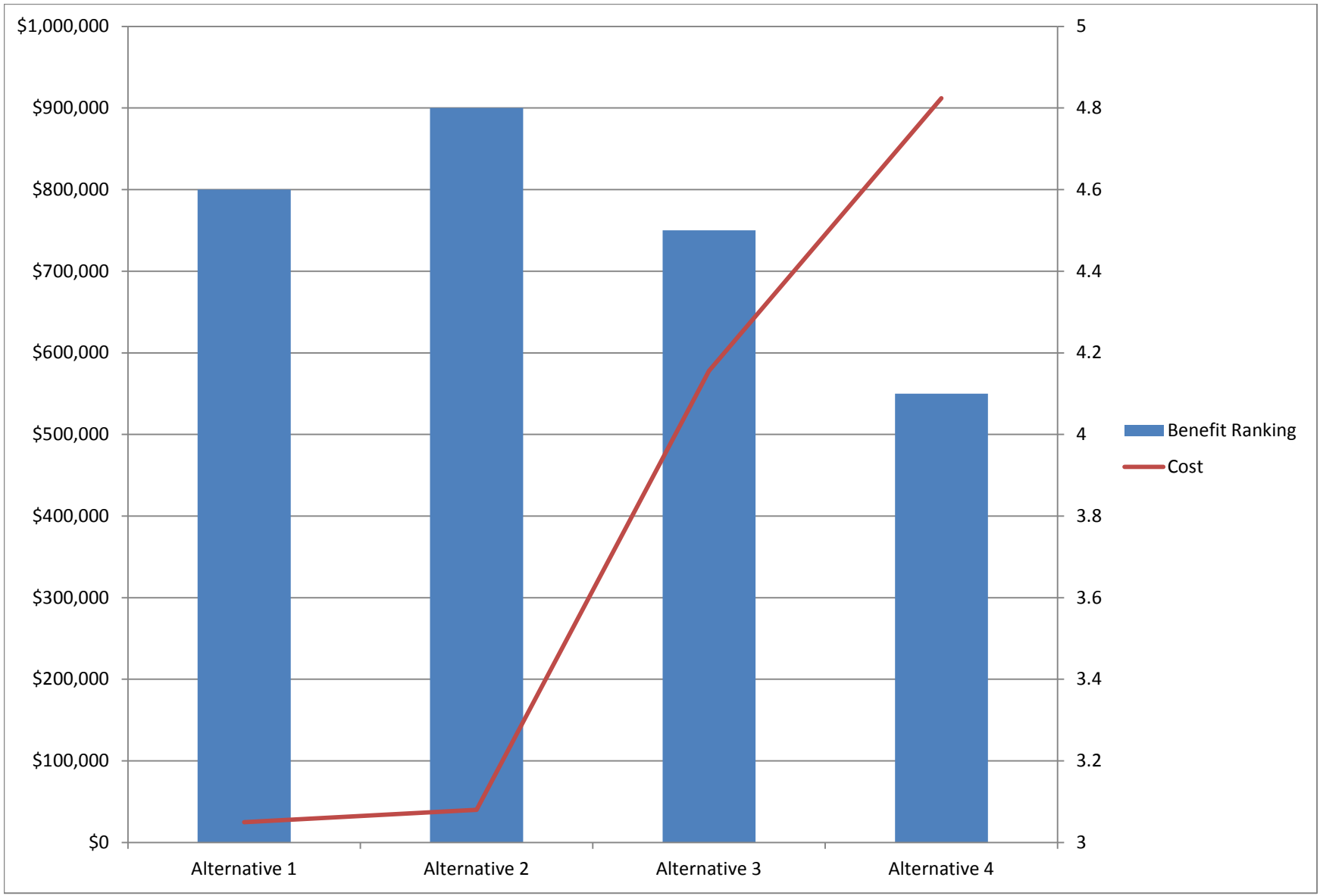
Aspect CONSULTING

PROJECT NUMBER: 080190
REVISION: -
DATE: APR 2014

SITE MAP
FORMER WALKER CHEVROLET
FOCUSED FEASIBILITY STUDY
TACOMA, WASHINGTON

FIGURE NO.
1

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2014-04 FFS\080190-02.dwg 01-SITE LOCATION PLAN (2) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Apr 16, 2014 2:43pm || User: soudd



Aspect Consulting
5/16/2014
V:\080190 Stadium Thriftway LLC\Deliverables\FFS\FFS Walker\Final 5-16-14\Tables\Former Walker Chevrolet FFS cost and evaluation tables.xlsx

Figure 2
Disproportionate Cost Evaluation
Focused Feasibility Study

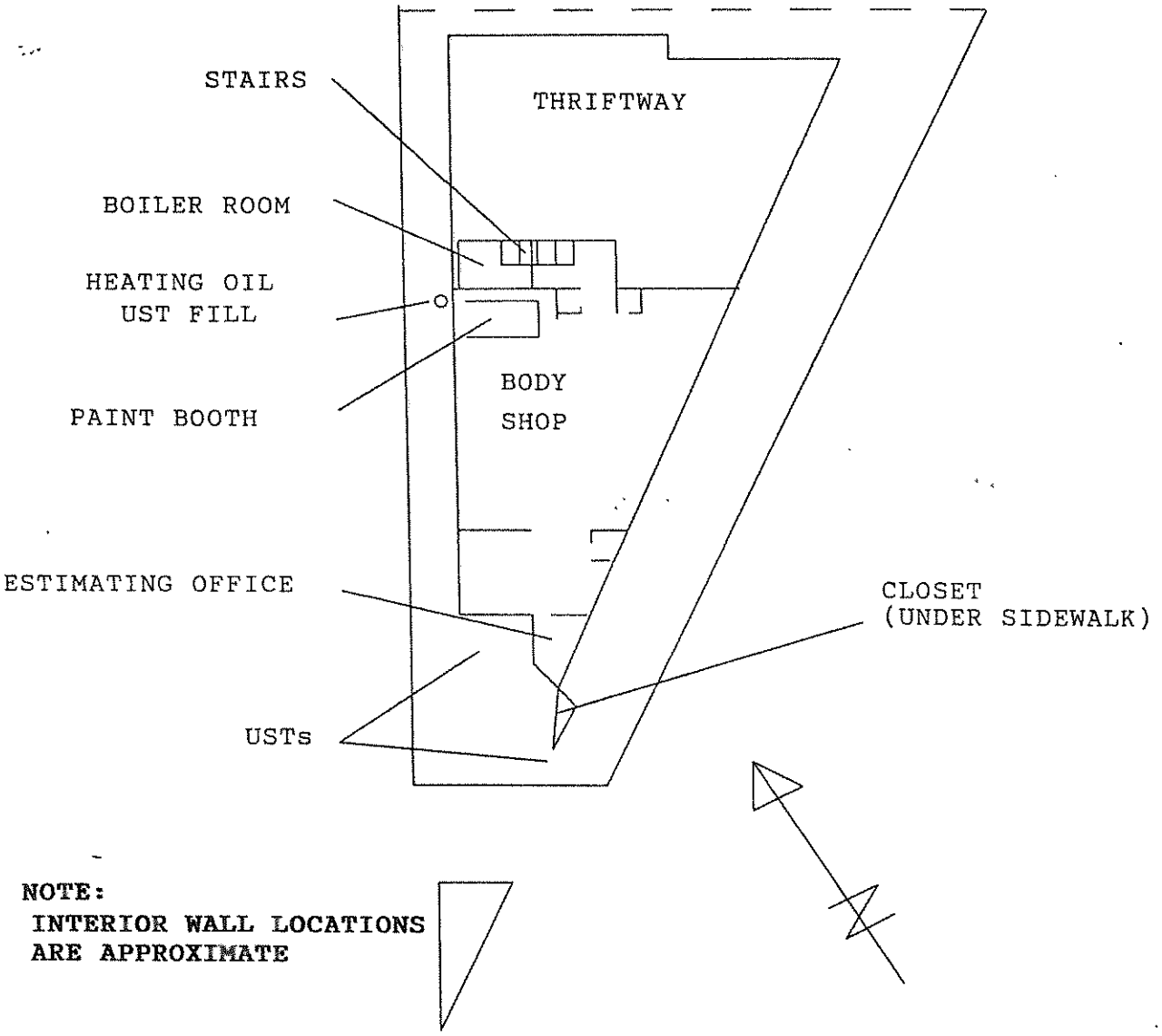
APPENDIX A

Summarized Figures and Data Tables from 1994 Remedial Action Reports and Due Diligence Sampling from 2006 to 2008

South Gas Station -
Figures and Data Tables

UST Removal Site Assessment
and Independent Remedial Action
Report for Walker Chevrolet
633 Division Avenue, Tacoma, WA 98403

Prepared by Bison Environmental Northwest, Inc.
August 1994

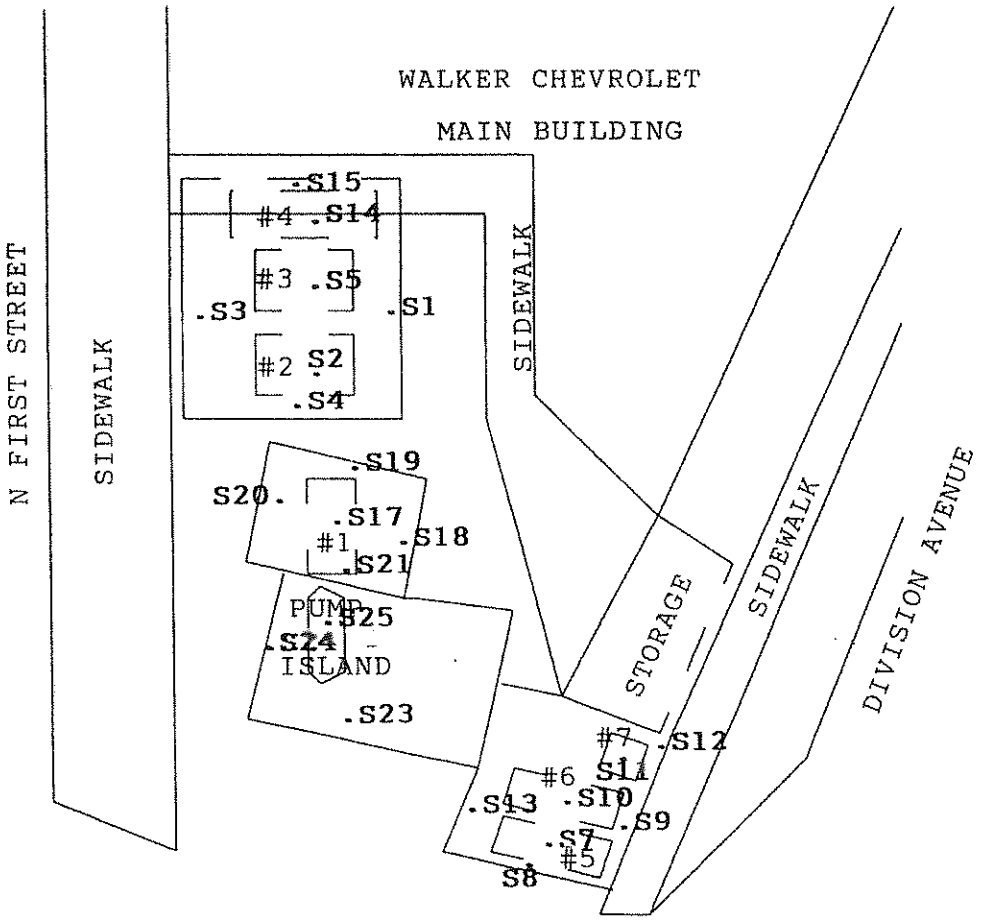


NOTE:
INTERIOR WALL LOCATIONS ARE APPROXIMATE

SCALE

0 50' 100'

SITE PLAN - LOWER FLOOR MAIN BUILDING
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481 AUGUST 1994



SCALE

0 10'

KEY

#2 Tank Number
.S3 Sample Location

SITE PLAN
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481 AUGUST 1994

SAMPLE LOG
WALKER CHEVROLET
PROJECT # 94481

Sample Number	Location	HCID	OTHER ANALYSIS		CLEANUP LEVEL (ppm)
S1	E wall tank 2-4 exc, 5'	ND	-		-
S2	Bottom tank 2, 10'	-	Gasoline	ND	-
			BTEX	ND	-
			Lead	ND	-
S3	W wall tank 2-4 exc, 7'	ND	-		-
S4	S wall tank 2-4 exc, 7'	ND	-		-
S5	Bottom tank 3, 10'	-	Gasoline	39 ppm	100
			B	ND	0.5
			T	ND	40
			E	0.33 ppm	20
			X	3.30 ppm	20
			Lead	6 ppm	250
S6	Tanks 5-7, surface	ND	-		-
S7	Bottom tank 5, 9'	ND	-		-
S8	S wall tank 5-7 exc, 7'	ND	-		-
S9	E wall tank 5-7 exc, 7'	ND	-		-
S10	Bottom tank 6, 8'	ND	-		-
S11	Bottom tank 7, 8'	ND	-		-
S12	E wall tank 5-7 exc, 7'	ND	-		-
S13	W wall tank 5-7 exc, 5'	ND	-		-
S14	Bottom tank 4, 10'	-	Gasoline	ND	-
			BTEX	ND	-
S15	N wall tank 2-4 exc, 8'	ND	-		-
S17	Bottom tank 1 exc, 8'	ND	-		-
S18	E wall tank 1 exc, 6'	ND	-		-
S19	N wall tank 1 exc, 7'	ND	-		-
S20	W wall tank 1 exc, 6'	ND	-		-
S21	S wall tank 1 exc, 7'	ND	-		-
S22	Pump I exc, 2' (removed)	-	Gasoline	570 ppm	100
			B	1.42 ppm	0.5
			T	7.81 ppm	40
			E	11.11 ppm	20
			X	84.20 ppm	20

SAMPLE LOG (continued)
WALKER CHEVROLET
PROJECT # 94481

Sample Number	Location	HCID	OTHER ANALYSIS			CLEANUP LEVEL (ppm)
S23	S wall pump I exc, 3'	ND	-			-
S24	W wall pump I exc, 3'	ND	-			-
S25	Bottom pump I exc, 5'	ND	-			-
O1	Tank 2 overburden	ND	-			-
O2	Tank 3 overburden	ND	-			-
O3	Tank 1 overburden	ND	-			-
O4	Tank 5-8 overburden	ND	-			-
O5	Tank 5-8 overburden	ND	-			-
O6	Tank 1 overburden	HO	Oils	1,900	ppm	200
			PCBs	ND		-
			VOCs	ND		-
		{metals}	Ba	88.4	ppm	5,600*
			Cd	0.4	ppm	2
			Cr	21.1	ppm	100
			Pb	34	ppm	250
			As,Hg,Se,&Ag	ND		-

NOTES TO SAMPLE LOG

1) ppm denotes parts per million
2) B, T, E, and X denote benzene, toluene, ethylbenzene, and xylenes, respectively
3) VOCs denote volatile organic compounds
4) ND denotes none detected. Refer to laboratory reports for detection limits.
5) HCID - analysis for petroleum hydrocarbons by WTPH-HCID method. Refer to laboratory reports for other methods used during this project.
6) Unless indicated by asterix, cleanup levels are "Method A" values as specified in the Model Toxics Control Act (MTCA), WAC 173-340. Asterix indicates MTCA Method B value.

South Gas Station - Figures and Data Tables

Due Diligence Sampling for Walker Chevrolet, 633 Division Avenue, Tacoma, WA 98403

Provided by Stemen Environmental, Inc.
August 2006


DSS-1
WSPL
SPALS1
ESPL
NPL-3
NPL-1
NPL-5
NPL-6
NPL-4
NPL-2
SE TRENCH
S-5
S-7
S-4
S-6
S-1
S-2
S-3
PBRS
PB-5
PB-4
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
SECPB
PBLS
IB-2
ALS-1
IB4
T-1
B-1
DC1
F-12
F-20
R-12
R-18
NORTH
Soil Samples
SCALE
1 INCH = 50 FEET

SOIL SEMI-VOLATILE ORGANIC COMPOUNDS BY METHOD 8270

SAMPLE-NUMBER	S-1-15	SOIL REPORTING
SAMPLE DATE	8/31/06	LIMITS
DEPTHS	15	
	mg/kg	mg/kg
ACENAPHTHENE	ND	0.1
ACENAPHTHYLENE	ND	0.1
ANTHRACENE	ND	0.1
BENZO(a)ANTHRACENE	ND	0.1
BENZO(a)PYRENE	ND	0.1
BENZO(ghi)PERYLENE	ND	0.1
BENZO(k)FLUORANTHENE	ND	0.1
CHRYSENE	ND	0.1
DIBENZO(a,h)ANTHRACENE	ND	0.1
FLUORENE	ND	0.1
FLUORANTHENE	ND	0.1
INDENO(1,2,3-cd PYRENE	ND	0.1
ANPHTHALENE	ND	0.1
1-METHYLNAPTHALENE	ND	0.1
2-METHYLNAPTHALENE	ND	0.1
PHENANTHRENE	ND	0.1
PYRENE	ND	0.1

SOIL PCB ANALYSES EPA METHOD 8082

SAMPLE-NUMBER	S-1-15	
SAMPLE DATE	8/31/06	
DEPTHS	15'	
		MDL
PCB-1016	ND	0.2
PCB-1221	ND	0.2
PCB-1232	ND	0.1
PCB-1242	ND	0.1
PCB-1248	ND	0.1
PCB-1254	ND	0.1
PCB-1260	ND	0.1

ANALYSES OF SOIL FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260 CHLORINATED

SAMPLE-NUMBER		PB-3-8	S-1-15	PB2-4	DC1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL REPORTING LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
DICHLORODIFLUOROMETHANE	0.05	ND	ND	ND	ND
CHLOROMETHANE	0.05	ND	ND	ND	ND
VINYL CHLORIDE	0.01	ND	ND	ND	ND
BROMOMETHANE	0.05	ND	ND	ND	ND
CHLOROETHANE	0.05	ND	ND	ND	ND
TRICHLOROFLUOROMETHANE	0.05	ND	ND	ND	ND
ACETONE	0.5	ND	ND	ND	ND
METHYLENE CHLORIDE	0.5	ND	ND	ND	ND
METHYL-T-BUTY ETHER (MTBE)	0.05	ND	ND	ND	ND
TRANS 1,1 DICHLOROETHENE	0.05	ND	ND	ND	ND
1,1 DICHLOROETHENE	0.5	ND	ND	ND	ND
TRANS-1,2-DICHLOROETHENE	0.05	ND	ND	ND	ND
1,1 DICHLOROETHANE	0.05	ND	ND	ND	ND
CIS-1,2 DICHLOROETHENE	0.05	ND	ND	ND	ND
2,2-DICHLOROPROPANE	0.05	ND	ND	ND	ND
CHLOROFORM	0.05	ND	ND	ND	ND
BROMOCHLOROMETHANE	0.05	ND	ND	ND	ND
1,1,1- TRICHLOROETHANE	0.05	ND	ND	ND	ND
1,2 DICHLOROETHANE	0.05	ND	ND	ND	ND
1,1-DICHLOROPROPENE	0.05	ND	ND	ND	ND
CARBON TETRACHLORIDE	0.05	ND	ND	ND	ND
BENZENE	0.02	ND	ND	ND	ND
TRICHLOROETHENE (TCE)	0.02	ND	ND	ND	ND
1,2-DICHLOROPROPANE	0.05	ND	ND	ND	ND
DIBROMOMETHANE	0.05	ND	ND	ND	ND
BROMODICHLOROMETHANE	0.05	ND	ND	ND	ND
4-METHYL-2-PENANONE	0.05	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE	0.05	ND	ND	ND	ND
TOULENE	0.05	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE	0.05	ND	ND	ND	ND
1,1,2,-TRICHLOROETHANE	0.05	ND	ND	ND	ND
2-HEXANONE	0.05	ND	ND	ND	ND
1,3-DICHLOROPROPANE	0.05	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	0.05	ND	ND	ND	ND
TETRACHLOROETHENE (PCE)	0.02	0.16	ND	0.16	ND
1,2-DIBROMOETHANE (EDB)(*)	0.01	ND	ND	ND	ND
CHLOROBENZENE	0.05	ND	ND	ND	ND
1,1,1,2-TETRACHLOROETHANE	0.05	ND	ND	ND	ND
ETHYLBENZENE	0.05	ND	ND	ND	ND
XYLENES	0.05	0.13	5.7	0.12	0.16

ANALYSES OF SOIL FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260 CHLORINATED

SAMPLE-NUMBER		PB-3-8	S-1-15	PB2-4	DC1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL REPORTING LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
STYRENE	0.05	ND	ND	ND	ND
BROMOFORM	0.05	ND	ND	ND	ND
1,1,2,2-TETRACHLOROETHANE	0.05	ND	ND	ND	ND
ISOPROPYLBENZENE	0.05	ND	5	ND	ND
1,2,3-TRICHCHLOROPROPANE	0.05	ND	ND	ND	ND
BROMOBENZENE	0.05	ND	ND	ND	ND
n-PROPYLBENZENE	0.05	ND	14	ND	ND
2-CHLOROTOLUENE	0.05	ND	ND	ND	ND
4-CHLORODOLUENE	0.05	ND	ND	ND	ND
1,3,5-TRIMETHYLBENZENE	0.05	ND	37	ND	ND
TERT-BUTYLBENZENE	0.05	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	0.05	ND	71	ND	ND
SEC-BUTYLBENZENE	0.05	ND	ND	ND	ND
1,3-DICHLOROBENZENE	0.05	ND	ND	ND	ND
1,4-DICHLOROBENZENE	0.05	ND	ND	ND	ND
ISOPROPYLTOLUENE	0.05	ND	2.3	ND	ND
1,2-DICHLOROBENZENE	0.05	ND	ND	ND	ND
n-BUTYLBENZENE	0.05	ND	6.2	ND	ND
1,2-DIBROMO-3-CHLOROPROPANE	0.05	ND	ND	ND	ND
1,2,4-TRICHLOROBENZENE	0.05	ND	ND	ND	ND
NAPHTHALENE	0.05	ND	ND	ND	ND
HEXACHLORO-1,3-BUTADIENE	0.05	ND	ND	ND	ND
1,2,3-TRICHLOROBENZENE	0.05	ND	ND	ND	ND

TITUS/THRIFTWAY

ANALYSES OF SOIL FOR TOTAL PETROLEUM HYDROCARBONS EPA METHOD NWTPH-Dx/Dx EXTENDED

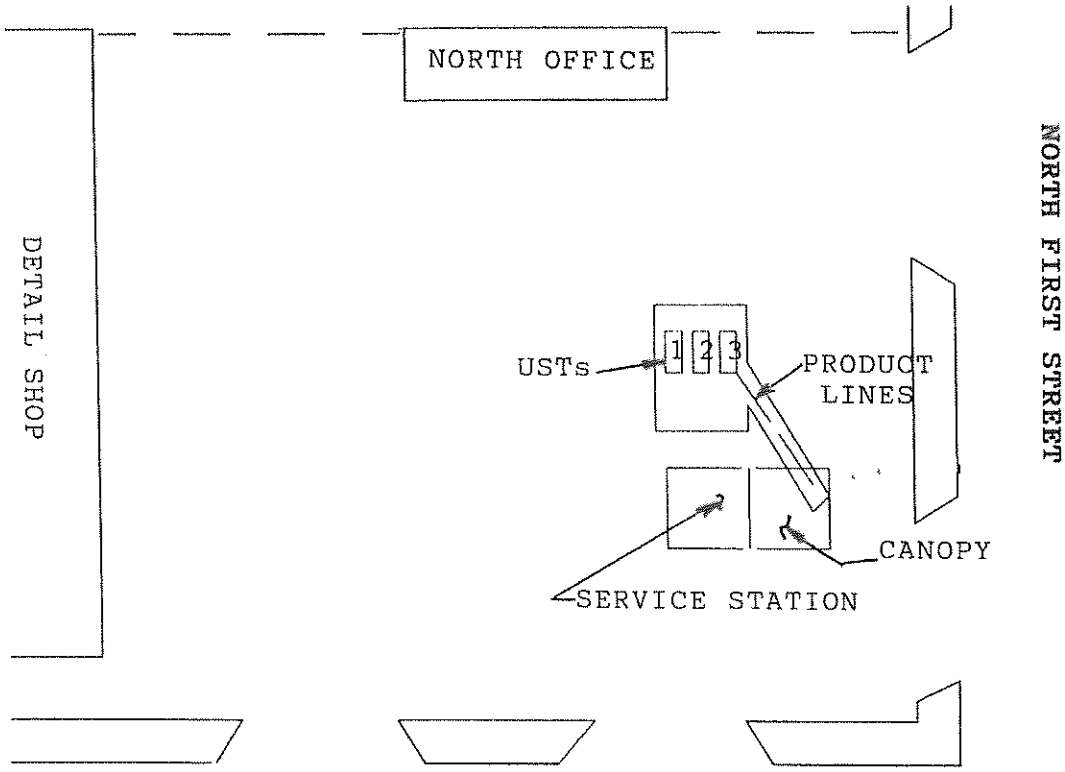
SAMPLE NUMBER	SAMPLE DATE	DEPTH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	GASOLINE	DIESEL	OIL	MINERAL OIL
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-1-15	8/31/06	15'	6.1	4.1	6	12	920	ND	ND	ND
S-2-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-7-15	8/31/06	16'					360	ND	ND	ND
S-3-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-4-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-5-15	8/31/06	13'	ND	ND	ND	ND	ND	ND	ND	ND
S-6-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
PB-3-8	8/31/06	8'	*	*	*	*	30	ND	ND	ND
NPL-6-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
ESPL-24	8/31/06	24	ND	ND	ND	ND	ND	ND	ND	ND
WSPL-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-1-21	8/31/06	21'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-2-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-3-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-4-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-5-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
IB2-6	8/31/06	6'	ND	ND	ND	ND	ND	ND	94	ND
SECPB-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
S PALS-1	9/18/06	23.5'	*	*	*	*	ND	ND	ND	ND
DC PLAS-2	9/18/06	18.5-20'	*	*	*	*	ND	ND	ND	ND
IB4	10/20/06	60"	*	*	*	*	ND	ND	ND	ND
PBWE	10/20/06	24"	*	*	*	*	ND	ND	87	ND
PBLS-24	10/20/06	24"	*	*	*	*	ND	ND	ND	ND
PBLS-36	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
ALS-1	10/20/06	32"	*	*	*	*	ND	ND	220	ND
DSS-1	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
PBRS	10/20/06	30"	*	*	*	*	ND	ND	ND	ND
MDL			0.02	0.05	0.05	0.05	10	30	40	40

* = Not analyzed

North Gas Station -
Figures and Data Tables

UST Removal Site Assessment and Independent Remedial Action Report for Walker Chevrolet
633 Division Avenue, Tacoma, WA 98403

Prepared by Bison Environmental Northwest, Inc.
August 1994

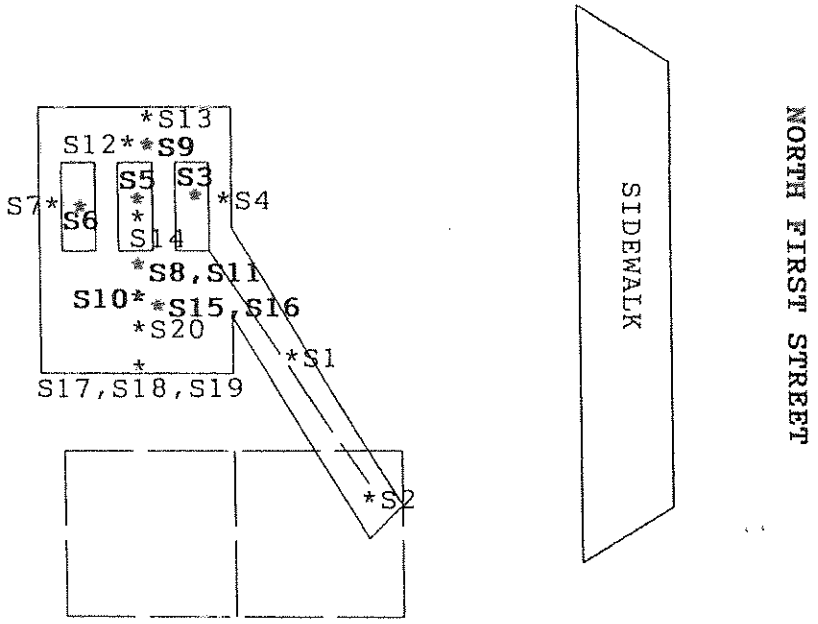


SCALE

0 20'

NOTE: Service Station and Canopy locations are approximate, and based on review of Sanborn Fire Insurance Maps, date 1945

SITE PLAN - WALKER CHEVROLET NORTH PARKING LOT
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481-3 SEPT 1994



SCALE

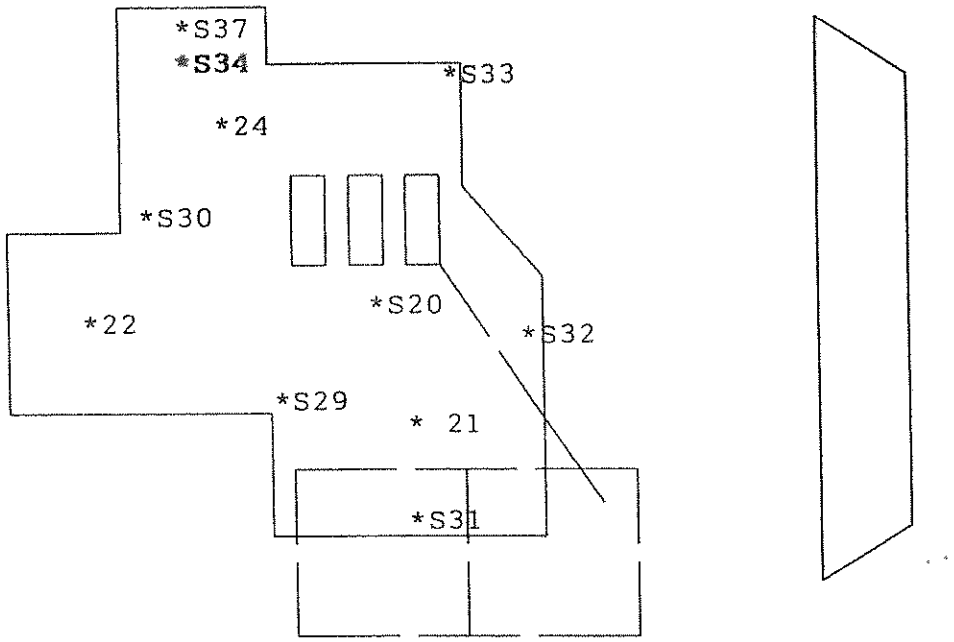
0 10' 20'

KEY

***S3** Sample Location- Contaminated Soil (removed)

*S18 Sample Location- "Clean" Soil

SITE PLAN - NORTH LOT on 9/2/94
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481-3 SEPT 1994



SCALE

0 10' 20'

KEY

***S34** Sample Location- Contaminated Soil (removed)

*S21 Sample Location- "Clean" Soil

SITE PLAN - NORTH LOT on 9/12/94
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481-3 SEPT 1994

SAMPLE LOG
WALKER CHEVROLET - NORTH PARKING LOT
PROJECT # 94481-3

Sample Number	Location	HCID RESULTS	OTHER ANALYSES TYPE	RESULTS		CLEANUP LEVEL (ppm)
S1	Beneath Prod Lines, 3'	ND	-			-
S2	Prob. Pump Isl Loc, 3'	ND	-			-
S3	Bottom tank 1, 5' (8/26)	G,HO	Gasoline	ND		100
			B	ND		0.5
			T	ND		40
			E	ND		20
			X	ND		20
			Lead	30	ppm	250
			Oils	540	ppm	200
S4	E wall, 4'	ND	-			-
S5	Bottom tank 2, 5' (8/26)	HO	Oils	140	ppm	200
S6	Bottom tank 3, 5' (8/26)	G,HO	Gasoline	298	ppm	100
			B	ND		0.5
			T	ND		40
			E	0.52	ppm	20
			X	7.78	ppm	20
			Lead	18	ppm	250
			Oils	18000	ppm	200
S7	W wall, 4'	ND	-			-
S8	S wall, 4' (8/26)	G,HO	Oils	21000	ppm	200
			B	ND		
			T	0.027	ppm	40
			E	0.062	ppm	20
			X	2.5	ppm	20
			sec-Butylbenzene	0.32	ppm	NA
			Isopropylbenzene	0.17	ppm	NA
			p-Isopropyltoluene	0.43	ppm	NA
			Naphthalene	4.4	ppm	320
			n-Propylbenzene	0.73	ppm	NA
			1,2,4 Trimethylbenzene	3.0	ppm	NA
			1,3,5 Trimethylbenzene	4.3	ppm	NA
			Other VOCs	ND		-
			PCBs	ND		-
		(metals)	Ba	62	ppm	5,600*
			Cr	21.6	ppm	100
			Pb	27	ppm	250
			Cd,As,Hg,Se,&Ag	ND		-
S9	N wall, 4' (8/26)	HO	Oils	100	ppm	200
O1	Overburden Composite (8/26)	G,HO	Gasoline	173	ppm	100
			B	ND		0.5
			T	ND		40
			E	0.81	ppm	20
			X	2.31	ppm	20
			Lead	28	ppm	250
			Oils	5400	ppm	200
O2	Overburden Composite (8/26)	G,HO	-			-
O3	Overburden Composite (8/26)	G,HO	-			-

SAMPLE LOG (continued)
WALKER CHEVROLET
PROJECT # 94481-3

Sample Number	Location	HCID	OTHER ANALYSIS		CLEANUP LEVEL (ppm)
S10	S wall, 4' (8/31)	HO	Oils	3400 ppm	200
S11	S Bottom, 8' (8/31)	HO	Oils	880 ppm	200
S12	N Bottom, 8' (8/31)	ND	-		-
S13	N Wall, 4' (8/31)	ND	-		-
S14	Center Bottom, 8' (8/31)	ND	-		-
S15	South Bottom, 12' (9/2)	G,HO	Oils	10000 ppm	200
S16	S Bottom, 15' (9/2)	G,HO	Oils	560 ppm	200
S17	S Wall, 12' (9/2)	ND	Oils	ND	200
S18	S Wall, 8' (9/2)	ND	Oils	ND	200
S19	S Wall, 4' (9/2)	ND	Oils	ND	200
S20	S Bottom, 17' (9/2)	ND	Oils	ND	200
21	Bottom, 16'(9/6)	ND	-		-
22	Bottom W arm, 20' (9/6)	ND	-		-
23	Composite, contam soil	G,HO	-		-
			Naphthalene	1.0 ppm	320
			Other PAHs	ND	-
24	Bottom NWC, 20' (9/7)	ND	-		-
25	Overburden Composite (9/7)	ND	-		-
26	Overburden Composite (9/7)	ND	-		-
27	Overburden Composite (9/7)	ND	-		-
28	Overburden Composite (9/7)	ND	-		-
S29	W wall, 15' (9/8)	ND	-		-
S30	W wall, 16' (9/8)	ND	-		-
S31	SE corner, 15-16' (9/8)	ND	-		-
S32	E wall, 15' (9/8)	ND	-		-
S33	NE corner, 15-16' (9/8)	ND	-		-
S34	N wall, 15-16'(9/8)	G,HO	Oils	2200 ppm	200
			Gasoline	108 ppm	100
			BTEX	ND	-
S35	Bottom NEC, 21' (9/8)	ND	-		-
S36	"Hot Spot" in overburden		Oils	210 ppm	200
			Gasoline	ND	100
			BTEX	ND	-
S37	N Wall, 16' (9/12)	ND	-		-

North Gas Station -
Figures and Data Tables

Due Diligence Sampling for
Walker Chevrolet
633 Division Avenue, Tacoma, WA 98403

Provided by Stemen Environmental, Inc.
August 2006


DSS-1
WSPL
SPALS1
ESPL
NPL-3
NPL-1
NPL-5
NPL-6
NPL-4
NPL-2
SE TRENCH
S-5
S-7
S-4
S-6
S-1
S-2
S-3
PBRS
PB-5
PB-4
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
SECPB
PBLS
IB-2
ALS-1
IB4
T-1
B-1
DC1
F-12
F-20
R-12
R-18
NORTH
Soil Samples
SCALE
1 INCH = 50 FEET

TITUS/THRIFTWAY

ANALYSES OF SOIL FOR TOTAL PETROLEUM HYDROCARBONS EPA METHOD NWTPH-Dx/Dx EXTENDED

SAMPLE NUMBER	SAMPLE DATE	DEPTH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	GASOLINE	DIESEL	OIL	MINERAL OIL
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-1-15	8/31/06	15'	6.1	4.1	6	12	920	ND	ND	ND
S-2-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-7-15	8/31/06	16'					360	ND	ND	ND
S-3-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-4-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-5-15	8/31/06	13'	ND	ND	ND	ND	ND	ND	ND	ND
S-6-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
PB-3-8	8/31/06	8'	*	*	*	*	30	ND	ND	ND
NPL-6-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
ESPL-24	8/31/06	24	ND	ND	ND	ND	ND	ND	ND	ND
WSPL-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-1-21	8/31/06	21'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-2-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-3-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-4-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-5-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
IB2-6	8/31/06	6'	ND	ND	ND	ND	ND	ND	94	ND
SECPB-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
S PALS-1	9/18/06	23.5'	*	*	*	*	ND	ND	ND	ND
DC PLAS-2	9/18/06	18.5-20'	*	*	*	*	ND	ND	ND	ND
IB4	10/20/06	60"	*	*	*	*	ND	ND	ND	ND
PBWE	10/20/06	24"	*	*	*	*	ND	ND	87	ND
PBLS-24	10/20/06	24"	*	*	*	*	ND	ND	ND	ND
PBLS-36	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
ALS-1	10/20/06	32"	*	*	*	*	ND	ND	220	ND
DSS-1	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
PBRS	10/20/06	30"	*	*	*	*	ND	ND	ND	ND
MDL			0.02	0.05	0.05	0.05	10	30	40	40

* = Not analyzed

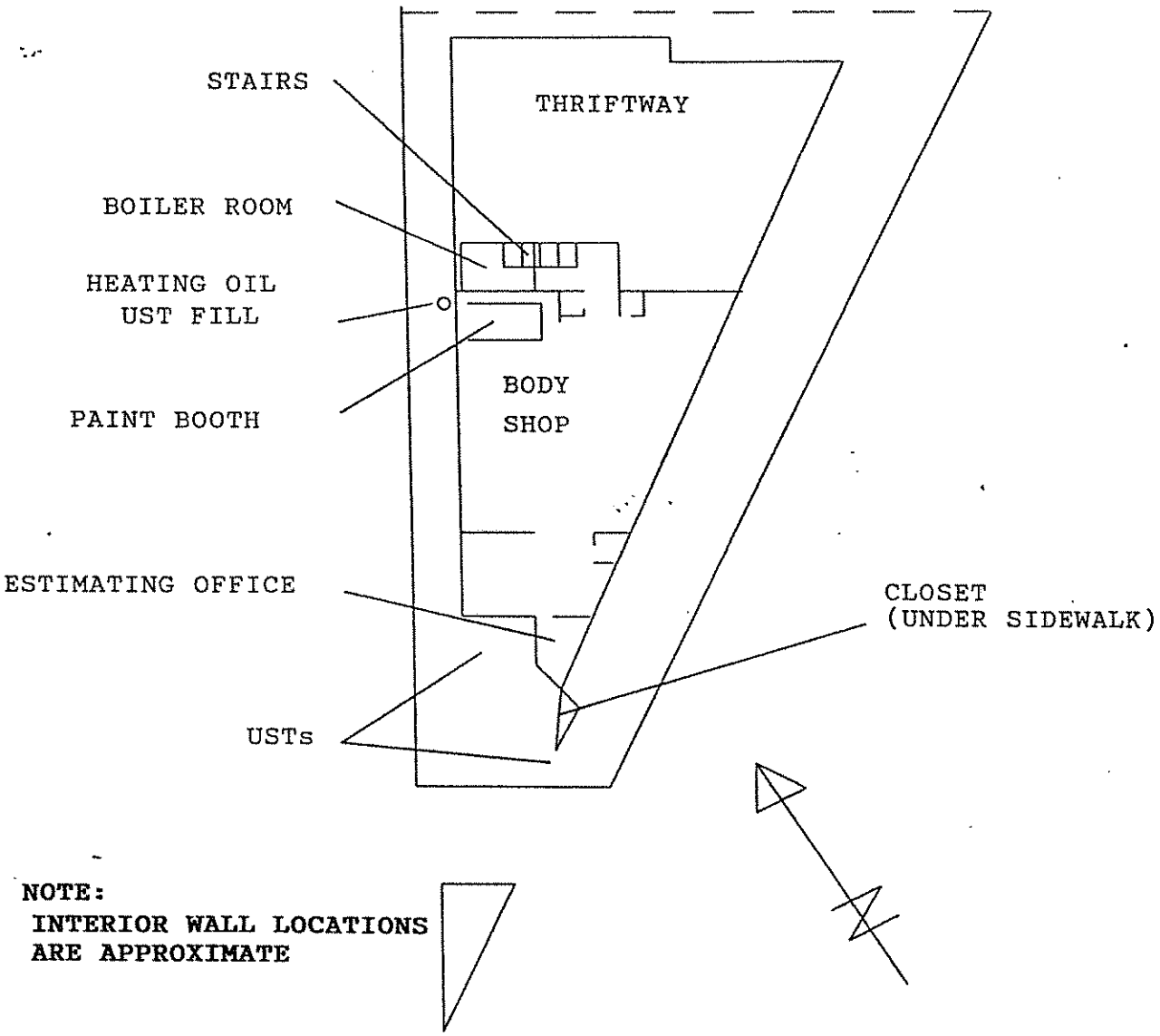
Former Paint Booth and Heating Oil UST - Figures and Data Tables

Phase 2 Studies, Floor Drain and Heating Oil UST Closure Walker Chevrolet Paint Booth 633 Division Avenue, Tacoma, WA 98403

Prepared by Bison Environmental Northwest, Inc.
August 15, 1994

Phase 2B Subsurface Sampling, Walker Chevrolet Paint Booth, 633 Division Avenue, Tacoma, WA 98403

Prepared by Bison Environmental Northwest, Inc.
September 12, 1994

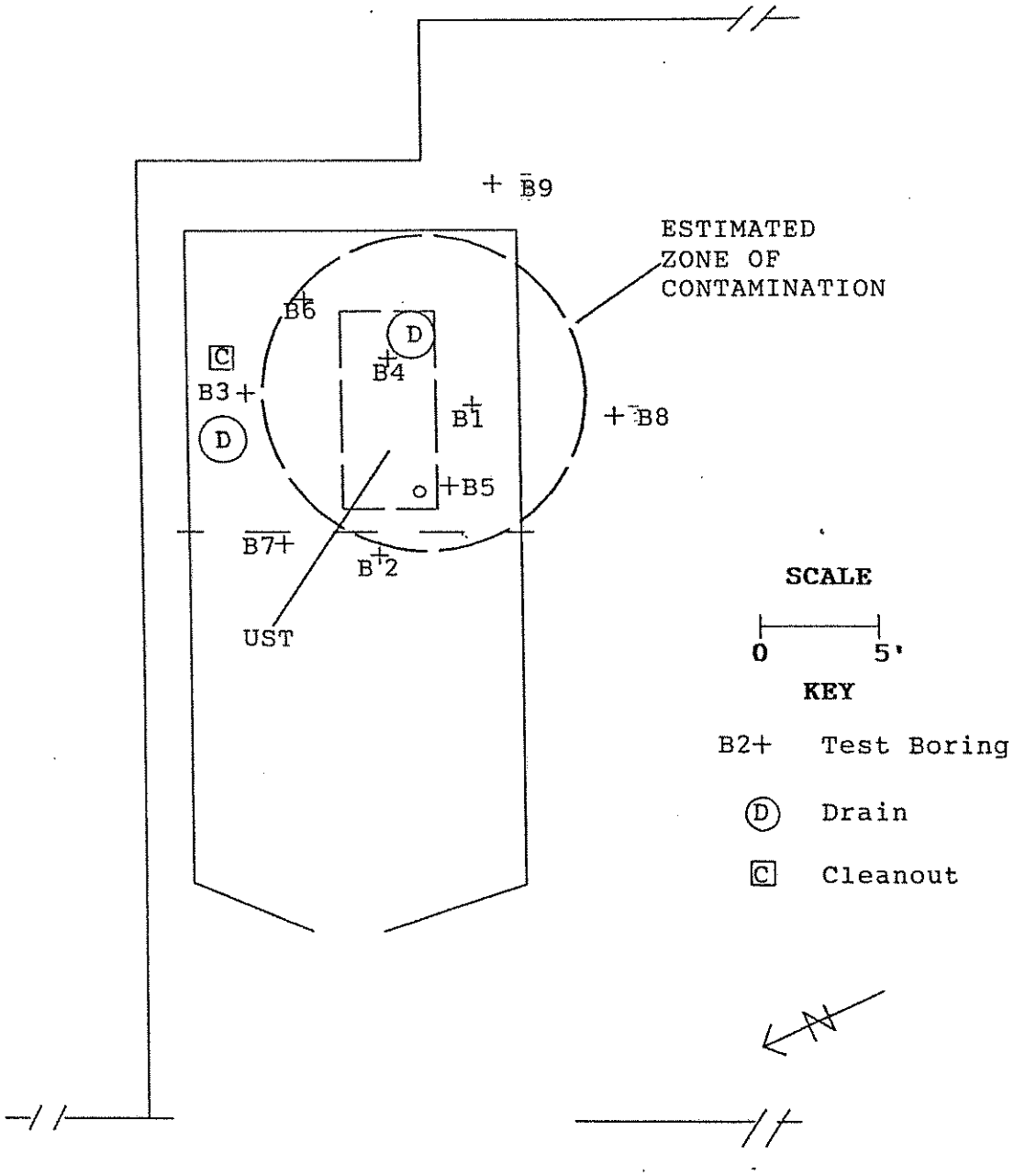


NOTE:
INTERIOR WALL LOCATIONS ARE APPROXIMATE

SCALE

0 50' 100'

SITE PLAN - LOWER FLOOR MAIN BUILDING
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481 AUGUST 1994



SITE PLAN - WALKER CHEVROLET PAINT BOOTH
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481-2 SEPTEMBER 1994

TABLE A:
LABORATORY RESULTS - PREVIOUS STUDY

Sample No./ Location	Analysis	Analyte	Results	Cleanup Level
B1-5.5'	WTPH-418.1	TPH	8,000 ppm	200 ppm
Sediment Sample D1 Inside Pipe Removed During Decommissioning	Total Metals	Barium	43.8 ppm	5,600 ppm*
		Cadmium	50.2 ppm	2 ppm
		Chromium	110 ppm	100 ppm
		Lead	2140 ppm	250 ppm
		As, Cd, SE, & Ag	ND	-
	EPA 8240	Ethylbenzene	2,200 ppb	20,000 ppb
		Isopropylbenzene	1,600 ppb	NA
		p-Isopropyltoluene	480 ppb	NA
		Tetrachloroethene	210 ppb	500 ppb
		Naphthalene	1,100 ppb	320,000 ppb*
		n-Propylbenzne	1,500 ppb	NA
		Toluene	85,000 ppb	40,000 ppb
		1,2,4 Trimethylbenzene	11,000 ppb	NA
		1,3,5 Trimethylbenzene	5,000 ppb	NA
		Total Xylenes	143,000 ppb	20,000 ppb
		Other VOCs		
B2-5.5'	WTPH-418.1	TPH	79 ppm	200 ppm
B3-2'	WTPH-418.1	TPH	96 ppm	200 ppm
	EPA 8240	Toluene	13 ppb	40,000 ppb
		Total Xylenes	5 ppb	20,000 ppb
		Other VOCs	ND	-
B4-3'	WTPH-418.1	TPH	480 ppm	200 ppm
	EPA 8240	Toluene	7 ppb	40,000 ppb
		Total Xylenes	6 ppb	20,000 ppb
		Other VOCs	ND	-

TABLE B:
LABORATORY RESULTS - TEST BORINGS

Sample No./ Location	Analysis	Analyte	Results	Cleanup Level
B5-5'	WTPH-HCID	Hydrocarbons	Gasoline - ND Diesel - ND Oil - Detected	
	WTPH-418.1	TPH	390 ppm	200 ppm
	EPA 8240	Methylene Chloride	26 ppb+	500 ppb
		Toluene	96 ppb+	40,000 ppb
		Total Xylenes	10 ppb	20,000 ppb
		Other VOCs	ND	
B5-7.5'	WTPH-418.1	TPH	2500 ppm	200 ppm
B5-9'	WTPH-418.1	TPH	4400 ppm	200 ppm
B5-10'	WTPH-HCID	Hydrocarbons	Gasoline - ND Diesel - ND Oil - Detected	
	WTPH-418.1	TPH	260 ppm	200 ppm
	EPA 8240	Benzene	24 ppb	500 ppb
		n-Butylbenzene	15 ppb	NA
		sec-Butylbenzene	22 ppb	NA
		Ethylbenzene	130 ppb	20,000 ppb
		Isopropylbenzene	50 ppb	NA
		p-Isopropyltoluene	15 ppb	NA
		Tetrachloroethene	53 ppb	500 ppb
		Methylene Chloride	28 ppb+	500 ppb
		n-Propylbenzene	80 ppb	NA
		Toluene	720 ppb+	40,000 ppb
		1,2,4 Trimethylbenzene	130 ppb	NA
		1,3,5 Trimethylbenzene	170 ppb	NA
		Total Xylenes	790 ppb	20,000 ppb
		Other VOCs	ND	
B6-5'	WTPH-HCID	Hydrocarbons	Gas - Detected Diesel - ND Oil - ND	
	WTPH-G	Gasoline	100 ppm	100 ppm
	EPA 8240	n-Butylbenzene	15 ppb	NA
		sec-Butylbenzene	22 ppb	NA
		Ethylbenzene	690 ppb	20,000 ppb
		p-Isopropyltoluene	83 ppb	NA
		Naphthalene	190 ppb	320,000 ppb
		n-Propylbenzne	99 ppb	NA
		Toluene	8,600 ppb+	40,000 ppb
		1,2,4 Trimethylbenzene	790 ppb	NA
		1,3,5 Trimethylbenzene	300 ppb	NA
		Total Xylenes	7,100 ppb	20,000 ppb
		Other VOCs		

TABLE B (continued)

Sample No./ Location	Analysis	Analyte	Results	Cleanup Level
B6-8'	WTPH-HCID	Hydrocarbons	ND	
	EPA 8240	Ethylbenzene	12 ppb	20,000 ppb
		Toluene	370 ppb+	40,000 ppb
		Total Xylenes	150 ppb	20,000 ppb
		Methylene Chloride	39 ppb+	500 ppb
		1,2,4 Trimethylbenzene	13 ppb	NA
		1,3,5 Trimethylbenzene	6 ppb	NA
		Other VOCs	ND	
B7-4'	WTPH-HCID	Hydrocarbons	ND	
	EPA 8240	Toluene	11 ppb+	40,000 ppb
		Methylene Chloride	41 ppb+	500 ppb
		Other VOCs	ND	
B8-5'	WTPH-HCID	Hydrocarbons	ND	
	EPA 8240	Toluene	14 ppb+	40,000 ppb
		Methylene Chloride	48 ppb+	500 ppb
B9-5'	WTPH-HCID	Hydrocarbons	ND	
	EPA 8240	VOCs	ND	

NOTES:

\+ Compound also appeared in laboratory blank, suggesting cross-contamination in laboratory.

1) ppm indicates parts per million.
2) ppb indicates parts per billion.
3) TPH indicates total petroleum hydrocarbons. The 418.1 analysis is designed for heavy oils, but also reports lighter hydrocarbon fractions.
4) ND denotes none detected. Refer to laboratory reports for detection limits.
5) Unless indicated by asterix, cleanup levels are "Method A" values as specified in the Model Toxics Control Act (MTCA), WAC 173-340. Asterix indicates MTCA Method B value.
6) NA indicates a published MTCA cleanup level for this compound is not currently available.

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

August 2, 1994

Bonneville, Viert, Morton & McGoldrick
P.O. Box 1533
Tacoma, WA 98401

Attn: Dale Schuman

Sample ID: D1
Project: Walker 94481
Sample Matrix: Sediment
Date Sampled: 7-30-94
Date Received: 8-1-94
Spectra Project: S408-003
Spectra #8709
RUSH

WTPH-HCID

Sample contains gasoline, diesel and heavier than diesel range hydrocarbons.

Total Metals, mg/Kg

Arsenic	(As)	<5
Barium	(Ba)	422
Cadmium	(Cd)	50.2
Chromium	(Cr)	110
Lead	(Pb)	2,140
Mercury	(Hg)	<3
Selenium	(Se)	<8
Silver	(Ag)	<0.7

Total Metals testing performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

SPECTRA Laboratories, Inc.

2221 Ross Way • Tacoma, WA 98421 • (206) 272-4850

August 2, 1994

Bonneville, Viert, Morton & McGoldrick
P.O. Box 1533
Tacoma, WA 98401

Attn: Dale Schuman

Sample ID: D2
Project: Walker 94481
Sample Matrix: Sediment
Date Sampled: 7-30-94
Date Received: 8-1-94
Spectra Project: S408-003
Spectra #8710
RUSH

WTPH-HCID

Sample contains gasoline and heavier than diesel range hydrocarbons.

Total Metals, mg/Kg

Arsenic	(As)	<5
Barium	(Ba)	2,000
Cadmium	(Cd)	4.2
Chromium	(Cr)	927
Lead	(Pb)	918
Mercury	(Hg)	<3
Selenium	(Se)	<8
Silver	(Ag)	<0.7

Total Metals testing performed by EPA Method 6010

SPECTRA LABORATORIES, INC.

Steven G. Hibbs, Chemist

Boring logs are presented below. Depth measurements should be considered accurate to the nearest 0.5 foot.

Boring 1

Date: 08-03-94
Location: West of South Drain and UST
No groundwater encountered

Depth (feet)	Soils	Comments
0-1	8" concrete slab, +/- 6" gravel fill	
1-5.5	Light brown, fine-grained sand, moist	Solvent-like odors and black staining, 3-5.5 feet
Auger refusal at 6 feet		Hard object or dense gravel at 6 feet

Boring 2

Date: 08-03-94
Location: Northwest of South Drain and UST
No groundwater encountered

Depth (feet)	Soils	Comments
0-1	8" concrete slab, +/- 6" gravel fill	
1-5.5	Light brown, fine-grained sand, moist	No odors or staining noted
Auger refusal at 6 feet		Hard object or dense gravel at 6 feet

Boring 3

Date: 08-03-94
Location: South of North Drain
No groundwater encountered

Depth (feet)	Soils	Comments
0-1	8" concrete slab, +/- 6" gravel fill	
1-3	Light brown, fine-grained sand with pieces of brick, moist	No odors or staining noted
Boring terminated at 3 feet		

Boring 4

Date: 08-03-94
Location: North of South Drain
No groundwater encountered

Depth (feet)	Soils	Comments
0-1	8" concrete slab, +/- 6" gravel fill	
1-3	Light brown, fine-grained sand, moist	Faint solvent-like odor noted 1-3 feet
Boring terminated at 3 feet		

BISON ENVIRONMENTAL NORTHWEST, INC.
SOIL LOGS - TEST BORINGS

Site Walker Chevrolet - Paint Booth
Project Number 94481-2 Date 09/08/94
Driller Burlington Environmental Logged by Henry Perrin
Boring# B5
Location 11' W, 3' N, of SEC Paint Booth

Sample #	Depth	Group Symbol	Soil Description
	0-1.5'	FILL	8" Concrete Slab +/- 6" Gravel Subgrade
	1.5-4'	SP-SM	Light Brown, gravelly, slightly silty SAND, moist, medium dense to very dense
B5-5'	4-10'	SP-SM	Dark Brown, gravelly, slightly silty SAND, moist, very dense **Faint Hydrocarbon Odors**
B5-7.5'	"	"	"
B5-9'	"	"	"
B5-10'	"	"	"

Groundwater encountered? No Depth
Monitoring Well? No ft screen/blank
Comments Refusal at 10 feet. Boring plugged with bentonite.

BISON ENVIRONMENTAL NORTHWEST, INC.
SOIL LOGS - TEST BORINGS

Site Walker Chevrolet - Paint Booth
Project Number 94481-2 Date 09/08/94
Driller Burlington Environmental Logged by Henry Perrin
Boring# B6
Location 3' W, 5' S, of NEC Paint Booth

Sample #	Depth	Group Symbol	Soil Description
	0-1.5'	FILL	8" Concrete Slab +/- 6" Gravel Subgrade
	1.5-4'	SP-SM	Light Brown, gravelly, silty SAND, moist, medium dense to very dense
B6-5'	4-6'	SP-SM	Blue-gray, gravelly, silty SAND, moist, very dense **Moderate hydrocarbon odors**
B6-8'	6-8'	"	Light Brown, gravelly, slightly silt SAND, moist, very dense

Groundwater encountered? No Depth
Monitoring Well? No ft screen/blank
Comments Refusal at 8 feet. Boring plugged with bentonite.

BISON ENVIRONMENTAL NORTHWEST, INC.
SOIL LOGS - TEST BORINGS

Site Walker Chevrolet - Paint Booth
Project Number 94481-2 Date 09/08/94
Driller Burlington Environmental Logged by Henry Perrin
Boring# B7
Location 13.5' W, 4' S, of NEC Paint Booth

Sample #	Depth	Group Symbol	Soil Description
	0-1.5'	FILL	8" Concrete Slab +/- 6" Gravel Subgrade
B7-4'	1.5-4'	SP-SM	Light Brown, gravelly, slightly silty SAND, moist, very dense

Groundwater encountered? No Depth
Monitoring Well? No ft screen/blank
Comments Refusal at 4 feet. Boring plugged with bentonite.

BISON ENVIRONMENTAL NORTHWEST, INC.
SOIL LOGS - TEST BORINGS

Site Walker Chevrolet - Paint Booth
Project Number 94481-2 Date 09/08/94
Driller Burlington Environmental Logged by Henry Perrin
Boring# B8
Location 8' W, 4' S, of SEC Paint Booth

Sample #	Depth	Group Symbol	Soil Description
	0-1.5'	FILL	6" Concrete Slab +/- 6" Gravel Subgrade
B8-5'	1.5-5'	SP	Light Brown, gravelly, SAND, moist, medium dense to very dense
B8-8'	5-8'	SP-SM	Light Brown, gravelly, silty SAND, moist, very dense

Groundwater encountered? No Depth
Monitoring Well? No ft screen/blank
Comments Refusal at 8 feet. Boring plugged with bentonite.

BISON ENVIRONMENTAL NORTHWEST, INC.
SOIL LOGS - TEST BORINGS

Site Walker Chevrolet - Paint Booth
Project Number 94481-2 Date 09/08/94
Driller Burlington Environmental Logged by Henry Perrin
Boring# B9
Location 2' E, 1' N, of SEC Paint Booth

Sample #	Depth	Group Symbol	Soil Description
	0-1.5'	FILL	6" Concrete Slab +/- 6" Gravel Subgrade
B9-5'	1.5-5'	SP	Light Brown, gravelly, SAND, moist, medium dense to very dense
B9-8'	5-8'	SP-SM	Grayish Brown, gravelly, slightly silty SAND, moist, very dense

Groundwater encountered? No Depth
Monitoring Well? No ft screen/blank
Comments Refusal at 8 feet. Boring plugged with bentonite.

Former Paint Booth and Heating Oil UST - Figures and Data Tables

Due Diligence Sampling for Walker Chevrolet 633 Division Avenue, Tacoma, WA 98403

Provided by Stemen Environmental, Inc.
August 2006 and May 2008


DSS-1
WSPL
SPALS1
ESPL
NPL-3
NPL-1
NPL-5
NPL-6
NPL-4
NPL-2
SE TRENCH
S-5
S-7
S-4
S-6
S-1
S-2
S-3
PBRS
PB-5
PB-4
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
SECPB
PBLS
IB-2
ALS-1
IB4
T-1
B-1
DC1
F-12
F-20
R-12
R-18
NORTH
Soil Samples
SCALE
1 INCH = 50 FEET


GV-2
GV-3
GV-1
GV-6
GV-5
GV-4
NORTH
Soil
Gas Samples
SCALE
1 INCH = 50 FEET

$1\,L = 1{,}000\ cm^3$

$1\ m^3 = (100\ cm)^3 = 1{,}000{,}000\ cm^3 = 1{,}000\,L$

∴ Multiply µg/L by 1,000 to get µg/m³.

TITUS/THRIFTWAY

ANALYSES OF SOIL GAS VAPORS FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260

SAMPLE-NUMBER		GV-1	GV-2	GV-3	GV-4	GV-5	GV-6
SAMPLE DATE	SOIL GAS VAPORS REPORTING LIMITS	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
DICHLORODIFLUOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
CHLOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
VINYL CHLORIDE	0.2	ND	ND	ND	0.54	ND	ND
BROMOMETHANE	0.1	ND	ND	ND	ND	ND	ND
CHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
TRICHLOROFLUOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
ACETONE	1	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	1	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHENE	0.1	ND	ND	ND	ND	ND	ND
METHYL-T-BUTYL ETHER (MTBE)	0.1	ND	ND	ND	ND	ND	ND
TRANS-1,2-DICHLOROETHENE	0.05	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
2-BUTANONE (MEK)	0.1	ND	ND	ND	ND	ND	ND
CIS-1,2 DICHLOROETHENE	0.05	ND	ND	ND	16	0.32	2.5
2,2-DICHLOROPROPANE	0.1	ND	ND	ND	ND	ND	ND
CHLOROFORM	0.05	ND	ND	ND	ND	ND	ND
BROMOCHLOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
1,1,1- TRICHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE (EDC)	0.1	ND	ND	ND	ND	ND	ND
1,1-DICHLOROPROPENE	0.1	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE	0.1	ND	ND	ND	ND	ND	ND
BENZENE	0.02	ND	ND	ND	0.14	0.39	0.23
TRICHLOROETHENE (TCE)	0.02	ND	ND	ND	ND	2.7	7.8
1,2-DICHLOROPROPANE	0.1	ND	ND	ND	ND	ND	ND
DIBROMOMETHANE	0.1	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
4-METHYL-2-PENTANONE (MIBK)	0.1	ND	ND	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE	0.1	ND	ND	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE	0.1	ND	ND	ND	ND	ND	ND
TOULENE	0.1	0.13	0.24	0.16	0.1	0.27	0.2
TRANS-1,3-DICHLOROPROPENE	0.1	ND	ND	ND	ND	ND	ND
1,1,2,-TRICHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
2-HEXANONE	0.1	ND	ND	ND	ND	ND	ND

ANALYSES OF SOIL GAS VAPORS FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260

SAMPLE-NUMBER		GV-1	GV-2	GV-3	GV-4	GV-5	GV-6
SAMPLE DATE	SOIL GAS VAPORS REPORTING LIMITS	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,3-DICHLOROPROPANE	0.1	ND	ND	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	0.1	ND	ND	ND	ND	ND	ND
TETRACHLOROETHENE (PCE)	0.02	0.11	1	0.16	12	1.6	70
1,2-DIBROMOETHANE	0.1	ND	ND	ND	ND	ND	ND
CHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND
1,1,1,2-TETRACHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	0.1	ND	ND	ND	ND	ND	ND
XYLENES	0.1	ND	0.15	0.23	ND	ND	ND
STYRENE	0.1	ND	ND	ND	ND	ND	ND
BROMOFORM	0.1	ND	ND	ND	ND	ND	ND
1,1,2,2-TETRACHLOROETHANE	0.1	ND	ND	ND	ND	ND	ND
ISOPROPYLBENZENE	0.1	ND	ND	ND	ND	ND	ND
,2,3-TRICHCHLOROPROPANE	0.1	ND	ND	ND	ND	ND	ND
BROMOBENZENE	0.1	ND	ND	ND	ND	ND	ND
N-PROPYLBENZE	0.1	ND	ND	ND	ND	ND	ND
2-CHLOROTOLUENE	0.1	ND	ND	ND	ND	ND	ND
4-CHLORODOLUENE	0.1	ND	ND	ND	ND	ND	ND
1,3,5-TRIMETHYLBENZE	0.1	ND	ND	ND	ND	ND	ND
TERT-BUTYLBENZENE	0.1	ND	ND	ND	ND	ND	ND
1,2,4-TRIMETHYBENZENE	0.1	ND	ND	ND	ND	ND	ND
SEC-BUTYLBENZENE	0.1	ND	ND	ND	ND	ND	ND
1,3-DICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND
1,4-DICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND
ISOPROPYLTOULENE	0.1	ND	ND	ND	ND	ND	ND
1,2-DICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND
N-BUTYLBENZENE	0.1	ND	ND	ND	ND	ND	ND
1,2-DIBROMO-3-CHLOROPROPANE	0.1	ND	ND	ND	ND	ND	ND
1,2,4-TRICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND
NAPHTHALENE	0.1	ND	ND	ND	ND	ND	ND
HEXACHLORO-1,3-BUTADIENE	0.1	ND	ND	ND	ND	ND	ND
1,2,3-TRICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND

ANALYSES OF SOIL FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260 CHLORINATED

SAMPLE-NUMBER		PB-3-8	S-1-15	PB2-4	DC1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL REPORTING LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
DICHLORODIFLUOROMETHANE	0.05	ND	ND	ND	ND
CHLOROMETHANE	0.05	ND	ND	ND	ND
VINYL CHLORIDE	0.01	ND	ND	ND	ND
BROMOMETHANE	0.05	ND	ND	ND	ND
CHLOROETHANE	0.05	ND	ND	ND	ND
TRICHLOROFLUOROMETHANE	0.05	ND	ND	ND	ND
ACETONE	0.5	ND	ND	ND	ND
METHYLENE CHLORIDE	0.5	ND	ND	ND	ND
METHYL-T-BUTY ETHER (MTBE)	0.05	ND	ND	ND	ND
TRANS 1,1 DICHLOROETHENE	0.05	ND	ND	ND	ND
1,1 DICHLOROETHENE	0.5	ND	ND	ND	ND
TRANS-1,2-DICHLOROETHENE	0.05	ND	ND	ND	ND
1,1 DICHLOROETHANE	0.05	ND	ND	ND	ND
CIS-1,2 DICHLOROETHENE	0.05	ND	ND	ND	ND
2,2-DICHLOROPROPANE	0.05	ND	ND	ND	ND
CHLOROFORM	0.05	ND	ND	ND	ND
BROMOCHLOROMETHANE	0.05	ND	ND	ND	ND
1,1,1- TRICHLOROETHANE	0.05	ND	ND	ND	ND
1,2 DICHLOROETHANE	0.05	ND	ND	ND	ND
1,1-DICHLOROPROPENE	0.05	ND	ND	ND	ND
CARBON TETRACHLORIDE	0.05	ND	ND	ND	ND
BENZENE	0.02	ND	ND	ND	ND
TRICHLOROETHENE (TCE)	0.02	ND	ND	ND	ND
1,2-DICHLOROPROPANE	0.05	ND	ND	ND	ND
DIBROMOMETHANE	0.05	ND	ND	ND	ND
BROMODICHLOROMETHANE	0.05	ND	ND	ND	ND
4-METHYL-2-PENANONE	0.05	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE	0.05	ND	ND	ND	ND
TOULENE	0.05	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE	0.05	ND	ND	ND	ND
1,1,2,-TRICHLOROETHANE	0.05	ND	ND	ND	ND
2-HEXANONE	0.05	ND	ND	ND	ND
1,3-DICHLOROPROPANE	0.05	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	0.05	ND	ND	ND	ND
TETRACHLOROETHENE (PCE)	0.02	0.16	ND	0.16	ND
1,2-DIBROMOETHANE (EDB)(*)	0.01	ND	ND	ND	ND
CHLOROBENZENE	0.05	ND	ND	ND	ND
1,1,1,2-TETRACHLOROETHANE	0.05	ND	ND	ND	ND
ETHYLBENZENE	0.05	ND	ND	ND	ND
XYLENES	0.05	0.13	5.7	0.12	0.16

ANALYSES OF SOIL FOR SPECIFIC HALOGENATED HYDROCARBONS BY EPA 8260 CHLORINATED

SAMPLE-NUMBER		PB-3-8	S-1-15	PB2-4	DC1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL REPORTING LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
STYRENE	0.05	ND	ND	ND	ND
BROMOFORM	0.05	ND	ND	ND	ND
1,1,2,2-TETRACHLOROETHANE	0.05	ND	ND	ND	ND
ISOPROPYLBENZENE	0.05	ND	5	ND	ND
1,2,3-TRICHCHLOROPROPANE	0.05	ND	ND	ND	ND
BROMOBENZENE	0.05	ND	ND	ND	ND
n-PROPYLBENZENE	0.05	ND	14	ND	ND
2-CHLOROTOLUENE	0.05	ND	ND	ND	ND
4-CHLORODOLUENE	0.05	ND	ND	ND	ND
1,3,5-TRIMETHYLBENZENE	0.05	ND	37	ND	ND
TERT-BUTYLBENZENE	0.05	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	0.05	ND	71	ND	ND
SEC-BUTYLBENZENE	0.05	ND	ND	ND	ND
1,3-DICHLOROBENZENE	0.05	ND	ND	ND	ND
1,4-DICHLOROBENZENE	0.05	ND	ND	ND	ND
ISOPROPYLTOLUENE	0.05	ND	2.3	ND	ND
1,2-DICHLOROBENZENE	0.05	ND	ND	ND	ND
n-BUTYLBENZENE	0.05	ND	6.2	ND	ND
1,2-DIBROMO-3-CHLOROPROPANE	0.05	ND	ND	ND	ND
1,2,4-TRICHLOROBENZENE	0.05	ND	ND	ND	ND
NAPHTHALENE	0.05	ND	ND	ND	ND
HEXACHLORO-1,3-BUTADIENE	0.05	ND	ND	ND	ND
1,2,3-TRICHLOROBENZENE	0.05	ND	ND	ND	ND

TITUS/THRIFTWAY

ANALYSES OF SOIL FOR TOTAL PETROLEUM HYDROCARBONS EPA METHOD NWTPH-Dx/Dx EXTENDED

SAMPLE NUMBER	SAMPLE DATE	DEPTH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	GASOLINE	DIESEL	OIL	MINERAL OIL
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-1-15	8/31/06	15'	6.1	4.1	6	12	920	ND	ND	ND
S-2-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-7-15	8/31/06	16'					360	ND	ND	ND
S-3-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-4-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-5-15	8/31/06	13'	ND	ND	ND	ND	ND	ND	ND	ND
S-6-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
PB-3-8	8/31/06	8'	*	*	*	*	30	ND	ND	ND
NPL-6-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
ESPL-24	8/31/06	24	ND	ND	ND	ND	ND	ND	ND	ND
WSPL-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-1-21	8/31/06	21'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-2-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-3-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-4-19	8/31/06	19'	ND	ND	ND	ND	ND	ND	ND	ND
NPL-5-20	8/31/06	20'	ND	ND	ND	ND	ND	ND	ND	ND
IB2-6	8/31/06	6'	ND	ND	ND	ND	ND	ND	94	ND
SECPB-8	8/31/06	8'	ND	ND	ND	ND	ND	ND	ND	ND
S PALS-1	9/18/06	23.5'	*	*	*	*	ND	ND	ND	ND
DC PLAS-2	9/18/06	18.5-20'	*	*	*	*	ND	ND	ND	ND
IB4	10/20/06	60"	*	*	*	*	ND	ND	ND	ND
PBWE	10/20/06	24"	*	*	*	*	ND	ND	87	ND
PBLS-24	10/20/06	24"	*	*	*	*	ND	ND	ND	ND
PBLS-36	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
ALS-1	10/20/06	32"	*	*	*	*	ND	ND	220	ND
DSS-1	10/20/06	36"	*	*	*	*	ND	ND	ND	ND
PBRS	10/20/06	30"	*	*	*	*	ND	ND	ND	ND
MDL			0.02	0.05	0.05	0.05	10	30	40	40

* = Not analyzed

APPENDIX B

Soil Boring AB-1 Log

Boring Log

Aspect CONSULTING

Project Number	Boring Number	Sheet
080190	AB-1	1 of 2

Project Name: Morrell's Dry Cleaners
Location: 608 North 1st Street, Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Depth to Water:
Start/Finish Date: 12/20/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Asphalt patch						Asphalt.	1
2							Medium dense, moist, brown, very gravelly SAND (SP); fine to medium sand.	2
3								3
4								4
5					4			5
6				0.0	10			6
7					8			7
8								8
9								9
10	Hydrated bentonite chip backfill				10			10
11				0.0	30		Very dense, moist, gray with iron staining, gravelly SAND (SP); fine to medium sand.	11
12					36			12
13								13
14								14
15			NWTPH-Gx, BTEX, lead, fuel oxygenates		20			15
16				96.1	32		Very dense, moist, gray and brown mottled, silty, gravelly SAND (SM); fine to medium sand, diamict fabric.	16
17					50/5			17
18								18
19								19
20					19			20
21				21.1	50/3			21
22								22
23								23
24								24
25			NWTPH-Gx, BTEX, lead, fuel oxygenates		35			25
26				4.4	50/4			26
27								27
28								28
29								29
30					33			30
31				0.0	50/4		Hard, gray brown, sandy, gravelly SILT (ML); diamict fabric.	31
32								32
33								33
34								34
35					21			35
36				0.0	33		Very dense, moist, red brown, slightly silty, gravelly SAND (SP-SM); diamict fabric.	36
37					50/5			37
38								38
39								39
40								40
41				0.0	23		Very dense, moist, red brown, slightly gravelly SAND (SP); fine to medium sand, trace silt.	41
42					50/6			42
43								43
44								44
45			NWTPH-Gx, BTEX, lead, fuel oxygenates		14			45
46				0.0	30			46
47					37			47
48								48
49								49

Sampler Type:
- No Recovery
- Standard Penetration Test (ASTM D1586)

PID - Photoionization Detector (Headspace Measurement)
- Static Water Level
- Water Level (ATD)

Logged by: AET
Approved by: ALN
Figure No.

_ENV BORING LOG_STADIUM THRIFTWAY.GPJ April 4, 2014

Boring Log

Aspect CONSULTING

Project Number	Boring Number	Sheet
080190	AB-1	2 of 2

Project Name: Morrell's Dry Cleaners
Location: 608 North 1st Street, Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Depth to Water:
Start/Finish Date: 12/20/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51				0.0	22 40 41			51
52–54								52–54
55					22		Trace gravel.	55
56				0.0	33			56
57–59					47			57–59
60			NWTPH-Gx, BTEX, lead, fuel oxygenates		38		Wet.	60
61				0.0	44			61
62					50/5		Bottom of boring is 61.5 feet below ground surface.	62
63–99								63–99

Sampler Type:
- ◯ No Recovery
- ◪ Standard Penetration Test (ASTM D1586)

PID - Photoionization Detector (Headspace Measurement)
- ▼ Static Water Level
- ▽ Water Level (ATD)

Logged by: AET
Approved by: ALN
Figure No.

_ENV BORING LOG_STADIUM THRIFTWAY.GPJ April 4, 2014

APPENDIX C

Soil Analytical Results

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

December 27, 2013

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 December 20, 2013 from the Walker Chevrolet, F&BI 312358 project. There are 19 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
ASP1227R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 20, 2013 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, F&BI 312358 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
312358 -01	AB-1-15
312358 -02	AB-1-25
312358 -03	AB-1-45
312358 -04	AB-1-61.5
312358 -05	AB-1-comp

All quality control requirements were acceptable.

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358
Date Extracted: 12/23/13
Date Analyzed: 12/23/13

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

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

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
AB-1-15 312358-01	<0.02	<0.02	<0.02	0.33	37	107
AB-1-25 312358-02	<0.02	<0.02	<0.02	<0.06	3.0	94
AB-1-45 312358-03	<0.02	<0.02	<0.02	<0.06	<2	93
AB-1-61.5 312358-04	<0.02	<0.02	<0.02	<0.06	<2	95
Method Blank 03-2612 MB	<0.02	<0.02	<0.02	<0.06	<2	92

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-1-15	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-01
Date Analyzed:	12/23/13	Data File:	312358-01.023
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	93	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	1.49

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-1-25	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-02
Date Analyzed:	12/23/13	Data File:	312358-02.024
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	2.59

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-1-45	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-03
Date Analyzed:	12/23/13	Data File:	312358-03.025
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	91	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	2.31

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-1-61.5	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-04
Date Analyzed:	12/23/13	Data File:	312358-04.026
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	1.90

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-1-comp	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-05
Date Analyzed:	12/23/13	Data File:	312358-05.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	88	60	125
Indium	77	60	125
Holmium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	12.0
Arsenic	1.74
Selenium	<1
Silver	<1
Cadmium	<1
Barium	32.7
Lead	2.08

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	I3-872 mb
Date Analyzed:	12/23/13	Data File:	I3-872 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125
Indium	99	60	125
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358
Date Extracted: 12/23/13
Date Analyzed: 12/23/13

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E

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

Sample ID Laboratory ID	Total Mercury
AB-1-comp 312358-05	<0.1
Method Blank	<0.1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-1-15	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-01
Date Analyzed:	12/23/13	Data File:	122310.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	97	51	121
4-Bromofluorobenzene	96	32	146

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-1-25	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-02
Date Analyzed:	12/23/13	Data File:	122307.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	96	51	121
4-Bromofluorobenzene	95	32	146

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-1-45	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-03
Date Analyzed:	12/23/13	Data File:	122308.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	95	51	121
4-Bromofluorobenzene	95	32	146

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-1-61.5	Client:	Aspect Consulting, LLC
Date Received:	12/20/13	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	312358-04
Date Analyzed:	12/23/13	Data File:	122309.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	96	51	121
4-Bromofluorobenzene	94	32	146

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 312358
Date Extracted:	12/23/13	Lab ID:	03-2613 mb
Date Analyzed:	12/23/13	Data File:	122305.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	97	51	121
4-Bromofluorobenzene	95	32	146

Compounds:	Concentration mg/kg (ppm)
Ethanol	<50
t-Butyl alcohol (TBA)	<2.5
Methyl t-butyl ether (MTBE)	<0.05
Ethyl t-butyl ether (ETBE)	<0.05
t-Amyl methyl ether (TAME)	<0.05
Diisopropyl ether (DIPE)	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,2-Dibromoethane (EDB)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 312349-04 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	84	66-121
Toluene	mg/kg (ppm)	0.5	88	72-128
Ethylbenzene	mg/kg (ppm)	0.5	90	69-132
Xylenes	mg/kg (ppm)	1.5	89	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358

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

Laboratory Code: 312336-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	mg/kg (ppm)	50	9.68	85	88	57-128	3
Arsenic	mg/kg (ppm)	10	6.06	94 b	102 b	70-118	8 b
Selenium	mg/kg (ppm)	5	<1	93	95	64-117	2
Silver	mg/kg (ppm)	10	<1	94	95	73-122	1
Cadmium	mg/kg (ppm)	10	<1	98	98	83-116	0
Barium	mg/kg (ppm)	50	19.3	97 b	97 b	60-141	0 b
Lead	mg/kg (ppm)	50	25.4	98 b	97 b	59-148	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	96	78-121
Arsenic	mg/kg (ppm)	10	95	83-113
Selenium	mg/kg (ppm)	5	97	84-115
Silver	mg/kg (ppm)	10	94	81-116
Cadmium	mg/kg (ppm)	10	95	54-114
Barium	mg/kg (ppm)	50	97	85-116
Lead	mg/kg (ppm)	50	97	80-120

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 312336-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	0.12	72	76	62-140	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	101	63-131

Date of Report: 12/27/13
Date Received: 12/20/13
Project: Walker Chevrolet, F&BI 312358

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

Laboratory Code: 312287-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Ethanol	mg/kg (ppm)	125	<50	82	76	10-174	8
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	<2.5	76	76	16-169	0
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	72	73	21-145	1
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	<0.05	67	69	29-136	3
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	<0.05	72	75	27-141	4
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	<0.05	71	72	27-144	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	68	69	12-160	1
Benzene	mg/kg (ppm)	2.5	0.026	62	64	29-129	3
Toluene	mg/kg (ppm)	2.5	0.088	54	57	35-130	5
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	66	69	28-142	4
Ethylbenzene	mg/kg (ppm)	2.5	0.52	59 b	63 b	32-137	7 b
m,p-Xylene	mg/kg (ppm)	5	2.2	61 b	66 b	34-136	8 b
o-Xylene	mg/kg (ppm)	2.5	1.0	67 b	71 b	33-134	6 b
Naphthalene	mg/kg (ppm)	2.5	3.6	84 b	86 b	14-157	2 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Ethanol	mg/kg (ppm)	125	91	10-177
t-Butyl alcohol (TBA)	mg/kg (ppm)	125	87	41-150
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	87	60-123
Diisopropyl ether (DIPE)	mg/kg (ppm)	2.5	84	69-115
Ethyl t-butyl ether (ETBE)	mg/kg (ppm)	2.5	89	48-142
t-Amyl methyl ether (TAME)	mg/kg (ppm)	2.5	85	47-143
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	85	56-135
Benzene	mg/kg (ppm)	2.5	85	68-114
Toluene	mg/kg (ppm)	2.5	79	66-126
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	91	74-132
Ethylbenzene	mg/kg (ppm)	2.5	87	64-123
m,p-Xylene	mg/kg (ppm)	5	88	78-122
o-Xylene	mg/kg (ppm)	2.5	92	77-124
Naphthalene	mg/kg (ppm)	2.5	102	63-140

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

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. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

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

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

312358

SAMPLE CHAIN OF CUSTODY ME 12/20/13

VSI/B AL2

[redacted]

Send Report To Alan Noell

Company Aspect Consulting

Address

City, State, ZIP Seattle, WA

Phone # Fax #

SAMPLERS (signature) [redacted]

PROJECT NAME/NO. Walker Chevrolet

PO#

REMARKS

Page # 1 of 1

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Lead	Fuel oxygenates	Metals				Notes
AB-1-15	01 A-E	12/20/13	0920	~~W~~ SOIL	5		X	X				X	X					
AB-1-25	02		1000				X	X				X	X					
AB-1-45	03		1130				X	X				X	X					
AB-1-61.5	04		1230				X	X				X	X					
AB-1-COMP	05 A-B		1240		2									X				

Samples received at 2 °C

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Amy Tye	Aspect	12/20/13	1616
Received by:	HONG NGUYEN	FBI	"	"
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

APPENDIX D

Groundwater Analytical Results

Analytical Resources, Incorporated
Analytical Chemists and Consultants

January 29, 2014

Alan Noell
Aspect Consulting
401 - 2nd Avenue, Suite 201
Seattle, WA 98104

RE: Walker Chevrolet, 110008-004-12
ARI Job: XU34

Dear Alan:

Please find enclosed the Chain of Custody record (COC), sample receipt documentation, and the final results for samples from the project referenced above. Analytical Resources, Inc. accepted one water sample on January 10, 2014. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The sample was analyzed for VOCs, PAHs, NWTPH-Dx, NWTPH-Gx, total metals, and various conventional parameters, as requested.

The LCS percent recoveries of Acrolein, 1,2-Dibromo-3-chloropropane, and 1,2,3-Trichloropropane were outside the control limits for **LCS-011514A**. The LCSD percent recovery of 1,2,3-Trichloropropane was also outside the control limits. All other percent recoveries were within control limits. No corrective action was taken.

The continuing calibration fell outside the 20% control limit low for Bromoethane, Carbon Disulfide, Bromoform, 1,1,2,2-Tetrachloroethane, 1,2,3-Trichloropropane, 1,2-Dibromo-3-chloropropane, and Naphthalene. The continuing calibration was also outside the control limit high for Acrolein. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was taken.

The matrix spike percent recovery of iron was outside the control limits high for sample **MW-1-011014**. All relevant data have been flagged with an "N" qualifier on the Form V. No further corrective action was taken.

The duplicate RPD of iron was outside the control limit for sample **MW-1-011014**. All relevant data have been flagged with a "*" qualifier on the Form VI. No further corrective action was taken.

An electronic copy of this report as well as all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,
ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com

cc: eFile XU34

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: XU34	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: Aspect Consulting	Phone: (206)838-6592	Date: 1/10/14	Ice Present? Y
Client Contact: Alan Noell		No. of Coolers: 1	Cooler Temps: 5.6
Client Project Name: Walker Chevrolet			
Client Project #: 110008-004-12	Samplers: JLO		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: TPH (diesel)	TPH (gas)	volatiles (8260)	PAHs (8270)	NO3, NO2, SO4 (300)	TOC (415.1)	PDI HP (2008)		Notes/Comments
MW-1-011014	1/10/14	16:25	Water	15	X	X	X	X	X	X	X		

Comments/Special Instructions	Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by (Signature)
	Printed Name: Judy Oleson	Printed Name: Jennifer Miller	Printed Name	Printed Name
	Company: Aspect Consulting	Company: ARI	Company	Company
	Date & Time: 1/10/14 17:45	Date & Time: 1/10/14 1745	Date & Time	Date & Time

XU34

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect
COC No(s): (NA)
Assigned ARI Job No: XU34

Project Name: Walker Chevrolet
Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other:
Tracking No. (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)
Were custody papers included with the cooler? (YES) NO
Were custody papers properly filled out (ink, signed, etc) YES NO
Temperature of Cooler(s) (°C) (recommended 2.0-6 0 °C for chemistry): 5.6
Time: 1743
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90877752

Cooler Accepted by: JM Date: 1/10/14 Time:

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)
What kind of packing material was used? (Bubble Wrap) (Wet Ice) Gel Packs Baggies Foam Block Paper Other:
Was sufficient ice used (if appropriate)? NA (YES) NO
Were all bottles sealed in individual plastic bags? YES (NO)
Did all bottles arrive in good condition (unbroken)? (YES) NO
Were all bottle labels complete and legible? (YES) NO
Did the number of containers listed on COC match with the number of containers received? (YES) NO
Did all bottle labels and tags agree with custody papers? (YES) NO
Were all bottles used correct for the requested analyses? YES (NO)
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA (YES) NO
Were all VOC vials free of air bubbles? NA (YES) NO
Was sufficient amount of sample sent in each bottle? (YES) NO
Date VOC Trip Blank was made at ARI: (NA)
Was Sample Split by ARI: (NA) YES Date/Time: Equipment: Split by:

Samples Logged by: JM Date: 1/13/14 Time: 733

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:
TC Volume collected in 522 mL HDPE.

By: JM Date: 1/13/14

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	● ● ●

Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

PRESERVATION VERIFICATION 01/13/14
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **XU34**

Inquiry Number: NONE
Analysis Requested: 01/13/14
Contact: Noell, Alan
Client: Aspect Consulting
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 01/10/14

Project #: 11008-004-12
Project: Walker Chevrolet
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-696 **XU34A**	MW-1-011014						TOT pad					pH<2						TOC	<2		2ml H_2SO_4 9N	1-13-14 W

Samples arrived in lab unpreserved
1-13-14
W

Checked By JM Date 1/13/14

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: XU34
Client: Aspect Consulting
Project Event: 11008-004-12
Project Name: Walker Chevrolet

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-1-011014	XU34A	14-696	Water	01/10/14 16:25	01/10/14 17:45

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-1-011014**
 SAMPLE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/16/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Instrument/Analyst: NT3/LH
Date Analyzed: 01/15/14 17:18

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	**Chloroform**	**0.20**	**0.39**	
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	**Trichloroethene**	**0.20**	**0.40**	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-1-011014**
 SAMPLE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Date Analyzed: 01/15/14 17:18

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	98.8%
d8-Toluene	101%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-011514A	Method Blank	10	95.4%	102%	104%	102%	0
LCS-011514A	Lab Control	10	97.9%	102%	104%	102%	0
LCSD-011514A	Lab Control Dup	10	101%	104%	106%	103%	0
XU34A	MW-1-011014	10	98.8%	101%	102%	104%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	(80-120)	(80-130)
(TOL) = d8-Toluene	(80-120)	(80-120)
(BFB) = Bromofluorobenzene	(80-120)	(80-120)
(DCB) = d4-1,2-Dichlorobenzene	(80-120)	(80-120)

Prep Method: SW5030B
Log Number Range: 14-696 to 14-696

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-011514A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-011514A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized: MW
Reported: 01/16/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT3/LH
LCSD: NT3/LH
Date Analyzed LCS: 01/15/14 09:57
LCSD: 01/15/14 10:23

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS		Spike Added-LCS	LCS Recovery	LCSD		Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	11.3		10.0	113%	11.1		10.0	111%	1.8%
Bromomethane	10.4		10.0	104%	10.3		10.0	103%	1.0%
Vinyl Chloride	10.6		10.0	106%	10.7		10.0	107%	0.9%
Chloroethane	9.60		10.0	96.0%	9.68		10.0	96.8%	0.8%
Methylene Chloride	9.68		10.0	96.8%	9.81		10.0	98.1%	1.3%
Acetone	54.3		50.0	109%	56.7		50.0	113%	4.3%
Carbon Disulfide	7.88	Q	10.0	78.8%	7.81	Q	10.0	78.1%	0.9%
1,1-Dichloroethene	9.50		10.0	95.0%	9.66		10.0	96.6%	1.7%
1,1-Dichloroethane	9.86		10.0	98.6%	9.91		10.0	99.1%	0.5%
trans-1,2-Dichloroethene	9.40		10.0	94.0%	9.36		10.0	93.6%	0.4%
cis-1,2-Dichloroethene	9.81		10.0	98.1%	9.86		10.0	98.6%	0.5%
Chloroform	9.93		10.0	99.3%	10.2		10.0	102%	2.7%
1,2-Dichloroethane	9.87		10.0	98.7%	9.86		10.0	98.6%	0.1%
2-Butanone	51.3		50.0	103%	51.2		50.0	102%	0.2%
1,1,1-Trichloroethane	9.82		10.0	98.2%	9.50		10.0	95.0%	3.3%
Carbon Tetrachloride	9.49		10.0	94.9%	9.46		10.0	94.6%	0.3%
Vinyl Acetate	9.32		10.0	93.2%	9.69		10.0	96.9%	3.9%
Bromodichloromethane	9.38		10.0	93.8%	9.55		10.0	95.5%	1.8%
1,2-Dichloropropane	10.2		10.0	102%	10.1		10.0	101%	1.0%
cis-1,3-Dichloropropene	9.87		10.0	98.7%	10.1		10.0	101%	2.3%
Trichloroethene	10.4		10.0	104%	10.2		10.0	102%	1.9%
Dibromochloromethane	9.01		10.0	90.1%	8.93		10.0	89.3%	0.9%
1,1,2-Trichloroethane	9.70		10.0	97.0%	9.87		10.0	98.7%	1.7%
Benzene	10.2		10.0	102%	10.2		10.0	102%	0.0%
trans-1,3-Dichloropropene	9.58		10.0	95.8%	9.72		10.0	97.2%	1.5%
2-Chloroethylvinylether	9.91		10.0	99.1%	10.0		10.0	100%	0.9%
Bromoform	8.40	Q	10.0	84.0%	8.75	Q	10.0	87.5%	4.1%
4-Methyl-2-Pentanone (MIBK)	52.3		50.0	105%	54.1		50.0	108%	3.4%
2-Hexanone	46.6		50.0	93.2%	48.1		50.0	96.2%	3.2%
Tetrachloroethene	8.99		10.0	89.9%	8.86		10.0	88.6%	1.5%
1,1,2,2-Tetrachloroethane	8.28	Q	10.0	82.8%	8.34	Q	10.0	83.4%	0.7%
Toluene	10.1		10.0	101%	10.5		10.0	105%	3.9%
Chlorobenzene	9.41		10.0	94.1%	9.49		10.0	94.9%	0.8%
Ethylbenzene	9.55		10.0	95.5%	9.77		10.0	97.7%	2.3%
Styrene	9.70		10.0	97.0%	9.74		10.0	97.4%	0.4%
Trichlorofluoromethane	9.91		10.0	99.1%	9.72		10.0	97.2%	1.9%
1,1,2-Trichloro-1,2,2-trifluoroetha	8.68		10.0	86.8%	8.66		10.0	86.6%	0.2%
m,p-Xylene	19.2		20.0	96.0%	19.8		20.0	99.0%	3.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-011514A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-011514A QC Report No: XU34-Aspect Consulting
LIMS ID: 14-696 Project: Walker Chevrolet
Matrix: Water 11008-004-12

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	9.80	10.0	98.0%	10.0	10.0	100%	2.0%
1,2-Dichlorobenzene	9.48	10.0	94.8%	9.40	10.0	94.0%	0.8%
1,3-Dichlorobenzene	9.44	10.0	94.4%	9.42	10.0	94.2%	0.2%
1,4-Dichlorobenzene	9.39	10.0	93.9%	9.53	10.0	95.3%	1.5%
Acrolein	71.6 Q	50.0	143%	75.1 Q	50.0	150%	4.8%
Iodomethane	8.30	10.0	83.0%	8.55	10.0	85.5%	3.0%
Bromoethane	8.14 Q	10.0	81.4%	7.85 Q	10.0	78.5%	3.6%
Acrylonitrile	10.1	10.0	101%	10.6	10.0	106%	4.8%
1,1-Dichloropropene	9.86	10.0	98.6%	9.95	10.0	99.5%	0.9%
Dibromomethane	9.84	10.0	98.4%	9.90	10.0	99.0%	0.6%
1,1,1,2-Tetrachloroethane	9.29	10.0	92.9%	9.72	10.0	97.2%	4.5%
1,2-Dibromo-3-chloropropane	7.49 Q	10.0	74.9%	7.85 Q	10.0	78.5%	4.7%
1,2,3-Trichloropropane	7.92 Q	10.0	79.2%	8.46 Q	10.0	84.6%	6.6%
trans-1,4-Dichloro-2-butene	9.04	10.0	90.4%	9.28	10.0	92.8%	2.6%
1,3,5-Trimethylbenzene	9.28	10.0	92.8%	9.51	10.0	95.1%	2.4%
1,2,4-Trimethylbenzene	9.43	10.0	94.3%	9.41	10.0	94.1%	0.2%
Hexachlorobutadiene	8.85	10.0	88.5%	8.56	10.0	85.6%	3.3%
1,2-Dibromoethane	10.3	10.0	103%	10.5	10.0	105%	1.9%
Bromochloromethane	10.0	10.0	100%	10.0	10.0	100%	0.0%
2,2-Dichloropropane	9.77	10.0	97.7%	9.43	10.0	94.3%	3.5%
1,3-Dichloropropane	8.79	10.0	87.9%	8.85	10.0	88.5%	0.7%
Isopropylbenzene	9.12	10.0	91.2%	9.40	10.0	94.0%	3.0%
n-Propylbenzene	9.19	10.0	91.9%	9.34	10.0	93.4%	1.6%
Bromobenzene	9.04	10.0	90.4%	9.16	10.0	91.6%	1.3%
2-Chlorotoluene	9.10	10.0	91.0%	9.19	10.0	91.9%	1.0%
4-Chlorotoluene	8.98	10.0	89.8%	9.13	10.0	91.3%	1.7%
tert-Butylbenzene	8.97	10.0	89.7%	9.17	10.0	91.7%	2.2%
sec-Butylbenzene	9.16	10.0	91.6%	9.31	10.0	93.1%	1.6%
4-Isopropyltoluene	9.19	10.0	91.9%	9.28	10.0	92.8%	1.0%
n-Butylbenzene	9.65	10.0	96.5%	9.64	10.0	96.4%	0.1%
1,2,4-Trichlorobenzene	10.2	10.0	102%	9.82	10.0	98.2%	3.8%
Naphthalene	8.89 Q	10.0	88.9%	8.72 Q	10.0	87.2%	1.9%
1,2,3-Trichlorobenzene	11.8	10.0	118%	11.5	10.0	115%	2.6%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	97.9%	101%
d8-Toluene	102%	104%
Bromofluorobenzene	104%	106%
d4-1,2-Dichlorobenzene	102%	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-011514A**
 METHOD BLANK

Lab Sample ID: MB-011514A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/16/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT3/LH
Date Analyzed: 01/15/14 10:49

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-011514A**
 METHOD BLANK

Lab Sample ID: MB-011514A
LIMS ID: 14-696
Matrix: Water
Date Analyzed: 01/15/14 10:49

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	95.4%
d8-Toluene	102%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MW-1-011014
SAMPLE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Date Extracted: 01/16/14
Date Analyzed: 01/20/14 16:19
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	69.7%
d10-2-Methylnaphthalene	54.3%
d14-Dibenzo(a,h)anthracene	55.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

Client ID	FLN	MNP	DBA	TOT OUT
MB-011614	77.7%	64.0%	62.3%	0
LCS-011614	77.3%	64.0%	63.7%	0
LCSD-011614	75.0%	64.0%	67.3%	0
MW-1-011014	69.7%	54.3%	55.3%	0

	LCS/MB LIMITS	QC LIMITS
(FLN) = d10-Fluoranthene	(52-125)	(46-121)
(MNP) = d10-2-Methylnaphthalene	(37-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(16-132)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-696 to 14-696

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-011614
LAB CONTROL SAMPLE

Lab Sample ID: LCS-011614
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 01/16/14

Date Analyzed LCS: 01/20/14 15:23
LCSD: 01/20/14 15:51
Instrument/Analyst LCS: NT8/JZ
LCSD: NT8/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.72	3.00	57.3%	1.76	3.00	58.7%	2.3%
2-Methylnaphthalene	1.77	3.00	59.0%	1.80	3.00	60.0%	1.7%
1-Methylnaphthalene	1.72	3.00	57.3%	1.79	3.00	59.7%	4.0%
Acenaphthylene	1.68	3.00	56.0%	1.68	3.00	56.0%	0.0%
Acenaphthene	1.75	3.00	58.3%	1.74	3.00	58.0%	0.6%
Fluorene	1.89	3.00	63.0%	1.88	3.00	62.7%	0.5%
Phenanthrene	1.94	3.00	64.7%	1.96	3.00	65.3%	1.0%
Anthracene	1.88	3.00	62.7%	1.89	3.00	63.0%	0.5%
Fluoranthene	2.14	3.00	71.3%	2.16	3.00	72.0%	0.9%
Pyrene	1.93	3.00	64.3%	1.96	3.00	65.3%	1.5%
Benzo(a)anthracene	1.99	3.00	66.3%	2.03	3.00	67.7%	2.0%
Chrysene	2.12	3.00	70.7%	2.11	3.00	70.3%	0.5%
Benzo(b)fluoranthene	2.22	3.00	74.0%	2.12	3.00	70.7%	4.6%
Benzo(k)fluoranthene	2.11	3.00	70.3%	2.16	3.00	72.0%	2.3%
Benzo(a)pyrene	1.87	3.00	62.3%	1.96	3.00	65.3%	4.7%
Indeno(1,2,3-cd)pyrene	1.91	3.00	63.7%	2.04	3.00	68.0%	6.6%
Dibenz(a,h)anthracene	1.85	3.00	61.7%	1.95	3.00	65.0%	5.3%
Benzo(g,h,i)perylene	1.88	3.00	62.7%	1.97	3.00	65.7%	4.7%
Dibenzofuran	1.82	3.00	60.7%	1.83	3.00	61.0%	0.5%
Total Benzofluoranthenes	6.33	9.00	70.3%	6.25	9.00	69.4%	1.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-Fluoranthene	77.3%	75.0%
d10-2-Methylnaphthalene	64.0%	64.0%
d14-Dibenzo(a,h)anthracene	63.7%	67.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS **Sample ID: MB-011614**
Extraction Method: SW3520C **METHOD BLANK**

Lab Sample ID: MB-011614
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: NA
Date Received: NA

Date Extracted: 01/16/14
Date Analyzed: 01/20/14 14:56
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	77.7%
d10-2-Methylnaphthalene	64.0%
d14-Dibenzo(a,h)anthracene	62.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Extraction Method: SW3510C
Page 1 of 1

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

Matrix: Water

Date Received: 01/10/14

Data Release Authorized:
Reported: 01/23/14

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DF	Range/Surrogate	RL	Result
MB-011614	Method Blank	01/16/14	01/22/14	1.00	Diesel Range	0.10	< 0.10 U
14-696	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		101%
XU34A	MW-1-011014	01/16/14	01/22/14	1.00	Diesel Range	0.10	< 0.10 U
14-696	HC ID: ---		FID9	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		87.7%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel range quantitation on total peaks in the range from C12 to C24.
Motor Oil range quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

ANALYTICAL RESOURCES INCORPORATED

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12

Client ID	OTER	TOT OUT
MB-011614	101%	0
LCS-011614	100%	0
LCSD-011614	98.3%	0
MW-1-011014	87.7%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

Prep Method: SW3510C
Log Number Range: 14-696 to 14-696

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID
Page 1 of 1

Sample ID: LCS-011614
LCS/LCSD

Lab Sample ID: LCS-011614
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/23/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 01/16/14

Date Analyzed LCS: 01/22/14 16:03
LCSD: 01/22/14 16:23
Instrument/Analyst LCS: FID9/JLW
LCSD: FID9/JLW

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	3.16	3.00	105%	3.31	3.00	110%	4.6%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	100%	98.3%

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
Date Received: 01/10/14

ARI Job: XU34
Project: Walker Chevrolet
11008-004-12

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
14-696-011614MB1	Method Blank	500 mL	1.00 mL	01/16/14
14-696-011614LCS1	Lab Control	500 mL	1.00 mL	01/16/14
14-696-011614LCSD1	Lab Control Dup	500 mL	1.00 mL	01/16/14
14-696-XU34A	MW-1-011014	500 mL	1.00 mL	01/16/14

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12

Data Release Authorized:
Reported: 01/15/14

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-011414	Method Blank	01/14/14	1.0	Gasoline	< 0.25 U
14-696		PID1		HC ID	---
				Trifluorotoluene	99.1%
				Bromobenzene	95.8%
XU34A	MW-1-011014	01/14/14	1.0	Gasoline	< 0.25 U
14-696		PID1		HC ID	---
				Trifluorotoluene	97.0%
				Bromobenzene	94.7%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: XU34
Matrix: Water

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12

Client ID	TFT	BBZ	TOT OUT
MB-011414	99.1%	95.8%	0
LCS-011414	113%	101%	0
LCSD-011414	114%	103%	0
MW-1-011014	97.0%	94.7%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

Log Number Range: 14-696 to 14-696

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: LCS-011414
LAB CONTROL SAMPLE

Lab Sample ID: LCS-011414
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/15/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 01/14/14 10:36
LCSD: 01/14/14 11:05
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor LCS: 1.0
LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	2.46	2.50	98.4%	2.55	2.50	102%	3.6%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	113%	114%
Bromobenzene	101%	103%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-1-011014
SAMPLE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	01/14/14	200.8	01/20/14	**7439-89-6**	**Iron**	100	**4,070**	
200.8	01/14/14	200.8	01/20/14	**7439-92-1**	**Lead**	0.1	**2.0**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-1-011014
MATRIX SPIKE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Iron	200.8	4,070	11,300	5,000	145%	N
Lead	200.8	2.0	23.2	25.0	84.8%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-1-011014
DUPLICATE

Lab Sample ID: XU34A
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Iron	200.8	4,070	6,450	45.2%	+/- 20%	*
Lead	200.8	2.0	2.3	14.0%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: XU34LCS
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	200.8	5120	5000	102%	
Lead	200.8	23.1	25.0	92.4%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: XU34MB
LIMS ID: 14-696
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU34-Aspect Consulting
Project: Walker Chevrolet
11008-004-12
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	01/14/14	200.8	01/20/14	7439-89-6	Iron	20	20	U
200.8	01/14/14	200.8	01/20/14	7439-92-1	Lead	0.1	0.1	U

U-Analyte undetected at given RL
RL-Reporting Limit

SAMPLE RESULTS-CONVENTIONALS
XU34-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Client ID: MW-1-011014
ARI ID: 14-696 XU34A

Analyte	Date Batch	Method	Units	RL	Sample
N-Nitrate	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	0.2
N-Nitrite	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
Sulfate	01/18/14 011814#1	EPA 300.0	mg/L	0.2	8.8
Total Organic Carbon	01/17/14 011714#1	EPA 9060M	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
XU34-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: XU34A Client ID: MW-1-011014							
N-Nitrate	EPA 300.0	01/11/14	mg-N/L	0.2	2.1	2.0	95.0%
N-Nitrite	EPA 300.0	01/11/14	mg-N/L	< 0.1	2.0	2.0	100.0%
Sulfate	EPA 300.0	01/18/14	mg/L	8.8	18.0	10.0	92.0%

REPLICATE RESULTS-CONVENTIONALS
XU34-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: 01/10/14
Date Received: 01/10/14

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: XU34A Client ID: MW-1-011014						
N-Nitrate	EPA 300.0	01/11/14	mg-N/L	0.2	0.2	0.0%
N-Nitrite	EPA 300.0	01/11/14	mg-N/L	< 0.1	< 0.1	NA
Sulfate	EPA 300.0	01/18/14	mg/L	8.8	8.8	0.0%

METHOD BLANK RESULTS-CONVENTIONALS
XU34-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
N-Nitrate	EPA 300.0	01/11/14	mg-N/L	< 0.1 U	
N-Nitrite	EPA 300.0	01/11/14	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	01/18/14	mg/L	< 0.1 U	
Total Organic Carbon	EPA 9060M	01/17/14	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
XU34-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 11008-004-12
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
N-Nitrate ERA #220912	EPA 300.0	01/11/14	mg-N/L	2.9	3.0	96.7%
N-Nitrite ERA 490412	EPA 300.0	01/11/14	mg-N/L	3.0	3.0	100.0%
Sulfate ERA 240312	EPA 300.0	01/18/14	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA #0408-13-02	EPA 9060M	01/17/14	mg/L	19.6	20.0	98.0%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

January 30, 2014

Alan Noell
Aspect Consulting
401 - 2nd Avenue, Suite 201
Seattle, WA 98104

RE: Walker Chevrolet, 080190
ARI Job: XU35

Dear Alan:

Please find enclosed the Chain of Custody record (COC), sample receipt documentation, and the final results for samples from the project referenced above. Analytical Resources, Inc. accepted three water samples on January 10, 2014. For further details regarding sample receipt, please refer to the enclosed Cooler Receipt Form.

The samples were analyzed for VOCs, PAHs, PCBs, total metals, and various conventional parameters, as requested.

The matrix spike percent recovery of iron was outside the control limits high for sample **MW-5-010914**. All relevant data have been flagged with an "N" qualifier on the Form V. No further corrective action was taken.

The duplicate RPD of iron was outside the control limit for sample **MW-5-010914**. All relevant data have been flagged with a "*" qualifier on the Form VI. No further corrective action was taken.

Sample **MW-5-010914** was initially analyzed within the method recommended holding time of forty-eight hours for nitrate and nitrite. Due to failing closing calibrations, the sample was re-analyzed outside the method recommended holing time. Only the re-analysis results for nitrate and nitrite have been reported. No further corrective action was taken.

An electronic copy of this report as well as all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,
ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
(206) 695-6214
cheronneo@arilabs.com

cc: eFile XU35

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: XL135	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: Aspect Consulting	Phone: (206) 838-0592	Date: 1/10/14	Ice Present? Y
Client Contact: Alan Noell		No. of Coolers: 1	Cooler Temps: 5.6
Client Project Name: Walker Chevrolet			
Client Project #: 080190	Samplers: JLO		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested: VOAs (8260)	cPAHs (8270)	PCBs (8082)	[illegible] (300.0)	NO3, NO2, SO4 (300)	TPC (415.1)	Pb (200.8)		Notes/Comments
MW-5-010914	1/9/14	09:30	water	10	X	X	X	X	X	X	X		
MW-8D-011014	1/10/14	11:15	water	7	X			X	X	X			
MW-12D-011014	1/10/14	14:50	water	4	X								

Comments/Special Instructions	Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by (Signature)
	Printed Name: Judy Oleson	Printed Name: Jennifer Millsap	Printed Name:	Printed Name
	Company: Aspect Cons.	Company: ARI	Company:	Company:
	Date & Time: 1/10/14 17:45	Date & Time: 1/10/14 1745	Date & Time:	Date & Time:

XL135 : 080190

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect

COC No(s): _____ (NA)

Assigned ARI Job No: XU135

Project Name: Walker Chevrolet

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Tracking No. _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.6

Time 1743

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877952

Cooler Accepted by: JM Date 1/10/14 Time: 1745

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? (Bubble Wrap) (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? YES (NO)

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? YES (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA (YES) NO

Were all VOC vials free of air bubbles? NA (YES) NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI.. (NA) _____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by JM Date: 1/13/14 Time: 743

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

TIC was collected in a HDPE bottle

By: JM Date: 1/13/14

Small Air Bubbles -2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • • •	● ● ●

Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

PRESERVATION VERIFICATION 01/13/14
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **XU35**

Inquiry Number: NONE
Analysis Requested: 01/13/14
Contact: Noell, Alan
Client: Aspect Consulting
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 01/10/14

Project #: 080190
Project: Walker Chevrolet
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	TPHD <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
14-697 **XU35A**	MW-5-010914						TOT Pass					Fail						TOC	<2		2 mL H2SO4	1-17-14 W
14-698 **XU35B**	MW-8D-011014						TOT Pass					Fail										

Samples arrived in lab unpreserved 1-17-14 W

Checked By JM Date 1/13/14

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: XU35
Client: Aspect Consulting
Project Event: 080190
Project Name: Walker Chevrolet

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-5-010914	XU35A	14-697	Water	01/09/14 09:30	01/10/14 17:45
2.	MW-8D-011014	XU35B	14-698	Water	01/10/14 11:15	01/10/14 17:45
3.	MW-12D-011014	XU35C	14-699	Water	01/10/14 14:50	01/10/14 17:45

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-5-010914**
 SAMPLE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized: MW
Reported: 01/16/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/09/14
Date Received: 01/10/14

Instrument/Analyst: NT2/LH
Date Analyzed: 01/15/14 18:29

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	**Chloroform**	**0.20**	**0.35**	
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	**Trichloroethene**	**0.20**	**0.46**	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-5-010914**
 SAMPLE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Date Analyzed: 01/15/14 18:29

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	103%
Bromofluorobenzene	97.7%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-8D-011014**
 SAMPLE

Lab Sample ID: XU35B
LIMS ID: 14-698
Matrix: Water
Data Release Authorized:
Reported: 01/16/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/10/14
Date Received: 01/10/14

Instrument/Analyst: NT2/LH
Date Analyzed: 01/15/14 18:56

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	**cis-1,2-Dichloroethene**	**0.20**	**42**	
67-66-3	**Chloroform**	**0.20**	**0.68**	
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	**Carbon Tetrachloride**	**0.20**	**1.7**	
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-8D-011014**
 SAMPLE

Lab Sample ID: XU35B
LIMS ID: 14-698
Matrix: Water
Date Analyzed: 01/15/14 18:56

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	**Naphthalene**	**0.50**	**0.80**	
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	98.2%
Bromofluorobenzene	98.4%
d4-1,2-Dichlorobenzene	99.7%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-12D-011014**
 SAMPLE

Lab Sample ID: XU35C
LIMS ID: 14-699
Matrix: Water
Data Release Authorized:
Reported: 01/16/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/10/14
Date Received: 01/10/14

Instrument/Analyst: NT2/LH
Date Analyzed: 01/15/14 19:23

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	**cis-1,2-Dichloroethene**	**0.20**	**22**	
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	**Trichloroethene**	**0.20**	**0.34**	
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	**Tetrachloroethene**	**0.20**	**0.70**	
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-12D-011014**
 SAMPLE

Lab Sample ID: XU35C
LIMS ID: 14-699
Matrix: Water
Date Analyzed: 01/15/14 19:23

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	101%
Bromofluorobenzene	94.7%
d4-1,2-Dichlorobenzene	98.6%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-011514A	Method Blank	10	102%	102%	102%	99.4%	0
LCS-011514A	Lab Control	10	101%	101%	102%	96.5%	0
LCSD-011514A	Lab Control Dup	10	103%	102%	102%	103%	0
XU35A	MW-5-010914	10	101%	103%	97.7%	102%	0
XU35B	MW-8D-011014	10	100%	98.2%	98.4%	99.7%	0
XU35C	MW-12D-011014	10	103%	101%	94.7%	98.6%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	(80-120)	(80-130)
(TOL) = d8-Toluene	(80-120)	(80-120)
(BFB) = Bromofluorobenzene	(80-120)	(80-120)
(DCB) = d4-1,2-Dichlorobenzene	(80-120)	(80-120)

Prep Method: SW5030B
Log Number Range: 14-697 to 14-699

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-011514A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-011514A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/16/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT2/LH
LCSD: NT2/LH
Date Analyzed LCS: 01/15/14 09:58
LCSD: 01/15/14 10:25

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.9	10.0	109%	10.7	10.0	107%	1.9%
Bromomethane	10.8	10.0	108%	10.7	10.0	107%	0.9%
Vinyl Chloride	9.88	10.0	98.8%	10.1	10.0	101%	2.2%
Chloroethane	10.4	10.0	104%	10.4	10.0	104%	0.0%
Methylene Chloride	9.77	10.0	97.7%	9.96	10.0	99.6%	1.9%
Acetone	52.0	50.0	104%	51.5	50.0	103%	1.0%
Carbon Disulfide	9.87	10.0	98.7%	9.79	10.0	97.9%	0.8%
1,1-Dichloroethene	10.0	10.0	100%	9.96	10.0	99.6%	0.4%
1,1-Dichloroethane	10.3	10.0	103%	10.4	10.0	104%	1.0%
trans-1,2-Dichloroethene	9.70	10.0	97.0%	9.87	10.0	98.7%	1.7%
cis-1,2-Dichloroethene	9.29	10.0	92.9%	9.35	10.0	93.5%	0.6%
Chloroform	10.0	10.0	100%	10.1	10.0	101%	1.0%
1,2-Dichloroethane	10.2	10.0	102%	10.2	10.0	102%	0.0%
2-Butanone	48.6	50.0	97.2%	49.2	50.0	98.4%	1.2%
1,1,1-Trichloroethane	9.91	10.0	99.1%	9.94	10.0	99.4%	0.3%
Carbon Tetrachloride	10.8	10.0	108%	10.9	10.0	109%	0.9%
Vinyl Acetate	9.74	10.0	97.4%	9.77	10.0	97.7%	0.3%
Bromodichloromethane	10.7	10.0	107%	10.6	10.0	106%	0.9%
1,2-Dichloropropane	10.7	10.0	107%	10.8	10.0	108%	0.9%
cis-1,3-Dichloropropene	9.72	10.0	97.2%	9.72	10.0	97.2%	0.0%
Trichloroethene	10.6	10.0	106%	10.4	10.0	104%	1.9%
Dibromochloromethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
1,1,2-Trichloroethane	9.76	10.0	97.6%	9.80	10.0	98.0%	0.4%
Benzene	9.91	10.0	99.1%	9.81	10.0	98.1%	1.0%
trans-1,3-Dichloropropene	9.94	10.0	99.4%	10.3	10.0	103%	3.6%
2-Chloroethylvinylether	9.82	10.0	98.2%	9.82	10.0	98.2%	0.0%
Bromoform	10.6	10.0	106%	11.0	10.0	110%	3.7%
4-Methyl-2-Pentanone (MIBK)	52.2	50.0	104%	51.8	50.0	104%	0.8%
2-Hexanone	49.8	50.0	99.6%	50.5	50.0	101%	1.4%
Tetrachloroethene	10.5	10.0	105%	10.4	10.0	104%	1.0%
1,1,2,2-Tetrachloroethane	9.61	10.0	96.1%	9.18	10.0	91.8%	4.6%
Toluene	9.73	10.0	97.3%	9.85	10.0	98.5%	1.2%
Chlorobenzene	9.91	10.0	99.1%	10.1	10.0	101%	1.9%
Ethylbenzene	10.1	10.0	101%	9.96	10.0	99.6%	1.4%
Styrene	10.2	10.0	102%	10.6	10.0	106%	3.8%
Trichlorofluoromethane	10.5	10.0	105%	10.4	10.0	104%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.4	10.0	104%	10.4	10.0	104%	0.0%
m,p-Xylene	20.1	20.0	100%	20.3	20.0	102%	1.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-011514A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-011514A QC Report No: XU35-Aspect Consulting
LIMS ID: 14-697 Project: Walker Chevrolet
Matrix: Water 080190

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	10.0	10.0	100%	10.1	10.0	101%	1.0%
1,2-Dichlorobenzene	9.46	10.0	94.6%	9.25	10.0	92.5%	2.2%
1,3-Dichlorobenzene	9.55	10.0	95.5%	9.61	10.0	96.1%	0.6%
1,4-Dichlorobenzene	9.31	10.0	93.1%	9.33	10.0	93.3%	0.2%
Acrolein	46.3	50.0	92.6%	44.4	50.0	88.8%	4.2%
Iodomethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
Bromoethane	10.2	10.0	102%	10.1	10.0	101%	1.0%
Acrylonitrile	9.61	10.0	96.1%	10.0	10.0	100%	4.0%
1,1-Dichloropropene	9.99	10.0	99.9%	9.77	10.0	97.7%	2.2%
Dibromomethane	9.59	10.0	95.9%	10.0	10.0	100%	4.2%
1,1,1,2-Tetrachloroethane	10.5	10.0	105%	11.3	10.0	113%	7.3%
1,2-Dibromo-3-chloropropane	8.71	10.0	87.1%	8.34	10.0	83.4%	4.3%
1,2,3-Trichloropropane	9.26	10.0	92.6%	9.29	10.0	92.9%	0.3%
trans-1,4-Dichloro-2-butene	9.44	10.0	94.4%	9.79	10.0	97.9%	3.6%
1,3,5-Trimethylbenzene	9.92	10.0	99.2%	9.64	10.0	96.4%	2.9%
1,2,4-Trimethylbenzene	9.79	10.0	97.9%	9.74	10.0	97.4%	0.5%
Hexachlorobutadiene	8.97	10.0	89.7%	9.14	10.0	91.4%	1.9%
1,2-Dibromoethane	10.2	10.0	102%	10.2	10.0	102%	0.0%
Bromochloromethane	9.88	10.0	98.8%	10.2	10.0	102%	3.2%
2,2-Dichloropropane	10.3	10.0	103%	10.1	10.0	101%	2.0%
1,3-Dichloropropane	9.51	10.0	95.1%	9.95	10.0	99.5%	4.5%
Isopropylbenzene	9.41	10.0	94.1%	9.53	10.0	95.3%	1.3%
n-Propylbenzene	9.59	10.0	95.9%	9.70	10.0	97.0%	1.1%
Bromobenzene	9.60	10.0	96.0%	9.69	10.0	96.9%	0.9%
2-Chlorotoluene	9.44	10.0	94.4%	9.37	10.0	93.7%	0.7%
4-Chlorotoluene	9.23	10.0	92.3%	9.45	10.0	94.5%	2.4%
tert-Butylbenzene	9.87	10.0	98.7%	9.79	10.0	97.9%	0.8%
sec-Butylbenzene	9.70	10.0	97.0%	9.71	10.0	97.1%	0.1%
4-Isopropyltoluene	9.58	10.0	95.8%	9.64	10.0	96.4%	0.6%
n-Butylbenzene	9.41	10.0	94.1%	9.19	10.0	91.9%	2.4%
1,2,4-Trichlorobenzene	9.94	10.0	99.4%	9.86	10.0	98.6%	0.8%
Naphthalene	9.96	10.0	99.6%	9.71	10.0	97.1%	2.5%
1,2,3-Trichlorobenzene	9.72	10.0	97.2%	9.66	10.0	96.6%	0.6%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	101%	103%
d8-Toluene	101%	102%
Bromofluorobenzene	102%	102%
d4-1,2-Dichlorobenzene	96.5%	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-011514A**
 METHOD BLANK

Lab Sample ID: MB-011514A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized: MW
Reported: 01/16/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT2/LH
Date Analyzed: 01/15/14 10:52

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	LOQ	Result	Q
74-87-3	Chloromethane	0.50	< 0.50	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.20	< 0.20	U
75-00-3	Chloroethane	0.20	< 0.20	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.20	< 0.20	U
75-35-4	1,1-Dichloroethene	0.20	< 0.20	U
75-34-3	1,1-Dichloroethane	0.20	< 0.20	U
156-60-5	trans-1,2-Dichloroethene	0.20	< 0.20	U
156-59-2	cis-1,2-Dichloroethene	0.20	< 0.20	U
67-66-3	Chloroform	0.20	< 0.20	U
107-06-2	1,2-Dichloroethane	0.20	< 0.20	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.20	< 0.20	U
56-23-5	Carbon Tetrachloride	0.20	< 0.20	U
108-05-4	Vinyl Acetate	0.20	< 0.20	U
75-27-4	Bromodichloromethane	0.20	< 0.20	U
78-87-5	1,2-Dichloropropane	0.20	< 0.20	U
10061-01-5	cis-1,3-Dichloropropene	0.20	< 0.20	U
79-01-6	Trichloroethene	0.20	< 0.20	U
124-48-1	Dibromochloromethane	0.20	< 0.20	U
79-00-5	1,1,2-Trichloroethane	0.20	< 0.20	U
71-43-2	Benzene	0.20	< 0.20	U
10061-02-6	trans-1,3-Dichloropropene	0.20	< 0.20	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.20	< 0.20	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.20	< 0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	< 0.20	U
108-88-3	Toluene	0.20	< 0.20	U
108-90-7	Chlorobenzene	0.20	< 0.20	U
100-41-4	Ethylbenzene	0.20	< 0.20	U
100-42-5	Styrene	0.20	< 0.20	U
75-69-4	Trichlorofluoromethane	0.20	< 0.20	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	< 0.20	U
179601-23-1	m,p-Xylene	0.40	< 0.40	U
95-47-6	o-Xylene	0.20	< 0.20	U
95-50-1	1,2-Dichlorobenzene	0.20	< 0.20	U
541-73-1	1,3-Dichlorobenzene	0.20	< 0.20	U
106-46-7	1,4-Dichlorobenzene	0.20	< 0.20	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-011514A**
 METHOD BLANK

Lab Sample ID: MB-011514A QC Report No: XU35-Aspect Consulting
LIMS ID: 14-697 Project: Walker Chevrolet
Matrix: Water 080190
Date Analyzed: 01/15/14 10:52

CAS Number	Analyte	LOQ	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Iodomethane	1.0	< 1.0	U
74-96-4	Bromoethane	0.20	< 0.20	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.20	< 0.20	U
74-95-3	Dibromomethane	0.20	< 0.20	U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	< 0.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	< 0.50	U
96-18-4	1,2,3-Trichloropropane	0.50	< 0.50	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.20	< 0.20	U
95-63-6	1,2,4-Trimethylbenzene	0.20	< 0.20	U
87-68-3	Hexachlorobutadiene	0.50	< 0.50	U
106-93-4	1,2-Dibromoethane	0.20	< 0.20	U
74-97-5	Bromochloromethane	0.20	< 0.20	U
594-20-7	2,2-Dichloropropane	0.20	< 0.20	U
142-28-9	1,3-Dichloropropane	0.20	< 0.20	U
98-82-8	Isopropylbenzene	0.20	< 0.20	U
103-65-1	n-Propylbenzene	0.20	< 0.20	U
108-86-1	Bromobenzene	0.20	< 0.20	U
95-49-8	2-Chlorotoluene	0.20	< 0.20	U
106-43-4	4-Chlorotoluene	0.20	< 0.20	U
98-06-6	tert-Butylbenzene	0.20	< 0.20	U
135-98-8	sec-Butylbenzene	0.20	< 0.20	U
99-87-6	4-Isopropyltoluene	0.20	< 0.20	U
104-51-8	n-Butylbenzene	0.20	< 0.20	U
120-82-1	1,2,4-Trichlorobenzene	0.50	< 0.50	U
91-20-3	Naphthalene	0.50	< 0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	< 0.50	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	102%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	99.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MW-5-010914
SAMPLE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/17/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
Event: 080190
Date Sampled: 01/09/14
Date Received: 01/10/14

Date Extracted: 01/15/14
Date Analyzed: 01/17/14 13:11
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.10**	**0.14**
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	71.7%
d10-2-Methylnaphthalene	53.0%
d14-Dibenzo(a,h)anthracene	39.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

Client ID	FLN	MNP	DBA	TOT OUT
MB-011514	74.0%	57.7%	43.7%	0
LCS-011514	78.0%	63.7%	60.3%	0
LCSD-011514	72.0%	59.7%	43.3%	0
MW-5-010914	71.7%	53.0%	39.3%	0

	LCS/MB LIMITS	QC LIMITS
(FLN) = d10-Fluoranthene	(52-125)	(46-121)
(MNP) = d10-2-Methylnaphthalene	(37-120)	(31-120)
(DBA) = d14-Dibenzo(a,h)anthracene	(16-132)	(10-125)

Prep Method: SW3520C
Log Number Range: 14-697 to 14-697

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LCS-011514
LAB CONTROL SAMPLE

Lab Sample ID: LCS-011514
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/17/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
Event: 080190
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 01/15/14

Date Analyzed LCS: 01/17/14 11:48
LCSD: 01/17/14 12:15
Instrument/Analyst LCS: NT8/JZ
LCSD: NT8/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.86	3.00	62.0%	1.77	3.00	59.0%	5.0%
2-Methylnaphthalene	1.77	3.00	59.0%	1.71	3.00	57.0%	3.4%
1-Methylnaphthalene	1.73	3.00	57.7%	1.66	3.00	55.3%	4.1%
Acenaphthylene	1.64	3.00	54.7%	1.58	3.00	52.7%	3.7%
Acenaphthene	1.82	3.00	60.7%	1.78	3.00	59.3%	2.2%
Fluorene	1.85	3.00	61.7%	1.83	3.00	61.0%	1.1%
Phenanthrene	2.01	3.00	67.0%	1.95	3.00	65.0%	3.0%
Anthracene	1.87	3.00	62.3%	1.72	3.00	57.3%	8.4%
Fluoranthene	2.18	3.00	72.7%	2.16	3.00	72.0%	0.9%
Pyrene	1.94	3.00	64.7%	1.87	3.00	62.3%	3.7%
Benzo(a)anthracene	1.97	3.00	65.7%	1.90	3.00	63.3%	3.6%
Chrysene	2.14	3.00	71.3%	2.06	3.00	68.7%	3.8%
Benzo(b)fluoranthene	2.15	3.00	71.7%	2.18	3.00	72.7%	1.4%
Benzo(k)fluoranthene	2.26	3.00	75.3%	2.31	3.00	77.0%	2.2%
Benzo(a)pyrene	1.85	3.00	61.7%	1.86	3.00	62.0%	0.5%
Indeno(1,2,3-cd)pyrene	2.05	3.00	68.3%	2.04	3.00	68.0%	0.5%
Dibenz(a,h)anthracene	1.79	3.00	59.7%	1.90	3.00	63.3%	6.0%
Benzo(g,h,i)perylene	2.07	3.00	69.0%	2.03	3.00	67.7%	2.0%
Dibenzofuran	1.90	3.00	63.3%	1.87	3.00	62.3%	1.6%
Total Benzofluoranthenes	6.49	9.00	72.1%	6.62	9.00	73.6%	2.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-Fluoranthene	78.0%	72.0%
d10-2-Methylnaphthalene	63.7%	59.7%
d14-Dibenzo(a,h)anthracene	60.3%	43.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Extraction Method: SW3520C

Sample ID: MB-011514
METHOD BLANK

Lab Sample ID: MB-011514
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/17/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
Event: 080190
Date Sampled: NA
Date Received: NA

Date Extracted: 01/15/14
Date Analyzed: 01/17/14 10:52
Instrument/Analyst: NT8/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
205-99-2	Benzo(b)fluoranthene	0.10	< 0.10 U
207-08-9	Benzo(k)fluoranthene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-Fluoranthene	74.0%
d10-2-Methylnaphthalene	57.7%
d14-Dibenzo(a,h)anthracene	43.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C
Page 1 of 1

Sample ID: MW-5-010914
SAMPLE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/22/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/09/14
Date Received: 01/10/14

Date Extracted: 01/15/14
Date Analyzed: 01/20/14 21:30
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	< 0.10 U
11097-69-1	Aroclor 1254	0.10	< 0.10 U
11096-82-5	Aroclor 1260	0.10	< 0.10 U
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	56.5%
Tetrachlorometaxylene	58.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-011514	87.8%	39-116	61.0%	29-100	0
LCS-011514	87.5%	39-116	58.0%	29-100	0
LCSD-011514	86.2%	39-116	60.5%	29-100	0
MW-5-010914	56.5%	10-128	58.2%	25-100	0

Prep Method: SW3510C
Log Number Range: 14-697 to 14-697

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-011514
LCS/LCSD

Lab Sample ID: LCS-011514
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/22/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 01/15/14

Date Analyzed LCS: 01/20/14 20:30
LCSD: 01/20/14 20:50
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.685	1.00	68.5%	0.695	1.00	69.5%	1.4%
Aroclor 1260	0.846	1.00	84.6%	0.843	1.00	84.3%	0.4%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	87.5%	86.2%
Tetrachlorometaxylene	58.0%	60.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C
Page 1 of 1

Sample ID: MB-011514
METHOD BLANK

Lab Sample ID: MB-011514
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/22/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

Date Extracted: 01/15/14
Date Analyzed: 01/20/14 20:09
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.10	< 0.10 U
53469-21-9	Aroclor 1242	0.10	< 0.10 U
12672-29-6	Aroclor 1248	0.10	< 0.10 U
11097-69-1	Aroclor 1254	0.10	< 0.10 U
11096-82-5	Aroclor 1260	0.10	< 0.10 U
11104-28-2	Aroclor 1221	0.10	< 0.10 U
11141-16-5	Aroclor 1232	0.10	< 0.10 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	87.8%
Tetrachlorometaxylene	61.0%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-5-010914
SAMPLE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/09/14
Date Received: 01/10/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	01/15/14	200.8	01/20/14	**7439-89-6**	**Iron**	100	**11,500**	
200.8	01/15/14	200.8	01/20/14	**7439-92-1**	**Lead**	0.1	**5.8**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-8D-011014
SAMPLE

Lab Sample ID: XU35B
LIMS ID: 14-698
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/10/14
Date Received: 01/10/14

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	01/15/14	200.8	01/20/14	**7439-89-6**	**Iron**	20	**790**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-5-010914
MATRIX SPIKE

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/09/14
Date Received: 01/10/14

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Iron	200.8	11,500	24,300	5,000	256%	N
Lead	200.8	5.8	27.6	25.0	87.2%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: MW-5-010914**
Page 1 of 1 **DUPLICATE**

Lab Sample ID: XU35A
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: 01/09/14
Date Received: 01/10/14

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Iron	200.8	11,500	20,800	57.6%	+/- 20%	*
Lead	200.8	5.8	6.7	14.4%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: XU35LCS
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	200.8	5000	5000	100%	
Lead	200.8	24.3	25.0	97.2%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: XU35MB
LIMS ID: 14-697
Matrix: Water
Data Release Authorized:
Reported: 01/21/14

QC Report No: XU35-Aspect Consulting
Project: Walker Chevrolet
080190
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	01/15/14	200.8	01/20/14	7439-89-6	Iron	20	20	U
200.8	01/15/14	200.8	01/20/14	7439-92-1	Lead	0.1	0.1	U

U-Analyte undetected at given RL
RL-Reporting Limit

SAMPLE RESULTS-CONVENTIONALS
XU35-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 080190
Date Sampled: 01/09/14
Date Received: 01/10/14

Client ID: MW-5-010914
ARI ID: 14-697 XU35A

Analyte	Date Batch	Method	Units	RL	Sample
N-Nitrate	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	0.7
N-Nitrite	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
Sulfate	01/18/14 011814#1	EPA 300.0	mg/L	0.5	20.6
Total Organic Carbon	01/17/14 011714#1	EPA 9060M	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
XU35-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 080190
Date Sampled: 01/10/14
Date Received: 01/10/14

Client ID: MW-8D-011014
ARI ID: 14-698 XU35B

Analyte	Date Batch	Method	Units	RL	Sample
N-Nitrate	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	1.6
N-Nitrite	01/11/14 011114#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
Sulfate	01/18/14 011814#1	EPA 300.0	mg/L	1.0	22.8
Total Organic Carbon	01/17/14 011714#1	EPA 9060M	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
XU35-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 080190
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
N-Nitrate	EPA 300.0	01/11/14	mg-N/L	< 0.1 U	
N-Nitrite	EPA 300.0	01/11/14	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	01/18/14	mg/L	< 0.1 U	
Total Organic Carbon	EPA 9060M	01/17/14	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
XU35-Aspect Consulting

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 01/28/14

Project: Walker Chevrolet
Event: 080190
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
N-Nitrate ERA #220912	EPA 300.0	01/11/14	mg-N/L	2.9	3.0	96.7%
N-Nitrite ERA 490412	EPA 300.0	01/11/14	mg-N/L	3.0	3.0	100.0%
Sulfate ERA 240312	EPA 300.0	01/18/14	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA #0408-13-02	EPA 9060M	01/17/14	mg/L	19.6	20.0	98.0%

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Kurt Johnson, 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, 2014

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 23, 2014 from the Walker Chevrolet, F&BI 401273 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
ASP0206R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 23, 2014 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, F&BI 401273 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
401273 -01	MW-11-012314
401273 -02	MW-14D-012314

Bromomethane in the 8260C matrix spike, laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The analyte was not detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273
Date Extracted: 01/27/14
Date Analyzed: 01/27/14

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW-11-012314 401273-01	<100	86
Method Blank 04-0151 MB	<100	88

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273
Date Extracted: 01/24/14
Date Analyzed: 01/24/14

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW-11-012314 401273-01	<50	<250	114
Method Blank 04-164 MB2	<50	<250	113

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-012314	Client:	Aspect Consulting, LLC
Date Received:	01/23/14	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/28/14	Lab ID:	401273-01
Date Analyzed:	01/28/14	Data File:	401273-01.022
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	86	60	125

Analyte:	Concentration ug/L (ppb)
Lead	2.44

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/28/14	Lab ID:	I4-044 mb
Date Analyzed:	01/28/14	Data File:	I4-044 mb.017
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	93	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-012314	Client:	Aspect Consulting, LLC
Date Received:	01/23/14	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/24/14	Lab ID:	401273-01
Date Analyzed:	01/24/14	Data File:	012412.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	94	63	127
4-Bromofluorobenzene	95	60	133

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	<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	1.4	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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14D-012314	Client:	Aspect Consulting, LLC
Date Received:	01/23/14	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/24/14	Lab ID:	401273-02
Date Analyzed:	01/24/14	Data File:	012413.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	95	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	2.4
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	4.5	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	1.0	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	2.0
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/24/14	Lab ID:	04-0055 mb
Date Analyzed:	01/24/14	Data File:	012407.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

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

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	<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

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-11-012314	Client:	Aspect Consulting, LLC
Date Received:	01/23/14	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/27/14	Lab ID:	401273-01
Date Analyzed:	01/29/14	Data File:	012837.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	81	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.15
Acenaphthylene	<0.05
Acenaphthene	<0.05
Fluorene	<0.05
Phenanthrene	<0.05
Anthracene	<0.05
Fluoranthene	<0.05
Pyrene	<0.05
Benz(a)anthracene	<0.05
Chrysene	<0.05
Benzo(a)pyrene	<0.05
Benzo(b)fluoranthene	<0.05
Benzo(k)fluoranthene	<0.05
Indeno(1,2,3-cd)pyrene	<0.05
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	<0.05

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/27/14	Lab ID:	04-175 mb
Date Analyzed:	01/28/14	Data File:	012816.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	50	150
Benzo(a)anthracene-d12	95	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.05
Acenaphthylene	<0.05
Acenaphthene	<0.05
Fluorene	<0.05
Phenanthrene	<0.05
Anthracene	<0.05
Fluoranthene	<0.05
Pyrene	<0.05
Benz(a)anthracene	<0.05
Chrysene	<0.05
Benzo(a)pyrene	<0.05
Benzo(b)fluoranthene	<0.05
Benzo(k)fluoranthene	<0.05
Indeno(1,2,3-cd)pyrene	<0.05
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	<0.05

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-11-012314	Client:	Aspect Consulting, LLC
Date Received:	01/23/14	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/30/14	Lab ID:	401273-01
Date Analyzed:	01/31/14	Data File:	36.D\ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mwdl

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	75	50	150

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet, F&BI 401273
Date Extracted:	01/30/14	Lab ID:	04-217 mb
Date Analyzed:	01/31/14	Data File:	26.D\ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mwdl

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	168 vo	50	150

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: 401285-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	98	69-134

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	105	103	58-134	2

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: 401312-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	3.25	97 b	88 b	79-121	10 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	97	83-115

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: 401255-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	102	10-172
Chloromethane	ug/L (ppb)	50	<10	90	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	93	36-166
Bromomethane	ug/L (ppb)	50	<1	193 vo	47-169
Chloroethane	ug/L (ppb)	50	<1	139	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	105	44-165
Acetone	ug/L (ppb)	250	<10	94	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	60-136
Methylene chloride	ug/L (ppb)	50	<5	105	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	99	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	98	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	128	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	71-127
Chloroform	ug/L (ppb)	50	<1	98	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	96	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	104	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	96	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	107	56-152
Benzene	ug/L (ppb)	50	<0.35	94	76-125
Trichloroethene	ug/L (ppb)	50	<1	97	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	96	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	103	61-150
Dibromomethane	ug/L (ppb)	50	<1	99	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	99	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	107	72-132
Toluene	ug/L (ppb)	50	110	167 b	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	105	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	97	68-131
2-Hexanone	ug/L (ppb)	250	<10	98	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	95	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	97	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	112	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	104	69-134
Chlorobenzene	ug/L (ppb)	50	<1	97	77-122
Ethylbenzene	ug/L (ppb)	50	<1	97	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	111	73-137
m,p-Xylene	ug/L (ppb)	100	<2	98	69-135
o-Xylene	ug/L (ppb)	50	<1	102	60-140
Styrene	ug/L (ppb)	50	<1	102	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	102	65-142
Bromoform	ug/L (ppb)	50	<1	103	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	98	58-144
Bromobenzene	ug/L (ppb)	50	<1	96	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	101	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	103	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	92	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	96	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	96	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	102	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	101	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	99	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	101	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	95	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	97	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	112	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	96	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	83	60-143
Naphthalene	ug/L (ppb)	50	<1	100	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	93	69-148

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	108	113	25-158	5
Chloromethane	ug/L (ppb)	50	96	97	45-156	1
Vinyl chloride	ug/L (ppb)	50	98	98	50-154	0
Bromomethane	ug/L (ppb)	50	183 vo	189 vo	55-143	3
Chloroethane	ug/L (ppb)	50	140	141	58-146	1
Trichlorofluoromethane	ug/L (ppb)	250	112	113	50-150	1
Acetone	ug/L (ppb)	250	113	113	53-131	0
1,1-Dichloroethene	ug/L (ppb)	50	102	103	67-136	1
Methylene chloride	ug/L (ppb)	50	95	97	39-148	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	102	103	64-147	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	100	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	99	100	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	142	143	55-143	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	101	80-123	2
Chloroform	ug/L (ppb)	50	96	97	80-121	1
2-Butanone (MEK)	ug/L (ppb)	250	104	106	57-149	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	98	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	107	108	83-130	1
1,1-Dichloropropene	ug/L (ppb)	50	96	97	77-129	1
Carbon tetrachloride	ug/L (ppb)	50	112	115	75-158	3
Benzene	ug/L (ppb)	50	94	95	69-134	1
Trichloroethene	ug/L (ppb)	50	96	98	80-120	2
1,2-Dichloropropane	ug/L (ppb)	50	98	99	77-123	1
Bromodichloromethane	ug/L (ppb)	50	103	104	81-133	1
Dibromomethane	ug/L (ppb)	50	99	100	82-125	1
4-Methyl-2-pentanone	ug/L (ppb)	250	104	105	65-138	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	111	112	82-132	1
Toluene	ug/L (ppb)	50	94	95	72-122	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	108	109	80-136	1
1,1,2-Trichloroethane	ug/L (ppb)	50	97	98	75-124	1
2-Hexanone	ug/L (ppb)	250	101	101	60-136	0
1,3-Dichloropropane	ug/L (ppb)	50	95	96	76-126	1
Tetrachloroethene	ug/L (ppb)	50	97	98	76-121	1
Dibromochloromethane	ug/L (ppb)	50	113	116	84-133	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	105	106	82-125	1
Chlorobenzene	ug/L (ppb)	50	96	97	83-114	1
Ethylbenzene	ug/L (ppb)	50	97	99	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	112	114	84-127	2
m,p-Xylene	ug/L (ppb)	100	98	99	83-125	1
o-Xylene	ug/L (ppb)	50	101	103	81-121	2
Styrene	ug/L (ppb)	50	104	105	84-119	1
Isopropylbenzene	ug/L (ppb)	50	103	105	85-117	2
Bromoform	ug/L (ppb)	50	106	109	74-136	3
n-Propylbenzene	ug/L (ppb)	50	99	100	74-126	1
Bromobenzene	ug/L (ppb)	50	96	97	80-121	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	102	104	78-123	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	104	104	66-126	0
1,2,3-Trichloropropane	ug/L (ppb)	50	95	96	67-124	1
2-Chlorotoluene	ug/L (ppb)	50	97	98	77-127	1
4-Chlorotoluene	ug/L (ppb)	50	96	98	78-128	2
tert-Butylbenzene	ug/L (ppb)	50	103	104	80-123	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	102	104	79-122	2
sec-Butylbenzene	ug/L (ppb)	50	102	104	80-125	2
p-Isopropyltoluene	ug/L (ppb)	50	103	104	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	50	97	98	85-116	1
1,4-Dichlorobenzene	ug/L (ppb)	50	95	97	84-121	2
1,2-Dichlorobenzene	ug/L (ppb)	50	97	99	85-116	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	124	123	57-141	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	101	102	72-130	1
Hexachlorobutadiene	ug/L (ppb)	50	94	95	53-141	1
Naphthalene	ug/L (ppb)	50	105	107	64-133	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	98	100	65-136	2

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	89	89	67-116	0
Acenaphthylene	ug/L (ppb)	1	92	93	65-119	1
Acenaphthene	ug/L (ppb)	1	92	92	66-118	0
Fluorene	ug/L (ppb)	1	102	93	64-125	9
Phenanthrene	ug/L (ppb)	1	91	91	67-120	0
Anthracene	ug/L (ppb)	1	93	92	65-122	1
Fluoranthene	ug/L (ppb)	1	95	94	65-127	1
Pyrene	ug/L (ppb)	1	92	95	62-130	3
Benz(a)anthracene	ug/L (ppb)	1	88	90	60-118	2
Chrysene	ug/L (ppb)	1	96	94	66-125	2
Benzo(b)fluoranthene	ug/L (ppb)	1	108	107	55-135	1
Benzo(k)fluoranthene	ug/L (ppb)	1	105	104	62-125	1
Benzo(a)pyrene	ug/L (ppb)	1	102	103	58-127	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	96	99	36-142	3
Dibenz(a,h)anthracene	ug/L (ppb)	1	87	78	37-133	11
Benzo(g,h,i)perylene	ug/L (ppb)	1	86	85	34-135	1

Date of Report: 02/06/14
Date Received: 01/23/14
Project: Walker Chevrolet, F&BI 401273

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	2.5	101	93	70-130	8
Aroclor 1260	ug/L (ppb)	2.5	100	95	70-130	5

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

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. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

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

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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.

401273

SAMPLE CHAIN OF CUSTODY

ME 01/23/14 AES/V2

Page # 1 of

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave. S., Ste 201
City, State, ZIP Seattle, WA 98104
Phone #(206) 328-7443 Fax #(206) 838-5853

SAMPLERS (signature)

PROJECT NAME/NO.: Walker Chevrolet
PO#: 080190-004-11

REMARKS

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	PAHs by 8270	HFS	Pb-total (200.8)	PCBs (8082)					Notes
MW-11-012314	01 A-L	1/23/14	10:10	water	12	X	X		X	X		X	X					
MW-14D-012314	02 A-D	1/23/14	11.55	water	4				X									
														Samples received at 2 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Judy Oleson	Aspect	1/23/14	1:45
Received by:	DAVID	FEDEX	1/24	15:45
Relinquished by:				
Received by:				

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

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

January 24, 2014

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 8, 2014 from the Walker 080190, F&BI 401081 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
ASP0124R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 8, 2014 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker 080190, F&BI 401081 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
401081 -01	MW-20-010814
401081 -02	MW-19-010814
401081 -03	MW-07-010714

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

Dibenz(a,h)anthracene in the 8270D laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

Several compounds in the 8260C matrix spike, laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The analytes were not detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-20-010814	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/15/14	Lab ID:	401081-01 x10
Date Analyzed:	01/15/14	Data File:	401081-01 x10.056
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	97	60	125

Analyte:	Concentration ug/L (ppb)
Iron	40,800

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-19-010814	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/15/14	Lab ID:	401081-02 x100
Date Analyzed:	01/15/14	Data File:	401081-02 x100.060
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125

Analyte:	Concentration ug/L (ppb)
Iron	113,000

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-07-010714	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/15/14	Lab ID:	401081-03
Date Analyzed:	01/15/14	Data File:	401081-03.050
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	99	60	125
Holmium	81	60	125

Analyte:	Concentration ug/L (ppb)
Lead	3.53
Iron	14,300 ve

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-07-010714	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/15/14	Lab ID:	401081-03 x10
Date Analyzed:	01/15/14	Data File:	401081-03 x10.058
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	85	60	125
Holmium	81	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<10
Iron	14,500

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/15/14	Lab ID:	I4-026 mb
Date Analyzed:	01/15/14	Data File:	I4-026 mb.047
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	104	60	125
Holmium	101	60	125

Analyte:	Concentration ug/L (ppb)
Lead	<1
Iron	<20

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-20-010814	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/09/14	Lab ID:	401081-01
Date Analyzed:	01/09/14	Data File:	010928.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	140
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	43	Bromobenzene	<1
Chloroform	2.2	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	3.6	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	16	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-19-010814	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/09/14	Lab ID:	401081-02
Date Analyzed:	01/09/14	Data File:	010929.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	62
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	20	Bromobenzene	<1
Chloroform	3.8	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	7.0	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	4.8	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-07-010714	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/09/14	Lab ID:	401081-03
Date Analyzed:	01/09/14	Data File:	010930.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	1.4
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	1.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/09/14	Lab ID:	04-0040 mb
Date Analyzed:	01/09/14	Data File:	010926.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	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	<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

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-07-010714	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/10/14	Lab ID:	401081-03 1/2
Date Analyzed:	01/13/14	Data File:	011308.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	50	150
Benzo(a)anthracene-d12	86	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1 jl
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/10/14	Lab ID:	04-090 mb
Date Analyzed:	01/10/14	Data File:	011007.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	50	150
Benzo(a)anthracene-d12	87	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1 jl
Benzo(g,h,i)perylene	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-07-010714	Client:	Aspect Consulting, LLC
Date Received:	01/08/14	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/13/14	Lab ID:	401081-03
Date Analyzed:	01/14/14	Data File:	10.D\ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mcp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	67	50	150

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker 080190, F&BI 401081
Date Extracted:	01/13/14	Lab ID:	04-100 mb
Date Analyzed:	01/14/14	Data File:	08.D\ECD1A.CH
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	mcp

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	69	50	150

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1

Date of Report: 01/24/14
Date Received: 01/08/14
Project: Walker 080190, F&BI 401081

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

Laboratory Code: 401081-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	3.53	106 b	100 b	79-121	6 b
Iron	ug/L (ppb)	100	14,300	0 b	0 b	50-150	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	107	83-115
Iron	ug/L (ppb)	100	115	70-130

Date of Report: 01/24/14
Date Received: 01/08/14
Project: Walker 080190, F&BI 401081

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

Laboratory Code: 401071-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	110	92 b	55-144
Chloromethane	ug/L (ppb)	50	<10	92	67-131
Vinyl chloride	ug/L (ppb)	50	<0.2	97	61-139
Bromomethane	ug/L (ppb)	50	<1	195 vo	66-129
Chloroethane	ug/L (ppb)	50	<1	90	68-126
Trichlorofluoromethane	ug/L (ppb)	50	580	96 b	71-128
Acetone	ug/L (ppb)	250	<10	84	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	100	71-123
Methylene chloride	ug/L (ppb)	50	<5	78	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	91	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	95	58-132
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	73-119
Chloroform	ug/L (ppb)	50	<1	98	80-112
2-Butanone (MEK)	ug/L (ppb)	250	<10	92	69-123
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	94	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	108	79-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	107	72-123
Benzene	ug/L (ppb)	50	<0.35	97	79-109
Trichloroethene	ug/L (ppb)	50	<1	97	75-109
1,2-Dichloropropane	ug/L (ppb)	50	<1	98	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	107	78-117
Dibromomethane	ug/L (ppb)	50	<1	99	80-112
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	102	79-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	103	76-120
Toluene	ug/L (ppb)	50	<1	100	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	107	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	99	81-111
2-Hexanone	ug/L (ppb)	250	<10	101	75-126
1,3-Dichloropropane	ug/L (ppb)	50	<1	98	81-111
Tetrachloroethene	ug/L (ppb)	50	<1	101	72-113
Dibromochloromethane	ug/L (ppb)	50	<1	114	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	101	83-114
Chlorobenzene	ug/L (ppb)	50	<1	98	75-115
Ethylbenzene	ug/L (ppb)	50	<1	102	71-120
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	111	78-122
m,p-Xylene	ug/L (ppb)	100	<2	104	63-128
o-Xylene	ug/L (ppb)	50	<1	102	64-129
Styrene	ug/L (ppb)	50	<1	103	70-122
Isopropylbenzene	ug/L (ppb)	50	<1	105	76-118
Bromoform	ug/L (ppb)	50	<1	104	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	106	74-117
Bromobenzene	ug/L (ppb)	50	<1	103	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	106	81-112
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	106	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	99	72-119
2-Chlorotoluene	ug/L (ppb)	50	<1	102	77-114
4-Chlorotoluene	ug/L (ppb)	50	<1	103	81-109
tert-Butylbenzene	ug/L (ppb)	50	<1	111	81-116
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	106	74-118
sec-Butylbenzene	ug/L (ppb)	50	<1	109	77-118
p-Isopropyltoluene	ug/L (ppb)	50	<1	107	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	98	81-111
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	95	78-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	97	81-111
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	108	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	93	74-115
Hexachlorobutadiene	ug/L (ppb)	50	<1	95	67-120
Naphthalene	ug/L (ppb)	50	<1	98	63-136
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	91	79-115

Date of Report: 01/24/14
Date Received: 01/08/14
Project: Walker 080190, F&BI 401081

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	91	87	54-149	4
Chloromethane	ug/L (ppb)	50	88	85	67-133	3
Vinyl chloride	ug/L (ppb)	50	93	89	73-132	4
Bromomethane	ug/L (ppb)	50	188 vo	190 vo	69-123	1
Chloroethane	ug/L (ppb)	50	82	82	68-126	0
Trichlorofluoromethane	ug/L (ppb)	50	93	89	70-132	4
Acetone	ug/L (ppb)	250	81	83	44-145	2
1,1-Dichloroethene	ug/L (ppb)	50	98	94	75-119	4
Methylene chloride	ug/L (ppb)	50	167 vo	153 vo	63-132	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	94	91	70-122	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	97	95	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	97	93	80-116	4
2,2-Dichloropropane	ug/L (ppb)	50	101	96	62-141	5
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	90	81-111	4
Chloroform	ug/L (ppb)	50	97	95	81-109	2
2-Butanone (MEK)	ug/L (ppb)	250	94	95	53-140	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	93	79-109	2
1,1,1-Trichloroethane	ug/L (ppb)	50	105	102	80-116	3
1,1-Dichloropropene	ug/L (ppb)	50	95	93	78-112	2
Carbon tetrachloride	ug/L (ppb)	50	105	101	72-128	4
Benzene	ug/L (ppb)	50	96	93	81-108	3
Trichloroethene	ug/L (ppb)	50	96	94	77-108	2
1,2-Dichloropropane	ug/L (ppb)	50	99	97	82-109	2
Bromodichloromethane	ug/L (ppb)	50	106	104	76-120	2
Dibromomethane	ug/L (ppb)	50	100	98	80-110	2
4-Methyl-2-pentanone	ug/L (ppb)	250	105	105	59-142	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	106	104	76-128	2
Toluene	ug/L (ppb)	50	98	96	83-108	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	108	108	76-128	0
1,1,2-Trichloroethane	ug/L (ppb)	50	99	99	82-110	0
2-Hexanone	ug/L (ppb)	250	101	103	53-145	2
1,3-Dichloropropane	ug/L (ppb)	50	98	99	83-110	1
Tetrachloroethene	ug/L (ppb)	50	97	95	78-109	2
Dibromochloromethane	ug/L (ppb)	50	110	111	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	100	100	85-113	0
Chlorobenzene	ug/L (ppb)	50	96	94	84-108	2
Ethylbenzene	ug/L (ppb)	50	99	96	84-110	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	109	108	76-125	1
m,p-Xylene	ug/L (ppb)	100	102	101	84-112	1
o-Xylene	ug/L (ppb)	50	101	98	82-113	3
Styrene	ug/L (ppb)	50	102	101	84-116	1
Isopropylbenzene	ug/L (ppb)	50	102	99	81-122	3
Bromoform	ug/L (ppb)	50	100	102	40-161	2
n-Propylbenzene	ug/L (ppb)	50	104	98	81-115	6
Bromobenzene	ug/L (ppb)	50	99	97	80-113	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	104	100	83-117	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	101	98	79-118	3
1,2,3-Trichloropropane	ug/L (ppb)	50	98	99	74-116	1
2-Chlorotoluene	ug/L (ppb)	50	98	95	79-112	3
4-Chlorotoluene	ug/L (ppb)	50	100	97	81-113	3
tert-Butylbenzene	ug/L (ppb)	50	107	102	81-119	5
1,2,4-Trimethylbenzene	ug/L (ppb)	50	105	101	83-116	4
sec-Butylbenzene	ug/L (ppb)	50	106	101	83-116	5
p-Isopropyltoluene	ug/L (ppb)	50	104	100	82-119	4
1,3-Dichlorobenzene	ug/L (ppb)	50	96	93	83-111	3
1,4-Dichlorobenzene	ug/L (ppb)	50	93	90	82-109	3
1,2-Dichlorobenzene	ug/L (ppb)	50	95	92	83-111	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	106	106	62-133	0
1,2,4-Trichlorobenzene	ug/L (ppb)	50	94	93	77-117	1
Hexachlorobutadiene	ug/L (ppb)	50	94	95	74-118	1
Naphthalene	ug/L (ppb)	50	103	100	75-131	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	95	93	82-115	2

Date of Report: 01/24/14
Date Received: 01/08/14
Project: Walker 080190, F&BI 401081

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	87	85	67-116	2
Acenaphthylene	ug/L (ppb)	1	87	84	65-119	4
Acenaphthene	ug/L (ppb)	1	89	86	66-118	3
Fluorene	ug/L (ppb)	1	86	82	64-125	5
Phenanthrene	ug/L (ppb)	1	88	86	67-120	2
Anthracene	ug/L (ppb)	1	85	84	65-122	1
Fluoranthene	ug/L (ppb)	1	82	80	65-127	2
Pyrene	ug/L (ppb)	1	85	81	62-130	5
Benz(a)anthracene	ug/L (ppb)	1	83	80	60-118	4
Chrysene	ug/L (ppb)	1	88	83	66-125	6
Benzo(b)fluoranthene	ug/L (ppb)	1	73	68	55-135	7
Benzo(k)fluoranthene	ug/L (ppb)	1	73	68	62-125	7
Benzo(a)pyrene	ug/L (ppb)	1	69	65	58-127	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	43	43	36-142	0
Dibenz(a,h)anthracene	ug/L (ppb)	1	37	36 vo	37-133	3
Benzo(g,h,i)perylene	ug/L (ppb)	1	49	47	34-135	4

Date of Report: 01/24/14
Date Received: 01/08/14
Project: Walker 080190, F&BI 401081

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	2.5	91	94	70-130	3
Aroclor 1260	ug/L (ppb)	2.5	92	98	70-130	6

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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 this range fell outside of acceptance criteria. The value reported is an estimate.

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

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

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. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

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

j – The result is below normal reporting limits. 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 analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is 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 compound indicated 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 in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

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:	**FBI012-38**		**PAGE 1**
REPORT DATE:	**01/23/14**		
DATE SAMPLED:	**01/07,08/14**	**DATE RECEIVED:**	**01/09/14**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 401081

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

SAMPLE ID	NITRATE (mg/L)	NITRITE (mg/L)	SULFATE (mg/L)	TOC (mg/L)
MW-20-010814	2.02	0.007	16.9	<0.250
MW-19-010814	2.66	0.006	22.7	0.254
MW-07-010714	1.39	0.006	28.4	<0.250

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

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

CASE FILE NUMBER:	**FBI012-38**		**PAGE 3**
REPORT DATE:	**01/23/14**		
DATE SAMPLED:	**01/07,08/14**	**DATE RECEIVED:**	**01/09/14**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM FRIEDMAN & BRUYA, INC. / PROJECT NO. 401081

QA/QC DATA

QC PARAMETER	NITRATE (mg/L)	NITRITE (mg/L)	SULFATE (mg/L)	TOC (mg/L)
METHOD	SM184500N03F	EPA 353.2	SM184500SO4E	SM205310B
DATE ANALYZED	01/09/14	01/09/14	01/17/14	01/23/14
DETECTION LIMIT	0.010	0.002	1.00	0.250
DUPLICATE				
SAMPLE ID	BATCH	MW-07-010714	MW-20-010814	BATCH
ORIGINAL	0.458	0.006	16.9	1.79
DUPLICATE	0.458	0.006	16.9	1.69
RPD	0.03%	0.00%	0.36%	5.80%
SPIKE SAMPLE				
SAMPLE ID	BATCH	MW-07-010714	MW-20-010814	BATCH
ORIGINAL	0.458	0.006	16.9	1.79
SPIKED SAMPLE	0.672	0.046	27.0	6.60
SPIKE ADDED	0.200	0.040	10.0	4.50
% RECOVERY	106.98%	100.00%	101.59%	106.89%
QC CHECK				
FOUND	0.407	0.040	10.3	4.01
TRUE	0.408	0.040	10.0	4.00
% RECOVERY	99.74%	100.00%	103.00%	100.25%
BLANK	<0.010	<0.002	<1.00	<0.250

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 TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski
Project Manager

FB1012-38

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Ag. Research

PROJECT NAME/NO.	PO #
401081	C-709.

REMARKS

Please Email Results

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins and Furans by 8290	EPH	VPH	Nitrate	Sulfate	Nitrite Alkalinity	TOC 415.1				Notes
MW-20-010814		1/8/14	0930	water					X	X	X	X				
MW-19-010814		↓	0830						X	X	X	X				
MW-07-010714		1/7/14	1130	↓					X	X	X	X				

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Michael Erdahl	Friedman & Bruya	1/8/14	0910
Received by:	M. HENDRICKSON	ARI	1/9/14	9:00
Relinquished by:				
Received by:				

401081

SAMPLE CHAIN OF CUSTODY

ME 01-08-14 v2/Eq3/AL

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S Ste 201
City, State, ZIP Seattle, WA 98104
Phone # 206-838-6597 Fax #

SAMPLERS (signature)
PROJECT NAME/NO. Walker D80190
PO#
REMARKS

Page # of

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

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	~~PAHs~~ SVOCs by 8270	HFS	Volatiles (8260)	TOC (415.1)	Pb (200.8)	Lead (200.8)	NO3,NO2,SO4 (300.0)	PCBs (8082)	Notes
MW-20-010814	01 A-G	1/8/14	09:30	water	7 (NP)							+	+	+		+		
MW-19-010814	02 A-G	1/8/14	08:30	water	7							+	+	+		+		
MW-07-010714	03 A-J	1/7/14	11:30	water	10					+		+	+	+	+	+	+	
																		Samples received at 3 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Judy Olson	Aspect	1/8/14	17:15
Received by:		Nhan Phan	FedEx	1/8/14	1545
Relinquished by:					
Received by:					

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

FORMS\COC\COC.DOC

APPENDIX E

Air Analytical Results

eurofins | Air Toxics

2/7/2014
Mr. Eric Marhofer
Aspect Consulting LLC
401 Second Avenue South
Suite 201
Seattle WA 98104

Project Name: Walker Chevrolet
Project #: 080190
Workorder #: 1401402B

Dear Mr. Eric Marhofer

The following report includes the data for the above referenced project for sample(s) received on 1/28/2014 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1401402B

Work Order Summary

CLIENT:	Mr. Eric Marhofer Aspect Consulting LLC 401 Second Avenue South Suite 201 Seattle, WA 98104	**BILL TO:**	Accounts Payable Aspect Consulting LLC 350 Madison Ave N Bainbridge Island, WA 98110
PHONE:	206-838-6582	**P.O. #**	080190-004
FAX:	206-838-5853	**PROJECT #**	080190 Walker Chevrolet
DATE RECEIVED:	01/28/2014	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/07/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
07A	INDOOR-012214	Modified TO-15 SIM	3.3 "Hg	4.9 psi
08A	OUTDOOR-012214	Modified TO-15 SIM	3.7 "Hg	5.3 psi
09A	SUBSLAB-012314	Modified TO-15 SIM	6.1 "Hg	5.2 psi
10A	Lab Blank	Modified TO-15 SIM	NA	NA
11A	CCV	Modified TO-15 SIM	NA	NA
12A	LCS	Modified TO-15 SIM	NA	NA
12AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 02/07/14

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Aspect Consulting LLC
Workorder# 1401402B

Three 6 Liter Summa Canister (SIM Certified) samples were received on January 28, 2014. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample SUBSLAB-012314 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See

data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: INDOOR-012214

Lab ID#: 1401402B-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.060	0.090	0.41	0.61

Client Sample ID: OUTDOOR-012214

Lab ID#: 1401402B-08A

No Detections Were Found.

Client Sample ID: SUBSLAB-012314

Lab ID#: 1401402B-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.068	0.23	0.36	1.2
Tetrachloroethene	0.068	40	0.46	270

eurofins | Air Toxics

Client Sample ID: INDOOR-012214

Lab ID#: 1401402B-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013107sim**	**Date of Collection: 1/22/14 3:55:00 PM**	
Dil. Factor:	**3.00**	**Date of Analysis: 1/31/14 02:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.030	Not Detected	0.077	Not Detected
cis-1,2-Dichloroethene	0.060	Not Detected	0.24	Not Detected
Trichloroethene	0.060	Not Detected	0.32	Not Detected
Tetrachloroethene	0.060	0.090	0.41	0.61
trans-1,2-Dichloroethene	0.30	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: OUTDOOR-012214

Lab ID#: 1401402B-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013108sim**	**Date of Collection: 1/22/14 4:15:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 1/31/14 03:16 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: SUBSLAB-012314

Lab ID#: 1401402B-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013111sim**	**Date of Collection: 1/23/14 1:15:00 PM**	
Dil. Factor:	**3.40**	**Date of Analysis: 1/31/14 06:11 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.034	Not Detected	0.087	Not Detected
cis-1,2-Dichloroethene	0.068	Not Detected	0.27	Not Detected
Trichloroethene	0.068	0.23	0.36	1.2
Tetrachloroethene	0.068	40	0.46	270
trans-1,2-Dichloroethene	0.34	Not Detected	1.3	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1401402B-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013106simd**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/31/14 12:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1401402B-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/31/14 09:21 AM**	

Compound	%Recovery
Vinyl Chloride	97
cis-1,2-Dichloroethene	96
Trichloroethene	101
Tetrachloroethene	105
trans-1,2-Dichloroethene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1401402B-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/31/14 10:02 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
cis-1,2-Dichloroethene	104	70-130
Trichloroethene	96	70-130
Tetrachloroethene	102	70-130
trans-1,2-Dichloroethene	78	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1401402B-12AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**e013104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/31/14 10:49 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
cis-1,2-Dichloroethene	102	70-130
Trichloroethene	96	70-130
Tetrachloroethene	100	70-130
trans-1,2-Dichloroethene	77	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Alan Noell
Collected by: (Print and Sign) Eric Bessinger
Company Aspect Consulting Email anoell@aspectconsulting.com
Address 401 2nd Ave S #201 City Seattle State WA Zip 98104
Phone ____ Fax ____

Project Info:
P.O. # 080190-004
Project # 080190
Project Name Walker Chevrolet

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by
Date
Pressurization Gas N2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
01A	PT-H1-012114	36455	1/21/14	1130	*Mod TO-15 SIM	-30	-5		
02A	PT-H2-012114	2223	1/21/14	1500		-30	-6		
03A	PT-GT1-012214	33651	1/22/14	1030		-30	-5		
04A	PT-GT2-012214	37653	1/22/14	1215		-29.5	-3.5		
05A	PT-A01-012214	8011	1/22/14	1310		-30	-5.5		
06A	PT-A02-012214	37687	1/22/14	1645		-30	-3.5		
	INDOOR-012214	22512	1/22/14	1555	SIM	-30	-5.5		
	OUTDOOR-012214	6L0044	1/22/14	1615	SIM	-30	-7		
	SUBSLAB-012314	35988	1/23/14	1315	SIM	-30	-8.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	1/24/14 1000	[signature]	1/28/14 1000
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
* Specific reporting list for project. (PCE, TCE, cis/trans 1,2 DCE, VC)

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1401102

Form 1293 rev.11

Revised COC received on 1.30.14

eurofins | Air Toxics

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Alan Noell
Collected by: (Print and Sign) Eric Gassinger
Company Aspect Consulting Email anoell@aspectconsult.com
Address 401 2nd Ave S #201 City Seattle State WA Zip 98104
Phone ____ Fax ____

Project Info:
P.O. # 080190-004
Project # 080190
Project Name Walker Chandler

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	PT-H1-012114	36455	1/21/14	1130		-30	-5		
	PT-H2-012114	2223	1/21/14	1500		-30	-6		
	PT-GT1-012214	33651	1/22/14	1030		-30	-5		
	PT-GT2-012214	37653	1/22/14	1215		-29.5	-3.5		
	PT-A01-012214	8011	1/22/14	1310		-30	-5.5		
	PT-A02-012214	37687	1/22/14	1645		-30	-3.5		
07A	INDOOR-012214	22512	1/22/14	1555		-30	-5.5		
08A	OUTDOOR-012214	6L0044	1/22/14	1615		-30	-7		
09A	SUBSLAB-012314	35988	1/23/14	1315		-30	-8.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	1/24/14 1200	[signature] ATL	1/28/14 1000
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1401402

Form 1293 rev.11