REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

Former Walker Chevrolet Site
633 Division Avenue, Tacoma, Washington
FS No. 3427832, VCP Site No. SW1040

Prepared for: David Shaw, Successor to Walker Chevrolet

Project No. 080190-004-15 • July 25, 2016 Final

Aspect CONSULTING

earth + water

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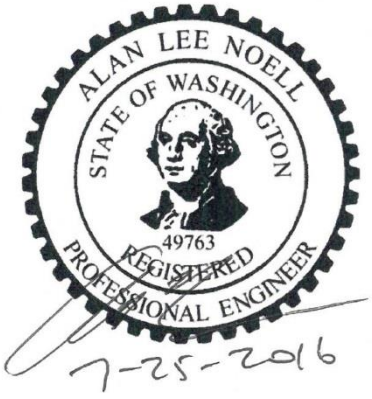

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Acronyms

af	artificial fill (Holocene)
Aspect	Aspect Consulting, LLC
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
Bison	Bison Environmental Northwest, Inc.
CDF	controlled density fill
COC	chemicals of concern
COPC	chemical of potential concern
CUL	cleanup level
DCA	disproportionate cost analysis
Ecology	Washington State Department of Ecology
EDTA	ethylenediaminetetraacetic acid
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
FFS	Focused Feasibility Study
FS	Feasibility Study
GAC	granular activated carbon
HCID	hydrocarbon identification
HDPE	high density polyethylene
HVAC	heating, ventilation, and air conditioning
MCL	maximum contaminant level
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
mg/kg	milligrams per kilogram
MSDS	Material Safety Data Sheet
MTCA	Model Toxics Control Act
NAVD	North American Vertical Datum of 1988
NFA	no further action

PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
PCS	petroleum-contaminated soil
PID	photoionization detector
Property	633 Division Avenue, Tacoma, Washington
PVC	polyvinyl chloride
Qls	Quaternary landslide
Qob	Quaternary Olympia beds
Qpf	Quaternary pre-Fraser deposits
Qpog	Quaternary pre-Olympia glacial deposits
Qva	Quaternary advance outwash
Qvi	Quaternary ice-contact
Qvt	Quaternary Vashon till
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROW	right-of-way
Site	Former Walker Chevrolet Site
Stemen	Stemen Environmental, Inc.
SVE	soil vapor extraction
SVOC	semivolatile organic compound
TCE	trichloroethylene
TPH	total petroleum hydrocarbons
TPH-D	diesel-range total petroleum hydrocarbons
TPH-G	gasoline-range total petroleum hydrocarbons
TPH-O	oil-range total petroleum hydrocarbons
TPN	tax parcel number
UCL	upper confidence limit
UST	underground storage tank

VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code

Executive Summary

The Former Walker Chevrolet site (Site), located at 633 Division Avenue in Tacoma, Washington (Property), is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) and assigned VCP No. SW1040. The Site location is shown on Figure 1 and the Site includes the two parcels shown in Figure 2, which are owned by Stadium District Properties, LLC. Site uses over the past 90 years have been primarily for automotive-related services (e.g., gas stations, auto dealerships, and collision repair and tire services) and as a grocery store. This work was performed by Aspect Consulting, LLC (Aspect) on behalf of the former owners of the Property.

The Site was initially enrolled in the VCP as part of the adjacent Morrell's Dry Cleaners site (VCP No. SW1039) in August 2009 (Figure 2). Following an initial meeting, Ecology agreed to enroll the Walker Chevrolet Site in the VCP separately from the Morell's Dry Cleaners site, based on their distinct operating histories, different sources, and types of contamination.

A Remedial Investigation (RI) report summarizing environmental investigations and characterizing the extent of contamination was prepared for the Morrell's Dry Cleaners site in February 2011 (Aspect, 2011); this RI also summarized conditions and the extent of contamination at the Walker Chevrolet Site, because much of the initial environmental investigation data treated the two as a single site. Aspect submitted separate Focused Feasibility Studies (FFS) for the Morrell's Dry Cleaners site in March 2013 (Aspect, 2013) and for the Former Walker Chevrolet Site in May 2014 (Aspect, 2014a). Ecology provided review comments for the Former Walker Chevrolet FFS in an opinion letter dated November 17, 2014. Table 1 summarizes how this present RI addresses Ecology's original comments and those raised in subsequent verbal communications.

This Remedial Investigation/Feasibility Study (RI/FS) was prepared in accordance with the Washington State Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC 173-340) and its implementing regulations, and this report is structured in accordance with the recently issued RI Checklist (Ecology, 2016c) and FS Checklist (Ecology, 2016a). This RI/FS is accompanied by a request for a Site No Further Action (NFA) determination and provides the basis for Ecology to provide the determination in accordance with WAC 173-340-350, -360, and -440, using institutional controls for soil contamination at the standard point of compliance beneath the building foundation.

Remedial Investigation

This RI provides the general Site information, summarizes pertinent environmental documents from the two VCP sites, describes the previous cleanup actions and field investigations, develops the conceptual Site model, and proposes cleanup standards.

Environmental Setting

The geologic and hydrogeologic settings were updated from the Morrell's Dry Cleaners RI (Aspect, 2011). The new data used in the interpretation include topographic contours, a surface geology map (Figure 3), and the boring log for MW-14D, which was constructed in response to RI review comments (Ecology, 2011). Previous Site-wide groundwater elevation data from May 2009, December 2010, and February 2012 were recontoured using the revised interpretations of the geology and topographic surface.

The Site is located on uplands above Commencement Bay, with a steep escarpment leading down to the bay starting about 750 feet north of the Site. The Site is underlain by a thin veneer of glacial ice contact deposits (Qvi on Figure 3) and localized fill overlying about 30 feet of glacial till (Qvt). The till is underlain by about 30 feet of glacial advance outwash sand (Qva). The uppermost groundwater bearing unit is in the advance outwash sand, with depths to water in this unit of about 50 to 54 feet below ground surface (bgs), depending on location and time of year. Groundwater in the advance outwash is primarily recharged from Wright Park (adjacent to the south boundary and hydraulically upgradient of the Site), and the groundwater gradient in the advance outwash is directed north and west toward the escarpment above Commencement Bay. Based on surficial geologic mapping, the advance outwash does not extend to the escarpment, and groundwater at the Site discharges vertically through the underlying interglacial deposits, which are characterized as a leaky aquitard, rather than migrating laterally toward the escarpment. This is supported by observations that wells completed in the advance outwash were dry at the north and west boundaries of the Morrell's Dry Cleaners site and the northwest boundary of the Former Walker Chevrolet Site. Groundwater beneath the Former Walker Chevrolet Site is directed northwest across North First Street and the advance outwash is dry on the northwest side of North First Street.

Previous Cleanup Actions and Field Investigations

Contamination was identified in three areas of the Site (see Figure 2), including the north gas station, the south gas station, and the former paint booth area. Additionally, contamination associated with the Morrell's Dry Cleaners site has been detected beyond the Site boundary in MW-5. This RI summarizes the excavation cleanup actions performed at the two gas stations in 1994, the decommissioning activities performed in the paint booth area in 1994, and biostimulation and soil vapor extraction (SVE) cleanup actions initiated for the Morrell's Dry Cleaners site in 2014.

North Gas Station and Site Boundary

Ecology determined that previous remedial actions were sufficient and that no further actions were necessary for the north gas station portion of the Site (Ecology, 2011). Subsequently, Ecology indicated that no further characterization was necessary at the Site boundary in verbal communication during a December 18, 2014, meeting with the VCP Site manager. The agreed to scope of work is summarized in a status email to the VCP Site manager on March 25, 2016.

South Gas Station

A previous remedial action removed seven underground storage tanks (UST) and petroleum-impacted soil from the south gas station area (Bison, 1994b). The horizontal and vertical extent of soil contamination has been delineated at the south gas station and

groundwater has not been impacted. The soil on the Property at the south gas station is compliant with MTCA Method A soil cleanup up levels (CULs); however, residual soil contamination was encountered from 15 to 16.5 feet bgs in the City of Tacoma right-of-way (City ROW). There are no indications of soil contamination within the direct-contact point of compliance (surface to 15 feet bgs), based on field screening, analytical testing, or observations during drilling or subsequent construction. As described in Section 1.5 and shown in Figure 10, the existing building adjacent to the south gas station area is being extended over the three excavated former gasoline USTs and a two-story patio is being constructed over the excavated waste-oil UST and fuel dispenser. The building owner is constructing an 1,800-square-foot vapor barrier beneath this portion of the building.

Paint Booth Area

The paint booth area is located on the northwest corner of the body shop for the former Chevrolet dealer. The adjacent Thriftway Grocery store subsequently expanded south over the paint booth area after construction of monitoring well MW-11 inside the building in May 2009, and today the former paint booth area is the produce and meat preparation area of the grocery store (Figure 12). Soil in the paint booth area is contained beneath the building foundation and the grocery store. The paint booth area contains two decommissioned floor drains, a decommissioned 1,000-gallon heating-oil UST, and an area with hydraulic oil contamination. Heating oil-impacted soil was identified in the immediate vicinity of the UST in 1994; however, concentrations of heating oil were below the Method A soil CULs in 2016.

Hydraulic oil contamination was encountered in sandy peat soil from 4.5 to 7 feet bgs in soil boring B11, completed in 2016. Total petroleum hydrocarbons (TPH) and lead were detected at concentrations about an order of magnitude above Method A soil CULs, and polychlorinated biphenyls (PCBs) and tetrachloroethylene (PCE) were detected at concentrations slightly above Method A soil CULs. The sandy peat soil and associated hydraulic-oil contamination were laterally delineated; they were not detected in seven nearby soil borings at distances ranging from 9 to 12 feet from soil boring B11. Vertically, the hydraulic oil-contaminated soil is underlain by about 30 feet of till and 15 feet of advance outwash above the groundwater table.

PCE was detected in five soil samples beneath the building, which were collected in 1994, 2006, and 2016, at concentrations ranging from 0.053 to 0.21 milligrams per kilogram (mg/kg), which slightly exceed the 0.05 mg/kg Method A soil CUL. PCE contamination has been laterally delineated. Although drilling constraints within the grocery store prevented vertical delineation in boring B11, PCE associated with the hydraulic-oil-contaminated soil is underlain by about 30 feet of till and 15 feet of advance outwash above the groundwater table. The 2016 VCP field investigation re-evaluated the areas where PCE was detected in 1994 and 2006; chlorinated volatile organic compounds (VOCs) were not detected in the 13 soil samples from borings B10 and B12 to B21.

Groundwater beneath the paint booth area is compliant with Method A groundwater CULs. Monitoring well MW-11 was constructed within the paint booth area to assess potential impacts to groundwater and is generally downgradient from soil contamination. Trichloroethylene (TCE) is the only chemical of concern (COC) detected in groundwater

at MW-11. The concentrations of TCE were below the Method A groundwater CUL in the six samples collected from 2009 to 2016. The 95-percent upper confidence limit (UCL) based on these data is 3.8 micrograms per liter (µg/L), which is below the more stringent Method B groundwater CUL. The groundwater gradient beneath the paint booth area is directed northwest across North First Street and the advance outwash is dry on the opposite side of the street.

The soil vapor intrusion exposure pathway was evaluated for the paint booth area during due diligence sampling in May 2008, and subsequently from 2014 to 2016, after the change in Site use. During due diligence sampling, a sub-slab soil gas sample collected from the west side of the paint booth area contained 1,000 micrograms per cubic meter (µg/m^3) of PCE, which exceeds the 321 µg/m^3 sub-slab soil gas screening level, but is below the 1,350 µg/m^3 modified Method B sub-slab soil gas screening level using a 40-hour-per-week exposure frequency for worker exposure. PCE was detected at concentrations below the sub-slab screening level in samples collected from the middle and east sides of the paint booth area.

The concentrations of chlorinated VOCs and hydrocarbons were below the Method B sub-slab soil gas screening levels in the three sub-slab soil gas samples collected from the paint booth area from 2014 to 2016. In March 2014, the PCE concentration was 270 µg/m^3 near the west boundary of the paint booth area, which indicates attenuation since the due diligence sampling in May 2008. PCE was not detected in sub-slab soil gas samples collected in the middle and east sides of the paint booth area in March 2015 and May 2016, respectively. The concentrations of PCE in indoor air were below the 9.6 µg/m^3 Method B indoor air CULs in two samples collected from the paint booth area in 2014 and 2015.

Benzene and vapor-phase hydrocarbons were detected in indoor air within the produce preparation area (former paint booth area) of the Thriftway Grocery store, and at lower concentrations beneath the concrete slab foundation in a collocated sample. Benzene is not associated with the heating oil and hydraulic oil that was used in the paint booth area. Benzene was detected in only one of the 26 soil samples collected from paint booth area in 1994, 2006, and 2016, where benzene was detected at a concentration of 0.024 mg/kg (below the 0.03 mg/kg Method A soil CUL) in a soil sample from 10 feet bgs adjacent to the heating-oil UST in 1994.

At the time of the sub-slab and indoor air sampling, CARSTAR Auto Body and Titus-Will Service and Tire were operating in the building space adjacent to the Thriftway Grocery and former paint booth area. Although these businesses are served by separate heating, ventilation, and air conditioning (HVAC) systems than the grocery, they routinely operated gasoline-powered internal combustion engines within approximately 50 feet of the paint booth area sample locations. Additionally, the grocery HVAC systems have air intakes along North First Street and in the parking lot near the grocery loading dock, both of which would be affected by exhaust from vehicles.

Aspect conducted a building survey in March 2016 that identified a chemical storage area in the produce preparation area inside the grocery store. These chemicals are used for cleaning and maintenance in the grocery store and included motor oil, machine oil, and hydrocarbon-containing aerosol paint cans, floor cleaner, sanitizer, and disinfectant

cleaner. Further, there are hundreds of products and packaging materials within the store that could affect indoor air sample analytical results.

In Aspect Consulting's opinion, the benzene and vapor-phase hydrocarbons detected in indoor air within the produce preparation area originated from ambient air outside the building which was affected by vehicle exhaust and by commercial processes within the building; not from soil contamination below the floor slab. Thus, benzene and vapor-phase hydrocarbons are not subject to regulation under MTCA in accordance with WAC 173-340-750(1)(a). This conclusion is supported by the following:

- The lack of an identified soil source for benzene in soil and groundwater beneath the former paint booth area;
- Evidence of roughly a 100-fold attenuation of PCE across the building slab, indicating the slab is effective at reducing vapor migration into the building;
- Despite the effectiveness of the slab, higher concentrations of benzene and vapor-phase hydrocarbons were detected in the indoor air sample than in the collocated sub-slab soil gas sample in 2015, indicating some other background source of these constituents is likely; and
- The presence of other sources of benzene and vapor-phase hydrocarbons (e.g., vehicle exhaust captured by the HVAC intakes, and chemical storage and use within the grocery) that would explain the elevated concentrations of these constituents in indoor air.

Conceptual Site Model and Cleanup Standards

Soil, groundwater, vapor intrusion, surface water, sediment, and terrestrial ecological exposure pathways are incomplete for the Site. Residual TPH contamination at the south gas station is located below the points of compliance for direct-contact exposure (15 feet) and terrestrial ecological exposure (6 feet), and groundwater is not impacted. Contamination remains within the direct-contact and terrestrial ecological points of compliance beneath the paint booth area, but the soil contamination is contained and inaccessible because of the building and foundation. The groundwater and vapor intrusion exposure pathways are incomplete in the former paint booth area.

We propose Method A soil and groundwater CULs for the Site, because they are protective of all exposure pathways and cleanup standards exist for all Site COCs.

Feasibility Study

The FS developed and evaluated three cleanup alternatives for the Site.

Alternative 1 – Institutional and Engineering Controls

This alternative involves recording an environmental covenant for the Former Walker Chevrolet Property in concurrence with a Site NFA determination. The building, which covers the entire Property and all contaminated soil within the 15-foot standard point of compliance, would function as a surface cap (engineering control) preventing direct-contact and terrestrial ecological exposure to soil or soil vapor contamination beneath the building. The covenant would document soil contamination in the former paint booth

area and require notification to Ecology of any soil-disrupting activity that would allow contaminated-soil removal and the spread of contamination. The net present value cost for Alternative 1 is $25,000.

Alternative 2 – SVE and Institutional and Engineering Controls

In this alternative, the SVE system currently operating at the Morrell's Dry Cleaners to the north would be relocated and used to reduce the concentrations of VOCs beneath the paint booth area. The small SVE system would be placed on the sidewalk in the City ROW and draw soil vapor from an SVE well beneath the sidewalk, and from two vapor suction pits within the grocery store. This alternative assumes that the SVE system would operate for 6 months to volatilize and remove PCE, toluene, and xylenes from accessible areas beneath the slab foundation. These compounds were detected at concentrations slightly above the Method A soil CULs. The SVE system would be expected to have limited effectiveness for VOC contamination in the till, and no effectiveness for the heavier-range TPH, lead, and PCBs associated with the hydraulic-oil contamination.

Since SVE has limited effectiveness and does not address the primary soil contamination beneath the building, Alternative 2 also includes the recording of an environmental covenant in concurrence with a Site NFA determination. The net present value cost for Alternative 2 is $147,000.

Alternative 3 – Permanent Cleanup

This alternative is the permanent cleanup alternative, as required in the FS by MTCA. The impacted soil cannot be permanently remediated under the current Site use, so the permanent alternative includes SVE as an interim measure to volatilize and remove accessible VOCs from beneath the slab foundation, as described in Alternative 2.

Alternative 3 also includes the excavation of hydraulic oil-contaminated soil from beneath the building after Stadium Thriftway vacates the building. Grocery stores have continuously operated in the building since 1931, and Stadium Thriftway is the anchor tenant in the building. For the purpose of this FS, we assume that the building will be accessible for soil removal in 15 years. This alternative includes the removal of hydraulic oil-contaminated soil from beneath the slab foundation and adjacent to a structural column for the two story building. We assume that a small excavator would remove 75 tons of soil using a slot-cut technique with controlled density fill (CDF) adjacent to the column, and that 25 tons of soil would be disposed as dangerous waste and 50 tons of soil would be disposed as nonhazardous waste.

We assume that Ecology would provide a property-specific NFA for the north gas station parcel and a Site partial sufficiency determination for groundwater, and then would provide an overall Site NFA determination after excavation of the hydraulic-oil contamination. The net present value cost for Alternative 3 is $286,000.

Disproportionate Cost Analysis and Remedy Selection

This FS evaluates the three alternatives using MTCA threshold and other requirements, and presents a disproportionate cost analysis (DCA) that concludes the additional costs of SVE and/or excavation do not increase the environmental benefit for the Site.

The three alternatives have equivalent high environmental benefit scores for protectiveness, short-term risk management, and public concerns. SVE would have limited effectiveness and would only address accessible PCE, toluene, and xylene contamination in soil, which slightly exceed cleanup levels. SVE does not increase the permanence or long-term effectiveness of the remedy beyond the environmental covenant. Alternative 2 has a slightly lower environmental benefit score than Alternative 1 because of the slightly lower implementability benefit score for SVE. Alternative 3 has higher permanence and long-term effectiveness environmental benefit scores than Alternatives 1 and 2, but has a low implementability benefit score because of access, schedule, and engineering uncertainties and limitations within the building. Alternative 3 has an equivalent overall environmental benefit score with Alternative 1 because the low implementability benefit score offsets the increased permanence and long-term effectiveness environmental benefit scores.

This FS concludes that Alternative 1—recording an environmental covenant for the Property—provides the highest environmental benefit at the lowest cost.

1 Introduction

The Former Walker Chevrolet site (Site), located at 633 Division Avenue in Tacoma, Washington (Property), is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) and assigned VCP No. SW1040. The Site location is shown on Figure 1. Figure 2 shows the relationship between the Site and the adjacent parcel to the north (VCP No. SW1039).

This Remedial Investigation (RI) and Feasibility Study (FS) report was prepared to define the Site, summarize previous and recent field investigations, describe the conceptual site model and cleanup standards, develop and compare cleanup alternatives, and recommend the preferred alternative, which includes recording an environmental covenant for the residual soil contamination on the Property. This RI/FS addresses the remaining issues necessary for Ecology to provide Site No Further Action (NFA) determination.

The RI/FS was prepared in accordance with the Washington State Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC 173-340) and its implementing regulations.

1.1 Report Organization

This RI/FS is organized to be consistent with the RI Checklist (Ecology, 2016c) and FS Checklist (Ecology, 2016a), and includes the following sections:

- **Section 1 –** The **Introduction** provides the general Site information, defines the Site boundary, and describes the Site history and use.
- **Section 2 –** The **Previous Environmental Documents and Opinions** section lists and summarizes the historical cleanup and assessment reports from 1994, pertinent investigation and cleanup reports from the adjacent Morrell's Dry Cleaners site, and environmental reports for the Site. These reports were previously submitted to Ecology for review. Ecology provided review comments for the Morrell's Dry Cleaners RI on September 26, 2011, and for the Former Walker Chevrolet Focused Feasibility Study (FFS) on November 17, 2014.
- **Section 3 –** The **Environmental Setting** section describes the local topography, surface cover, geology, and the hydrogeologic conditions for the Site.
- **Sections 4 to 7 –** These sections describe the **cleanup actions and field investigations** performed for the three areas of the Site with recognized environmental conditions (see Figure 2) and on the adjacent Morrell's Dry Cleaners site, including the:
  - South gas station (Section 4),
  - North gas station (Section 5),
  - Paint booth area (Section 6),

  - Site boundary with Morrell's Dry Cleaners (Section 7).

- **Section 8 –** The **Conceptual Site Model** section describes historical releases of contaminants, contaminant fate and transport, and the potential exposure pathways and receptors at the Site.
- **Section 9 –** The **Cleanup Standards** section proposes the chemicals of concern (COCs), proposes MTCA Method A soil and groundwater cleanup levels (CULs), proposes the standard points of compliance, and identifies the impacted media.
- **Section 10** – The **Alternatives** section summarizes the previously performed cleanup actions and develops three potential final cleanup alternatives for evaluation.
- **Section 11** – The **Detailed Evaluation of Cleanup Alternatives** section comparatively evaluates the three cleanup alternatives for the threshold requirements, other MTCA requirements, and describes the disproportionate cost analysis (DCA) prepared for the three cleanup alternatives.
- **Section 12** – The **Remedy Selection** section identifies the preferred cleanup alternative and provides the rationale for its selection.
- **Section 13** – The **References** section lists all references used in the RI/FS.

1.2 General Site Information

Figures 1 and 2 show the Site location and boundary and Table 2 summarizes the general Site information.

Table 2 – General Site Information

Site Name	Former Walker Chevrolet
Facility/Site No.	3427832
VCP No.	SW1040
VCP Site Manager	Nick Acklam
Property Owner	Stadium District Properties, LLC 2445 5th Avenue, Suite 210 San Diego, CA 92101
Consultant and VCP Customer	Aspect Consulting, LLC Alan Noell, P.E. 401 2nd Avenue South, Suite 201 Seattle, WA 98104
Site Address	633 Division Avenue Tacoma, Washington 98403
Site Coordinates	47º 15' 49" N, 122º 26' 56" W
Public Land System Location	T21N, R3E, S32, SW¼ of NE¼
Pierce County Parcel Nos.	2031-13-0025 and 2030-12-0032
City of Tacoma Zoning	Community Commercial Mixed-Use (CCX)

1.3 Site Boundary

The Site is formally distinguished from the adjacent Morrell's Dry Cleaners site (VCP No. SW1039) located at 608 North First Street in Tacoma, Washington, as determined by Ecology (Ecology, 2014). The Site consists of the following two tax parcels shown in Figure 2.

- Tax Parcel No. (TPN) 2030-12-0032: This 29,730-square-foot triangular-shaped parcel is owned by Stadium District Properties, LLC. This parcel contains a two-story, split-level building that occupies most of the parcel. Stadium Thriftway operates a grocery store on the lower level on the north side of the parcel. The upper floor and south end of the building are currently being renovated for future occupancy, while retaining the grocery store as an anchor tenant. Approximately 1,000 square feet of a parking lot was located at the south end of the parcel, prior to the current redevelopment, and the remaining, approximately 800 square feet of the parking lot is located in the City of Tacoma right-of-way (City ROW). After renovation, the building will extend to 10 feet from the south Property boundary, meaning the building and adjoining structures cover all but about 220 square feet of the Property. We intend to record an environmental covenant for this parcel in concurrence with a NFA determination from Ecology.
- TPN 2031-13-0025: This 13,491-square-foot parcel is owned by Stadium District Properties, LLC. This parcel is currently developed as a parking lot and is used primarily by the Stadium Thriftway grocery store. The north gas station operated on this parcel during the 1940s through circa 1960, and the abandoned underground storage tanks (USTs), product lines, and impacted soil were removed in 1994 (Bison, 1994c). Ecology (2014) determined that TPN 2031-13-0025 is eligible for an unencumbered, property-specific NFA determination.

1.4 Site History

The Phase I Environmental Site Assessment (ESA; Bison Environmental Northwest [Bison], 1994a) describes the historical use of the Site. The Annie Wright Seminary began operating as a boarding school adjacent to Wright Park in circa 1881 before moving to its current location at 827 North Tacoma Avenue in 1924.[1] The 1912 Sanborn map indicates that the school operated on the Property and recorded a large building, a gymnasium, and housing.

The current building was constructed on the Property in 1925. Automotive service companies operated in this building from 1926 to 2015, and grocery stores have operated in this building since 1931. Allen Motor Company began operating at 633 Division Avenue in February 1926, selling Hudson-Essex and Studebakers.[2] The Allen Motor Company built an annex at 629 to 631 Division Avenue in 1929, which was later occupied by Packard Tacoma Company, followed by Bradley Motor Company. Walker

[1] History of Annie Wright Schools, http://www.aw.org/Page/About-Us/About-Annie-Wright-Schools/History-of-Annie-Wright-Schools, Retrieved June 6, 2016.
[2] http://www.tacomahistory.org/Society/Bulletin_Board.html, Retrieved June 6, 2016.

Chevrolet began operations at 633 Division Avenue in October 1933[3] and continued to operate in the building at the time of the Phase I ESA in 1994.

The section of the building at 618–620 North First Street was converted into Stadium Market in 1931. Polk directories indicate that Stadium Market operated during the 1940s through the 1960s, and Lucky Grocery operated during the 1970s and 1980s; a 1954 appraisal indicates that Safeway owned a grocery store in the building; and the 1994 Phase I ESA provides a detailed map showing that Thriftway operated in the northern third of the building, north of the former paint booth.

A gas station (south gas station) operated at the southern end of the building. City directories from 1930 to 1949 indicate that Wright Park Auto Service, Roy Colyar Service Station, and Bob Hoffer Gas and Oils operated at the south gas station. The south gas station is shown in aerial photographs from 1931, 1940, and 1950.

A gas station (north gas station) operated on TPN 2031-13-0025 from the 1940s to 1960s. City directories from 1940 to 1960 indicate that Dexter Petroleum, Johnnie's Mobil Service, and Olson's Mobile operated on the parcel, and the north gas station is shown in aerial photographs from 1940 and 1950.

David Shaw and Darrell Wickham purchased the Property in June 1981. Walker Chevrolet continued to operate at the Property, later doing business as Bruce Titus Chevrolet. Stadium District Properties, LLC, purchased the Property in July 2013. The building was occupied by Stadium Thriftway, CARSTAR Auto Body, and Titus-Will Service and Tire in 2015.

1.5 Site Use

The current Property owner, Stadium District Properties, LLC, purchased the Property with the intent of redevelopment.[4] The Property owner is retaining Stadium Thriftway as an anchor tenant, and is redeveloping the remaining building for future occupancy. Titus-Will Service and Tire and CARSTAR Auto Body moved out of the building in 2015. The Property owner hired Lundin Cole Architects PC and Korsmo Construction to renovate the building, which includes seismic retrofits, expansion of the building to the south, refurbishment of the core and shell of the building, and repartitioning and development of the tenant spaces. Construction activities are scheduled into the fall of 2016. The Property owner is developing the tenant space at the south end of the building for a coffee shop and a tenant space on the upper floor for a restaurant. The remaining tenant spaces are being developed for commercial businesses. There are no foreseeable residential uses planned for the Property.

TPN 2031-13-0025 has been used as a parking lot since closure of the north gas station and remediation of the property in 1994.

[3] Tacoma Times, December 25, 1935, page 5.
[4] California company buys prime Stadium District site, The News Tribune, July 26, 2013.

2 Previous Environmental Reports and Opinions

This section describes environmental reports that have been submitted to Ecology, including 1994 remediation reports and pertinent environmental reports and VCP opinions for the Walker Chevrolet and Morrell's Dry Cleaners sites. Appendix A provides the monitoring well construction and boring logs for the two sites.

2.1 Historical Environmental Reports

Site assessment and cleanup actions were performed at the Site in 1994, and the cleanup action and Phase 2 ESA reports were submitted to Toxics Cleanup Program in the Southwest Regional Office of Ecology following completion of the reports. Appendix B provides figures and data tables from these reports.

2.1.1 Phase I Environmental Site Assessment

Bison prepared a Phase I ESA for the Walker Chevrolet Property in August 1994 (Bison, 1994a). The Phase I ESA summarized the historical use of the Property and provided detail sketches, chemical inventories, and photographs of the Property at the time. The Phase I ESA identified the former south gas station, former north gas station, and the former paint booth as recognized environmental conditions.

2.1.2 UST Removal Site Assessment Independent Remedial Action Report (South Gas Station)

The UST removal report (Bison, 1994b) documents remediation activities and soil confirmation sampling performed at the south gas station in July and August 1994. Seven USTs and a pump island were removed, and 100 cubic yards of petroleum-contaminated soil (PCS) were disposed off-site.

2.1.3 UST Removal Site Assessment Independent Remedial Action Report (North Gas Station)

The UST removal report (Bison, 1994c) documents remediation activities and soil confirmation sampling performed at the north gas station in August and September 1994. Three 500-gallon USTs and associated products lines were removed, and 300 cubic yards of PCS were disposed off-site.

2.1.4 Phase 2 Studies, Floor Drain and Heating Oil UST Closure (Paint Booth)

This report (Bison, 1994d) documents the decommissioning of a 1,000-gallon heating-oil UST and floor drains near the former paint booth. The report states the north floor drain likely connected to the storm sewer system, and the south floor drain connected to the heating-oil UST. The south floor drain was constructed of concrete cinder blocks between the floor and the top of the heating-oil UST about 4 feet below ground surface (bgs). The two floor drains likely received wash water from paint booth operations, and the south floor drain may have acted as a dry well. The contents of the drains and heating-oil UST were pumped out on August 2, 1994, and filled with a concrete slurry on August 3, 1994. Bison collected sediment samples D1 and D2 from the drains on July 30, 1994, and soil samples from soil borings B1 to B4 on August 3, 1994.

2.1.5 Phase 2B Subsurface Sampling (Paint Booth)

Bison (1994e) collected additional soil samples from borings B5 to B9 on September 6, 1994, to delineate the vertical and lateral extent of contamination in the former paint booth.

2.2 Pertinent Environmental Reports from Morrell's Dry Cleaners Site

Morrell's Dry Cleaners (VCP No. SW1039) enrolled in the VCP on July 29, 2009, and the Morrell's Dry Cleaning reports include documentation for the Walker Chevrolet Site (VCP No. SW1040).

2.2.1 Site Conditions Summary

The Site Conditions Summary was prepared for David Shaw, Successor to Walker Chevrolet (Aspect, 2009). This report identified the 1994 environmental documents and includes an appendix with well construction logs, sample location maps, and sample results prepared by Stemen Environmental, Inc. (Stemen) that documents due diligence investigations between 2006 and 2008. Stemen oversaw construction of MW-1 at the south gas station on January 22, 2007, MW-3 at the north gas station on February 1, 2007, and MW-5 adjacent to the north side of the Walker Chevrolet building on January 11, 2008. Detailed figures and data tables from due diligence sampling are provided in Appendix B.

The Site Conditions Summary documents the construction of MW-11 within the Walker Chevrolet building on May 8, 2009, prior to the expansion of the Stadium Thriftway grocery store into the former paint booth area. MW-11 was constructed inside the building as close as possible to the former paint booth at the time. A sonic drilling rig entered the building through a roll-up door, and drilled through about 30 feet of Vashon till to 70 feet bgs. MW-11 was completed to a depth of 63 feet bgs, and the water level is about 52 feet bgs. MW-11 is currently located within a produce cooler inside the grocery store, and the vehicle access door has since been removed. Therefore, additional groundwater wells cannot be constructed within the grocery store.

The Site Conditions Summary describes the geologic and hydrogeologic setting, and provides baseline groundwater sampling for the Morrell's Dry Cleaners and Former Walker Chevrolet sites.

2.2.2 Remedial Investigation

The RI (Aspect, 2011) addresses the Site and Morrell's Dry Cleaners site, and describes the historical uses, environmental setting, and environmental investigations for both sites. The RI presents geologic cross sections that show the Site is underlain by dense Vashon till from about 0 to 35 feet bgs and advance outwash sand from about 35 to 65 feet bgs. Groundwater is present from about 52 to 65 feet bgs in the advance outwash on the Site, but the advance outwash becomes dry downgradient from the Site. Groundwater discharges vertically through the underlying interglacial deposits, which is consistent with regional topography that drops off sharply to Commencement Bay north and west of the Site (see Section 3). The advance outwash formation is dry at the north gas station and at the north and west boundaries of the Morrell's Dry Cleaners site.

2.2.3 Ecology Opinion on Remedial Investigation

Ecology provided review comments on the 2011 RI on September 26, 2011 (Ecology, 2011). Ecology stated the perched aquifer in the advance outwash was delineated, but requested additional delineation in the deep groundwater within the interglacial deposits. Ecology also recommended performing a Tier II indoor air sampling assessment in and adjacent to the Morrell's Dry Cleaners building. Ecology did not provide any comments related to the Site to the south.

2.2.4 Data Gaps Investigation

The Data Gaps Investigation (Aspect, 2012) was prepared to address Ecology's RI review comments (Ecology, 2011). The Data Gaps Investigation included the construction of MW-14D in the ROW adjacent to the dry cleaners, site-wide groundwater sampling, the collection of soil samples adjacent to the dry cleaners, and the collection of sub-slab vapor samples beneath the dry cleaners and in the alley on the north side of the dry cleaners, where higher tetrachloroethylene (PCE) concentrations were indicated by Gore Sorbent passive soil gas samplers. The Data Gaps Investigation had limited relevance to the Site.

2.2.5 Interim Cleanup Action Construction and Design Report

The Construction and Design Report (Aspect, 2014b) was prepared for the Morrell's Dry Cleaners site. A 48-foot-long soil vapor extraction (SVE) trench was constructed in the alley on the north side of the dry cleaners building and four angled SVE wells were constructed beneath the building, including VE-1 and VE-2 completed in the Vashon till and VE-3 and VE-4 completed in the advance outwash. SVE pilot testing was performed for the SVE trench and wells. Four angled biostimulation wells were constructed beneath the alley and dry cleaners building (MW-15 to MW-18), two vertical biostimulation wells were constructed on the south side of the dry cleaners building (MW-19 and MW-20), and one biostimulation well was constructed on the northeast corner of the dry cleaners building (MW-21). The well locations are shown in Figure 2.

2.2.6 Interim Action Construction Completion Report

The Construction Completion Report (Aspect, 2014c) documents biostimulation and SVE cleanup actions at the Morrell's Dry Cleaners site.

Biostimulants were injected into impacted monitoring wells MW-2, and MW-8 and the newly constructed wells MW-15 to MW-21, to enhance the reductive dechlorination of the chlorinated ethylene contamination in the advance outwash groundwater that is associated with historical releases from the dry cleaners. Approximately 550 gallons of a dilute mixture of 3D-Microemulsion (3DMe® Factory Emulsified) and Hydrogen Release Compound (HRC Primer®) were pumped into the nine biostimulation wells on June 23 and 24, 2014. As shown on Figure 2, MW-19 and MW-20 are about 30 feet from the Site boundary, and MW-20 is about 45 feet from MW-5, which is constructed adjacent to the entrance to the grocery store in the Walker Chevrolet (Site) building. 3DMe® provides variable release rates of electron donor to biostimulate reductive dechlorination reactions for up to 3 years.

Continuous SVE operations were initiated on October 15, 2014. An additional sub-slab suction pit (VE-SS) was constructed and connected to the SVE system to provide

complete coverage beneath the dry cleaners building. The SVE system is designed and operated to remove volatile organic compound (VOC) contamination from beneath the building and to control the migration of vapor from the contamination.

2.3 Environmental Reports for Walker Chevrolet VCP Site

Aspect prepared a Site FFS report and addenda in response to Ecology review comments.

2.3.1 Focused Feasibility Study

Aspect prepared a FFS for the Site on May 16, 2014 (Aspect, 2014a). The FFS described the historical uses of the Property, the environmental setting, the remediation and investigation history of the south gas station, north gas station, and paint booth area, and developed a conceptual Site model. The investigation included the drilling and sampling of a 61.5-foot soil boring AB-1 at the south gas station and the sampling of groundwater from MW-1, MW-5, MW-7, and MW-11 for all chemicals of potential concern (COPCs). Sub-slab vapor and indoor air samples were also collected near the former paint booth. The investigation indicated that:

- The residual soil contamination at the former south gas station was below the direct-contact exposure depth and groundwater beneath the former south gas station was not impacted in seven rounds of groundwater sampling.
- The soil contamination at the former north gas station was sampled and delineated during the Phase II sampling activities in 1994.
- The concentrations of chlorinated ethylenes were below the Method B air CULs inside the building and the concentrations of chlorinated ethylenes beneath the sidewalk adjacent to the former paint booth were below the current sub-slab soil gas screening levels (Ecology, 2015a).
- Groundwater in MW-11 beneath the former paint booth was compliant with Method A groundwater cleanup levels in three rounds of groundwater sampling.

The FFS developed and evaluated four cleanup alternatives, including:

- Alternative 1 – No additional action;
- Alternative 2 – Institutional controls;
- Alternative 3 – SVE for former paint booth; and
- Alternative 4 – Excavation of residual soil contamination at the former paint booth and south gas station.

The FFS recommended that an environmental covenant be recorded for the Property that documents residual contamination beneath the building and beneath the direct-contact exposure depth at the south gas station.

2.3.2 Ecology Opinion on Focused Feasibility Study

Ecology provided an opinion letter on November 17, 2014. The opinion letter concluded:

- The Former Walker Chevrolet and Morrell's Dry Cleaners sites are separate and the common Site boundary is the property boundary between TPN 2030-12-0032 (contains former Walker Chevrolet building) and TPN 2030-12-0033 (contains parking lot north and adjacent to former Walker Chevrolet building).
- North gas station:
    - Contamination originated from the parcel and is distinguished from contamination on the other parcels;
    - Soil contamination was sufficiently delineated following the 1994 cleanup action;
    - The advance outwash was dry in MW-3 and soil contamination would have been unlikely to impact groundwater; and
    - TPN 2031-13-0025 is eligible for an unencumbered property-specific NFA.
- South gas station:
    - Soil contamination needs to be delineated at the south end of the parking lot, which is within the ROW;
    - Groundwater has not been impacted by soil contamination;
    - Although isolated, low concentrations of PCE and trichloroethylene (TCE) were detected in MW-1 (i.e., 1.3 micrograms per liter [µg/L] PCE in August 2007 and 0.4 µg/L TCE in January 2014), these compounds were not detected in soil from the south gas station.
- Paint booth area with decommissioned heating-oil UST. Ecology requested:
    - Detail maps to correlate 1994 site sketches with the current site details;
    - Additional soil delineation within the building;
    - Completion of Stage 2 groundwater monitoring of MW-11; and
    - Collection of sub-slab vapor and indoor air samples near drains in the produce preparation area of the grocery store.

Aspect met with the VCP Site manager on December 18, 2014, to review the comments and to identify an acceptable scope of work to close the investigation data gaps. The VCP Site manager verbally agreed to the following scope of work to close the data gaps, which is summarized in email correspondence on March 25, 2015:

- Prepare a detailed map to reconcile the current grocery store layout and sample locations with the former UST, floor drain, former paint booth, and sample locations.
- Collect sub-slab vapor and indoor air samples in the produce preparation area outside the produce cooler.

- Collect one additional groundwater sample from MW-11, with analysis for gasoline- and diesel-range total petroleum hydrocarbons (TPH), total VOCs, 1,4-dioxane, and Resource Conservation and Recovery Act (RCRA) metals.
- Sample soil in three 15-foot-deep borings in the City ROW to bound soil contamination in the direct-contact point of compliance at the south gas station.

2.3.3 Focused Feasibility Study Addendum

Aspect prepared an FFS Addendum on June 3, 2015 (Aspect, 2015) that addressed Ecology's review comments (Ecology, 2014) and the scope of work discussed with Ecology on December 18, 2014. The FFS Addendum defined the Site boundary, updated the field investigations for the former south gas station and paint booth, and reviewed how the preferred cleanup action alternative addresses the exposure pathways for residual contamination.

2.3.4 Communication with Ecology

Aspect submitted the FFS Addendum to Ecology on June 3, 2015, with a request for a NFA determination with covenant for TPN 2030-12-0032 (contains former paint booth and south gas station) and an unencumbered NFA for TPN 2031-13-0025 (contains former north gas station). At the request of the VCP Site manager, Aspect submitted a VCP application and agreement for the north gas station on November 11, 2015. The VCP Site manager subsequently indicated that Ecology could issue the Property-specific NFA without opening a new VCP site. After verbal discussions with the VCP Site manager, Aspect submitted a Notification of Planned Investigation Activities and Request for Concurrence for the Site on November 11, 2015, which requested Ecology's opinion on whether the planned sampling fully addressed the investigation data gaps necessary for a Site NFA determination. The VCP Site manager provided an email response on January 27, 2016.

Ecology's comments are listed below, along with the sections of this RI that address the comments.

- *South Gas Station Soil Delineation – Ecology concurs with the location of the proposed boring location and approach to delineate the extent of the TPH contamination located at the South Gas Station at the south end of the parking lot.*
    - As described in Section 4.2.1, the extent of soil contamination has been delineated at the south gas station, there are no indications of contamination in the direct contact point of compliance, and the MTCA Method A soil CUL exceedances are limited to the 15 to 16.5 feet bgs interval in the City ROW adjacent to the street.
- *Former Paint Booth/Heating Oil UST Soil Delineation – Ecology concurs with your proposal to further delineate the horizontal and vertical extents of the former paint booth area and heating oil tank.*
    - As described in Sections 6.3.1.3 and 6.3.1.4, soil borings B10 to B21 were sampled in the former paint booth area inside the grocery store in

February and May 2016, and soil contamination has been delineated to the extent practicable inside the grocery store.

- *Soil Vapor Intrusion Evaluation – Ecology concurs with the proposed evaluation of the soil vapor/indoor air exposure pathway via collection of sub-slab soil vapor sample from above the highest detected soil contamination. Please evaluate the indoor air for chlorinated solvents in conjunction with your sub-slab sample.*

    - As described in Section 6.3.3.2.1, chlorinated solvents were not detected in the sub-slab soil gas sample collected above the only soil sample that contained PCE, at a concentration of 0.16 mg/kg. The vapor intrusion exposure pathway is incomplete at this location and indoor air sampling was not warranted. The maximum concentration of PCE detected at the Site was 0.21 mg/kg in August 1994. The concentrations of PCE were below the Method B sub-slab soil gas screening level in the three sub-slab soil gas samples collected from 2014 to 2016 and the concentrations of PCE were below the Method B indoor air CUL in the two indoor air samples collected in 2014 and 2015.

- *Groundwater Sampling for MW-11 at Former Paint Booth – Ecology concurs with your proposed schedule to further evaluate the groundwater at the MW-11 location. Ecology will make a determination of the sufficiency of the groundwater trend at MW-11 once Ecology has reviewed the groundwater data and your interpretation of the groundwater data and attaching relevance of MW-11 to the former heating oil tanks/TCE contamination.*

    - As described in Section 6.3.2, MW-11 is compliant with MTCA and Stage 2 sampling criteria have been satisfied. This RI provides an updated geologic and hydrogeologic setting in Section 3 and the relevance of MW-11 to the former paint booth and heating oil UST is described in Sections 6.3.2 and 8.3.2. Limitations for well placement are discussed in Section 2.2.1.

- *Elevated Indoor Air Concentrations for Benzene and Aliphatic Hydrocarbons – Based on the indoor air sampling results above MTCA indoor air CULs completed in March 2015, Ecology will need to review and interpret additional indoor air sampling results and evaluation. This new evaluation must identify the extent and source of indoor air contamination and outside ambient air must be evaluated.* Ecology identified recent EPA guidance (EPA, 2015) and draft guidance (Ecology, 2009) documents for the evaluation of the vapor intrusion exposure pathway.

    - Access was not granted by the property owner to collect additional indoor air samples within the grocery store because potential sources of hazardous substances within the building preclude relevant interpretation of the vapor intrusion exposure pathway. Construction activities were performed in the building throughout 2016 and internal combustion engines were operated in the building, which would likely contribute as

background sources. As described in Section 6.3.1, benzene is not associated with soil contamination and the concentrations of benzene and vapor phase hydrocarbons are below the Method B sub-slab soil gas screening levels. Indoor air samples (Tier II Assessment) are not warranted when the concentrations of COCs are below the sub-slab soil gas screening levels (in a Tier I Assessment) (Ecology, 2009). Aspect performed a building survey in accordance with EPA vapor intrusion guidance (EPA, 2015). As described in Section 6.3.4, this survey identified a chemical storage area within the produce preparation area that contained hydrocarbon-containing chemicals used for the maintenance and cleaning of the grocery store and identified air-intake dampers that could draw air from vehicular areas along North First Street and the loading dock in the parking lot. MTCA does not apply to hazardous substances in air originating from commercial processes or off-Site sources (WAC 173-340-750(1)(a)).

- *North Gas Station Parcel – Decided the property could be provided with a property-specific NFA opinion without re-entering the VCP as a separate site.*
    - Ecology has not acted on this request.

3 Environmental Setting

This section includes an updated summary of the environmental setting described in the Morrell's Dry Cleaners site RI (Aspect, 2011).

3.1 Topography and Surface Cover

The Site is located in the Stadium District of Tacoma between Wright Park and Commencement Bay. Figure 3 shows the local topography and geology near the Site. Wright Park is a 32-acre park with pervious cover that is located south and adjacent to the Site and is elevated above the Site. A surface water pond is located at least 500 feet from the Site boundary in Wright Park, and the pond is elevated above the Site. Commencement Bay, which is 1,500 feet from the Site boundary, is the closest surface water body downstream from the Site.

The Former Walker Chevrolet and Morrell's Dry Cleaners sites are generally bound by Division Avenue on the south, North First Street on the northwest, and North Tacoma Avenue on the northeast. Adjacent to the Site, Division Avenue is at a higher elevation than North First Street and the adjacent parking lot on the Morrell's Dry Cleaners site. The Site building is constructed into the hill, with one floor (the upper floor) along Division Avenue and two floors along North First Street and the parking lot.

The natural topographic slope extends west of the Site from Wright Park to the Stadium District High School Stadium.

Stadium District is located above an escarpment that descends to Commencement Bay. The Site elevation is about 278 feet NAVD[5] on the north corner of the building and the top of the escarpment is about 240 feet NAVD. The top of the escarpment ranges from 600 to 800 feet from the Site boundary. The bottom of the escarpment is about 20 feet NAVD at Schuster Parkway, which extends along Commencement Bay. The lateral distance from the top to the bottom of the escarpment is about 400 feet, thus the escarpment has an approximate 55 percent grade.

Stadium District is predominantly covered with impervious surfaces and the Site and surrounding properties (except Wright Park) are entirely covered with impervious surfaces.

3.2 Geology

This summary of area-wide and Site geologic and hydrogeologic conditions is based on review of geologic literature (e.g., Walters and Kimmell, 1968; Troost and Booth, in review), and soil and groundwater conditions observed during Site explorations. Three geologic cross sections were developed along the alignment shown on Figure 3. Cross-section A-A' (Figure 4) extends from upgradient of the Site to Commencement Bay to depict the regional hydrogeologic conditions. Cross-sections B-B' and C-C' (Figures 5 and 6) were developed to provide a more detailed view of Site hydrogeologic conditions.

[5] North American Vertical Datum of 1988 (NAVD 88)

3.2.1 Area Geology

The Tacoma uplands is characterized by a series of Quaternary-age glacial and interglacial deposits. As shown on Figure 4, the general sequence in the vicinity of the Site consists of approximately 70 feet of Vashon Stade ice-contact (Qvi), Vashon Stade glacial till (Qvt), and advance outwash (Qva) deposits overlying earlier Olympia bed interglacial deposits (Qob) and undifferentiated, pre-Fraser glacial and interglacial deposits (Qpf). As shown on Figure 3, Qob, Qpf, and undifferentiated pre-Olympia glacial and interglacial deposits (Qpog) outcrop near Commencement Bay. Artificial fill (af) is present between Schuster Parkway and Commencement Bay.

The ice-contact (Qvi) unit in this area consists of intermixed glacial outwash, periglacial lacustrine, and till deposits. This unit is present as a thin veneer (i.e., less than 5 feet to about 15 feet thick) in the Site vicinity. The outwash portions consist of loose to dense poorly-sorted fluvial sands and gravels with silt and silty sand lenses. The lacustrine portions consist of interbedded loose to medium dense fine sand and soft to stiff clay and laminated silt. Till portions are present as a loose to very dense silt and sand matrix-supported diamict of gravel with cobbles and boulders. Sand, silt, and gravel lenses are commonly present throughout the till portion. This unit exhibits a low to moderate hydraulic conductivity and generally acts as a barrier to surface water infiltration and to groundwater flow.

The underlying glacial till (Qvt) consists of a very dense, glacially overridden mixture of gravel, sand, silt, and clay deposited beneath the advancing glaciers. This unit typically exhibits low hydraulic conductivity and generally acts as a barrier to groundwater flow or infiltration of water from the ground surface.

The underlying advance outwash (Qva) consists of sands and gravels with minor amounts of silt and clay deposited by meltwater streams ahead of the advancing glaciers. This unit typically exhibits moderate to high hydraulic conductivity, and where saturated, can yield significant quantities of water. As shown in Figure 4, the advance outwash is present beneath the Site, but does not extend to the escarpment.

The older glacial and interglacial deposits (Qob, Qpf, and Qpog) include glacial till and outwash deposits and interglacial alluvial and lacustrine deposits. The till and lacustrine deposits are generally fine-grained and act as barriers to groundwater flow, while the outwash and alluvial deposits are generally coarse-grained and act as pathways for groundwater flow. Based on soils observed during drilling, at least the upper 50 feet of these older deposits consist primarily of silt and silty sand and gravel with a limited thickness of nonsilty sand.

3.2.2 Site Hydrogeologic Conditions

Figures 5 and 6 depict hydrogeologic cross sections through the Site. Site soils consist of approximately 35 feet of silty sand and gravel, interpreted as ice-contact deposits (Qvi) and glacial till (Qvt), overlying approximately 30 feet of sand, interpreted as advance outwash (Qva). Underlying the outwash sand is a sequence consisting primarily of silt and silty sand, with a limited thickness of interbedded slightly silty sand, which is interpreted as Olympia bed interglacial deposits (Qob). This sequence of silt, silty sand, and sand extends to at least 146 feet bgs, the maximum depth drilled on the adjacent Morrell's Dry Cleaners site.

The advance outwash is the uppermost groundwater bearing unit at the Site, and the base of the outwash ranged from about 63 to 74 feet bgs in the Site boring logs. The depth to groundwater is about 52 feet bgs beneath the Property and the parking lot between the Property and Morrell's Dry Cleaners, but the advance outwash becomes dry beneath North First Street and Tacoma Avenue. Monitoring wells MW-1 to MW-11 and biostimulation wells MW-2, MW-8, and MW-15 to MW-21 are completed in the advance outwash. The five advance outwash wells constructed along Tacoma Avenue North and North First Street (i.e., MW-3, MW-4, MW-6, MW-9, and MW-10) did not yield water over multiple years of monitoring, and the dry wells were subsequently decommissioned.

Borings for MW-3, MW-5, MW-8D, MW-10, MW-11, and MW-12D to MW-14D penetrated through the advance outwash into the underlying interglacial deposits. The boring logs are annotated to show the interpreted contact between the advance outwash (Qva) and the Olympia bed interglacial deposits (Qob). The base of the advance outwash is about 63 feet bgs in MW-5 and MW-11, about 65 feet bgs in MW-3 and MW-8D, and ranges from 68 to 74 feet bgs in MW-10 and MW-12D to MW-14D. The base of the advance outwash is dry in MW-10, MW-12D and MW-13D along Tacoma Avenue, but while drilling MW-14D (located on North First Street) through the advance outwash, about 5 feet of saturated sand was observed at the base of the formation (between 206 and 211 feet NGVD). This saturated interval is about 14 feet lower than the approximate 225 foot NGVD groundwater elevations in monitoring wells on the south and east side of the Morrell's Dry Cleaners building and observed while drilling MW-8D. The base of the advance outwash was dry in MW-3, and groundwater was not observed above a depth of 65 feet bgs in MW-6 along North First Street. The advance outwash is anticipated to be dry on the opposite side of North First Street from MW-14D because of the leakage into the interglacial deposits.

The Olympia bed interglacial deposits are characterized as a leaky lower confining unit beneath advance outwash, with discontinuous, low-yield sandy intervals. Deeper water bearing zones were encountered within thin sandy intervals of the underlying Olympia bed interglacial deposits. Monitoring well MW-8D was constructed through advance outwash using grouted conductor casing and the well was screened from 96 to 116 feet bgs to intersect a saturated sand interval between 111 and 115 feet bgs. No water bearing units were observed between the base of the advance outwash at 65 feet bgs and the sandy interval at 111 feet bgs. As shown on Figure 5 and the boring log, two saturated intervals were observed in the interglacial deposits in MW-12D between 72 and 91 feet bgs, and the well screen was set from 113 to 133 feet bgs to intersect a lower water bearing unit. In MW-13D, the top of the Olympia bed interglacial deposits was dry, and the well was screened from 125 to 145 feet bgs to intersect a water bearing unit from 136 to 146 feet bgs. In MW-14D, the Olympia bed interglacial deposits were dry below the advance outwash, and the well was screened from 123.5 to 143.5 feet bgs to intersect a saturated interval at about 140 feet bgs.

Table 3 summarizes groundwater elevation measurements from the wells at the two sites and Figures 7 to 9 show contoured groundwater elevations in the advance outwash in May 2009, December 2010, and February 2012, respectively. Groundwater elevations observed in the advance outwash combined with the understanding of hydrogeologic conditions are consistent with a conceptual model of:

- Recharge, derived primarily from precipitation and irrigation at Wright Park;
- Recharge infiltrates downward to the advance outwash where it perches on the underlying leaky confining unit formed by the Olympia beds;
- The perched groundwater in the advance outwash migrates laterally from Wright Park across the Site to the north and west; and
- Perched groundwater concurrently leaks downward through the Olympia beds, fully infiltrating and leaving the advance outwash dry to the northwest and northeast of the Site.

4 Cleanup Actions and Field Investigations for South Gas Station

A gas station operated at the south end of the Site in the 1930s and 1940s, and the pump island canopy for the gas station is shown in aerial photographs from 1931 to 1950. The gas station was located in a small paved section of the Property. The pump island canopy was located adjacent to the Property boundary, and the parking lot extends south of the Property into the City ROW. In 1994, the seven USTs, pump island, and associated piping were removed and PCS was disposed off-Site. Field investigations include confirmation soil sampling from 1994, due diligence sampling from 2006 to 2008, and field investigations performed during VCP enrollment from 2009 to 2016. The building is currently being extended south into the parking lot, and a patio and balcony are being constructed over the parking lot on the Property. Figure 10 shows the sample locations and former UST and pump island locations at the south gas station prior to the current redevelopment, and Table 4 summarizes the soil sampling results.

The current development extends the south wall of the building by 20 feet and includes a 20-foot-wide patio that extends to the east and west Property boundaries, and to 10 feet from the south Property boundary. A grease interceptor and transformer are being constructed in the 220-square-foot area between the patio and south Property boundary.

4.1 Cleanup Actions

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 gasoline and waste-oil USTs and pump island were located in the parking lot south of the building, and three older USTs were installed in an embankment along Division Avenue. The new building footprint will extend over former gasoline UST Nos. 2, 3, and 4 (see Figure 10) and patio will be constructed over former waste-oil UST No. 1 and the former pump island. The removal and characterization of the USTs and pump island are described below.

4.1.1 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 former building footprint. 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 TPH (TPH-G); benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds; and lead. One bottom sample contained 39 milligrams per kilogram (mg/kg) TPH-G, 0.33 mg/kg ethylbenzene, 3.3 mg/kg total xylenes, and 6 mg/kg lead, which were below the current MTCA Method A soil CULs in the absence of benzene[6] and the current reuse criteria for Category 3 fill[7] (Ecology,

[6] The applicable gasoline-range TPH MTCA Method A soil CUL is 100 mg/kg when detectable benzene is not present or 30 mg/kg when detectable benzene is present. Benzene was not detected in the soil confirmation samples at the south gas station.

[7] Category 3 fill can be used as pavement base material beneath the parking surface.

2016b). 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 beneath the pavement because the concentrations were below the Method A soil CULs and Category 3 fill limits.

4.1.2 Waste-Oil UST

A 500-gallon waste-oil UST was located about 30 feet south of the building. A soil sample from the overburden soil contained 1,900 mg/kg oil-range TPH (TPH-O). Approximately 30 cubic yards of PCS was excavated to 8 feet bgs from a 10-foot by 12-foot area surrounding the former waste-oil UST and 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.

4.1.3 Pump Island

The pump island was located about 40 feet south of the building. A soil sample from 2 feet beneath the pump island contained 570 mg/kg TPH-G and 1.42 mg/kg benzene. Soils were excavated to 5 feet bgs beneath the pump island and approximately 30 cubic yards of PCS 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.

4.1.4 USTs in Embankment

Three USTs were located in an embankment beneath the elevated sidewalk 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.

4.2 Field Investigations

Soil and groundwater samples were collected from 2006 to 2016 to characterize and delineate the extent of contamination. Appendix A provides the well construction and soil boring log for MW-1, Appendix C provides the soil boring logs from the south gas station, Appendix D provides the groundwater sampling forms, and Appendices E and F provide the soil and groundwater results, respectively, for data collected after the FFS (Aspect, 2014a).

4.2.1 Soil Quality Investigations

Soil samples were collected during due diligence sampling in 2006 and again in 2013, 2015, and 2016 to delineate the extent of residual contamination.

4.2.1.1 Due Diligence Soil Sampling

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. 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 from 8 feet bgs. All samples were submitted for analysis of TPH and BTEX. As shown on Figure 10, borings S-3 and S-6 were sampled on the Property, and borings S-1, S-2, S-4, S-5, and S-7 were sampled in the parking lot within the City ROW.

Boring S-1 was drilled in the southeast corner of the parking lot south of the UST embankment and a soil sample was collected from 15 feet bgs, which is below the 9-foot depth of excavation in the embankment. Sample S-1 contained 920 mg/kg TPH-G, which exceeds the 30 mg/kg Method A soil CUL when benzene is present. Sample S-1 also contained 6.1 mg/kg benzene, 4.1 mg/kg toluene, 6 mg/kg ethylbenzene, and 12 mg/kg total xylenes. The benzene concentration exceeded the 0.03 mg/kg Method A soil CUL by a factor of 200, whereas the concentration of xylenes slightly exceeded the 9 mg/kg Method A soil CUL, and the concentration of ethylbenzene equaled the 6 mg/kg Method A soil CUL. 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 parking lot, southwest of the former pump island, and a sample was collected from 16 feet bgs. Sample S-7 contained 360 mg/kg TPH-G, which exceeds the Method A soil CUL. The sample was not submitted for analysis of BTEX compounds.

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.

Stemen oversaw construction of MW-1 adjacent to the former waste-oil UST on January 22, 2007. The monitoring well boring log indicates sand and gravel fill from 0 to 15 feet bgs, very dense till from 15 to 50 feet bgs, and medium dense to dense sand from 50 to 65 feet bgs. No soil samples were collected. The depth of groundwater was about 53 feet bgs during seven sampling events between 2008 and 2014.

4.2.1.2 Delineation Soil Sampling

Aspect sampled soil borings AB-1 to AB-4 to delineate the lateral extent of contamination and soil borings AB-1 and AB-2D to delineate the vertical extent of contamination between December 2013 and April 2016. AB-1 was sampled to 61.5 feet bgs adjacent to MW-1 near the impacted soil encountered near the pump island in 1994. The boring encountered very hard till from about 15 to 40 feet bgs. Soil samples were screened at 5-foot intervals with a photoionization detector (PID) and VOCs were detected at 15, 20, and 25 feet bgs. The TPH-G concentration was 37 mg/kg at 15 feet bgs and 3 mg/kg at 25 feet bgs, and xylene was detected near the method detection limit at 15 feet bgs.

As agreed with the VCP Site manager on December 18, 2014, Aspect sampled borings AB-2 to AB-4 to evaluate the lateral extent of contamination in the 15-foot deep direct-contact exposure pathway within the City ROW. AB-2 was sampled in the southeast corner of the parking lot adjacent to S-1, AB-3 was sampled in the southwest corner of the parking lot adjacent of S-7, and AB-4 was sampled in the median south of the Property. As shown on the soil boring logs, VOCs were not detected with a PID in the direct-contact exposure pathway, but were detected from 15 to 16.5 feet bgs in borings AB-2 and AB-3. TPH-G was detected at 1,900 mg/kg in the 16.5-foot bgs interval in boring AB-2, which is consistent with the 920 mg/kg TPH-G detected in the 15-foot bgs interval of boring S-1. TPH-G was detected at 520 mg/kg in the 16.5-foot bgs interval in boring AB-3, which is consistent with the 360 mg/kg TPH-G detected in the 15-foot bgs interval of boring S-7.

At the request of the VCP Site manager and as outlined in the Notification of Planned Investigation Activities emailed to Ecology on November 11, 2015, Aspect sampled deep soil boring AB-2D adjacent to boring AB-2 to delineate the vertical extent of soil contamination. As shown on the soil boring log, the PID detected VOCs in the Vashon till from 15 to 33 feet bgs, and lower concentrations in the advance outwash at 38 and 43 feet bgs. TPH-G was detected at 670 mg/kg at 15 feet bgs and at 18 mg/kg at 27.5 feet bgs, and the concentrations of VOCs were below the detection limits. The concentrations of TPH and VOCs were below the detection limits at 37.5 and 52.5 feet bgs.

The field investigations did not detect any contamination in the top 15 feet of soil, but soil contamination was detected in the hard Vashon till soil from 15 to 27.5 feet bgs. All of the Method A soil CUL exceedances were encountered between 15 and 16.5 feet bgs. Although Stemen detected benzene at 15 feet bgs in boring S-1, the concentrations of benzene were below the method detection limits in the remaining soil borings, including samples from the same interval in collocated borings AB-2 and AB-2D.

4.2.2 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 October 2, 2008, and January 10, 2014. The most recent groundwater sampling reports from MW-1 were included in the FFS Addendum (Aspect, 2014a). These samples were submitted for analysis of total VOCs; the January 2014 sample was also analyzed for TPH-G, diesel-range TPH (TPH-D), polycyclic aromatic hydrocarbons (PAHs), and lead. MW-1 was decommissioned on April 20, 2016, in accordance with WAC 173-160 during building expansion; MW-1 was located beneath the patio. Table 5 summarizes the historical concentrations of chlorinated VOCs in all monitoring wells at the two sites and Table 6 summarizes the concentrations of all COPCs in Site wells MW-1 and MW-11, and in Morrell's Dry Cleaner site wells MW-5 and MW-7, which are the closest wells that intersect groundwater.

Groundwater at the Site is contained in the advance outwash sand and the depth to groundwater is about 53 feet bgs at the south gas station. As shown in Figures 7 to 9, groundwater in the advance outwash discharges laterally to the northwest, but the advance outwash becomes dry downgradient from the Property. As shown in Table 3, the advance outwash was consistently dry in MW-3, and the well was subsequently

decommissioned. Section 3 describes how groundwater discharges vertically into the underlying interglacial deposits, which behave as a leaky aquitard beneath the advance outwash.

The concentrations of VOCs were generally below the method detection limits in MW-1, and there were no indications that petroleum contamination has impacted groundwater since closure of the gas station in the 1950s. In August 2007, the benzene concentration was 2.2 micrograms per liter (µg/L) and the PCE concentration was 1.3 µg/L, which were below the 5 µg/L MTCA Method A groundwater CULs for both compounds. Benzene and PCE were not detected in any subsequent groundwater samples. TCE was detected at a concentration of 0.4 µg/L in January 2014, which is below the 5 µg/L Method A groundwater CUL, 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). TPH, PAHs, or BTEX compounds were not detected in MW-1. Lead was detected at a concentration of 2 µg/L, which is well below the 15 µg/L Method A groundwater CUL.

4.3 Engineering Controls for Soil Vapor Intrusion

As part of the building renovation, the Property owner is constructing an 1,800-square-foot soil vapor barrier beneath the slab foundation at the south end of the building. The soil vapor barrier will be placed beneath the coffee shop tenant space that is being constructed above the south gas station, but will not be placed under the 540-square-foot patio on the exterior of the building at the southern tip of the Property.

5 Cleanup Actions and Field Investigations for North Gas Station

A gas station operated on TPN 2031-13-0025 from the 1940s to 1960s, and the building and fuel island canopy are shown in aerial photographs from 1940 and 1950. The parcel was subsequently used as a parking lot for the grocery store, and the parking lot is shown in aerial photographs from 1973 to present.

5.1 Cleanup Actions

Three 500-gallon USTs and associated products lines were removed from the parcel 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 lead concentration was 30 mg/kg, which is well below the 250 mg/kg Method A soil CUL. PCS 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 PCS were disposed off-Site and several hundred cubic yards of clean overburden soil were used as backfill. Appendix B provides detail maps and data tables for the cleanup.

5.2 Field Investigations

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 decommissioned in accordance with WAC 173-160 on December 25, 2010.

5.3 Ecology Opinion

Ecology (2014) determined that the TPH soil contamination at the former north gas station has been fully delineated and that the contamination was removed in 1994. Ecology concluded that the source of contamination originated on and was limited to this parcel and is not associated with contamination on the nearby parcels. The groundwater

table was not encountered in MW-3 on the parcel, and Ecology concluded that contamination would have been unlikely to impact groundwater. Ecology (2014) determined that TPN 2031-13-0025 could be eligible for an unencumbered, property-specific NFA separate from the other parcels.

6 Cleanup Actions and Field Investigations for Paint Booth Area

The Phase I ESA (Bison, 1994a) identified recognized environmental conditions in the building that resulted from automotive-related businesses that operated in the building from 1926 to 2015; detail maps from this report are provided in Appendix B. The former paint booth and heating-oil UST on the northwest side of the body shop were identified, which were located south of the boiler room and Thriftway Grocery store at the time. Stadium Thriftway now extends over the former paint booth. Figure 11 shows current details of the grocery store near the former paint booth, and Figure 12 shows the locations of the former paint booth, UST, and floor drains in the current setting, as well as the locations of soil samples, sub-slab soil gas and indoor air samples, and MW-11.

6.1 Decommissioning Activities

The original paint booth area had two floor drains. The north drain appeared to connect to the stormwater sewer along North First Street and the south drain connected to a vault and to a 1,000-gallon heating-oil UST. The heating-oil UST was used for the boiler, which was located 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 aboveground 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 northwest. 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 by the HCID method and for VOCs and metals. Sample D1 contained gasoline-, diesel-, and oil-range hydrocarbons, and lead, cadmium, benzene, xylenes, and PCE at concentrations above the Method A soil CULs. The contents of the pipe are not subject to regulation under MTCA.

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. Bison speculated that vault may have functioned as a dry well. 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 by the HCID method, and for VOCs and metals. Sample D2 contained gasoline- and diesel-range TPH, and contained lead and cadmium above the Method A soil CULs.

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).

6.2 Property Use Changes

As shown in the detail maps in Appendix B, the decommissioning activities were performed when the paint booth was located on the northwest corner of the body shop. The boiler room was located on the north side of the structural columns shown on

Figure 12, and Stadium Thriftway occupied the building north and east of the boiler room. Bison performed the decommissioning and field investigations inside the former body shop. Aspect oversaw construction of MW-11 on May 12, 2009, when the drill rig was able to enter the building through a roll-up door along North First Street.

Stadium Thriftway subsequently expanded the store over the boiler room to 60 feet south of the structural columns shown on Figure 12. Figure 12 combines the 1994 field investigation sketch with the current details of the grocery store, which are presented on a boundary survey map prepared by a professional land surveyor. The decommissioned heating-oil UST is located beneath the present-day meat counter, and the former paint booth shroud extended over the meat counter and preparation area, the produce preparation area, and the produce cooler. MW-11 is now located inside the produce cooler. The roll-up door has been converted to an exterior wall. Due to the expansion of the grocery store, the 2016 field investigations for the former paint booth area were performed inside the grocery during limited, non-operating hours in the middle of the night. Access was limited because of interior walls, counters, displays, coolers, appliances, merchandise, and stocking areas.

CARSTAR Auto Body operated in the adjacent tenant space to the south of the grocery store, and Titus-Will Service and Tire operated above the grocery store. These businesses had garages above and within 50 feet lateral from the former paint booth, and internal combustion engines operated in the garages. CARSTAR Auto Body and Titus-Will Service and Tire vacated the building in 2015, and the Stadium Thriftway Properties LLC is currently renovating the building while the Stadium Thriftway grocery continues to operate.

6.3 Field Investigations

The field investigations include:

- Phase II soil sampling performed in August and September 1994;
- Due diligence soil sampling performed in August and October 2006;
- Due diligence vapor sampling performed on May 8, 2008;
- VCP groundwater sampling performed from May 2009 to October 2015;
- VCP vapor sampling performed in January 2014, March 2015, and May 2016; and
- VCP soil sampling performed in February and May 2016.

This section summarizes the soil, groundwater, and air investigations near the former paint booth. Tables 7, 8, and 9 summarize the soil, groundwater, and air sample results from the former paint booth area. Appendix A provides the well construction and soil boring log for MW-11, Appendix C provides the soil boring logs from the former paint booth area, and Appendices E to G provide the analytical reports for data collection after submittal of the FFS (Aspect, 2014a).

6.3.1 Soil Quality Investigations

The soil investigations inside the building identified and bounded hydrocarbon contamination associated with the heating-oil UST, identified low levels of PCE contamination from the paint booth area, identified and bounded hydraulic-oil contamination, and identified and bounded a light hydrocarbon contamination area. Although benzene was detected at 0.024 mg/kg and below the Method A soil CUL at 10 feet bgs in boring B5 adjacent to the heating-oil UST in September 1994, the concentrations of benzene were below the detection limit in the remaining 9 Phase II soil samples, 2 due diligence soil samples, and 14 VCP soil samples.

6.3.1.1 Phase II Investigation

Bison collected soil samples from soil borings B1 to B4 in the paint booth area on August 3, 1994 (Bison, 1994d). Sample B1, collected from 5.5 feet bgs near the UST, contained 8,000 mg/kg TPH (analyzed via Method WTPH-418.1), 85 mg/kg toluene, 143 mg/kg xylenes, and 0.21 mg/kg PCE; these contaminant concentrations exceeded Method A soil CULs. Benzene was not detected, and the concentrations of metals were below the Method A soil CULs. In sample B4, collected from 3 feet bgs above the UST and adjacent to the vault, the TPH concentration was 480 mg/kg, and toluene and xylenes were detected near their detection limits. The concentrations of TPH were below the 100 mg/kg Method A soil CUL for gasoline-range TPH in the other samples, including boring B3 adjacent to the north drain on the north side of UST, and boring B2 on the west of the UST.

On September 6, 1994, Bison collected soil samples from borings B5 to B9 to delineate the extent of soil contamination (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. TPH-O 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 CUL for heavy oils, and the lowermost sample was well below the CUL. The lowermost sample from boring B5 contained 0.053 mg/kg PCE, which is equal to the 0.05 mg/kg Method A soil CUL, and 0.024 mg/kg benzene, which is below the 0.03 mg/kg Method A soil CUL. The toluene concentration was 8.6 mg/kg in the 5-foot bgs interval of boring B6, which slightly exceeds the current Method A soil CUL of 7 mg/kg, but was below the 40 mg/kg Method A CUL at the time. The concentrations of TPH and VOCs were below the Method A soil CULs in the remaining samples.

The Phase II investigation effectively bounded the extent of contamination. Bison recommended no further action for soils beneath the former paint booth because soil excavation might subject the building to structural damage.

6.3.1.2 Due Diligence Investigation

Stemen sampled soil borings near the former paint booth in August and October 2006; however, the locations provided by Stemen cannot be accurately located on the Site exploration maps. Samples were collected from borings PB-2 and PB-3, and submitted for total VOCs. PCE was detected at a concentration of 0.16 mg/kg in both samples, which exceeds the 0.05 mg/kg Method A soil CUL. TPH-G was detected in the sample from PB-3 at 30 mg/kg, which is below the 100 mg/kg Method A soil CUL in the absence of benzene. A total of four soil samples were collected from borings PBLS,

PBRS, and PSWE, which were presumably collected from the left side, right side, and west end of the former paint booth. The samples were analyzed for gasoline- and diesel-range TPH. TPH-O was detected at 87 mg/kg at 2 feet bgs on the west side of the former paint booth, which is well below the 2,000 mg/kg Method A soil CUL.

6.3.1.3 VCP Investigation

Aspect collected soil samples from borings B10 to B16 on February 25, 2016, and from borings B17 to B21 on May 11, 2016, using a dolly-mounted probe rig during 4-hour windows after grocery store closure. The dolly-mounted probe rig is the only rig capable of operating within the grocery store confines and has a limited sampling depth into the underlying fill and dense till.

As requested and agreed to by the VCP Site manager, soil boring B10 was advanced near the highest previously detected contamination to refine the vertical delineation of hydrocarbon and chlorinated VOC contamination detected in borings B1 and B5. No contamination was detected in boring B10, but since the probe met refusal at 5 feet bgs, additional borings B13 and B14 were advanced to delineate the vertical extent of contamination. The probe met refusal at 0.75 feet bgs in boring B13, but was able to extend to a depth of 11 feet bgs in boring B14. Four samples were submitted for the analysis of gasoline- and diesel-range TPH and total VOCs. TPH-G was detected at 5.4 mg/kg in boring B14 at 4.5 feet bgs, well below the 100 mg/kg Method A soil CUL; no other compounds were detected.

Four soil borings were advanced to refine the lateral delineation of contamination near the paint booth. Borings B12 and B15 were sampled north and south of the former paint booth, boring B11 was sampled east of the former paint booth, and boring B16 was sampled on the sidewalk west of the former paint booth. Boring B11 was the last boring sampled during the limited sampling window before the grocery store opened for business. Boring B16 was sampled in the sidewalk because the ceiling was too low for the dolly-mounted probe rig to sample in the produce preparation area. The concentrations of TPH and VOCs were below the detection limits north, west, and south of the former paint booth, and therefore successfully bound the extent of contamination.

Peat soil and hydraulic-oil contamination were observed in boring B11 on the east side of the former paint booth. The boring was advanced through fill material and encountered peat soil from 4.5 to 7 feet bgs, where the probe met refusal. Boring B11 was the only soil boring at the two sites that encountered peat soil. The peat soil is underlain by about 30 feet of hard Vashon till and another 15 feet of advance outwash above the groundwater table. A soil sample from 5.5 feet bgs was submitted for the analysis of COPCs for unknown waste oil in Table 830-1 of MTCA. The sample contained 12,000 mg/kg TPH-G, 5,800 mg/kg TPH-D, 17,000 mg/kg TPH-O, 3,250 mg/kg lead, 0.16 mg/kg PCE and 2.02 mg/kg total PCBs, which exceed Method A soil CULs. Aroclor 1254 and 1260 have been identified in hydraulic fluids (Oregon Department of Environmental Quality, 2003), and these PCB constituents were detected in the sample. The contamination is likely associated with used or leaked hydraulic fluid that was used in hydraulic lifts in the body shop. The Phase I ESA identified one 55-gallon drum of new hydraulic oil in the building in 1994.

Aspect conducted a second probe investigation to delineate the extent of peat soil and hydraulic-oil contamination. Boring B18 bound the extent of contamination and peat soil on the northwest; borings B17 and B19 bound contamination and peat soil on the northeast; boring B20 bound contamination and peat soil on the southeast; boring B21 bound the hydraulic oil contamination and peat soil on the south; and previous borings bound contamination and peat soil on the west. Boring B21 encountered light-range hydrocarbon contamination at 9.5 foot bgs, where TPH-G, toluene, and xylenes were detected at less than twice the Method A soil CULs.

6.3.1.4 Soil Sampling Summary

The soil sampling investigations have identified and bounded the extent of contamination associated with the former paint booth and heating-oil UST. PCE was detected in five soil samples at a maximum concentration of 0.21 mg/kg, which is four times the Method A soil CUL. Additional hydraulic-oil contamination was identified in sandy peat soil, and the source and extent of contamination was delineated. Generally, hydrocarbon contamination is associated with heating oil and hydraulic oil, and this contamination has been bounded. The soil sampling investigations did not detect benzene at concentrations above the Method A soil CUL in the 26 soil samples from the paint booth area. We do not recommend additional soil sampling within the building, as soil quality has been adequately characterized to assess potential contaminant exposure pathways and support development of remedial alternatives. Extensive soil sampling has been performed around the recognized environmental conditions in the building with minimal impact to grocery store operations.

6.3.2 Groundwater Quality Investigation

Aspect constructed MW-11 in the paint booth area on May 8, 2009 to assess potential impacts to groundwater. Dense till was encountered from the surface to about 35 feet bgs, where the soil transitioned to silty sands and sandy silts associated with the advance outwash. MW-11 was completed to 63 feet bgs and screened from 53 to 63 feet bgs. The depth to groundwater is about 52 feet bgs. The groundwater gradients on Figures 7 to 9 show that groundwater in the advance outwash discharges northwest from the paint booth area toward MW-3, which is about 225 feet from MW-11 on the opposing side of North First Street. MW-11 is on the west side of the paint booth area, and is representative of groundwater contamination near the paint booth. The advance outwash becomes dry about 90 feet downgradient from MW-11 due to vertical discharge of groundwater into interglacial deposits, which is consistent with the topography and the leaky underlying aquitard (see Section 3).

Samples were collected from MW-11 in May 2009, December 2010, January 2014, March 2015, October 2015, and February 2016 and submitted for analysis of total VOCs. The January 2014 sample was submitted for analysis of COPCs for waste oil in Table 830-1 of MTCA and 1,4-dioxane. At the request of the VCP Site manager during the December 18, 2014 meeting, a fourth-quarter groundwater sample was collected in March 2015 and analyzed for gasoline- and diesel-range TPH, total VOCs, 1,4-dioxane, and RCRA metals. After a minor exceedance of arsenic, an additional groundwater sample was collected in April 2015 and submitted for the analysis of total and dissolved RCRA metals. At the request of and with the consent of the VCP Site manager, quarterly groundwater samples were collected from MW-11 in October 2015 and February 2016,

and the samples were submitted for the analysis of total VOCs. Table 8 summarizes the groundwater sampling results for MW-11.

Arsenic was the only analyte detected above the Method A groundwater CUL. The concentrations of total arsenic were 5.15 µg/L and 6.29 µg/L in March and April 2015, respectively. However, arsenic was not detected when filtered through a 0.45-micron filter; thus, the concentration of dissolved arsenic was less than 1 µg/L. Although the concentration of total arsenic was detected slightly above the 5 µg/L Method A groundwater CUL, this slight exceedance is consistent with background conditions in the Puget Sound area. The former paint booth is not a source of arsenic, and arsenic was not detected in the sediment samples collected from the former drains in the former paint booth or from soil boring B1 adjacent to the decommissioned heating-oil UST. The VCP Site manager stated that arsenic analysis was not necessary for the additional groundwater sampling. Arsenic is not carried forward as a COC for the Site.

Groundwater samples from MW-11 were analyzed for lead in January 2014, March 2015, and April 2015. The concentrations of lead ranged from 2.44 to 6.2 µg/L, which is representative of background concentrations and is well below the 15 µg/L Method A groundwater CUL.

Although PCE was detected at concentrations up to 0.21 mg/kg in soil in the paint booth area, which is above the 0.05 mg/kg groundwater-protective Method A soil CUL, PCE was not detected in groundwater. However, TCE, a biodegradation product, was detected below the Method A groundwater CUL. The TCE concentrations ranged from 1.4 to 4.6 µg/L in the six groundwater samples collected from MW-11, and the 95 percent upper confidence limit (UCL) is 3.81 µg/L TCE. The 95 percent UCL was calculated using student's-t distribution of normal data using the ProUCL 5.0 spreadsheet (EPA, 2013) and the 95 percent UCL Calculator spreadsheet (Interstate Technical Regulatory Council, 2016). The concentrations of TCE are below the 5 µg/L Method A groundwater CUL, and the 95 percent UCL is below the more stringent 4 µg/L Method B groundwater CUL.

Carbon tetrachloride and chloroform were detected at concentrations ranging from 1.1 to 2.8 µg/L in May 2009, December 2010, and March 2015, but the concentrations were below the 1 µg/L detection limit in January 2014, October 2015, and February 2015. Method A groundwater CULs are not established for these constituents. The concentrations are below the 5 µg/L federal MCL for carbon tetrachloride and 80 µg/L federal MCL for chloroform.

The groundwater samples from January 2014 and March 2015 were submitted for the analysis of gasoline- and diesel-range TPH. The TPH concentrations were below the detection limits, with the exception of 82 µg/L of TPH-D detected in March 2015. The concentration of TPH-D was well below the 500 µg/L Method A groundwater CUL. The VCP Site manager stated the additional groundwater samples (i.e., October 2015 and February 2016) only needed to be analyzed for total VOCs.

Additional groundwater sampling of MW-11 beyond February 2016 is not warranted for Site delineation. Ecology's sampling guidance (Ecology, 1995) states that Stage 1 groundwater sampling should include sampling the well twice, in opposing seasons, to

determine whether the COPCs exceed the method detection limit. The guidance recommends that two additional samples should be collected in Stage 2 sampling on a quarterly basis when the COPC exceeds the method detection limit; it does not state that the quarters be consecutive. The guidance allows Stage 2 sampling to be terminated when the concentrations of the COPCs do not exceed the cleanup level in all four sampling events. Further, the guidance states that the attainment of groundwater cleanup levels can be demonstrated when the 95 percent UCL of the COPC from a single well is below the groundwater cleanup level. Groundwater sampling in MW-11 has satisfied these criteria.

6.3.3 Sub-Slab Soil Gas and Indoor Air Quality Investigations

Sub-slab soil gas samples were collected during due diligence and VCP sampling and indoor air samples were collected during VCP sampling. Samples were analyzed for chlorinated VOCs, BTEX compounds, and vapor-phase hydrocarbons. Table 9 summarizes the sampling results and compares them with standard and modified Method B air CULs and screening levels, as updated by Ecology on April 6, 2015. The modified Method B air screening levels were calculated by reducing the exposure frequency from 1.0 (168 hours per week) to 0.238 (40 hours per week) for the grocery store. The reduced exposure factor is consistent with the worker exposure scenario for the current and future Site use.

6.3.3.1 Due Diligence Investigation

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. Although the Stemen's mapping resolution is poor, GV-2 was collected on the west side of the paint booth area, GV-3 was collected in the middle of the paint booth area, and GV-1 was collected on the east side of the paint booth area. As noted on Figure 12, the locations of these samples were estimated from sample labels on an aerial photograph. The PCE concentrations ranged from 110 to 1,000 micrograms per cubic meter (µg/m$^{3)}$, the toluene concentrations ranged from 130 to 240 µg/m^3, and the concentrations of xylenes ranged from less than 100 to 230 µg/m^3. Although PCE was detected above the 321 µg/m^3 Method B sub-slab soil gas screening level in GV-2, the concentration was below the 1,350 µg/m^3 modified Method B sub-slab soil gas screening level for 40-hours-per-week exposure.

6.3.3.2 VCP Vapor Investigation

Aspect collected three sub-slab soil gas samples (Subslab-012314, SS-FPB-032015, and SSV-051016), two indoor air samples (Indoor-012214 and IA-FPB-032315), and one outdoor ambient air sample (Outdoor Air-012214). Figure 12 shows the locations of the samples.

6.3.3.2.1 Sub-Slab Investigation Results

As shown in Table 9, the concentrations of VOCs were below the Method B sub-slab soil gas screening levels. Chlorinated VOCs were only detected in one sub-slab sample, Subslab-012314, which was collected beneath the sidewalk west of the paint booth area near soil boring B16. The PCE concentration was 270 µg/m^3 and the TCE concentration was 1.2 µg/m^3, which are below the Method B sub-slab soil gas screening levels. Chlorinated VOCs were not detected in the sub-slab samples in the produce preparation area nor on the east side of the meat counter near soil borings B11, where PCE was detected in soil at 0.16 mg/kg. Sample Subslab-012314 was collected near the apparent

location of sub-slab GV-2 on the west side of the paint booth area, and indicates that the concentrations of PCE attenuated beneath the slab between 2008 and 2014 after the termination of paint booth operations.

Hydrocarbons were detected in sub-slab samples collected near the drain in the produce preparation area and on the east side of the meat counter, near impacted soil borings B11 and B21. The concentrations of the hydrocarbons were well below the Method B sub-slab soil gas screening levels. Benzene was detected at 2.09 µg/m^3 near the produce preparation area drain and at 0.97 µg/m^3 near the impacted soil in borings B11 and B21, which is below the 10.7 µg/m^3 Method B sub-slab soil gas screening level. Benzene was not detected at concentrations above the Method A soil CUL in 26 soil samples collected from the paint booth area, and light-range hydrocarbons are not consistent with the heating-oil and hydraulic-oil contamination encountered in the paint booth area. The sub-slab concentrations of benzene are lower than the concentration of benzene in a collocated sample collected above the floor drain in the produce preparation area, where benzene was detected at 2.29 µg/m^3 in indoor air. Similarly, the concentrations of vapor-phase hydrocarbons were higher above the slab foundation than below it, indicating that background concentrations from other sources exist within the building.

6.3.3.2.2 Indoor Air Investigation Results

Aspect collected an indoor air sample inside the walk-in produce cooler (Indoor-012214) one day before collecting a sub-slab sample from beneath the adjacent sidewalk (Subslab-012314) and submitted the samples for analysis of chlorinated VOCs. At the request of the VCP Site manager, Aspect collected a second indoor air sample above the floor drain (IA-FPB-032315) in the produce preparation area three days after collecting a sub-slab sample (SS-FPB-032015) in the same location.

The PCE concentration was 270 µg/m^3 beneath the sidewalk, 0.61 µg/m^3 inside the cooler, and 2.78 µg/m^3 in the produce preparation area, which is consistent with soil vapor intrusion from soil contamination beneath the slab foundation. The PCE concentrations are below the 9.62 µg/m^3 Method B indoor air CUL and the 40.4 µg/m^3 modified Method B indoor air CUL for a 40-hours-per-week exposure factor. We conclude that the PCE inside the building results from soil contamination because PCE is detected in soil, the concentrations of vapor phase PCE are higher beneath the slab than in indoor air above it, and there are no known sources of PCE inside the building.

The concentrations of benzene and vapor-phase hydrocarbons exceeded the Method B indoor air CULs in the produce preparation area near the drain. The concentrations of benzene and heavier-range aliphatic hydrocarbons also exceeded the modified Method B indoor air CULs for a 40-hours-per-week exposure factor. As shown in Table 9, the concentrations of benzene and vapor-phase hydrocarbons were higher above the slab foundation near the drain than below the slab foundation near the drain. The benzene concentration was 2.29 µg/m^3 in indoor air above the floor drain, but 2.08 µg/m^3 below the slab near the drain and 0.97 µg/m^3 beneath the slab on the east side of the meat counter. Similarly, the concentration of heavier-range aliphatic hydrocarbons was 807 µg/m^3 above the drain, but 311 µg/m^3 below the drain; and the concentration of aromatic hydrocarbons was 576 µg/m^3 above the drain, but 221 µg/m^3 below the drain.

We conclude that the source of benzene and vapor-phase hydrocarbons in the produce preparation area is from background sources from commercial uses inside the building or are brought into the building via the HVAC system, and these chemicals are therefore not subject to regulation under MTCA. Even so, the concentration of benzene is more than three orders of magnitude below the applicable 3,200 µg/m^3 8-hour, time-weighted-average permissible exposure limit for occupational exposure in WAC 296-841-20025.

The conclusion that benzene does not originate from soil contamination is based on the following:

- Benzene is typically not associated with the heating-oil and hydraulic-oil contamination encountered beneath the paint booth area;
- Benzene was not detected at concentrations above the Method A soil CUL in the 26 soil samples collected beneath the paint booth area; and
- The concentrations of benzene are higher in indoor air above the floor drain than in soil gas below the slab foundation near the drain, despite clear evidence of about a 100-fold attenuation of PCE from sub-slab soil gas to indoor air in the paint booth area.

Additionally, Aspect performed a building survey that identified chemicals within the building and confirmed the presence of several hydrocarbon-containing products for commercial uses in the produce preparation area that would act as sources of the detected vapor phase hydrocarbons in indoor air samples. The grocery also has numerous chemical products and packaging materials within the store that could potentially affect indoor air sample analytical results.

6.3.4 Building Survey for Indoor Air

The U.S. Environmental Protection Agency (EPA; 2015) recommends performing a building survey before or during indoor air sampling, which includes a review of the building heating, ventilation, and air conditioning (HVAC) system and a review of indoor and outdoor sources of vapor-forming chemicals. Aspect conducted the building survey on March 24, 2016. This survey included an interview with the grocery store manager to identify chemical storage areas and the operation of the HVAC system, to inspect air intake dampers for the HVAC system, and to inspect and inventory chemicals in the storage areas.

The Stadium Thriftway has two HVAC systems, and neither of the systems interconnect with former Titus-Will Service and Tire garage above the grocery store or the former CARSTAR Auto Body garage adjacent to the grocery store. Although these two businesses operated internal combustion engines in the overlying and adjacent garages during the previous indoor air sampling event in March 2015, they had vacated the building by the time of the building survey. The building was being renovated during the building survey, which included demolition activities and the operation of internal combustion engines inside the building. Stadium Thriftway has three air-intake dampers installed in the awning that draw ambient air from about 15 feet above ground level. Two dampers are located on the north side of the building in the parking lot near the loading dock, and one damper is located on the west side of the building along North First Avenue, about 40 feet north of the produce preparation area. The air-intake dampers

could be influenced by vehicular traffic on the road, parking lot, and loading dock, but they do not extract air directly from the overlying and adjacent garages in the building.

Stadium Thriftway stores chemicals for cleaning and maintenance in two locations in the building, which include the produce preparation area and an area near the restrooms on the northeast corner of the building. Chemicals in products sold by Stadium Thriftway were not inventoried. The following chemicals were observed in the produce preparation area:

- A quart of Penzoil SAE 30 motor oil, which was marked "Maintenance."
- A 4-ounce container of Liquid Wrench Multi-Purpose Super Oil. The label indicates that the product contains mineral oil.
- Three 12-ounce cans of Krylon spray paint. The label states that the paint includes acetone, toluene, propane, and butane.
- A 4-once spray bottle of Armor All cleaner. The Material Safety Data Sheet (MSDS) indicates that the product contains nonhazardous silicone emulsion and other nonhazardous ingredients.
- Container of Nutra Clean Floor Cleaner Concentrate (Fortech Products). The MSDS indicates that the product contains sodium xylene sulfonate, monoethanolamine, tetrasodium salt of ethylenediaminetetraacetic acid (EDTA), and alcohol ethoxylates.
- Container and dispenser for Signet Heavy Duty Degreaser floor cleaner. The MSDS indicates that the product contains monoethanolamine and alcohol ethoxylates.
- Container and dispensers for Heavy Duty Degreaser (Dawn Professional). The label indicates that the product contains diethylene glycol monobutyl ether, tetrasodium EDTA, sodium citrate, and sodium cumene sulfonate.
- Containers and dispensers for Signet Glass & Multi-Surface Cleaner. The MSDS indicates that the product contains sodium lauryl sulfate and ethyl alcohol.
- Containers and dispensers for J-512 Sanitizer (Johnson Diversey). The MSDS indicates that the product contains n-alkyl (60 percent C14, 30 percent C16, 5 percent C12, 5 percent C18) dimethyl benzyl ammonium chloride, n-alkyl (68 percent C14, 32 percent C16) dimethyl ethylbenzyl ammonium chloride, and ethyl alcohol.
- Containers and dispensers for Triad III Disinfection Cleaner. The MSDS indicates that the product contains ethyl alcohol and n-alkyl dimethyl benzyl ammonium chloride.
- Container of liquid bleach, which contains sodium hypochlorite.
- Container of Comet powder with bleach.

The produce preparation area has two dispensers, one for a double sink on the east wall and another for a mop washing basin on the west wall. The dispensers were connected to open containers on the floor by tubing. The motor oil, machine oil, spray paint, and bleach containers were placed on the floor or on the rim of the mop wash basin. The produce preparation area has an unfinished concrete floor and a floor drain is located near the sink on the east side of the room. The indoor air and sub-slab samples were collected adjacent to the drain, as requested by the VCP Site manager.

This building survey identified two containers of oil, three cans of spray paint with light-range hydrocarbons, and hydrocarbons in the floor cleaner, the sanitizer, and the disinfectant cleaner. The building survey supports the conclusion that the benzene and vapor-phase hydrocarbon detections above the floor drain in the produce preparation area originate from vehicle exhaust sources outside the building and/or commercial processes inside the building. As indicated in WAC 173-340-750(1)(a), the MTCA cleanup standards for air quality do not apply to hazardous substances in the air that originate from commercial processes in the building or from off-Site sources.

7 Cleanup Actions and Field Investigations at Site Boundary with Morrell's Dry Cleaners

Groundwater contamination on the Morrell's Dry Cleaners site extends in the advance outwash to MW-5, which is located on the Morrell's Dry Cleaners site near the northwest corner of the Walker Chevrolet building at the entrance to the grocery store. Grocery stores have operated on the north side of the lower floor of the Walker Chevrolet building since 1931, and these businesses would not typically have used chlorinated ethylenes. The evidence indicates that the contamination originates from historical dry-cleaner operations on the Morrell's Dry Cleaners site. Dry cleaning businesses have operated continuously in the 3,600-square-foot building north of grocery store since 1929, and Morrell's Dry Cleaners has operated on the north side of the building since 1971.

As shown on Figure 2, MW-5 is located in the parking lot on TPN 2030-12-0033 as close as possible to the Walker Chevrolet building on TPN 2030-12-0032. Ecology (2014) determined that TPN 2030-12-0033 should be associated with the Morrell's Dry Cleaners site (VCP No. SW1039) and TPN 2030-12-0032 should be associated with the Site.

7.1 Field Investigations

Historical releases from Morrell's Dry Cleaners have impacted the saturated portions of the advance outwash on the northwest portion of the Morrell's Dry Cleaners site, and the impacted groundwater discharges vertically into the underlying interglacial deposits, which are characterized as a leaky aquitard beneath the advance outwash. Hydraulic gradients in the advance outwash generally extend from Wright Park to the dry boundary on the north and west sides of the sites. Local hydraulic gradients were reversed by a prolonged water leak in 2006 and 2007, and briefly by biostimulation injections in June 2014.

The lateral migration of PCE from Morrell's Dry Cleaners toward MW-5 is likely attributable to a water leak at the commercial business (Tully's Coffee) immediately north of the dry cleaners (Stemen, 2009), which resulted in groundwater mounding beneath the building and a temporary reversal in the hydraulic gradient. After discovering water beneath the foundation of Morrell's Dry Cleaners, an analysis of the Tully's Coffee water bill indicated that 600,000 gallons of drinking water was released between May 2006 and September 2007.

In June 2014, Aspect oversaw the injection of about 550 gallons of biostimulants into nine biostimulation wells on the Morrell's Dry Cleaners site, including MW-19 and MW-20 on the south side of the dry cleaner building. MW-19 and MW-20 are located about 30 feet north of the Site, and the injection of the fluid would have displaced contaminated groundwater southward toward the Site.

7.1.1 Groundwater

Table 4 shows the historical concentrations of chlorinated VOCs in the Former Walker Chevrolet and Morrell's Dry Cleaners monitoring wells. Stemen oversaw construction of MW-5 on January 11, 2008, and groundwater samples were collected ten times between

January 2008 and February 2016. As shown on Figures 7 to 9, groundwater flows northwest from Wright Park past MW-5 to North First Street and the Morrell's Dry Cleaners site. The PCE concentration was 27 µg/L in February 2016, and the concentrations are trending downward with the natural flow of groundwater in the advance outwash.

7.1.2 Soil Gas

Although Ecology (2014) referenced the need to further evaluate the potential sub-slab vapor intrusion exposure pathway on the north side of the Walker Chevrolet building, the VCP Site manager agreed during the December 18, 2014 meeting that this pathway does not need to be evaluated further. Soil vapor beneath the parking lot on the Morrell's Dry Cleaner site was evaluated by a Gore Survey in February 2010 (Aspect, 2011). The passive soil gas survey measured the mass of individual VOCs that were absorbed in a resin that was placed beneath the surface and sealed for 7 days. The Gore Survey showed that VOC contamination in soil and soil vapor attenuates on the Morrell's Dry Cleaners site, and does not extend to the Site. Additionally, a SVE system began removing accessible VOC contamination from beneath the Morrell's Dry Cleaners building and near the source of chlorinated ethylenes in October 2014 (Aspect, 2014c). Based on the December 18, 2014 meeting with Ecology, this RI/FS does not include any additional evaluation of the sub-slab vapor intrusion exposure pathway on the north side of the building from contamination originating on the adjoining Morrell's Dry Cleaners site.

7.2 Cleanup Actions

The Morrell's Dry Cleaners site is being actively remediated by biostimulation and SVE actions. The design and construction of the cleanup actions are described in Sections 2.2.5 and 2.2.6.

7.2.1 Biostimulation

Lactate-based biostimulants were injected into nine impacted biostimulation wells on the Morrell's Dry Cleaners site on June 23 and 24, 2014. 3DMe® is engineered to biostimulate groundwater for up to three years, and the June 2014 injection activities continue to enhance bioattenuation reactions. Although injection did not biostimulate groundwater near MW-5, the injection likely displaced impacted groundwater toward that well. Groundwater is currently monitored at 6-month intervals on the Morrell's Dry Cleaners site, including MW-5. As anticipated, the PCE concentrations in MW-5 have shown a decreasing trend since biostimulation, as clean groundwater flows in the advance outwash from Wright Park, below the grocery store, and toward North First Street.

7.2.2 Soil Vapor Extraction

The SVE system at Morrell's Dry Cleaners has operated continuously since October 15, 2014. The system extracts soil vapor from:

- Two angled SVE wells completed beneath the building in the Vashon till;
- Two angled SVE wells beneath the building in the advance outwash;
- A 50-foot SVE trench in the 5-foot-wide alley north of Morrell's Dry Cleaners; and

- A suction pit beneath the slab foundation of Morrell's Dry Cleaners.

The SVE system is operated to remove accessible chlorinated VOC contamination from beneath the building, the Vashon till, and the advance outwash. In addition to removing contamination, the SVE system has maintained a pressure gradient that prevents vapors from migrating toward the Site.

8 Conceptual Site Model

This section summarizes historical releases and the fate and transport of contamination. The conceptual Site model evaluates the soil, groundwater, surface water, vapor intrusion, and terrestrial ecological exposure pathways.

8.1 Historical Releases

Two gas stations operated at the Site from the 1930s to the 1950s, and automotive businesses operated in the Walker Chevrolet building from 1926 to 2015. Petroleum was released during historical gas station operations; however, no details of the releases are known. The impacts from the automotive business would be limited to the southern portion of the Walker Chevrolet building, since grocery stores have operated continuously on the north side of the lower level since 1931. This RI identifies releases from a former paint booth, a heating-oil UST, and a hydraulic lift in the body shop of the former Chevrolet business.

8.2 Contaminant Fate and Transport

Contamination released from the Site is confined to the dense glacial till soils beneath the Property. Although limited contamination has been observed in groundwater within the advance outwash below 52 feet bgs, the concentrations of the COPCs were below the Method A groundwater CULs in the seven samples from MW-1 (August 2007 to January 2014) and the six samples from MW-11 (May 2009 to February 2016). Additionally, groundwater discharges northwest from the Site, but the advance outwash is dry on the northwest side of North First Street because of the loss of groundwater through the underlying interglacial beds, which are characterized as a leaky confining layer.

8.2.1 Historical Gas Stations

The 1994 cleanup actions removed the USTs and underground piping associated with the historical gas stations. PCS was excavated from the former gas stations and MTCA-compliant soil confirmation samples were collected. Due diligence and VCP field investigations identified residual PCS in hard till from 15 to 27.5 feet bgs beneath the former south gas station, but did not detect soil contamination at the former north gas station. At the south gas station, PCS was not detected from 37.5 to 61.5 feet bgs in deep soil borings AB-1 and AB-2D, and groundwater in MW-1 was not impacted. The advance outwash is dry at the north gas station, and groundwater has not been impacted.

8.2.2 Former Paint Booth

Paint booth operations were performed inside the building, and contamination potentially penetrated through the concrete slab foundation or leaked from drainage pipes. Contamination is generally confined to the till soil beneath the building in the former paint booth area. PCE was detected in 5 of 26 soil samples at concentrations ranging from 0.053 to 0.21 mg/kg, which exceed the 0.05 mg/kg groundwater-protective Method A groundwater CUL.

The depth to groundwater is about 52 feet bgs in the paint booth area. As shown on Figures 7 to 9, groundwater in the advance outwash is recharged from Wright Park and flows northwest across North First Street toward the north gas station. Groundwater

discharges vertically into the underlying interglacial deposits, which are characterized as a leaky confining unit, and the advance outwash is dry on the northwest side of North First Street. MW-11 was constructed inside the building, before the expansion of the grocery store, and the well is generally on the downgradient side of the paint booth area. TCE, a biodegradation product of PCE, was detected in six groundwater samples from MW-11, at concentrations ranging from 1.4 to 4.6 µg/L, which are below the 5 µg/L Method A groundwater CUL. The 95 percent UCL is 3.8 µg/L TCE in MW-11, and there are no apparent trends in the concentration.

PCE was also detected in sub-slab soil gas samples. In May 2008, PCE was detected in the three sub-slab soil gas samples collected from the paint booth area. The highest concentration was observed on the west side of the paint booth area near the roll-up door, where the PCE concentration was 1,000 µg/m^3. Additional sub-slab soil gas samples were collected in January 2015, March 2015, and May 2016, and the highest PCE concentration was also detected near the former roll-up door, where it was 270 µg/m^3. The concentrations of PCE have attenuated in soil gas after the termination of paint booth operations.

8.2.3 Heating-Oil UST

The heating-oil UST was located beneath a 4-foot-deep vault that was constructed with concrete cinder blocks. Bison (1994d) speculated that heating oil and paint booth contamination could have been released to soil through the vault. In 1994, TPH contamination was detected in soil boring B4 adjacent to the vault and in soil borings B1 and B5 adjacent to the UST. Contamination was limited to an area adjacent to the UST. Additional soil borings were sampled near the decommissioned UST in February 2016, and the highest TPH concentration near the UST was 5.4 mg/kg, which is well below the 100 mg/kg Method A soil CUL in the absence of benzene. Benzene is typically not associated with heating oil or hydraulic oil, and benzene was not detected at concentrations above the Method A soil CUL in the 26 soil samples collected from the paint booth area. The heating-oil UST releases have not impacted groundwater.

8.2.4 Hydraulic Oil

Hydraulic oil was stored on the Property in 1994, and likely used in hydraulic lifts in the body shop. Hydraulic oil contamination was detected in one soil sample from soil boring B11 in February 2016. Contamination was limited to sandy peat soil that was encountered from 4.5 to 7 feet bgs. The sample contained heavy-range TPH, lead, and PCBs, which are characteristic of hydraulic oil, and BTEX compounds were not detected. Contamination is likely limited to the peat soil, which was not observed anywhere else at the Site. The vertical extent of contamination could not be assessed using drilling equipment capable of operating inside the grocery store. However, the peat soil is underlain by about 30 feet of dense Vashon till and another 15 feet of advance outwash above the groundwater table, and groundwater in MW-11 has not been impacted by hydraulic-oil contamination.

8.3 Exposure Pathways and Receptors

This section describes potential exposure pathways at the Site.

8.3.1 Soil Exposure Pathway

All contaminant-impacted soil at the Site is currently inaccessible and capped by the existing building foundation or paved parking areas. The most likely future exposure pathway is by construction workers disturbing soil beneath the building. MTCA applies a 15-foot exposure depth for direct contact because 15 feet represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of site development activities (WAC 173-340-740(6)(d)).

8.3.1.1 South Gas Station

Soil contamination at the former south gas station is below the direct-contact exposure pathway. As shown in Table 4, TPH-G was detected above the Method A soil CUL in the samples collected between 15 and 16.5 feet bgs in soil borings AB-1, AB-2, AB-2D, AB-3, S-1, and S-7, and benzene and xylenes exceeded the Method A soil CULs in the 15-foot-bgs interval of boring S-1. BTEX compounds were not detected in borings AB-2 and AB-2D, which are collocated with boring S-1. There were no indications of contamination above 15 feet bgs, based on field screening measurements or analytical sampling results. Additionally, there were no indications of contamination during property redevelopment activities near the south gas station in spring 2016.

Although contamination below the direct-contact exposure depth exceeded Method A soil CULs, direct-contact CULs were only exceeded in one sample. TPH-G was detected at 1,900 mg/kg in the 16.5-foot-bgs interval of boring AB-2, which exceeds the 1,500 mg/kg direct-contact CUL for total TPH (Ecology, 2015b).

8.3.1.2 North Gas Station

The final soil confirmation sample results, and the due diligence and VCP field investigation sample results are compliant with Method A soil CULs. Ecology confirmed this in an opinion letter dated November 17, 2014.

8.3.1.3 Paint Booth Area

As shown in Table 7, the Phase II, due diligence, and VCP field investigation soil samples from the paint booth area were all collected from within the direct-contact point of compliance. TPH, toluene, xylenes, and PCE were detected above the Method A soil CULs during the 1994 Phase II investigation, and PCE was detected above the Method A soil CULs during the 2006 due diligence investigation. Method A soil CULs were exceeded in borings B11 and B21 in 2016. Hydraulic-oil contamination was detected in the 5.5-foot-bgs interval of B11, and TPH, lead, PCE, and PCBs were detected above the Method A soil CULs. Lighter-range hydrocarbons were encountered in the 9.5-foot-bgs interval of boring B21, where TPH-G, toluene, and xylenes slightly exceeded Method A soil CULs.

TPH and PCBs were the only COPCs detected above the direct-contact CULs.

- Although the concentrations of TPH exceeded the 1,500 mg/kg direct-contact CUL (Ecology, 2015b) in borings B1 and B5 near the former heating-oil UST in August and September 1994, the TPH-G was 5.4 mg/kg in collocated sample B14-4.5 in February 2016.
- The concentrations of TPH in the hydraulic-oil contamination significantly exceeded the 1,500 mg/kg direct-contact CUL for total TPH and the

concentrations of aroclor 1254 and 1260 slightly exceeded the 0.5 mg/kg Method B direct-contact CULs for these PCB compounds. The hydraulic-oil contamination is associated with sandy peat soil between 4.5 and 7 feet bgs in boring B21. The peat soil is limited in extent and was not detected in any other soil boring at the two sites.

The former paint booth area soils are completely covered by the building foundation and the grocery store operates above the residual soil contamination.

8.3.2 Groundwater Exposure Pathway

The groundwater exposure pathway is incomplete at the Site. Groundwater is encountered in the advance outwash, about 52 feet bgs. The lateral extent of groundwater within the advance outwash is limited. Groundwater is recharged from Wright Park south of the Site and flows northwest from the Site, toward the escarpment above Commencement Bay. Groundwater discharges vertically through the underlying interglacial deposits before it reaches the escarpment, and the advance outwash is dry on the northwest side of North First Street.

Hydrocarbon contamination is retained in the till at the south gas station, and groundwater has not been impacted since the closure of the gas station in the 1950s.

TCE was the only COPC detected in groundwater from MW-11 in the former paint booth area. TCE was detected at concentrations ranging from 1.4 to 4.6 µg/L in six samples collected from May 2009 to February 2016, and the 95 percent UCL is 3.8 µg/L. The TCE concentrations were below the 5 µg/L Method A groundwater CUL, and the 95 percent UCL is below the more stringent 4 µg/L Method B groundwater CUL.

Arsenic was detected in MW-11 at concentrations of 5.15 and 6.29 µg/L, which exceed the 5 µg/L Method A groundwater CUL. The concentration of dissolved arsenic was below the detection limit. Arsenic was not detected in sediment samples from the drains or in a soil sample near the heating-oil UST in 1994, and Site operations would not have released arsenic or impacted natural arsenic concentrations. The concentrations of arsenic are consistent with natural background concentrations and arsenic is not a Site COC.

Dry cleaner releases impacted groundwater in the advance outwash on the Morrell's Dry Cleaners site on the adjacent property north of the Site. The natural groundwater gradient at the Morrell's Dry Cleaners site is directed north and west and away from the Site. PCE contamination extends to MW-5 on the Morrell's Dry Cleaners site, which is located on the north side of the grocery store. The distribution of groundwater contamination was impacted by an extended water leak from Tully's Coffee in 2006 and 2007 and potentially by the displacement of impacted groundwater during biostimulant injection in June 2014. The concentration of PCE was 27 µg/L in MW-5 in February 2016 and the concentration is trending downward as clean groundwater from Wright Park flushes through the Site.

8.3.3 Surface Water Exposure Pathway

The Site and downstream properties are completely covered by impervious surfaces, and the nearest downstream surface water body, Commencement Bay, is about 1,800 feet

downstream from the Property. The surface water exposure pathway is incomplete at the Site.

8.3.4 Vapor Intrusion Exposure Pathway

The soil vapor exposure pathway is incomplete for the current Site use. The soil vapor intrusion exposure pathway was evaluated in the former paint booth area during due diligence and VCP field investigations. Three sub-slab soil gas samples were collected during due diligence sampling in May 2008, and three sub-slab soil gas samples were collected during VCP field investigations in January 2014, March 2015, and May 2016. Indoor air samples were also collected in January 2014 and March 2015.

As shown in Table 9, PCE was the only COPC detected above the Method B sub-slab soil gas screening levels. PCE was detected in sub-slab soil gas at concentrations ranging from 110 to 1,000 µg/m^3 from the paint booth area in May 2008, with the highest concentration on the west side of the paint booth area near the exterior of the building. In January 2014, PCE was detected at 270 µg/m^3 beneath the concrete sidewalk on the west side of the former paint booth area adjacent to the building exterior. PCE was not detected beneath the produce preparation area, where the VCP Site manager requested a sample, or near the hydraulic-oil contamination, where PCE was detected at 0.16 mg/kg in soil. One sample, GV-2, contained PCE above the 321 µg/m^3 Method B sub-slab soil gas screening level. The PCE concentration was 1,000 µg/m^3, which is below the 1,350 µg/m^3 modified Method B sub-slab soil gas screening level using a 40-hours-per-week exposure factor for worker exposure. The PCE concentration attenuated to 270 µg/m^3 in the same area by January 2014, which is below the 321 µg/m^3 standard Method B sub-slab soil gas screening level. PCE was detected at 0.61 µg/m^3 inside the pressurized, refrigerated grocery cooler in January 2014, and at 2.78 µg/m^3 inside the produce preparation area on the outside of the cooler in March 2015. The concentrations of PCE inside the building were below the 9.6 µg/m^3 Method B indoor air CUL.

Benzene was not detected at concentrations above the Method A soil CUL in the 26 soil samples collected from the former paint booth area, and benzene is a light-range hydrocarbon that is generally not associated with the heavier-range heating oil and hydraulic oil used in the former paint booth area. As shown in Table 9, benzene was detected at 2.29 µg/m^3 in indoor air in the produce preparation area, which was higher than the collocated sub-slab soil gas sample, which contained 2.09 µg/m^3 of benzene. As described in Section 6.3.4, the building survey inventoried the chemicals stored in the produce preparation area and used by the grocery store. These chemicals included motor oil and machine oil; along with aerosol paint cans, floor cleaner, sanitizers, and disinfectants that contain hydrocarbons. Additionally, internal combustion engines operated within the overlying Titus-Will garage and the adjoining CARSTAR Auto Body garage at the time of sampling in March 2015, and the HVAC systems for the grocery store draw air from North First Street and the loading dock in the parking lot, which are subject to vehicular exhaust. We conclude that benzene originates from indoor air sources and is not subject to regulation under MTCA. MTCA does not apply to hazardous substances in air originating from commercial processes or off-Site sources (WAC 173-340-750(1)(a)).

The soil vapor intrusion pathway was not evaluated in the parking lot at the former south gas station, where gas station operations were performed from the 1930s to the 1950s.

Volatile petroleum contamination is not suspected, and was not observed during the extension of the building/patio into the parking lot in spring 2016. Nevertheless, the property owner is constructing an 1,800-square-foot soil vapor barrier beneath the southern end of the building to prevent vapor intrusion, and to definitively close the vapor intrusion exposure pathway in this area.

8.3.5 Terrestrial Ecology Evaluation Exclusion

The Site qualifies for an exclusion from terrestrial ecological evaluation because all soil contaminated with hazardous substances is covered by the building or pavement that prevent plants and wildlife from being exposed to the soil contamination. The Terrestrial Ecology Evaluation Form is provided in Appendix H.

9 Proposed Cleanup Standards

This section proposes COCs, CULs, and points of compliance for the Site, and describes the remaining impacted media at the Site.

9.1 Chemicals of Concern

The proposed COCs are developed from Table 830-1 in MTCA and include chemicals that were detected in soil and groundwater samples from the Site. Table 10 summarizes the proposed COCs for the Site.

Arsenic is not retained as a COC because it was not detected in sediment from the drains or in a representative soil sample, the total concentrations of arsenic in groundwater are consistent with background concentrations, and dissolved arsenic was not detected in groundwater. Arsenic would not have been released from historical processes and historical releases would not have impacted natural arsenic concentrations.

9.2 Cleanup Levels

MTCA Method A soil CULs for unrestricted land use and Method A groundwater CULs for drinking water are selected because they are the most stringent standards that are protective of human health and the environment and because Method A CULs are available for the Site COCs. Method B sub-slab soil gas screening levels and Method B indoor air CULs are applied for the Site.

The soil, groundwater, and indoor air CULs are developed in the absence of benzene. Although BTEX compounds were detected in due diligence sample S-1 in August 2006, ethylbenzene was the only BTEX compound detected in collocated samples AB-2 and AB-2D in April 2014 and March 2016. Benzene was not detected at concentrations above the Method A soil CUL in the 26 soil samples collected from the former paint booth area, and benzene is typically not associated with the heating-oil and hydraulic-oil contamination encountered in the paint booth area. Although benzene was detected in indoor air and at lower concentrations in soil gas beneath the slab foundation of the building, we believe that the benzene originates from chemicals stored in the produce preparation area and used by the grocery store. Benzene may also have originated from the overlying Titus-Will garage, or adjoining CARSTAR Auto Body garage, or from HVAC system intakes that would have drawn air from vehicular areas. Thus, the benzene originates for commercial processes or off-Site sources, not from contamination, and is not subject to regulation under MTCA. This RI proposes soil and groundwater CULs for TPH-G in the absence of benzene; however, this is a moot point for the soil and groundwater exposure pathways at the Site.

9.3 Points of Compliance

The standard points of compliance apply for soil and groundwater at the Site, which includes all soil and groundwater throughout the Site. The indoor air CULs apply for PCE within the building because the vapor-phase contamination originates from soil contamination. However, the indoor air CULs do not apply for benzene, since we believe

that benzene originates from commercial processes within the building or off-Site sources, and not from contamination.

9.4 Impacted Media

Soil within the direct-contact exposure point of compliance at the south gas station is compliant with Method A soil CULs, but residual TPH-G remains at concentrations above the Method A soil CUL in soil near the top of the hard till between 15 and 16.5 feet bgs. Groundwater is present in the advance outwash about 53 feet bgs at the south gas station, and the groundwater is compliant with the proposed CULs.

The soil at the north gas station is compliant with the proposed CULs. The advance outwash is dry at the north gas station and the groundwater exposure pathway is incomplete.

Soil contamination remains beneath the building foundation near the former paint booth. Heating-oil contamination is localized around the decommissioned heating-oil UST and has been fully delineated. Hydraulic-oil contamination—with TPH, PCBs, and lead—was detected in peat soil between 4.5 and 7 feet bgs. The peat soil and hydraulic-oil contamination were laterally delineated. The peat is underlain by about 30 feet of hard Vashon till and another 15 feet of advance outwash above the groundwater table. Light-range hydrocarbons were also detected slightly above the proposed CULs in the 9.5-foot-bgs interval of boring B21. PCE was also detected at concentrations up to 0.21 mg/kg in soil samples adjacent the former heating-oil UST vault and with the hydraulic-oil contamination. The groundwater beneath former paint booth area is compliant with the proposed CULs.

The concentrations of PCE are currently below the Method B sub-slab soil gas screening levels. Although PCE exceeded the screening level in sample GV-2 on the west side of the paint booth area in May 2008, the concentration of PCE attenuated to below the screening level in a nearby soil gas sample in January 2014. The PCE exceedance in May 2008 was below the modified Method B sub-slab soil gas screening level, using a 40-hours-per-week worker exposure factor.

The benzene concentrations were below the Method B sub-slab soil gas screening levels in the former paint booth area. Although benzene was detected above the Method B indoor air CUL in the produce preparation area, we believe the benzene originates from chemicals stored in the building that are used for commercial processes. The chemicals in the produce preparation area include motor oil and machine oil, along with aerosol paint cans, floor cleaner, sanitizer, and disinfectant that contain hydrocarbons. Additionally, internal combustion engines were operated within the overlying Titus-Will garage and the adjoining CARSTAR Auto Body garage at the time of sampling, and HVAC systems for the grocery store draw air from areas subject to vehicular exhaust. The benzene does not originate from contamination, and is not subject to regulation under MTCA.

Groundwater near the Morrell's Dry Cleaners site boundary is being remediated by natural attenuation as clean groundwater from Wright Park flows beneath the north portion of the Walker Chevrolet building. Biostimulation and SVE cleanup actions have reduced source contamination on the Morrell's Dry Cleaner site, and the natural

groundwater gradient has been restored. The impacted groundwater is limited to the Morrell's Dry Cleaner site.

10 Alternatives

This section develops three cleanup actions at the Site, which include previous cleanup actions and engineering controls.

10.1 Completed Cleanup Actions

Cleanup actions were performed in 1994 to remove the accessible, residual sources of contamination from the Site, and additional engineering controls are being constructed during the ongoing renovation of the building. Biostimulation and SVE cleanup actions are also underway at the adjoining Morrell's Dry Cleaners site.

10.1.1 South Gas Station

The cleanup actions performed at the south gas station in 1994 included:

- Seven petroleum USTs were removed from the south gas station, 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 soil CULs. After evaluating the soils for reuse criteria, they were placed back in the excavation as fill material.
- Approximately 30 cubic yards of PCS 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 PCS 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 PCS 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.

Residual PCS is present near the top of the hard till at about 15 to 16.5 feet bgs, and there are no impacts to groundwater that is present at about 53 feet bgs.

The building is currently being redeveloped and the grocery store is the only occupied portion of the building during renovations. The southern portion of the building is being extended, and an adjoining patio is being constructed from the east to west Property boundaries and to 10 feet from the south Property boundary. The property owner is constructing an 1,800-square-foot vapor barrier beneath the coffee shop tenant space as an engineering control to prevent any potential vapor intrusion exposure from residual soil contamination. The vapor barrier is placed over the location of the three former gasoline USTs. The vapor barrier is constructed using a Geo-Seal® liner, which includes a high density polyethylene (HDPE) base, a spray-applied asphaltic core, and a HDPE bonding layer on the top.

10.1.2 North Gas Station

The cleanup actions performed at the north gas station in 1994 included:

- Three 500-gallon USTs and associated products lines were removed from the property.
- PCS was excavated beneath the USTs and product lines. 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 PCS were disposed off-Site, and several hundred cubic yards of clean overburden soil was used as backfill.

All residual contamination has been removed from the north gas station and there are no impacts to groundwater.

10.1.3 Paint Booth Area

The cleanup actions performed in the former paint booth area included:

- The south drain vault and 1,000-gallon heating-oil UST were 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.

After construction of MW-11 in the former paint booth area in May 2009, Stadium Thriftway expanded the grocery store about 60 feet to the south. The grocery store now covers the former paint booth area and portions of the former body shop for the Chevrolet dealership.

Soil beneath the paint booth area contains hydraulic- and heating-oil contamination and PCE contamination. Groundwater about 52 feet bgs is compliant with MTCA Method A groundwater CULs, and the concentrations of sub-slab soil gas are below the Method B sub-slab soil gas screening levels.

10.1.4 North Property Boundary

The Site building and its canopy extend to the north Property boundary, which abuts the Morrell's Dry Cleaners site. Monitoring well MW-5 is located on the Morrell's Dry Cleaners site near the north Property boundary. MW-5 is slightly impacted by PCE contamination released from the dry cleaner. Contamination was distributed toward the Site by an extended water leak adjacent to the dry cleaners, which likely altered the groundwater gradient in 2006 and 2007. Groundwater in the advance outwash naturally flows northwest from Wright Park, beneath areas of the building that have been used by grocery store businesses since 1931, and then discharges away from the Site and vertically into underlying interglacial beds that are characterized as a leaky aquitard.

Impacted groundwater was biostimulated in June 2014, and SVE operations have been performed since October 2014 to remove and treat source contamination on the Morrell's Dry Cleaners site. The northwest corner of the building is located near the impacted groundwater, which is present about 51 feet bgs, and about 30 feet of till exists between the building and the groundwater. The entry way and covered patio for the grocery store is located on the northwest corner of the building.

10.2 Remedial Action Objectives

The remedial action objectives include:

- Protect human health and the environment.
- Obtain a Site NFA determination for the Former Walker Chevrolet Site.

10.3 Alternatives

Three cleanup alternatives have been identified for the Site. The alternatives build upon the completed cleanup actions and engineering controls identified in Section 10.1. The cleanup alternatives include:

- Alternative 1 – Institutional and engineering controls
- Alternative 2 – SVE and institutional and engineering controls
- Alternative 3 – Permanent cleanup

Table 11 summarizes the components and costs of the cleanup alternatives, and Tables 12 to 14 provide the cost details. The cost estimates include scope and bid contingencies, which are applied consistent with the EPA cost estimation guidance (EPA, 2000). Scope contingencies are applied to the remedial technologies and account for uncertainties in design quantities and unit costs, which are refined during remedial design. Alternative 1 does not include a scope contingency. SVE in Alternatives 2 and 3 includes a 20-percent scope contingency, and excavation in Alternative 3 includes a 50-percent scope contingency. Bid contingencies account for modifications after contract award due to changed quantities or conditions. A 15-percent bid contingency was assigned for all project costs. Future costs were discounted at the current 10-year real discount rate of 1.0 percent. The accuracy of the estimates ranges from -30 percent to +50 percent, which is a conceptual design-level accuracy that is consistent with cost estimation guidance (EPA, 2000).

10.3.1 Alternative 1 – Institutional and Engineering Controls

This alternative would use the existing building foundation as an engineering control. The building extends to the north, west, and east Property boundaries, and to 30 feet from the south Property boundary, and the adjoining patio extends to 10 feet from the south Property boundary. The building prevents direct contact with soil in the former paint booth area, and limits the infiltration of water through the impacted soil. The only contamination identified on the Property near the south gas station is 37 mg/kg TPH-G identified at 15 feet bgs in boring AB-1, which is beneath the current coffee shop patio and at the base of the direct-contact point of compliance. This concentration is below the

100 mg/kg Method A soil CUL in the absence of benzene, which was not detected in the 1994 confirmation soil samples, or in soil borings AB-1 to AB-4 and AB-2D. The building and patio prevent direct contact with soil, and the 1,800-square-foot vapor barrier beneath the southern portion of the building foundation provides additional controls for the soil vapor intrusion exposure pathway.

The contamination identified at the south gas station is located in the City ROW at the south end of the approximate 600-square-foot asphalt-paved parking lot. The impacted soil is below the direct-contact point of compliance, and is underlain by about 20 feet of till and 15 feet of advance outwash above the groundwater table at 53 feet bgs. Contamination has been retained in the hard till and has not impacted groundwater after more than 60 years since closure of the gas station.

The previous cleanup action removed all of the soil contamination from the north gas station. Groundwater is not impacted beneath the north gas station, and the advance outwash is dry on the northwest side of North First Street.

Groundwater contamination near the north end of the building is located on the Morrell's Dry Cleaners site and is associated with historical dry-cleaner releases. Contaminants from the dry cleaners appear to have migrated upgradient to MW-5 following an extended water leak in 2006 to 2007 that temporarily altered the groundwater gradient. Although a monitoring well is not located on the north Property boundary because of the presence of the building, contoured groundwater elevation data indicate groundwater recharged from Wright Park flows north and northwest beneath the Property, naturally preventing contamination from the Morrell's Dry Cleaner site from migrating to the Property. Additionally, biostimulation and SVE operations have been performed at the Morrell's Dry Cleaners site since 2014, and are ongoing.

An environmental covenant, consistent with WAC 173-340-440(9), would be recorded to minimize the risk of exposure to any residual soil contamination on the Property. The covenant would require the maintenance of the existing building as a protective cap for the Property. The covenant would identify that TPH, PCE, toluene, xylenes, PCBs, and lead remain in soil at concentrations exceeding Method A soil CULs beneath the grocery store foundation in the former paint booth area. The covenant would require notification to Ecology for any planned disturbance of the building foundation in the former paint booth area 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 could potentially result in an increased risk of contaminant migration to indoor air or groundwater. The environmental covenant would be recorded with Pierce County in concurrence with a NFA determination from Ecology.

The City will be notified of soil contamination identified in the soil borings completed in the City ROW, i.e., borings AB-2, AB-2D, and AB-3.

10.3.2 Alternative 2 – SVE and Institutional and Engineering Controls

This alternative is developed to provide active remediation of soil contamination beneath the former paint booth area by performing SVE. SVE involves applying a vacuum to the soil to volatilize contamination and to remove it from the soil. SVE can be effective for

the removal of VOC contamination, including PCE, toluene, and xylenes, but would not be effective for the heavier-range TPH contamination associated with the hydraulic oil or for the lead and PCB contamination encountered with the hydraulic oil. Because residual contamination would remain at concentrations exceeding cleanup levels in the former paint booth area, Alternative 2 also includes an environmental covenant as outlined in Alternative 1.

Soil beneath the 6-inch concrete slab is interpreted as fill in the boring logs from B11 to B21, with the exception of sandy peat encountered from 4.5 to 7 feet bgs in boring B11. The fill material consists of till-like material, consisting of gravelly silty sand. The fill material is underlain by intact till, which has low vapor permeability. SVE would be anticipated to be moderately effective for vapor-phase contamination in the fill material, but would have limited effectiveness for vapor-phase contamination in the peat and intact till.

The alternative assumes that the SVE system would be constructed to address higher vapor-phase PCE contamination near the building exterior and draw soil vapor from the produce preparation area and from the meat preparation area. The construction of shallow SVE wells inside the grocery store is impracticable for drilling equipment, and SVE from a well on the sidewalk would not be anticipated to address PCE, toluene, and xylene contamination near borings B11 and B21 on the east side of the meat counter, which are 35 feet from the building exterior. This alternative assumes that two vapor suction pits would be constructed through 6-inch diameter concrete cores within the foundation, and accessible soil would be suctioned-out through the cores. One SVE well would be constructed to 10 feet bgs in the sidewalk near the former garage door. SVE equipment would be placed within a fenced enclosure on the 10-foot-wide sidewalk adjacent to the building, which is in the City ROW.

The SVE system at the Morrell's Dry Cleaners site would be used for the former paint booth area. This system has a 2-horsepower regenerative blower with a moisture separator, a 55-gallon condensate drum, and two 200-pound granular activated carbon (GAC) drums. This system is constructed on two 3-foot by 4-foot skids, plus the condensate and GAC drums. Polyvinyl chloride (PVC) pipe would be connected to the SVE well and the two suction pits in the building, and connected to the SVE system through penetrations in the sidewall of the building. The blower has an 85-decibel rating and is placed within a sound-dampening enclosure.

This alternative assumes that construction costs are limited to well and suction-pit installation, installation of a 230V panel and service connection, equipment mobilization and demobilization, and fence and conveyance pipe construction. We assume that the SVE system would operate for 6 months to remove the accessible contamination, and then the equipment would be moved back to the Morrell's Dry Cleaners alley and the wells and suction pit would be decommissioned. The condensate and GAC would be disposed as F001 characteristic waste.

10.3.3 Alternative 3 – Permanent Cleanup

Alternative 3 is a permanent cleanup alternative as required by MTCA, which removes Site contamination such that no further action or institutional controls are necessary.

Excavation is not feasible with the current Site use, and cannot be performed while Stadium Thriftway operates above the former paint booth area. Stadium Thriftway is an anchor tenant in the building, and would not be anticipated to vacate the building within the next 15 years. Excavation of residual soil contamination from 15 to 16.5 feet bgs in the City ROW near the south gas station is not practicable as it's adjacent to the streets, nor warranted for protection of human health and the environment.

This alternative assumes that Ecology provides a property-specific NFA determination for the north gas station parcel and a partial sufficiency determination for groundwater at the Site.

Alternative 3 includes the SVE performed in Alternative 2 and the excavation of the hydraulic-oil contamination near boring B11 after Stadium Thriftway vacates the building. This alternative assumes that 400 square feet of the slab foundation will be removed near boring B11, while maintaining the integrity of the nearby structural column. We assume that a small excavator will be used to remove 50 tons of soil using a slot-cut technique with controlled density fill (CDF) to stabilize the column, and an additional 25 tons of soil will be excavated without using CDF. Confirmation samples would be collected from the excavation. We assume that 25 tons of soil will be disposed as dangerous waste to the Subtitle C landfill in Arlington, Oregon, and the remaining 50 tons of soil will be disposed as nonhazardous waste in Arlington, Oregon. The excavation would be backfilled with CDF or gravel borrow and mechanically compacted, and the slab foundation would be restored.

This alternative assumes that Ecology would provide an unencumbered Site NFA determination after the removal of the hydraulic oil-contaminated soil.

11 Detailed Evaluation and Selection of Alternatives

This section provides a comparative evaluation of the three alternatives using MTCA's threshold requirements, preference for permanent solutions to the maximum extent practicable, and reasonable restoration timeframe. A DCA is performed to evaluate whether the additional costs of Alternatives 2 and 3 outweigh the total environmental benefits.

11.1 Threshold and Other Requirements

This section describes how the cleanup alternatives meet the minimum requirements for cleanup actions using criteria set forth in WAC 173-340-360(2)(a) and (b).

11.1.1 Protective of Human Health and the Environment

The potential exposure pathways at the Site are incomplete. Residual soil contamination at the south gas station is within the City ROW and is below the direct-contact point of compliance. The residual TPH contamination is underlain by about 20 feet of hard till and 15 feet of advance outwash, which provides a protective barrier to the groundwater that is present at 52 feet bgs. Groundwater has not been impacted since the closure of the gas station in the 1950s.

Residual soil contamination in the former paint booth area is completely covered by the slab foundation of the building, and the Stadium Thriftway operates above the impacted soil. The PCE concentrations slightly exceed the Method A soil CUL and are below the Method B soil gas screening level beneath the slab foundation. Benzene is not associated with encountered hydraulic-oil and heating-oil contamination, was not detected at concentrations above the Method A soil CUL in 26 soil samples collected from the paint booth area, and the benzene concentrations are below the Method B sub-slab soil gas screening levels beneath the slab. Although TCE has been detected in groundwater in MW-11 at 52 feet bgs, the concentrations were below the Method A groundwater CULs in the six samples collected from the well, and the 95 percent UCL is 3.8 µg/L TCE. The hydraulic-oil contamination is limited to sandy peat soil that is laterally bound and underlain by about 30 feet of hard till and 15 feet of advance outwash above the groundwater table.

The Site is exempt from performing a terrestrial ecological evaluation, and residual Site contamination does not pose a risk to surface water and sediment.

11.1.2 Compliance with Cleanup Standards

The 1994 soil cleanup actions removed PCS from the south and north gas stations, and the final soil confirmation samples were compliant with Method A soil CULs. TPH contamination was subsequently identified at concentrations above the Method A soil CULs between 15 and 16.5 feet bgs beyond the Property boundary in the City ROW. Soil contamination was not detected within the direct-contact point of compliance in the top 15 feet of soil. The depth to groundwater is about 53 feet bgs at the south gas station and historical gas station operations have not impacted groundwater. Hydrocarbons have not been detected above the method detection limits in MW-1.

Soil contamination was identified in the former paint booth area. The 1994 Phase II investigation identified TPH, toluene, xylenes, and PCE in soil adjacent to a cinder-block vault above the heating-oil UST; identified TPH in two soil borings directly adjacent to the 1,000-gallon UST; and identified toluene and PCE in two borings at concentrations approximately equal to the Method A soil CULs. The UST area was reevaluated in February 2016. TPH was detected at 5.4 mg/kg near the UST, and no other VOCs were detected above the method detection limits.

The VCP field investigation identified hydraulic-oil contamination within sandy peat soil in February 2016, and this contamination was laterally delineated in May 2016. The hydraulic-oil contamination contained gasoline-, diesel-, and motor oil-range TPH and lead at concentrations about an order of magnitude above the Method A soil CULs, and PCBs and PCE at concentrations slightly above the Method A soil CULs.

The concentrations of the COCs in soil gas are below the Method B sub-slab soil gas screening levels. TCE is the only COC encountered in groundwater beneath the paint booth area; and the TCE concentrations were below the Method A groundwater CUL during six sampling events, and the 95 percent UCL is below the more stringent Method B groundwater CUL.

11.1.3 Compliance with Applicable State and Federal Laws

Previous Site cleanup actions have been performed in accordance with applicable federal, state, and local laws. The cleanup alternatives comply with MTCA and its implementing regulations in WAC 173-340. The SVE operations in Alternatives 2 and 3 require pollution controls to abide by emission limits from the Puget Sound Clean Air Agency. Excavation performed in Alternative 3 requires a grading permit with the City when more than 50 cubic yards of soil are excavated. The GAC and condensate from SVE operations would likely be characterized and disposed as F001 characteristic waste, and the hydraulic-oil contamination excavated in Alternative 3 would likely be characterized and disposed as dangerous waste.

11.1.4 Provides Compliance Monitoring

Groundwater at the Site is compliant with Method A groundwater CULs and Stage 2 groundwater sampling has been completed for the Site wells. The alternatives do not include additional groundwater monitoring.

Performance and compliance air samples would be collected from the SVE system in Alternatives 2 and 3, and confirmation and waste characterization soil samples would be collected for the excavation of hydraulic-oil contaminated soil in Alternative 3.

11.1.5 Reasonable Restoration Timeframe

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

- Potential risks posed to human health and the environment;
- Practicality of achieving a shorter restoration timeframe;
- 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 15 describes the degree to which each cleanup alternative meets the restoration timeframe requirements. Although SVE in Alternatives 2 and 3 can volatilize and remove accessible PCE, toluene, and xylene contamination from the soil, SVE would have limited effectiveness for volatile contamination in the underlying till, and would have no effectiveness for the heavier-range TPH, PCBs, and lead in the hydraulic-oil contamination. Excavation is the only means to remove the hydraulic-oil contamination, but excavation is not feasible during the current Site use. Alternative 3 assumes that excavation would be performed after Stadium Thriftway vacates the building. Stadium Thriftway is an anchor tenant, and grocery stores have operated continuously in the building since 1931.

11.2 Disproportionate Cost Analysis Ranking Criteria

WAC 173-340-360 requires that the cleanup action uses permanent solutions to the maximum extent practicable, based on the development of a DCA that evaluates whether the costs of remedial alternatives being evaluated are disproportionate to the incremental environmental benefit gained by each alternative. The following criteria are used to perform the DCA:

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

These criteria include the discretionary weighting factors (percentages) listed above to facilitate the calculation of an environmental benefit. These weighting factors have been recommended by Ecology's Northwest Regional Office. Table 16 summarizes the individual permanence criteria and presents the DCA for Alternatives 1 to 3.

The DCA in Table 16 assigns a numerical ranking of 1 to 5 for each criterion of 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 13 provides a graphical comparison of additional costs and total environmental benefit rankings for the three alternatives.

11.2.1 Protectiveness

Alternatives 1 to 3 provide a high degree of protectiveness because all potential exposure pathways are incomplete.

The building covers the entire Property, and acts as a surface cap to prevent direct-contact exposure and to limit water infiltration through impacted soil. The only impacted soil beyond the Property boundary is the TPH encountered in the City ROW at the south gas station, which is below the direct-contact point of compliance.

Groundwater is not impacted at the Site. Hydrocarbons have not been detected in MW-1 at the south gas station, and the TCE concentrations in MW-11 at the former paint booth area are below the Method A groundwater CULs. Groundwater in the advance outwash is recharged from Wright Park to the south, and flows north and west beneath the building. Groundwater in the advance outwash discharges vertically into the interglacial deposits that function as a leaky aquitard, and the advance outwash is dry on the northwest side of North First Street.

Alternatives 1 and 2 include an environmental covenant that designates the building as a surface cap and requires notification to Ecology for any soil-disrupting activities that have the potential to distribute contamination. Alternative 3 includes the removal of residual hydraulic-oil contamination from the former paint booth area if, and when, Stadium Thriftway vacates the building.

The Site is exempt from terrestrial ecological evaluation because of the presence of the building, and Site contamination does not pose a risk to surface water or sediment.

Alternative 1 to 3 are assigned a DCA score of 5.

11.2.2 Permanence

Alternatives 1 to 3 have a high degree of permanence because the 1994 cleanup actions removed most of the PCS from the Site. Residual TPH, lead, PCBs, PCE, toluene, and xylene contamination remains in soil beneath the foundation of the grocery store in the former paint booth area. Although SVE in Alternatives 2 and 3 removes accessible PCE, toluene, and xylenes from soil in the former paint booth area, these contaminants were detected slightly above the Method A soil CULs. SVE would have limited effectiveness for removing VOCs from the underlying till, and would not remove the heavier-range TPH, lead, and PCBs associated with the hydraulic-oil contamination. Excavation, in Alternative 3, would be the only means of permanently removing the hydraulic-oil contamination. Alternatives 1 and 2 are both assigned a DCA score of 4 and Alternative 3 is assigned a DCA score of 5 because of the removal of the hydraulic-oil contamination.

11.2.3 Cost

The additional cost estimates for each alternative were prepared in accordance with WAC 173-340-360 and the EPA cost estimation guidance for feasibility studies (EPA, 2000). The remediation cost estimates are summarized in Table 11 and detailed in Tables 12 to 14. The net present values of the cleanup alternatives are:

- Alternative 1 - $25,000
- Alternative 2 - $147,000
- Alternative 3 - $286,000

11.2.4 Long-Term Effectiveness

The building provides long-term effectiveness for protection of the soil exposure pathways. The environmental covenant in Alternatives 1 and 2 requires notification to Ecology of any soil disrupting activities that have the potential to spread contamination. Alternative 3 provides additional long-term effectiveness because the residual hydraulic-oil contamination is removed from beneath the building. For the purposes of this evaluation, Alternatives 1 and 2 are assigned a DCA score of 4 for long-term effectiveness, and Alternative 3 is assigned a DCA score of 5.

11.2.5 Management of Short-Term Risks

This criterion relates the management of short-term risks to human health and the environment that are associated with the construction and implementation of the alternative, and the effectiveness of measures taken to control these risks. There are no short-term risks associated to the environmental covenant in Alternatives 1 and 2, and there are minimal short-term risks associated with SVE in Alternatives 2 and 3. Excavation in Alternative 3 involves risks associated with excavation adjacent to a structural column; however, these risks are projected into the future because they would not be incurred until after Stadium Thriftway vacates the building. Alternatives 1 to 3 are assigned a DCA score of 5 for management of short-term risks.

11.2.6 Implementability

This criterion relates to the technical and administrative implementability. The previously completed cleanup actions were successfully implemented and do not impact the evaluation of the alternatives.

Alternatives 1 and 2 include recording an environmental covenant for the Property and notifying the City about contamination in the ROW, which are easily implemented.

Alternatives 2 and 3 include SVE in the former paint booth area, which can be implemented by temporarily using the SVE equipment from Morrell's Dry Cleaners, and constructing an SVE well beneath the sidewall and two vapor suction pits within parts of the grocery store that are inaccessible for customers. SVE equipment would be placed on the sidewalk within the City ROW and operated for six months.

Excavation in Alternative 3 would be difficult to implement. Excavation could not be performed until after Stadium Thriftway vacates the building. Stadium Thriftway is an anchor tenant and grocery stores have operated continuously in the building since 1931. If and when access is allowable, special precautions are needed because excavation would be performed inside the building and adjacent to a structural column for the two-story building.

For the purposes of this FS, Alternative 1 is assigned a DCA score of 5, Alternative 2 is assigned a DCA score of 4, and Alternative 3 is assigned a DCA score of 1.

11.2.7 Public Concerns

We do not anticipate public concerns related to leaving residual soil contamination beneath the building when there are no impacts to public health and the environment. The implementation of SVE operations on the sidewalk may result in a public concern related to noise. However, the SVE system used at Morrell's Dry Cleaners is rated at 85 decibels and is placed within a sound-dampening enclosure, and noise has not been a concern within the enclosed alley north of Morrell's Dry Cleaners. Excavation of soil within the building after closure of the grocery store would not be anticipated to cause a public concern. For the purposes of this FS, Alternatives 1 to 3 are assigned a DCA score of 5 for public concerns.

11.2.8 Disproportionate Cost Analysis

Table 16 summarizes the DCA completed in accordance with WAC 173-340-360(3)(e), and Figure 13 compares the total environmental benefits and additional costs for Alternatives 1 to 3. Alternatives 1 to 3 have comparable environmental benefits, with benefit scores of 4.6, 4.5, and 4.6, respectively. Alternative 3 has a higher rating for permanence and long-term effectiveness, but a low score for implementability due to access limitations. This results in Alternatives 1 and 3 having identical benefit scores of 4.6. The SVE performed in Alternative 2 does not increase the permanence or long-term effectiveness scores from Alternative 1 because SVE has limited effectiveness for VOC removal from the underlying till, and no effectiveness for the hydraulic-oil contamination. However, SVE decreases the implementability score for Alternative 2, which results in a lower benefit score of 4.5.

Alternative 1 has the highest benefit score of 4.6 and the lowest cost of $25,000. Alternative 3 has an equivalent benefit score of 4.6, but a much higher cost of $286,000. Alternative 2 has a lower benefit score of 4.5 than Alternative 1, but costs about six times as much as Alternative 1. This DCA indicates that the additional cost of performing SVE and/or excavation do not improve the environmental benefit, and that SVE and excavation cleanup actions are not warranted for this Site.

12 Remedy Selection

The 1994 cleanup actions removed the majority of the impacted soil from the Site. Although additional soil contamination was identified at the south gas station during due diligence and VCP field investigations, this contamination is in the City ROW, below the direct-contact point of compliance, and does not impact groundwater.

The heating-oil UST and floor drains in the former paint booth area were decommissioned in 1994, and the Phase II investigation delineated the extent of heating-oil contamination to the immediate vicinity of the tank. Additional soil investigations were performed during the due diligence and VCP field investigations, which identified limited PCE contamination in soil, and the sub-slab soil gas samples collected in 2008 and 2014 to 2016 showed that the concentrations of PCE were below the Method B sub-slab soil gas screening levels. Soil gas sampling also showed a decreasing trend of PCE concentrations between 2008 and 2014 to 2016. Additional hydraulic-oil contamination was identified in a sandy peat interval from 4.5 to 7 feet bgs during VCP field investigations in 2016. The lateral extent of the peat and hydraulic-oil contamination was delineated, and the impacted soil is underlain by about 30 feet of hard till and 15 feet of dry advance outwash. Groundwater is present in the advance outwash about 52 feet bgs, and TCE is the only COC detected in groundwater. The TCE concentrations have not exceeded Method A groundwater CULs, and Stage 2 groundwater sampling has been completed.

Alternative 1 is the preferred remedy for this Site. Alternative 1 includes the decommissioning of MW-11, the recording of an environmental covenant for the Property, and the notifying the City that TPH contamination was identified in the 15 to 16.5 foot bgs interval of permitted soil borings in the ROW, i.e., AB-2, AB-2D, and AB-3. The environmental covenant would require notification to Ecology of any soil-disrupting activities that have the potential to distribute contamination. Alternative 1 is protective of all potential exposure pathways.

13 References

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14 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 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
1. The original tax parcel numbers for the Site were 2030-12-0040 and 2031-13-0023; sometime after entry into the VCP in 2009, Pierce County noted that parcel number 2030-12-0040 subdivided into tax parcel numbers 2030-12-0032 and 2030-12-0033; there are no current references for 2030-12-0040. **Ecology has determined tax parcel 2030-12-0033 should be associated with the Morrell's site** as laboratory analysis results indicate the soil and groundwater contamination on that parcel appears to be associated with Morrell's.	Figure 2 in the RI/FS shows the site boundaries and the parcels within the two VCP sites. We are requesting a Site NFA determination for the Former Walker Chevrolet Site with the recording of an environmental covenant for parcel 2030-12-0032. The Site parcels are owned by Stadium District Properties, LLC. The Morrell's Dry Cleaners site includes four parcels, including two parcels owned by Thriftway Properties, LLC, one parcel owned by 4 The Boys, LLC, and one parcel owned by Stadium, LLC.
2. **Ecology determined that TPH soil contamination on the former north gas station (tax parcel 2031-13-0023) had been fully delineated and that contamination had been removed in 1994.** The source of soil contamination appeared to originate solely from the north gas station operations and was not associated with the soil and groundwater contamination on the other two tax parcels. While the groundwater table had not been located at the north gas station, the soil analytical results, soil boring logs, and well logs indicated TPH soil contamination had been vertically separated from the groundwater table by at least 40 feet in very tight soils and would have been unlikely to impact Site groundwater. **Ecology determined this tax parcel could be eligible for an unencumbered, Property-specific No Further Action opinion** separate from the other two tax parcels.	At the request of the VCP Site manager, Aspect submitted a VCP application and agreement for the north gas station on November 11, 2015, to facilitate a NFA determination for the parcel. The VCP Site manager subsequently indicated that Ecology could issue the Property-specific NFA determination without opening a new VCP site. Ecology has not acted on the NFA determination for this parcel.
3. The chemical 1,4-dioxane has been identified as a probable human carcinogen and has been associated with dry cleaning sites. This chemical has not been evaluated at the Site; it is considered a possible COC for the Site. Ecology will require an evaluation for the presence of 1,4-dioxane for air, groundwater, soil, and soil vapor and should be added to the required COC analyses lists below. For groundwater analysis, use the low detection level method modified EPA 8270 with liquid-liquid extraction and isotope dilution by capillary column gas chromatography-mass spectrometry (GC-MS). This GC-MS method is optimized for 1,4-dioxane as a single analyte. The MTCA 1,4-dioxane Method B CULs	1,4-dioxane is a solvent stabilizer that is often encountered in TCE-based degreasing solvent; it is less common in PCE-based dry cleaner solvent, due to the relatively high stability of PCE. At the request of the VCP Site manager, Aspect requested the reporting of 1,4-dioxane from the January 2014 groundwater sample and submitted the March 2015 groundwater sample for analysis of 1,4-dioxane with low-level detection. 1,4-dioxane was not detected. Ecology agreed that total VOCs and TPH were the only necessary COCs for groundwater samples collected after submittal of the FFS Addendum (Aspect, 2015). The only COC detected in groundwater was TCE, and TCE was detected below the Method A groundwater CUL in the six sample events. PCE

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
are 0.438 µg/L, 1 mg/kg, and 0.5 µg/m^3 for groundwater, soil, and air, respectively.	was detected in five soil samples at concentrations ranging from 0.053 to 0.21 mg/kg, which slightly exceed the 0.05 mg/kg Method A soil CUL. PCE was detected in sub-slab soil gas samples below the Method B sub-slab soil gas screening level and in indoor air below the Method B indoor air CUL for samples collected in 2014 to 2016. 1,4-dioxane would not be anticipated given the relatively low concentrations of PCE and TCE in the former paint booth area.
4. Ecology determined the soil contamination on the former south gas station (tax parcel 2030-12-0032) had not been fully delineated and that contamination had not been completely removed in 1994. The source of the TPH soil contamination appeared to originate solely from the south gas station operations and was not associated with the soil and groundwater contamination on the other two parcels. Groundwater was evaluated for residual PCS; however, there was only one groundwater detection for PCE below its MTCA CUL in January 2014. There were no detected chlorinated solvent detections in south gas station soil. The full horizontal and vertical extent of the south gas station PCS east of AB-1, south of S-1, and west of S-7, has not been determined. Field indicators of AB-1 indicate impacted soils to a depth of approximately 20 feet bgs. AB-1 was meant to further describe the condition below the former UST excavation; however, it does not appear to be within the former UST excavations and it did nothing to further delineate the soil profiles at S-1 and S-7, which are at least 25 feet south from the AB-1 location. The vertical and horizontal extent of the PCS needs to be established for the south gas station location.	Aspect discussed the sampling scope with the VCP Site manager on December 18, 2014. The VCP Site manager had previously requested a deep soil boring at the south gas station. AB-1 was constructed near MW-1 and adjacent to the former pump island, where the highest level of contamination was detected during the 1994 cleanup action. AB-1 was sampled because Stemen did not collect soil samples from MW-1. The soil boring was not advanced near due diligence samples S-1 and S-7 because these were in the City of Tacoma right-of-way (ROW) and were not located near the former sources of contamination on the Property. The VCP Site manager consented to the collection of three soil borings (AB-2 to AB-4) in the City of Tacoma ROW at the sampled locations, and the evaluation of soil in the direct-contact point of compliance only. AB-2 and AB-3 were placed adjacent to borings S-1 and S-7 because Stemen did not provide boring logs and no samples were collected within the direct-contact point of compliance. The VCP Site manager determined that no additional groundwater samples were required at the south gas station. After submittal of the FFS Addendum (Aspect, 2015), the VCP Site manager requested the vertical delineation of soil beneath AB-2 or AB-3, and agreed to the sampling of AB-2D. AB-2D was sampled in March 2016. This RI summarizes all sampling at the south gas station, provides analytical results after submission of the FFS Addendum, and describes the renovation and expansion of the building over the south gas station in 2016.

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
	The south gas station has been cleaned up, fully delineated, and redeveloped, and all exposure pathways are incomplete.
5. Ecology has determined the soil contamination at the former Paint Booth/UST location (tax parcel 2030-12-0032) had not been fully delineated and that the PCS and VOC-contaminated soil was not removed in 1994. Soil analytical results from the UST area indicated that TPH and chlorinated VOCs above their applicable MTCA CULs were found to at least a depth of 10 feet bgs. The conceptual Site model was inadequate, there was little to no relational or spatial depiction or description of the Site structures to sources of contamination and integrated with all the Site investigation current and historical data to complete a three-dimensional model of the site. The vertical and horizontal extent of the metals, PCE and VOC-contaminated soil needs to be established for the paint booth location.	During December 18, 2014 meeting, the VCP Site manager requested a detail map that reconciles for 1994 site sketches with the current building details in the grocery store. The VCP Site manager agreed that additional soil sampling within the grocery store was impracticable and not necessary for Site closure, since an environmental covenant would be recorded for the entire Property. After submittal of the FFS Addendum (Aspect, 2015), Ecology requested additional soil sampling. Aspect reevaluated and fully delineated the extent of contamination near the former paint booth drains and heating-oil UST in February 2016. Additional soil samples were collected in May 2016 to delineate the extent of hydraulic-oil contamination detected in February 2016. Soil samples have been collected to delineate soil contamination where possible, and soil contamination has been fully delineated.
6. The groundwater evaluation at the Paint Booth/UST location (MW-11) is not sufficient to establish whether any impacts and/or trends to the groundwater at that location can be made. At least four consecutive quarters of groundwater analytical data are required and Ecology concurrence to terminate Stage 2 monitoring at a location. Only three non-consecutive events have been completed, of which one sample result had a TCE concentration statistically equal to the TCE CUL. Additional groundwater sampling will be required at MW-11. The COCs for groundwater shall be TPH-G, TPH-D, TPH-O, VOCs, chlorinated VOCs, EDB via EPA 8011, and total metals. At least four quarters of groundwater analytical data indicating all COC groundwater concentrations were below the COC's applicable MTCA Method A CUL would be needed before Ecology would consider Site closure.	At the December 18, 2014 meeting, the VCP Site manager agreed to the collection of a fourth non-consecutive quarterly groundwater sample from MW-11 for the requested COCs. Aspect collected the fourth groundwater sample in March 2015, and then collected another for total and dissolved metals analysis in April 2015 because of a minor exceedance for total arsenic. After submittal of the FFS Addendum (Aspect, 2015), Ecology requested four consecutive groundwater samples and attaching the relevance of MW-11 to the former paint booth. The VCP Site manager agreed that arsenic was not a COC and requested analysis for TPH and total VOCs only. Aspect collected two additional groundwater samples in October 2015 and February 2016. TCE is the only COC detected in MW-11. The concentration of TCE has been below the Method A CUL in six quarterly sampling events and the 95-percent upper confidence limit for these results is below the more stringent Method B groundwater CUL. Ecology guidance (Ecology, 1995) does not state that Stage 2 monitoring events be consecutive, and we have

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
	now met all criteria listed in the guidance for concluding Stage 2 monitoring. The RI provides an updated interpretation of the environmental setting and groundwater gradient, which is based on topographic contours, a surface geologic map, site-wide groundwater gauging in May 2009, December 2010, and February 2012; and evaluation of the site boring logs (including MW-14D, which was constructed after the RI, Aspect, 2011). This RI provides a local topography and geology map (Figure 3), revised cross sections (Figures 4 to 6), and revised groundwater gradient maps (Figures 7 to 9). The groundwater gradient is directed northwest from the Site, and MW-11 is on the downgradient side of the paint booth area. Additionally, groundwater in the advance outwash discharges vertically into the underlying interglacial deposits that are characterized as a leaky aquitard, and the advance outwash is dry on the northwest side of North First Street downgradient from the former paint booth area.
7. The sub-slab soil vapor evaluation and indoor air evaluation at the Paint Booth/UST location were inadequate to provide any meaningful conclusions about the risk of soil vapor intrusion into the building. The singular indoor air sample was collected from a produce cooler (a room with limited human occupancy for brief periods of time) that was reported to have been built upon the former Paint Booth/UST. No information was provided as to the integrity of the cooler, or for the building's slab floor in general. The cooler is semi-pressurized and contains colder, denser air; not an ideal locale to evaluate soil vapor intrusion. Ecology guidance indicates that indoor sub-slab soil vapor samples need to be collected from within the footprint of the building in the contamination source area. Ecology has determined that a high-risk area such as a continuous work area and public areas are more appropriate locations to sample indoor air. The sub-slab soil vapor should be evaluated in the produce cooler staging area and likewise with the indoor air; there are several floor drains in the area around the meat and produce coolers that are potential soil vapor conduits. Also, there is a substantial asphalt cap between Morrell's site and the Bruce Titus Chevrolet Site; this cap may provide a subsurface pathway for the soil vapor	At the December 18, 2014 meeting, Aspect agreed to collect sub-slab soil gas and indoor air samples adjacent the floor drain in the produce preparation area for the requested COCs. The highest sub-slab soil gas concentrations of PCE were detected in the previous sampling location, beneath sidewalk in front of the former roll-up door for the paint booth. PCE was not detected in soil gas near the drain. The concentrations of benzene and vapor-phase hydrocarbons were higher in indoor air above the drain than in soil gas below the drain. The FFS Addendum (Aspect, 2015) attributed the hydrocarbon contamination to indoor sources of chemicals, which are not subject to MTCA regulation. Ecology requested additional sampling after submission of the FFS Addendum. The VCP Site manager agreed to the collection of a sub-slab soil gas sample from above the most contaminated soil sample detected in February 2016. In May 2016, Aspect collected a sub-slab soil gas sample near the hydraulic-oil contamination (contains PCE) in B11 and lighter-range-hydrocarbon contamination in B21. The sub-slab soil gas sample did not contain chlorinated VOCs and hydrocarbons were

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
between the two Sites and should be evaluated. Potential preferential pathways (sewer lines) for soil vapor exist in North First Street that could connect Morrell's with the Site. The sub-slab soil vapor has not been evaluated near the interior north corner of the Thriftway Supermarket; Ecology determined that location needs be evaluated also. The COCs for soil vapor shall be air-phase hydrocarbons (APH), VOCs, and chlorinated VOCs.	detected below the Method B sub-slab soil gas screening levels. Indoor air samples (Tier II Assessment) are not warranted when the concentrations of COCs are below the sub-slab soil gas screening levels (in a Tier I Assessment) (Ecology, 2009), and indoor air samples are prone to variability and interference. Aspect conducted a building survey in March 2016 to review the HVAC system and dampers, and to identify chemicals used within the building, as consistent with 2015 EPA guidance. Motor oil and machine oil are stored and used in the produce preparation area, along with hydrocarbon-containing aerosol paint cans, floor cleaner, sanitizer, and disinfectant cleaner. The two HVAC systems for the grocery draw ambient air from vehicular areas, including adjacent to the street and above the loading dock. At the time of sampling (March 2015), gasoline-powered internal combustion engines operated in the overlying tire service garage and the adjacent collision repair garage. Benzene was not detected above the Method A soil CUL in the 26 soil samples collected from the paint booth area and is not associated with the heating-oil and hydraulic-oil contamination in the former paint booth area. The single detection of benzene was 0.024 mg/kg at 10 feet bgs adjacent to the heating oil UST in September 1994. We conclude that the benzene detected in indoor air within the produce preparation area originates from commercial processes in the grocery store or offsite sources and is not subject to MTCA regulation in WAC 173-340-750(1)(a). During the December 18, 2014 meeting, the VCP Site manager agreed that additional soil vapor sampling was not necessary near the entrance in the northwest corner of the grocery store. This area was adequately characterized by the RI (Aspect, 2011) and Data Gaps Investigation Report (Aspect, 2012), and SVE and biostimulation cleanup actions were initiated at Morrell's Dry Cleaners in 2014, and are ongoing. This RI evaluates this area of the Site in Section 7. The soil vapor intrusion pathway is incomplete in the former paint booth area.

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
8. This is a complex Site; the conceptual Site model was inadequate to the task of describing the affected media, the types of contamination, pathways, and where that contamination has come to lie at the Site. There was little to no relational, spatial depiction, or a description of the Site structures to Site contamination sources integrated with all the current and historical Site investigation data of all media to complete an inclusive, three-dimensional model of the Site and the potential receptors. The intent of the (additional) samples must be clearer to the reviewer, whether it was meant for delineation, confirmation, or performance purposes. Maps and diagrams must be accurate and depict map details and relationships (both current and historical) as they occur; no such figure or diagram of compiled data from all the investigations was submitted to Ecology for review. Ecology cannot make accurate interpretations of the Site cleanup from descriptions that are inaccurate or misrepresented relationships.	This RI details the field investigations and summarizes previous cleanup actions completed at the Site. The field investigations and cleanup actions are discussed for the four recognized environmental conditions at the Site; i.e., the south gas station, north gas station, paint booth area, and Site boundary with Morrell's Dry Cleaners. Figure 10 provides a detail map of the south gas station that reconciles former gas station features, soil and groundwater sample locations (i.e., excavation confirmation soil samples, due diligence soil samples and monitoring well, and VCP field investigation soil samples), the building location prior to and after current redevelopment, and the property boundary. Figure 11 shows the current site details of the grocery store near the former paint booth area and Figure 12 shows the location of former features and current and former sample locations in the paint booth area. These figures were developed using a boundary survey base map prepared by a professional land surveyor, and the 1994 site sketches were overlaid based on current site features (e.g., structural columns, former roll-up door). Appendix B provides the sketches from the 1994 Phase I ESA and cleanup reports. A current site detail figure was not prepared for the north gas station because Ecology determined that the parcel had been fully delineated and was eligible for a property-specific NFA determination. Additionally, this parcel has been used as a parking lot since closure of the gas station in the 1960s.
9. No analytical data has been submitted into Ecology's electronic database to date for this Site. In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (*Data Submittal Requirements*), all data generated for Independent Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see the website http://www.ecy.wa.gov/eim. Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. Data must be submitted to Ecology in this format for	The VCP field investigation data have been electronically submitted to the EIM. The due diligence soil and groundwater data collected from 2006 to 2008 are not suitable for electronic submittal, but are summarized in the report tables. Hard copies of the VCP field investigations are included in the environmental documents. This RI/FS includes hard copies of the soil, groundwater, and air analytical results for samples collected after submittal FFS (Aspect, 2014).

Table 1 – Response to Comments from Ecology	
Ecology comments (November 11, 2014)	**Response**
Ecology to issue a No Further Action determination. Please be sure to submit all soil and groundwater data collected to date, as well as any future data, in this format. Data collected prior to August 2005 (effective date of this policy) is not required to be submitted; however, you are encouraged to do so if it is available. Be advised that Ecology requires up to two weeks to process the data once it is received.	

Table 3 - Groundwater Elevation Data

Project No. 080190, Morrell's Dry Cleaners Site (VCP SW1039) and Former Walker Chevrolet Site (VCP SW1040),
633 Division Avenue, Tacoma, Washington

Well ID (Site Located)	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	280.25	52.32	227.93
Former Walker Chevrolet	10/2/2008				53.09	227.16
	5/11/2009				53.68	226.57
	12/22/2010				53.61	226.64
	2/7/2012				52.93	227.32
	1/10/2014				53.21	227.04
	4/20/2016				Decommissioned	
MW-2	2/27/2008	0	50 to 65	278.14	51.50	226.64
Morrell's Dry Cleaners	10/2/2008				51.84	226.30
	5/12/2009				52.42	225.72
	12/22/2010				52.44	225.70
	2/7/2012				51.77	226.37
	12/12/2013				52.74	225.40
	6/24/2014	Injected 500 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/21/2015				51.83	226.31
	9/8/2015				51.77	226.37
	2/2/2016				52.14	226.00
MW-3	2/27/2008	0	52 to 67	277.77	dry	dry
Former Walker Chevrolet	10/2/2008				dry	dry
(Decommissioned)	5/11/2009				dry	dry
	10/25/2010				Decommissioned	
MW-4	2/27/2008	0	49 to 64	278.01	dry	dry
Morrell's Dry Cleaners	10/2/2008				dry	dry
(Decommissioned)	5/11/2009				dry	dry
	10/25/2010				Decommissioned	
MW-5	2/27/2008	0	50 to 65	278.13	50.87	227.26
Morrell's Dry Cleaners	10/2/2008				51.65	226.48
	5/11/2009				52.28	225.85
	12/22/2010				52.21	225.92
	2/7/2012				51.60	226.53
	1/9/2014				52.68	225.45
	4/28/2015				51.38	226.75
	9/9/2015				51.61	226.52
	2/2/2016				51.52	226.61
MW-6	2/27/2008	0	49 to 64	277.55	dry	dry
Morrell's Dry Cleaners	10/2/2008				dry	dry
(Decommissioned)	5/11/2009				dry	dry
	10/25/2010				Decommissioned	
MW-7	2/27/2008	0	50 to 65	279.44	52.90	226.54
Morrell's Dry Cleaners	10/2/2008				53.08	226.36
	5/11/2009				53.69	225.75
	12/22/2010				53.73	225.71
	2/6/2012				52.98	226.46
	1/7/2014				54.10	225.34
MW-8	10/2/2008	0	51 to 61	278.14	52.68	225.46
Morrell's Dry Cleaners	5/12/2009				53.28	224.86
	12/22/2010				53.32	224.82
	2/7/2012				52.58	225.56
	12/7/2013				53.64	224.50
	6/23/2014	Injected 525 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/20/2015				52.70	225.44
	9/10/2015				49.76	228.38
	2/1/2016				52.31	225.83
MW-9	5/11/2009	0	60 to 70	278.78	dry	dry
Morrell's Dry Cleaners	12/22/2010				dry	dry
(Decommissioned)	2/6/2012				dry	dry
	12/16/2013				dry	dry
	4/29/2015				Decommissioned	
MW-10	5/11/2009	0	60 to 70	279.45	dry	dry
Morrell's Dry Cleaners	12/22/2010				dry	dry
(Decommissioned)	2/6/2012				dry	dry
	12/16/2013				dry	dry
	4/29/2015				Decommissioned	
MW-11	5/12/2009	0	53 to 63	278.52	52.20	226.32
Former Walker Chevrolet	12/22/2010				52.24	226.28
	1/23/2014				52.69	225.83
	3/20/2015				52.07	226.45
	4/28/2015				51.49	227.03
	10/7/2015				52.09	226.43
	2/3/2016				52.01	226.51
MW-15	12/17/2013	37	44 to 60	278.84	53	226
Morrell's Dry Cleaners	6/23/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	9/8/2015				49	230
	2/1/2016				49	230
MW-16	12/13/2013	23	41 to 60	277.88	53	225
Morrell's Dry Cleaners	6/23/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/21/2015				56	222
MW-17	12/13/2013	32	43 to 60	277.97	53	225
Morrell's Dry Cleaners	6/24/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
MW-18	12/12/2013	45	46 to 60	277.80	60	217
Morrell's Dry Cleaners	6/24/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				

Table 3 - Groundwater Elevation Data

Project No. 080190, Morrell's Dry Cleaners Site (VCP SW1039) and Former Walker Chevrolet Site (VCP SW1040),
633 Division Avenue, Tacoma, Washington

Well ID (Site Located)	Date	Vertical Angle	Screened Interval (feet bgs)	Top of Casing Elevation (feet, site datum)	Depth to Water (feet)	Groundwater Elevation (feet, site datum)
MW-19	1/8/2014	0	45 to 60	278.15	52.72	225.43
Morrell's Dry Cleaners	6/24/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/21/2015				NM	-
	9/9/2015				51.71	226.44
	2/2/2016				51.64	226.51
MW-20	1/8/2014	0	45 to 60	278.03	52.64	225.39
Morrell's Dry Cleaners	6/24/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/20/2015				52.24	225.79
	9/9/2015				51.83	226.20
	2/2/2016				51.95	226.08
MW-21	12/17/2013	0	45 to 60	279.03	53.66	225.37
Morrell's Dry Cleaners	6/23/2014	Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of				
	1/20/2015				52.78	226.25
	9/8/2015				52.83	226.20
	2/1/2016				53.21	225.82
Interglacial Deposit Wells						
MW-8D	5/11/2009	0	96 to 116	278.11	112.56	165.55
Morrell's Dry Cleaners	12/22/2010				112.58	165.53
	2/6/2012				112.52	165.59
	1/10/2014				112.56	165.55
	4/28/2015				112.45	165.66
	9/8/2015				118.92	159.19
	2/2/2016				112.53	165.58
MW-12D	12/22/2010	0	113 to 123	277.72	129.96	147.76
Morrell's Dry Cleaners	2/6/2012				129.80	147.92
	1/10/2014				129.94	147.78
	4/29/2015				129.89	147.83
	9/10/2015				130.90	146.82
	2/2/2016				131.03	146.69
MW-13D	12/22/2010	0	125 to 145	276.96	137.88	139.08
Morrell's Dry Cleaners	2/7/2012				137.43	139.53
	12/16/2013				137.70	139.26
	4/29/2015				137.13	139.83
	9/9/2015				137.22	139.74
	2/2/2016				137.14	139.82
MW-14D	2/6/2012	0	123 to 143	277.46	134.02	143.44
Morrell's Dry Cleaners	1/23/2014				134.26	143.20
	4/29/2015				133.82	143.64
	9/9/2015				134.16	143.30
	2/2/2016				134.11	143.35

Notes:
bgs = below ground surface
nm = not measured

Table 4 - Soil Sample Results at South Gas Station

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	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	AB-2-16.5 4/6/2015	AB-2D-10 3/4/2016	AB-2D-15 3/4/2016	AB-2D-27.5 3/4/2016	AB-2D-37.5 3/4/2016	AB-2D-52.5 3/4/2016	AB-3-16.5 4/6/2015	AB-4-16.5 4/6/2015
Location			Middle of parking lot (Near former pump island)				SE corner of parking lot (5 ft from S-1)	SE corner of parking lot (Adjacent to AB-2)					SW corner of parking lot (1 ft from S-7)	Triangular medium south of parking lot
Sample Depth			15 ft	25 ft	45 ft	61.5 ft	16.5 ft	10 ft	15 ft	27.5 ft	37.5 ft	52.5 ft	16.5 ft	16.5 ft
Total Petroleum Hydrocarbons														
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	30												
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000												
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000												
TPH, undifferentiated (mg/kg)	418.1	30												
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	30	**37**	3	2 U	2 U	**1,900**	2 U	**670**	18	2 U	2 U	**520**	2 U
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000					1,600 X	50 U	110 X	50 U	50 U	50 U	180 X	50 U
TPH, Oil-Range (mg/kg)	NWTPH-Dx	2,000					250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Volatile Petroleum Compounds														
Benzene (mg/kg)	8260C	0.03	0.02 U	0.02 U	0.02 U	0.02 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene (mg/kg)	8260C	7	0.02 U	0.02 U	0.02 U	0.02 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene (mg/kg)	8260C	6	0.02 U	0.02 U	0.02 U	0.02 U	0.24	0.05 U	0.15	0.05 U	0.05 U	0.05 U	0.063	0.05 U
Xylenes,total (mg/kg)	8260C	9	0.33	0.06 U	0.06 U	0.06 U	1	0.15 U	0.35	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Fuel Additives and Blending Compounds														
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane (EDC; mg/kg)	8260C		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Lead (mg/kg)	200.8	250	1.49	2.59	2.31	1.90	3.46	2.59	3.82	2.18	2.55	1.81	7.26	1.85
Other Petroleum Compounds														
Naphthalene (mg/kg)	8270D SIM	5	0.05 U	0.05 U	0.05 U	0.05 U	0.12	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.77	0.01 U
Isopropylbenzene (mg/kg)	8270D SIM						2.4	0.05 U	1	0.05 U	0.05 U	0.05 U	0.64	0.05 U
n-Propylbenzene (mg/kg)	8270D SIM						3.9	0.05 U	3.3	0.05 U	0.05 U	0.05 U	1.1	0.05 U
1,2,4-Trimethylbenzene (mg/kg)	8270D SIM						22	0.05 U	24	0.05 U	0.05 U	0.05 U	1.7	0.05 U
1,3,5-Trimethylbenzene (mg/kg)	8270D SIM						12	0.05 U	14	0.05 U	0.05 U	0.05 U	1.8	0.05 U
n-Butylbenzene (mg/kg)	8270D SIM						NR	NR	NR	NR	NR	NR	NR	NR
sec-Butylbenzene (mg/kg)	8270D SIM						0.86	0.05 U	0.6	0.05 U	0.05 U	0.05 U	1.1	0.05 U
tert-Butylbenzene (mg/kg)	8270D SIM						0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropyltoluene (mg/kg)	8270D SIM						NR	NR	NR	NR	NR	NR	NR	NR
p-Isopropyltoluene (mg/kg)	8270D SIM						1.3	0.05 U	0.96	0.05 U	0.05 U	0.05 U	1.5	0.05 U
Other Compounds														
Chlorinated VOCs (mg/kg)	8260C						ND	ND	ND	ND	ND	ND	ND	ND
PCB mixtures (mg/kg)		1												

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
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
NR = not reported
U = analyte was not detected at or above the reported result.
NWTPH = Northwest total petroleum hydrocarbon method
WTPH = Washington total petroleum hydrocarbon method
HCID = hydrocarbon identification analysis

Table 4 - Soil Sample Results at South Gas Station

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Method A, Unrestricted Land Use, Table Value (mg/kg)	S-1 8/31/2006	S-2 8/31/2006	S-3 8/31/2006	S-4 8/31/2006	S-5 8/31/2006	S-6 8/31/2006	S-7 8/31/2006
Location			SE corner of parking lot (Near former Tank 5)	East boundary of parking lot (Near former Tank 7)	NE boundary of parking lot (Near former Tank 4)	West boundary of parking lot (Near former Tanks 1-4)	West boundary of parking lot (Near former Tank 1)	Middle of parking lot (Near former pump island)	SW corner of parking lot (Nearest former pump island)
Sample Depth			15 ft	15 ft	15 ft	15 ft	13 ft	8 ft	16 ft
Total Petroleum Hydrocarbons									
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	30							
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000							
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000							
TPH, undifferentiated (mg/kg)	418.1	30							
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	30	**920**	ND	ND	ND	ND	ND	**360**
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000	ND	ND	ND	ND	ND	ND	ND
TPH, Oil-Range (mg/kg)	NWTPH-Dx	2,000	ND	ND	ND	ND	ND	ND	ND
Volatile Petroleum Compounds									
Benzene (mg/kg)	8260C	0.03	**6.1**	ND	ND	ND	ND	ND	
Toluene (mg/kg)	8260C	7	4.1	ND	ND	ND	ND	ND	
Ethylbenzene (mg/kg)	8260C	6	6	ND	ND	ND	ND	ND	
Xylenes,total (mg/kg)	8260C	9	**12**	ND	ND	ND	ND	ND	
Fuel Additives and Blending Compounds									
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005	0.05 U						
1,2-Dichloroethane (EDC; mg/kg)	8260C		0.01 U						
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	0.05 U						
Lead (mg/kg)	200.8	250							
Other Petroleum Compounds									
Naphthalene (mg/kg)	8270D SIM	5	0.05 U						
Isopropylbenzene (mg/kg)	8270D SIM		5						
n-Propylbenzene (mg/kg)	8270D SIM		14						
1,2,4-Trimethylbenzene (mg/kg)	8270D SIM		71						
1,3,5-Trimethylbenzene (mg/kg)	8270D SIM		37						
n-Butylbenzene (mg/kg)	8270D SIM		6.2						
sec-Butylbenzene (mg/kg)	8270D SIM		0.05 U						
tert-Butylbenzene (mg/kg)	8270D SIM		0.05 U						
Isopropyltoluene (mg/kg)	8270D SIM		2.3						
p-Isopropyltoluene (mg/kg)	8270D SIM		NR						
Other Compounds									
Chlorinated VOCs (mg/kg)	8260C		ND						
PCB mixtures (mg/kg)		1	ND						

Table 4 - Soil Sample Results at South Gas Station

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Method A, Unrestricted Land Use, Table Value (mg/kg)	S1 8/1/1994	S2 8/1/1994	S3 8/1/1994	S4 8/1/1994	S5 8/1/1994	S6 8/1/1994	S7 8/1/1994	S8 8/1/1994	S9 8/1/1994	S10 8/1/1994	S11 8/1/1994	S12 8/1/1994	S13 8/1/1994	S14 8/1/1994	S15 8/1/1994
Location			Excavation, east wall, Tank 2-4	Excavation, bottom, Tank 2	Excavation, west wall, Tank 2-4	Excavation, south wall, Tank 2-4	Excavation, bottom, Tank 3	Excavation, Tanks 5-7	Excavation, bottom, Tank 5	Excavation, south wall, Tank 5-7	Excavation, east wall, Tank 5-7	Excavation, bottom, Tank 6	Excavation, bottom, Tank 7	Excavation, east wall, Tank 5-7	Excavation, west wall, Tank 5-7	Excavation, bottom, Tank 4	Excavation, north wall, Tank 2-4
Sample Depth			5 ft	10 ft	7 ft	7 ft	10 ft	Surface	9 ft	7 ft	7 ft	8 ft	8 ft	7 ft	5 ft	10 ft	8 ft
Total Petroleum Hydrocarbons																	
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	30	20 U		20 U	20 U		20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		20 U
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000	50 U		50 U	50 U		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U		50 U
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000	100 U		100 U	100 U		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		100 U
TPH, undifferentiated (mg/kg)	418.1	30		20 U			**39**									20 U	
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	30															
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000															
TPH, Oil-Range (mg/kg)	NWTPH-Dx	2,000															
Volatile Petroleum Compounds																	
Benzene (mg/kg)	8260C	0.03		0.3 U			0.3 U									0.3 U	
Toluene (mg/kg)	8260C	7		0.3 U			0.3 U									0.3 U	
Ethylbenzene (mg/kg)	8260C	6		0.3 U			0.33									0.3 U	
Xylenes,total (mg/kg)	8260C	9		0.3 U			3.3									0.3 U	
Fuel Additives and Blending Compounds																	
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005															
1,2-Dichloroethane (EDC; mg/kg)	8260C																
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1															
Lead (mg/kg)	200.8	250		4 U			6										
Other Petroleum Compounds																	
Naphthalene (mg/kg)	8270D SIM	5															
Isopropylbenzene (mg/kg)	8270D SIM																
n-Propylbenzene (mg/kg)	8270D SIM																
1,2,4-Trimethylbenzene (mg/kg)	8270D SIM																
1,3,5-Trimethylbenzene (mg/kg)	8270D SIM																
n-Butylbenzene (mg/kg)	8270D SIM																
sec-Butylbenzene (mg/kg)	8270D SIM																
tert-Butylbenzene (mg/kg)	8270D SIM																
Isopropyltoluene (mg/kg)	8270D SIM																
p-Isopropyltoluene (mg/kg)	8270D SIM																
Other Compounds																	
Chlorinated VOCs (mg/kg)	8260C																
PCB mixtures (mg/kg)		1															

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
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
NR = not reported
U = analyte was not detected at or above the reported result.
NWTPH = Northwest total petroleum hydrocarbon method
WTPH = Washington total petroleum hydrocarbon method
HCID = hydrocarbon identification analysis

Table 4 - Soil Sample Results at South Gas Station

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Method A, Unrestricted Land Use, Table Value (mg/kg)	S17 8/2/1994	S18 8/2/1994	S19 8/2/1994	S20 8/2/1994	S21 8/2/1994	S22 8/2/1994 (Soil was Excavated)	S23 8/2/1994	S24 8/2/1994	S25 8/2/1994	O1 8/1/1994	O2 8/1/1994	O3 8/1/1994	O4 8/1/1994	O5 8/1/1994	O6 8/2/1994
Location			Excavation, bottom, Tank 1	Excavation, east wall, Tank 1	Excavation, north wall, Tank 1	Excavation, west wall, Tank 1	Excavation, south wall, Tank 1	Excavation, pump island **(Removed)**	Excavation, south wall, pump island	Excavation, west wall, pump island	Excavation, bottom, pump island	Tank 2 overburden	Tank 3 Overburden	Tank 1 Overburden	Tank 5-8 Overburden	Tank 5-8 Overburden	Tank 1 Overburden
Sample Depth			8 ft	6 ft	7 ft	6 ft	7 ft	2 ft	3 ft	3 ft	5 ft						
Total Petroleum Hydrocarbons																	
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	30	20 U	20 U	20 U	20 U	20 U		20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000	50 U	50 U	50 U	50 U	50 U		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000	100 U	100 U	100 U	100 U	100 U		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	1,900
TPH, undifferentiated (mg/kg)	418.1	30						**570**					20 U				
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	30															
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000															
TPH, Oil-Range (mg/kg)	NWTPH-Dx	2,000															
Volatile Petroleum Compounds																	
Benzene (mg/kg)	8260C	0.03						1.42					0.3 U				0.005 U
Toluene (mg/kg)	8260C	7						7.81					0.3 U				0.005 U
Ethylbenzene (mg/kg)	8260C	6						11.11					0.3 U				0.005 U
Xylenes,total (mg/kg)	8260C	9						84.2					0.3 U				0.005 U
Fuel Additives and Blending Compounds																	
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005															0.01 U
1,2-Dichloroethane (EDC; mg/kg)	8260C																0.005 U
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1															NR
Lead (mg/kg)	200.8	250						18									34
Other Petroleum Compounds																	
Naphthalene (mg/kg)	8270D SIM	5															0.005 U
Isopropylbenzene (mg/kg)	8270D SIM																
n-Propylbenzene (mg/kg)	8270D SIM																
1,2,4-Trimethylbenzene (mg/kg)	8270D SIM																
1,3,5-Trimethylbenzene (mg/kg)	8270D SIM																
n-Butylbenzene (mg/kg)	8270D SIM																
sec-Butylbenzene (mg/kg)	8270D SIM																
tert-Butylbenzene (mg/kg)	8270D SIM																
Isopropyltoluene (mg/kg)	8270D SIM																
p-Isopropyltoluene (mg/kg)	8270D SIM																
Other Compounds																	
Chlorinated VOCs (mg/kg)	8260C																0.01 U
PCB mixtures (mg/kg)		1															0.1 U

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
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
NR = not reported
U = analyte was not detected at or above the reported result.
NWTPH = Northwest total petroleum hydrocarbon method
WTPH = Washington total petroleum hydrocarbon method
HCID = hydrocarbon identification analysis

Table 5 - Groundwater Volatile Organic Compound Sample Results

Project No. 080190 Morrell's Dry Cleaners Site (VCP No. SW1039) and Former Walker Chevrolet Site (VCP No. SW1040),
633 Division Avenue, Tacoma, Washington

Well ID	Screen Interval (feet bgs)	Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Carbon Tetrachloride	Chloroform	Chloroethane
Method A, Groundwater CUL, Table Value (ug/L)			**5**	**5**	**-**	**-**	**-**	**0.2**	**-**	**-**	**-**
Federal and State Maximum Contaminant Level (ug/L)			**5**	**5**	**70**	**100**	**7**	**2**	**5**	**80**	**-**
Groundwater CUL (ug/L)			**5**	**5**	**70**	**100**	**7**	**0.2**	**5**	**80**	**-**
Advance Outwash Wells											
MW-1	50 - 65	8/28/07	1.3	<1	<1	<1	<1	<0.2	<1	<1	<1
Former Walker Chevrolet		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
		2/7/12	<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	<0.2
MW-2	50 - 65	8/28/07	**2,900**	**1,800**	**7,100**	7.4	<1	**19**	1.0	1	8.1
Morrell's Dry Cleaners		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	1.0
		5/12/09	**1,600**	**930**	**2,400**	5.7	ND	**2.7**	<1	4.0	<1
		12/22/10	**2,100**	**1,100**	**2,100**	4.8	<1	**2.7**	<1	5.0	<1
		2/7/12	**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
		6/24/14	**Injected 500 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/21/15	**19**	**25**	**150**	<1	<1	**0.77**	<1	<1	<1
		7/30/15	**19**	**46**	**600**	1.8	<1	**15**	-	-	<1
		9/8/15	**26**	**85**	**610**	2	1.6	**17**	-	-	<1
		2/2/16	**22**	**190**	**640**	1.8	4.2	**15**	-	-	<1
MW-5	50 - 65	1/22/08	**67**	3	13	<1	<1	<0.2	3.3	2.1	<1
Morrell's Dry Cleaners		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
		2/7/12	**140**	**8.7**	25	<1	<1	<0.2	4.6	2.3	<1
		1/9/14	<0.2	0.46	<0.2	<0.2	<0.2	<0.2	<0.2	0.35	<0.2
		6/24/14	**550 gallons of biostimulant injected into MW-20, located 50 feet downgradient, potentially pushing impacted groundwater**								
		4/28/15	**67**	**6.2**	6.4	<1	<1	<0.2	2.1	1.1	<1
		9/9/15	**31**	3.6	3.6	<1	<1	<0.2	-	-	<1
		2/2/16	**27**	2.7	2.5	<1	<1	<0.2	-	-	<1
MW-7	50 - 65	1/22/08	**6.6**	<1	<1	<1	<1	<0.2	<1	<1	<1
Morrell's Dry Cleaners		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
Morrell's Dry Cleaners		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	ND	**2.0**	<1	2.5	<1
		12/22/10	**470**	**150**	**1,800**	3.3	3.7	**1.4**	<1	2.2	<1
		2/7/12	**960**	**610**	**1,600**	<100	<100	**<20**	<100	<100	<100
		12/17/13	**940**	**560**	**1,300**	<50	<50	**<10**	<50	<50	<50
		6/23/14	**Injected 525 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/20/15	**14**	**8.5**	**1,200**	<5	6.4	**9.4**	<5	<5	<5
		7/30/15	**56**	**19**	**740**	1.1	1.5	**8.9**	-	-	<1
		9/10/15	**18**	**13**	**1,000**	1.5	4.2	**12**	-	-	<1
		2/1/16	**25**	**15**	**830**	1.2	2.5	**7.4**	-	-	<1
MW-11	53 - 63	5/12/09	<1	2.3	<1	<1	<1	<0.2	1.4	1.9	<1
Former Walker Chevrolet		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	<1
		3/20/15	<1	3	<1	<1	<1	<0.2	1.2	1.1	<1
		10/7/15	<1	3.2	<1	<1	<1	<0.2	<1	<1	<1
		2/3/16	<1	3.1	<1	<1	<1	<0.2	<1	<1	<1
MW-15 (angled with 37 degree vertical angle)	44 - 60	12/17/13	**460**	**110**	**380**	<10	<10	**<2**	<10	<10	<10
Morrell's Dry Cleaners		12/17/13	**480**	**110**	**370**	<10	<10	**<2**	<10	<10	<10
		6/23/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		9/8/15	**86**	**53**	**220**	<1	<1	**4.0**	-	-	<1
		2/1/16	**43**	**25**	**290**	<1	<1	**7.4**	-	-	<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
Morrell's Dry Cleaners		6/23/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/21/15	**14**	**6.3**	**180**	<5	<5	**2.2**	<5	<5	<5
MW-17 (angled with 32 degree vertical angle)	43 - 60	12/13/13	**170**	**24**	**81**	<1	<1	<0.2	3	2.4	<1
Morrell's Dry Cleaners		6/24/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
MW-18 (angled with 45 degree vertical angle)	46 - 60	12/12/13	**490**	**57**	**350**	<1	<1	**0.53**	<1	1.3	<1
Morrell's Dry Cleaners		6/24/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
MW-19	45 - 60	1/8/14	**62**	4.8	20	<1	<1	<0.2	**7**	3.8	<1
Morrell's Dry Cleaners		6/24/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/21/15	**9.7**	<5	45	<5	<5	<1	<5	<5	<5
		9/9/15	**7.6**	3.9	35	<1	<1	**1.5**	-	-	<1
		2/2/16	**8.5**	**5.1**	43	<1	<1	**1.5**	-	-	<1
MW-20	45 - 60	1/8/14	**140**	**16**	43	<1	<1	<0.2	3.6	2.2	<1
Morrell's Dry Cleaners		6/24/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/20/15	**7.4**	**5.3**	**79**	<1	<1	**1.8**	<1	<1	<1
		9/9/15	**11**	**5.8**	**150**	<1	<1	**1.5**	-	-	<1
		2/2/16	<1	<1	**250**	<1	<1	**1.9**	-	-	<1
MW-21	45 - 60	12/17/13	**500**	**130**	**460**	<10	<10	**<2**	<10	<10	<10
Morrell's Dry Cleaners		6/23/14	**Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of HRC Primer)**								
		1/20/15	**15**	**12**	**270**	<5	<5	**<1**	<5	<5	<5
		9/8/15	**7.1**	**9.2**	**510**	1.6	<1	**8.1**	-	-	<1
		2/1/16	**18**	**17**	**650**	1.7	<1	**9.7**	-	-	<1
Interglacial Deposit Wells											
MW-8D	96 - 116	5/11/09	<1	<1	11	<1	<1	<0.2	1.9	<1	<1
Morrell's Dry Cleaners		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	<0.2
		4/28/15	<1	<1	54	<1	<1	<0.2	1.7	<1	<1
		9/8/15	<1	<1	65	<1	<1	<0.2	-	-	<1
		2/2/16	<1	<1	62	<1	<1	<0.2	-	-	<1
MW-12D	113 - 133	12/22/10	**6.1**	<1	22	<1	<1	<0.2	<1	<1	<1
Morrell's Dry Cleaners		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	<0.2
		4/29/15	<1	<1	13	<1	<1	<0.2	<1	<1	<1
		9/10/15	<1	<1	9.1	<1	<1	<0.2	-	-	<1
		2/2/16	<1	<1	9.2	<1	<1	<0.2	-	-	<1
MW-13D	125 - 145	12/22/10	**14**	3.2	30	<1	<1	<0.2	<1	<1	<1
Morrell's Dry Cleaners		2/7/12	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
		4/29/15	<1	<1	14	<1	<1	<0.2	<1	<1	<1
		9/9/15	4.1	2.2	22	<1	<1	<0.2	-	-	<1
		2/2/16	2.2	2.1	23	<1	<1	<0.2	-	-	<1
MW-14D	123 - 143	2/6/12	4.2	3.3	28	<1	<1	<0.2	<1	<1	<1
Morrell's Dry Cleaners		1/23/14	2.4	1.0	4.5	<1	<1	<0.2	<1	<1	<1
		4/29/15	2.2	<1	2.5	<1	<1	<0.2	<1	<1	<1
		9/9/15	**9.2**	3.9	15	<1	<1	<0.2	-	-	<1
		2/2/16	1.8	<1	2.2	<1	<1	<0.2	-	-	<1

Notes:
BOLD Highlighted signifies exceedance of Proposed Groundwater CUL (most stringent of MTCA Method A, Table Value and Federal and State MCL).
All values are in units of milligrams per liter (ug/L).
Labotory method 8260C
1,1-DCE = 1,1-dichloroethylene
bgs = below ground surface
cis-1,2-DCE = cis-1,2-dichloroethylene
MCL = maximum contaminant level
MTCA = Model Toxics Control Act
ND = not determined
PCE = tetrachloroethylene
TCE = trichloroethylene
trans-1,2-DCE = trans-1,2-dichloroethylene

Table 6 - Groundwater Sample Results for Chemicals of Potential Concern and Natural Attenuation Parameters

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
Tacoma, Washington

Chemical Name	Laboratory Method	Groundwater, Method A, Table Value (µg/L)	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)	NWTPH-Gx	1,000		0.25 U			100 U
Diesel-Range Hydrocarbons (µg/L)	NWTPH-Dx	500		0.1 U			50 U
Oil-Range Hydrocarbons (µg/L)	NWTPH-Dx	500		0.2 U			250 U
Volatile Organic Compounds (COPCs and Other Detected Compounds)							
Benzene (µg/L)	8260C	5	5	0.2 U	0.2 U	0.35 U	0.35 U
Toluene (µg/L)	8260C	1,000	1,000	0.2 U	0.2 U	1 U	1 U
Ethylbenzene (µg/L)	8260C	700	700	0.2 U	0.2 U	1 U	1 U
Xylenes, total (µg/L)	8260C	1,000	10,000	0.6 U	0.6 U	3 U	3 U
Tetrachloroethylene (µg/L)	8260C	5	5	0.2 U	0.2 U	1.4	1 U
Trichloroethylene (µg/L)	8260C	5	5	0.4	0.46	1 U	1.4
cis-1,2-Dichloroethylene (µg/L)	8260C		70	0.2 U	0.2 U	1 U	1 U
trans-1,2-Dichloroethylene (µg/L)	8260C		100	0.2 U	0.2 U	1 U	1 U
1,1-Dichloroethylene (µg/L)	8260C		7	0.2 U	0.2 U	1 U	1 U
Vinyl Chloride (µg/L)	8260C	0.2	2	0.2 U	0.2 U	0.2 U	0.2 U
Carbon Tetrachloride (µg/L)	8260C		5	0.2 U	0.2 U	1.6	1 U
Chloroform (µg/L)	8260C		80	0.39	0.35	1 U	1 U
Polycyclic Aromatic Hydrocarbons							
Benz(a)anthracene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Benzo(a)pyrene (µg/L)	8270D SIM	0.1	0.2	0.1 U	0.1 U		0.05 U
Benzo(b)fluoranthene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Benzo(k)fluoranthene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Chrysene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Dibenzo(a,h)anthracene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Indeno(1,2,3-cd)pyrene (µg/L)	8270D SIM			0.1 U	0.1 U		0.05 U
Total cPAHs TEQ (µg/L; calculated)		0.1		ND	ND		ND
Naphthalene (µg/L)	8260C/8270D SIM	160		0.1 U	0.14	1 U	0.15
Fuel Additives							
Lead (µg/L)	200.8	15	15	2.0	5.8	3.53	2.44
Polychlorinated Biphenyls (PCBs)							
PCB Mixtures (µg/L)	8082A	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)	SM184500NO3F		10	0.2	0.7	1.39	
Nitrite (mg/L)	353.2		1	0.1 U	0.1 U	0.006	
Sulfate (mg/L)	SM184500SO4E			8.8	20.6	28.4	
Iron, total (mg/L)	200.8			4.07	11.5	14.3	
Total organic carbon (TOC; mg/L)	SM205310B			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 7 - Soil Sample Results Near Former Paint Booth

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Soil, MTCA Method A, Unrestricted Land Use, Table Value (mg/kg)	Soil, MTCA Method B, Table Value (mg/kg)	D1 7/30/1994	D2 7/30/1994	B1-5.5 8/3/1994	B2-5.5 8/3/1994	B3-2 8/3/1994	B4-3 8/3/1994	B5-5 9/6/1994	B5-7.5 9/6/1994	B5-9 9/6/1994	B5-10 9/6/1994	B6-5 9/6/1994	B6-8 9/6/1994	B7-4 9/6/1994	B8-5 9/6/1994	B9-5 9/6/1994
Sample Depth				Sediment Inside Drain	Sediment Inside Drain	5.5 ft	5.5 ft	2 ft	3 ft	5 ft	7.5 ft	9 ft	10 ft	5 ft	8 ft	4 ft	5 ft	5 ft
Total Petroleum Hydrocarbons (TPH)																		
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	100																
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000																
TPH, Motor Oil-Range (mg/kg)	NWTPH-Dx	2,000																
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	100								20 U			20 U	**100**	20 U	20 U	20 U	20 U
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000								50 U			50 U	50 U	50 U	50 U	50 U	50 U
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000								390			260	100 U	100 U	100 U	100 U	100 U
TPH, undifferentiated (mg/kg)	418.1	100				**8,000**	79	96	**480**		**2,500**	**4,400**						
Volatile Petroleum Compounds																		
Benzene (mg/kg)	8260C	0.03	18.2	**0.59**	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.024	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U
Toluene (mg/kg)	8260C	7	6,400	**20**	0.025 U	**85**		0.013	0.007	0.096 B			0.72 B	**8.6 B**	0.37 B	0.011 B	0.014 B	0.005 U
Ethylbenzene (mg/kg)	8260C	6	8,000	**10**	0.025 U	2.2		0.005 U	0.005 U	0.005 U			0.13	0.69	0.012	0.005 U	0.005 U	0.005 U
Xylenes,total (mg/kg)	8260C	9	16,000	**79**	0.19	**143**		0.005 J	0.006	0.01			0.79	7.1	0.15	0.005 U	0.005 U	0.005 U
Fuel Additives and Blending Compounds																		
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005	0.5	1 U	0.05 U	0.46 U		0.01 U	0.01 U	0.01 U			0.01 U	0.1 U	0.1 U	0.01 U	0.01 U	0.01 U
1,2-Dichloroethane (EDC; mg/kg)	8260C		11	0.5 U	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	555.6	NR	NR	NR		NR	NR	NR			NR	NR	NR	NR	NR	NR
Lead (mg/kg)	200.8	250		**2,140**	**918**	25												
Other Petroleum Compounds																		
n-Butylbenzene (mg/kg)	8260C		4000	17	0.025 U	0.45		0.005 U	0.005 U	0.005 U			0.015	0.19	0.005 U	0.005 U	0.005 U	0.005 U
sec-Butylbenzene (mg/kg)	8260C			14	0.025 U	0.45		0.005 U	0.005 U	0.005 U			0.022	0.066	0.005 U	0.005 U	0.005 U	0.005 U
Isopropylbenzene (mg/kg)	8260C			18	0.025 U	1.6		0.005 U	0.005 U	0.005 U			0.05	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U
p-Isopropyltoluene (mg/kg)	8260C			15	0.025 U	0.48		0.005 U	0.005 U	0.005 U			0.015	0.082	0.005 U	0.005 U	0.005 U	0.005 U
Methylene chloride	8260C	0.02	480	2 U	**0.475**	0.92 U		0.02 U	0.02 U	0.026 B			0.028 B	0.2 U	0.039 B	0.041 B	0.048 B	0.02 U
4-Methyl-2-pentanone (MIBK) (mg/kg)	8260C			3.8 J	0.025 U	2.3 U		0.05 U	0.05 U	0.05 U			0.05 U	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U
Naphthalene (mg/kg)	8260C	5	1,600	0.93 B	0.053 B	1.1		0.005 U	0.005 U	0.005 U			0.005 U	0.19	0.005 U	0.005 U	0.005 U	0.005 U
n-Propylbenzene (mg/kg)	8260C		8,000	54	0.025 U	1.5		0.005 U	0.005 U	0.005 U			0.08	0.099	0.005 U	0.005 U	0.005 U	0.005 U
1,2,4-Trimethylbenzene (mg/kg)	8260C			175	0.072	11		0.005 U	0.005 U	0.005 U			0.13	0.79	0.013	0.005 U	0.005 U	0.005 U
1,3,5-Trimethylbenzene (mg/kg)	8260C		800	66	0.064	5		0.005 U	0.005 U	0.005 U			0.07	0.3	0.006	0.005 U	0.005 U	0.005 U
Chlorinated VOCs																		
Tetrachloroethylene (mg/kg)	8260C	0.05	476	**2.1**	0.025 U	**0.21 J**		0.005 U	0.005 U	0.005 U			**0.053**	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
Trichloroethylene (mg/kg)	8260C	0.03	12	0.5 U	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
cis-1,2-dichloroethylene (mg/kg)	8260C	-	160	0.5 U	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
Vinyl chloride (mg/kg)	8260C	-	0.67	1 U	0.05 U	0.46 U		0.01 U	0.01 U	0.01 U			0.01 U	0.1 U	0.1 U	0.01 U	0.01 U	0.01 U
Chlorobenzene (mg/kg)	8260C		1,600	2.1	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
1,2-Dichlorobenzene (mg/kg)	8260C		7,200	103	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
1,4-Dichlorobenzene (mg/kg)	8260C		5,600	82	0.025 U	0.23 U		0.005 U	0.005 U	0.005 U			0.005 U	0.05 U	0.05 U	0.005 U	0.005 U	0.005 U
Polycyclic Aromatic Hydrocarbons																		
Benz(a)anthracene (mg/kg)	8270D SIM		1.37															
Benzo(a)pyrene (mg/kg)	8270D SIM	0.1	0.137															
Benzo(b)fluoranthene (mg/kg)	8270D SIM		1.37															
Benzo(k)fluoranthene (mg/kg)	8270D SIM		13.7															
Chrysene (mg/kg)	8270D SIM		137															
Indeno(1,2,3-cd)pyrene (mg/kg)	8270D SIM		1.37															
Dibenz(a,h)anthracene (mg/kg)	8270D SIM		0.137															
carcinogenic PAHs TEQ (mg/kg) (calculated)		0.1																
Polychlorinated biphenyls (PCBs)																		
Arochlor 1221 (mg/kg)	8082A																	
Arochlor 1232 (mg/kg)	8082A																	
Arochlor 1016 (mg/kg)	8082A		5.6															
Arochlor 1242 (mg/kg)	8082A																	
Arochlor 1248 (mg/kg)	8082A																	
Arochlor 1254 (mg/kg)	8082A		0.5															
Arochlor 1260 (mg/kg)	8082A		0.5															
Arochlor 1262 (mg/kg)	8082A																	
Arochlor 1268 (mg/kg)	8082A																	
Polychlorinated biphenyl (PCB) mixtures		1	0.5															
Metals																		
Arsenic (mg/kg)	200.8	20	0.67	5 U	5 U	5 U												
Barium (mg/kg)	200.8	-	16,000	422	2,000	43.8												
Cadmium (mg/kg)	200.8	2	80	**50.2**	**4.2**	0.3 U												
Chromium (mg/kg)	200.8	2,000	120,000	110	927	18.6												
Lead (mg/kg)	200.8	250		**2,140**	**918**	25												
Mercury (mg/kg)	200.8	2		3 U	3 U	3 U												
Selenium (mg/kg)	200.8	-	400	8 U	8 U	8 U												
Silver (mg/kg)	200.8	-	400	0.7 U	0.7 U	0.7 U												

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
Blank cell indicate that compound was not analyzed.
B = Compound detected in laboratory blank, suggesting cross-contamination in laboratory.
U = analyte was not detected at or above the reported result.

NR = not reported
ft = feet
HCID = Hydrocarbon identification
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act

TPH = total petroleum hydrocarbon

Sediment samples from drains D1 and D2 were removed in 1994.
Samples results provide an indication of source contamination.

Table 7 - Soil Sample Results Near Former Paint Booth

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Soil, MTCA Method A, Unrestricted Land Use, Table Value (mg/kg)	Soil, MTCA Method B, Table Value (mg/kg)	B10-4.5 2/25/2016	B11-5.5 2/25/2016	B12-5 2/25/2016	B12-9 2/25/2016	B14-4.5 2/25/2016	B14-5.5 2/25/2016	B14-10.5 2/25/2016	B15-6.5 2/25/2016	B16-6 2/25/2016	B17-2 5/11/2016	B18-3 5/11/2016	B19-6 5/11/2016	B20-4.5 5/11/2016	B21-9.5 5/11/2016
Sample Depth				4.5 ft	5.5 ft	5 ft	9 ft	4.5 ft	5.5 ft	10.5 ft	6.5 ft	6 ft	2 ft	3 ft	6 ft	4.5 ft	9.5 ft
Total Petroleum Hydrocarbons (TPH)																	
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	100		2 U	**12,000**	2 U	2 U	5.4	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**190**
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000		50 U	**5,800 X**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	68 X	50 U
TPH, Motor Oil-Range (mg/kg)	NWTPH-Dx	2,000		250 U	**17,000**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	100															
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000															
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000															
TPH, undifferentiated (mg/kg)	418.1	100															
Volatile Petroleum Compounds																	
Benzene (mg/kg)	8260C	0.03	18.2	0.03 U	0.03 UJ	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Toluene (mg/kg)	8260C	7	6,400	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	**11**
Ethylbenzene (mg/kg)	8260C	6	8,000	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	1.5
Xylenes,total (mg/kg)	8260C	9	16,000	0.15 U	0.3 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	**14**
Fuel Additives and Blending Compounds																	
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005	0.5	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane (EDC; mg/kg)	8260C		11	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	555.6	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Lead (mg/kg)	200.8	250			**3,250**								1.71	1.10	1.29	11.1	1.87
Other Petroleum Compounds																	
n-Butylbenzene (mg/kg)	8260C		4000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
sec-Butylbenzene (mg/kg)	8260C			0.05 U	0.26	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropylbenzene (mg/kg)	8260C			0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.17
p-Isopropyltoluene (mg/kg)	8260C			0.05 U	0.29	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.052
Methylene chloride	8260C	0.02	480	0.02 U	1 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK) (mg/kg)	8260C			0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene (mg/kg)	8260C	5	1,600	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.23
n-Propylbenzene (mg/kg)	8260C		8,000	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.19
1,2,4-Trimethylbenzene (mg/kg)	8260C			0.05 U	0.12	0.05 U	0.05 U	0.089	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.85
1,3,5-Trimethylbenzene (mg/kg)	8260C		800	0.05 U	0.14	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.34
Chlorinated VOCs																	
Tetrachloroethylene (mg/kg)	8260C	0.05	476	0.025 U	**0.16**	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Trichloroethylene (mg/kg)	8260C	0.03	12	0.02 U	0.04 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
cis-1,2-dichloroethylene (mg/kg)	8260C	-	160	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vinyl chloride (mg/kg)	8260C	-	0.67	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chlorobenzene (mg/kg)	8260C		1,600	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene (mg/kg)	8260C		7,200	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene (mg/kg)	8260C		5,600	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Polycyclic Aromatic Hydrocarbons																	
Benz(a)anthracene (mg/kg)	8270D SIM		1.37		0.2												
Benzo(a)pyrene (mg/kg)	8270D SIM	0.1	0.137		0.2 U												
Benzo(b)fluoranthene (mg/kg)	8270D SIM		1.37		0.2 UJ												
Benzo(k)fluoranthene (mg/kg)	8270D SIM		13.7		0.2 UJ												
Chrysene (mg/kg)	8270D SIM		137		0.49												
Indeno(1,2,3-cd)pyrene (mg/kg)	8270D SIM		1.37		0.2 UJ												
Dibenz(a,h)anthracene (mg/kg)	8270D SIM		0.137		0.2 UJ												
carcinogenic PAHs TEQ (mg/kg) (calculated)		0.1			0.0249												
Polychlorinated biphenyls (PCBs)																	
Arochlor 1221 (mg/kg)	8082A				0.08 U												0.2 U
Arochlor 1232 (mg/kg)	8082A				0.08 U												0.2 U
Arochlor 1016 (mg/kg)	8082A		5.6		0.08 U												0.2 U
Arochlor 1242 (mg/kg)	8082A				0.08 U												0.2 U
Arochlor 1248 (mg/kg)	8082A				0.08 U												0.2 U
Arochlor 1254 (mg/kg)	8082A		0.5		**1.2**												0.2 U
Arochlor 1260 (mg/kg)	8082A		0.5		**0.82**												0.2 U
Arochlor 1262 (mg/kg)	8082A				0.08 U												0.2 U
Arochlor 1268 (mg/kg)	8082A				0.08 U												0.2 U
Polychlorinated biphenyl (PCB) mixtures		1	0.5		**2.02**												ND
Metals																	
Arsenic (mg/kg)	200.8	20	0.67														
Barium (mg/kg)	200.8	-	16,000														
Cadmium (mg/kg)	200.8	2	80														
Chromium (mg/kg)	200.8	2,000	120,000														
Lead (mg/kg)	200.8	250			**3,250**								1.71	1.10	1.29	11.1	1.87
Mercury (mg/kg)	200.8	2															
Selenium (mg/kg)	200.8	-	400														
Silver (mg/kg)	200.8	-	400														

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
Blank cell indicate that compound was not analyzed.
B = Compound detected in laboratory blank, suggesting cross-contamination in laboratory.
U = analyte was not detected at or above the reported result.

NR = not reported
ft = feet
HCID = Hydrocarbon identification
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act

TPH = total petroleum hydrocarbon

Table 7 - Soil Sample Results Near Former Paint Booth

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/Chemical Name	Laboratory Method	Soil, MTCA Method A, Unrestricted Land Use, Table Value (mg/kg)	Soil, MTCA Method B, Table Value (mg/kg)	PB-2 8/31/2006	PB-3 8/31/2006	PBLS 10/20/2006	PBLS 10/20/2006	PBRS 10/20/2006	PBWE 10/20/2016
Sample Depth				8 ft	4 ft	2 ft	3 ft	2.5 ft	2 ft
Total Petroleum Hydrocarbons (TPH)									
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	100			30	ND	ND	ND	ND
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000			ND	ND	ND	ND	ND
TPH, Motor Oil-Range (mg/kg)	NWTPH-Dx	2,000			ND	ND	ND	ND	87
TPH, Gasoline-Range (mg/kg)	WTPH-HCID, 418.1	100							
TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	2,000							
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1	2,000							
TPH, undifferentiated (mg/kg)	418.1	100							
Volatile Petroleum Compounds									
Benzene (mg/kg)	8260C	0.03	18.2	0.02 U	0.02 U				
Toluene (mg/kg)	8260C	7	6,400	0.05 U	0.05 U				
Ethylbenzene (mg/kg)	8260C	6	8,000	0.05 U	0.05 U				
Xylenes,total (mg/kg)	8260C	9	16,000	0.13	0.12				
Fuel Additives and Blending Compounds									
1,2-Dibromoethane (EDB; mg/kg)	8260C	0.005	0.5	0.05 U	0.05 U				
1,2-Dichloroethane (EDC; mg/kg)	8260C		11	0.05 U	0.05 U				
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	555.6	0.05 U	0.05 U				
Lead (mg/kg)	200.8	250		1.71	1.10				
Other Petroleum Compounds									
n-Butylbenzene (mg/kg)	8260C		4000	NR	NR				
sec-Butylbenzene (mg/kg)	8260C			0.05 U	0.05 U				
Isopropylbenzene (mg/kg)	8260C			0.05 U	0.05 U				
p-Isopropyltoluene (mg/kg)	8260C			0.05 U	0.05 U				
Methylene chloride	8260C	0.02	480	0.5 U	0.5 U				
4-Methyl-2-pentanone (MIBK) (mg/kg)	8260C			0.5 U	0.5 U				
Naphthalene (mg/kg)	8260C	5	1,600	0.05 U	0.05 U				
n-Propylbenzene (mg/kg)	8260C		8,000	0.05 U	0.05 U				
1,2,4-Trimethylbenzene (mg/kg)	8260C			0.05 U	0.05 U				
1,3,5-Trimethylbenzene (mg/kg)	8260C		800	0.05 U	0.05 U				
Chlorinated VOCs									
Tetrachloroethylene (mg/kg)	8260C	0.05	476	**0.16**	**0.16**				
Trichloroethylene (mg/kg)	8260C	0.03	12	0.02 U	0.02 U				
cis-1,2-dichloroethylene (mg/kg)	8260C	-	160	0.05 U	0.05 U				
Vinyl chloride (mg/kg)	8260C	-	0.67	0.01 U	0.01 U				
Chlorobenzene (mg/kg)	8260C		1,600	0.05 U	0.05 U				
1,2-Dichlorobenzene (mg/kg)	8260C		7,200	0.05 U	0.05 U				
1,4-Dichlorobenzene (mg/kg)	8260C		5,600	0.05 U	0.05 U				
Polycyclic Aromatic Hydrocarbons									
Benz(a)anthracene (mg/kg)	8270D SIM		1.37						
Benzo(a)pyrene (mg/kg)	8270D SIM	0.1	0.137						
Benzo(b)fluoranthene (mg/kg)	8270D SIM		1.37						
Benzo(k)fluoranthene (mg/kg)	8270D SIM		13.7						
Chrysene (mg/kg)	8270D SIM		137						
Indeno(1,2,3-cd)pyrene (mg/kg)	8270D SIM		1.37						
Dibenz(a,h)anthracene (mg/kg)	8270D SIM		0.137						
carcinogenic PAHs TEQ (mg/kg) (calculated)		0.1							
Polychlorinated biphenyls (PCBs)									
Arochlor 1221 (mg/kg)	8082A								
Arochlor 1232 (mg/kg)	8082A								
Arochlor 1016 (mg/kg)	8082A		5.6						
Arochlor 1242 (mg/kg)	8082A								
Arochlor 1248 (mg/kg)	8082A								
Arochlor 1254 (mg/kg)	8082A		0.5						
Arochlor 1260 (mg/kg)	8082A		0.5						
Arochlor 1262 (mg/kg)	8082A								
Arochlor 1268 (mg/kg)	8082A								
Polychlorinated biphenyl (PCB) mixtures		1	0.5						
Metals									
Arsenic (mg/kg)	200.8	20	0.67						
Barium (mg/kg)	200.8	-	16,000						
Cadmium (mg/kg)	200.8	2	80						
Chromium (mg/kg)	200.8	2,000	120,000						
Lead (mg/kg)	200.8	250							
Mercury (mg/kg)	200.8	2							
Selenium (mg/kg)	200.8	-	400						
Silver (mg/kg)	200.8	-	400						

Notes:
Bold highlighted font indicates exceedance of most conservative screening level.
Blank cell indicate that compound was not analyzed.
B = Compound detected in laboratory blank, suggesting cross-contamination in laboratory.
U = analyte was not detected at or above the reported result.

NR = not reported
ft = feet
HCID = Hydrocarbon identification
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act

Table 8 - Groundwater Sample Results from MW-11 Near Former Paint Booth

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Chemical Name	Laboratory Method	Groundwater, Method A, Table Value (µg/L)	Federal and State Maximum Contaminant Level (µg/L)	MW-11 5/12/2009	MW-11 12/22/2010	MW-11 1/23/2014	MW-11 3/20/2015	MW-11 4/28/2015	MW-11 10/07/2015	MW-11 2/3/2016
Site Name				**Former Walker Chevrolet**						
Location Description				**Former Paint Booth Area**						
Total Petroleum Hydrocarbons										
Gasoline-Range Hydrocarbons (µg/L) (no detectable benzene)	NWTPH-Gx	1,000				100 U	100 U			
Diesel-Range Hydrocarbons (µg/L)	NWTPH-Dx	500				50 U	82 X			
Oil-Range Hydrocarbons (µg/L)	NWTPH-Dx	500				250 U	250 U			
Volatile Organic Compounds (COPCs and Other Detected Compounds)										
Benzene (µg/L)	8260C	5	5	1 U	0.35 U	0.35 U	0.35 U		0.35 U	0.35 U
Toluene (µg/L)	8260C	1,000	1,000	1 U	1 U	1 U	1 U		1 U	1 U
Ethylbenzene (µg/L)	8260C	700	700	1 U	1 U	1 U	1 U		1 U	1 U
Xylenes, total (µg/L)	8260C	1,000	10,000	3 U	3 U	3 U	3 U		3 U	3 U
Tetrachloroethylene (µg/L)	8260C	5	5	1 U	1 U	1 U	1 U		1 U	1 U
Trichloroethylene (µg/L)	8260C	5	5	2.3	4.6	1.4	3		3.2	3.1
cis-1,2-Dichloroethylene (µg/L)	8260C		70	1 U	1 U	1 U	1 U		1 U	1 U
trans-1,2-Dichloroethylene (µg/L)	8260C		100	1 U	1 U	1 U	1 U		1 U	1 U
1,1-Dichloroethylene (µg/L)	8260C		7	1 U	1 U	1 U	1 U		1 U	1 U
Vinyl Chloride (µg/L)	8260C	0.2	2	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U
Carbon Tetrachloride (µg/L)	8260C		5	1.4	2.8	1 U	1.2		1 U	1 U
Chloroform (µg/L)	8260C		80	1.9	2	1 U	1.1		1 U	1 U
1,4-Dioxane	8260C					10 U	0.4 U			
Polycyclic Aromatic Hydrocarbons										
Benz(a)anthracene (µg/L)	8270D SIM					0.05 U				
Benzo(a)pyrene (µg/L)	8270D SIM	0.1	0.2			0.05 U				
Benzo(b)fluoranthene (µg/L)	8270D SIM					0.05 U				
Benzo(k)fluoranthene (µg/L)	8270D SIM					0.05 U				
Chrysene (µg/L)	8270D SIM					0.05 U				
Dibenzo(a,h)anthracene (µg/L)	8270D SIM					0.05 U				
Indeno(1,2,3-cd)pyrene (µg/L)	8270D SIM					0.05 U				
Total cPAHs TEQ (µg/L; calculated)	8270D SIM	0.1				ND				
Naphthalene (µg/L)	8260C/ 8270D SIM	160		1 U	1 U	0.15	1 U		1 U	1 U
Fuel Additives & RCRA Metals										
1,2-Dibromethane (EDB) (µg/L)	8260C	0.01					0.01 U		1 U	1 U
Arsenic (µg/L), total	200.8	5					**5.15**	**6.29**		
Arsenic (µg/L), dissolved	200.8	5						1 U		
Barium (µg/L), total	200.8						57.9	73.2		
Barium (µg/L), dissolved	200.8							12.5		
Cadmium (µg/L), total	200.8	5					1 U	1 U		
Cadmium (µg/L), dissolved	200.8	5						1 U		
Chromium (µg/L), total	200.8	50					24	26.1		
Chromium (µg/L), dissolved	200.8	50						1.76		
Lead (µg/L), total	200.8	15	15			2.44	4.99	6.2		
Lead (µg/L), dissolved	200.8	15						1 U		
Mercury (µg/L), total	200.8	2					1 U	1 U		
Mercury (µg/L), dissolved	200.8	2						1 U		
Selenium (µg/L), total	200.8						1 U	1 U		
Selenium (µg/L), dissolved	200.8							1 U		
Silver (µg/L), total	200.8						1 U	1 U		
Silver (µg/L), dissolved	200.8							1 U		
Polychlorinated Biphenyls (PCBs)										
PCB Mixtures (µg/L)	8082A	0.1	0.5			0.1 U				
Natural Attenuation Parameters										
Dissolved oxygen (mg/L)						2.3	2.6		2.7	2.5
Oxidation-reduction potential (mV)						73	125		57	113

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.
µg/L = micrograms per liter
Dissolved metals were filtered through 0.45 micron filter

Table 9 - Indoor, Ambient, and Sub-Slab Air Sample Results Near Former Paint Booth

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Description/ Chemical Name	Laboratory Method	Acceptable Indoor Air Screening Level (SL_{IA}), MTCA Method B, Air, Screening Level	Acceptable Indoor Air Screening Level (SL_{IA}), Modified MTCA Method B, Air, Screening Level	Permissible Exposure Limt (ppm) (8-hour TWA)	Molecular Weight	Permissible Exposure Limt (PEL) ($\mu g/m^3$) at Standard Temperature and Pressure (8-hour TWA)	Indoor Air, Above Former Paint Booth	Indoor Air, Above Former Paint Booth	Outdoor Air, Ambient Conditions	Screening Level in Soil Gas Protective of Method B Indoor Air (SL_{SG})	Screening Level in Soil Gas Protective of Method C Indoor Air (SL_{SG})	Sub-slab Air, Beneath Former Paint Booth			Sub-slab Air, Adjacent to Former Paint Booth	Sub-slab Air, Beneath Former Paint Booth	Sub-slab Air, Near Hydraulic Oil
Location							In preparation outside and north of produce cooler	Inside current produce cooler and former paint booth area	Parking lot on west side of North 1st Street			East side of paint booth	West side of paint booth	Middle of paint booth	Beneath concrete sidewalk adjacent to building and former roll-up door for paint booth	Beneath concrete flooring in preparation area outside and north of produce cooler	Beneath tile flooring northeast of meat counter near Borings B11 and B21
Sample ID							IA-FPB-032315	Indoor-012214	Outdoor Air-012214			GV-1	GV-2	GV-3	Subslab-012314	SS-FPB-032015	SSV-051016
Sample duration (hours)							8	8	8						1	1	0.5
Date and time collected							3/23/15 2:21 PM	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	3/20/15 7:10 AM	5/11/16 4:06 AM
		$\mu g/m^3$	$\mu g/m^3$	ppm	g/mole	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
PCE	TO-15	9.62	40.4	25	166.8419	170,497	2.78	0.61	<0.21	321	1,350	110	**1,000**	160	270	<2.03	<0.68
TCE	TO-15	0.37	1.55	50	132.3889	270,579	<0.0914	<0.32	<0.17	12.3	51.8	<20	<20	<20	1.2	<1.07	<0.54
cis-1,2-DCE	TO-15	-	-	200	97.9359	800,652	<0.0793	<0.24	<0.12	-	-	<50	<50	<50	<0.27	<0.793	<0.4
trans-1,2-DCE	TO-15	-	-	200	97.9359	800,652	<0.0238	<1.2	<0.61	-	-	<50	<50	<50	<1.3	<0.793	<0.4
Vinyl chloride	TO-15	0.28	1.18	1	63.4829	2,595	<0.217	<0.077	<0.04	9.33	39.2	<200	<200	<200	<0.087	<0.511	<0.26
Benzene	TO-15	0.321	1.35	1	78.1134	3,193	**2.29**	NA	NA	10.7	44.94	<20	<20	<20	NA	2.09	0.97
Toluene	TO-15	2,290	9,618	100	92.1402	376,635	10.9	NA	NA	76,300	321,000	130	240	160	NA	3.94	8.7
Ethylbenzene	TO-15	457	1,919	100	106.167	433,972	1.77	NA	NA	15,200	64,000	<100	<100	<100	NA	12.8	4.8
Xylenes	TO-15	45.7	192	100	106.167	433,972	8.31	NA	NA	1,520	6,400	<100	150	230	NA	132.3	31
Naphthalene	TO-15	0.0735	0.309	10	128.1732	52,392	<1.57			2.45	10.29					<1.57	1.0
Aliphatic hydrocarbon (EC5-8)	TO-15	2,700	11,340				194	NA	NA	90,000	378,000					215	
Aliphatic hydrocarbon (EC9-12)	TO-15	140	588				**807**	NA	NA	4,667	19,600					311	
Aromatic hydrocarbon (EC9-10)	TO-15	180	756				**576**	NA	NA	6,000	25,200					221	

Notes:

Bold highlighted font indicates exceedance of most conservative screening level.

Dashes indicate no value available.

DCE = dichloroethylene

$\mu g/m^3$ = 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 0.03 should be assumed in Tier I Evaluations (www.ecy.wa.gov/programs/tcp/policies/vaporintrusion/vig.html).

$SL_{SG} = SL_{IA}$ / 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.

Modified Method B screening levels calculated using an exposure factor of 40 hours per week.

Table 10 - Proposed Chemicals of Concern, Screening Levels, and Cleanup Levels

Project No. 080190, Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Proposed Chemicals of Concern	Soil CUL, Method A, Unrestricted Land Use, Table Value (mg/kg)	Groundwater CUL, Method A, Table Value (µg/L)	Sub-Slab Soil Gas Screening Level, Method B, Table Value (µg/m^3)	Indoor Air CUL, Method B, Table Value (µg/m^3)
Total Petroleum Hydrocarbons				
TPH, Gasoline-Range	100	1,000	NA	NA
TPH, Diesel-Range	2,000	500	NA	NA
TPH, Oil-Range	2,000	500	NA	NA
Volatile Petroleum Compounds				
Benzene	0.03	5	10.7	0.321
Toluene	7	1,000	457	2,290
Ethylbenzene	6	700	700	457
Xylenes, total	9	1,000	1,000	45.7
Fuel Addititives				
Lead	250	15	NA	NA
Chlorinated VOCs				
PCE	0.05	5	321	9.62
TCE	0.03	5	12.3	0.37
PCBs				
Total Arochlors	1	0.1	NA	NA

Notes:
CUL – Cleanup Level
µg/L – micrograms per liter
µg/m^3 – micrograms per cubic meter
mg/L – milligrans per liter
MTCA – Model Toxics Control Act
NA – Not applicable
PCB – polychlorinated biphenyl
PCE – tetrachloroethylene
TCE – trichloroethylene
TPH – total petroleum hydrocarbons

Table 11 - Summary of Cleanup Alternative Components and Cost

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Cleanup Alternative Components	**Alternative 1** Institutional and Engineering Controls	**Alternative 2** Soil Vapor Extraction and Institutional and Engineering Controls	**Alternative 3** Permanent Cleanup
Completed Activities			
Removal of 7 USTs and excavation of PCS from south gas station in 1994, with off-site disposal of 100 cubic yards of PCS and re-use of clean fill.	X	X	X
Removal of 3 USTs and excavation of PCS from north gas station in 1994, with off-site disposal of 300 cubic yards of PCS.	X	X	X
Removal of sediment from floor drains and heating oil UST vault and decommissioning of drains and the UST by filling with concrete slurry in 1994.	X	X	X
Biostimulation of groundwater on adjacent Morrell's Dry Cleaners site in June 2014.	X	X	X
SVE for PCE source contamination beneath building at adjacent Morrell's Dry Cleaners site from October 2014 to present.	X	X	X
Construction of vapor barrier for building above south gas station in 2016.	X	X	X
Future Activities			
Decommissiong MW-11.	X	X	X
Environmental covenant for Property for residual soil contamination.	X	X	
SVE for vapor-phase contamination in former paint booth area.		X	X
Excavation of hydraulic oil contaminated soil from former paint booth area.			X
Present Value of Future Costs[(1,2,3)]	$25,000	$147,000	$286,000

Notes:

1) Cost estimate performed in accordance with EPA 540-R-00-002 (EPA, 2000).
2) These conceptual design-level cost estimates have an accuracy of -30/+50 percent.
3) Present value costs are based on 2016 dollars and are calculated using a discount factor of 1 percent, and estimates are rounded to the nearest $1,000.

Table 12 - Cost Estimate for Alternative 1: Institutional and Engineering Controls

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, 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	2016	$ 15,000.00	$ 15,000.00
Site Closure Activities						
Decommission MW-11	1	LS	$ 1,000.00	2017	$ 990.10	
Record environmental covenant	1	LS	$ 5,000.00	2017	$ 4,950.50	
Notify City of Tacoma for residual contamination	1	LS	$ 1,000.00	2017	$ 990.10	
Subtotal						$ 6,930.69
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$22,000**
Bid contingency (15%)						**$3,300**
PRESENT VALUE OF ALTERNATIVE 1						**$25,000**

Notes:

1) Cost estimate performed in accordance with EPA 540-R-00-002 (EPA, 2000).
2) Bid contingency represents a reserve for quantity overruns, modifications, change orders, and/or claims during construction and typically ranges from 10 to 20 percent.
3) These conceptual design-level cost estimates have an accuracy of -30/+50 percent.
4) Present value costs are based on 2016 dollars and are calculated using a discount factor of 1 percent (current 10 year real discount rate).
5) Units: EA = each, LS = lump sum.

Table 13 - Cost Estimate for Alternative 2: Soil Vapor Extraction, and Institutional and Engineering Controls

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, 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	2016	$ 15,000.00	$ 15,000.00
Soil Vapor Extraction for Former Paint Booth Area						
Engineering & design and construction oversight	1	LS	$ 15,000.00	2017	$ 14,851.49	
SVE completion report for Ecology	1	LS	$ 10,000.00	2017	$ 9,900.99	
Utility locate	1	LS	$ 800.00	2017	$ 792.08	
Construction of SVE well	1	LS	$ 2,500.00	2017	$ 2,475.25	
Construction of two vapor suction pits in building	1	LS	$ 4,000.00	2017	$ 3,960.40	
Installation electrical panel and initiation of service	1	LS	$ 6,000.00	2017	$ 5,940.59	
Mobilization of SVE equipment from Morrell's Dry Cleaners	1	LS	$ 2,000.00	2017	$ 1,980.20	
Purchase of carbon drums	2	LS	$ 900.00	2017	$ 1,782.18	
Fenced enclosure for equipment	1	LS	$ 1,000.00	2017	$ 990.10	
Operation and maintenance of SVE system	6	MO	$ 5,000.00	2017	$ 29,702.97	
Performance and compliance monitoring	1	MO	$ 500.00	2017	$ 495.05	
Characterization and disposal of GAC	2	LS	$ 2,150.00	2017	$ 4,257.43	
Characterization and disposal of condensate drums	2	LS	$ 950.00	2017	$ 1,881.19	
Mobilization of SVE equipment to Morrell's Dry Cleaners	1	LS	$ 2,000.00	2017	$ 1,980.20	
Decommissioning of well, suction pit, piping and penetrations, electrical panel, and fencing	1	LS	$ 7,500.00	2017	$ 7,425.74	
Scope contingency for SVE (20%)					$ 17,683.17	
Subtotal						$ 106,099.01
Site Closure Activities						
Decommission MW-11	1	LS	$ 1,000.00	2017	$ 990.10	
Record environmental covenant	1	LS	$ 5,000.00	2017	$ 4,950.50	
Notify City of Tacoma for residual contamination	1	LS	$ 1,000.00	2017	$ 990.10	
Subtotal						$ 6,930.69
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$128,000**
Bid contingency (15%)						**$19,200**
PRESENT VALUE OF ALTERNATIVE 2						**$147,000**

Notes:

1) Cost estimate performed in accordance with EPA 540-R-00-002 (EPA, 2000).
2) Bid contingency represents a reserve for quantity overruns, modifications, change orders, and/or claims during construction and typically ranges from 10 to 20 percent.
3) Scope contingency represent design uncertainties for a technology and generally range from 10 to 50 percent.
4) These conceptual design-level cost estimates have an accuracy of -30/+50 percent.
5) Present value costs are based on 2016 dollars and are calculated using a discount factor of 1 percent (current 10 year real discount rate).
6) Units: EA = each, LS = lump sum.
7) GAC = granular activated carbon, SVE = soil vapor extraction.

Table 14 - Cost Estimate for Alternative 3: Permanent Cleanup

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, 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	2016	$ 15,000.00	$ 15,000.00
Soil Vapor Extraction for Former Paint Booth Area						
Engineering & design and construction oversight	1	LS	$ 15,000.00	2017	$ 14,851.49	
SVE completion report for Ecology	1	LS	$ 10,000.00	2017	$ 9,900.99	
Utility locate	1	LS	$ 800.00	2017	$ 792.08	
Construction of SVE well	1	LS	$ 2,500.00	2017	$ 2,475.25	
Construction of two vapor suction pits in building	1	LS	$ 4,000.00	2017	$ 3,960.40	
Installation electrical panel and initiation of service	1	LS	$ 6,000.00	2017	$ 5,940.59	
Mobilization of SVE equipment from Morrell's Dry Cleaners	1	LS	$ 2,000.00	2017	$ 1,980.20	
Purchase of carbon drums	2	LS	$ 900.00	2017	$ 1,782.18	
Fenced enclosure for equipment	1	LS	$ 1,000.00	2017	$ 990.10	
Operation and maintenance of SVE system	6	MO	$ 5,000.00	2017	$ 29,702.97	
Performance and compliance monitoring	1	MO	$ 500.00	2017	$ 495.05	
Characterization and disposal of GAC	2	LS	$ 2,150.00	2017	$ 4,257.43	
Characterization and disposal of condensate drums	2	LS	$ 950.00	2017	$ 1,881.19	
Mobilization of SVE equipment to Morrell's Dry Cleaners	1	LS	$ 2,000.00	2017	$ 1,980.20	
Decommissioning of well, suction pit, piping and penetrations, electrical panel, and fencing	1	LS	$ 7,500.00	2017	$ 7,425.74	
Scope contingency for SVE (20%)					$ 17,683.17	
Subtotal						$ 106,099.01
Excavation of Hydraulic Oil Contamination						
Engineering & design and permitting	1	LS	$ 20,000.00	2032	$ 17,056.43	
Construction oversight	1	LS	$ 15,000.00	2032	$ 12,792.32	
Confirmation sampling	1	LS	$ 10,000.00	2032	$ 8,528.21	
Construction completion report for Ecology	1	LS	$ 10,000.00	2032	$ 8,528.21	
Grading permit fee	1	LS	$ 1,500.00	2032	$ 1,279.23	
Utility locate	1	LS	$ 800.00	2032	$ 682.26	
Mobilization	1	LS	$ 4,000.00	2032	$ 3,411.29	
Removal and disposal of slab foundation	400	SF	$ 5.00	2032	$ 1,705.64	
Slot-cut, direct-load soil, backfill with CDF	50	TON	$ 100.00	2032	$ 4,264.11	
Excavate, stage, and load soil	25	TON	$ 30.00	2032	$ 639.62	
Transport and dispose of soil as dangerous waste	25	TON	$ 350.00	2032	$ 7,462.19	
Transport and dispose of soil as non-hazardous waste	50	TON	$ 150.00	2032	$ 6,396.16	
Backfill with gravel borrow	50	TON	$ 25.00	2032	$ 1,066.03	
Restoration of floor	400	SF	$ 20.00	2032	$ 6,822.57	
Removal and restoration of utilities	1	LS	$ 2,500.00	2032	$ 2,132.05	
Surface sweeping and site restoration	1	LS	$ 1,000.00	2032	$ 852.82	
Scope contingency for excavation (50%)					$ 41,809.56	
Subtotal						$ 125,428.69
Site Closure Activities						
Decommission MW-11	1	LS	$ 1,000.00	2017	$ 990.10	
Notify City of Tacoma for residual contamination	1	LS	$ 1,000.00	2017	$ 990.10	
Subtotal						$ 1,980.20
PRESENT VALUE OF FUTURE COSTS, ROUNDED						**$249,000**
Bid contingency (15%)						**$37,350**
PRESENT VALUE OF ALTERNATIVE 3						**$286,000**

Notes:

1) Cost estimate performed in accordance with EPA 540-R-00-002 (EPA, 2000).
2) Bid contingency represents a reserve for quantity overruns, modifications, change orders, and/or claims during construction and typically ranges from 10 to 20 percent.
3) Scope contingency represent design uncertainties for a technology and generally range from 10 to 50 percent.
4) These conceptual design-level cost estimates have an accuracy of -30/+50 percent.
5) Present value costs are based on 2016 dollars and are calculated using a discount factor of 1 percent (current 10 year real discount rate).
6) Units: EA = each, LS = lump sum.
7) CDF = controlled densit fill, GAC = granular activated carbon, SVE = soil vapor extraction.

Table 15 - Reasonable Restoration Timeframe Evaluation

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Reasonable Restoration Time Frame Criteria	Alternative 1 Institutional and Engineering Controls	Alternative 2 Soil Vapor Extraction and Institutional and Engineering Controls	Alternative 3 Permanent Cleanup
Potential Risk	All potential exposure pathways are protected. Groundwater is not impacted and the concentrations of COCs in sub-slab soil gas are below the Method B sub-slab soil gas screening levels in the paint booth area. The building covers the entire Property and the entire Site is covered by the building or paved surfaces. Soil contamination at the south gas station is in the City of Tacoma ROW and below the direct contact point of exposure. The City of Tacoma would be notified of soil contamination in the ROW. Soil contamination in the paint booth area is beneath the building foundation in the grocery store. The Site is exempted from terrestrial ecological evaluation because of the paved surfaces and Site contamination does not pose a risk to surface water or sediment.		
	An environmental covenant would be recorded for the Property that requires notification to Ecology before any soil disrupting activities that could potentially spread contamination.	SVE would be performed in the former paint booth area for 6 months to remove accessible PCE, toluene, and xylene contamination. An environmental covenant would be recorded following the SVE cleanup action and in concurrence with the NFA determination.	SVE would be performed in the former paint booth area while the grocery store operates. If and when the grocery store vacates the building, the hydraulic oil contamination would be excavated beneath the foundation of the builiding.
Practicality of Achieving Shorter Time Frame	Removal of hydraulic oil contamination cannot be performed while the grocery store operates. The grocery store is an anchor tenant and grocery stores have continuously operated in the building since 1931.		
Impact to Current Use	None.		
Impact to Future Use	None.		
Availability of Alternate Water Supplies	The Site and nearby properties are connected to the public water supply. Groundwater is not used, and the groundwater at the Site is compliant with Method A groundwater CULs.		
Likely Effectiveness and Reliability of Institutional Controls	Requires notification to Ecology for any soil disrupting activities that have the potential to spread contamination.		
Ability to Control and Monitor Contaminant Migration	Building limits surface water infiltration through impacted soil contamination. No monitoring is planned.	Reduces vapor-phase contamination beneath grocery store in former paint booth area.	Removes heavier-range TPH, PCBs, and lead if and when Stadium Thriftway vacates the building.
Toxicity of Contamination	Does not include additional activities that affect toxicity of contamination.		

Table 15 - Reasonable Restoration Timeframe Evaluation

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Reasonable Restoration Time Frame Criteria	Alternative 1 Institutional and Engineering Controls	Alternative 2 Soil Vapor Extraction and Institutional and Engineering Controls	Alternative 3 Permanent Cleanup
Potential for Contaminant Degradation Over Time	The concentrations of vapor-phase contaminants have decreased between 2008 due diligence sub-slab sampling and 2014 to 2016 VCP sub-slab sampling. Lower concentrations of TPH were observed near the heating oil UST in 2016 than in 1994. The heavy-range TPH, lead, and PCBs in the hydraulic oil contamination are confined to sandy peat soil, which is laterally delineated and underlain by about 30 feet of till and 15 feet of advance outwash above the groundwater table.	Although SVE can enhance the removal of PCE, toluene, and xylenes, these COCs only slightly exceed Method A soil CULs. SVE would have limited effectiveness for removing VOC contamination from the underlying till and would have no effectiveness for removal of the hydraulic oil contamination.	Hydraulic oil contamination can only be removed if and when Stadium Thriftway vacates the building.

Notes:

COC = chemical of concern, PCB = polychlorinated biphenyl, PCE = tetrachloroethylene, ROW = right of way, TPH = total petroleum hydrocarbon, UST = underground storage tank, VCP = Voluntary Cleanup Program

Table 16 - Disproportionate Cost Analysis Performance Criteria Evaluation

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Permanence Criteria (Weighting Factor)	**Alternative 1** Institutional and Engineering Controls	**Alternative 2** Soil Vapor Extraction and Institutional and Engineering Controls	**Alternative 3** Permanent Cleanup
Protectiveness (30%)	(5) All potential exposure pathways are either incomplete or protected by the building as a surface cap. Environmental covenant would be protective of residual soil contamination.	(5) All potential exposure pathways are either incomplete or protected by the building as a surface cap. Environmental covenant would be protective of residual soil contamination.	(5) All potential exposure pathways are either incomplete or protected by the building as a surface cap. The residual hydraulic oil contamination would be removed if and when the grocery store vacates the building.
Permanence (20%)	(4) Credited with the previous removal of USTs and PCS at south and north gas stations and the removal of sediment from former paint booth drains and decommissioning of drains and heating oil UST. Residual PCE, toluene, and xylene contamination would continue to attenuate in former paint booth area, but hydraulic oil contamination would persist in sandy peat soil beneath the foundation.	(4) Although SVE would remove accessible PCE, toluene, and xylenes from the former paint booth area, these COCs are generally detected at concentrations near the Method A soil CULs. The heavier-range TPH, PCBs, and lead in the hydraulic oil contamination would remain.	(5) SVE would remove accessible vapor-phase contamination and hydraulic oil contamination would be excavated.
Long-Term Effectiveness (20%)	(4) The building provides long-term effectiveness for preventing direct contact exposure to soil contamination and for limiting the infiltration of water through the soil contamination. The soil contamination is underlain by about 30 feet of till and 15 feet of advance outwash above the groundwater table at 52 feet bgs.	(4) Although SVE provides additional long-term effectiveness beyond surface capping with the building, the concentrations of VOC contamination only slightly exceed the Method A soil CULs.	(5) The removal of the hydraulic oil contamination provides the best long-term effectiveness.
Short-Term Risk Management (10%)	(5) Provides for reasonable management of short-term risks to human health and the environment.	(5) Provides for reasonable management of short-term risks to human health and the environment.	(5) Provides for reasonable management of short-term risks to human health and the environment. Although there are short-term risks for excavation of soil beneath the building and adjacent to structural column for the 2-story building, these risks are projected into the future.

Table 16 - Disproportionate Cost Analysis Performance Criteria Evaluation

Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Permanence Criteria (Weighting Factor)	**Alternative 1** Institutional and Engineering Controls	**Alternative 2** Soil Vapor Extraction and Institutional and Engineering Controls	**Alternative 3** Permanent Cleanup
Implementability (10%)	(5) Easily implementable.	(4) The SVE equipment is readily available and can be temporarily placed in the City of Tacoma ROW with appropriate notification. The construction of the SVE system uses standard drilling and coring techniques and would involve the placement of vertical and horizontal pipe reaches within areas of the store that are not accessible to customers. The pipes would penetrate the wall of the building.	(1) Excavation cannot be performed while Stadium Thriftway operates in the building. Stadium Thriftway is an anchor tenant in the buildng and grocery stores have continuously operated in the building since 1931. If and when access is available, excavation would have to be performed using a small excavator than can operate within the building. Special precautions are required since the hydraulic oil contamination is located next to a structural column for the 2 story building.
Public Concerns (10%)	(5) No public concerns are anticipated for planned activities.	(5) No public concerns are anticipated for planned activities.	(5) No public concerns are anticipated for planned activities.
Environmental Benefit[(2)]	4.6	4.5	4.6
Present Value Cost[(3)]	$25,000	$147,000	$286,000
Cost-to-Benefit Ratio	$5,435	$32,667	$62,174

Notes:

1) A numeric scale of 1 to 5 (presented in parantheses above e.g, (3)) is used to rate the alternatives with respect to the criteria to evaluate use of permanent solutions to the maximum extent practicable, as follows:

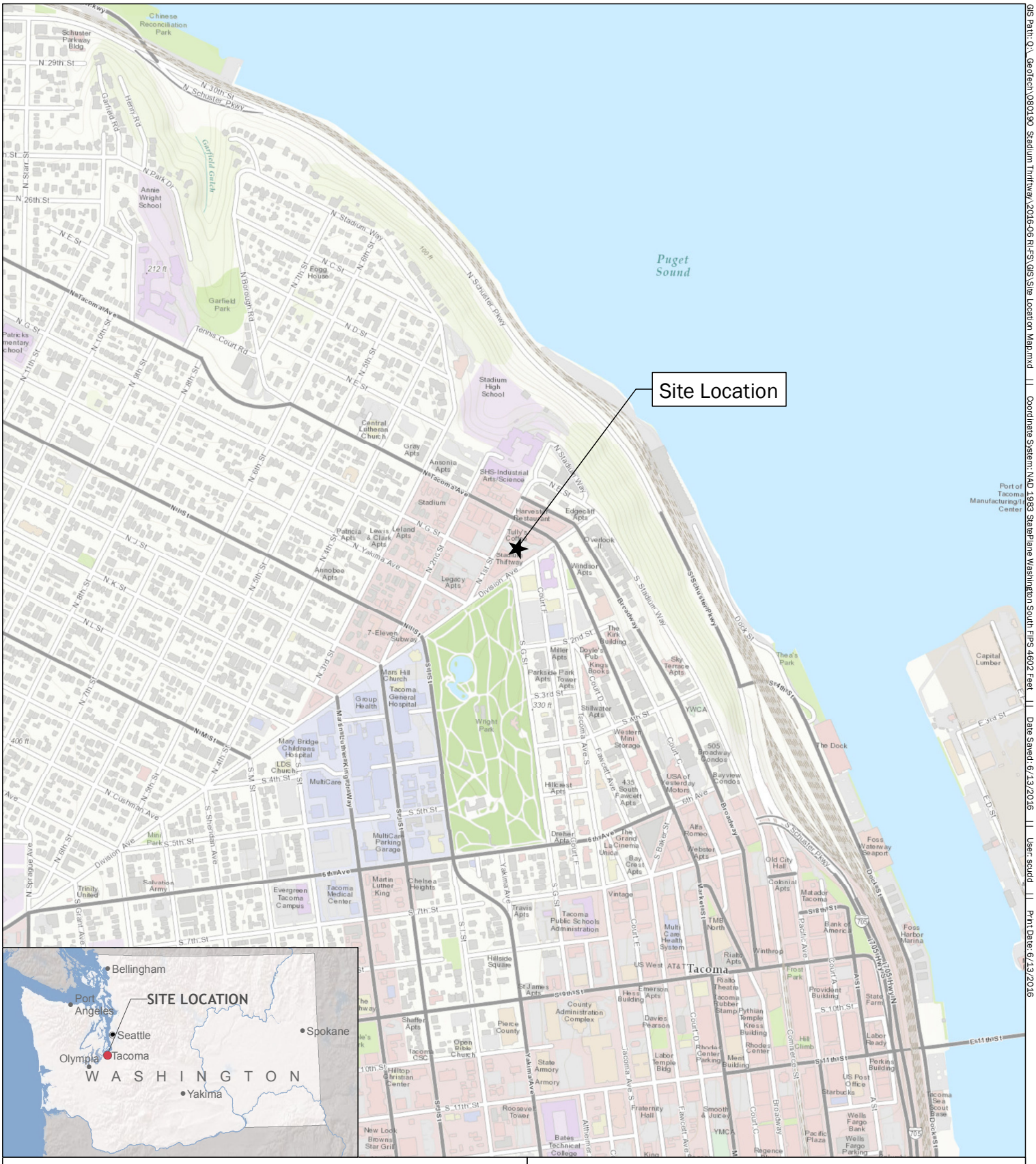
1 - meets criterion to a very low degree;
2 - meets criterion to a low degree;
3 - meets criterion to a moderate degree;
4 - meets criterion to a high degree; and
5 - meets criterion to a very high degree.

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 2016 dollars and are calculated using a discount factor of 1 percent, and estimates are rounded to the nearest $1,000.

bgs = below ground surface, CUL = cleanup level, PCB = polychlorinated biphenyl, PCE = tetrachloroethylene, PCS = petroleum contaminated soil, ROW = right-of-way, SVE = soil vapor extraction, TPH = total petroleum hydrocarbon, UST = underground storage tank.

FIGURES



N

0 1,000 2,000

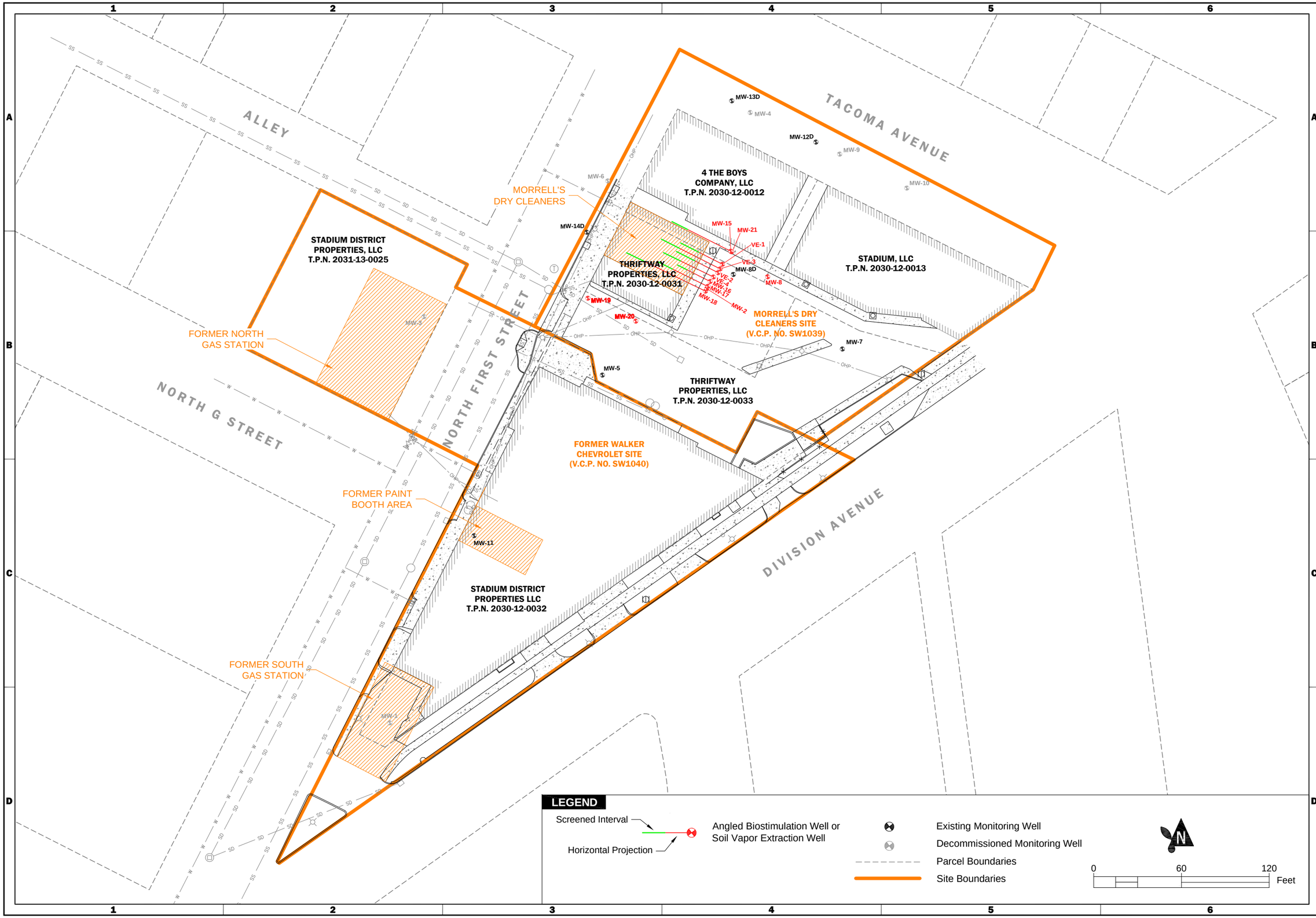
Feet

Site Location Map

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect CONSULTING	JUN-2016	BY: AN/SCC	FIGURE NO. 1
	PROJECT NO. 080190	REV BY: -	

GIS Path: Q:_GeoTech\080190 Stadium Thriftway\2016-06 RI-FS\GIS\Site Location Map.mxd || Coordinate System: NAD 1983 StatePlane Washington South FIPS 4602 Feet || Date Saved: 6/13/2016 || User: scudd || Print Date: 6/13/2016



APPR.	DATE	DESCRIPTION	REV.

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

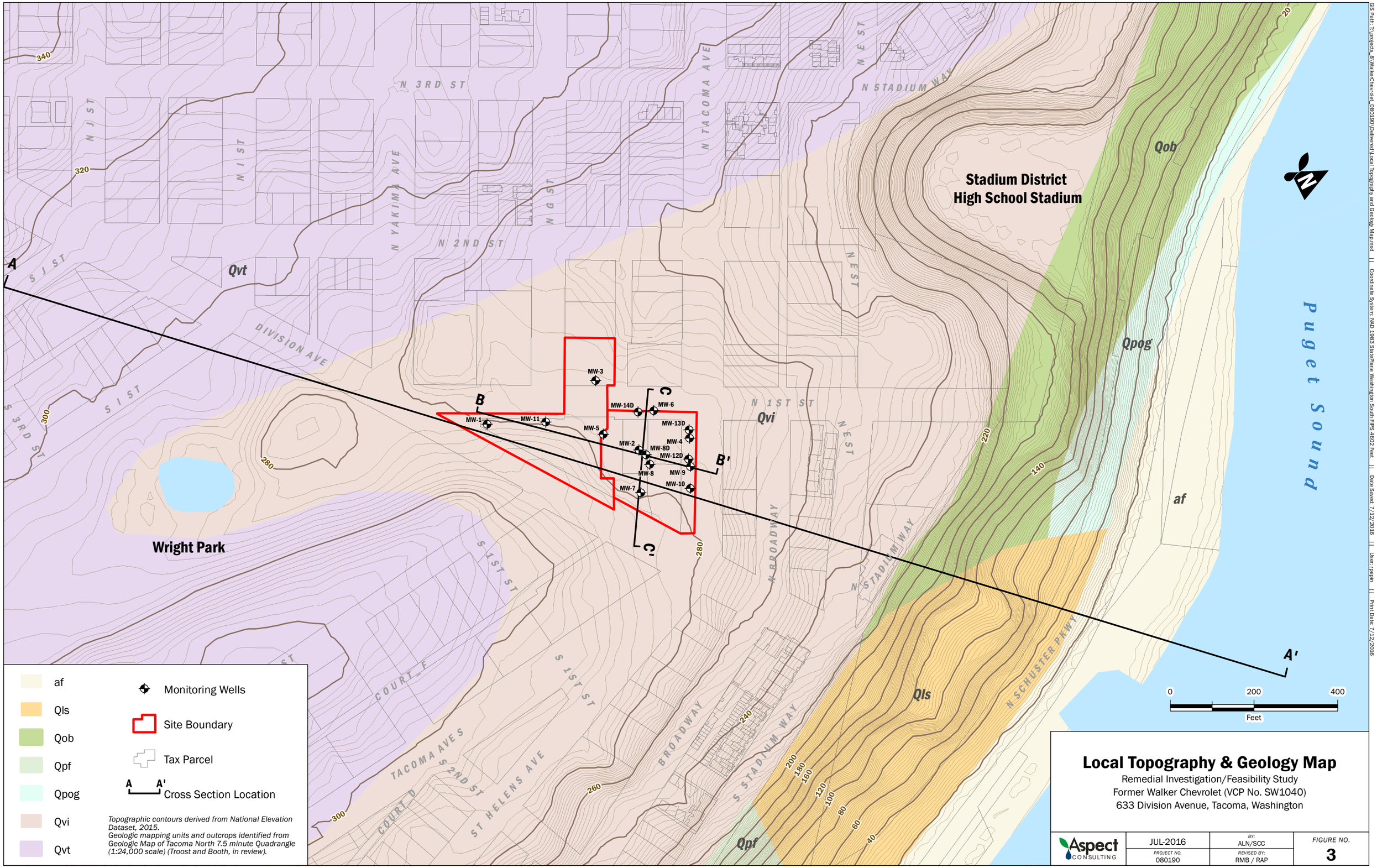
Aspect CONSULTING

PROJECT NUMBER: 080190
REVISION: -
DATE: JUL 2016

Site Map for Morrell's Dry Cleaners & Former Walker Chevrolet
Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

FIGURE NO.
2

CAD Path: G:_GeoTech\080190 Stadium Thriftway\2016-06 RI\FS\080190-03 Site Map & GW.dwg 02 Site Map || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jul 14, 2016 10:04am || User: scudd



Local Topography & Geology Map

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting	JUL-2016	BY: ALN/SCC	FIGURE NO. 3
	PROJECT NO. 080190	REVISED BY: RMB / RAP	

GIS Path: T:\projects_8\Walker\Chevrolet_080190\Delivered\Local Topography and Geology Map.mxd || Coordinate System: NAD 1983 StatePlane Washington South FIPS 4602 Feet || Date Saved: 7/12/2016 || User: rpepin || Print Date: 7/12/2016

A

A'

MW-1 (23' S)

MW-11 (18' N)

MW-8D

MW-12D (18' N)

MW-9

Qvi

Qvt

Qva

Dry

Qob
&
Qpf

Qls

Qpog

Elevation in Feet

320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100

Distance in Feet

LEGEND

MW-6 Monitoring Well Location and Designation

Water Level (Dec 2010)

Screened Interval

Saturated Interval

Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 40'
Vertical Exaggeration 5x

0 200 400 Feet

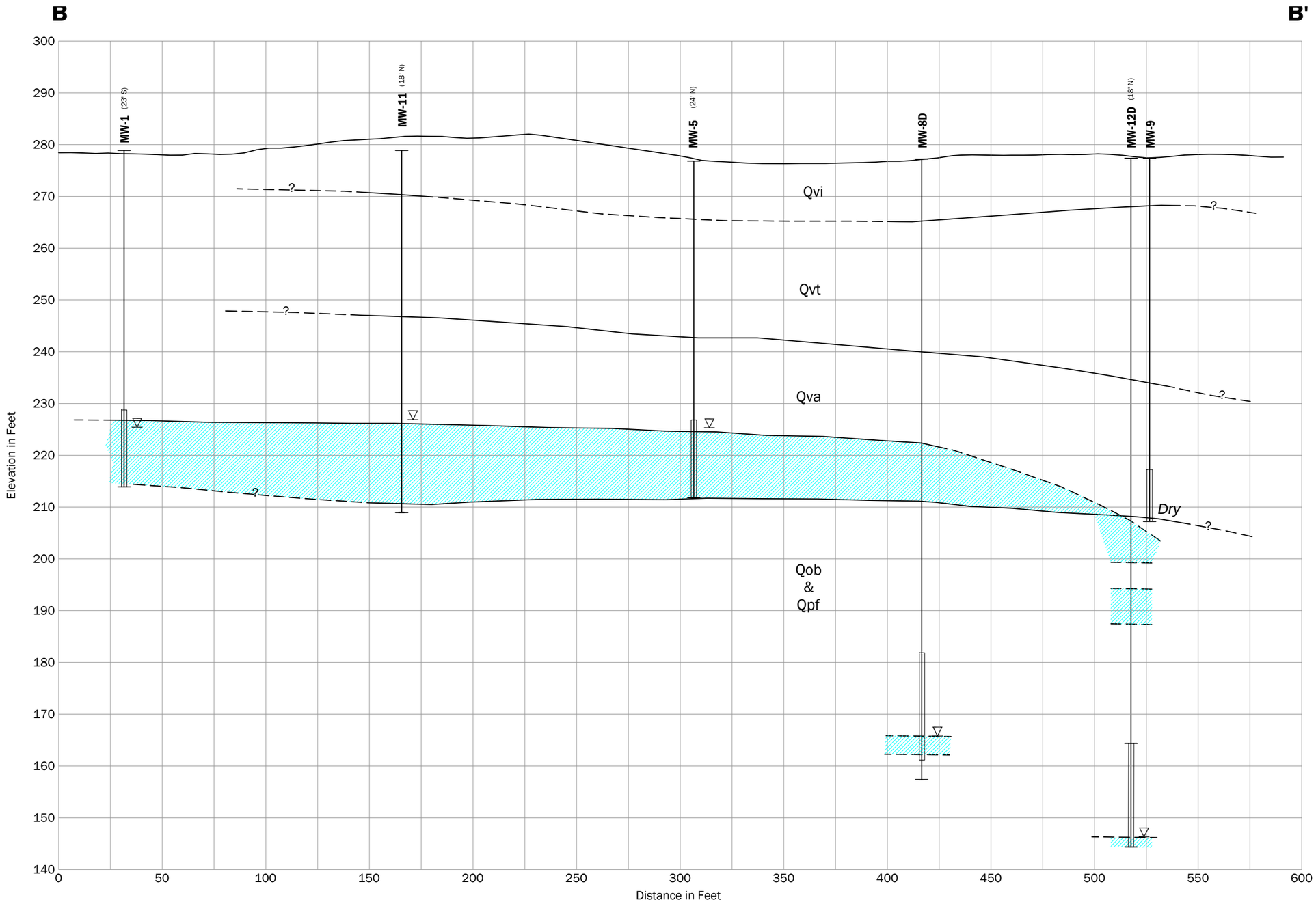
Cross Section A-A'

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting

Jul-2016	BY: ALN/SCC	FIGURE NO. 4
PROJECT NO. 080190	REVISED BY: -	

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016-06 RI-FS\080190-AA.dwg 11X17 L || Date Saved: Jul 12, 2016 12:33pm || User: soudd



LEGEND

MW-6 — Monitoring Well Location and Designation

Water Level (Dec 2010)

Screened Interval

Saturated Interval

Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 20'
Vertical Exaggeration 2.5x

0 50 100 Feet

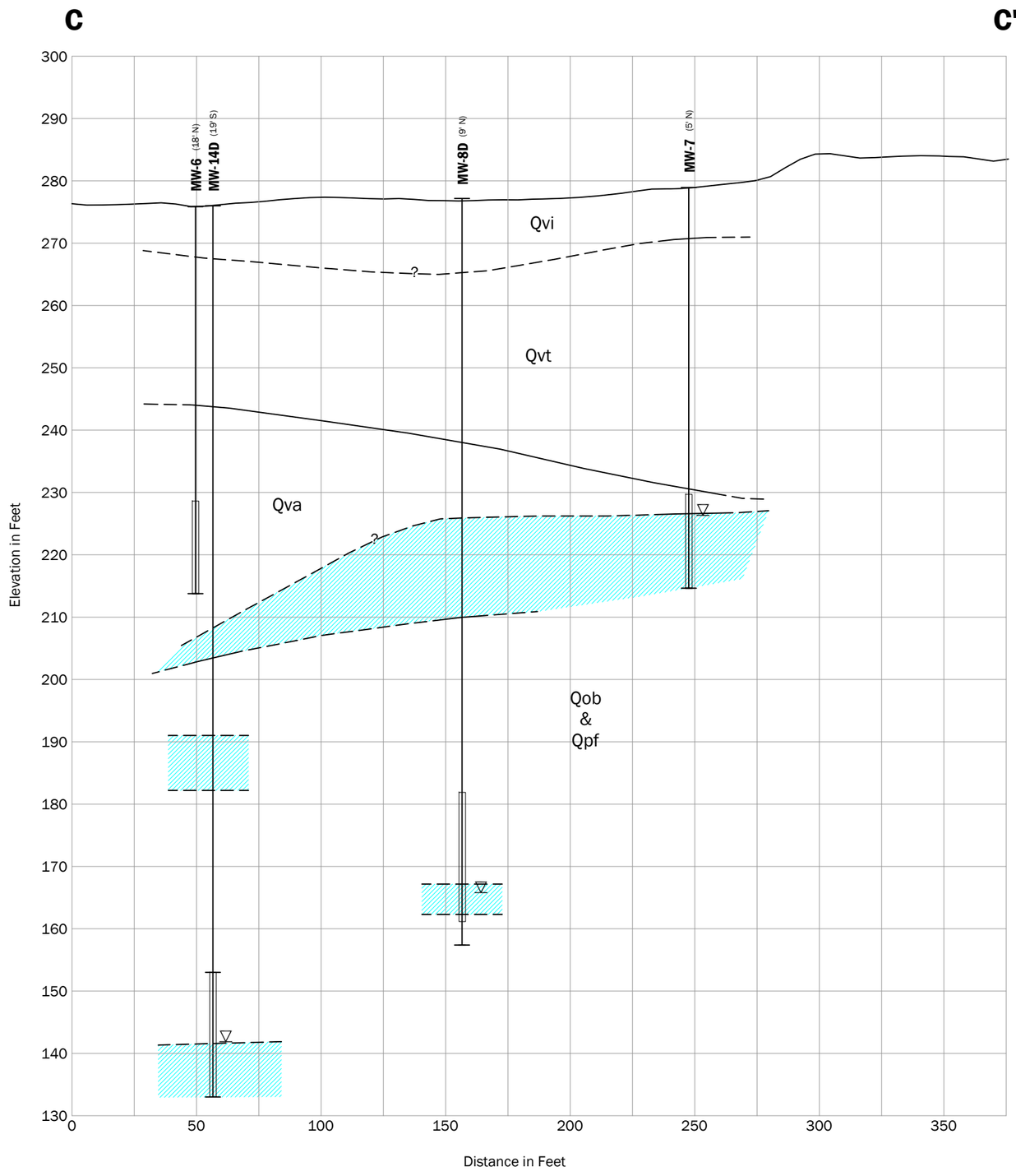
Cross Section B-B'

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect CONSULTING

Jul-2016	BY: ALN/SCC	FIGURE NO. 5
PROJECT NO. 080190	REVISED BY: -	

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016-06 RI-FS\080190-BB.dwg 11X17 L || Date Saved: Jul 14, 2016 9:15am || User: scudd



LEGEND

MW-6 — Monitoring Well Location and Designation

Water Level (Dec 2010)

Screened Interval

Saturated Interval

Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 20'
Vertical Exaggeration 2.5x

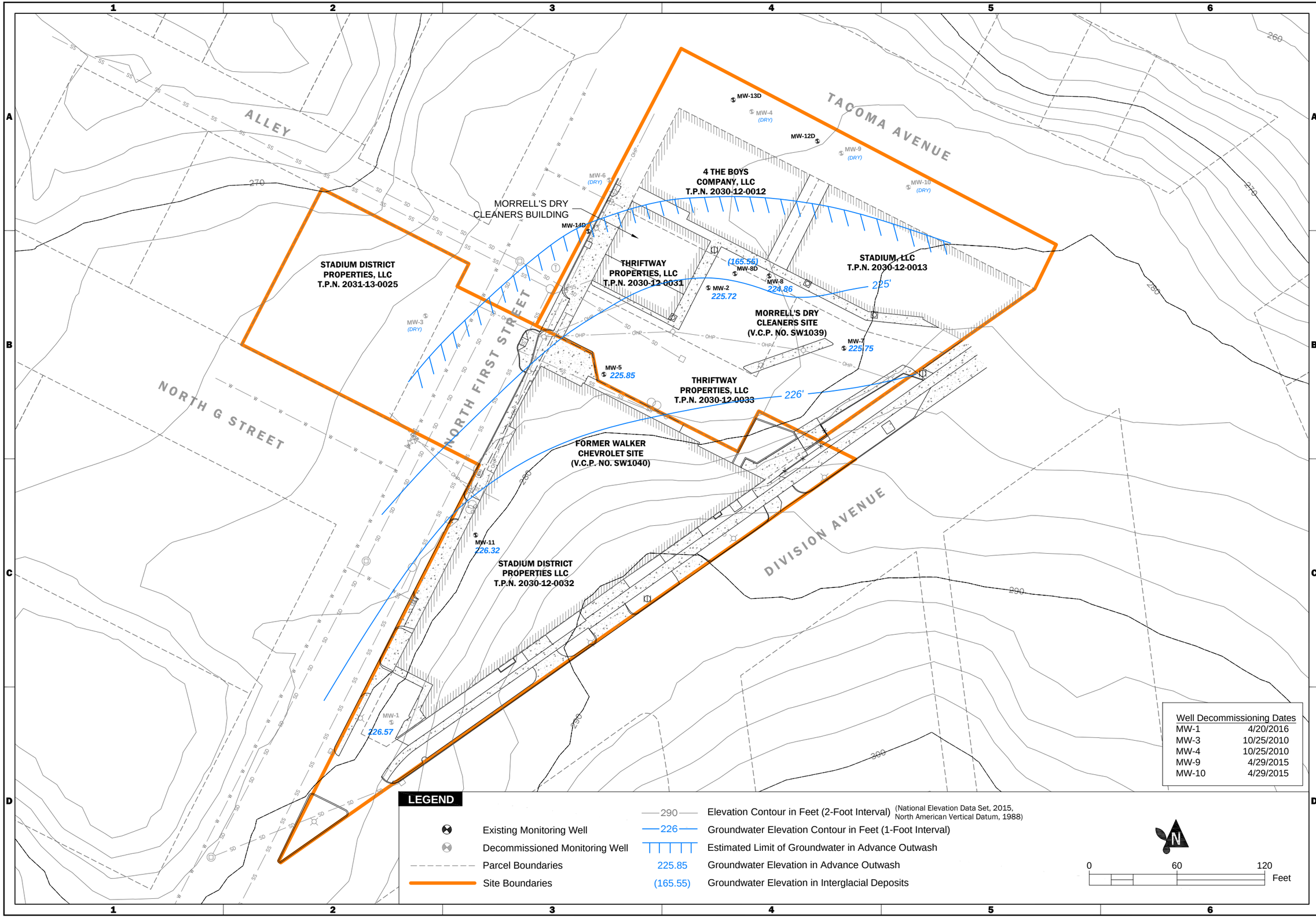
0 50 100 Feet

Cross Section C-C'

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting	Jul-2016	BY: ALN/SCC	FIGURE NO. 6
	PROJECT NO. 080190	REVISED BY: -	

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016-06 RI-FS\080190CCC.dwg 11x17 L || Date Saved: Jul 14, 2016 9:11am || User: scudd



Well Decommissioning Dates	
MW-1	4/20/2016
MW-3	10/25/2010
MW-4	10/25/2010
MW-9	4/29/2015
MW-10	4/29/2015

LEGEND

- Existing Monitoring Well
- Decommissioned Monitoring Well
- Parcel Boundaries
- Site Boundaries
- 290 — Elevation Contour in Feet (2-Foot Interval) (National Elevation Data Set, 2015, North American Vertical Datum, 1988)
- 226 — Groundwater Elevation Contour in Feet (1-Foot Interval)
- Estimated Limit of Groundwater in Advance Outwash
- 225.85 — Groundwater Elevation in Advance Outwash
- (165.55) — Groundwater Elevation in Interglacial Deposits

0 60 120 Feet

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

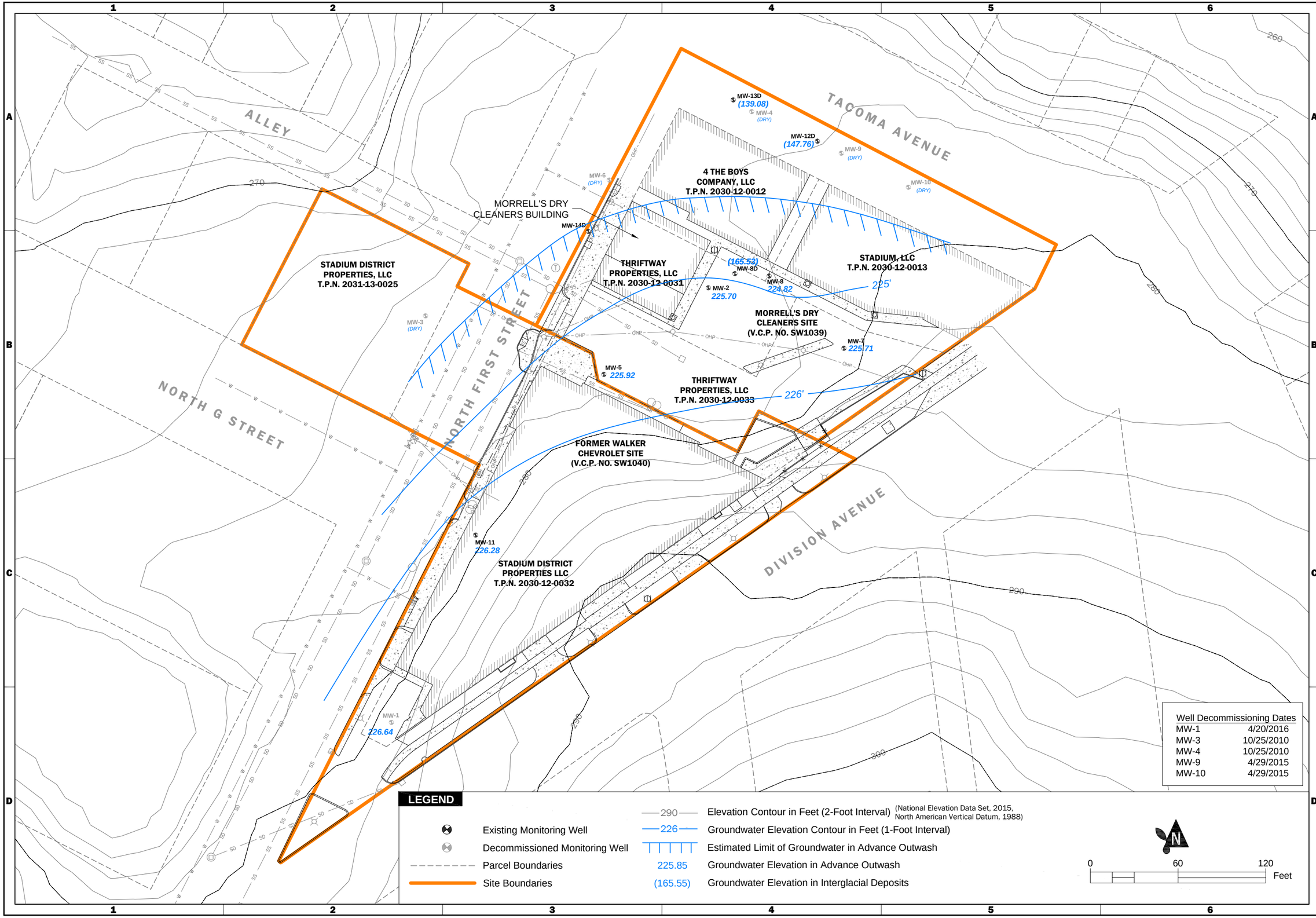
DATE: JUL 2016
REVISION: -
PROJECT NUMBER: 080190

Aspect CONSULTING

Groundwater Elevations & Gradient Map in Advance Outwash-May 11-12, 2009
Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

FIGURE NO.
7

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016\06 RI-FS\080190-03 Site Map & GW\Arc\07-GW Gradient Map 02-09 || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jul 06, 2016 4:48pm || User: scudd



Well Decommissioning Dates	
MW-1	4/20/2016
MW-3	10/25/2010
MW-4	10/25/2010
MW-9	4/29/2015
MW-10	4/29/2015

LEGEND

- Existing Monitoring Well
- Decommissioned Monitoring Well
- Parcel Boundaries
- Site Boundaries
- 290 — Elevation Contour in Feet (2-Foot Interval) (National Elevation Data Set, 2015, North American Vertical Datum, 1988)
- 226 — Groundwater Elevation Contour in Feet (1-Foot Interval)
- Estimated Limit of Groundwater in Advance Outwash
- 225.85 — Groundwater Elevation in Advance Outwash
- (165.55) — Groundwater Elevation in Interglacial Deposits

0 60 120 Feet

Aspect CONSULTING

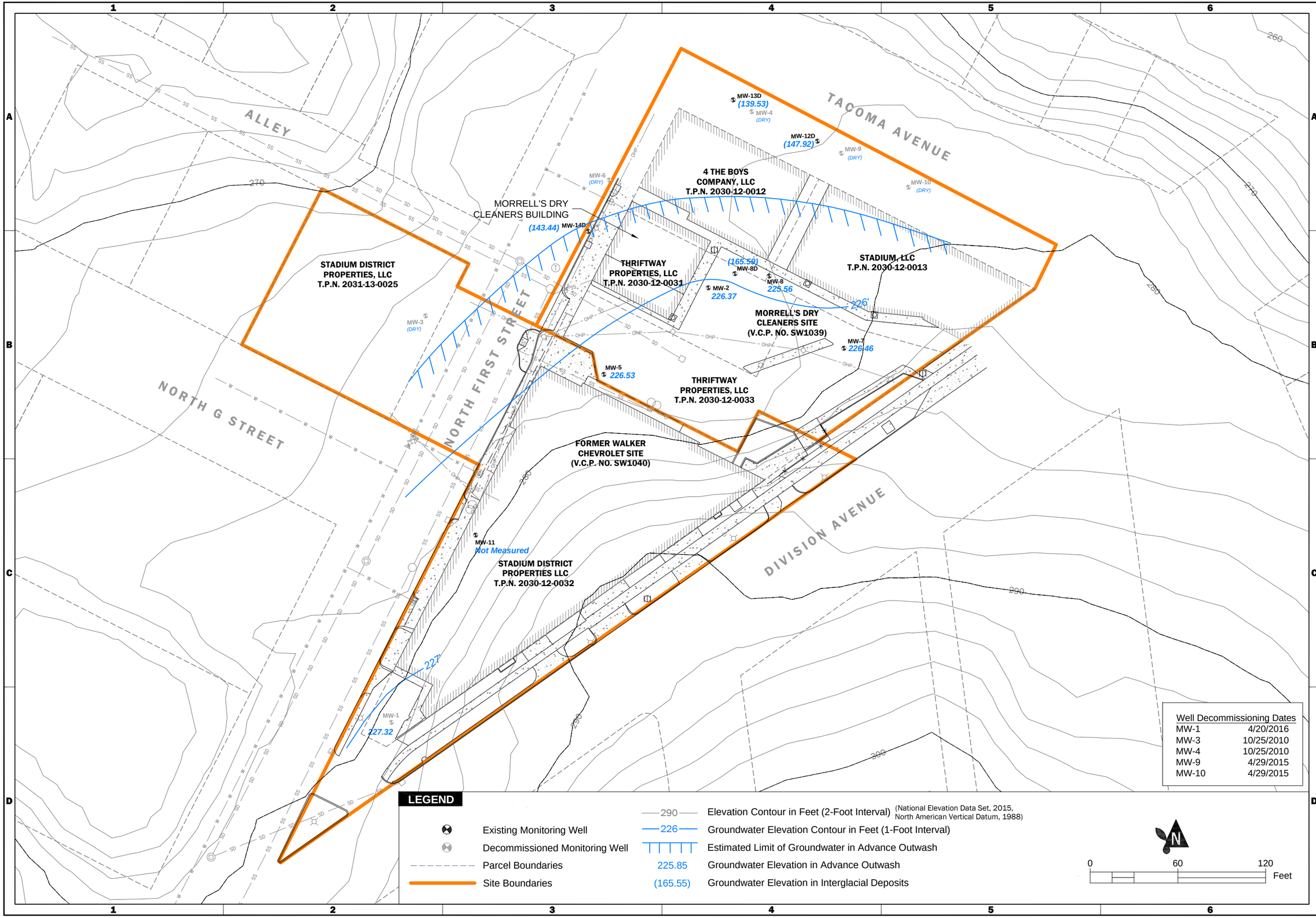
DATE: JUL 2016 | REVISION: - | PROJECT NUMBER: 080190 | DESIGNED BY: AN | DRAWN BY: SCC | REVISED BY: SCC

Groundwater Elevations & Gradient Map in Advance Outwash-December 22, 2010
Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

FIGURE NO.

8

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016\06 RI-FS\080190-03 Site Map & GW\Dwg\08xGW Gradient Map 12.2D | Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet | Date Saved: Jul 06, 2016 4:50pm | User: soudd



Well Decommissioning Dates	
MW-1	4/20/2016
MW-3	10/25/2010
MW-4	10/25/2010
MW-9	4/29/2015
MW-10	4/29/2015

NO.	DESCRIPTION	DATE	APPR.

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

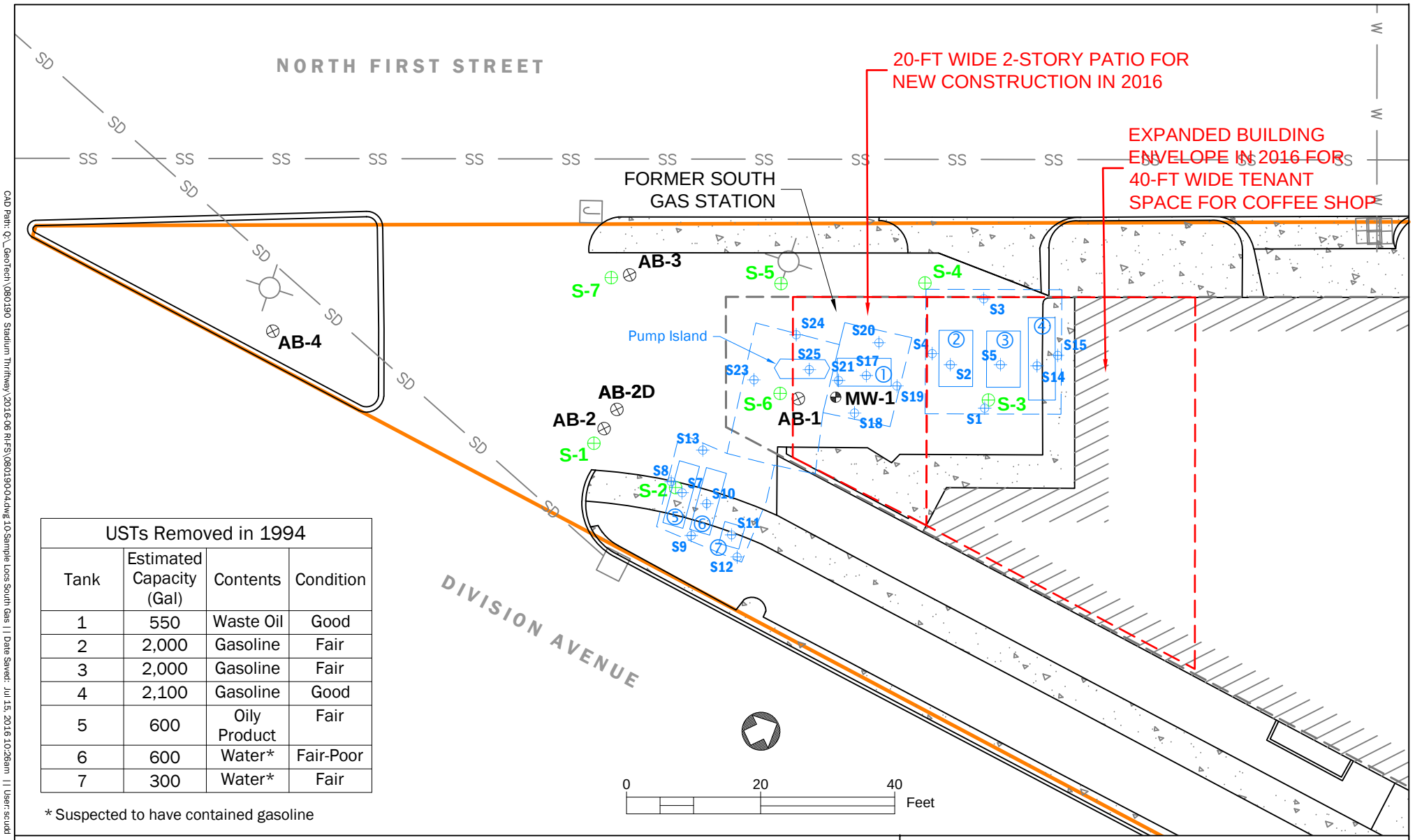
Aspect CONSULTING

DATE: JUL 2016
REVISION: -
PROJECT NUMBER: 080190

Groundwater Elevations & Gradient Map in Advance Outwash-February 6, 2012
Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

FIGURE NO.
9

CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016\06-Rl-FS\080190-03 Site Map & GW\Arc\09-GW Gradient Map 02-12 || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jul 06, 2016 4:32pm || User: soudd



USTs Removed in 1994			
Tank	Estimated Capacity (Gal)	Contents	Condition
1	550	Waste Oil	Good
2	2,000	Gasoline	Fair
3	2,000	Gasoline	Fair
4	2,100	Gasoline	Good
5	600	Oily Product	Fair
6	600	Water*	Fair-Poor
7	300	Water*	Fair

* Suspected to have contained gasoline

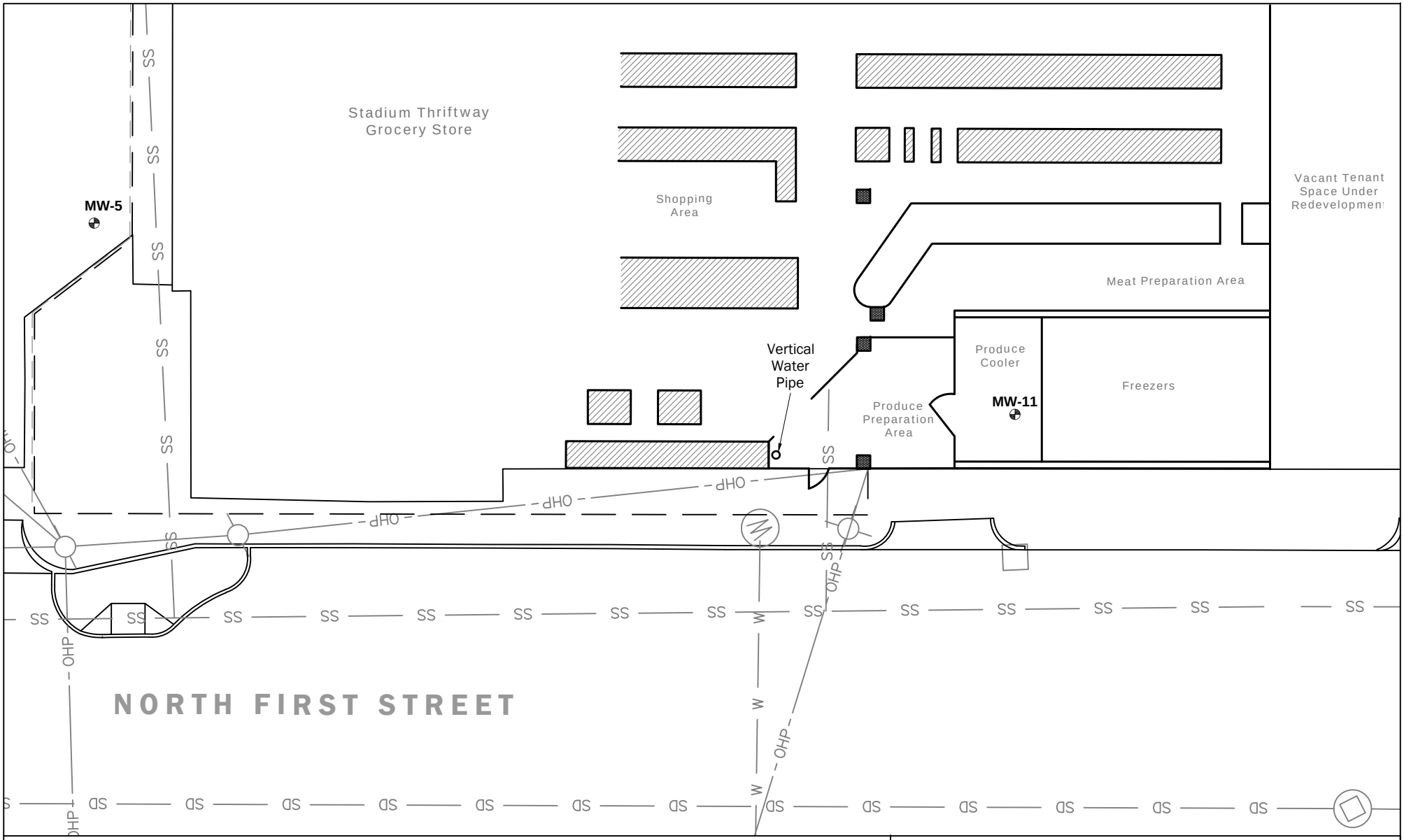
Legend

- Soil Boring Location (Aspect, 2013 & 2015)
- Soil Boring Location (Stemen, 2006)
- Monitoring Well Location
- Excavation Confirmation Sample Location (Bison, 1994)
- Excavation Area
- Tank Location and Number

Sample Locations and Details at Former South Gas Station

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting	JUL-2016	BY: AN/SCC	FIGURE NO. 10
	PROJECT NO. 080190	REVISED BY: SCC	



CAD Path: Q:_GeoTech\080190 Stadium Thriftway\2016-06 RI-FS\080190-02.dwg 11-Building Details Paint Booth || Date Saved: Jun 14, 2016 12:37pm || User: scudd

Legend

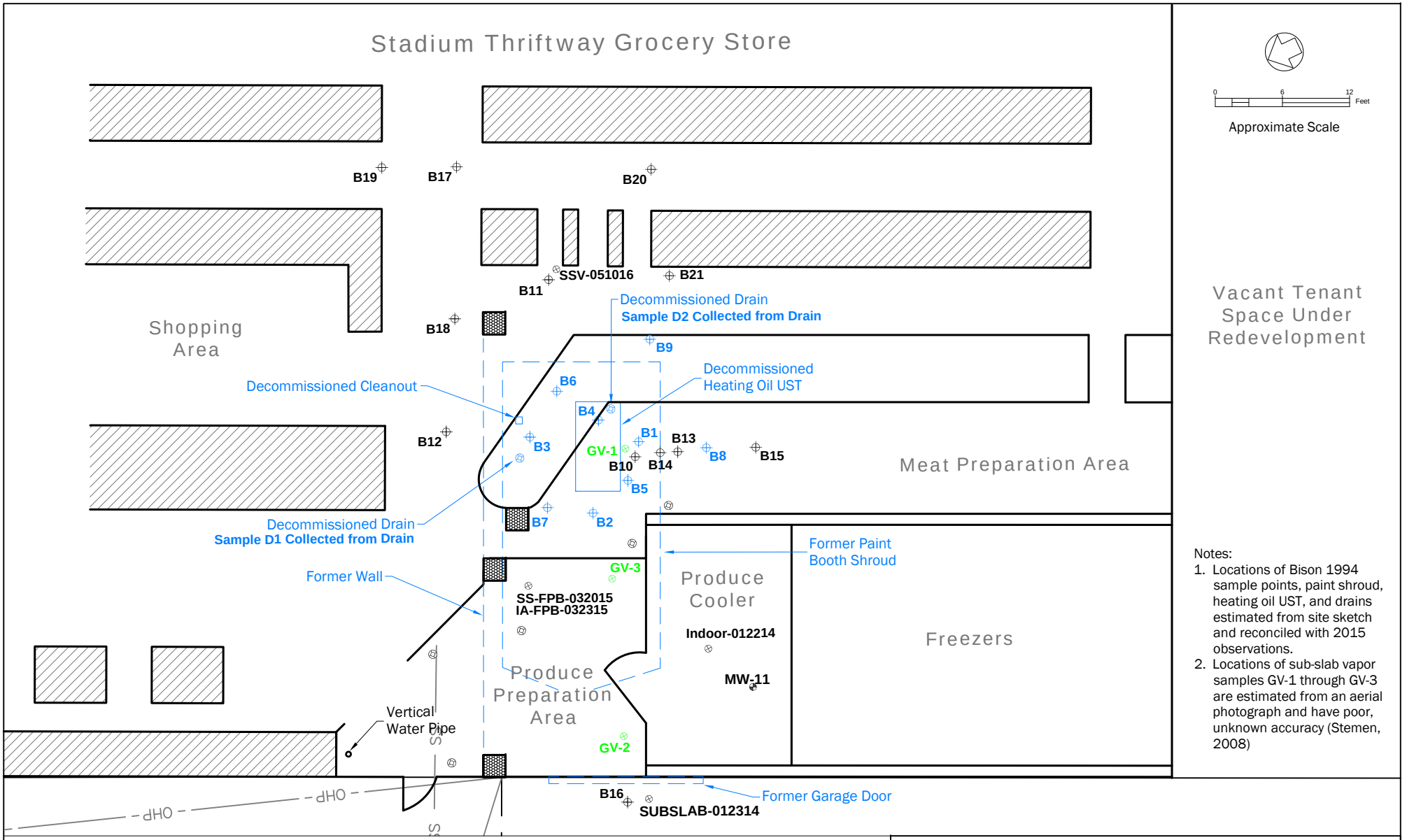
- Monitoring Well Location
- Structural Column
- Merchandise Shelving

0 20 40 Feet

Current Details of Building Near Former Paint Booth

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting	JUL-2016	BY: AN/SCC	FIGURE NO. 11
	PROJECT NO. 080190	REVISED BY: SCC	



Notes:

1. Locations of Bison 1994 sample points, paint shroud, heating oil UST, and drains estimated from site sketch and reconciled with 2015 observations.
2. Locations of sub-slab vapor samples GV-1 through GV-3 are estimated from an aerial photograph and have poor, unknown accuracy (Stemen, 2008)

Legend

- Sub-Slab/Indoor Vapor Point Location
- GV-1 Sub-Slab/Indoor Vapor Point Location (Stemen, 2008)
- Monitoring Well Location
- Floor Drain Location
- B2 Test Boring Location (Bison, 1994)
- B10 Test Boring Location (Aspect, 2016)
- Structural Column
- Merchandise Shelving

Sample Locations and Details Near Former Paint Booth

Remedial Investigation/Feasibility Study
Former Walker Chevrolet (VCP No. SW1040)
633 Division Avenue, Tacoma, Washington

Aspect Consulting	JUL-2016	BY: AN/SCC	FIGURE NO. 12
	PROJECT NO. 080190	REVISED BY: SCC	

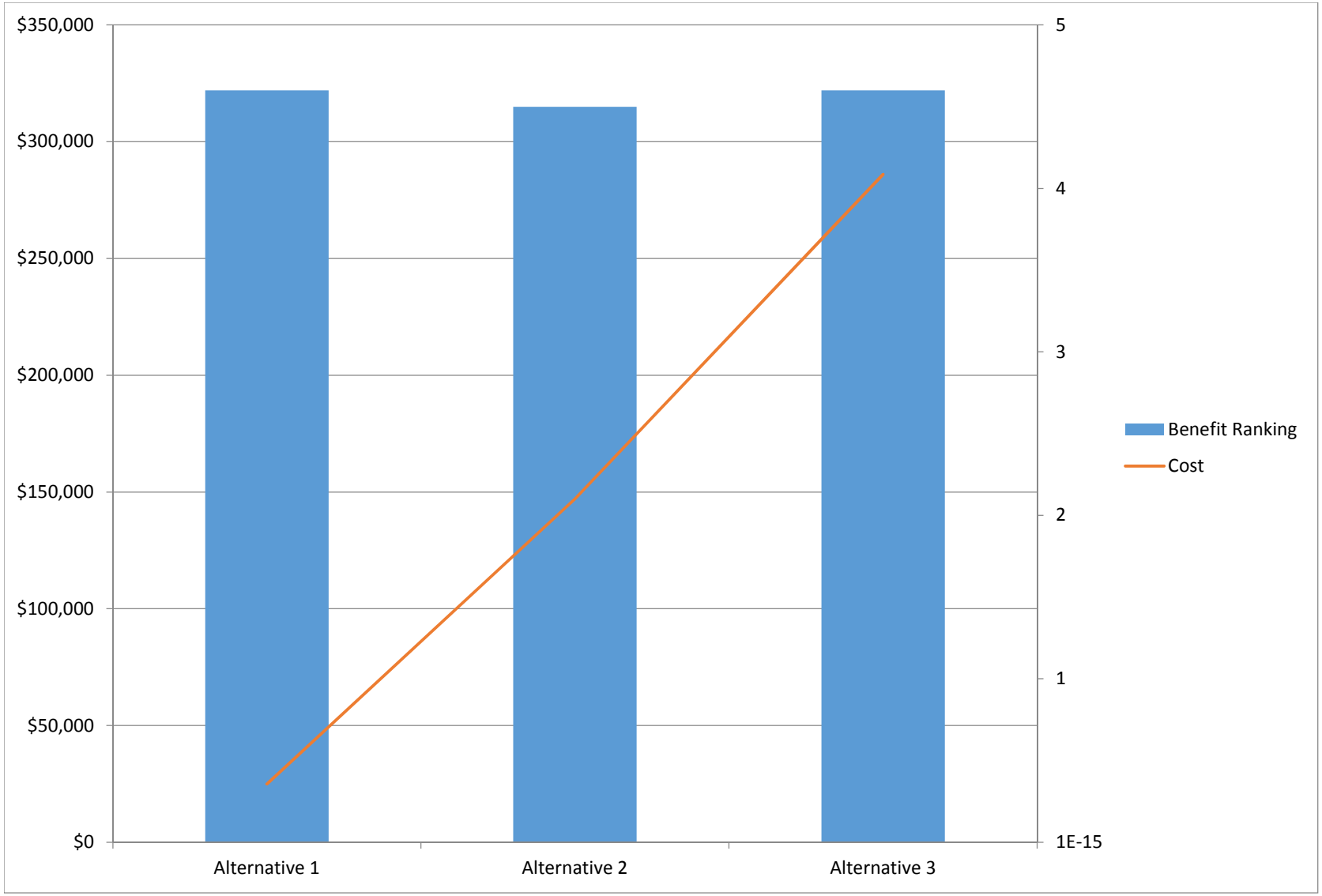
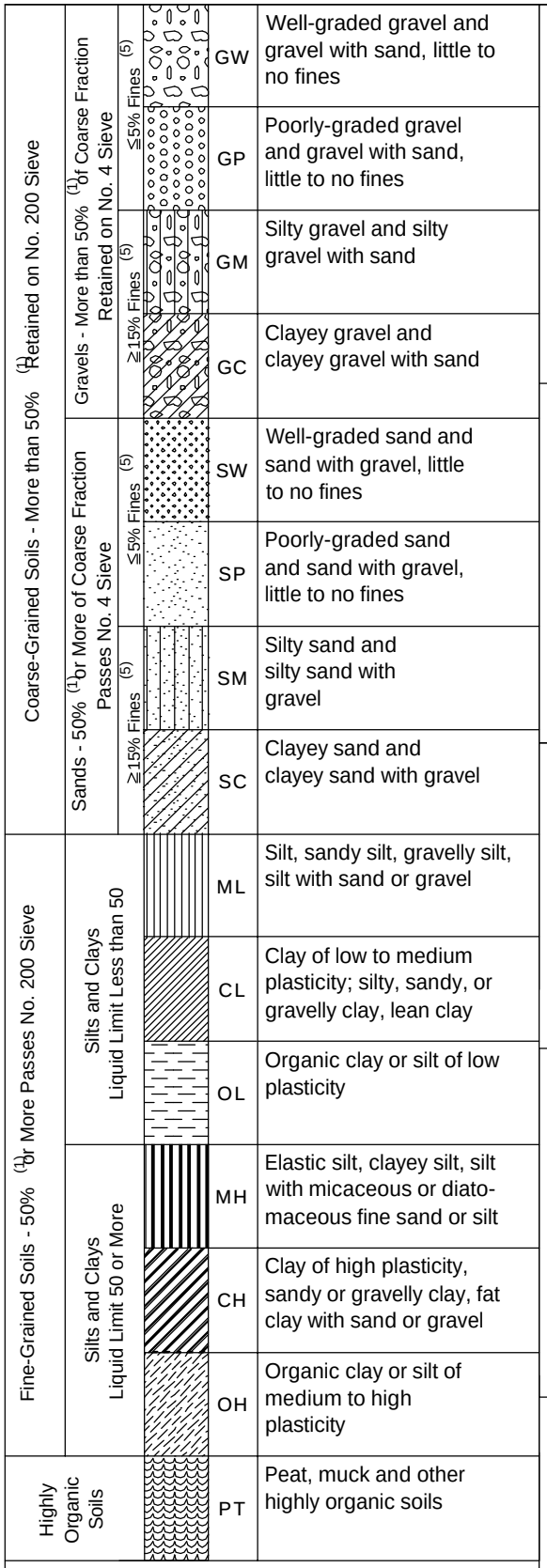


Figure 13
Disproportionate Cost Analysis
Former Walker Chevrolet Site
Remedial Investigation/Feasibility Study

APPENDIX A

Well Construction and Soil Boring Logs for Sites



Terms Describing Relative Density and Consistency

	Density	SPT (2) blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT (2) blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

FC = Fines Content
G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Consolidation
DD = Dry Density
K = Permeability
Str = Shear Strength
Env = Environmental
PiD = Photoionization Detector

Component Definitions

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

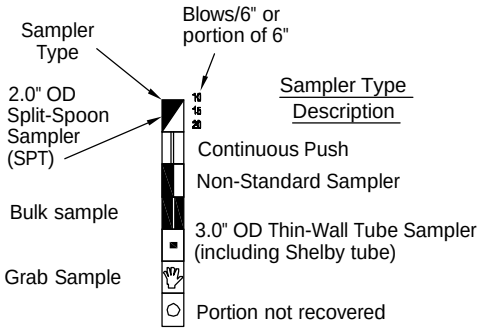
(3) Estimated Percentage

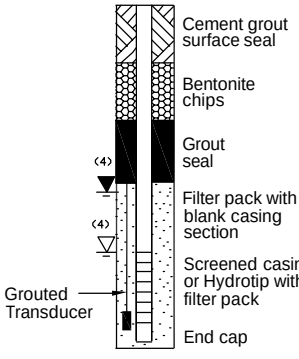
Percentage by Weight	Modifier
<5	Trace
5 to 15	Slightly (sandy, silty, clayey, gravelly)
15 to 30	Sandy, silty, clayey, gravelly)
30 to 49	Very (sandy, silty, clayey, gravelly)

Moisture Content

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

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of groundwater — ATD = At time of drilling; Static water level (date); BGS = below ground surface
(5) Combined USCS symbols used for fines between 5% and 15% as estimated in General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)

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

Aspect CONSULTING

Exploration Log Key

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:

PROJECT NO.

FIGURE NO.
A-1

Q:_ACAD Standards\Standard Details\Exploration Log Key A1.dwg

Holt Drilling A Division of Boart Longyear Company

MW-1

Resource Protection Well Report

Project Name BRUCE TITUS CHEV

Date 1-22-07

Well Identification # ALM-064

County PIERCE SE 1/4 SE 1/4

Drilling Method SONIC 6"

Section 32 T 21N R 3E

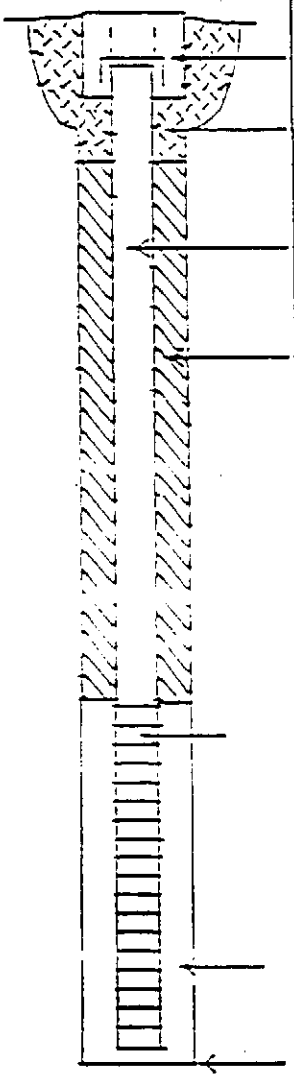
Driller Ken Phillips

Street Address 630 STADIUM WY

License # 2652

Start Card R-70639

Consulting Firm STEMEN ENV.



AS-BUILT

WELL DATA

ALM-

MONUMENT: 8" FLUSH

CONCRETE SURFACE SEAL: 2 FT

RISER: 2 "x 60'

BACKFILL: FT

TYPE: 3/8 CHIPS

SCREEN: 2 "x 15'

TYPE: PVC

SLOT SIZE: .020

SAND PACK: 17'

MATERIAL: 10x20 SILICA

WELL DEPTH: 65'

FORMATION DESCRPITION

0-15' FT
BROWN SILTY SAND + GRAVEL FILL 20-30% ~~SAND~~ FINES
FT

15-50' FT
GREY SILTY SAND TO SANDY SILT WITH OCCASSIONAL LARGE GRAVELS VERY DENSE DRY (TILL)
FT

50-65 FT
ORANGE/BROWN SAND MEDIUM DENSE TO DENSE WET @ 54' TURNING GREY IN COLOR @ 60' FT

REMARKS

Signature

Holt Drilling A Division of Boart Longyear Company

MW-2

Resource Protection Well Report

Project Name BRUCE TITUS CHEV

Well Identification # ALM-#69

Drilling Method SONIC 6"

Driller Ken Phillips

License # 2652

Date 1-22-07

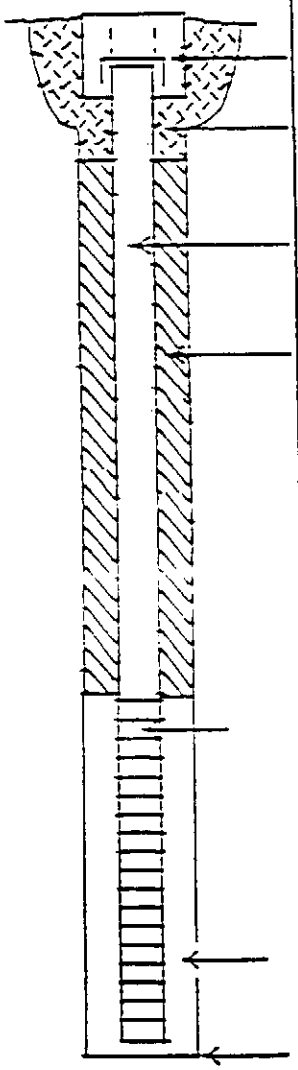
County PIERCE SE 1/4 SE 1/4

Section 32 T 21N R 3E

Street Address 630 STADIUM WY

Start Card R-70639

Consulting Firm STEMEN ENV.



AS-BUILT	WELL DATA	FORMATION DESCRPITION
	ALM-169	
	MONUMENT: 8" FLUSH	0-15' FT BROWN SILTY SAND + GRAVEL FILL 20-30% ~~SAND~~ FINES FT
	CONCRETE SURFACE SEAL: 2 FT	
	RISER: 2 "x 50'	
	BACKFILL: FT TYPE: 3/8 CHIPS	15-50' FT GREY SILTY SAND TO SANDY SILT WITH OCCASSIONAL LAGRE GRAVELS VERY DENSE DRY (TILL) FT
		50-65 FT ORANGE/BROWN SAND MEDIUM DENSE TO DENSE WET @ 54' TURNING GREY IN COLOR @ 60' FT
	SCREEN: 2 "x 15'	
	TYPE: PVC	
	SLOT SIZE: .020	
	SAND PACK: 17'	
	MATERIAL: 10x20 SILICA	REMARKS
	WELL DEPTH: 65'	

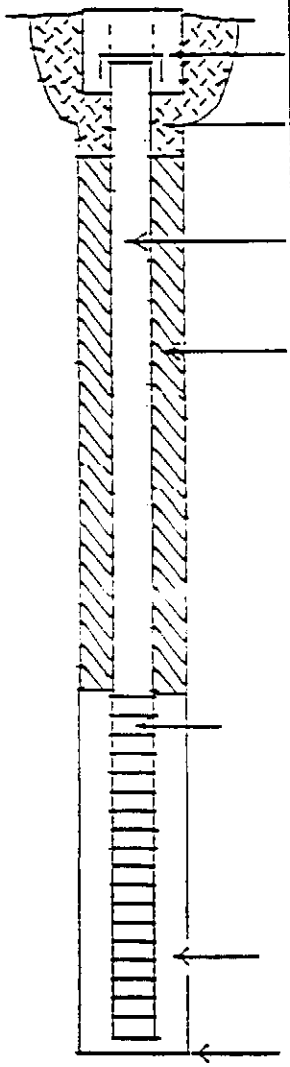
Signature K L Phillips

Holt Drilling A Division of Boart Longyear Company

Resource Protection Well Report

MW-3

Project Name BRUCE TITUS CHEV
Date 2-1-07
Well Identification # ALM-068
County PIERCE SE 1/4 SE 1/4
Drilling Method SONIC 6"
Section 32 T 21N R 3E
Driller Ken Phillips
Street Address 633 DIVISION
License # 2652
Start Card R70639
Consulting Firm STEMEN ENVIORMENTAL



AS-BUILT

WELL DATA

- MONUMENT: 8" FLUSH
- CONCRETE SURFACE SEAL: 2 FT
- RISER: 2 "x 52'
- BACKFILL: 48 FT
- TYPE: 3/8" CHIPS
- SCREEN: 2 "x 15'
- TYPE: FACTORY FLUSH
- SLOT SIZE: .020
- SAND PACK: 17'
- MATERIAL: 10x20 SILICA
- WELL DEPTH: 67'

FORMATION DESCRPITION

0-3 FT
2" ASPHALT BROWN COARSE SAND & GRAVEL 20-30% FINES (FILL)
FT

3-54 FT
GREY TO BROWN SILTY FINE SAND VERY DENSE DRY OCCASIONAL 20-30% FINES (TILL)

54-65 FT
MOIST BROWN SAND MEDIUM DENSE 10-15% FINES

65-67 FT
GREY VERY DENSE GREY SILTY FINE SAND WITH GRAVELS (TILL)
FT

REMARKS

Signature

BOART LONGYEAR E & I

MW-4

Resource Protection Well Report

Project Name Sladen Thrifty

Well Identification # BARn 164'

Drilling Method Sonic

Driller Thomas W. Croney

License # 2409

Date 1/9/08

County Pierce, NW¼ SE ¼

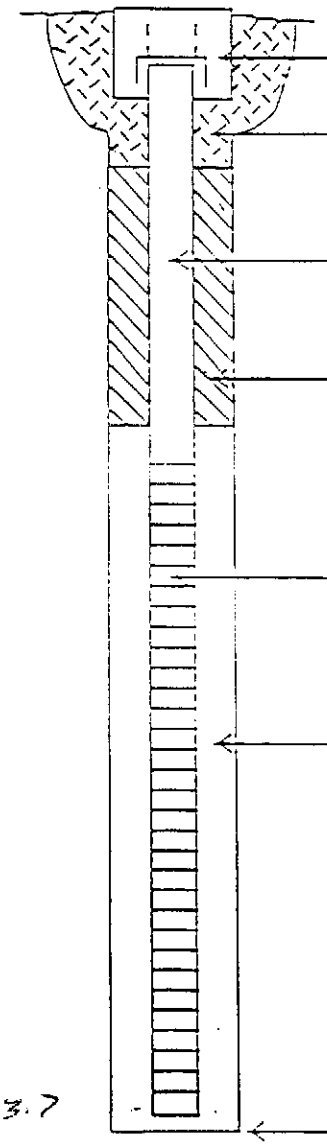
Section 32 T. 21N R. 3E

Street Address N 1st N Tacoma Ave

Start Card R 70843

Consulting Firm Stemen ENV

AS-BUILT | WELL DATA | FORMATION DESCRIPTION



MONUMENT TYPE: flush

CONCRETE SURFACE SEAL: 1-5 ±

PVC BLANK: 2 "48'

39 - neat cement

BACKFILL: 4 feet

TYPE: Bentonite

PVC SCREEN: 2 inch 15 feet

SLOT SIZE: 10

TYPE: flush thread

GRAVEL PACK: 18 ±

MATERIAL: 1020 silica

WELL DEPTH: 63.7 ft

0 - .52 ± Med Brn till U- Dense

.52 - 61 ± Compact Sand. Lt Brn gravel

61 - 65 ± compact gray till

REMARKS

Signature Thomas W. Croney

BOART LONGYEAR E & I

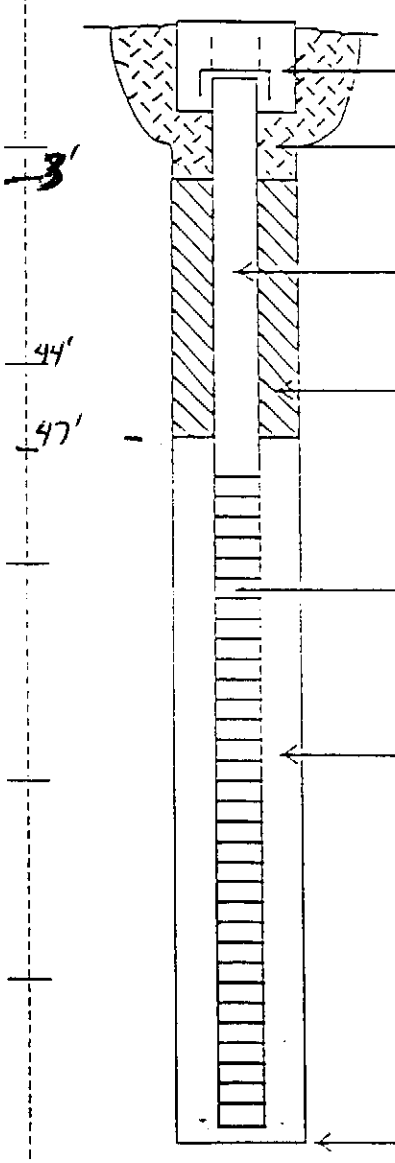
MW-5

Resource Protection Well Report

Project Name Stadium Thriftway
Well Identification # BAM 168'
Drilling Method Sonic
Driller Thomas Craney
License # 2409

Date 1-11-08
County Pierce NW ¼ SE ¼
Section 32 T. 21 N R. 3E
Street Address N. 1st ST & N. Tacoma AVE
Start Card R 70822
Consulting Firm Stemen Env.

AS-BUILT | WELL DATA | FORMATION DESCRIPTION



MONUMENT TYPE: Flush

CONCRETE SURFACE SEAL: 3 ±

PVC BLANK: 2 x 50'

BACKFILL: 44 ±
TYPE: Bentonite

PVC SCREEN: 2 x 15'
SLOT SIZE: 10
TYPE: Flush Thread

GRAVEL PACK: 18 ±
MATERIAL: 10x20 Silica

WELL DEPTH: 65'

0 - 30 ±
med Brn consolidated sand med. gravel

30 - 42 ±
med - dk Brn course sand wet

42 - 57 ±
med Brn Till

57 - 63 ±
med Brn course sand -- wet

63 - 65 ±
med Brn Till

REMARKS

Signature Thomas W. Craney

BOART LONGYEAR E & I

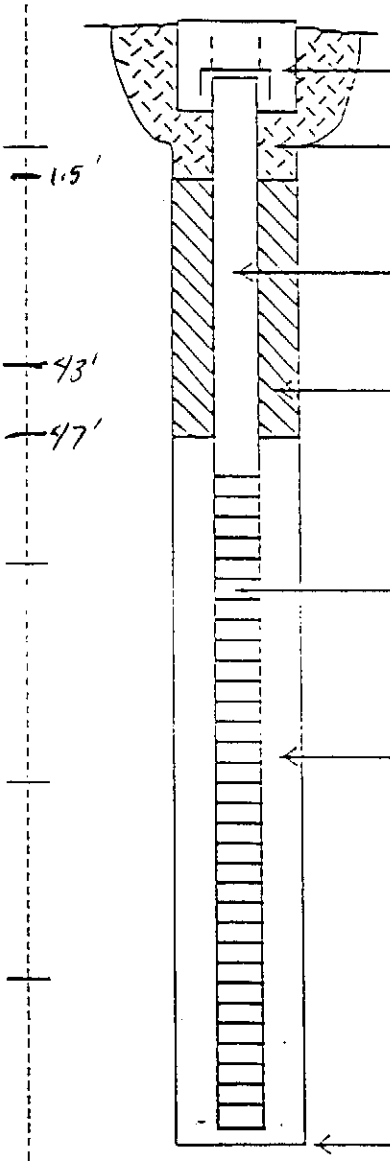
Resource Protection Well Report

MW-6

Project Name Stadium Thriftway
Well Identification # BAM 167
Drilling Method Sonic
Driller Thomas Cooney
License # 2409

Date 1-16-08
County Pierce NW ¼ SE ¼
Section 32 T. 21 N R. 3E
Street Address N 12th & N Tacoma Ave
Start Card R70822
Consulting Firm Stemen Env.

AS-BUILT | WELL DATA | FORMATION DESCRIPTION



MONUMENT TYPE: flush
CONCRETE SURFACE SEAL: 1 ft.
PVC BLANK 2 " x 49'
neat cement 41'
BACKFILL 4 ft.
TYPE: Bentonite
PVC SCREEN: 2 " x 15'
SLOT SIZE: 20
TYPE: Flush Thread
GRAVEL PACK 17 ft.
MATERIAL: 10x20 Silica
WELL DEPTH 64.2 ft.

1.5'
43'
47'

0 - 1 ft.
Asphalt - Road Base

1 - 60 ft.
Compact sand grvl med Brn V. Dense

60 - 65 ft.
Med - DK Brn sand

REMARKS

Signature Thomas W. Cooney

Holt Drilling A Division of Boart Longyear Company

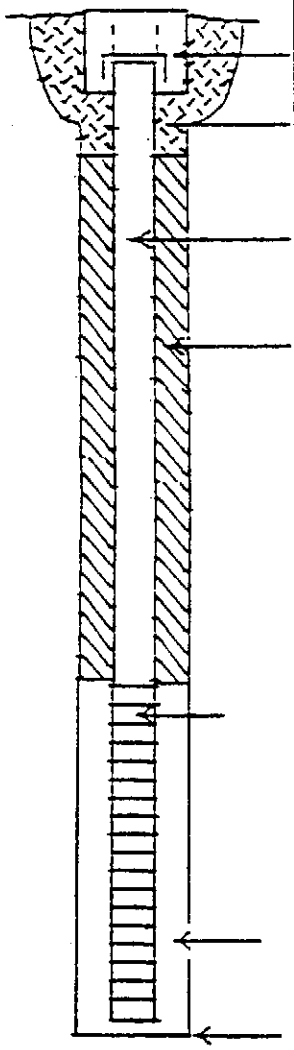
Resource Protection Well Report

MW-7

Project Name STADIUM THRIFTWAY
Well Identification # BAM-111
Drilling Method SONIC 4x6"
Driller Ken Phillips
License # 2652

Date 1.18.08
County PIERCE NW 1/4 SE 1/4
Section 32 T 21N R 3E
Street Address N. 1st St & Tacoma Ave
Start Card R70822
Consulting Firm STEMEN ENVIRONMENTAL

AS-BUILT



WELL DATA

BAM-111

MONUMENT: 8" FLUSH
CONCRETE SURFACE SEAL: 2 FT
RISER: 2 "x 50'
BACKFILL: FT
TYPE: 3/4 CHIPS
SCREEN: 2 "x 15'
TYPE: FACTORY FLUSH
SLOT SIZE: .020
SAND PACK: 18'
MATERIAL: 10x20 SILICA
WELL DEPTH: 65'

FORMATION DESCRPITION

0-1' FT
ASPHALT + BROWN SAND AND GRAVEL ROAD BASE

1-50' FT
BROWN SILTY SAND WITH LARGE GRAVELS VERY DENSE ~~WET~~ MOIST SAND @ 25'
(TILL) FT

50-65 FT
BROWN OXIDIZED SAND MEDIUM WET @ 55'

FT

FT

REMARKS

Signature

MW-8

BOART LONGYEAR

Resource Protection Well Report

Project Name Titus

Well Identification # BA5078

Drilling Method Sonic

Driller Brian Owens

License # 2997

Date 4/17/08

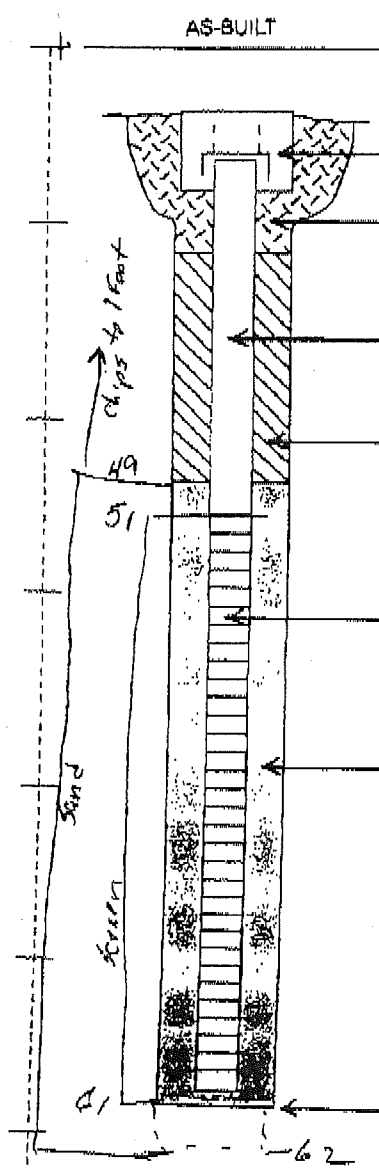
County Pierce NW ¼ SE ¼

Section 32 T. 21N R. 3E

Street Address N 1st N Tacoma Ave

Start Card R 70843

Consulting Firm Stemen



0 - 15 ft.
BROWN SILTY SAND & GRAVELLY FILL

ft.

15 - 50 ft.
GREY SILTY SANDS INTERMIXED WITH MEDIUM/LARGE GRAVELS

50 - 60 ft.
RUST/BROWN COLORED SAND MEDIUM DENSE/DENSE, WET AT SHALLOW.

60 - 65 ft.
GREY COLORED SANDS MEDIUM DENSE.

REMARKS

Signature Brian Owens

VAV03a.CDR

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-8D	1 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278.5
Location:	Tacoma, WA	Top of Casing Elev.	278.11
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/4/2009 - 5/6/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 – 278	Flushmount monument, lockable thermos cap, concrete seal 0'-1'						Blacktop and concrete.	1
2 – 277							Vacuumed to 3'.	2
3 – 276								3
4 – 275							**Qvi**	4
5 – 274							Very hard, slightly moist, light brown, slightly sandy, gravelly SILT (ML); fine sand; coarse to fine gravel, subrounded.	5
6 – 273								6
7 – 272								7
8 – 271								8
9 – 270							Grades to sandy.	9
10 – 269								10
11 – 268	2" diameter, schedule 40 PVC, threaded connections, 0'-96'							11
12 – 267							**Qvt**	12
13 – 266							Very hard, brown, slightly gravelly, silty SAND (SM); fine gravel, rounded.	13
14 – 265								14
15 – 264								15
16 – 263								16
17 – 262								17
18 – 261								18
19 – 260								19
20 – 259								20
21 – 258	Hydrated bentonite chips, 1'-92'							21
22 – 257							Gravelly.	22
23 – 256								23
24 – 255								24
25 – 254							Slightly gravelly.	25
26 – 253								26
27 – 252								27
28 – 251								28
29 – 250								29
30 – 249							Hard, brown, slightly gravelly, very sandy SILT (ML); fine gravel, rounded.	30
31 – 248								31
32 – 247								32
33 – 246								33
34 – 245							Hard, brown, slightly gravelly, very silty SAND (SM); fine gravel, rounded.	34
35 – 244								35
36 – 243								36
37 – 242								37
38 – 241							**Qva**	38
39 – 240							Moist, red-brown, slightly silty SAND (SP); medium sand.	39
40 – 239							Trace gravel.	40
41 – 238								41
42 – 237								42
43 – 236								43
44 – 235								44
45 – 234								45
46 – 233								46
47 – 232								47
48 – 231								48
49 – 230								49
229								

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: DFR

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-8D	2 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278.5
Location:	Tacoma, WA	Top of Casing Elev.	278.11
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/4/2009 - 5/6/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 – 228								51
52 – 227								52
53 – 226								53
54 – 225								54
55 – 224	▽ 5/4/2009						Wet.	55
56 – 223								56
57 – 222								57
58 – 221								58
59 – 220								59
60 – 219								60
61 – 218								61
62 – 217								62
63 – 216		○						63
64 – 215								64
65 – 214								65
66 – 213	10/20 sand filter pack, 92'-120'						Brown.	66
67 – 212							**Qob** Very hard, moist, brown, sandy, silty GRAVEL (GM); non-plastic.	67
68 – 211								68
69 – 210								69
70 – 209								70
71 – 208								71
72 – 207								72
73 – 206								73
74 – 205							Brown, slightly gravelly, very silty SAND (SM); non-plastic.	74
75 – 204								75
76 – 203								76
77 – 202								77
78 – 201							Dark blue, slightly sandy SILT (ML); trace gravel.	78
79 – 200								79
80 – 199								80
81 – 198								81
82 – 197								82
83 – 196							Dry, gray, silty, very gravelly SAND (SM); fine sand.	83
84 – 195								84
85 – 194								85
86 – 193								86
87 – 192							Trace cobbles, subrounded.	87
88 – 191								88
89 – 190								89
90 – 189								90
91 – 188								91
92 – 187								92
93 – 186	2" diameter, 10-slot, schedule 40 PVC screen, 96'-106'						Very hard, dry, blue gray, sandy, very silty GRAVEL (GM).	93
94 – 185								94
95 – 184								95
96 – 183								96
97 – 182								97
98 – 181							Loose, slightly moist, brown, gravelly, very silty SAND (SM).	98
99 – 180								99
179								

Sampler Type:
○ No Recovery
▮ Continuous Core

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

Logged by: DFR
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-8D	3 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278.5
Location:	Tacoma, WA	Top of Casing Elev.	278.11
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/4/2009 - 5/6/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
101 (178)								101
102 (177)							Hard, dry, dark blue gray, gravelly, sandy SILT (ML).	102
103 (176)								103
104 (175)								104
105 (174)								105
106 (173)							Hard, dry, light gray, silty, very gravelly SAND (SM); fine sand; fine to coarse gravel.	106
107 (172)								107
108 (171)								108
109 (170)								109
110 (169)	▽							110
111 (168)								111
112 (167)	▼ 5/11/2009						Loose, wet, brown, slightly silty SAND (SP); fine sand.	112
113 (166)								113
114 (165)								114
115 (164)								115
116 (163)	Threaded PVC endcap						Hard, dry, light gray, silty, very gravelly SAND (SM); fine sand.	116
117 (162)								117
118 (161)								118
119 (160)								119
120 (159)								120
121 (158)							Boring terminated 120 ft BGS. Depth to perched water was 55 ft BGS ATD. Depth to water table at 112.56 ft BGS on 5/11/2009.	121
122 (157)								122
123 (156)								123
124 (155)								124
125 (154)								125
126 (153)								126
127 (152)								127
128 (151)								128
129 (150)								129
130 (149)								130
131 (148)								131
132 (147)								132
133 (146)								133
134 (145)								134
135 (144)								135
136 (143)								136
137 (142)								137
138 (141)								138
139 (140)								139
140 (139)								140
141 (138)								141
142 (137)								142
143 (136)								143
144 (135)								144
145 (134)								145
146 (133)								146
147 (132)								147
148 (131)								148
149 (130)								149
	(129)							

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: DFR

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-9	1 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	279.5
Location:	Tacoma, WA	Top of Casing Elev.	278.78
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/5/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 (279)	Flushmount monument, lockable thermos cap						Blacktop and concrete.	1
2 (278)							Vacuumed to 5'.	2
3 (277)								3
4 (276)								4
5 (275)								5
6 (274)							**Qvi**	6
7 (273)							Slightly moist, gray blue, gravelly, sandy SILT (ML).	7
8 (272)								8
9 (271)								9
10 (270)	Quickrite portland cement, 0'-30'						**Qvt**	10
11 (269)							Dry, light brown, very gravelly, sandy SILT (ML)	11
12 (268)							Brown, slightly moist, gravelly, silty SAND (SM).	12
13 (267)								13
14 (266)								14
15 (265)								15
16 (264)							Dry, light gray.	16
17 (263)								17
18 (262)								18
19 (261)								19
20 (260)	2" diameter, schedule 40 PVC, threaded connections, 0'-60'							20
21 (259)								21
22 (258)								22
23 (257)							Very dense, slightly moist, gray blue.	23
24 (256)								24
25 (255)								25
26 (254)								26
27 (253)							Dry, dark gray blue, sandy SILT (ML), trace gravel.	27
28 (252)								28
29 (251)							Slightly moist, brown, gravelly, very silty SAND (SM); fine to medium sand, predominantly fine.	29
30 (250)								30
31 (249)								31
32 (248)							Grades to trace gravel.	32
33 (247)								33
34 (246)							Moist.	34
35 (245)	Hydrated bentonite chips, 30'-57'							35
36 (244)								36
37 (243)								37
38 (242)							Very gravelly.	38
39 (241)								39
40 (240)							Trace gravel.	40
41 (239)								41
42 (238)								42
43 (237)							**Qva**	43
44 (236)							Loose, moist, dark brown-red SAND (SP), trace gravel; fine to medium sand, predominantly fine; fine gravel, subrounded.	44
45 (235)								45
46 (234)								46
47 (233)							Grades to slightly silty.	47
48 (232)								48
49 (231)								49
(230)								

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: DFR

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-9	2 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	279.5
Location:	Tacoma, WA	Top of Casing Elev.	278.78
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/5/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 – 229	Hydrated bentonite chips, 30'-57'						Grades to gravelly.	51
52 – 228								52
53 – 227								53
54 – 226	▽ 5/5/2009						Wet.	54
55 – 225								55
56 – 224								56
57 – 223							No gravel.	57
58 – 222	10/20 sand filter pack, 57'-70'							58
59 – 221								59
60 – 220								60
61 – 219								61
62 – 218								62
63 – 217								63
64 – 216	2" diameter, 10-slot, schedule 40 PVC screen, 60'-70'							64
65 – 215								65
66 – 214								66
67 – 213								67
68 – 212								68
69 – 211								69
70 – 210	Threaded PVC endcap							70
71 – 209							Boring terminted 70' BGS. Depth to water was 54 ft BGS ATD. Well was dry on 5/11/2009.	71
72 – 208								72
73 – 207								73
74 – 206								74
75 – 205								75
76 – 204								76
77 – 203								77
78 – 202								78
79 – 201								79
80 – 200								80
81 – 199								81
82 – 198								82
83 – 197								83
84 – 196								84
85 – 195								85
86 – 194								86
87 – 193								87
88 – 192								88
89 – 191								89
90 – 190								90
91 – 189								91
92 – 188								92
93 – 187								93
94 – 186								94
95 – 185								95
96 – 184								96
97 – 183								97
98 – 182								98
99 – 181								99
180								

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: DFR

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-10	1 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	280
Location:	Tacoma, WA	Top of Casing Elev.	279.45
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/7/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 279	Flushmount monument, lockable thermos cap						Blacktop and concrete.	1
							Qvi	
2 278							Medium dense, wet, dark brown, slightly silty, very gravelly SAND (SP); fine to coarse sand; fine to coarse gravel, rounded.	2
3 277								3
4 276								4
5 275							Medium dense, mosit, gray purple, silty, very gravelly SAND (SM); fine to coarse sand; fine to coarse gravel, subrounded.	5
6 274								6
7 273							Dry to slightly moist, brown to dark brown.	7
8 272							Loose, moist, dark brown, slightly silty, gravelly SAND (SP); predominantly medium to coarse sand; fine gravel, subrounded.	8
9 271								9
10 270							Medium dense, dry to slightly moist, fine to coarse gravel.	10
11 269								11
12 268							Very dense, dry, gray purple boulder.	12
13 267							Medium dense, slightly moist, yellow-red to dark brown, gravelly, very silty SAND (SM); fine to coarse sand; fine to coarse gravel, subrounded.	13
14 266								14
15 265	Quickrite portland cement, 0'-41'						Very stiff, dry to slightly moist, brown, gravelly, very sandy SILT (ML); fine to coarse sand; fine to coarse gravel, subrounded.	15
16 264								16
17 263								17
18 262							Medium dense, slightly moist, dark brown, silty, very gravelly SAND (SP); fine to coarse sand; fine to coarse gravel, subrounded.	18
19 261								19
20 260							Medium dense, slightly moist, dark brown, slightly silty, very gravelly SAND (SP); predominantly medium to coarse sand; fine to coarse gravel, subrounded.	20
21 259								21
22 258							**Qvt**	22
23 257							Dense, dry to slightly moist, yellow-red to dark brown, silty, sandy GRAVEL (GM); fine to coarse sand; fine to coarse gravel, subrounded.	23
24 256								24
25 255	2" diameter, schedule 40 PVC, threaded connections, 0'-60'						Medium dense, dry to slightly moist, yellow-red to dark brown, slightly silty, gravelly to very gravelly SAND (SP); predominantly medium to coarse sand; fine to coarse gravel, subrounded, increasing gravel with depth.	25
26 254								26
27 253								27
28 252								28
29 251							Medium dense, dry to slightly moist, yellow-red to dark brown, silty, very gravelly SAND (SM); fine to coarse sand; fine gravel, subangular to subrounded.	29
30 250								30
31 249								31
32 248							Gradational decrease in silt. Becomes slightly silty, very gravelly SAND (SP).	32
33 247							Loose to medium dense, gravelly.	33
34 246							Medium dense, slightly moist, yellow-red, silty, very gravelly SAND (SM); fine to coarse sand; fine to coarse gravel, subrounded.	34
35 245								35
36 244							Loose, very silty, no gravel.	36
37 243							Medium dense, red-brown, gravelly.	37
38 242							**Qva**	38
39 241							Loose, slightly moist, yellow-red, slightly silty SAND (SP), trace gravel; perdominantly medium sand.	39
40 240								40
41 239							Medium dense to dense, gravelly; fine to coarse gravel, subrounded.	41
42 238								42
43 237								43
44 236								44
45 235	Hydrated bentonite chips, 41'-56'11"						Slightly gravelly; fine gravel.	45
46 234								46
47 233							Gravelly lense.	47
48 232								48
49 231							Gravelly lense.	49

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-10	2 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	280
Location:	Tacoma, WA	Top of Casing Elev.	279.45
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/11/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/7/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–229	Hydrated bentonite chips, 41'-56'11"						Loose, moist. perdominantly medium to coarse sand.	51
52–228								52
53–227								53
54–226								54
55–225	▽ 5/7/2009						Medium dense, wet, trace gravel; predominantly medium sand; fine gravel.	55
56–224								56
57–223							Red-brown with black staining, slightly gravelly.	57
58–222	10/20 sand filter pack, 56'11"-70'							58
59–221								59
60–220							Black, fine to medium sand.	60
61–219							Loose to medium dense, very moist to wet, brown SAND (SP); no silt, no gravel.	61
62–218								62
63–217								63
64–216	2" diameter, 10-slot, schedule 40 PVC screen, 60'-70'							64
65–215								65
66–214								66
67–213								67
68–212								68
69–211							**Qob**	69
70–210	Threaded PVC endcap						Medium dense, wet, red-brown, slightly clayey; fine to medium sand.	70
71–209							Medium dense, wet, red-brown, slightly gravelly, clayey SAND (SC); predominantly fine to medium sand; fine gravel.	71
72–208	Natural backfill, 70'-75'							72
73–207								73
74–206							Medium dense, wet, dark brown, silty, gravelly SAND (SM); fine to coarse sand; fine gravel to cobbles, subrounded.	74
75–205							Medium dense, wet, dark brown to gray, slightly silty, very sandy GRAVEL (GP); fine to coarse sand; fine to coarse gravel, subrounded.	75
76–204							Boring terminated 75 ft BGS.	76
77–203							Depth to water was 55 ft BGS ATD. Well was dry on 5/11/2009.	77
78–202								78
79–201								79
80–200								80
81–199								81
82–198								82
83–197								83
84–196								84
85–195								85
86–194								86
87–193								87
88–192								88
89–191								89
90–190								90
91–189								91
92–188								92
93–187								93
94–186								94
95–185								95
96–184								96
97–183								97
98–182								98
99–181								99

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-11	1 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	279
Location:	Tacoma, WA	Top of Casing Elev.	278.52
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/12/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/8/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 278	Flushmount monument, lockable thermos cap, concrete seal 0'-1'						Concrete.	1
2 277							**Qvi** Wet, light brown, silty, very gravelly SAND (SM); fine to coarse gravel, subround to subangular.	2
3 276								3
4 275							Slightly moist, very silty.	4
5 274								5
6 273							Wet, grades to gravelly, very silty SAND (SM); fine to coarse sand.	6
7 272							**Qvt**	7
8 271							Very dense, very silty, very sandy GRAVEL (GM); cobbles.	8
9 270								9
10 269	2" diameter, schedule 40 PVC, threaded connections, 0'-53'						Slightly moist, brown, silty, sandy GRAVEL (GM); fine to coarse sand; fine to coarse gravel.	10
11 268								11
12 267							Grades to brown-gray.	12
13 266								13
14 265							Gray, very silty.	14
15 264							Very moist, brown, silty, very sandy GRAVEL (GM).	15
16 263							Very hard, very moist, dark gray, gravelly, very silty SAND (SM) with sandy silt interbeds	16
17 262								17
18 261								18
19 260								19
20 259	Hydrated bentonite chips, 1'-49'11"						Dry, gray, silty, very sandy GRAVELLY (GM); fine to coarse sand; fine to coarse gravel.	20
21 258								21
22 257								22
23 256							Brown.	23
24 255							Dry, brown, trace to slightly silty, very sandy GRAVEL (GP).	24
25 254								25
26 253							Gray, sandy.	26
27 252								27
28 251							Moist, gray, sandy, very silty GRAVEL (GM).	28
29 250							Brown, silty, very sandy.	29
30 249							Very moist, red-brown to dark brown, slightly gravelly, very silty SAND (SM).	30
31 248								31
32 247								32
33 246							Trace gravel.	33
34 245								34
35 244								35
36 243							**Qva**	36
37 242							Very moist, red-brown to dark brown, slightly gravelly, slightly silty SAND (SM).	37
38 241								38
39 240							Interbedded red-brown, very silty SAND and gray, very sandy SILT (SM/ML)	39
40 239							Very moist, red-brown, slightly silty to silty SAND (SM), trace gravel; fine to medium sand, fine gravel.	40
41 238								41
42 237								42
43 236							Very moist, red-brown, slightly silty, gravelly SAND with interbeds of silty to very silty SAND (SP-SM). Sand is fine to medium.	43
44 235								44
45 234								45
46 233								46
47 232								47
48 231							Brown gray, silty SAND interbedded with sandy SILT (SM-ML).	48
49 230	▽ 5/8/2009						Dark brown, predominately medium sand.	49

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: JTL

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-11	2 of 2

Project Name:	Walker Chevrolet	Ground Surface Elev.	279
Location:	Tacoma, WA	Top of Casing Elev.	278.52
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water	- 5/12/2009
Sampling Method:	Continuous Core	Start/Finish Date	5/8/2009

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 228							Wet.	51
52 227	5/12/2009							52
53 226	10/20 sand filter pack, 49'11"-63'						Gravelly.	53
54 225							Trace gravel to slightly gravelly.	54
55 224							Wet, red-brown, interbedded silty SAND and slightly silty SAND (SM).	55
56 223								56
57 222	2" diameter, 10-slot, schedule 40 PVC screen, 53'-63'							57
58 221								58
59 220								59
60 219							Wet, brown, silty SAND (SM); fine sand.	60
61 218								61
62 217							Wet, brown, slightly silty, gravelly SAND (SP); fine to coarse sand.	62
63 216	Threaded PVC endcap						**Qob**	63
64 215							Slightly moist, gray, very sandy, very silty GRAVEL (GM).	64
65 214							Moist, brown.	65
66 213							Slightly moist, light brown, sandy.	66
67 212								67
68 211							Grades to slightly moist, gray, slightly sandy, gravelly SILT (ML); with wood.	68
69 210	Natural backfill, 63'-70'							69
70 209							Boring terminated 70 ft BGS. Depth to water was 52.20 ft BGS on 5/12/2009.	70
71 208								71
72 207								72
73 206								73
74 205								74
75 204								75
76 203								76
77 202								77
78 201								78
79 200								79
80 199								80
81 198								81
82 197								82
83 196								83
84 195								84
85 194								85
86 193								86
87 192								87
88 191								88
89 190								89
90 189								90
91 188								91
92 187								92
93 186								93
94 185								94
95 184								95
96 183								96
97 182								97
98 181								98
99 180								99

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: JTL

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-12D	1 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.72
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/25/2010 - 10/27/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 277	Flushmount monument, thermos cap	○					Air Vacuum - No Recovery	1
2 276								2
3 275							**Qvi**	3
4 274	Concrete seal, 0'-5.5'						Dry, gray-blue, slighlty gravelly, sandy SILT (ML); fine gravel; fine to medium sand	4
5 273							Dark brown, gravelly, very sandy SILT (ML); fine to coarse gravel (2")	5
6 272	Hydrated bentonite chips, 5.5'-110'						Gray-blue/dark brown, slightly gravelly, sandy SILT (ML)	6
7 271							Dry, brown, slightly silty, gravelly, SAND (SP-SM); fine to coarse gravel (2.5"), rounded to subrounded	7
8 270							Dry, dark brown, gravelly, silty SAND (SM); fine to coarse gravel (2"), rounded to subrounded; fine to coarse sand	8
9 269							Dry, dark brown, very sandy GRAVEL (GW); fine to coarse gravel (2"), rounded to subrounded; fine to coarse sand	9
10 268	2" diameter, Sch 40 PVC, 0.4'-113'						Dry, brown, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (2"), rounded to subrounded; fine to medium sand; with dark gray, slightly clayey, slightly gravelly, very sandy SILT (ML) lense (6")	10
11 267							**Qvt**	11
12 266							Dry, brown/light gray, silty, very gravelly SAND (SM); fine to coarse gravel (2"); fine to coarse sand	12
13 265							Red-brown/light gray, slightly gravelly, very silty SAND (SM)	13
14 264							Light gray with red-brown mottling, slightly gravelly, silty SAND (SM); fine gravel; predominantly fine to medium sand	14
15 263							Dark brown, gravelly, very silty SAND (SM)	15
16 262								16
17 261								17
18 260								18
19 259								19
20 258								20
21 257								21
22 256								22
23 255								23
24 254								24
25 253								25
26 252								26
27 251								27
28 250								28
29 249								29
30 248							Slightly gravelly, very silty SAND (SM)	30
31 247							**Qva**	31
32 246							Dry, dark brown SAND (SP); trace gravel and silt; fine gravel, rounded, predominantly medium sand	32
33 245							Dry, dark brown, slightly silty SAND (SP-SM); medium sand	33
34 244							Dry, dark brown, slightly gravelly, silty SAND (SM); fine gravel, subrounded; fine to medium sand	34
35 243							Dry, dark brown, slightly gravelly SAND (SP); trace silt; fine gravel, subrounded; fine to medium sand	35
36 242							Dark brown/yellow-red, gravelly SAND (SP); fine to coarse gravel (1"); predominantly medium sand	36
37 241							Red-brown, slightly gravelly SAND (SP); trace silt; fine to medium sand	37
38 240							Fine to coarse gravel (3"); medium sand	38
39 239								39
40 238								40
41 237								41
42 236								42
43 235								43
44 234								44
45 233								45
46 232							Dark brown, gravelly SAND (SP)	46
47 231							Dark brown/yellow-red, slightly gravelly SAND (SP); trace silt; fine gravel; fine to medium sand	47
48 230							Slightly gravelly SAND (SP); medium sand	48
49 229								49

Sampler Type:
○ No Recovery
▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-12D	2 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.72
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/25/2010 - 10/27/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 227							Medium to coarse sand	51
52 226							Slightly gravelly SAND (SP); fine to coarse gravel (1.5"); predominantly medium sand	52
53 225								53
54 224								54
55 223							Trace silt; fine gravel	55
56 222								56
57 221								57
58 220							Dry, dark brown, silty SAND (SM); trace fine gravel; fine to medium sand	58
59 219								59
60 218							Dry, dark brown SAND (SP); medium sand	60
61 217								61
62 216								62
63 215								63
64 214								64
65 213								65
66 212								66
67 211							Gravelly SAND (SP); trace silt; fine to coarse gravel (3"), subrounded; medium to coarse sand	67
68 210								68
69 209								69
70 208							**Qob**	70
71 207							Slightly moist, dark brown, slightly silty, very sandy GRAVEL (GW-GM); fine to coarse gravel (2"); fine to coarse sand	71
72 206								72
73 205								73
74 204							Wet, dark brown/dark gray, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (2"); medium to coarse sand	74
75 203								75
76 202							Wet, red-brown, silty, very sandy GRAVEL (GM); fine to coarse gravel (2"); fine to coarse sand	76
77 201								77
78 200	▽						Wet, yellow-red, silty, gravelly SAND (SM); fine to coarse gravel (2"); fine to coarse sand	78
79 199								79
80 198							Moist/very moist, dark brown, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (1.5"); fine to coarse sand	80
81 197								81
82 196							Moist/very moist, yellow-red, silty, very gravelly SAND (SM); fine to coarse gravel (2"); fine to coarse sand	82
83 195								83
84 194							Moist/very moist, yellow-red, silty, very sandy GRAVEL (GM); fine to coarse gravel (3.5"); fine to coarse sand	84
85 193							Wet, red-brown/dark brown, slightly gravelly SAND (SP); fine gravel; predominantly medium sand	85
86 192								86
87 191							Wet, dark brown, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (2"); predominantly medium sand	87
88 190								88
89 189							Wet, brown, silty, very sandy GRAVEL (GM); fine to coarse gravel (2"); fine to coarse sand; with slightly silty, SAND (SP-SM) lense (6")	89
90 188								90
91 187							Wet, dark brown, silty, very gravelly SAND (SM); fine to coarse gravel (1"); predominantly coarse sand	91
92 186								92
93 185							Dry, gray SILT (ML)	93
94 184							Red-brown slightly gravelly, slightly sandy SILT (ML); fine gravel; fine to medium sand	94
95 183							Dry, brown, gravelly, very silty SAND (SM); fine gravel; fine to coarse sand	95
96 182								96
97 181							Dry, dark brown, gravelly, very sandy SILT (ML); fine to coarse gravel; fine to coarse sand	97
98 180								98
99 179							Yellow-red, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (2.5"); fine to coarse sand	99

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-12D	3 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.72
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/25/2010 - 10/27/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
101–177							Slightly moist, dark brown, sandy, silty GRAVEL (GM); fine to coarse gravel (3"); fine to coarse sand	101
102–176								102
103–175								103
104–174							Slightly moist/moist, dark brown, silty, very gravelly SAND (SM); fine to coarse gravel (1.5"); fine to coarse sand	104
105–173								105
106–172							Moist, dark brown, silty, gravelly SAND (SM); fine to coarse gravel (3"); fine to coarse sand	106
107–171								107
108–170								108
109–169							Moist, dark brown, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (1.5"); fine to coarse sand	109
110–168	10/20 filter pack, 110'-134.5'							110
111–167							Moist, dark brown SAND (SP); trace fine gravel; medium sand	111
112–166								112
113–165	2" diameter, 10-slot, Sch 40 PVC screen, 113'-133'						Slightly moist, dark brown, silty, very sandy GRAVEL (GM); fine to coarse gravel (3"); fine to coarse sand	113
114–164								114
115–163								115
116–162							Slightly moist, gray, sandy, very silty GRAVEL (GM); fine to coarse gravel (3"); fine to coarse sand	116
117–161								117
118–160								118
119–159								119
120–158							Slightly moist, gray, gravelly, sandy SILT (ML); fine gravel; fine to coarse sand	120
121–157								121
122–156							Dry, dark brown/gray, sandy, silty GRAVEL (GM); fine gravel to cobbles, rounded to subrounded; fine to coarse sand	122
123–155								123
124–154							Moist, yellow-red/gray, slightly silty, sandy GRAVEL (GW-GM), fine to coarse gravel (3"); fine to coarse sand	124
125–153								125
126–152								126
127–151	▽ 10/26/2010							127
128–150								128
129–149	▼ 10/29/2010							129
130–148							Moist, gray, slightly sandy, gravelly SILT (ML); fine gravel; fine to coarse sand	130
131–147							Dry, dark brown/gray, sandy, gravelly SILT (ML); fine to coarse gravel (2"); fine to coarse sand	131
132–146								132
133–145	PVC endcap							133
134–144								134
135–143	Hydrated bentonite chips, 134.5'-140'						Very moist, gray, slightly sandy, gravelly SILT (ML); fine to coarse gravel (2"); fine to coarse sand	135
136–142							Very moist, brown, silty, sandy GRAVEL (GM); fine to coarse gravel (3"), rounded to subrounded; fine to coarse sand	136
137–141								137
138–140								138
139–139								139
140–138							Wet, brown, silty, sandy GRAVEL (GM); fine to coarse gravel (2"); fine to coarse sand	140
141–137								141
142–136								142
143–135								143
144–134								144
145–133								145
146–132								146
147–131								147
148–130								148
149–129								149

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-13D	1 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	277
Location:	Tacoma, WA	Top of Casing Elev.	276.96
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/27/2010 - 10/29/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 276	Flushmount monument, thermos cap						Air Vacuum - No Recovery	1
2 275		○						2
3 274								3
4 273	Concrete seal, 0'-6'							4
5 272							**Qvi** Dry, brown, gravelly SAND (SP); trace silt; fine to coarse gravel (1.5"); predominantly fine sand	5
6 271								6
7 270	Hydrated bentonite chips, 6'-121'						Dry, brown, slightly gravelly, silty SAND (SM); fine gravel; fine sand	7
8 269								8
9 268							Dry, dark brown, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (1.5"); fine to coarse sand	9
10 267	2" diameter, Sch 40 PVC, 0.4'-125'							10
11 266							Gray, slightly silty, very gravelly SAND (SP-SM) lense (2")	11
12 265								12
13 264							**Qvt** Dry/slightly moist, gray, gravelly, silty SAND (SM); fine to coarse gravel (1.5"); fine to coarse sand	13
14 263								14
15 262							Dry, yellow-red/gray, sandy, very gravelly SILT (ML); fine to coarse gravel (1.5"); fine to coarse sand	15
16 261								16
17 260							Dry, gray, silty, very gravelly SAND (SM); fine to coarse gravel (1"), rounded to subrounded; fine to coarse sand	17
18 259							Yellow-red/gray mottling, slightly gravelly, silty SAND (SM)	18
19 258								19
20 257							Dry, yellow-red/brown, silty SAND (SM); trace gravel; fine gravel; predominantly fine sand	20
21 256								21
22 255							Gray, silty, very gravelly SAND (SM); fine to coarse gravel (2.5"); fine to coarse sand	22
23 254								23
24 253								24
25 252								25
26 251								26
27 250								27
28 249							Dry, yellow-red, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (3"); predominantly fine to medium sand	28
29 248		○						29
30 247							Slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (1.5"); fine to coarse sand	30
31 246								31
32 245							**Qva**	32
33 244							Dry, yellow-red, slightly gravelly SAND (SP); trace silt; fine gravel, rounded; predominantly medium-fine sand	33
34 243								34
35 242								35
36 241							Fine to coarse gravel (1.5"); predominantly medium sand	36
37 240								37
38 239								38
39 238								39
40 237							Slightly moist, dark brown, gravelly SAND (SP); fine to coarse gravel (2"); predominantly medium sand	40
41 236								41
42 235							SAND (SP); medium sand	42
43 234								43
44 233								44
45 232							Silty, gravelly SAND (SM) lense (6")	45
46 231							Yellow-red, slightly gravelly SAND (SP); fine gravel	46
47 230								47
48 229							Dark brown, slightly gravelly SAND (SP); trace silt; fine to coarse gravel (2"); predominantly fine to medium sand	48
49 228								49

Sampler Type:
○ No Recovery
▮ Continuous Core

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

Logged by: JMS
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect Consulting

Project Number	Well Number	Sheet
080190	MW-13D	2 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	277
Location:	Tacoma, WA	Top of Casing Elev.	276.96
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/27/2010 - 10/29/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 226							Trace gravel	51
52 225								52
53 224								53
54 223								54
55 222							Fine gravel	55
56 221								56
57 220								57
58 219								58
59 218							Slightly moist, gray, silty SAND (SM); fine sand	59
60 217							Dry, dark brown/yellow-red SAND (SP); medium-fine sand	60
61 216								61
62 215								62
63 214							Slightly moist, dark brown, silty SAND (SM); fine to medium sand	63
64 213								64
65 212							Dry, yellow-red/dark brown SAND (SP); medium sand	65
66 211							Very gravelly SAND (SP) lense (6")	66
67 210								67
68 209								68
69 208								69
70 207							Dark brown silty SAND (SM) lense (6")	70
71 206							Slightly moist/moist, dark brown, gravelly SAND (SP); fine to coarse gravel (2"), rounded to subangular; medium-fine sand	71
72 205								72
73 204							Moist/very moist, dark brown SAND (SP); trace gravel	73
74 203							**Qob**	74
75 202							Wet, yellow-red/dark brown, silty, sandy GRAVEL (GM); fine to coarse gravel (2"); fine to coarse sand	75
76 201								76
77 200								77
78 199								78
79 198							Moist, gray, slightly gravelly, very silty SAND (SM); fine gravel; fine to coarse sand	79
80 197								80
81 196	▽						Wet, red-brown, silty, gravelly SAND (SM); fine to coarse gravel (1.5"); fine to coarse sand, predominantly coarse	81
82 195								82
83 194							Wet, red-brown, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (3"); predominantly medium sand	83
84 193								84
85 192							Moist, red-brown, sandy, silty GRAVEL (GM); fine to coarse gravel (3"), rounded to subrounded; fine to coarse sand	85
86 191								86
87 190							Wet, red-brown, slightly silty, gravelly SAND (SP-SM); fine gravel; fine to coarse sand, predominantly coarse	87
88 189								88
89 188							Moist/very moist, yellow-red/red-brown, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (2"), rounded to subangular; fine to coarse sand	89
90 187		○						90
91 186							Dry, dark brown, sandy, very gravelly SILT (ML); fine to coarse gravel (2.5"), rounded to subangular; fine to coarse sand	91
92 185								92
93 184							Wet, dark brown, sandy, very silty GRAVEL (GM); fine to coarse gravel (2"), rounded to subrounded; fine to coarse sand	93
94 183								94
95 182							No recovery	95
96 181								96
97 180		○						97
98 179								98
99 178								99

Sampler Type:
○ No Recovery
▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-13D	3 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	277
Location:	Tacoma, WA	Top of Casing Elev.	276.96
Driller/Method:	Boart Longyear / Spider Sonic	Depth to Water (ft BGS)	- 10/29/2010
Sampling Method:	Continuous Core	Start/Finish Date	10/27/2010 - 10/29/2010

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
101–176							Moist, brown, silty, sandy GRAVEL (GM); fine gravel to cobbles (4"), rounded to angular; fine to coarse sand; with silty, gravelly SAND (SM) lense (6")	101
102–175								102
103–174							Moist, dark brown/gray, silty, gravelly SAND (SM); fine to coarse gravel (3"), rounded to subrounded; fine to coarse sand	103
104–173								104
105–172								105
106–171							Moist, brown/dark brown, sandy, silty GRAVEL (GM); fine to coarse gravel, rounded to subrounded; fine to coarse sand	106
107–170								107
108–169							Very moist, dark brown/yellow-red, silty, gravelly SAND (SM); fine to coarse gravel (1"); predominantly coarse sand	108
109–168								109
110–167							Very moist, brown/dark brown, sandy, very silty GRAVEL (GM); fine to coarse gravel (2.5"); fine to coarse sand	110
111–166								111
112–165							Slightly moist, red-brown/brown, slightly silty, gravelly SAND (SP-SM); fine to coarse gravel (2"); predominanlty fine sand	112
113–164								113
114–163							Dry, light brown, sandy, silty GRAVEL (GM); fine gravel to cobbles (3.5"), rounded to subrounded; fine to coarse sand	114
115–162								115
116–161							Moist, brown, silty, gravelly SAND (SM) lense (6")	116
117–160							Wet, dark brown, slightly silty, gravelly SAND (SP-SM) lense	117
118–159							Very moist, brown, sandy, very silty GRAVEL (GM); fine gravel to cobbles (4"); fine to coarse sand	118
119–158								119
120–157							Wet, yellow-red, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (3"); predominantly medium sand	120
121–156								121
122–155	10/20 filter pack, 121'-146'						Moist, brown, silty, very sandy GRAVEL (GM); fine to coarse gravel (2"); predominantly medium sand	122
123–154							Slightly moist, brown, sandy, silty GRAVEL (GM); fine to coarse gravel (2.5"); fine to coarse sand	123
124–153							Very moist/wet, brown, silty, sandy GRAVEL (GM); fine gravel to cobbles (4"); predominantly coarse sand	124
125–152	2" diameter, 10-slot, Sch 40 PVC screen, 125'-145'						Moist, gray, sandy, very silty GRAVEL (GM); fine to coarse gravel (2"); fine to coarse sand	125
126–151							Dry, dark brown/gray, silty, sandy GRAVEL (GM); fine to coarse gravel (3"), rounded to subangular; fine to coarse sand	126
127–150								127
128–149								128
129–148								129
130–147								130
131–146								131
132–145								132
133–144								133
134–143								134
135–142								135
136–141	▽ 10/28/2010						Wet, brown, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (2"); predominantly medium to coarse sand	136
137–140	▼ 10/29/2010							137
138–139							Moist, yellow-red, silty, very gravelly SAND (SM); fine to coarse gravel (3"); predominantly medium to coarse sand	138
139–138								139
140–137							Dry, gray-purple, slightly gravelly, sandy SILT (ML); fine gravel; fine to coarse sand	140
141–136								141
142–135							Wet, brown, slightly silty, very gravelly SAND (SP-SM); fine to coarse gravel (3"), predominantly coarse sand	142
143–134								143
144–133							Wet, brown, slightly silty, sandy GRAVEL (GW-GM); fine to coarse gravel (3"), rounded to angular; fine to coarse sand	144
145–132	PVC endcap							145
146–131								146
147–130								147
148–129								148
149–128								149

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: JMS

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-14D	1 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.46 ft
Driller/Method:	Major Drilling - Jeffrey / Sonic Geoprobe 8140LS - track mounted	Depth to Water (ft BGS)	- 2/3/2012
Sampling Method:	Continuous Core	Start/Finish Date	1/30/2012 - 2/2/2012

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1 277	Flush mounted steel well monument; thermos cap						Cleared for utilities using an air vacuum - No Recovery.	1
2 276	Cement surface seal from 0-2' bgs							2
3 275								3
4 274		○						4
5 273								5
6 272								6
7 271								7
8 270								8
9 269							**Qvt**	9
10 268	2" ID schedule 40 PVC casing, threaded connection, 0'-123'						Moist, brown, very gravelly, very silty SAND (SM); cobbles up to 5"; fine to medium sand, diamict fabric.	10
11 267								11
12 266								12
13 265								13
14 264							Slightly moist, sandy, very gravelly, SILT (ML); fine to medium sand; cobbles up to 4".	14
15 263	Bentonite chip seal (NSF/ANSI 60), 2'-121' bgs							15
16 262								16
17 261								17
18 260								18
19 259								19
20 258								20
21 257							Diamict fabric.	21
22 256								22
23 255								23
24 254							Moist, brown, gravelly, very silty SAND (SM); fine to medium sand; subangular gravel; diamict fabric; cobbles up to 4".	24
25 253							Orange-brown.	25
26 252							Brown.	26
27 251								27
28 250							Moist, brown, slightly silty, gravelly SAND (SP-SM); fine to medium sand; subrounded gravel.	28
29 249								29
30 248								30
31 247							Moist, gray, gravelly, silty SAND (SM); fine to medium sand; subangular gravel.	31
32 246							Brown.	32
33 245								33
34 244							**Qva**	34
35 243							Moist, brown, slightly gravelly SAND (SP); fine to medium sand.	35
36 242							1" pockets of pink, slightly silty SAND.	36
37 241								37
38 240								38
39 239								39
40 238								40
41 237								41
42 236							Moist, gray with iron stain mottling, gravelly, very sandy SILT (ML); fine to medium sand; subrounded gravel; diamict fabric.	42
43 235								43
44 234							Moist, gray, slightly silty, gravelly SAND (SP-SM); fine to medium sand.	44
45 233							Moist, orange-brown, slightly gravelly SAND (SP); trace silt.	45
46 232								46
47 231							Moist, brown with iron stain mottling, slightly gravelly, silty SAND (SM); 1" pockets of silt, fine to medium sand, subangular fine gravel with cobbles.	47
48 230								48
49 229								49

Sampler Type:
○ No Recovery
▮ Continuous Core

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

Logged by: AET

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-14D	2 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.46 ft
Driller/Method:	Major Drilling - Jeffrey / Sonic Geoprobe 8140LS - track mounted	Depth to Water (ft BGS)	- 2/3/2012
Sampling Method:	Continuous Core	Start/Finish Date	1/30/2012 - 2/2/2012

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 227							Moist, dark gray brown, slightly gravelly SAND (SP); medium to coarse sand, fine subrounded gravel.	51
52 226							Moist, red-brown, slightly silty SAND (SP-SM); medium sand; trace gravel.	52
53 225								53
54 224							Gravelly.	54
55 223							Moist, yellow-brown SAND (SP); medium to coarse sand.	55
56 222								56
57 221								57
58 220								58
59 219							Moist, gray, slightly silty SAND (SP-SM); fine to medium sand, trace fine gravel; faint stratification	59
60 218								60
61 217							Moist, brown to dark brown SAND (SP); medium sand.	61
62 216							Red-orange, slightly gravelly.	62
63 215								63
64 214								64
65 213							Very moist to wet, brown, very silty SAND (SM); fine sand.	65
66 212								66
67 211							Grades to fine to medium sand.	67
68 210							Wet, dark red-brown, very gravelly SAND (SP); coarse sand; trace silt, with cobbles up to 3".	68
69 209								69
70 208								70
71 207							Wet, brown-gray SAND (SP); trace gravel; medium sand.	71
72 206								72
73 205							**Qob**	73
74 204							Wet, red-brown GRAVEL (GW); fine to coarse gravel; trace silt; trace coarse sand.	74
75 203								75
76 202							Moist, red-brown with iron staining, very gravelly SAND (SP); medium sand, fine to coarse rounded gravel with cobbles up to 3"; trace silt; diamict fabric.	76
77 201								77
78 200							Brown.	78
79 199							Dry, gray, gravelly, very sandy SILT (ML); fine to medium sand; subrounded to subangular gravel; cobbles up to 4".	79
80 198								80
81 197							Moist, brown-red, slightly gravelly SAND (SP); medium sand; subrounded gravel; trace silt.	81
82 196								82
83 195							Slightly moist, gray, gravelly, silty SAND (SM); fine to medium sand; fine to coarse subrounded to rounded gravel.	83
84 194								84
85 193								85
86 192							Wet, brown SAND (SP); fine to medium sand, trace gravel.	86
87 191							Wet, red-brown GRAVEL (GP); coarse gravel and cobbles.	87
88 190								88
89 189							Very moist to wet, brown, gravelly, sandy SILT (ML); diamict fabric, cobbles up to 4".	89
90 188							Gray.	90
91 187								91
92 186								92
93 185							Moist, gray-brown, slightly gravelly, silty SAND (SM); fine to medium sand.	93
94 184								94
95 183								95
96 182								96
97 181								97
98 180							Moist to wet, brown-gray SAND (SP); fine to medium sand.	98
99 179							Moist, gray-brown, slightly silty, gravelly SAND	99

Sampler Type:
- ◯ No Recovery
- ▮ Continuous Core

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

Logged by: AET

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-14D	3 of 3

Project Name:	Walker Chevrolet	Ground Surface Elev.	278
Location:	Tacoma, WA	Top of Casing Elev.	277.46 ft
Driller/Method:	Major Drilling - Jeffrey / Sonic Geoprobe 8140LS - track mounted	Depth to Water (ft BGS)	- 2/3/2012
Sampling Method:	Continuous Core	Start/Finish Date	1/30/2012 - 2/2/2012

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
101–177							(SP-SM).	101
102–176							Moist to wet, brown, very sandy GRAVEL (GP); tr. silt, fine to coarse sand; fine subrounded to subangular gravel.	102
103–175								103
104–174								104
105–173							Slightly moist, gray and brown mottled, gravelly, sandy SILT (ML); fine to medium sand; fine to coarse gravel; diamict fabric.	105
106–172								106
107–171								107
108–170								108
109–169								109
110–168								110
111–167							Moist, brown and gray mottled, gravelly, silty SAND (SM); fine to medium sand; subrounded gravel up to 2".	111
112–166								112
113–165								113
114–164							Dry to slightly moist, gray with iron stain mottling, gravelly, sandy SILT (ML); diamict fabric.	114
115–163								115
116–162								116
117–161							Moist, brown-gray, slightly silty, very gravelly SAND (SP-SM); medium to coarse sand.	117
118–160							Moist, brown-gray, gravelly, silty SAND (SM); cobbles up to 3".	118
119–159								119
120–158								120
121–157							Slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand; cobbles up to 3".	121
122–156								122
123–155							Moist, brown, very silty, sandy GRAVEL (GM); cobbles up to 4", angular gravel, fine to coarse sand.	123
124–154								124
125–153	10x20 colorado silica sand filter pack, 121'-143.5' bgs						Dry to slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand, cobbles up to 4".	125
126–152								126
127–151								127
128–150								128
129–149							Moist, brown-gray with orange mottling, silty, very gravelly SAND (SM); fine to coarse sand; fine to coarse angular gravel with cobbles up to 3".	129
130–148	▽ 2/1/2012							130
131–147								131
132–146								132
133–145								133
134–144	▼ 2/3/2012						Moist to wet, gray-brown, gravelly, sandy SILT (ML); fine to coarse sand, fine to coarse subangular gravel; diamict fabric.	134
135–143	2" ID schedule 40 PVC 20-slot screen, 123.5'-143.5' bgs							135
136–142							Very gravelly.	136
137–141								137
138–140							Moist.	138
139–139								139
140–138							Wet.	140
141–137								141
142–136								142
143–135								143
144–134	Threaded PVC end cap							144
145–133							Bottom of boring at 145' BGS.	145
146–132								146
147–131								147
148–130								148
149–129								149

Sampler Type:
- ○ No Recovery
- ▮ Continuous Core

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

Logged by: AET

Approved by: ALN

Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-15	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.84 ft
Depth to Water
Start/Finish Date 10/14/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-4'						Concrete.	1
2							No logging or sampling.	2
3								3
4								4
5							Boring drilled 37 degrees from vertical to intercept saturated soil under alley.	5
6								6
7								7
8								8
9								9
10	2" diameter, schedule 40 PVC, threaded connections, 0'-55'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20	Hydrated bentonite chips, 4'-52'							20
21								21
22								22
23								23
24							Strong solvent-like odor in cuttings. (24 ft bgs)	24
25								25
26								26
27								27
28								28
29								29
30				36.7				30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Project Number	Well Number	Sheet
080190	MW-15	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.84 ft
Depth to Water
Start/Finish Date 10/14/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–74	10/20 sand filter pack, 52'-75' 2" diameter, 0.020-inch, schedule 40 PVC screen, 55'-75'						Well screen is completed in advance outwash beneath alley, 33 to 45 ft west-northwest of monument, and 44 to 60 ft below ground surface	51–74
75	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	75
76–99								76–99

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-16	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.88 ft
Depth to Water
Start/Finish Date 10/15/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-4'						Asphalt over concrete.	1
2							No logging or sampling.	2
3								3
4								4
5							Boring drilled 23 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	2" diameter, schedule 40 PVC, threaded connections, 0'-45'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20	Hydrated bentonite chips, 4'-42'							20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42	10/20 sand filter pack, 42'-65'						Well screen is completed in advance outwash beneath Morrell's Dry Cleaners building, 18 to 25 feet west-northwest of monument, and 41 to 60 feet below ground surface	42
43								43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-16	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.88 ft
Depth to Water
Start/Finish Date 10/15/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–64	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-65'							51–64
65	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	65
66–99								66–99

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-17	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.97 ft
Depth to Water
Start/Finish Date 10/15/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-4'						Asphalt over concrete.	1
2							No logging or sampling.	2
3								3
4								4
5							Boring drilled 32 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	2" diameter, schedule 40 PVC, threaded connections, 0'-51'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20	Hydrated bentonite chips, 4'-48'							20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43							Well screen is completed in advance outwash beneath Morrell's Dry Cleaners, 27 to 38 feet west-northwest of monument, and 43 to 60 feet below ground surface.	43
44								44
45								45
46								46
47								47
48								48
49	10/20 sand filter pack, 48'-71'							49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-17	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.97 ft
Depth to Water
Start/Finish Date 10/15/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–70	2" diameter, 0.020-inch, schedule 40 PVC screen, 51'-71'							51–70
71	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	71
72–99								72–99

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-18	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.80 ft
Depth to Water
Start/Finish Date 10/16/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-4'						Asphalt over concrete.	1
2							No logging or sampling, strong solvent-like odor in cuttings.	2
3								3
4								4
5							Boring drilled 45 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	2" diameter, schedule 40 PVC, threaded connections, 0'-65'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20	Hydrated bentonite chips, 4'-62'							20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-18	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 277.80 ft
Depth to Water
Start/Finish Date 10/16/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–84	10/20 sand filter pack, 62'-85' 2" diameter, 0.020-inch schedule 40 PVC screen, 65'-85'						Well screen is completed in advance outwash beneath Morrell's Dry Cleaners, 46 to 60 feet west-northwest of monument, and 46 to 60 feet below ground surface	51–84
85	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	85
86–99								86–99

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-19	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: Dames & Moore

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.15 ft
Depth to Water
Start/Finish Date 10/17/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1–49	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Asphalt.	1
							Qvt Very dense, moist, brown, slightly silty, gravelly SAND (SP-SM); diamict fabric, fine to medium sand, solvent-like odor.	2–19
10	2" diameter, schedule 40 PVC, threaded connections, 0'-45'				50/6			10
20	Hydrated bentonite chips, 2'-42'				50/6		Very dense, moist, brown gray, silty, gravelly SAND (SM); diamict fabric, solvent-like odor, predominantly fine sand, fine to coarse gravel.	20
25					50/6		Trace gravel.	25
30					50/6		**Qva** Very dense, moist, orange brown, slightly gravelly SAND (SP); fine to medium sand, solvent-like odor.	30
35					21 21 30		Trace silt.	35
40					36 50/6		Trace fine gravel, slight solvent-like odor.	40
42	10/20 sand filter pack, 42'-60.5'							42
45					50/6			45
49								49

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-19	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: Dames & Moore

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.15 ft
Depth to Water
Start/Finish Date 10/17/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–99	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-60' Threaded PVC endcap				50/6 50/6		Wet, red brown. Very dense, wet, dark red brown SAND (SP); fine to coarse sand, trace fine gravel. Bottom of boring is 60.5 feet below ground surface.	51–99

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-20	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.03 ft
Depth to Water
Start/Finish Date 10/11/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Asphalt.	1
2							No logging or sampling.	2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10	2" diameter, schedule 40 PVC, threaded connections, 0'-45'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20	Hydrated bentonite chips, 2'-42'							20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43	10/20 sand filter pack, 42'-60'							43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-20	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 278.03 ft
Depth to Water
Start/Finish Date 10/11/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–59	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-60'							51–59
60	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	60
61–99								61–99

Sampler Type:
No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-21	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: Dames & Moore

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 279.03 ft
Depth to Water
Start/Finish Date 10/17/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1–2	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Asphalt.	1–2
							Qvt Very dense, moist, brown, silty, gravelly SAND (SM); diamict fabric, fine to medium sand.	
5				0.0	50/6			5
10	2" diameter, schedule 40 PVC, threaded connections, 0'-45'			10.5	26			10
11			VOC/FOC		50/6			11
15			VOC/FOC	165	50/6			15
20	Hydrated bentonite chips, 2'-42'			0.0	50/6			20
25			VOC/FOC	0.0	50/6			25
30				0.0	50/6			30
35				0.0	50/5		**Qva** Very dense, moist, red brown, slightly gravelly SAND (SP); fine to medium sand.	35
40			VOC/FOC	0.0	50/6		Brown.	40
42–43	10/20 sand filter pack, 42'-60.5'							42–43
45				0.0	50/6		Red brown, trace fine gravel.	45
49								49

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	MW-21	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: Dames & Moore

Ground Surface Elev. (site datum)
Top of Casing Elev. (site datum) 279.03 ft
Depth to Water
Start/Finish Date 10/17/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51				0.0	50/6		Very dense, moist, brown, slightly silty SAND (SP-SM); fine sand.	51
52								52
53								53
54								54
55	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-60'		VOC/FOC	0.0	50/6		Very dense, wet, brown, SAND (SP); fine to medium sand.	55
56								56
57								57
58								58
59								59
60	Threaded PVC endcap			0.0	50/6		Bottom of boring is 60.5 feet below ground surface.	60
61								61
62								62
63								63
64								64
65								65
66								66
67								67
68								68
69								69
70								70
71								71
72								72
73								73
74								74
75								75
76								76
77								77
78								78
79								79
80								80
81								81
82								82
83								83
84								84
85								85
86								86
87								87
88								88
89								89
90								90
91								91
92								92
93								93
94								94
95								95
96								96
97								97
98								98
99								99

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-1	1 of 1

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.99 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/21/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Concrete.	1
2							No logging or sampling, strong solvent-like odor in cuttings.	2
3								3
4								4
5	4" diameter, schedule 40 PVC, threaded connections, 0'-25'						Boring drilled 45 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	Hydrated bentonite chips, 2'-22'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23	10/20 sand filter pack, 22'-45'							23
24								24
25							Well screen is completed in glacial till beneath Morrell's Dry Cleaners building, 18 to 32 feet west-northwest of near-surface manifold, and 18 to 32 feet below ground surface	25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35	4" diameter, 0.020-inch, schedule 40 PVC screen, 25'-45'							35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43								43
44								44
45	Threaded PVC endcap						Bottom of boring is 32 feet below ground surface.	45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-2	1 of 1

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.81 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/21/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Concrete.	1
2							No logging or sampling, strong solvent-like odor in cuttings.	2
3								3
4								4
5	4" diameter, schedule 40 PVC, threaded connections, 0'-25'						Boring drilled 45 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	Hydrated bentonite chips, 2'-22'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23	10/20 sand filter pack, 22'-45'							23
24								24
25							Well screen is completed in glacial till beneath Morrell's Dry Cleaners building, 18 to 32 feet west-northwest of near-surface manifold, and 18 to 32 feet below ground surface.	25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35	4" diameter, 0.020-inch, schedule 40 PVC screen, 25'-45'							35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43								43
44								44
45	Threaded PVC endcap						Bottom of boring is 32 feet below ground surface.	45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-3	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.92 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/22/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-2'					Concrete.	Concrete.	1
2							No logging or sampling, strong solvent-like odor in cuttings.	2
3								3
4								4
5	4" diameter, schedule 40 PVC, threaded connections, 0'-44'						Boring drilled 45 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	Hydrated bentonite chips, 2'-41'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42	10/20 sand filter pack, 41'-64'						Well screen is completed in advance outwash beneath Morrell's Dry Cleaners building, 31 to 45 feet west-northwest of near-surface manifold, and 31 to 45 feet below ground surface.	42
43								43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-3	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.92 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/22/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–63	4" diameter, 0.020-inch, schedule 40 PVC screen, 44'-64'							51–63
64	Threaded PVC endcap						Bottom of boring is 45 feet below ground surface.	64
65–99								65–99

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-4	1 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.53 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/18/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
1	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						Concrete.	1
2							No logging or sampling, strong solvent-like odor in cuttings.	2
3								3
4								4
5	4" diameter, schedule 40 PVC, threaded connections, 0'-39'						Boring drilled 40 degrees from vertical, perpendicular to the building.	5
6								6
7								7
8								8
9								9
10	Hydrated bentonite chips, 2'-37'							10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38	10/20 sand filter pack, 37'-59'						Well screen is completed in advance outwash beneath Morrell's Dry Cleaners building, 25 to 38 feet west-northwest of near-surface manifold, and 30 to 45 feet below ground surface.	38
39								39
40								40
41								41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49

Sampler Type:
○ No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	VE-4	2 of 2

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Cascade Drilling / Hollow Stem Auger - Angle
Sampling Method: No samples

Ground Surface Elev. (site datum) 273.53 ft
Top of Casing Elev. (site datum)
Depth to Water
Start/Finish Date 10/18/2013

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51–58	4" diameter, 0.020-inch, schedule 40 PVC screen, 39'-59'							51–58
59	Threaded PVC endcap							59
60							Bottom of boring is 45 feet below ground surface.	60
61–99								61–99

Sampler Type:
No Recovery

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

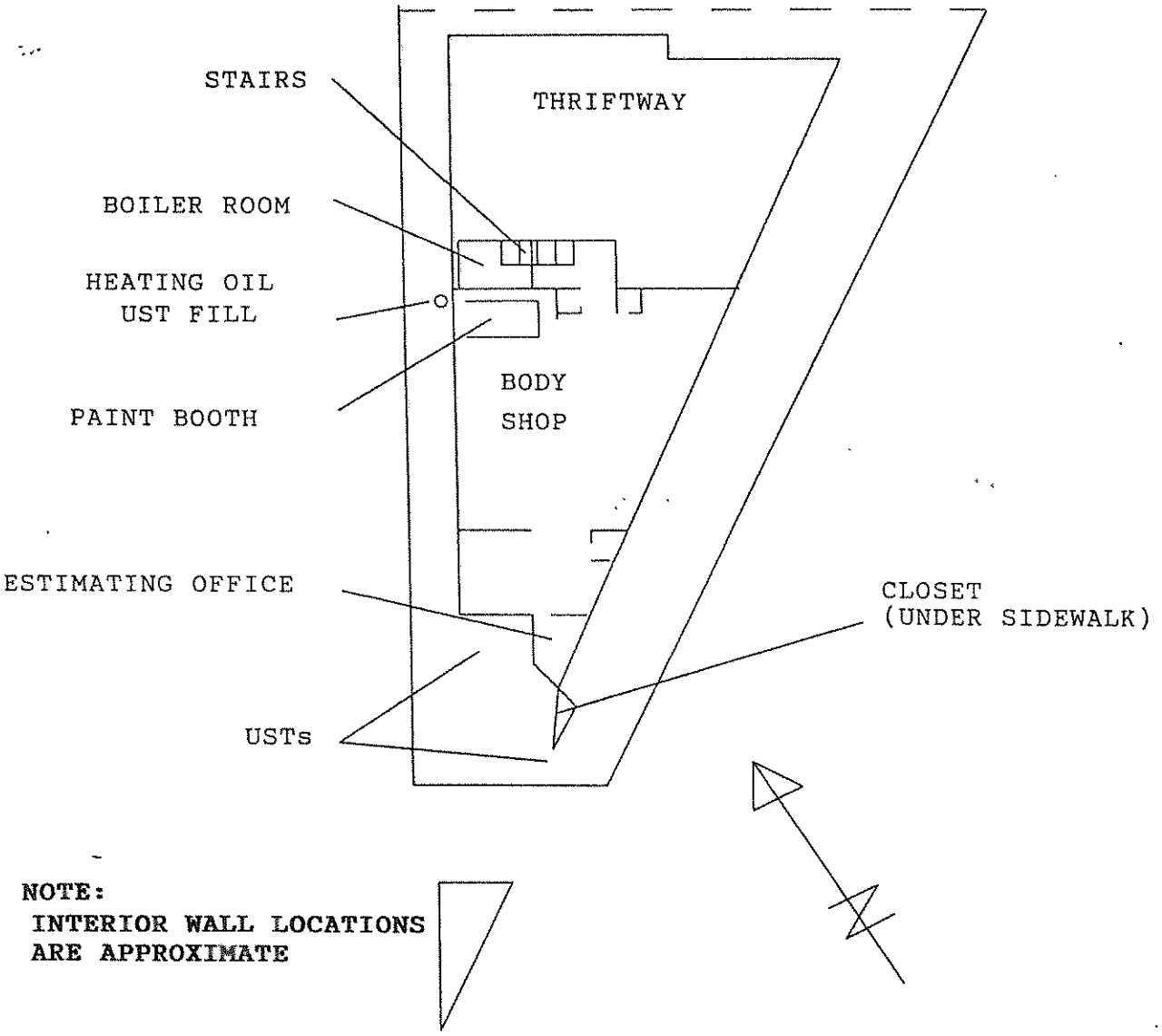
APPENDIX B

Summarized Figures and Data Tables from Phase I ESA and Remedial Action Reports in 1994, 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

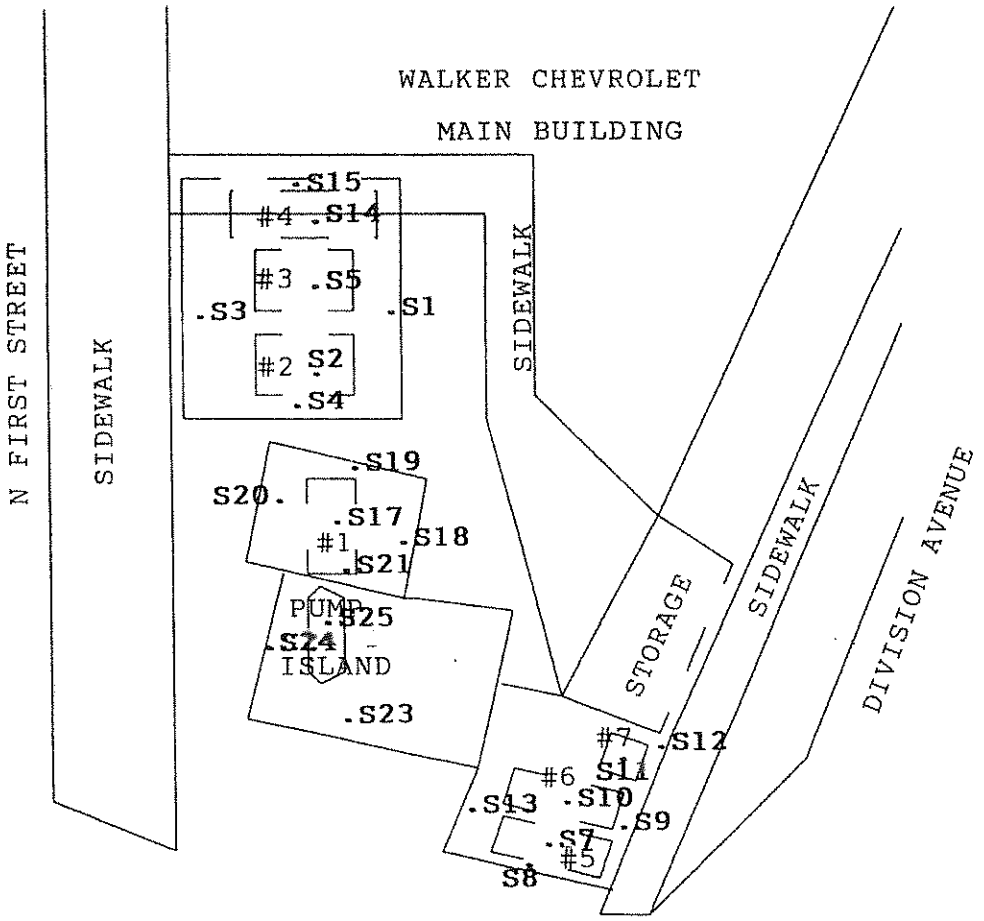


NOTE:
INTERIOR WALL LOCATIONS ARE APPROXIMATE

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
PBRS
PB5
PB6
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
S-6
SECPB
PBLS
IB-2
T-1
S-1
S-2
S-3
B-1
F-20
F-12
R-18
R-12
ALS-1
IB4
DC1
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

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

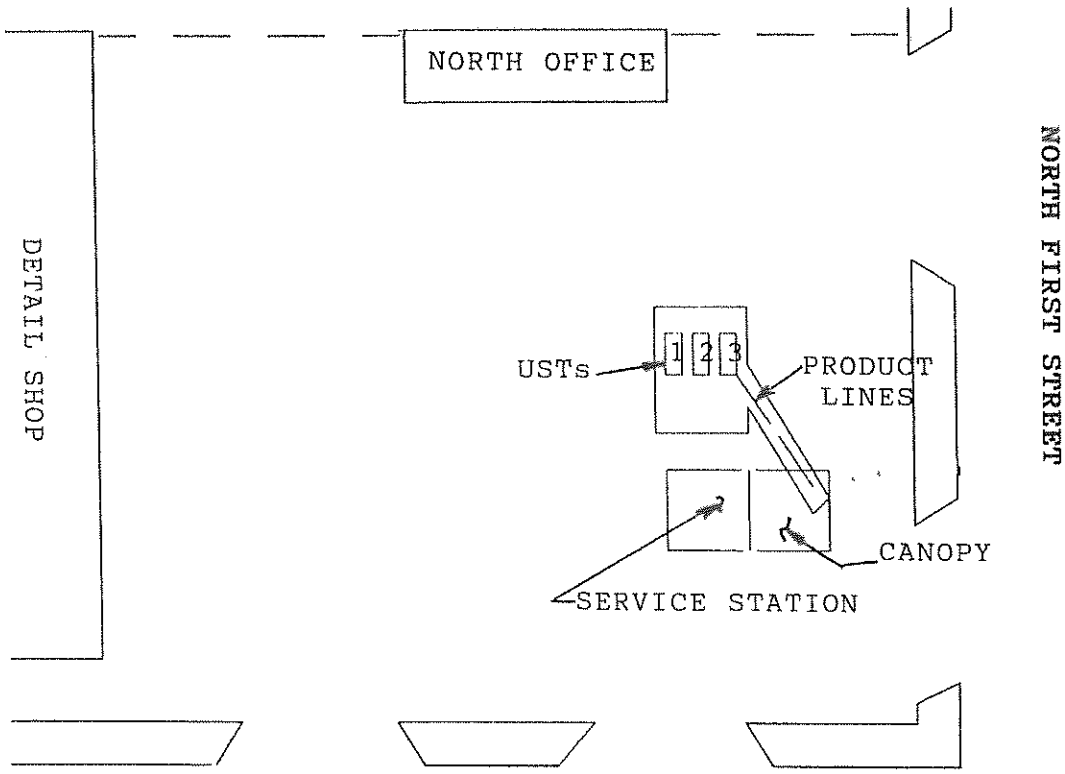
SAMPLE NUMBER	SAMPLE DATE	DEPTH	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	GASOLINE	DIESEL	OIL	MINERAL OIL
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-1-15	8/31/06	15'	6.1	4.1	6	12	920	ND	ND	ND
S-2-15	8/31/06	15'	ND	ND	ND	ND	ND	ND	ND	ND
S-7-15	8/31/06	16'					360	ND	ND	ND
S-3-15	8/31/06	15'	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

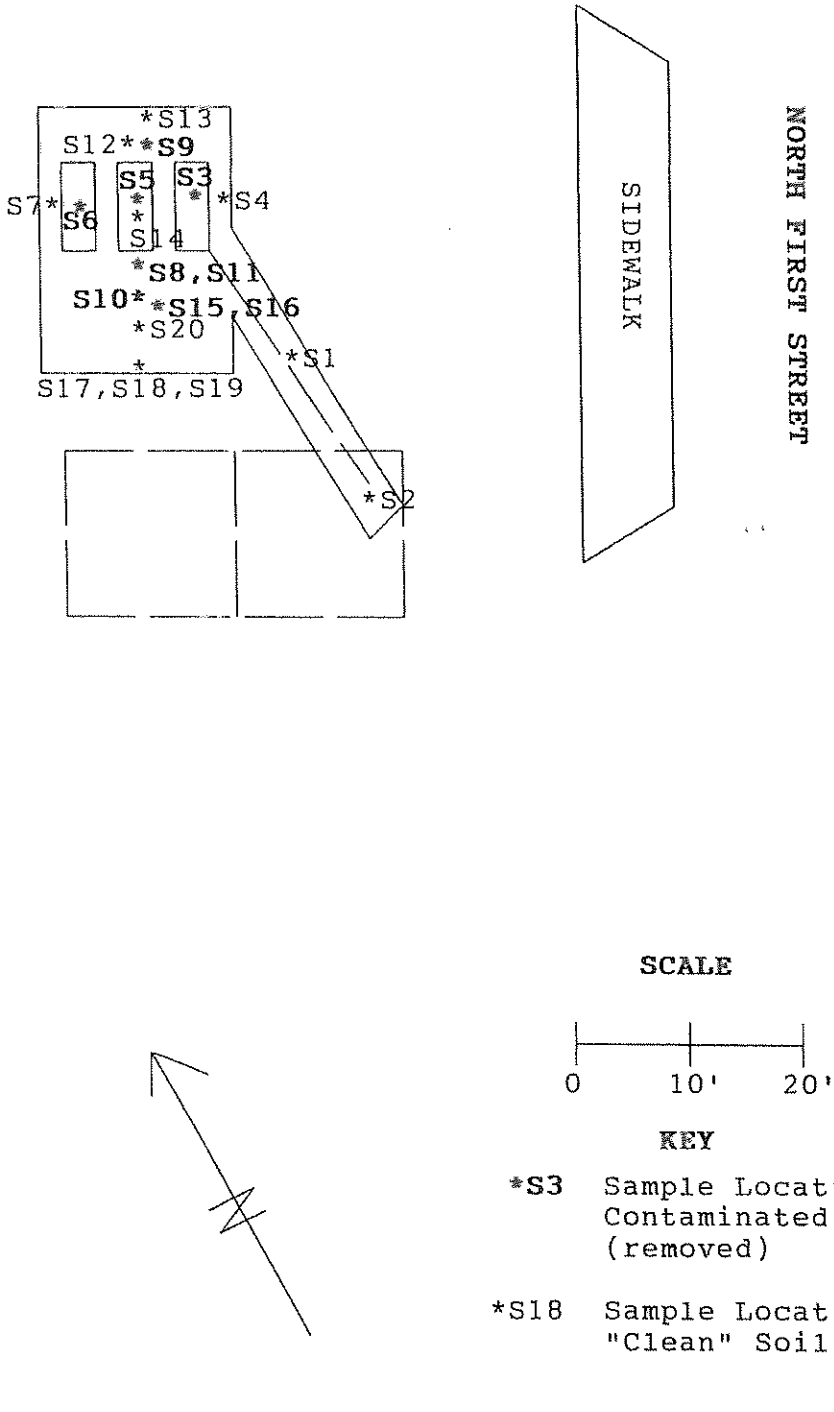


SCALE

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

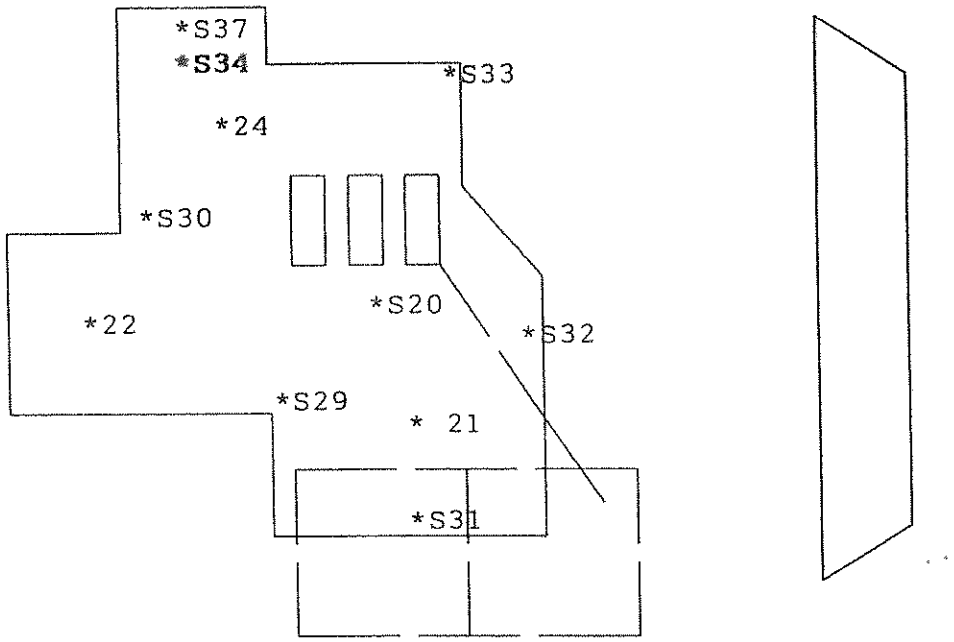
0 10' 20'

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
PBRS
PB5
PB6
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
S-6
SECPB
PBLS
IB-2
T-1
S-1
S-2
S-3
B-1
F-20
F-12
R-18
R-12
ALS-1
IB4
DC1
NORTH
Soil Samples
SCALE
1 INCH = 50 FEET

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

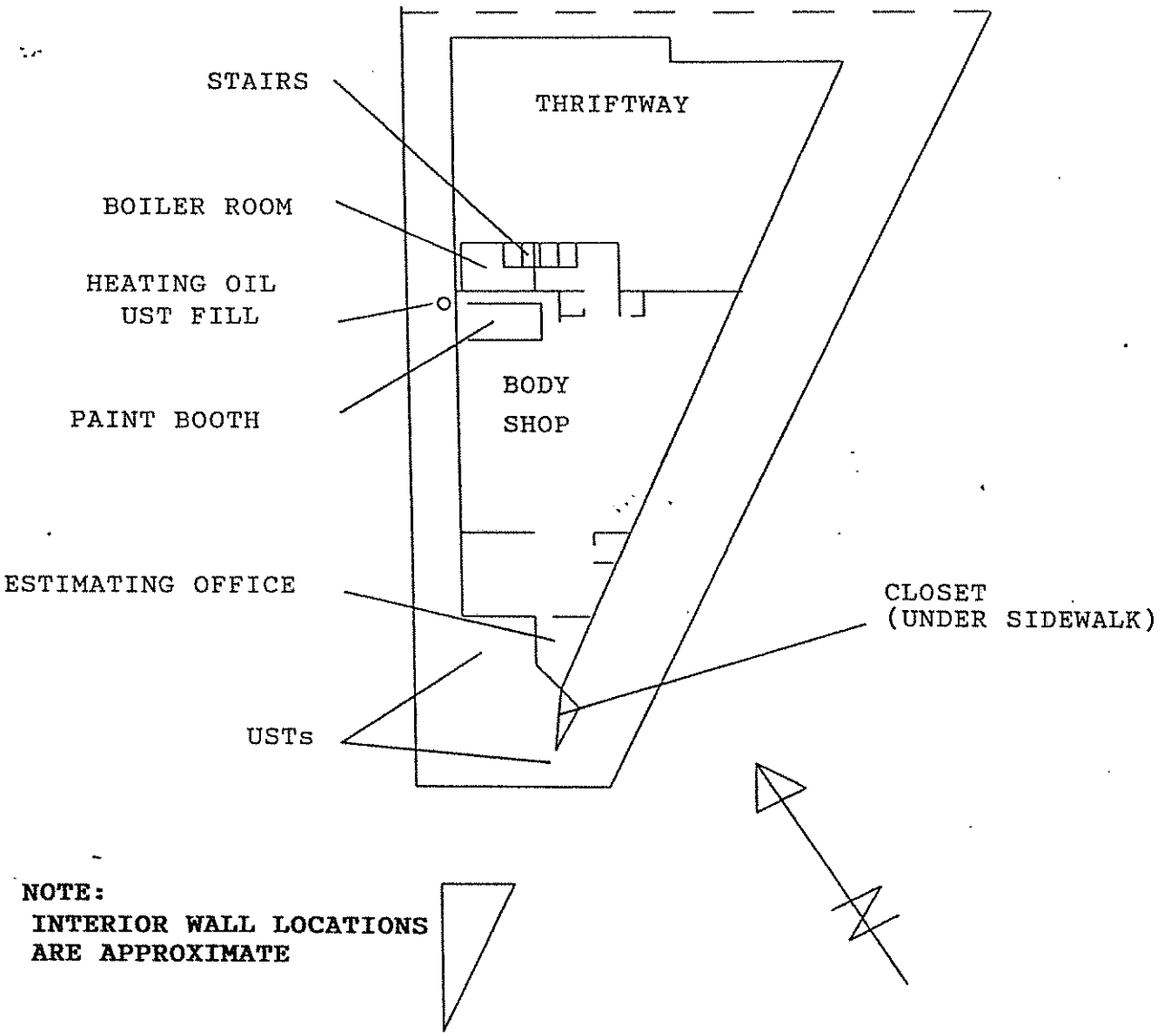
Former Paint Booth and Heating Oil UST - Figures and Data Tables

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

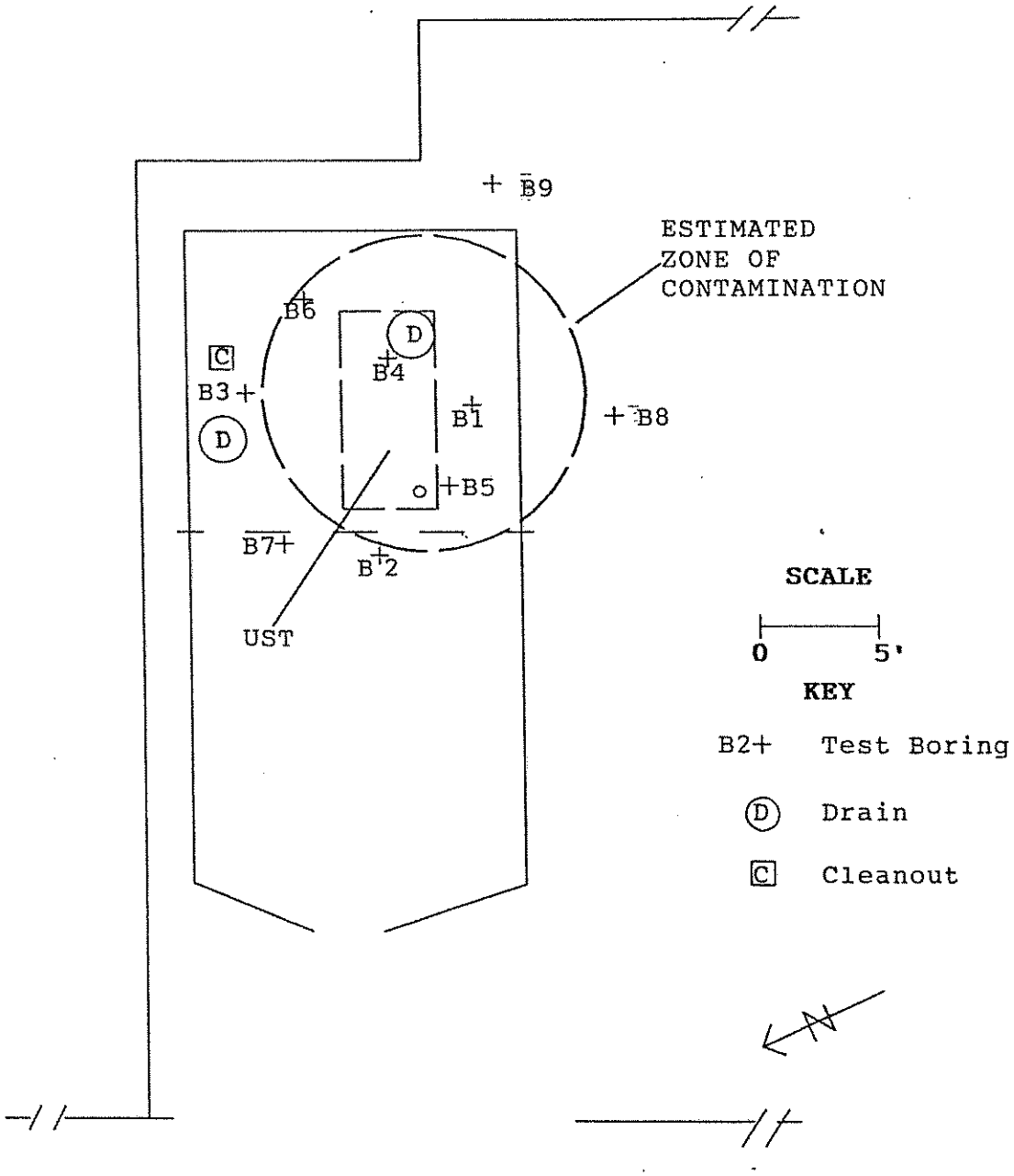


NOTE:
INTERIOR WALL LOCATIONS ARE APPROXIMATE

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
PBRS
PB5
PB6
PBWE
15ND10
15ND16
20ND8
20ND16
50ND16
PB-2
PB-3
TS-1
TS-2
S-6
SECPB
PBLS
IB-2
T-1
S-1
S-2
S-3
B-1
F-20
F-12
R-18
R-12
ALS-1
IB4
DC1
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

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 C

Soil Boring Logs for South Gas Station and Paint Booth Area

Coarse-Grained Soils - More than 50% [1] Retained on No. 200 Sieve	Gravels - More than 50% [1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines [5]	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥15% Fines [5]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50% [1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines [5]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥15% Fines [5]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50% [1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diato-maceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

	Density	SPT [2] blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT [2] blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

FC = Fines Content
G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Consolidation
DD = Dry Density
K = Permeability
Str = Shear Strength
Env = Environmental
PiD = Photoionization Detector

Component Definitions

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

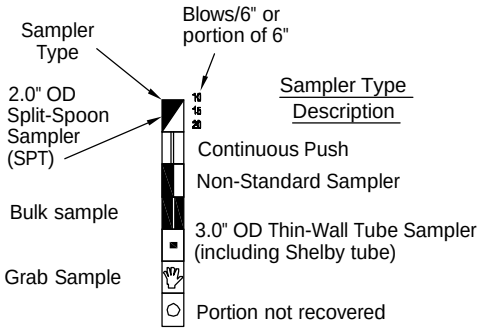
[3] Estimated Percentage

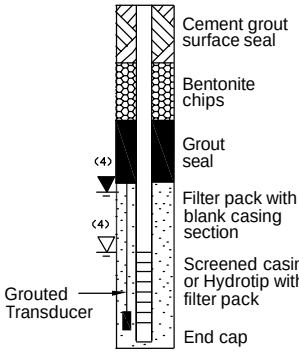
Percentage by Weight	Modifier
<5	Trace
5 to 15	Slightly (sandy, silty, clayey, gravelly)
15 to 30	Sandy, silty, clayey, gravelly)
30 to 49	Very (sandy, silty, clayey, gravelly)

Moisture Content

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

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of groundwater — ATD = At time of drilling; Static water level (date); BGS = below ground surface
(5) Combined USCS symbols used for fines between 5% and 15% as estimated in General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)

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

Aspect CONSULTING

Exploration Log Key

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:

PROJECT NO.

FIGURE NO.
C-1

Q:_ACAD Standards\Standard Details\Exploration Log Key C1.dwg

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	AB-1	1 of 3

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing 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)
	Asphalt patch						Asphalt.	
							Qvi Medium dense, moist, brown, very gravelly SAND (SP); fine to medium sand.	
5				0.0	4 10 8			5
10	Hydrated bentonite chip backfill			0.0	10 30 36		**Qvt** Very dense, moist, gray with iron staining, gravelly SAND (SP); fine to medium sand.	10
15			AB-1-15	96.1	20 32 50/5		Very dense, moist, gray and brown mottled, silty, gravelly SAND (SM); fine to medium sand, diamict fabric.	15
20				21.1	19 50/3			20

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	AB-1	2 of 3

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing 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)
			AB-1-25	4.4	35 50/4			
30				0.0	33 50/4		Hard, gray brown, sandy, gravelly SILT (ML); diamict fabric.	30
35				0.0	21 33 50/5		Very dense, moist, red brown, slightly silty, gravelly SAND (SP-SM); diamict fabric.	35
40				0.0	23 50/6		**Qva** Very dense, moist, red brown, slightly gravelly SAND (SP); fine to medium sand, trace silt.	40
45			AB-1-45	0.0	14 30 37			45

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	AB-1	3 of 3

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing 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)
				0.0	22 40 41			
55				0.0	22 33 47		Trace gravel.	55
60			AB-1-61.5	0.0	38 44 50/5		Wet.	60
							Bottom of boring is 61.5 feet below ground surface.	
65								65
70								70

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

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

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing Elev.:
Depth to Water:
Start/Finish Date: 4/6/2015

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
	Concrete patch						Asphalt	
				0	9 9 8			
5							**Qvi** Very loose, moist, brown, slightly silty, very gravelly SAND (SP-SM); fine to medium sand, fine gravel	5
				0	2 2 2			
				0	2 2 2			
10	Cement/bentonite grout						Becomes loose, slightly gravelly	10
				0	2 2 5			
				0	5 12 16		Medium dense, moist, slightly gravelly, silty SAND (SM); fine to medium sand, fine gravel	
15				2.1	6			15
			AB-2-16.5	75.8	25		**Qvt** Very dense, wet, gray to blue gray, slighly silty, slightly gravelly SAND (SP-SM); petroleum-like odor	
				1724	26		Very dense, moist, gray to blue gray, slightly gravelly, silty SAND (SP-SM); petroleum-like odor	
							Bottom of boring 16.5ft below ground surface.	

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL_STADIUM THRIFTWAY.GPJ July 8, 2016

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, SE corner of South Parking Lot		*Coordinates* NA	*Exploration Number* **AB-2D**
Contractor Holt	*Equipment* Rotary drill rig	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface (GS) Elev.* NA (est.)	
Operator Todd	*Exploration Method(s)* Hollow-stem auger	*Work Start/Completion Dates* 3/4/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							Asphalt	
1							**Qvt** Medium dense, moist, brown, gravelly, silty SAND (SM); fine to coarse sand, fine gravel	1
2		Concrete patch						2
3								3
4								4
5								5
6			S1		SPT= 3, 3, 3			6
7								7
8								8
9								9
10			S2	AB-2D-10 NWTPH-Dx, NWTPH-Gx, 8260 (VOCs), 8270 (PAHs), 200.8 (Pb)	SPT= 5, 8, 10 PID= 0.2			10
11								11
12								12
13			S3		SPT= 5, 13, 11 PID= 0.2			13
14								14
15		Backfilled with 3/8" bentonite chips	S4	AB-2D-15 NWTPH-Dx, NWTPH-Gx, 8260 (VOCs), 8270 (PAHs), 200.8 (Pb)			becomes very dense, gray, slightly gravelly, silty SAND (SM) at 15'	15
16					SPT= 18, 32, 22 PID= 1868			16
17								17
18			S5		SPT= 32, 50/3 PID= 316.9			18
19								19
20			S6					20
21					SPT= 50/6 PID= 186.4		becomes slightly moist, gravelly, silty SAND (SM) at 20.5'	21
22								22
23			S7		PID= 30.1 SPT= 36, 50/0.5 PID= 20.9		becomes moist at 22.5'	23
24								24

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log AB-2D
Sheet 1 of 3

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, SE corner of South Parking Lot		*Coordinates* NA	*Exploration Number* **AB-2D**
Contractor Holt	*Equipment* Rotary drill rig	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface (GS) Elev.* NA (est.)	
Operator Todd	*Exploration Method(s)* Hollow-stem auger	*Work Start/Completion Dates* 3/4/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
26			S8		SPT= 50/4 PID= 1341			26
27				AB-2D-27.5 NWTPH-Dx, NWTPH-Gx, 8260 (VOCs), 8270 (PAHs), 200.8 (Pb)				27
28			S9		SPT= 50/4.5 PID= 100.4			28
29								29
30								30
31								31
32								32
33			S10		SPT= 36, 50/4 PID= 134.4		Very dense, moist, gray, very gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine gravel, broken gravel from 33.5' to 34'	33
34								34
35								35
36								36
37								37
38			S11	AB-2D-37.5 NWTPH-Dx, NWTPH-Gx, 8260 (VOCs), 8270 (PAHs), 200.8 (Pb)	SPT= 19, 43, 54 PID= 5.9		**Qva** Very dense, moist, gray SAND (SP); trace fine sand, medium sand becomes red brown	38
39								39
40								40
41								41
42								42
43			S12		SPT= 20, 37, 50 PID= 20.8		trace coarse sand	43
44								44
45								45
46								46
47								47
48			S13		SPT= 20, 50/5 PID= 1.2			48
49								49

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log AB-2D
Sheet 2 of 3

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, SE corner of South Parking Lot		*Coordinates* NA	*Exploration Number* **AB-2D**
Contractor Holt	*Equipment* Rotary drill rig	*Sampling Method* Autohammer; 140 lb hammer; 30" drop	*Ground Surface (GS) Elev.* NA (est.)	
Operator Todd	*Exploration Method(s)* Hollow-stem auger	*Work Start/Completion Dates* 3/4/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
51–54			S14	AB-2D-52.5 NWTPH-Dx, NWTPH-Gx, 8260 (VOCs), 8270 (PAHs), 200.8 (Pb)	SPT= 19, 26, 27 PID= 0.8		fine to medium sand from 52.5'	51–54
54							Bottom of exploration at 54 ft. bgs.	54
55–74								55–74

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log AB-2D
Sheet 3 of 3

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	AB-3	1 of 1

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing Elev.:
Depth to Water:
Start/Finish Date: 4/6/2015

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
	Concrete patch						Asphalt	
				1.0	4 6 6		**Qvi** Medium dense, moist, brown, slightly silty, gravelly SAND (SP-SM); fine to medium sand, fine gravel	
5				0	3 4 3		Loose, moist, gray brown, gravelly, silty SAND (SM); fine to medium sand	5
				0	0 1 4		becomes very silty with iron staining 2-inch wet sand lens	
10	Cement/bentonite grout			0	0 1 1			10
				0	11 50/5		Very dense, moist, brown, gravelly, very sandy SILT (ML) to very silty SAND (SM); fine sand	
15				0.3 74.1	4		Medium dense, moist, gray, slightly gravelly, very sandy SILT (ML); petroleum-like odor	15
			AB-3-16.5	316.2 664	4 8			
							Bottom of boring 16.5ft below ground surface.	

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Monitoring Well Construction Log

Aspect CONSULTING

Project Number	Well Number	Sheet
080190	AB-4	1 of 1

Project Name: Walker Chevrolet
Location: Tacoma, WA
Driller/Method: Holt Drilling / Hollow Stem Auger
Sampling Method: SPT

Ground Surface Elev.:
Top of Casing Elev.:
Depth to Water:
Start/Finish Date: 4/6/2015

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
	Concrete patch						Asphalt	
							FILL Very loose, moist, brown with iron staining, slightly silty SAND (SP-SM)	
				0	1 1 0			
5				0	1 1 1			5
				0	0 0 1			
10	Cement/bentonite grout			0	5 3 2		Solid wood	10
							Qvi Medium stiff, moist, green gray with iron staining, sandy SILT (ML); trace fine gravel	
				0	3 3 5			
15			AB-4-16.5	0	5 5 13		Medium dense/very stiff, very moist, green gray, very silty SAND (SM); fine sand	15
							Bottom of boring 16.5ft below ground surface.	

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

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

Logged by: AET
Approved by: ALN
Figure No.

MONITORING WELL STADIUM THRIFTWAY.GPJ July 8, 2016

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 12' S and 10' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B10**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete cap					Concrete	
1							**FILL** Slightly moist, brown, slightly gravelly silty SAND (SM); fine to coarse sand, fine gravel	1
2			S1		PID= 0.3			2
3		Backfilled with 3/4" bentonite chip						3
4			S2	B10-4.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 1.7		Becomes gravelly at 4'	4
5							Bottom of exploration at 5 ft. bgs. Note: Refusal at 5 ft. BGS.	5
6								6
7								7
8								8
9								9

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B10
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 4.5' S and 25' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B11**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap					Concrete	0
							FILL Moist, brown, gravelly, silty SAND (SM); fine to coarse sand, fine gravel	
1					PID= 1.0			1
2			S1		PID= 1.0			2
3		Backfilled with 3/4" bentonite chip						3
4					PID= 12.9			4
5			S2	B11-5.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 8270 (PAHs), 8082 (PCBs), 200.8 (Pb)	PID= 380.2		**FILL** Moist, dark brown, slightly sandy PEAT (PT)	5
6								6
7							Bottom of exploration at 7 ft. bgs. Note: Refusal at 7 ft. BGS.	7
8								8
9								9

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B11
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 5' N and 12' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B12**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete cap					Concrete	
							FILL Slightly moist, brown to gray, gravelly, silty SAND (SM); fine to coarse sand, fine gravel	
1					PID= 5.2			1
2			S1		PID= 8.2			2
3		Backfilled with 3/4" bentonite chip			PID= 4.0			3
4								4
5				B12-5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 2.7			5
6			S2		PID= 2.7 PID= 3.2			6
7					PID= 2.5		Becomes moist at 7'	7
8			S3		PID= 1.2 PID= 1.2			8
9				B12-9 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 0.8		Bottom of exploration at 9 ft. bgs. Note: Refusal at 9 ft. BGS.	9

Legend

Sample Method
- No Soil Sample Recovery
- Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B12
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 15' S and 10' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B13**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Concrete cap	S1				Concrete	
		Backfilled with 3/4" bentonite chip					No recovery	
1							Bottom of exploration at 0.75 ft. bgs. Note: Refusal at 0.75 ft. BGS.	1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9

Legend

Sample Method: ◯ No Soil Sample Recovery

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B13
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 14' S and 10' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B14**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap				Concrete	Concrete	0
1			S1		PID= 0.8	FILL	**FILL** Moist, brown, slightly gravelly, silty SAND (SM); fine to coarse sand, fine gravel	1
2								2
3		Backfilled with 3/4" bentonite chip						3
4				B14-4.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 67.2			4
5			S2		PID= 2.3			5
6				B14-5.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)				6
7								7
8								8
9			S3		PID= 0.7			9
10					PID= 0.7			10
11				B14-10.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 0.6		Bottom of exploration at 11 ft. bgs. Note: Refusal at 11 ft. BGS.	11

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B14
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 22' S and 10' E of column between produce and meat preparation areas		*Coordinates* NA	*Exploration Number* **B15**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 2/25/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap					Concrete	0
					PID= 0.6		**FILL** Slightly moist, brown, slightly gravelly, silty SAND (SM); fine to coarse sand, fine gravel	
1					PID= 0.4			1
2			S1					2
3		Backfilled with 3/4" bentonite chip						3
4								4
5					PID= 0.6			5
6					PID= 0.6			6
			S2	B15-6.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)				
7							Bottom of exploration at 7 ft. bgs. Note: Refusal at 7 ft. BGS.	7
8								8
9								9

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B15
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location: 633 Division Ave., Tacoma, WA, About 45' S and 5' W of NW corner of building		Coordinates: NA	Exploration Number: **B16**
Contractor: ESN	Equipment: Dolly-mounted Direct push rig	Sampling Method: Percussion hammer	Ground Surface (GS) Elev.: NA (est.)	
Operator: Colt	Exploration Method(s): Direct push	Work Start/Completion Dates: 2/25/2016	Top of Casing Elev.: NA	Depth to Water (Below GS): No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap					Concrete	0
							FILL Dry, gray, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine gravel	
1			S1		PID= 0.6		Becomes slightly moist at 1'	1
					PID= 0.3			
2								2
3		Backfilled with 3/4" bentonite chip						3
4			S2				becomes brown at 4'	4
					PID= 0.6			
5					PID= 0.4			5
6				B16-6 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 0.3		Bottom of exploration at 6 ft. bgs. Note: Refusal at 6 ft. BGS.	6
7								7
8								8
9								9

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B16
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 3.5' N and 12' E of column northeast of meat counter		*Coordinates* NA	*Exploration Number* **B17**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 5/11/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap	S1	B17-2 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 200.8 (Pb)	PID= 1.0	Concrete	Concrete	0
1					PID= 0.9	FILL	**FILL** Slightly moist, brown, slightly gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine gravel	1
2		Backfilled with 3/4" bentonite chip			PID= 0.7		becomes dry, gray, gravelly silty SAND (SP-SM)	2
3					PID= 0.6 PID= 0.5		Bottom of exploration at 3 ft. bgs. Note: Refusal at 3 ft. BGS	3
4								4
5								5
6								6
7								7
8								8
9								9

Legend

Sample Method: Continuous core 1.85" ID

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B17
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 4.5' N and 1' W of column northeast of meat counter		*Coordinates* NA	*Exploration Number* **B18**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 5/11/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap				Concrete	Concrete	0
1			S1		PID= 0.5	FILL	**FILL** Dry, gray, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine gravel	1
2					PID= 0.6			2
					PID= 0.6			
3				B18-3 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 200.8 (Pb)	PID= 0.7			3
		Backfilled with 3/4" bentonite chip			PID= 0.8			
4								4
			S2		PID= 1.3		Becomes slightly moist at 4.5	
5					PID= 1.0			5
					PID= 1.1			
6							Bottom of exploration at 6 ft. bgs. Note: Refusal at 6 ft. BGS	6
7								7
8								8
9								9

Legend

Sample Method: Continuous core 1.85" ID

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B18
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 11' N and 12' E of column northeast of meat counter		*Coordinates* NA	*Exploration Number* **B19**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 5/11/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap	S1		PID= 1.1		Concrete	0
1							**FILL** Slightly moist, brown, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine gravel	1
2								2
3								3
4		Backfilled with 3/4" bentonite chip						4
5			S2		PID= 0.8			5
6				B19-6 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 200.8 (Pb)	PID= 0.9			6
7					PID= 0.5		Bottom of exploration at 7 ft. bgs. Note: Refusal at 7 ft. BGS	7
8								8
9								9

Legend

Sample Method: Continuous core 1.85" ID

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B19
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 16.5' S and 11' E of column northeast of meat counter		*Coordinates* NA	*Exploration Number* **B20**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 5/11/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap					Concrete	0
					PID= 1.2		**FILL** Slightly moist, brown, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine to medium gravel	
1			S1		PID= 1.3			1
2								2
3								3
4		Backfilled with 3/4" bentonite chip		B20-4.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 200.8 (Pb)	PID= 17.6		**FILL** Dry, gray, slightly sandy, slightly silty GRAVEL (GW-GM); fine to medium gravel	4
5			S2		PID= 3.3		**FILL** Slightly moist, brown, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine to medium gravel	5
6					PID= 2.5 PID= 1.3			6
7							Bottom of exploration at 6.5 ft. bgs. Note: Refusal at 6.5 ft. BGS	7
8								8
9								9

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◧ Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B20
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

Aspect CONSULTING	Walker Chevrolet - 080190		Environmental Exploration Log	
	Project Address & Site Specific Location 633 Division Ave., Tacoma, WA, About 15.5' S and 4' E of column northeast of meat counter		*Coordinates* NA	*Exploration Number* **B21**
Contractor ESN	*Equipment* Dolly-mounted Direct push rig	*Sampling Method* Percussion hammer	*Ground Surface (GS) Elev.* NA (est.)	
Operator Colt	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 5/11/2016	*Top of Casing Elev.* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0		Concrete cap					Concrete	0
					PID= 3.2		**FILL** Slightly moist, brown, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine to medium gravel	
1			S1					1
2								2
3								3
4								4
					PID= 1.3			
5					PID= 0.9			5
		Backfilled with 3/4" bentonite chip			PID= 0.9		Flat, oblong cast-iron debris, about 1" long and 0.25" thick	
6			S2		PID= 1.2			6
7								7
8								8
			S3		PID= 68.2		**Qvt** Slightly moist, brown, gravelly SAND (SP); fine to medium sand, fine gravel	
9				B21-9.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 8082 (PCBs), 200.8 (Pb)	PID= 54.3			9
					PID= 2357		Bottom of exploration at 9.5 ft. bgs. Note: Refusal at 9.5 ft. BGS	
10								10

Legend

Sample Method
- No Soil Sample Recovery
- Continuous core 1.85" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: ENK
Approved by: Alan Noell

Exploration log B21
Sheet 1 of 1

ASPECT STANDARD EXPLORATION LOG TEMPLATE P:\GINT\PROJECTS\STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

APPENDIX D

Groundwater Sampling Forms

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-1 Page: 1 of 8

Project Name: Stadium Thriftway
Project Number: 080191
Date: 10/2
Developed by: JTL
Measuring Point of Well: TOC
Screened Interval (ft. TOC) ~50-65
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 53.089
Casing Stickup (ft): below grade
Total Depth (ft TOC): 75'
Casing Diameter (inches): 2

Casing Volume 20 (ft Water) x 0.62 (Lpfv)(gpf) = 1.24 (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf
Sample Intake Depth (ft TOC): 65'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
10:12				15.52	375	9.08	6.28	106.9	>50 visual	cloudy
10:17		240mL/min		14.96	535	2.22	6.33	68.6		inc flow rate
10:21		400mL/min		14.31	522	3.47	6.40	57.4		
10:26		400mL/min		14.10	516	4.08	6.43	49.7		
10:31		↓		14.03	511	4.40	6.47	37.3		Turb. out of range
10:36		240mL/m		14.05	506	4.51	6.49	29.8	>>	dec. flow rate
10:41				14.15	505	4.27	6.49	28.4		Sampled

Total Gallons Purged: Total Casing Volumes Removed:
Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
10:45	40ml	VOAs		4	NO	HCl	cloudy		Turb. out of Range

METHODS

Sampling Equipment and IDs: #120 B.I. 1/5" 556, QED new ~ #2 compressor controller
Purging Equipment: QED bladder pump Decon Equipment: Alconox + Water (Double distilled)
Disposal of Discharged Water: on-site storage
Observations/Comments:
QED Refill 6.5 discharge 8.5 35 PSI

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: 080191
Date: 10-2-08
Developed by: JTL
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.84
Casing Stickup (ft): below grade
Total Depth (ft TOC): ~70'
Casing Diameter (inches): 2

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~70' (bottom)

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
16:43										Stated pump - filled Mason jar - MW-2-Purge
16:48				17.24	365	7.91	6.69	25.5	cloudy	orangish water color
16:53		400 mLpm		16.43	366	2.24	6.54	50.2		
16:58		"		16.03	364	2.05	6.52	62.8		
17:03		"		15.91	358	1.91	6.50	71.3		
17:08				15.87	357	1.96	6.50	75.2		turbidity is going down
17:13				15.86	359	2.04	6.51	75.4	51.2	Sampled

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
17:30*	40 ml	VOA		4	NO	HCl	clear	low	*actual time is 17:15
16:43	~50 ml	Mason jar		1	NO	NO	yellow	some	"MW-2-Purge"

METHODS

Sampling Equipment and IDs: YSI #~~130~~ 138 QED #2
Purging Equipment: QED Decon Equipment: liquinox + Potable + DI
Disposal of Discharged Water: On-site drum
Observations/Comments: 7.5 7.5
38 psi ~~65~~ fill ~~65~~ discharge

Aspect consulting
earth+water

Titus chev - X street from Thriftway

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-3 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: 080142
Date: 10-2-08
Developed by: JTL
Measuring Point of Well: ___
Screened Interval (ft. TOC) ___
Filter Pack Interval (ft. TOC) ___

Starting Water Level (ft TOC): ___
Casing Stickup (ft): ___
Total Depth (ft TOC): 67'
Casing Diameter (inches): ___

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ___

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
		Dry		Hole						

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
	X								

METHODS

Sampling Equipment and IDs: ___
Purging Equipment: ___ Decon Equipment: ___
Disposal of Discharged Water: ___
Observations/Comments: ___

Aspect consulting
earth+water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-4 Page: ___ of ___

Project Name: Stadium Thoroughway
Project Number: 070191
Date: 10-2-8
Developed by: JTL
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): Dry
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
		Dry Hole								

Total Gallons Purged:
Total Casing Volumes Removed:
Ending Water Level (ft TOC):
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs:
Purging Equipment:
Decon Equipment:
Disposal of Discharged Water:
Observations/Comments:

Aspect consulting
earth+water

(near entrance to Stad. thr. Steam)

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: ____ of ____

Project Name: Stadium Thriftway
Project Number: 080191
Date: 10-2
Developed by: JTL
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.65'
Casing Stickup (ft): Below grade
Total Depth (ft TOC): 70'
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 65'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
15:00		360 mLpm								
15:05		0		15.70	317	3.09	6.67	-18.3		cloudy
15:15	2L	400mLPM		15.73	333	3.38	6.76	-41.8		Changed battery / Restarted pump
15:20		400mLpm		15.17	341	4.50	6.81	-54.6		~~restarted pump~~
15:25	"	"		15.01	350	4.81	6.84	-64.6		cloudy
15:30		"		15.02	362	4.60	6.84	-71.6		
1535		"		14.98	368	4.61	6.85	-72.8	387	
1540				15.00	372	4.69	6.86	-76.0		
1543				14.98	375	4.77	6.86	-77.3	344	Sampled

Pump off

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
15:45	40ml	VOA		4	NO	HCl	lt. yellow	344	

METHODS

Sampling Equipment and IDs: YSI #138 QED #2
Purging Equipment: QED + YSI Decon Equipment: Liquinox + Potable + DI
Disposal of Discharged Water: Dumped on-site
Observations/Comments: _____

Aspect consulting
earth+water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-6 Page:____ of ____

Project Name: _____ Project Number: _____

Date: _____

Developed by: _____

Measuring Point of Well: _____

Screened Interval (ft. TOC) _____

Filter Pack Interval (ft. TOC) _____

Starting Water Level (ft TOC): TOC

Casing Stickup (ft): _____

Total Depth (ft TOC): 65'

Casing Diameter (inches): _____

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal) 11:50

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
							—			
—	Dry		Hole							

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs: _____

Purging Equipment: _____ Decon Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: _____

Aspect consulting earth+water

parking area thrift way middle of throughway

GROUNDWATER SAMPLING RECORD

WELL NUMBER: ~~MW-8~~ MW-7 Page: ___ of ___

Project Name: Stadium Th. Plaza

Project Number: 080191

Date: 10/7

Developed by: JSTL

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 53.08

Casing Stickup (ft): Below ground

Total Depth (ft TOC): ~70'

Casing Diameter (inches): 2

Casing Volume = ~~8~~ 15 (ft Water) x 0.62 (Lpf)(gpf) = 9.3 (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 65'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
12:45										
~~12:48~~ ~~Pump~~										
13:00		Started pump		17.50	357	5.27	6.87	-24.1		Cloudy
13:05		300mL/min								"
13:10		400mL/min		15.76	357	3.26	6.71	-25.5		"
13:15				15.43	352	3.73	6.74	-25.8		"
13:20				15.28	347	4.01	6.74	-23.4		
13:25				15.25	343	4.05	6.72	-21.6		
13:30				15.26	342	3.85	6.71	-22.5		
13:35				15.22	339	3.76	6.69	-21.9	610	
13:40				15.21	339	3.61	6.68	-21.0	348	Sampled

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
13:45	40ml	VOA		4	NO	HCl	cloudy	248	

METHODS

Sampling Equipment and IDs: YSI #138 QED #2

Purging Equipment: QED + YSI Decon Equipment: Liquinox + Potable + DI

Disposal of Discharged Water: Drained on site

Observations/Comments:

① 8.5 Refill + 6.5 discharge 35 psi

② 6.5 Refill + 8.5 discharge

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: ___ of ___

Project Name: _____ Project Number: _____

Date: _____

Developed by: _____

Measuring Point of Well: _____

Screened Interval (ft. TOC) _____

Filter Pack Interval (ft. TOC) _____

Starting Water Level (ft TOC): 52.68

Casing Stickup (ft): _____

Total Depth (ft TOC): _____

Casing Diameter (inches): _____

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
18:10		400ml/min		16.38	388	8.02	6.94	-114.8		MW-8-purge jar-sample
18:16										dry (?)
18:17			~~53.2~~							
18:25		400ml/min		16.43	360	6.58	6.57	-78.6		pump on
18:32				16.13	351	6.49	6.49	-75.0	grey	
18:38				15.91	345	0.40	6.45	-80.2		
18:43				15.92	351	0.68	6.45	-85.2		
18:48				15.93	357	0.83	6.48	-89.5		
18:53				15.92	356	0.82	6.47	-88.5	65	Sampled
~~18~~										

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
18:10	100ml	Mason Jar		1	NO	NO	Hi yellow	low	MW-8-purge
18:55									

METHODS

Sampling Equipment and IDs: _____

Purging Equipment: _____ Decon Equipment: _____

Disposal of Discharged Water: _____ ~~7.5~~ 2.5

Observations/Comments: 35 psi; ~~65~~ refill ~~3.5~~ discharge

weak to moderate sulfidic smell

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

811 First Avenue, Suite 480
Seattle, Washington 98104
(206) 328-7443

T/h's lot

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-1 Page: ___ of ___

Project Name: Stedman Thriftway
Project Number: 680190
Date: 5-11-09
Developed by: JTL
Measuring Point of Well: ___
Screened Interval (ft. BGS) ___
Filter Pack Interval (ft. BGS) ___

Starting Water Level (ft TOC): 53.68' @ 13:18
Casing Stickup (ft): Flush Mount
Total Depth (ft TOC): ~70
Casing Diameter (inches): ___

Casing Volume ___ ft Water x ___ Lpf = ___
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~65'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
13:38									96/30
13:41		350 mlpm	15.75	452	11.16	6.40	-237.7	>1000	
13:44			14.73	456	1.52	6.56	-247.0	>1600	sl. orange color
13:47			14.51	457	2.01	6.74	-221.1		
13:50			14.54	456	2.33	6.85	-238.2	447	817/35 psi.
13:53		330	14.65	457	2.33	6.89	-209.1		
13:56			14.68	458	2.12	6.88	-216.8	240	
13:59			14.67	459	2.05	6.91	-220.1	114	Sampled

Total Gallons Purged: ~2.5
Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___
Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
14:00	40 ml	VOA	3	NO	HCl			MW1-051109

METHODS

Decon Equipment: DI, Liquinox, dedicated tubing
Purging Equipment: QED, YSI #147
Sampling Equipment: QED bladder pump
Disposal of Discharged Water: Drummed on site

Observations/Comments: ___

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IN-DEPTH PERSPECTIVE

179 Madrona Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: ___ of ___

Project Name: Stadium Triathlon
Project Number: ___
Date: 5/11/09 — May 11, 2009
Developed by: SMS
Measuring Point of Well: TOC
Screened Interval (ft. BGS): ___
Filter Pack Interval (ft. BGS): ___

Starting Water Level (ft TOC): 52.42
Casing Stickup (ft): ___
Total Depth (ft TOC): ___
Casing Diameter (inches): ___

Casing Volume ___ ft Water x ___ Lpf = ___
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ___

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
13:12									Start Pumping
13:16		360	15.31	295	4.67	6.81	63.0		
13:24		72	15.38	296	4.74	6.91	57.8		
13:30			15.32	296	4.75	6.94	50.5	665	
13:36			15.35	297	4.52	6.96	48.6	342	
13:42			15.40	297	4.06	6.98	46.2	195	
13:45			15.32	297	3.92	7.00	44.5		
13:48			15.27	298	3.80	7.00	44.1	98.8	
13:51			15.36	298	3.76	7.00	43.5		

Total Gallons Purged: 13.54 — Total Casing Volumes Removed: 3.79
Ending Water Level (ft TOC): 15.25 — Ending Total Depth (ft TOC): 298

7.02 43.3 61.1

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
14:00	40	VOA	3	—	HCl			VOCs 8260B

METHODS

Decon Equipment: Dedicated Tubing; Liquinox w/ Distilled Water
Purging Equipment: QED Bladder Pump — Sampling Equipment: VSI #120
Disposal of Discharged Water: Drummed on Site
Observations/Comments: ___

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-3 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: ___
Date: 5/12/09
Developed by: TMS
Measuring Point of Well: ___
Screened Interval (ft. BGS) ___
Filter Pack Interval (ft. BGS) ___

Starting Water Level (ft TOC): Dry
Casing Stickup (ft): ___
Total Depth (ft TOC): ___
Casing Diameter (inches): ___

Casing Volume ___ ft Water x ___ Lpf = ___
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ___

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Decon Equipment ___
Purging Equipment: ___ Sampling Equipment: ___
Disposal of Discharged Water: ___
Observations/Comments: Not sampled; well was dry

Aspect consulting
earth + water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-4 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number:
Date: 5/12/09
Developed by: TTL
Measuring Point of Well:
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): Dry
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume ____ (ft Water) x ____ (Lpfv)(gpf) = ____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments

Total Gallons Purged: ____ Total Casing Volumes Removed: ____

Ending Water Level (ft TOC): ____ Ending Total Depth (ft TOC): ____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs:
Purging Equipment: Decon Equipment:
Disposal of Discharged Water:
Observations/Comments:

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GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: ___ of ___

Project Name: Shadin Thrifty
Project Number: 080190
Date: 5-11-09
Developed by: JTL
Measuring Point of Well: _____
Screened Interval (ft. TOC) _____
Filter Pack Interval (ft. TOC) _____

Starting Water Level (ft TOC): 52.28 @ 9:48
Casing Stickup (ft): flush mount
Total Depth (ft TOC): 70'
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.48 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 67'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
10:42	flush	0.4 Lpm		14.32	326	4.13	6.45	86.4		.5/10/ 35 psi
10:46										
10:51				14.37	300	7.06	7.01	-25.7		
10:56				14.34	311	6.73	7.18	-37.6		
11:02				14.30	323	6.65	7.25	-43.9	>1000	
11:05	~2 gal			14.30	330	6.65	7.26	-45.1	>1000	
11:08				14.31	331	6.62	7.26	-47.2		
11:12	~3 gal			14.29	332	6.63	7.28	-48.1	783	Sampled

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
11:15	40	VOA		4	NO	HCl	clear,	high	

METHODS

Sampling Equipment and IDs: YSI 147, QED
Purging Equipment: Ded. tubing, Lguves, Rinse Decon Equipment: YSI, QED
Disposal of Discharged Water: Drummed on site
Observations/Comments: _____

Aspect consulting
earth + water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-6 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: 080190
Date: 5-12-09
Developed by: _____
Measuring Point of Well: _____
Screened Interval (ft. TOC) _____
Filter Pack Interval (ft. TOC) _____

Starting Water Level (ft TOC): Dry
Casing Stickup (ft): _____
Total Depth (ft TOC): _____
Casing Diameter (inches): _____

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs: _____
Purging Equipment: _____ Decon Equipment: _____
Disposal of Discharged Water: _____
Observations/Comments: _____

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

811 First Avenue, Suite 480
Seattle, Washington 98104
(206) 328-7443

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-1 Page: ___ of ___

Project Name: Sliding Thriftway
Project Number: 030190
Date: 5-11-09
Developed by: JTL
Measuring Point of Well: ___
Screened Interval (ft. BGS) ___
Filter Pack Interval (ft. BGS) ___

Starting Water Level (ft TOC): 53.69 @ 11:48
Casing Stickup (ft): ___
Total Depth (ft TOC): ___
Casing Diameter (inches): ___

Casing Volume ___ ft Water x ___ Lpf = ___
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~65'

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
12:06		0.4 Lpm							
12:12			14.73	313	3.37	6.94	-138.4	>1000	
12:19	~1.5		14.61	310	2.53	7.03	-173.4		
12:22			14.62	312	2.36	7.01	-176.5	563	
12:25			14.58	311	2.30	7.04	-177.4		
12:28			14.53	309	2.22	7.06	-175.2	365	Sampled

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
1230	40ml	VOA	3	NO	HCl			

METHODS

Decon Equipment: Ded. cotton tubing, Inertex, Conoco
Purging Equipment: YSI #147, QED Sampling Equipment: QED bladder pump
Disposal of Discharged Water: Drummed on-site
Observations/Comments: ___

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

8260B

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: ___ of ___

Project Name: _____ Project Number: _____

Date: _____ 5-12-09

Developed by: _____

Measuring Point of Well: _____

Screened Interval (ft. BGS) _____

Filter Pack Interval (ft. BGS) _____

Starting Water Level (ft TOC): 53.27

Casing Stickup (ft): _____

Total Depth (ft TOC): _____

Casing Diameter (inches): _____

Casing Volume _____ ft Water x _____ Lpf = _____

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm) ml/min	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
11:34									Start Purging
11:40		360	14.97	274	0.30	7.30	-60.9		
11:46		310	15.05	281	0.28	7.33	-71.8		
11:52			15.10	300	0.44	7.44	-78.6		
11:58			15.04	305	0.51	7.45	-79.1	>1000	
12:04			15.01	317	0.41	7.46	-76.8		
12:13			14.92	322	0.48	7.43	-67.4	93.9	
12:16			14.89	322	0.52	7.42	-64.5	45.5	
12:19			14.89	324	0.47	7.41	-62.7		

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
12:30	40	VOA	3	-	HCl			VOC's 8260B

METHODS

Decon Equipment _____

Purging Equipment: _____ Sampling Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: _____

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

811 First Avenue, Suite 480
Seattle, Washington 98104
(206) 328-7443

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: ____ of ____

Project Name: _____ Project Number: _____

Date: _____
Developed by: _____
Measuring Point of Well: _____
Screened Interval (ft. BGS) _____
Filter Pack Interval (ft. BGS) _____

Starting Water Level (ft TOC): 12.56 @ 15:30
Casing Stickup (ft): _____
Total Depth (ft TOC): _____
Casing Diameter (inches): _____

Casing Volume _____ ft Water x _____ Lpf = _____
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm) mL PM	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
15:46									11/9/60 psi
15:55									7/13/60 psi Nowater 4 batt.
16:15		300	16.71	184	13.26	5.41	193.7		1st. water 5/15/60
16:20		250	16.54	345	11.38	6.25	204.1		15/15/65 psi
16:25		200	15.03	347	6.07	6.73	-155.6		
16:30		"	14.90	344	5.61	6.78	-176.5		12/18/60 psi
16:35		"	14.83	338	5.57	6.68	-182.1		
16:40		"	14.82	335	5.40	6.54	-195.3	150	
16:45		"	14.76	334	5.27	6.40	-241.0		
16:50		"	14.72	332	5.24	6.34	-242.0	147	Sampled
16:53		~7.5 L	14.70	332	5.15	6.31	-245.5		

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
16:55	40ml	VOA	3	NO	HCl			

METHODS

Decon Equipment _____

Purging Equipment: _____ Sampling Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: _____

Aspect consulting
earth+water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-9 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: 080190
Date: 5/11/09
Developed by:
Measuring Point of Well:
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): Dry
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs:
Purging Equipment: Decon Equipment:
Disposal of Discharged Water:
Observations/Comments:

Aspect consulting
earth + water

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-10 Page: ___ of ___

Project Name: Stadium Thriftway
Project Number: 080190
Date: 5/11/09
Developed by: JTL
Measuring Point of Well: ___
Screened Interval (ft. TOC) ___
Filter Pack Interval (ft. TOC) ___

Starting Water Level (ft TOC): Dry
Casing Stickup (ft): ___
Total Depth (ft TOC): ___
Casing Diameter (inches): ___

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ___

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): ___ Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	

METHODS

Sampling Equipment and IDs: ___
Purging Equipment: ___ Decon Equipment: ___
Disposal of Discharged Water: ___
Observations/Comments: ___

Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

GROUNDWATER SAMPLING RECORD

WELL NUMBER: NW-11 Page: 1 of 1

Project Name: Stadium Thriftway
Project Number:
Date: 5/12/09
Developed by: SMS
Measuring Point of Well:
Screened Interval (ft. BGS)
Filter Pack Interval (ft. BGS)

Starting Water Level (ft TOC):
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume ft Water x Lpf =
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)	Dissolved Oxygen (mg/L)	pH	Eh (ORP)	Turbidity (NTU)	Comments
9:30									Start Pump
9:36		500 ml/min	14.39	342	1.99	6.88	73.6		
9:45			14.56	332	2.18	6.92	53.5	456	
9:54			14.59	332	2.18	6.92	51.6	296	
10:03			14.60	330	2.18	6.94	46.2	154	
10:09			14.59	330	2.14	6.94	42.6	90.7	
10:18			14.60	328	2.20	6.94	40.5		
10:21			14.55	332	2.10	6.96	36.7		
10:24			14.58	329	2.23	6.95	35.2	69.4	

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
10:30	40	VOA	3	-	HCl			

METHODS

Decon Equipment: Dedicated Tubing; Liquinox w/ Distilled Water
Purging Equipment: QED Bladder Pump Sampling Equipment: YSI #120
Disposal of Discharged Water: Drummed on Site

Observations/Comments:

Aspect consulting
IN-DEPTH PERSPECTIVE

811 First Avenue, Suite 480
Seattle, WA 98104
(206) 328-7443 Telephone
(206) 838-5853 Fax

179 Madrone Lane North
Bainbridge Island, WA 98110
(206) 780-9370 Telephone
(206) 780-9438 Fax

Name _____ Date 5/13/09

Project Stadium Thriftway Project No. 080190

Subject Monitoring Well Survey

Reviewed by _____ Page ____ of ____

Setup # 1

MW-4 = 7.43 ft

MW-9 = 6.66 ft

MW-10 = 5.99 ft

Setup # 2

MW-2 = 6.51 ft

MW-8D = 6.54 ft

MW-8 = 5.74 ft

Setup # 3

MW-6 = 6.76 ft

MW-11 = 5.79 ft

PASSIVE DIFFUSION BAG HARNESS CHART - Each harness includes a safety disc, one SS weight, line, clips and twist-ties
Columbia Analytical Services, 1 Mustard St., Rochester, NY 14609 585-288-5380

12/22/10 MET JMS.

Diffusion Bag retrieval

WELL ID	DEPTH to TOP, **MIDDLE** or BOTTOM of BAG (ft) **(bold face** appropriate option)	Well diameter (in)	Number of PDB per well (Extra fee may apply)	HARNESS SUSPENSION OPTIONS -CHECK ONE BOX: Zero mark on line, then a few feet of line, then the safety disc	Safety disc at zero mark.	Fixed loop at zero mark (Extra fee may apply)	Clip at zero mark	Select fixed or adjustable hardware (no extra charge)	Need an extra SS weight? $16.00 per wt (Recommended for depths over 200' or 3 bag assemblies)	depth to water (ft. btoc) before bag removal	sample time
MW-1	59	2	1		✔			Adjustable		53.61	1200
MW-2	59	2	1		✔			Adjustable		52.44	0836
MW-5	59	2	1		✔			Adjustable		52.21	0930
MW-7	59	2	1		✔			Adjustable		53.73	1030
MW-8	57	2	1		✔			Adjustable		53.32	0915
MW-8D	115	2	1		✔			Adjustable		112.58	0845
MW-11	58	2	1		✔			Adjustable		52.24	1130
MW-13D 13	141	2	1		✔			Adjustable		137.[illegible]	[illegible]
MW-12D 12	132	2	1		✔			Adjustable		129.96	0955

52.24

MW-9 = Dry
MW-10 = Dry

SAMPLE CHAIN OF CUSTODY

Send Report To Joe Morrill
Company ASPECT consulting
Address 401 2nd Ave S, Suite 201
City, State, ZIP Seattle, WA 98104
Phone #_____ Fax #_____

SAMPLERS *(signature)*

PROJECT NAME/NO. Stadium Thriftway | 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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270	HFS						Notes
MW-1-122210		12/22/10	1200	water	3				X								
MW-2-122210		"	0836	"	"				X								
MW-5-122210			0930						X								
MW-7-122210			1030						X								
MW-8-122210			0915						X								
MW-8D-122210			0845						X								
MW-11-122210			1130						X								
MW-13D-122210			1105						X								
MW-12D-122210			0955						X								
Trip blank		↓		↓	↓				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:		Amy Tice	ASPECT	12/22/10	
Received by:					
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

SAMPLE CHAIN OF CUSTODY

Send Report To Joe Merrick
Company Aspect Consulting
Address 401 2nd Ave S, Suite 201
City, State, ZIP Seattle, WA 98104
Phone # _____ Fax # _____

SAMPLERS *(signature)*
PROJECT NAME/NO. Stadium-Thriftway
PO# 080190
REMARKS dissolved samples were field filtered

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 by 8260B	SVOCs by 8270	HFS	dissolved metals 200.8						Notes
MW-7-020612		2/6/12	1040	water	5				X			X						
MW-5D-020612		"	1135	"	"				X			X						
MW-12D-020612		"	1250	"	"				X			X						
MW-14D-020612		↓	1535	"	"				X			X						
MW-1-020912		2/7/12	1020	"	"				X			X						
MW-2-020712		"	1120	"	"				X			X						
MW-13D-020712		"	1220	"	"				X			X						
MW-8-020912		"	1315	"	"				X			X						
MW-5-020712		↓	1355	↓	↓				X			X						

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

FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Amy Tice	Aspect	2/8/12	
Received by:					
Relinquished by:					
Received by:					

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-7 Page: 1 of 1

Project Name: Stadium Mitfway
Project Number:
Date: 2/6/12
Developed by: AET, ELG
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.98
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1020										START TIME
1023				13.78	341	2.71		101.1	cloudy	
1026				13.82	330	2.43		94.0		
1029				13.81	322	2.60		95.1		
1032				13.82	320	2.73		92.2		
1035				13.83	319	3.03		93.8	>1000	SAMPLE

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1040	40mL	VOA		4	no	HCl/no	grey	cloudy	MW-7-020612
↓	500mL	poly		1	yes	HNO_3	↓	↓	↓

METHODS

Sampling Equipment and IDs: YSI #138
Purging Equipment: QED Sample pro Decon Equipment: alconox
Disposal of Discharged Water: drum
Observations/Comments: pH sensor appears to be malfunctioning - did not record

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: 1 of 1

Project Name: Stadium Thriftway
Project Number:
Date: 2/10/12
Developed by: AET, ELC
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 112.52
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH ?	Eh ORP (mv)	Turbidity (NTU)	Comments
1114										START
1117				14.61	334	4.66	4.58	95.8	cloudy	
1120				14.56	342	4.96	4.67	100.6		
1123				14.50	352	5.27	4.02	111.2		
1127				14.50	354	5.28	4.30	120.1		
1130				14.55	354	5.31	3.47	126.5	482	

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1135	40mL	VOA		4	N	HCl/none	clear	none	MW-8D-020612
1135	500mL	Poly		1	Y	HNO3	↓	↓	↓

METHODS

Sampling Equipment and IDs: YSI #138
Purging Equipment: QED SAMPLE PRO Decon Equipment: ALCONOX
Disposal of Discharged Water: DRUM
Observations/Comments: PH SENSOR SEEMS TO BE OFF

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: 1 of 1

Project Name: STADIUM THRIFTWAY
Project Number:
Date: 2/6/17
Developed by: AET, ELO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 129.80
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1233										START
1236				14.93	354	6.85	6.30	135.7	cloudy	
1239				13.65	356	7.21	6.21	138.2		
1242				13.37	357	7.25	6.21	138.5		
1245				12.93	358	7.26	6.09	139.3	476	
~~1248~~										

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1250	40mL	VOA		4	N	HCL/NA			MW-12D-020612
↓	500mL	POLY		1	4	HNO_3			

METHODS

Sampling Equipment and IDs: YSI #138
Purging Equipment: QED SAMPLE PRO Decon Equipment: ALCONOX
Disposal of Discharged Water: DRUM

Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14D Page: 1 of 1

Project Name: STADIUM THRIFTWAY
Project Number:
Date: 2/6/12
Developed by: AET, ELG
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 134.02
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH ?	Eh ORP? (mv)	Turbidity (NTU)	Comments
1514	0	0.200		—	—	—	—	—	—	START
1517				15.78	363	7.51	—	99.4	cloudy	
1520				15.15	362	7.32	—	—	clear	
1523				15.01	361	6.28	—	—	clear	
1526				14.97	360	5.56	—	—	clear	
1529				14.94	360	5.46			clear	
1532				15.00	359	5.45			38.3	SAMPLE

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1535	40mL	VOA		4	No	HCL/None			MW-14D-020612
↓	500mL	POLY		1	Yes	HNO_3	↓	↓	↓

METHODS

Sampling Equipment and IDs: YSI #138
Purging Equipment: QED Decon Equipment:
Disposal of Discharged Water: DRUM
Observations/Comments: pH/ORP probe malfunctioning?

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-1 Page: 1 of 1

Project Name: Stadium Mrkt Project Number: 050190

Date: 2/07/12

Developed by: MET, EZ

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.93

Casing Stickup (ft):

Total Depth (ft TOC):

Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1005	0									started
1008				12.94	522	8.53	6.87	77	murky	
1011				13.05	524	8.38	6.83	139		
1014				13.14	525	8.21	6.85	154		
1017				13.14	524	8.14	6.80	162	>1000	

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume mL	Bottle Type		Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1020	40	VOA		4	no	HCl/no	yellowish	cloudy	MW-1-020712
↓	500	Poly		1	yes	HNO3	↓	↓	↓

METHODS

Sampling Equipment and IDs: YSI 138, handheld pH, ORP

Purging Equipment: Decon Equipment:

Disposal of Discharged Water:

Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: 1 of 1

Project Name: Stadium Thriftway
Project Number:
Date: 2/7/12
Developed by: AET, ELG
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.77
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1105	0									started
1108				14.09	418	5.58	7.02	192	cloudy	
1111				14.59	364	5.51	6.98	212	↓	
1114				14.65	352	5.29	7.03	216	↓	
1117				14.65	349	5.27	7.06	215	>1000	

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume mL	Bottle Type		Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1120	40	VOA		4	no	HCl			MW-2-020712
↓	500	poly		1	yes	HNO3	↓	↓	↓

METHODS

Sampling Equipment and IDs: YSI 138 ~~duplic~~ handheld pH and ORP
Purging Equipment: DED sample pmp Decon Equipment: _____
Disposal of Discharged Water: drum

Observations/Comments: _____

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D Page: 1 of 1

Project Name: STADIUM THRIFTWAY Project Number:

Date: ~~2/6/12~~ 2/7/12

Developed by: AET ELC

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 137.43

Casing Stickup (ft):

Total Depth (ft TOC):

Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1205	0	200								START
1208				14.09	336	6.16	7.15	238	clear	
1211				14.01	331	6.19	7.00	252	↓	
1214				13.96	328	5.92	6.94	254	↓	
1217				13.95	327	5.98	6.93	252	52.9	sampled

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1220	VOA	40mL		4	NO	HCL/None			MW-13D-020712
	POLY	~~500~~ mL		1	YES	HNO_3			

METHODS

Sampling Equipment and IDs: YSI # 138, HANDHELD PH & ORP

Purging Equipment: QED Decon Equipment: ALCONOX

Disposal of Discharged Water: DRUM

Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: 1 of 1

Project Name: Stadium Project Number:

Date: 2/7/12

Developed by: AET, ELG

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.58

Casing Stickup (ft):

Total Depth (ft TOC):

Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1251										started
1254				14.94	321	4.73	6.95	-60	clear	
1257				14.98	295	2.23	6.85	-59		
1300 ~~1230~~				14.95	288	1.66	6.84	-69		
1303 ~~1233~~				14.94	280	0.83	6.83	-72		
1306 ~~1236~~				14.94	273	1.12	6.79	-63		
1309 ~~1239~~				14.93	270	1.24	6.81	-54	↓	
1312				14.93	269	1.34	6.81	-55	146	

Total Gallons Purged: Total Casing Volumes Removed:

Ending Water Level (ft TOC): Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1315	40mL	VOA		4	no	HCl, no			MW-8-020712
	500	poly		1	yes	HNO_3			

METHODS

Sampling Equipment and IDs: YSI 138, handheld pH and ORP

Purging Equipment: QED Decon Equipment:

Disposal of Discharged Water: DRUM

Observations/Comments:

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Stadium Thriftway
Project Number:
Date: 2/7/12
Developed by: AET EDG
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.60'
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Time	Cumul. Vol. (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1338										
1341				14.24	331	6.95	6.95	19		
1344				14.19	357	6.90	6.81	49		
1347				14.13	373	6.65	6.79	80		
1350				14.13	374	6.29	6.80	84	↓	
1353				14.12	371	6.20	6.78	87	608	

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume mL	Bottle Type		Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1355	40	VOA		4	no	HCl			MW-5-020712
	500	poly		1	yes	HNO_3			

METHODS

Sampling Equipment and IDs: YSI 138, ~~field~~ handheld pH + ORP
Purging Equipment: QED Decon Equipment:
Disposal of Discharged Water: drum
Observations/Comments:

Aspect CONSULTING

Sample number MW-19-010814

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-19 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/8/14
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 52.72
Casing Stickup (ft):
Total Depth (ft TOC): 59.48+0.55 =
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 8:00		~0.4		13.5	389.5	2.29	6.07	83.2		
5 8:05				13.7	385.9	2.19	6.05	86.1		
10 8:10				13.7	380.1	2.25	6.01	91.1		
13 8:13				13.8	377.8	2.26	6.00	91.3		
16 8:16				13.5	377.6	2.38	6.59	93.2		
18 8:18				13.8	376.4	2.43	6.58	94.6		
20 8:20				13.8	374.6	2.48	6.57	96.0		
22 8:22				13.7	373.0	2.52	6.57	96.6		
24 8:24		↓		13.8	371.9	2.43	6.57	97.4		

Total Gallons Purged: ~11.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 55.81
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
08:30		VOAs	4		2 w/HCl			Volatiles (8260)
08:30	500ml	poly	1		—			NO3, NO2, SO4 (300)
08:30	500ml	poly	1		—			TDC (415.1)
08:30	500ml	poly	1		HNO3			Fe (200.8)
08:40	1/8/13							Ferrous Fe (HACH) = 0

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED Bladder Pump
Decon Equipment: Liquinox + dedicated tubing
Disposal of Discharged Water: Drums on site

Observations/Comments:

Aspect CONSULTING

Sample number: MW-18-121213

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-18 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-004-11
Date: 12/12/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 85.44 @angle
Casing Stickup (ft):
Total Depth (ft TOC): 85.96 + 0.55 = 86.51 @angle Δ 1.07'
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~85.5

PURGING MEASUREMENTS

Began pumping @ 10:30am

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 11:08	—	~0.2	—	13.6	374.8	3.84	6.87	98.6	—	
5 11:13	—		—	13.3	360.8	3.95	6.78	104.2	—	Water cleaning up.
10 11:18	—		—	13.6	352.1	3.95	6.74	109.2	—	Adjusted pump
14 11:22	—		—	13.5	351.8	3.86	6.72	110.1	—	head to 100
20 11:28	—		—	13.5	346.5	3.90	6.70	113.2	—	
26 11:34	—		—	13.3	344.9	4.01	6.69	115.8	—	
32 11:40	—		—	13.5	342.8	3.85	6.67	118.5	—	
42 11:50	—	↓	—	13.4	340.5	3.82	6.67	121.7	—	

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): ~85.6 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:55		VOA	4	—	2HCl			8260 volatiles
11:55	500mL	poly	1	—	—			NO_3, NO_2, SO4
11:55	500mL	poly	1	—	—			TOC
11:55	500mL	poly	1	—	HNO_3			Fe
								could not sample Ferrous Fe on 12/13/13. Bailer couldn't get water due to length of water angled well, and bailer length

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: All measurements in linear feet along pipe, @ angle from TOC. Initial water very silty. Had to pull pump, clean, then up pump head to 130. Used TWO bladders

Z:\Equipment\Field Forms\Groundwater Sampling Form.xlsx

Aspect CONSULTING

Sample number MW-2-121213

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: 1 of 1

Project Name: Walker Chevrolet
Date: 12/12/13
Sampled by: JLC
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number:
Starting Water Level (ft TOC): 52.74
Casing Stickup (ft):
Total Depth (ft TOC): 60.81 + 0.55 = 61.36
Casing Diameter (inches): ~~60.81+0.55~~

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 13:21	—	~0.35	—	11.7	332.7	[illegible]	6.81	138.3	—	
5 13:26	—		—	12.0	334.7	4.38	6.76	137.2	—	
10 13:31	—		—	12.2	334.2	4.37	6.76	137.4	—	
15 13:36	—		—	12.1	336.10	4.41	6.75	139.1	—	
17 13:38	—		—	12.2	336.7	4.34	6.75	139.3	—	
19 13:40	—		—	11.9	333.4	4.46	6.75	140.2	—	
20 13:41	—		—	12.0	337.7	4.38	6.74	140.9	—	

Total Gallons Purged: _____ Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): ~52.75 Ending Total Depth (ft TOC): ~~60.81~~

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
13:45		VOA	4	—	2 w/HCl			8260 volatiles
13:45	500	poly	1	—	—			NO3, NO2, SO4
13:45	500	poly	1	—	—			TOC
13:45	500	poly	1	—	HNO3			Fe
								Ferrous Fe (HACH) → 0.0 mg/L

12/13/13 15:22

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED Bladder Pump Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: All measurements in linear feet along pipe & angle from TOC.

Aspect CONSULTING

Sample number MW-16-121313

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-16 Page: 1 of 1

Project Name: Walker Chevrolet
Date: 12/13/12
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-004-11
Starting Water Level (ft TOC): 57.08
Casing Stickup (ft):
Total Depth (ft TOC): (64.77+0.55=
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~60

PURGING MEASUREMENTS

Begin pumping 14:15

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 14:26	—	~0.4	—	14.4	372.2	2.06	6.85	53.1	—	
5 14:31	—		—	14.3	370.4	1.87	6.87	52.4	—	
10 14:36	—		—	14.3	359.2	2.20	6.84	52.9	—	
13 14:39	—		—	14.3	358.7	2.22	6.84	53.4	—	
16 14:42	—		—	14.4	358.3	2.15	6.84	51.8	—	
18 14:44	—		—	14.4	355.7	2.31	6.84	50.3	—	
20 14:46	—		—	14.4	354.8	2.33	6.84	50.2	—	
22 14:48	—		—	14.4	353.3	2.36	6.83	49.9	—	
24 14:50	—		—	14.4	352.8	2.38	6.83	49.0	—	

Total Gallons Purged: ~3
Total Casing Volumes Removed:
Ending Water Level (ft TOC): ~57.19
Ending Total Depth (ft TOC): 57.19

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
14:50		VOA	4	—	2w HCl			Volatiles (8260)
14:50	500	poly	1	—	—			NO3, NO2, SO4 (300)
14:50	500	poly	1	—	—			TOC (415.1)
14:50	500	poly	1	—	HNO3			Fe (200.8)
				—				Ferrous Fe (HACH) → 0.0 mg/L 15:09

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: alconox; dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Angled well. All measurements in linear feet along pipe from TOC.

Aspect CONSULTING

Sample number: MW-17-121313

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-17 Page: 1 of 1

Project Name: Walker Chevrolet
Date: 12/13/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-004-11
Starting Water Level (ft TOC): 62.55 @ angle
Casing Stickup (ft): [redacted]
Total Depth (ft TOC): 67.38 + 0.55 = 67.93 @ angle
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~65

PURGING MEASUREMENTS

Began pumping @ 12:00

	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
Criteria:			Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
0	13:06	—	~0.35	—	14.6	381.0	1.09	7.05	66.8	—	very silty!
5	13:11	—		—	14.6	390.6	1.59	7.01	65.3	—	Difficult getting
10	13:16	—		—	14.6	393.6	1.73	7.00	65.7	—	water. Surging
13	13:19	—		—	14.5	394.4	1.70	7.01	65.5	—	& replacing bladder;
16	13:22	—		—	14.6	392.3	1.62	7.06	64.2	—	first one filled
18	13:24	—		—	14.6	395.9	1.38	7.10	63.7	—	w/muck. Water
20	13:26	—	↓	—	14.5	393.0	1.66	7.09	63.0	—	at 12:42. Purging
											silty water.
											water "clear" at
											13:05 (not mud)

Total Gallons Purged: ~7
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): ~62.73
Ending Total Depth (ft TOC): ~~62.73~~

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
13:30		VOA	4	—	2 w/HCl			Volatiles (8260)
13:30	500	poly	1	—	—			NO3, NO2, SO4 (300)
13:30	500	poly	1	—	—			TOC (415.1)
13:30	500	poly	1	—	~~HNO3~~			Fe (200.8)
13:~~46~~	12/13/13			—				Ferrous Fe → 0.0mg/L. 13:45
								(Hach)

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104208
Purging Equipment: QED bladder pump
Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: angled well. All measurements in linear feet along pipe from TOC. Used 2 bladders.

Aspect CONSULTING

Sample number MW-13D-121613

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D Page: 1 of 1

Project Name: Walker Chevrolet
Date: 12/16/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-004-11
Starting Water Level (ft TOC): 137.7
Casing Stickup (ft):
Total Depth (ft TOC): 148.94 +0.55 =
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~144

PURGING MEASUREMENTS

Begin pumping @ 15:00

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 15:18	—	~0.52	—	13.3	353.5	5.77	6.59	75.8	—	Got water 15:18
5 15:23	—		—	13.4	346.0	5.37	6.60	76.6	—	
10 15:28	—		—	12.3	344.2	5.32	6.60	80.4	—	
13 15:31	—		—	12.1	342.7	5.56	6.59	83.3	—	
16 15:34	—		—	12.2	341.7	5.43	6.59	83.2	—	
18 15:36	—		—	12.2	342.8	5.27	6.59	83.9	—	
20 15:38	—	↓	—	12.3	342.3	5.39	6.59	84.7	—	

Total Gallons Purged: ~0.5
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): 139.06
Ending Total Depth (ft TOC): —

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
15:45		VOA	4	—	2w/HCl			(8260) Volatiles
15:45	12/16/13							Ferrous Iron (HACH) = 0.0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED Bladder Pump
Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-8-121713

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-004-11
Date: 12/17/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 53.64
Casing Stickup (ft):
Total Depth (ft TOC): 60.83+0.55 =
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~58

PURGING MEASUREMENTS

Begin pumping 15:48

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
15:55		~0.3		14.4	301.1	0.30	6.7	29.1		
16:00				14.5	297.3	0.31		27.7		
16:03				14.4	297.8	0.37		25.8		
16:06				14.4	a95.8	0.51		25.3		
16:09				14.5	a99.2	0.47		24.5		
16:11				14.5	304.3	0.41		29.7		

Total Gallons Purged: ~1.5
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): ~~58.39~~
Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
16:15		VOA	4	+	2w/HCl			VOLATILES (8260)
16:15	500	poly	1		—			NO3, NO2, SO4 (300)
16:15	500	poly	1		—			TOC (415.1)
16:15	500	poly	1		HNO3			Fe (tot) (200.8)
16:20	12/17/13							Ferrous Fe (HACH) = 0.0mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: pH sensor malfunctioning on YSI.

Aspect CONSULTING

Sample number MW-21-121713

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-21 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-004-11
Date: 12/17/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 53.66
Casing Stickup (ft):
Total Depth (ft TOC): 57.73+0.55=
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 13:54		~.4		13.1	388.4	2.39		50.6		
5 13:59				14.4	381.5	1.98		51.6		
10 14:04				14.6	378.1	2.17		51.9		
13 14:07				14.5	376.1	2.27		53.3		
16 14:10				14.6	373.7	2.42		54.3		
18 14:12				14.5	369.7	2.51		55.4		
20 14:14		↓		14.6	367.7	2.62		56.3		

Total Gallons Purged: ~2
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): 53.73
Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
14:20		VOA	4		2x HCl			Volatiles (8260)
14:20		POLY	1		—			NO3, NO2, SO4 (300)
14:20		POLY	1		—			TOC (415.1)
14:20		POLY	1		HNO3			Fe (200.8)
14:25	12/17/13							Ferrous Fe (HACH) = 0.0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: pH sensor malfunctioning on YSI. No pH measurements.

Aspect CONSULTING

Sample number MW-15-121713

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-15 Page: 1 of 1

Project Name: Walker Chev
Project Number: 080190-004-11
Date: 12/17/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 65.89
Casing Stickup (ft):
Total Depth (ft TOC): 73.93+0.55 =
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf. 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~70

PURGING MEASUREMENTS

Begin pumping 14:39

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0	14:55		~0.25		14.6	373.6	4.05		81.6		Water "clear"
5	15:00				14.7	373.8	4.12		88.0		at 14:55
10	15:05				14.6	374.6	4.14		86.8		
13	15:08				14.6	374.8	4.13		74.5		
16	15:11				14.6	374.6	4.01		73.4		
18	15:13				14.7	374.8	4.09		75.2		
20	15:15				14.7	374.0	4.08		74.8		

Total Gallons Purged: ~1.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 65.71
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
15:20		VOA	4		2 w/HCl			volatiles (8260)
15:20	500	poly	1		—			NO_3, NO_2, SO_4 (300)
15:20	500	poly	1		—			TOC (415.1)
15:20	500	poly	1		HNO_3			Fe (tot) (200.8)
15:20		VOA	4		2 w/HCl			MW-15-121713-DUP
15:25	12/17/13							Ferrous Fe (HACH) = 0.0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: alconox, dedicated tubing
Disposal of Discharged Water: Drums on Site

Observations/Comments: pH sensor malfunctioning on YSI. No pH measurements
Angled well. All depths in linear feet along pipe. allowed water to run clear before sampling. well not developed.

Aspect CONSULTING

Sample number MW-20-010814

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-20 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/8/14
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 52.64
Casing Stickup (ft):
Total Depth (ft TOC): 59.14+0.55 =
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf
Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 09:05		~0.4		13.4	340.2	5.32	6.68	105.1		
5 09:10				13.7	351.2	6.36	6.71	106.7		
10 09:15				13.2	354.6	6.14	6.69	109.8		
13 09:18				13.9	356.6	6.11	6.68	110.7		
16 09:21				13.9	358.7	5.89	6.66	112.4		
18 09:23				13.9	359.7	5.84	6.65	113.2		
20 09:25				13.9	360.0	5.87	6.65	113.8		

Total Gallons Purged: 61.5
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): 52.64
Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
09:30		VOAs	4		2x HCl			Volatiles (8260)
09:30	500ml	poly	1		—			NO3, NO2, SO4 (300)
09:30	500ml	poly	1		—			TOC (415.1)
09:30	500ml	poly	1		HNO3			Fe (200.8)
09:40	1/8/14							Ferrous Fe (HACH) = 0.2 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104203
Purging Equipment: QED Bladder pump
Decon Equipment: Liquinox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Sulfur odor. Note: Ferrous Fe detected

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Aspect CONSULTING

Sample number MW-5-010914

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Walker Chev
Project Number: 080190
Date: 1/9/14
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.68
Casing Stickup (ft):
Total Depth (ft TOC): 59.97
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55

PURGING MEASUREMENTS

	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
Criteria:			Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
0	9:02	1	~0.4		13.3	363.7	3.43	6.53	94.7		
5	9:07				13.3	366.2	3.60	6.53	94.7		
10	9:12				13.1	365.1	3.60	6.53	92.6		
13	9:15				13.2	364.5	3.53	6.53	90.0		
16	9:18				13.1	365.5	3.40	6.53	87.1		
18	9:20				13.2	362.9	3.17	6.52	83.6		
20	9:22				13.1	360.4	3.01	6.52	82.0		
22	9:24				13.3	356.7	2.70	6.52	79.9		
24	9:26				13.2	354.8	2.44	6.51	77.9		
26	9:28				13.3	351.4	2.17	6.51	74.6		
28	9:30				13.3	350.6	2.11	6.51	74.2		
30	9:32		↓		13.2	351.3	2.06	6.51	73.8		

Total Gallons Purged: ~42
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 53.09
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
(09:32)		VOAs	4		2 HCl			Volatiles (8260)
09:30	500mL	ambers	2					PAH (8270)
09:30	1L	amber	1					PCBs (8082)
09:30	500mL	poly	1		HNO3			Lead + Fe (200.8)
09:30	500mL	poly	1					NO3, NO2, SO4 (300)
09:30	500mL	poly	1					TOC (415.1)

1/9/14 09:40 Ferrous Fe (HACH) = 1.20 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED Bladder pump
Decon Equipment: liquinox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Note: Ferrous Fe detected. DO wouldn't Stabalize

Aspect CONSULTING

Sample number MW-7-~~010714~~ 010714

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-7 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/7/14
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 54.1
Casing Stickup (ft):
Total Depth (ft TOC): 61.67 + 0.55 =
Casing Diameter (inches):

Casing Volume ____ (ft Water) x ____ (Lpfv)(gpf) = ____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~57

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 11:09		~0.2		11.4	339.4	5.49	6.80	51.2		
5 11:14				12.1	338.6	5.88	6.81	40.8		
10 11:19				12.4	336.3	6.92	6.83	42.7		
13 11:22				12.5	335.6	7.09	6.84	43.3		
16 11:25				12.5	333.3	7.37	6.85	45.8		
18 11:27				12.4	331.8	7.52	6.85	47.5		
20 11:29				12.4	331.9	7.82	6.85	48.5		
22 11:31				12.4	330.8	8.37	6.86	49.3		
24 11:33				12.5	330.2	8.61	6.86	51.1		
26 11:35				12.4	330.3	8.79	6.87	52.4		
28 11:37		↓		12.5	328.5	8.49	6.87	53.1		

Total Gallons Purged: ~1.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 54.08
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:30		VOAs	4		HCl			Volatiles (8260)
11:30	1L	amber	1					PAH (8270)
11:30	500mL	amber	2					PCBs (8082)
11:30	500mL	poly	1		HNO_3			Pb+Fe (200.8)
11:30	500mL	poly	1					TOC (415.)
11:30	500mL	poly	1					NO_3, NO_2, SO_4 (300)

(Dup 1/7/14)

Ferrous Fe (field) = ~~0.025~~ 0.8 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: liquinox + dedicated tubing
Disposal of Discharged Water: drums on site
Observations/Comments: Note: Ferrous Iron ~~not~~ detected

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Aspect CONSULTING

Sample number MW-1-011014

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-1 Page: 1 of 1

Project Name: Walker Chev. Project Number: ~~080190~~ 110008-009-12

Date: 1/10/14

Sampled by: JL

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 53.21

Casing Stickup (ft):

Total Depth (ft TOC): 64.27

Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 16:01		<0.3		13.0	487.1	0.53	6.44	101.2		
5 16:06				13.1	488.1	0.50	6.44	102.4		
10 16:11				13.2	489.3	0.63	6.43	107.8		
12 16:13				13.3	489.1	0.55	6.42	109.2		
14 16:15				13.2	490.1	0.42	6.41	113.7		
16 16:17				13.3	490.1	0.41	6.41	113.7		
18 16:19				13.3	490.8	0.40	6.41	113.7		

Total Gallons Purged: 41.5

Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 54.04

Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
16:25	500mL	amber	2		—			TPH (diesel)
16:25		VOAs	4		3N HCl			TPH (gasoline)
16:25		VOAs	4		3N HCl			VOLATILES (8260)
16:25	500mL	amber	2		—			PAH (8270)
16:25	500	poly	1		—			NO3, NO2, SO4 (300)
16:25	500	poly	1		—			TOC (415.1)
16:25	500	poly	1		HNO3			Diss Fe (200.8)

Ferrous Fe (HACH) = 0.2 mg/L

METHODS 16:35 1/10/14

Parameters measured with (instrument model & serial number): YSI 12G104202

Purging Equipment: QED bladder pump Decon Equipment: Liquinox + dedicated tubing

Disposal of Discharged Water: drums on site

Observations/Comments: Note: Sulfur odor + Ferrous Fe detected

Z:\Equipment\Field Forms\Groundwater Sampling Form.xlsx

Aspect CONSULTING

Sample number MW-8D-011014

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: 1 of 1

Project Name: WalkerChev
Project Number: 080190
Date: 1/10/14
Sampled by: JEO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 112.56
Casing Stickup (ft):
Total Depth (ft TOC): 118.46
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~115

PURGING MEASUREMENTS

	Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0	10:53		~0.15		10.3	346.4	7.24	6.65	106.8		
5	10:58				10.8	343.2	7.91	6.66	106.8		
10	10:03				10.7	342.3	7.66	6.67	108.1		
13	11:06				10.7	341.7	7.76	6.67	109.5		
16	11:09				10.9	341.6	8.23	6.67	110.0		
18	11:11				10.8	341.3	7.57	6.67	110.7		
20	11:13		↓		10.8	340.8	7.64	6.67	111.7		

Total Gallons Purged: ~0.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): ~112.81
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:15		VOAs	4		2N HCl			Volatiles (8260)
11:15	500mL	poly	1					NO3, NO2, SO4 (300)
11:15	500mL	poly	1		—			TOC (415.1)
11:15	500mL	poly	1		HNO3			Fe (200.8)
11:25	1/10/14							Ferrous Fe (HACH) = 0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump
Decon Equipment: liquinox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number ~~MW-120-121713~~ No sample

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-120 Page: 1 of 2

Project Name: Walker Chevrolet
Date: 12/17/13
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number:
Starting Water Level (ft TOC): 129.93
Casing Stickup (ft):
Total Depth (ft TOC): 136.26 + 0.55 =
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~132

PURGING MEASUREMENTS

Begin pumping @ 11:42am; No H_2O by 12:05, pulled pump. Begin pumping 12:15

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
										could not get water to surface. Called Army + Eric to trouble shoot. Pulled pump twice. Will try again w/ new tubing at a later date. It's the only factor I couldn't change.
										used 2 bladders

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED Bladder pump Decon Equipment: alconox; dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: DO pH sensor malfunctioning on YSI. Confirmed w/ Alan Noell that it's OK not to take pH readings

Aspect CONSULTING

Sample number: MW-12D ~~010714~~ 011014

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: ~~2~~ of 2

Project Name: Walker Chevrolet
Date: ~~1/7/14~~ 1/10/14
Sampled by: JLD
Measuring Point of Well:
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190 (004-11)
Starting Water Level (ft TOC): 129.94
Casing Stickup (ft):
Total Depth (ft TOC): 130.73
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~133

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 14:31		~~0.08~~		13.1	343.2	9.02	7.36	114.0		
5 14:36		~0.15		13.1	341.0	9.12	7.36	113.1		
10 14:41				13.5	341.8	8.45	7.36	112.7		
12 14:43				13.3	342.2	8.75	7.36	112.0		
14 14:45				13.5	341.4	8.85	7.36	112.5		
16 14:47				13.3	341.9	8.79	7.35	112.8		
18 14:49		↓		13.5	339.9	8.34	7.35	114.2		

Total Gallons Purged: ~0.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): ~130.28
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
14:50		VOAs	4		2w/HCl			volatiles (8260)
14:55	1/10/14							Ferrous Fe (HACH) = 0mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 12G104202
Purging Equipment: QED bladder pump Decon Equipment: Liquinox + dedicated tubing
Disposal of Discharged Water: drums on site
Observations/Comments: Pump struggling here. Took 35 min to get water to the top.

Aspect CONSULTING

Sample number: No sample

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14D Page: 1 of 1

Project Name: ~~080190~~ Walker Chen Project Number: 080190

Date: 1/10/14

Sampled by: JLO

Measuring Point of Well: TOC

Screened Interval (ft. TOC)

Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 134.26

Casing Stickup (ft):

Total Depth (ft TOC): 144.82

Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)

Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf

3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~~140~~ ~~138~~

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Parameters measured with (instrument model & serial number):

Purging Equipment: _____ Decon Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: Too deep. Not enough line on the roll.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: Aspect Consulting	Phone: (206) 838-6592
Client Contact: Alan Noell	
Client Project Name: Walker Chevrolet	
Client Project #: 080190	Samplers: JLO

Page: 1 of 1
Date: 1/10/14 Ice Present? Y
No. of Coolers: 1 Cooler Temps: 5.6

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	VOCs (8260)	cPAHs (8270)	PCBs (8082)	[illegible]	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:	Received by:	Relinquished by:	Received by:
(Signature)				
Printed Name:	Judy Oleson	Jennifer Millsap		
Company:	Aspect Cons.	ARI		
Date & Time:	1/10/14 17:45	1/10/14 1745		

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.*

nple 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 ntion schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	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)

Note wrong project #

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: TPH (Diesel)	TPH (Gas)	Volatiles (8260)	PAHs (8270)	NO3,NO2,SO4 (300.0)	TOC (415.1)	Pb+ FF (200.8)		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:

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.

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

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 by8260	SVOCs by 8270	HFS	Volatiles (8260)	NO3/NO2/SO4 (300)	TOC (415.1)	Fe-total (6010.B)			Notes
MW-13D-121613		12/16/13	15:45	water	4							X						
MW-8-121713		12/17/13	16:50	water	7							X	X	X	X			
MW-15-121713		12/17/13	15:20	water	7							X	X	X	X			
MW-15-121713-DUP		12/17/13	15:20	water	4							X						
MW-21-121713		12/17/13	14:20	water	7							X	X	X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Judy Olson	Aspect	12/18/13	15:15
Received by:				
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

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) JOleson
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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	volatiles (8260)	NO3,NO2,SO4 (300)	TOC (415.1)	Fe - total (200.8)			Notes
MW-18-121213		12/12/13	11:55	water	7							X	X	X	X			
MW-2-121213		12/13/13	13:45	water	7							X	X	X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: JOleson	Judy Oleson	Aspect	12/13/13	10:23
Received by:				
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

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

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 (PAHs)	HFS	Volatiles (8260)	TOC (415)	Fe (2008)	Lead (200.8)	NO_3, NO_2 (300)	Pcbs (8082)	Notes
MW-20-010814		1/8/14	09:30	water	4							+	+	+		+		
MW-19-010814		1/8/14	08:30	water	4							+	+	+		+		
MW-07-010714		1/7/14	11:30	water	7					+		+	+	+	+	+	+	

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Judy Olson	Aspect	1/8/14	17:15
Received by:					
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

Aspect CONSULTING

Sample number MW-140-012314

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-140 Page: 1 of 1

Project Name: Walker
Date: 1/23/14
Sampled by: JLO
Measuring Point of Well:
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number:
Starting Water Level (ft TOC): 134.32
Casing Stickup (ft):
Total Depth (ft TOC): 144.68
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 11:30		~~0.25~~		11.0	338.5	5.33	6.29	74.4		
3 11:33		~0.04		11.5	338.4	5.52	6.31	72.1		
6 11:36				11.9	337.5	5.62	6.34	71.4		
9 11:39				11.6	338.1	5.68	6.35	71.5		
12 11:42				11.7	331.9	5.67	6.36	71.8		
14 11:44				11.7	325.7	5.44	6.36	71.9		
16 11:46				12.0	319.6	5.19	6.37	71.8		
18 11:48				11.9	314.5	5.17	6.37	71.9		
20 11:50				12.0	311.9	5.26	6.37	72.0		

Total Gallons Purged: ~0.3
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 134.27
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:55	40mL	VOA	4	no	HCl (2)			VOCs (8260)
12:00	1/23/14							Ferrous Fe (1,10 Ph) = 0.04 mg = 0.4 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED bladderpump
Decon Equipment: Alconox & dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: water is ~~muddy~~ brown & opaque; high turbidity.

Aspect CONSULTING

Sample number MW-11-012314

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-11 Page: 1 of 1

Project Name: Walker Chev.
Date: 1/23/14
Sampled by: JLO
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190
Starting Water Level (ft TOC): 52.69
Casing Stickup (ft):
Total Depth (ft TOC): 63.78
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~60.0

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 09:46		~0.2		12.0	349.3	2.33	6.06	102.7		
3 09:49				12.2	348.2	2.25	6.09	90.7		
6 09:52				12.3	348.5	2.24	6.11	86.9		
9 09:55				12.3	346.7	2.24	6.13	80.2		
12 09:58				12.4	346.4	2.29	6.14	77.9		
14 10:00				12.4	346.2	2.30	6.14	77.5		
16 10:02				12.4	345.5	2.33	6.15	75.9		
18 10:04				12.5	344.7	2.33	6.15	74.9		
20 10:06		↓		12.5	348.7	2.28	6.16	72.9		

Total Gallons Purged: ~3
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.66
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
10:10	40ml	VOAs	4	no	HCl(2)			VOCs (8260)
10:10	1L	Amber	1	no	no			PAHs (8270)
10:10	500mL	poly	1	no	HNO3			Pb (200.8)
10:10	1L	Amber	1	no	no			PCBs (8082)
10:10	500mL	Amber	1	no	no			TPH-Dx (
10:10	40mL	VOA	4	no	HCl(3)			TPH-Gx
10:20	1/23/14							Ferrous Fe (HACH) = 0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED bladder pump
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-20-012015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-20 Page: 1 of 1

Project Name: @ Walker Chevrolet
Project Number: 080190
Date: 1/20/14
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 52.24
Casing Stickup (ft):
Total Depth (ft TOC): 58.45
Casing Diameter (inches): 1.5

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55 ~~58.50~~

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 09:37		~0.26		12.0	900	1.77	5.65	65.8		09.30 start
5 09:42				12.5	926	2.17	5.73	50.9		
10 09:47				12.7	934	2.32	5.77	47.0		
13 09:50				12.5	942	2.30	5.77	46.8		
16 09:53				12.6	959	2.26	5.79	46.7		
18 09:55				12.5	966	2.29	5.79	46.8		
20 09:57		↓		12.6	969	2.27	5.80	46.7	67.1	10:08 stop

Total Gallons Purged: ~2.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.11 (tidal influence?)
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
10:00	40mL	VOAs	4	No	qwHCl			VOCs by 8260C
10:00	500mL	HDPE	1	No	NO			NO2/NO3/SO4 (353.2/375.2)
10:00	500mL	HDPE	1	No	+HNO3			Fe. by 6020
10:00	HACH Ferrous	Fe						4.0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED bladder pump
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: greasy sheen on water. Red-orange gunk at bottom of well (biofilm?). water lightly milky. Odor (rancid veg oil)

Aspect CONSULTING

Sample number MW-21-012015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-21 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/20/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.78
Casing Stickup (ft):
Total Depth (ft TOC): 59.31
Casing Diameter (inches): 1.5

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~57 ~~59~~

PURGING MEASUREMENTS

	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
Criteria:			Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
0	11:23		~0.24		12.1	898	4.35	5.91	65.1		11:20 start
5	11:28				13.6	1152	1.74	5.88	62.6		
10	11:33				13.7	1181	1.17	5.92	56.7		
13	11:36				13.8	1185	1.17	5.93	53.5		
16	11:39				13.8	1180	1.01	5.96	48.9		
18	11:41				13.9	1179	1.00	5.97	46.5		
20	11:43		↓		13.8	1175	1.06	5.99	44.5	>1000	11:49 stop

Total Gallons Purged: ~2.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.79
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:45	40mL	VOAs	4	No	2 w/HCl			VOCs by 8260
11:45	500mL	HDPE	1	No	No			NO2/NO3/SO4 by 353.2/375.2
11:45	500mL	HDPE	1	No	HNO3			Fe by 6020
11.45	HACH Ferrous Fe							5.5 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED bladder pump Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Water is milky + thick. Greasy sheen over water. Odor (rancid veg. oil)

Aspect CONSULTING

Sample number MW-8-012015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/20/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.70
Casing Stickup (ft):
Total Depth (ft TOC): 61.41
Casing Diameter (inches): 1.5

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal) ~58

Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~55.00

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 12:27		~0.28		14.3	776	2.49	5.67	27.7		12:23 start
5 12:32				14.6	787	0.68	5.65	39.3		
10 12:37				14.6	799	0.58	5.65	44.3		
13 12:40				14.6	790	0.47	5.67	42.1		
16 12:43				14.6	767	0.43	5.67	39.7		
18 12:45				14.5	734	0.42	5.67	37.0		
20 12:47		↓		14.6	721	0.40	5.68	35.7	>1000	13:00 Stop

Total Gallons Purged: ~2.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 56.10
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
12:50	40mL	VOAs	4	No	2N HCl			VOCs by 8260C
12:50	500mL	HDPE	1	No	No			NO2/NO3/SO4 by 353.2/375.2
12:50	500mL	HDPE	1	No	HNO3			Fe by 6020
12:50	HACH Ferrous Fe							1.0mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED Bladder pump
Decon Equipment: Alconox & dedicated tubing
Disposal of Discharged Water: Drums on Site

Observations/Comments: Odor (rancid veg. oil). Greasy sheen on water. Water milky white. Red-orange gunk at bottom of well (biofilm?)

Aspect CONSULTING

Sample number MW-19-012115

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-19 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/21/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): ~53
Casing Stickup (ft):
Total Depth (ft TOC): 58.82
Casing Diameter (inches): 1.5

→ water line not reading clearly. Cleaned + replaced battery but issue not fixed

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~56

PURGING MEASUREMENTS

	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
Criteria:			Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
0	10:57		~0.26		12.8	724	0.60	5.37	87		10:54 start
5	11:02		↓		13.1	815	0.28	5.51	61.5		
10	11:07				13.2	854	0.31	5.38	50.5		
13	11:10				13.3	869	0.31	5.60	48.0		
16	11:13				13.3	879	0.34	5.61	44.7		
18	11:15				13.3	885	0.35	5.62	42.8		
20	11:17		↓		13.3	886	0.36	5.62	42.3	642	11:30 stop

Total Gallons Purged: ~2.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): ~53.5 see note above
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
11:20	40mL	VOAs	4	No	2w HCl			VOCs by 8260C
11:20	500mL	HDPE	1	No	No			NO2/NO3/SO4 by 353.2/375.2
11:20	500mL	HDPE	1	No	HNO3			Fe by 6020
11:20	HACH	Ferrous Fe						2.0mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED bladder pump
Decon Equipment: Alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Water lightly milky. Odor (rancid vegetable oil). Red-orange gunk @ bottom of well (biofilm). Greasy sheen on water.

Aspect CONSULTING

Sample number MW-15-012115

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-15 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/21/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 61.55
Casing Stickup (ft):
Total Depth (ft TOC): 74.69
Casing Diameter (inches): 2

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
		Can't sample. The pump won't fit down the well because the monument is too close to the angled well.								

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Parameters measured with (instrument model & serial number): _____

Purging Equipment: _____ Decon Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: all measurements in linear feet on the well's angle.

Aspect CONSULTING

Sample number MW-16-01215

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-16 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/21/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 56.15
Casing Stickup (ft):
Total Depth (ft TOC): 64.51
Casing Diameter (inches): 1.5

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~61

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 13:15		~0.28		12.6	941	5.07	6.23	36.5		start 12:57
5 13:20				13.5	954	5.20	6.24	21.4		
10 13:25				13.7	958	4.62	6.25	10.1		
13 13:28				13.7	957	4.58	6.26	5.0		water cleared
16 13:31				13.6	952	4.33	6.27	1.4		
19 13:34				13.6	942	4.40	6.29	-1.4		
22 13:37		↓		13.7	933	4.36	6.30	-3.4	236	stop 13:46

Total Gallons Purged: ~2.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 56.20
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
13:40	40mL	VOAs	4	No	2 w/HCl			VOCs by 8260
13:40	500mL	HDPE	1	No	No			NO2/NO3/SO4 by 353.2/375.2
13:40	500mL	HDPE	1	No	HNO3			Fe by 6020
13:40	HACH	Ferrous	Fe					4.0 mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED bladder pump
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on Site

Observations/Comments: Difficulty pumping; very silty water. Had to clean pump once before water flowed. odor (rancid veg. oil). Greasy sheen on water.

Aspect CONSULTING

Sample number: MW-2-012115

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 1/21/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 51.83
Casing Stickup (ft):
Total Depth (ft TOC): 60.87
Casing Diameter (inches): 1.5

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~58

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3% ✓	± 10%	± 0.1 ✓	± 10 mV ✓	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 15:30		~0.20		13.9	1056	3.25	6.34	24.2		start 14:30
3 15:33		↓		13.5	1028	3.47	6.32	21.0		@water@15:30
6 15:36		↓		12.8	1009	3.29	6.31	21.4		water SILTY!
9 15:39		~0.16		12.4	994	2.82	6.29	23.5		
12 15:42		↓		12.1	977	2.80	6.28	25.4		
15 15:45		↓		12.0	962	2.44	6.27	27.6		
18 15:48		↓		11.6	956	2.18	6.27	29.0		
20 15.50		~0.12		11.2	956	2.08	6.27	29.7		
22 15:52		↓		10.8	954	1.95	6.26	30.8		
24 15:54		↓		10.3	955	1.70	6.26	32.3		
26 15:56		↓		9.8	962	1.58	6.25	33.4	>1000	>sampling because water flow is dropping
										16:10 Stop

Total Gallons Purged: ~2
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): ~52.6 (Reading not clear)
Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
16:00	40mL	VOAs	4	No	2 w/HCl			VOCs by 8260C
16:00	500mL	HDPE	1	No	No			NO2/NO3/SO4 by 353.2+375.2
16:00	500mL	HDPE	1	No	HNO3			Fe by 6020
16:00	HACH	Ferrous Fe						3.5mg/L

METHODS

Parameters measured with (instrument model & serial number): YSI 13E102942
Purging Equipment: QED Bladder pump
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on site

Observations/Comments: Issues w/ pump. Chunky white stuff clogging pump (bio debris?). Water very silty. White + Red-orange gunk at bottom (bio-film). odor (maybe veg oil). water thick + milky.

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Alan Abell
Company Aspect Consulting
Address 401 2nd Ave S. Ste. 201
City, State, ZIP Seattle, WA 98104
Phone # 206-838-6592 Fax # 206-838-5853

SAMPLERS *(signature)* J Enyeart
PROJECT NAME/NO. Walker Chevrolet 080190
PO#
REMARKS e-mail results to aabell@aspectconsulting.com

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	SVOCs by 8270	HFS	Notes
MW-20-012015		1/20/15	10:00	water	6				X			
MW-21-012015		1/20/15	11:45	water	6				X			
MW-8-012015		1/20/15	12:50	water	6				X			

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	J Enyeart	Judy Enyeart	Aspect	1/20/15	15:00
Received by:					
Relinquished by:					
Received by:					

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

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S. Ste. 201
City, State, ZIP Seattle, WA 98104
Phone # 206-838-0508 Fax # 206-838-3853

SAMPLERS *(signature)* Judy Enyeart

PROJECT NAME/NO. Walker Chevrolet 080190

PO#

REMARKS e-mail results to anoell@aspectconsulting.com

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	SVOCs by 8270	HFS	Naphthalene by 8270 (WW)	2-Methylnaphthalene by 8270 (WW)	Acenaphthene by 8270 (WW)				Notes
MW-19-012115		1/21/15	11:20	water	6			X	X			X	X	X				
MW-16-012115		1/21/15	13:40	water	6				X			X	X	X				
MW-2-012115		1/21/15	16:00	water	6				X			X	X	X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Judy Enyeart	Judy Enyeart	Aspect	1/21/15	11:45
Received by:				
Relinquished by:				
Received by:				

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

Walker Chev
1/20/15 ~~Marcello~~ (cloudy) JLE
on-site @ 08:45

No empty drums on site. Storing water in 5-gal buckets w/lids. ordering drum per Alan.

Offsite @ 13:30

Sampled MW-20, MW-21, & MW-8

1/21/15 Walker Chevrolet (Cloudy)
JLE
on-site @ 8:30 ~~established~~ get workspace
8:45 went to ~~Kelly~~ buckets
9:30 on-site

MW-15 moved + inacessible to a QED pump

MW-2 + MW-16 very silty. A lot of difficulty with the pumping.

New tubing for MW-2 + MW-16. Offsite @ 16:45

Aspect CONSULTING

Sample number MW-11-032015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-11 Page:___ of ___

Project Name: Walker Chevrolet
Date: 3/20/15
Sampled by: ELS
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number:
Starting Water Level (ft TOC): 52.07
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC):

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0802		0.30	52.07							Start.
0807				12.8	368.7	3.02	6.17	125.2		
0812				12.9	368.0	2.63	6.21	121.3		
0817				13.0	366.2	2.58	6.26	122.1		
0822				13.0	364.6	2.54	6.29	124.8	244	Sampled

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
0825	40mL	VOA	8	N	HCl			
	40mL	VOA	2	N	N			
	500mL	Poly	2	N	N			
	500mL	Amber	1	N	N			

METHODS

Parameters measured with (instrument model & serial number): YSI Pro+ 12K101171
Purging Equipment: QED Decon Equipment: alconox wash
Disposal of Discharged Water: drum
Observations/Comments:

Aspect CONSULTING

Sample number MW-14D-042915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14D Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 4/29/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 133.82
Casing Stickup (ft):
Total Depth (ft TOC): 145.60
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf
Sample Intake Depth (ft TOC): ~144

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	±3% ✓	± 10% ✓	± 0.1 ✓	± 10 mV ✓	± 10%		
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 16:02		~0.098		18.9	288.4	8.49	7.89	130.7		Start purge
4 16:06				17.4	299.1	11.19	7.39	142.2		@15:57
8 16:10		~0.110		16.6	314.6	6.79	6.61	147.7		
12 16:14				16.1	306.8	6.47	6.58	145.3		
15 16:17		~0.110		15.9	304.4	6.25	6.59	143.9		
18 16:20				15.8	303.7	6.21	6.60	143.3	959	Stop purge @ 16:24

Total Gallons Purged: ~1
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 133.82
Ending Total Depth (ft TOC): 145.60

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
16:30	40mL	VOAs	3	No	HCl			Chlorinated VOCs

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: switched to a 40/20 sec cycle. Seems to work better.

Aspect CONSULTING

Sample number MW-12D-042915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 4/29/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 129.89
Casing Stickup (ft):
Total Depth (ft TOC): 135.19
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~134

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	±3%	±10%	± 0.1	± 10 mV	± 10%		
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 15:03		~0.06		18.2	366.2	9.21	7.57	138.2		start purge
4 15:07		~0.05		18.1	355.6	10.10	7.90	128.8		@ 14:54
8 15:11		~0.036		18.2	356.3	9.86	7.76	129.6		
12 15:15		~0.03		18.2	356.8	8.73	7.60	131.0		
15 15:18		~0.09		18.0	356.7	8.88	7.61	129.9		
18 15:21		~0.036		17.3	355.6	8.34	7.63	130.0	58.6	stop purge @15:30

Total Gallons Purged: ~0.125
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 130.89
Ending Total Depth (ft TOC): 135.19

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
15:30	40mL	VOAs	3	NO	HCl			Chlorinated Solvents

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Still had to manually control to keep head high enough to produce water.

Aspect CONSULTING

Sample number: MW-13D-042915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D Page: 1 of 2

Project Name: Walker Chevrolet
Project Number:
Date: 4/29/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 137.13
Casing Stickup (ft): 0.90
Total Depth (ft TOC): 148.25
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~147

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 07:20		~0.006		10.0	374.7	12.00	6.68	178.4		Start 07:15 purge
4 07:24				9.8	358.0	10.67	7.05	173.2		
8 07:28				9.7	361.9	12.06	7.21	176.3		
12 07:32				9.6	360.0	11.41	7.33	166.1		
15 07:35				9.6	357.2	10.37	7.43	164.0		→ Not getting
18 07:38				9.7	354.4	9.42	7.47	154.7		enough water
21 07:41				9.7	350.0	9.20	7.56	154.2		Stop
24 07:44										Stop 07:44
27 07:47										purge
0 09:17		~0.030		13.3	337.9	9.18	7.55	173.8		start purge @ 09:15 (New battery)
4 09:21				13.6	333.4	9.21	7.43	160.0		
8 09:25		~0.010		13.7	336.9	8.34	7.33	149.3		
12 09:29				14.0	337.2	8.35	7.18	151.5		
15 09:32				14.4	337.7	8.07	7.13	151.5		
18 09:35				14.9	338.1	8.14	6.90	151.9		
21 09:38		0.0		15.0	338.1	7.93	6.91	151.6		LOST FLOW @ 9:39 again

Total Gallons Purged: ~0.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 137.15
Ending Total Depth (ft TOC): 148.25

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
07:40	40mL	VOAs	3	NO	HCl			Chlorinated VOCs

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: Alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Pressure headmaxes @ 240'. using a 20/lose cycle + can barely get water. Temp might be off due to low flow + sun on the tube. Throttle fully open on controller

Aspect CONSULTING

Sample number MW-13D-042915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D Page: 2 of 2

Project Name: Walker Chev
Date: 4/29/15
Sampled by: _____
Measuring Point of Well: _____
Screened Interval (ft. TOC) _____
Filter Pack Interval (ft. TOC) _____

Project Number: _____
Starting Water Level (ft TOC): _____
Casing Stickup (ft): _____
Total Depth (ft TOC): _____
Casing Diameter (inches): _____

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
10:00		~0.006		13.9	340.6	7.83	6.88	153.7		start purge
										@ 09:55 (changed O-rings + bladder)
		Called Alan → Sampling								
		No turbidity								Stop purge @ 11:32

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Parameters measured with (instrument model & serial number): _____

Purging Equipment: _____ Decon Equipment: _____

Disposal of Discharged Water: _____

Observations/Comments: _____

Aspect CONSULTING

Sample number MW-8D-042815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 4/28/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 112.45
Casing Stickup (ft):
Total Depth (ft TOC): 118.71
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~116'

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3% ✓	± 10% ✓	± 0.1 ✓	± 10 mV ✓	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 11:13		~0.18		15.3	353.1	6.72	7.28	134.4		start 11:09
4 11:17				15.1	360.5	5.86	6.65	141.5		purge
8 11:21				15.0	359.3	5.46	6.63	142.9		
12 11:25				15.1	357.6	5.21	6.62	144.3		
15 11:28				15.1	356.7	5.19	6.61	145.4	157	
18 ~~11:31~~										

Total Gallons Purged: ~1
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 113.25
Ending Total Depth (ft TOC): 118.71

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
11:35	40mL	VOAs	3	No	HCl			Chlorinated VOCs

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox+water, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-11-042815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-11 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 4/28/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 51.49
Casing Stickup (ft):
Total Depth (ft TOC): 62.84
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~60

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 09:21		~0.25		13.0	387.3	3.21	6.33	114.5		start 09:18
4 09:25				13.2	381.8	3.03	6.33	114.1		purge
8 09:29				13.3	376.0	3.07	6.34	116.8		
12 09:33				13.3	369.4	3.03	6.35	120.4		
15 09:36				13.3	364.3	3.00	6.36	122.6		
19 09:39				13.3	362.1	2.93	6.36	124.6	405	stop 09:48 purge

Total Gallons Purged: ~2.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 51.50
Ending Total Depth (ft TOC): 62.84

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
09:40	500mL	poly	1	No	HNO3			Total RCRA metals
09:40	500mL	poly	1	yes	HNO3			Dissolved RCRA metals

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + water, dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-5-042815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Walker Chevrolet
Date: 4/28/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190
Starting Water Level (ft TOC): 51.38
Casing Stickup (ft):
Total Depth (ft TOC): 60.31
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~58

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 08:14		~0.28		14.7	391.8	6.93	6.18	110		start 08:10
4 08:18				14.7	392.2	6.93	6.31	104.6		purge
8 08:22				14.7	389.6	6.53	6.38	102.6		
12 08:26				14.6	391.4	5.44	6.38	103.0		
15 08:29				14.6	391.6	4.84	6.39	103.7		
18 08:32				14.6	391.1	4.63	6.39	104.7		
21 08:35				14.6	389.1	4.38	6.40	105.8		
24 08:38				14.6	387.0	4.20	6.40	106.4	595	stop 08:41
										purge

Total Gallons Purged: ~2.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 51.40
Ending Total Depth (ft TOC): 60.31

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
08:35	40mL	VOCs	3	No	HCl			Chlorinated VOCs

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: Alconox + water; ~~Peristaltic~~ tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

SAMPLE CHAIN OF CUSTODY

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S, Ste. 201
City, State, ZIP Seattle WA 98104
Phone # 206-838-6592 Fax # 206-838-5853

SAMPLERS *(signature)* Jenyeart
PROJECT NAME/NO. Walker Chevrolet | PO# 080190
REMARKS e-mail results to anoell@aspectconsulting.com

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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS						Notes
MW-5-042815		4/28/15	08:35	groundwater	3				X								chlorinated VOCs only
MW-8D-042815		4/28/15	11:35	groundwater	3				X								
MW-13D-042915		4/29/15	07:40	groundwater	3				X								
MW-12D-042915		4/29/15	15:30	groundwater	3				X								
MW-14D-042915		4/29/15	16:30	groundwater	3				X								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Jenyeart	Judy Enyeart	Aspect	4/30/15	14:00
Received by:				
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

Send Report To Alan Noell
Company Aspect Consulting
Address 401 and Ave S, Ste. 201
City, State, ZIP Seattle WA 98104
Phone # 206-838-6592 Fax # 206-838-5853

SAMPLERS *(signature)* JEnyeart
PROJECT NAME/NO. Walker Chevrolet
PO# 080190
REMARKS e-mail results to anoell@aspectconsulting.com

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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Total RCRA Metals	Diss. RCRA Metals					Notes
MW-11-042815		4/28/15	09:40	groundwater	2							X	X					Diss. sample field-filtered

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:	JEnyeart	Judy Enyeart	Aspect	4/30/15	14:00
Received by:					
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

Aspect CONSULTING

Sample number MW-8D-090815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-~~13~~ 13
Date: 9/8/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 112.47
Casing Stickup (ft): WS, 190
Total Depth (ft TOC): 118.92
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~118

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 13:18		~0.1		18.9	370.2	7.25	6.75	45.0		Begin purge
4 13:22		↓		17.7	367.8	5.44	6.51	52.9		@ 13:10, flow
8 13:26				17.5	366.8	5.72	6.52	53.9		@ 13:15
11 13:29				17.4	366.9	5.35	6.58	53.6		
14 13:32				17.3	367.9	5.35	6.61	53.9		
16 13:34				17.3	369.1	5.44	6.62	54.4		
18 13:36		↓		17.3	368.4	5.18	6.62	55.1	650	endpurge @ 13:42

Total Gallons Purged: ~0.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 113.05
Ending Total Depth (ft TOC): 118.92

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
13:40	40mL	VOAs	4	NO	2HCl			VOCs by 8260C (chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox & ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: pressure @ 200 ~~ft~~ psi w/ 40:20 cycle. Worked great!

Aspect CONSULTING

Sample number MW-2-090815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: 1 of 1

Project Name: Walker
Date: 9/8/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-013
Starting Water Level (ft TOC): 51.77
Casing Stickup (ft):
Total Depth (ft TOC): 61.07
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~60.5

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3% ✓	± 10%	± 0.1 ✓	± 10 mV ✓	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 14:13		~0.18		20.1	733	0.24	5.75	56.9		start purge
4 14:17		|		17.3	495.6	0.14	5.76	42.9		@ 14:05, flow
8 14:21		|		17.3	446.8	0.07	5.76	38.3		@ 14:07
11 14:24		|		17.3	442.5	0.07	5.76	40.1		
14 14:27		|		17.2	440.4	0.15	5.77	41.8		
17 14:30		|		17.6	444.7	0.17	5.77	43.2		
20 14:33		↓		17.3	447.5	0.17	5.78	44.7	578	End purge @14:38

Total Gallons Purged: ~1
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 51.98
Ending Total Depth (ft TOC): 61.07

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
14:35	40mL	VOAs	4	No	2 w/ HCl			VOCs by 8260C (chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on Site
Observations/Comments: pressure @ 130 ~~psi~~ psi w/ 20:10 cycle. Worked great. Initial clogging which had to be worked through (bacteria); will clear up.

Aspect CONSULTING

Sample number MW-15-090815

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-15 Page: 1 of 1

Project Name: Walker
Date: 9/8/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-013
Starting Water Level (ft TOC): 61.31
Casing Stickup (ft):
Total Depth (ft TOC): 78.84
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~78

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3% ✓	± 10% ✓	± 0.1 ✓	± 10 mV ✓	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 15:10		~0.15		19.5	386.8	2.31	6.17	1.2		Begin purge
4 15:14		↓		19.6	379.7	0.54	6.18	3.9		@ 15:06, flow
8 15:18				19.7	372.3	0.33	6.20	4.6		@ 15:07
11 15:21				19.6	369.9	0.29	6.21	5.7		
14 15:24				19.4	365.3	0.25	6.22	7.1		
17 15:27		↓		19.6	363.0	0.23	6.23	8.3	107	Stop purge @ 15:32

Total Gallons Purged: ~0.75
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 61.66
Ending Total Depth (ft TOC): 78.84

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
15:35	40mL	VOAs	4	NO	2w/HCl			VOCs by 8260C (chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Measured along the casing angle. WLI sticks to casing badly. pressure @ 100 PSI; 20:0 cycle. Black/grey clay on bottom of well.

Aspect CONSULTING

Sample number MW-21-090815

GROUNDWATER SAMPLING RECORD | **WELL NUMBER:** MW-21 | **Page:** 1 of 1

Project Name: Walker
Date: 9/8/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-~~14~~ 13
Starting Water Level (ft TOC): 52.83
Casing Stickup (ft):
Total Depth (ft TOC): 59.58
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~59

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na ✓	± 3% ✓	± 10% ✓	± 0.1 ✓	± 10 mV ✓	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 16:24		~0.15		19.0	695	0.09	5.19	20.7		Start purge
4 16:28				18.2	667	0.71	5.14	26.2		@16:03 ; flow
8 16:32				18.1	656	1.31	5.21	60.5		@16:22
11 16:35				18.1	653	0.61	5.24	68.5		
14 16:38				18.7	652	0.19	5.27	59.4		
17 16:41				18.6	651	0.05	5.32	65.8		
20 16:44				18.5	655	0.06	5.32	82.8		
23 16:47				18.5	656	0.05	5.34	100.5		
26 16:50				18.6	657	0.05	5.35	111.5		
29 16:53				18.6	658	0.05	5.36	116.5	>1000	Stop purge @16:56

Total Gallons Purged: ~2
Total Casing Volumes Removed:
Ending Water Level (ft TOC): TDO only - can't get reading
Ending Total Depth (ft TOC): 59.58

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
16:45	40mL	VOAs	4	NO	2w/HCl			VOCs by 8260C (chlorinated only

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Thick biofilm. Cleared pump intake screen twice @ 130 ~~ft~~ psi initially to clear sludge. pressure @ 80 ~~ft~~ psi, 20:10 cycle to sample. water is milky.

Aspect CONSULTING

Sample number MW-20-090915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-20 Page: 1 of 1

Project Name: Walker
Project Number: 080190-13
Date: 9/9/15
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.83
Casing Stickup (ft):
Total Depth (ft TOC): 59.02
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~58.5

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
07:12		~0.12		16.7	524.6	0.71	5.86	144.2		Start purge
07:16				16.7	524.5	0.98	5.86	153.4		@ 07:05; flow
07:20				16.8	524.0	1.22	5.87	150.8		@ 07:07
07:23				16.8	524.5	1.32	5.89	156.7		
07:26				16.6	524.6	1.54	5.90	144.7		
07:29				16.5	525.0	1.86	5.91	109.2		
0732				16.3	525.1	1.84	5.92	105.3		
0735				16.4	525.6	1.95	5.93	100.4	34	

Total Gallons Purged: ~1
Total Casing Volumes Removed: _____
Ending Water Level (ft TOC): 51.73
Ending Total Depth (ft TOC): 59.02

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
07:35	40mL	VOPS	4	No	2w/HCl			VOCs by 8260C (chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + std. tubing
Disposal of Discharged Water: drums on site
Observations/Comments: pressure @ 80 ~~PSI~~ ft, 20:10 cycle.

Aspect CONSULTING

Sample number MW-5-090915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: WALKER
Project Number: 080190-13
Date: 9/9/15
Sampled by: ENK / JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.61
Casing Stickup (ft):
Total Depth (ft TOC): 60.21
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~59.5

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0803		.150		15.8	452.6	7.17	6.45	69.5		start purge @ 07:55; flow @ 0758
0806				15.7	451.7	7.24	6.48	79.6		
0809				15.7	451.4	7.17	6.49	88.4		
0812				15.7	450.9	7.22	6.50	96.8		
0815				15.7	450.7	7.14	6.50	103.5		
0818				15.7	450.4	7.07	6.50	109.8		
0821				15.7	450.3	7.06	6.50	116.3	71000 ~~DUP~~	
0824										Stop Purge @ 0828

Total Gallons Purged: ~1
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.13
Ending Total Depth (ft TOC): 60.21

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
0830	40mL	VOA	4	—	2-HCL	ORANGE		VOC's BY 8260C (CHLORINATED ONLY)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED PUMP
Decon Equipment: ALCONOX
Disposal of Discharged Water: Drum on Site
Observations/Comments: pressure @ 70 ~~PSI~~ ft, 20:10 cycle. ~~MMMM~~ orange, water.

Aspect CONSULTING

Sample number MW-19-090915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-19 Page: 1 of 1

Project Name: Walker
Project Number: 080190-013
Date: 9/9/15
Sampled by: JLE/ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 51.71
Casing Stickup (ft):
Total Depth (ft TOC): 58.74
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 458

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0850		0.180		17.3	987	0.36	5.67	96.9		start purge @
0855				18.3	986	0.23	5.67	107.7		08:45; flow at
0858				17.9	993	0.28	5.70	115.6		08:47
0901				17.1	975	0.15	5.69	105.7		
0904				17.1	956	0.11	5.69	91.4		
0907				17.0	935	0.12	5.70	92.0		
0910				17.0	917	0.11	5.72	93.0		
0913				16.8	904	0.12	5.74	93.9		
0916				16.9	901	0.26	5.75	94.2		
0919				16.8	898	0.14	5.77	95.1		
0922				16.8	896	0.21	5.77	95.7		
0925				16.8	897	0.22	5.78	96.3		
0928				16.9	895	0.22	5.78	96.6	227	
										PURGE STOP @ 0930

Total Gallons Purged: 41
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 51.84
Ending Total Depth (ft TOC): 58.74

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
0930	40mL	VOA	4	NO	2w/HCl			VOCs by 8260C
								(chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: Alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: purge initial silty water - THROUGHOUT
pump @ 90 ft; 20:10 cycle

Aspect CONSULTING

Sample number MW-14D-090915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14D Page: 1 of 1

Project Name: Walker
Date: 09/9/15
Sampled by: JLE, ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-~~143~~ 13
Starting Water Level (ft TOC): 134.16
Casing Stickup (ft):
Total Depth (ft TOC): 145.30
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal) ~142

Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~~143~~ 142

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1028		0.050		18.3	326.6	9.58	6.81	27.0		start purge @
1033				17.8	328.6	6.26	6.66	57.7		0949; Flow @
1036				17.7	326.1	5.76	6.65	68.3		stop pump @ 1010 -
1039				17.7	329.0	5.61	6.63	74.2		install new screen
1042				17.7	343.3	5.46	6.58	82.5		b/c screen w/ clay;
1045				17.7	350.5	5.31	6.57	86.7		redeployed pump
1048				17.6	357.3	5.16	6.55	92.2		at 1011 - flow @ 1019
1051				17.6	362.0	4.98	6.54	99.3	238	

Total Gallons Purged: ~0.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 134.13
Ending Total Depth (ft TOC): 145.30

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
10:55	40mL	VOAs	4	NO	2w/HCl			VOCs by 8260C
								(CHLORINATED ONLY)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox+cold. tubing
Disposal of Discharged Water: Drums on site

Observations/Comments: START PURGE @ 250 FT. - REMAINED @ 250 FT.; 40:20 cycle

Aspect CONSULTING

Sample number MW-13D-090915

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D Page: 1 of 1

Project Name: Walker
Project Number: 080190-13
Date: 9/9/15
Sampled by: JLE/ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 137.22
Casing Stickup (ft):
Total Depth (ft TOC): 150.4
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~147

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1126		0.03		19.6	340.2	6.73	6.98			start purge @
1130				19.9	328.3	6.43	7.36			1119; flow @
~~1134~~				21.5	328.0	6.58	7.40			1122 - Flow
~~1138~~				20.7	334.8	7.50	7.22	104.5		reduced to ~3mL/m
~~1141~~				20.0	339.8	6.54	6.77	116.2		pulled pump &
~~1144~~				19.9	339.0	6.72	6.66	125.4		redeployed @ 1140;
~~1147~~				19.8	338.8	7.35	6.68	130.3		flow @ 38mL/min
1204				19.7	338.1	6.66	6.67	134.0		
1208				20.3	338.5	6.66	6.66	138.1	>1000 OVER	
										Pump off @ 1222

Time: 0, 4, 8, 12, 15, 18, 21

Total Gallons Purged: ~0.5
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 138.47
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
1215	40mL	VOAs	4	NO	2HCl	~~CLEAR~~		VOCs by 8260C (Chlorinated only)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED pump
Decon Equipment: alconox + ded tubing
Disposal of Discharged Water: Drums on site

Observations/Comments: Sample H_2O is ~~CLEAR~~ ORANGISH. Flow rate insufficient to fill bottles on first pass. Pressure @ 250 ft; 40:20 cycle

Aspect CONSULTING

Sample number MW-12D-09092015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: 1 of ___

Project Name: WALKER
Date: 9/9/15
Sampled by: ENK, JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-13
Starting Water Level (ft TOC): 130.96
Casing Stickup (ft):
Total Depth (ft TOC): 135.86
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 132.0

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
										Start purge @
										12:36; ~~FLOW~~ @
										PULLED PUMP @ 1246
										b/c NO FLOW; REPLACE
										FITTING FOR AIR INLET
										AT QED
										RE-START PURGE @
										1251; ~~FLOW~~ @ NO
										FLOW; TURNED OFF
										PUMP @ 1307; REP.
										TUBING - BACK ON AT
										1315; UP AT 1321 - NO H_2O
										REP BLADDER & RESTART @
										1325 - NO H_2O -
										SHUT-DOWN @ 1358

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____ Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED PUMP Decon Equipment: ALCONOX & DEDICATED TUBING
Disposal of Discharged Water: PURGE DRUM ON-SITE
Observations/Comments: PUMP @ 250 ft TO START
140' TUBING, 1 x EXTRA BLADDER

Aspect CONSULTING

Sample number MW-8-091015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 Page: 1 of 1

Project Name: WALKER
Project Number: 080190-13
Date: 9/10/15
Sampled by: ENIC / JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 49.76
Casing Stickup (ft):
Total Depth (ft TOC): 61.34
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 60.09

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0656		0.160		16.8	813	0.56	5.18	65.9		START PURGE @
0701				16.6	774	0.12	5.19	55.7		0651; FLOW @ 0653
0704				16.6	756	0.28	5.19	53.2		
0707				16.6	753	0.25	5.20	51.9		
0710				16.5	755	0.84	5.20	50.8		
0713				16.5	756	0.31	5.21	52.4		
0716				16.5	757	0.23	5.22	51.8		
0719				16.6	758	0.23	5.22	50.1		
0721				16.6	757	0.25	5.22	49.1	>1000	
										PURGE COMPLETE @
										0721
										PUMP OFF @ 0728

Total Gallons Purged: ~1
Total Casing Volumes Removed:
Ending Water Level (ft TOC): TOO "oily" for reading
Ending Total Depth (ft TOC): 61.34

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
0725	40mL	VOC	4	N	2w/HCl	MILKY		VOC's BY 8260C (CHLORINATED ONLY)

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED Pump
Decon Equipment: ALCONOX + DEDICATED TUBING
Disposal of Discharged Water: Drums on Site
Observations/Comments: PUMP SET AT 100 ft. THROUGHOUT - CAM2 ; 20:10 cycle. Water has biofilm + product. Too "oily" for WLI. Use interface probe in future.

Aspect CONSULTING

Sample number MW-12D-091015

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: 1 of ___

Project Name: WALKER 080190
Date: 9/10/15
Sampled by: ENK/JLE
Measuring Point of Well: ___
Screened Interval (ft. TOC) ___
Filter Pack Interval (ft. TOC) ___

Project Number: ___
Starting Water Level (ft TOC): 130.90
Casing Stickup (ft): ___
Total Depth (ft TOC): 135.86
Casing Diameter (inches): ___

Casing Volume ___ (ft Water) x ___ (Lpfv)(gpf) = ___ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): 134.61

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0801		0.77		17.3	382.5	8.42	6.59	5.6		START PURGE @ 0753, WATER @ 0758
0806		0.66		17.1	354.7	8.43	7.16	4.4		
0809				17.1	352.0	8.48	7.34	10.0		
0812		0.55		17.2	351.3	8.07	7.44	15.3		
0815				17.1	351.1	8.01	7.50	19.7		
0818				17.2	350.5	7.98	7.52	22.5	24.1	
										PURGE COMPLETE @ 1818
										PUMP OFF @ 0825

Total Gallons Purged: ___ Total Casing Volumes Removed: ___

Ending Water Level (ft TOC): 134.47 Ending Total Depth (ft TOC): ___

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
0825	40mL	VOC	4	—	2 w/HCL			

METHODS

Parameters measured with (instrument model & serial number): YSI 14H102458
Purging Equipment: QED PUMP Decon Equipment: ALCONOX + DEDICATED TUBING
Disposal of Discharged Water: ___
Observations/Comments: PUMP SET TO 200 ft. - 40:20 CYCLE - WATER ~~FREE~~ CLEAR

Z:\Equipment\Field Forms\Groundwater Sampling Form.xlsx

SAMPLE CHAIN OF CUSTODY

Send Report To Alan Anoell
Company Aspect Consulting
Address 401 2nd Ave S, Ste. 201
City, State, ZIP Seattle, WA 98104
Phone # (206) 838-6592 Fax # (206) 838-5853

SAMPLERS *(signature)* Enyeart
PROJECT NAME/NO. Walker
PO# 08090-13
REMARKS email to: anoell@aspectconsulting.com

Page # 1 of 2

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	SVOCs by 8270	HFS							Notes
MW-8D-090815		9/8/15	13:40	water	4				X									chlorinated only
MW-2-090815		9/8/15	14:35	water	4				X									
MW-15-090815		9/8/15	15:35	water	4				X									
MW-20-090915		9/9/15	07:35	water	4				X									
MW-5-090915		9/9/15	08:30	water	4				X									
MW-19-090915		9/9/15	09:15	water	4				X									
MW-14D-090915		9/9/15	10:55	water	4				X									
MW-13D-090915		9/9/15	12:15	water	4				X									
MW-21-090815		9/8/15	16:45	water	4				X									
MW-12D-091015		9/10/15	08:25	water	4				X									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Enyeart	Judy Enyeart	Aspect	9/10/15	14:00
Received by:				
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S. Ste 201
City, State, ZIP Seattle WA 98104
Phone # (206) 838-6592 Fax # (206) 838-5853

SAMPLERS *(signature)* JEnyeart
PROJECT NAME/NO. Walker
PO# 080910-13
REMARKS email to: anoell@aspectconsulting.com

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 by8260C	SVOCs by 8270	HFS						Notes
MW-8-091015		9/10/15	07:25	water	4				X								chlorinated only
MW-1																	
MW-2																	
MW-3																	
MW-10																	
MW-11																	
MW-12																	

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: JEnyeart	Judy Enyeart	Aspect	9/10/15	14:00
Received by:				
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Alan Noell
Company Aspect Consulting
Address 461 2nd Ave S, Ste 201
City, State, ZIP Seattle WA 98104
Phone # (206)838-6592 Fax # (206)838-5853

SAMPLERS (signature) Judy Enyeart
PROJECT NAME/NO. Walker
PO# 080190-14
REMARKS email to: anoell@aspectconsulting.com

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	SVOCs by 8270	HFS						Notes
DISPDRUM-091015		9/10/15	08:50	water	4				X								oil VOCs
LEGDRUM-091015		9/10/15	08:45	water	4												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Judy Enyeart	Judy Enyeart	Aspect	9/10/15	14:00
Received by:				
Relinquished by:				
Received by:				

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

Aspect CONSULTING

Sample number MW-2-020216

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-2 Page: 1 of 1

Project Name: Walker
Date: 2/2/16
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 080190-TASK13
Starting Water Level (ft TOC): 52.14
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~51.5'

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 12:20		~0.240	52.14	13.9	630.7	0.87	5.53	17.4		12:18 start purge
4 12:24				14.3	472.7	0.54	5.64	11.6		
8 12:28				14.4	399.9	0.43	5.70	9.8		
11 12:31				14.5	378.2	0.41	5.73	8.8		
14 12:34				14.5	375.5	0.42	5.73	8.2		
17 12:37				14.7	376.8	0.42	5.74	7.5		
20 12:40				14.7	379.0	0.45	5.74	7.2	876	12:45 stop purge

Total Gallons Purged: ~2
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.26
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
12:37	40mL	VOAs	4	No	2 w/ HCl			Chlor. VOCs by 8260

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED
Decon Equipment: alconox + dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Press = 110 . 10:5 cycle w/ N_2 . NO odor. Clear water.

Aspect CONSULTING

Sample number MW-5-020216

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-TASK 13
Date: 2/2/16
Sampled by: JLB
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 51.52
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~51'

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 08:38		~0.300	51.52	12.1	405.6	7.01	6.45	41.0		08:36 Start
4 08:42				11.1	412.4	6.89	6.40	29.2		purge
8 08:46				13.5	405.3	6.81	6.41	17.3		
11 08:49				13.6	404.6	6.72	6.43	15.2		
14 08:52				13.7	404.8	6.73	6.44	14.2	328	08:57 stop
~~17 08:55~~										purge

Total Gallons Purged: ~1.25
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.45
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
08:55	40mL	VOAs	4	No	2HCl			Chlor. VOCs by 8260

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED pump
Decon Equipment: alconox + DI + tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Press = 130' 10.5 cycle. NO odor. Clear.

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8 **Page:** 1 of 1

Project Name: Walker Cheverolet
Project Number: 080190
Date: 2/1/2016
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 52.31
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf
Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
										Start purge @ 1105
1112		0.6		13.9	699	0.54	5.12	102.8		WATER @ 1108
1115		0.4		13.8	709	0.36	5.17	87.5		
1118				13.9	702	0.32	5.17	86.8		
1121		0.3		13.3	700	0.26	5.17	78.1	482	
1124				13.8	692	0.24	5.17	74.0		
1127				13.9	695	0.22	5.17	71.4	384	
										Stop purge @ 1130

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 56.59 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1130		VOA		4	N/A	2-HCL			MW-8-080116
									VOC's BY 8260 (CHLORINATED
									ONLY)

METHODS

Sampling Equipment with IDs: YSI YELLOW
Purging Equipment: QED PUMP 40:20 Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-8D-020216

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-8D Page: 1 of 1

Project Name: Walker
Project Number: 080190-TASK13
Date: 2/2/16
Starting Water Level (ft TOC): 112.53
Sampled by: SLE
Casing Stickup (ft):
Measuring Point of Well: TOC
Total Depth (ft TOC):
Screened Interval (ft. TOC)
Casing Diameter (inches):
Filter Pack Interval (ft. TOC)

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~112'

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0 11:30		~0.220	112.53	11.8	353.0	9.90	7.67	22.1		11:27 start
4 11:34				13.8	362.3	4.46	6.75	21.2		purge
8 11:38				14.1	365.0	4.38	6.72	20.5		
11 11:41				14.2	365.5	4.34	6.71	19.6		
14 11:44				14.2	364.2	4.23	6.69	17.8	>1000	11:49 stop
17 11:47										purge

Total Gallons Purged: ~~~0.9 L~~ 1 L
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 113.39
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
11:47	40mL	VOAs	4	No	2HCl			Chlor VOCs by 8260

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED
Decon Equipment: alconox + deo. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: press=250. 20:10 cycle w/N2. No odor. Light "milky" quality

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-11 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 2/3/16
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 52.01
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
										Start purge @ 0940
0948				12.3	689	2.72	6.49	123.7	>1000	WATER @ 0943
0951				12.5	687	2.53	6.49	114.0		
0954				12.5	685	2.48	6.49	112.8		
0957				12.5	684	2.49	6.50	112.6	>1000	
~~0~~1000										
										Stop purge @ 0958

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 52.01 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1000	40mL	VOA		4	N/A	2-HCL			MW-11-020316
									CHLORINATED VOC's BY
									8260D

METHODS

Sampling Equipment with IDs: YSI 12K101171 (YELLOW
Purging Equipment: QED PUMP & MP10 CONTROLER Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: NO NOTICEABLE BIO/ANOXIC ODORS NOTED

Aspect CONSULTING

Sample number MW-12D-020216

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12D Page: 1 of 1

Project Name: Walker
Project Number: 080190-Task13
Date: 2/2/16
Sampled by: JLF
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 131.03
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~130.5'

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
10:30		~0.140	131.03	11.9	373.5	8.07	7.06	6.6		10:27 start purge
10:34				13.7	346.7	4.57	7.54	10.4		
10:38				13.4	347.0	7.10	7.59	14.3		
10:41				12.8	337.2	7.38	7.58	16.8		
10:44				13.9	346.5	7.76	7.58	18.1	506	10:50 stop purge

Total Gallons Purged: ~ 0.75
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 131.99
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance		Remarks
						Color	Turbidity & Sediment	
10:47	40mL	VOAs	4	No	2 HCl			Chlor. VOCs by 8260

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: Press= 250. 20:10 cycle w/ N_2. No odor. Silty.

278787 #

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13D **Page:** 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190
Date: 2/2/16
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 137.14
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
										Start purge @ 1109
1117		0.3		10.4	289.0	9.27	7.20	#32.3		WATER @ 1112
1120				11.0	297.2	11.26	7.40	20.7	282	
1123				11.4	313.2	9.44	7.18	19.3		
1126				11.6	316.1	7.50	6.89	17.1		
1129				11.5	316.3	6.79	6.77	15.6	747	
1131				11.5	314.7	~~6.72~~ 6.07	6.72	17.3		
										Stop purge @ 1132

Total Gallons Purged: 138.19
Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): _____
Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1135	~~VOA~~ 40mL	VOA		4	N/A	2-HCL			MW-13D-020216

METHODS

Sampling Equipment with IDs: YSI-12K101171 (YELLOW)
Purging Equipment: QED PUMP w/ MP10 CONTROLER
Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: NO NOTICEABLE RED/ANOXIC ODORS

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14D **Page:** 1 of 1

Project Name: Walker Cheverolet
Project Number: 080190
Date: 2/2/16
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 134.11
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
										Start purge @ 0953 ~~0942~~
1002		0.45		12.6	320.6	14.33	7.06	-51.3	170	WATER @ 0957
1005				13.6	293.7	5.76	7.02	-30.6	>1000	
1008				13.3	291.1	5.93	6.94	-26.7	↙	
1011				13.1	291.4	5.81	6.90	-24.3	>1000	
1014										
1017										
1020										
										Stop purge @ 1012

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 134.10 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1015	40mL	VOA		4	N/A	2-HCL			MW-14D-020216
									CHLORINATED VOC's ONLY BY
									8260D

METHODS

Sampling Equipment with IDs: YSI 12K101171 (YELLOW)
Purging Equipment: QED Pump w/ MP-10 CONTROLER Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: RAN OUT OF GAS - RE-START PURGE AT 0953. NO BIO/ANOXIC ODORS

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-15 **Page:** 1 of 1

Project Name: Walker Cheverolet
Project Number: 080190
Date: 2/1/2016
Developed by: EWK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 61.48
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
		0.45								Start purge @ 1435
1441	~~1501~~			11.1	421.9	1.62	6.17	43.4		WATER @ 1437
1444	~~1504~~			10.2	378.1	1.27	6.26	38.6	665	
1447	~~1507~~			11.2	356.4	0.91	6.31	30.4		
1450	~~1510~~			11.8	355.6	0.70	6.34	26.8	371	
1453	~~1513~~	0.40		11.9	354.4	0.57	6.37	24.1	200	
1456	~~1516~~			11.9	354.0	0.46	6.40	21.5	~~110~~	
1459	~~1519~~			11.0	353.5	0.52	6.41	19.9	110	
1502				10.3	348.4	0.50	6.43	18.9		
										Stop purge @ _____

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 61.86 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1510	40 mL	VOA		4	N/A	2-HCL			MW-15-020116

METHODS

Sampling Equipment with IDs: YSI 12K101171 (YELLOW)
Purging Equipment: QED PUMP + MP10 CONTROLLER Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: NO NOTICEABLE BIO/ANOXIC ODORS NOTED

Aspect CONSULTING

Sample number MW-19-020216

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-19 Page: 1 of 1

Project Name: Walker Chevrolet
Project Number: 080190-TASK13
Date: 2/2/16
Sampled by: JLE
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 51.64
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): ~51'

PURGING MEASUREMENTS

	Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
Criteria:			Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
0	09:23		~0.120	51.64	7.8	618.5	8.97	5.9	30.2		09:21 start
4	09:27				13.0	879	0.81	6.13	13.2		purge
8	09:31				13.3	846	0.57	6.11	9.5		
11	09:34				12.7	821	0.52	6.05	10.5		
14	09:37				11.9	801	0.56	5.99	13.0		
17	09:40				11.5	800	0.56	5.98	13.7	411	09:42 stop purge

Total Gallons Purged: ~0.75
Total Casing Volumes Removed:
Ending Water Level (ft TOC): 52.04
Ending Total Depth (ft TOC):

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
09:40	40mL	VOAs	4	No	2w/HCl			Chlor. VOCs by 8260

METHODS

Parameters measured with (instrument model & serial number): YSI 11F100633
Purging Equipment: QED pump
Decon Equipment: alconox + ded. tubing
Disposal of Discharged Water: Drums on site. 10/5/16
Observations/Comments: Press= 130', 10:5 cycle. No odor. Silty.

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-20 **Page:** 1 of 1

Project Name: Walker Cheverolet
Project Number: 080190
Date: 2/2/16
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)
Starting Water Level (ft TOC): 51.95
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches):

Casing Volume 0.62 (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf
Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
		0.2								Start purge @ 0814
0821				7.2	534.6	1.09	5.94	62.5		WATER @ 0817
0824				7.1	531.6	0.78	5.98	51.2	808	
0827				7.9	530.0	0.61	6.01	41.1		
0830				8.1	530.1	0.51	6.06	31.1	485	
0833				8.1	529.7	0.48	6.10	22.6		
0836				8.1	528.8	0.42	6.13	~~347~~ 151	347	
0839				8.2	528.3	0.43	6.15	7.7		
0842				8.2	525.9	0.35	6.18	0.6	221	
0845				8.2	523.3	0.39	6.20	-7.8	188	
										Stop purge @ 0850

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 51.82 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
0850	40 mL	VOA		4	N/A	2-HCL			MW-20-020216
									CHLORINATED VOC's ONLY BY
									8260

METHODS

Sampling Equipment with IDs: YSI 12K101171 (YELLOW)
Purging Equipment: QED PUMA + MP10 CONTROLLER Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: SLIGHT PRESSURE IN WELL UPON OPENING. NO NOTICEABLE BIO/ANOXIC ODORS

C:\Users\eknoedler\Documents\Groundwater Sampling1

Aspect CONSULTING

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-21 **Page:** 1 of 1

Project Name: Walker Cheverolet
Project Number: 080190
Date: 2/1/16
Developed by: ENK
Measuring Point of Well: TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Starting Water Level (ft TOC): 53.21
Casing Stickup (ft):
Total Depth (ft TOC):
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments
1302		0.4		11.1	597.8	1.95	5.41	59.9		Start purge @ 1255
1305		0.3		10.6	602.0	1.04	5.40	60.6	475	WATER @ 1258
1308				9.5	602.7	0.37	5.40	61.7		
1311				8.7	606.8	0.46	5.40	62.5		
1314				8.6	580.0	0.39	5.41	63.6	580	
1317				9.2	568.9	0.23	5.42	63.3		
1320				9.5	564.5	0.17	5.43	63.3	>1000	
1323				9.6	561.3	0.13	5.43	63.5		
1326				9.9	558.0	0.12	5.43	64.6	957	
										Stop purge @ 1327

Total Gallons Purged: _____ Total Casing Volumes Removed: _____

Ending Water Level (ft TOC): 53.35 Ending Total Depth (ft TOC): _____

SAMPLE INVENTORY

Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appearance		Remarks
							Color	Turbidity & Sediment	
1330	40mL	VOA		4	N/A	2-HCL			MW-21-020116
									CHLORINATED VOC's ONLY
									(8260)

METHODS

Sampling Equipment with IDs: YSI #12K101171 (YELLOW)
Purging Equipment: QED PUMP - 40:20 Decon Equipment: Alconox + Dedicated tubing
Disposal of Discharged Water: Drums on site
Observations/Comments: BACK PRESSURE IN WELL ON OPENING. NO NOTICEABLE RED/ANOXIC ODORS

SAMPLE CHAIN OF CUSTODY

Send Report To: Alan Noell
Company: Aspect Consulting
Address: 401 2nd Ave. S., Ste 201
City, State, ZIP: Seattle, WA 98104
Phone #: 206.838.6592 Fax #: 206 838 5853

SAMPLERS (signature):
PROJECT NAME/NO.: 080190 - Walker
PO#: Task 13
REMARKS: Email to: ANoell@aspectconsulting.com

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							Notes
						ANALYSES REQUESTED												
MW-8-020116		2/1/16	1130	WATER	4				X									
MW-21-020116		"	1330	WATER	4				X									CHLORINATED VOC's
MW-15-020116		"	1510	WATER	4				X									ONLY
MW-20-020216		2/2/16	0850	WATER	4				X									
MW-5-020216		2/2/16	08:55	water	4				X									
MW-19-020216		2/2/16	09:40	water	4				X									
MW-12D-020216		2/2/16	10:47	water	4				X									
MW-14D-020216		2/2/16	1015	WATER	4				X									
MW-8D-020216		2/2/16	11:47	water	4				X									
MW-13D-020216		2/2/16	1135	WATER	4				X									

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Enyeart	Judy Enyeart	Aspect	2/4/16	7:45
Received by:					
Relinquished by:					
Received by:					

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

SAMPLE CHAIN OF CUSTODY

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S., Ste 201
City, State, ZIP Seattle WA 98104
Phone #206·838·6592 Fax #

SAMPLERS (signature) JEnyeart
PROJECT NAME/NO. 080190-Walker
PO# TASK 13
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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
MW-2-020216		2/2/16	12:37	water	4				X									Chlorinated VOCs only

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: JEnyeart	Judy Enyeart	Aspect	2/4/16	7:45
Received by:				
Relinquished by:				
Received by:				

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

SAMPLE CHAIN OF CUSTODY

Send Report To: Alan Noell
Company: Aspect Consulting
Address: 401 2nd Ave. S., Ste 201
City, State, ZIP: Seattle, WA 98104
Phone #: 206.838.6592 Fax #: 206.838.5853

SAMPLERS (signature):
PROJECT NAME/NO.: 080190 - Walker Chevrolet Task 15
PO#:
REMARKS: Email to anoell@aspectconsulting.com

Page # 1 of 1

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
- [x] 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						Notes
MW-11-020316		2/3/16	10:00	water	4				X								

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Knoedler	Aspect	2/3/16	15:00
Received by: Judy Enyeart	Judy Enyeart	Aspect	2/3/16	15:00
Relinquished by: Judy Enyeart	Judy Enyeart	Aspect	2/4/16	7:45
Received by:				

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

12/30/15 V-save Sunny

1:30 load equipment
2:00 leave office
3:00 arrive on site
3:10 MW-10
3:50 MW-14
4:20 RS-1
4:40 RS-2
5:00 off-site
6:30 arrive @ office
5-hrs

12/31/15
9-9:30 unload equipment
9:30-10 prep samples, field note filing
1-hr

2/2/16 Walker Sunny
07:45 Commute to Site
08:00 arrive on site
08:30 MW-5 start
09:00 MW-5 stop
09:15 MW-19 start
09:45 MW-19 stop
10:15 MW-12D start
11:00 MW-12D stop
11:15 MW-8D start
12:00 MW-8D stop
12:10 MW-2 start
12:50 MW-2 stop
13:15 Leave site
13:30 Commute from site

DATE: 2/1/16

PROJECT: WALLER CHEVROLET (080190/13)

WEATHER: OVERCAST IN MORN; ~35°F, SUNSHOWERS THROUGHOUT LATE MORN & AFTERNOON

EQUIPMENT: YSI - 12K101171 (YELLOW)
QED PUMP & CONTROLLER
WLI (150')

OBJECTIVE: COLLECT GW SAMPLES

BILL: 8.5 hrs & 2.5 mi (ONE-WAY B/C WENT ON ANOTHER JOB)
- CHARGE 0.25 hrs & 2.5 mi ONE-WAY BTWN TAC. DOME STATION & SITE

0900 - ARRIVE ON SITE. BEGIN W/ YSI CALIBRATION.

0940 - YSI 14H102458 WILL NOT FUNCTION - IT TURNS OFF IMMEDIATELY AFTER THE POWER-UP SCREEN. I CALLED THE TECH SUPPORT NUMBER (800.897.4151) AFTER THE PROBLEM CONT'D FOLLOWING THE INSTALATION OF NEW BATTERIES. I SPOKE W/ REN. AFTER DESCRIBING PROBLEM & TRYING TO START-UP THE UNIT W/O THE CABLE, HE TOLD ME THAT THERE IS LITTLE ELSE TO DO OVER THE PHONE. HE SUGGESTED WE SEND THE UNIT IN. WE HAVE ~6 MONTHS LEFT OF THE 3-YR. WARRENTY.

Scale: 1 square = _____

1030 - JUDY ARRIVED

1050 - JUDY DEPARTS

1300 - RECEIVED CALLS FROM S. BUTLER & ERIC G. REGARDING YSI BLUE!

1615 - DEPART SITE AFTER SAMPLING MW-8, MW-21, AND MW-15. - HEADED TO LAPENSKI FUEL

dr

2/1/16 - 110008/9

- ALAN NOEL CALLED & ASK THAT I MARK THE LOCATION OF MW-13 FOR RIC TACOMA, IN THE ROW OF PACIFIC AVE. S BTWN ~~NEAR~~ 99TH ST. S. AND 100TH ST. S IN FRONT OF THE FORMER LAPENSKI FUEL LOCATION

BILL: 1 hrs & 17.8 mi

1630 - ARRIVE

1700 - DEPART

- BILL FROM STADIUM THRIFTWAY TO SITE (0.25 hr & 7.7 mi) AND FROM SITE TO TACOMA DOME STATION (0.25 hr & 10.1 mi)

dr

Scale: 1 square = _____

Rite in the Rain

CONT°

DATE: 2/2/2016

PROJECT: WALKER CHEVERLOLET (080190/13)

WEATHER: CLEAR, SLIGHT BREEZE, ~35°F IN MORN WARMING TO MID 40's

EQUIPMENT: SEE Pg 11

STAFF: E. KNOEDLER (ASPECT)
J. ENYEART (ASPECT)

OBJECTIVE: COLLECT GW SAMPLES

RDU: 7.25 hrs & 5 mi

0700 - ARRIVE ONSITE - PARK NEAR MW-30 & START CALLIBRATING YSE YELLOW

0750 - JUDY ARRIVES

1220 - LOOKED FOR MOLLE TO CHECK ON SCHEDULE FOR SAMPLING MW-11, MOLLE WAS NOT IN - SPOKE W/ ANGELA MELANIE - ASST. PRODUCE MNGR
DAMIEN - PRODUCE MNGR.
MELANIE SAID THEY WILL BE DONE BREAKING DOWN THE MORNINGS SHIPMENT BY 0800, SO I SCHEDULED A START TIME OF 0830 FOR SAMPLING MW-11.

Scale: 1 square = _____

1300 - JUDY DEPARTS

1320 - AFTER PARKING MY GEAR, EMPTYING PURGE BUCKET, AND RETURNING KEYS TO MORRELL'S, I HEAD INTO THREEWAY TO BUY SOME AA BATTERIES FOR THE TURBIDIMETER AND SOME C BATTERIES FOR THE YSI.

1345 - DEPART SITE

Scale: 1 square = _____

Rite in the Rain

DATE: 2/3/16

PROJECT: WALKER CHEVROLET (080190/15)

WEATHER: OVERCAST & ~40°F

EQUIPMENT: SEE PG 11

STAFF: E. KNOETGEN (ASPECT)
J. ENYEART (ASPECT)

OBJECTIVE: COLLECT A GROUNDWATER SAMPLE FROM MW-11 (INSIDE STADIUM THRIFTWAY FREEZER) VIA LOW-FLOW SAMPLING. SAMPLE WILL BE SUBMITTED TO F&B FOR TOTAL VOC'S BY METHOD 8260.

BILL: ____ hrs & ____ mi

0800 - ARRIVE ONSITE
0830 - JUDY ARRIVE
0850 - JUDY DEPARTS
0940 - ALAN ARRIVES
1020 - ALAN AND I GO OVER THE PROBING LOCATIONS INSIDE STADIUM THRIFTWAY...

Scale: 1 square = _____

BORING NOTES FOR STADIUM THRIFTWAY:

- NOT TUE OR FRI MORN; CLOSED 1 TO 5 AM; NO WED. 2/10 ESN?
- APS - ME BE THERE, DON'T MARK FLOOR
- SCHEDULE W/ ESN NW - DRILLERS
- MAP IS SKETCH
- ~7' HIGH DOUBLE DOORS AT BACK OF MEAT PREP FOR ACCESS
- DO PRODUCE AREA BORING LAST

- CALL ESN (1)
- CALL APS (2)

- BILL IS ONSITE GUY FOR KORSMO CONSTRUCTION
→ LET KORSMO KNOW WHEN LOCATE IS HAPPENING

- DEEP BORINGS MAY BE IN MARCH - WAITING FOR ROW PERMIT

1215 - DEPART SITE HEADED TO OFFICE
1250 - ARRIVE AT OFFICE - UNLOAD EQUIPMENT
1350 - FINISHED UNLOADING EQUIPMENT - STILL NEED TO DECON.
- ~~STOP CHARGING~~
* CHARGE 2.5 hrs TO TASK 15, THE REST GOES TO TASK 13

dk

Scale: 1 square = _____

Rite in the Rain

APPENDIX E

Analytical Results for Soil Samples

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

April 14, 2015

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on April 7, 2015 from the Walker Chevrolet PO 080190, F&BI 504119 project. There are 23 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, Eric Geissinger
ASP0414R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 7, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet PO 080190, F&BI 504119 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
504119 -01	AB-2-16.5
504119 -02	AB-3-16.5
504119 -03	AB-4-16.5

All quality control requirements were acceptable.

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119
Date Extracted: 04/07/15
Date Analyzed: 04/07/15

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AB-2-16.5 504119-01 1/20	1,900	ip
AB-3-16.5 504119-02 1/10	520	142
AB-4-16.5 504119-03	<2	106
Method Blank 05-0695 MB	<2	106

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119
Date Extracted: 04/07/15
Date Analyzed: 04/07/15

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
AB-2-16.5 504119-01	1,600 x	<250	116
AB-3-16.5 504119-02	180 x	<250	112
AB-4-16.5 504119-03	<50	<250	101
Method Blank 05-711 MB	<50	<250	83

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/09/15	Lab ID:	504119-01
Date Analyzed:	04/10/15	Data File:	504119-01.052
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

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

Analyte:	Concentration mg/kg (ppm)
Lead	3.46

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-3-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/09/15	Lab ID:	504119-02
Date Analyzed:	04/10/15	Data File:	504119-02.053
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	7.26

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-4-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/09/15	Lab ID:	504119-03
Date Analyzed:	04/10/15	Data File:	504119-03.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

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

Analyte:	Concentration mg/kg (ppm)
Lead	1.85

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/09/15	Lab ID:	I5-209 mb2
Date Analyzed:	04/10/15	Data File:	I5-209 mb2.050
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	ML

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-2-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-01 1/5
Date Analyzed:	04/08/15	Data File:	040805.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	95	31	163
Benzo(a)anthracene-d12	115	24	168

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

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-3-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-02 1/5
Date Analyzed:	04/08/15	Data File:	040806.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	163
Benzo(a)anthracene-d12	115	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.64
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AB-4-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-03 1/5
Date Analyzed:	04/08/15	Data File:	040807.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	31	163
Benzo(a)anthracene-d12	115	24	168

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

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	05-723 mb 1/5
Date Analyzed:	04/08/15	Data File:	040804.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	95	31	163
Benzo(a)anthracene-d12	117	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-01
Date Analyzed:	04/08/15	Data File:	040819.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	111	64	137
4-Bromofluorobenzene	95	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.24
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	1.0
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	2.4
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	3.9
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	12
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	24 ve
Trichloroethene	<0.02	sec-Butylbenzene	0.86
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	1.3
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	0.12
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-01 1/10
Date Analyzed:	04/08/15	Data File:	040824.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	104	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<0.5
Chloromethane	<5	Tetrachloroethene	<0.25
Vinyl chloride	<0.5	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.5
Chloroethane	<5	Chlorobenzene	<0.5
Trichlorofluoromethane	<5	Ethylbenzene	<0.5
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	m,p-Xylene	1.0
Methylene chloride	<5	o-Xylene	<0.5
Methyl t-butyl ether (MTBE)	<0.5	Styrene	<0.5
trans-1,2-Dichloroethene	<0.5	Isopropylbenzene	2.2
1,1-Dichloroethane	<0.5	Bromoform	<0.5
2,2-Dichloropropane	<0.5	n-Propylbenzene	3.4
cis-1,2-Dichloroethene	<0.5	Bromobenzene	<0.5
Chloroform	<0.5	1,3,5-Trimethylbenzene	10
2-Butanone (MEK)	<5	1,1,2,2-Tetrachloroethane	<0.5
1,2-Dichloroethane (EDC)	<0.5	1,2,3-Trichloropropane	<0.5
1,1,1-Trichloroethane	<0.5	2-Chlorotoluene	<0.5
1,1-Dichloropropene	<0.5	4-Chlorotoluene	1.1
Carbon tetrachloride	<0.5	tert-Butylbenzene	<0.5
Benzene	<0.3	1,2,4-Trimethylbenzene	22
Trichloroethene	<0.2	sec-Butylbenzene	0.67
1,2-Dichloropropane	<0.5	p-Isopropyltoluene	1.1
Bromodichloromethane	<0.5	1,3-Dichlorobenzene	<0.5
Dibromomethane	<0.5	1,4-Dichlorobenzene	<0.5
4-Methyl-2-pentanone	<5	1,2-Dichlorobenzene	<0.5
cis-1,3-Dichloropropene	<0.5	1,2-Dibromo-3-chloropropane	<5
Toluene	<0.5	1,2,4-Trichlorobenzene	<2.5
trans-1,3-Dichloropropene	<0.5	Hexachlorobutadiene	<2.5
1,1,2-Trichloroethane	<0.5	Naphthalene	<0.5
2-Hexanone	<5	1,2,3-Trichlorobenzene	<2.5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-3-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-02
Date Analyzed:	04/08/15	Data File:	040818.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	104	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.063
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	0.64
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	1.1
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	1.8
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	1.7
Trichloroethene	<0.02	sec-Butylbenzene	1.1
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	1.5
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	0.77
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-4-16.5	Client:	Aspect Consulting, LLC
Date Received:	04/07/15	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	504119-03
Date Analyzed:	04/08/15	Data File:	040817.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

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

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet PO 080190
Date Extracted:	04/08/15	Lab ID:	05-0713 mb
Date Analyzed:	04/08/15	Data File:	040808.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	99	81	119

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

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: 504119-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

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

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: 504022-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	108	97	64-133	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	107	58-147

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: 504050-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	9.90	95	95	59-148	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	102	80-120

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: 504119-03 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	87	87	44-129	0
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	90	90	52-121	0
Acenaphthene	mg/kg (ppm)	0.17	<0.01	90	90	51-123	0
Fluorene	mg/kg (ppm)	0.17	<0.01	92	92	37-137	0
Phenanthrene	mg/kg (ppm)	0.17	<0.01	89	89	34-141	0
Anthracene	mg/kg (ppm)	0.17	<0.01	88	89	32-124	1
Fluoranthene	mg/kg (ppm)	0.17	<0.01	94	94	16-160	0
Pyrene	mg/kg (ppm)	0.17	<0.01	92	92	10-180	0
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	95	96	23-144	1
Chrysene	mg/kg (ppm)	0.17	<0.01	93	94	32-149	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	109	108	23-176	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	110	111	42-139	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	102	104	21-163	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	115	114	23-170	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	108	109	31-146	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	103	103	37-133	0

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	92	58-121
Acenaphthylene	mg/kg (ppm)	0.17	95	54-121
Acenaphthene	mg/kg (ppm)	0.17	94	54-123
Fluorene	mg/kg (ppm)	0.17	99	56-127
Phenanthrene	mg/kg (ppm)	0.17	93	55-122
Anthracene	mg/kg (ppm)	0.17	94	50-120
Fluoranthene	mg/kg (ppm)	0.17	100	54-129
Pyrene	mg/kg (ppm)	0.17	96	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	104	51-115
Chrysene	mg/kg (ppm)	0.17	99	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	119	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	112	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	110	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	129	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	123	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	116	52-131

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: 504123-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	21	23	10-56	9
Chloromethane	mg/kg (ppm)	2.5	<0.5	48	52	10-90	8
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	48	50	10-91	4
Bromomethane	mg/kg (ppm)	2.5	<0.5	56	62	10-110	10
Chloroethane	mg/kg (ppm)	2.5	<0.5	59	63	10-101	7
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	56	59	10-95	5
Acetone	mg/kg (ppm)	12.5	<0.5	88	86	11-141	2
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	65	67	11-103	3
Methylene chloride	mg/kg (ppm)	2.5	<0.5	80	82	14-128	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	81	84	17-134	4
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	77	13-112	5
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	77	79	23-115	3
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	75	79	18-117	5
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	81	83	25-120	2
Chloroform	mg/kg (ppm)	2.5	<0.05	80	82	29-117	2
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	96	91	20-133	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	80	80	22-124	0
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	79	81	27-112	2
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	78	79	26-107	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	78	81	22-115	4
Benzene	mg/kg (ppm)	2.5	<0.03	76	78	26-114	3
Trichloroethene	mg/kg (ppm)	2.5	<0.02	79	80	30-112	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	83	83	31-119	0
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	84	83	31-131	1
Dibromomethane	mg/kg (ppm)	2.5	<0.05	83	83	27-124	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	95	92	16-147	3
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	87	87	28-137	0
Toluene	mg/kg (ppm)	2.5	<0.05	80	81	34-112	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	84	84	30-136	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	84	82	32-126	2
2-Hexanone	mg/kg (ppm)	12.5	<0.5	88	86	17-147	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	87	84	29-125	4
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	79	79	25-114	0
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	84	83	32-143	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	87	85	32-126	2
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	82	83	37-113	1
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	81	84	34-115	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	83	86	35-126	4
m,p-Xylene	mg/kg (ppm)	5	<0.1	84	87	25-125	4
o-Xylene	mg/kg (ppm)	2.5	<0.05	84	87	27-126	4
Styrene	mg/kg (ppm)	2.5	<0.05	87	89	39-121	2
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	86	89	34-123	3
Bromoform	mg/kg (ppm)	2.5	<0.05	78	81	18-155	4
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	83	85	31-120	2
Bromobenzene	mg/kg (ppm)	2.5	<0.05	81	81	40-115	0
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	86	86	24-130	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	89	88	27-148	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	82	84	33-123	2
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	83	84	39-110	1
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	84	84	39-111	0
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	89	92	36-116	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	85	87	35-116	2
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	84	88	33-118	5
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	85	88	32-119	3
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	82	38-111	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	78	81	39-109	4
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	83	40-111	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	89	88	37-122	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	82	86	31-121	5
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	81	83	24-128	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	86	90	24-139	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	83	85	35-117	2

Date of Report: 04/14/15
Date Received: 04/07/15
Project: Walker Chevrolet PO 080190, F&BI 504119

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	58	10-76
Chloromethane	mg/kg (ppm)	2.5	76	34-98
Vinyl chloride	mg/kg (ppm)	2.5	81	42-107
Bromomethane	mg/kg (ppm)	2.5	79	46-113
Chloroethane	mg/kg (ppm)	2.5	89	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	91	53-112
Acetone	mg/kg (ppm)	12.5	110	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	65-110
Methylene chloride	mg/kg (ppm)	2.5	104	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	102	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	99	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	100	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	103	73-110
Chloroform	mg/kg (ppm)	2.5	100	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	115	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	100	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	103	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	101	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	101	67-123
Benzene	mg/kg (ppm)	2.5	97	72-106
Trichloroethene	mg/kg (ppm)	2.5	101	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	104	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	103	75-126
Dibromomethane	mg/kg (ppm)	2.5	102	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	113	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	108	71-138
Toluene	mg/kg (ppm)	2.5	102	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	102	77-116
2-Hexanone	mg/kg (ppm)	12.5	109	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	108	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	103	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	105	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	108	77-117
Chlorobenzene	mg/kg (ppm)	2.5	102	76-109
Ethylbenzene	mg/kg (ppm)	2.5	103	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	104	76-125
m,p-Xylene	mg/kg (ppm)	5	107	77-115
o-Xylene	mg/kg (ppm)	2.5	107	76-115
Styrene	mg/kg (ppm)	2.5	109	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	110	76-120
Bromoform	mg/kg (ppm)	2.5	101	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	106	77-115
Bromobenzene	mg/kg (ppm)	2.5	100	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	107	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	109	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	103	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	104	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	104	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	112	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	107	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	107	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	108	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	99	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	98	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	101	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	105	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	104	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	102	74-130
Naphthalene	mg/kg (ppm)	2.5	108	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	102	75-117

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

504119 Alan Noell + ME 04/07/15 BI/VSI

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Eric Geissinger
Company Aspect
Address 401 2nd Ave S, Suite 201
City, State, ZIP Seattle, WA 98104
Phone # _____ Fax # _____

SAMPLERS (signature)
PROJECT NAME/NO. Walker Chevrolet
PO# 080190
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 by8260	SVOCs by 8270	HFS	PAHs	Lead					Notes
AB-2-16.5	01 A-E	4/6/15	950	Soil	5	X	X		X			X	X					
AB-3-16.5	02	↓	1100	↓	5	X	X		X			X	X					
AB-4-16.5	03	↓	1200	↓	5	X	X		X			X	X					
														Samples received at 3 °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:	Delia Massey	Aspect	4/7/15	830
Received by:	D Sams	Fedex SOC	4/7/15	9:05
Relinquished by:				
Received by:	Khan Phan	FcBI	4/7/15	1100

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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March 3, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on February 25, 2016 from the 080190 - Walker Chevrolet, F&BI 602438 project. There are 17 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
ASP0303R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 25, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 080190 - Walker Chevrolet project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
602438 -01	B10-4.5
602438 -02	B12-5
602438 -03	B12-9
602438 -04	B14-4.5
602438 -05	B14-5.5
602438 -06	B14-10.5
602438 -07	B15-6.5
602438 -08	B16-6
602438 -09	B15-5

All quality control requirements were acceptable.

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438
Date Extracted: 02/25/16
Date Analyzed: 02/25/16

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B10-4.5 602438-01	<2	100
B12-5 602438-02	<2	101
B12-9 602438-03	<2	108
B14-4.5 602438-04	5.4	118
B14-5.5 602438-05	<2	109
B14-10.5 602438-06	<2	102
B15-6.5 602438-07	<2	97
B16-6 602438-08	<2	94
Method Blank 06-356 MB	<2	97

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438
Date Extracted: 02/25/16
Date Analyzed: 02/25/16

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
B10-4.5 602438-01	<50	<250	82
B12-5 602438-02	<50	<250	90
B12-9 602438-03	<50	<250	81
B14-4.5 602438-04	<50	<250	78
B14-5.5 602438-05	<50	<250	83
B14-10.5 602438-06	<50	<250	87
B15-6.5 602438-07	<50	<250	79
B16-6 602438-08	<50	<250	84
Method Blank 06-367 MB	<50	<250	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B10-4.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-01
Date Analyzed:	02/29/16	Data File:	022909.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	102	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B12-5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-02
Date Analyzed:	02/29/16	Data File:	022910.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B12-9	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-03
Date Analyzed:	02/29/16	Data File:	022911.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B14-4.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-04
Date Analyzed:	02/29/16	Data File:	022912.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	99	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.089
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B14-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-05
Date Analyzed:	02/29/16	Data File:	022913.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	99	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B14-10.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-06
Date Analyzed:	02/29/16	Data File:	022914.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	100	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B15-6.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-07
Date Analyzed:	02/29/16	Data File:	022915.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	101	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-6	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	602438-08
Date Analyzed:	02/29/16	Data File:	022916.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

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

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190 - Walker Chevrolet
Date Extracted:	02/26/16	Lab ID:	06-0372 mb
Date Analyzed:	02/26/16	Data File:	022634.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

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

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

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438

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

Laboratory Code: 602438-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

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

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438

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

Laboratory Code: 602433-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	95	96	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	91	79-144

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438

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

Laboratory Code: 602438-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	35	32	10-56	9
Chloromethane	mg/kg (ppm)	2.5	<0.5	67	64	10-90	5
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	64	61	10-91	5
Bromomethane	mg/kg (ppm)	2.5	<0.5	87	79	10-110	10
Chloroethane	mg/kg (ppm)	2.5	<0.5	76	70	10-101	8
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	73	70	10-95	4
Acetone	mg/kg (ppm)	12.5	<0.5	97	92	11-141	5
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	81	75	11-103	8
Hexane	mg/kg (ppm)	2.5	<0.25	60	56	10-95	7
Methylene chloride	mg/kg (ppm)	2.5	<0.5	94	89	14-128	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	88	83	17-134	6
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	86	81	13-112	6
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	89	84	23-115	6
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	86	83	18-117	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	93	87	25-120	7
Chloroform	mg/kg (ppm)	2.5	<0.05	96	90	29-117	6
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	106	97	20-133	9
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	87	82	22-124	6
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	99	92	27-112	7
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	87	81	26-107	7
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	87	82	22-115	6
Benzene	mg/kg (ppm)	2.5	<0.03	85	80	26-114	6
Trichloroethene	mg/kg (ppm)	2.5	<0.02	96	89	30-112	8
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	96	90	31-119	6
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	94	87	31-131	8
Dibromomethane	mg/kg (ppm)	2.5	<0.05	96	90	27-124	6
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	111	103	16-147	7
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	101	95	28-137	6
Toluene	mg/kg (ppm)	2.5	<0.05	84	80	34-112	5
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	100	95	30-136	5
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	98	92	32-126	6
2-Hexanone	mg/kg (ppm)	12.5	<0.5	98	92	17-147	6
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	91	87	29-125	4
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	91	85	25-114	7
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	92	88	32-143	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	95	88	32-126	8
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	94	87	37-113	8
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	91	86	34-115	6
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	91	82	35-126	10
m,p-Xylene	mg/kg (ppm)	5	<0.1	91	86	25-125	6
o-Xylene	mg/kg (ppm)	2.5	<0.05	92	87	27-126	6
Styrene	mg/kg (ppm)	2.5	<0.05	91	87	39-121	4
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	91	87	34-123	4
Bromoform	mg/kg (ppm)	2.5	<0.05	81	76	18-155	6
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	90	84	31-120	7
Bromobenzene	mg/kg (ppm)	2.5	<0.05	90	86	40-115	5
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	94	88	24-130	7
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	93	87	27-148	7
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	91	84	33-123	8
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	89	84	39-110	6
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	92	87	39-111	6
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	95	90	36-116	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	96	90	35-116	6
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	91	86	33-118	6
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	93	86	32-119	8
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	87	38-111	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	84	39-109	7
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	84	40-111	7
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	86	81	37-122	6
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	90	85	31-121	6
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	87	85	24-128	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	92	86	24-139	7
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	89	86	35-117	3

Date of Report: 03/03/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602438

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	64	10-76
Chloromethane	mg/kg (ppm)	2.5	81	34-98
Vinyl chloride	mg/kg (ppm)	2.5	84	42-107
Bromomethane	mg/kg (ppm)	2.5	101	46-113
Chloroethane	mg/kg (ppm)	2.5	91	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	95	53-112
Acetone	mg/kg (ppm)	12.5	106	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	99	65-110
Hexane	mg/kg (ppm)	2.5	85	55-107
Methylene chloride	mg/kg (ppm)	2.5	107	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	100	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	100	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	100	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	101	73-110
Chloroform	mg/kg (ppm)	2.5	106	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	114	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	110	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	96	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	99	67-123
Benzene	mg/kg (ppm)	2.5	94	72-106
Trichloroethene	mg/kg (ppm)	2.5	106	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	106	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	102	75-126
Dibromomethane	mg/kg (ppm)	2.5	104	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	119	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	111	71-138
Toluene	mg/kg (ppm)	2.5	94	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	110	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	105	77-116
2-Hexanone	mg/kg (ppm)	12.5	107	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	100	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	99	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	101	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	104	77-117
Chlorobenzene	mg/kg (ppm)	2.5	102	76-109
Ethylbenzene	mg/kg (ppm)	2.5	99	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	98	76-125
m,p-Xylene	mg/kg (ppm)	5	100	77-115
o-Xylene	mg/kg (ppm)	2.5	101	76-115
Styrene	mg/kg (ppm)	2.5	101	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	101	76-120
Bromoform	mg/kg (ppm)	2.5	89	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	97	77-115
Bromobenzene	mg/kg (ppm)	2.5	98	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	102	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	100	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	98	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	96	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	100	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	103	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	105	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	100	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	100	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	100	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	97	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	97	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	99	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	99	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	97	74-130
Naphthalene	mg/kg (ppm)	2.5	101	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	98	75-117

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

602438

SAMPLE CHAIN OF CUSTODY ME 2/25/16 CO2/VS2

Page # 1 of 1

Send Report To Alan Noell

Company Aspect Consulting

Address 401 2nd Ave. S., Ste 201

City, State, ZIP Seattle, WA 98104

Phone #206.838.6592 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 080190 - Walker Chevrolet

PO#

REMARKS Thanks

TURNAROUND TIME
- [x] 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							Notes
B#10-4.5	01 AE	2/25/16	0210	Soil	5	X	X		X									
B#12-5	02		0300			X	X		X									
B#12-9	03		0305			X	X		X									
B#14-4.5	04		0345			X	X		X									
B#14-5.5	05		0350			X	X		X									
B#14-10.5	06		0400			X	X		X									
B#15-6.5	07		0435			X	X		X									
B#16-6	08		0540			X	X		X									
B#15-5	09		0430															Added FOR Lab — Hold HD 2/25/16 PO EK 2/26/16 mc
remove first hyphen pw																		Samples received at 1 °C

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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:				
Received by:	Rick Vagadi	Relex	2-25-16	1:03P
Relinquished by:				
Received by: HNguyen	HONG NGUYEN	FBI	2/25/16	13:30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
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fbi@isomedia.com
www.friedmanandbruya.com

March 14, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on February 25, 2016 from the 080190-Walker Chevrolet, F&BI 602439 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
ASP0314R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 25, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 080190 - Walker Chevrolet, F&BI 602439 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
602439 -01	B11-5.5

An 8270D internal standard failed the acceptance criteria for sample B11-5.5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

The sample reporting limits were raised to the high percent moisture of the sample. The benzene reporting limit was lowered between the method detection limit and the reporting limit to reach MTCA reporting levels. The data was flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439
Date Extracted: 02/26/16
Date Analyzed: 02/26/16

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B11-5.5 602439-01 1/100	12,000	121
Method Blank 06-356 MB	<2	97

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439
Date Extracted: 02/26/16
Date Analyzed: 02/26/16

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
B11-5.5 602439-01	5,800 x	17,000	89
Method Blank 06-369 MB	<50	<250	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	B11-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190-Walker Chevrolet
Date Extracted:	03/04/16	Lab ID:	602439-01 x10
Date Analyzed:	03/04/16	Data File:	602439-01 x10.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	3,250

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chevrolet
Date Extracted:	03/04/16	Lab ID:	I6-125 mb
Date Analyzed:	03/04/16	Data File:	I6-125 mb.019
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B11-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190-Walker Chevrolet
Date Extracted:	03/02/16	Lab ID:	602439-01 1/50
Date Analyzed:	03/03/16	Data File:	030304.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90 d	31	163
Benzo(a)anthracene-d12	115 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.20
Chrysene	0.49
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	<0.2 J
Benzo(k)fluoranthene	<0.2 J
Indeno(1,2,3-cd)pyrene	<0.2 J
Dibenz(a,h)anthracene	<0.2 J

Note: The reporting limits were raised due to high moisture content in the sample.

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B11-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190-Walker Chevrolet
Date Extracted:	03/02/16	Lab ID:	602439-01 1/250
Date Analyzed:	03/02/16	Data File:	030215.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	8 d	31	163
Benzo(a)anthracene-d12	131 d	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1

Note: The reporting limits were raised due to high moisture content in the sample.

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chevrolet
Date Extracted:	03/02/16	Lab ID:	06-398 mb2
Date Analyzed:	03/02/16	Data File:	030214.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	89	31	163
Benzo(a)anthracene-d12	99	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.002
Chrysene	<0.002
Benzo(a)pyrene	<0.002
Benzo(b)fluoranthene	<0.002
Benzo(k)fluoranthene	<0.002
Indeno(1,2,3-cd)pyrene	<0.002
Dibenz(a,h)anthracene	<0.002

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B11-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190-Walker Chevrolet
Date Extracted:	02/25/16	Lab ID:	602439-01
Date Analyzed:	02/26/16	Data File:	022543.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	94	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<0.1
Chloromethane	<1	Tetrachloroethene	0.16
Vinyl chloride	<0.1	Dibromochloromethane	<0.1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<0.1
Chloroethane	<1	Chlorobenzene	<0.1
Trichlorofluoromethane	<1	Ethylbenzene	<0.1
Acetone	<1	1,1,1,2-Tetrachloroethane	<0.1
1,1-Dichloroethene	<0.1	m,p-Xylene	<0.2
Hexane	<0.5	o-Xylene	<0.1
Methylene chloride	<1	Styrene	<0.1
Methyl t-butyl ether (MTBE)	<0.1	Isopropylbenzene	<0.1
trans-1,2-Dichloroethene	<0.1	Bromoform	<0.1
1,1-Dichloroethane	<0.1	n-Propylbenzene	<0.1
2,2-Dichloropropane	<0.1	Bromobenzene	<0.1
cis-1,2-Dichloroethene	<0.1	1,3,5-Trimethylbenzene	0.14
Chloroform	<0.1	1,1,2,2-Tetrachloroethane	<0.1
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.1
1,2-Dichloroethane (EDC)	<0.1	2-Chlorotoluene	<0.1
1,1,1-Trichloroethane	<0.1	4-Chlorotoluene	<0.1
1,1-Dichloropropene	<0.1	tert-Butylbenzene	<0.1
Carbon tetrachloride	<0.1	1,2,4-Trimethylbenzene	0.12
Benzene	<0.03 j	sec-Butylbenzene	0.26
Trichloroethene	<0.04	p-Isopropyltoluene	0.29
1,2-Dichloropropane	<0.1	1,3-Dichlorobenzene	<0.1
Bromodichloromethane	<0.1	1,4-Dichlorobenzene	<0.1
Dibromomethane	<0.1	1,2-Dichlorobenzene	<0.1
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<1
cis-1,3-Dichloropropene	<0.1	1,2,4-Trichlorobenzene	<0.5
Toluene	<0.1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.1	Naphthalene	<0.1
1,1,2-Trichloroethane	<0.1	1,2,3-Trichlorobenzene	<0.5
2-Hexanone	<1		

Note: The reporting limits were raised due to high moisture content in the sample.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chevrolet
Date Extracted:	02/25/16	Lab ID:	06-0337 mb
Date Analyzed:	02/25/16	Data File:	022521.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	101	81	119

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B11-5.5	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190-Walker Chevrolet
Date Extracted:	03/02/16	Lab ID:	602439-01 1/10
Date Analyzed:	03/03/16	Data File:	05.D\ECD1A.C
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	126	24	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.08
Aroclor 1232	<0.08
Aroclor 1016	<0.08
Aroclor 1242	<0.08
Aroclor 1248	<0.08
Aroclor 1254	1.2
Aroclor 1260	0.82
Aroclor 1262	<0.08
Aroclor 1268	<0.08

Note: The reporting limits were raised due to high moisture content in the sample.

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chevrolet
Date Extracted:	03/02/16	Lab ID:	06-410 mb2 1/5
Date Analyzed:	03/03/16	Data File:	04.D\ECD1A.CH
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	95	24	127

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

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 602438-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

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

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 602445-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	1,900	88	83	63-146	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	79-144

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 602490-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	11.1	104	93	70-130	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	102	85-115

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 603017-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	105	110	23-144	5
Chrysene	mg/kg (ppm)	0.17	0.011	94	99	32-149	5
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	104	108	23-176	4
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	105	109	42-139	4
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	105	109	21-163	4
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	98	100	23-170	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	96	98	31-146	2

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	97	51-115
Chrysene	mg/kg (ppm)	0.17	100	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	111	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	113	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	92	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	66	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	65	50-141

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 602442-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	23	10-56
Chloromethane	mg/kg (ppm)	2.5	<0.5	58	10-90
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	54	10-91
Bromomethane	mg/kg (ppm)	2.5	<0.5	77	10-110
Chloroethane	mg/kg (ppm)	2.5	<0.5	67	10-101
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	60	10-95
Acetone	mg/kg (ppm)	12.5	<0.5	94	11-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	11-103
Hexane	mg/kg (ppm)	2.5	<0.25	53	10-95
Methylene chloride	mg/kg (ppm)	2.5	1.2	94 b	14-128
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	85	17-134
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	81	13-112
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	86	23-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	86	18-117
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	91	25-120
Chloroform	mg/kg (ppm)	2.5	<0.05	94	29-117
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	102	20-133
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	84	22-124
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	94	27-112
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	84	26-107
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	85	22-115
Benzene	mg/kg (ppm)	2.5	<0.03	83	26-114
Trichloroethene	mg/kg (ppm)	2.5	<0.02	94	30-112
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	96	31-119
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	92	31-131
Dibromomethane	mg/kg (ppm)	2.5	<0.05	94	27-124
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	108	16-147
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	105	28-137
Toluene	mg/kg (ppm)	2.5	<0.05	83	34-112
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	104	30-136
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	96	32-126
2-Hexanone	mg/kg (ppm)	12.5	<0.5	98	17-147
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	91	29-125
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	90	25-114
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	96	32-143
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	95	32-126
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	92	37-113
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	90	34-115
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	88	35-126
m,p-Xylene	mg/kg (ppm)	5	<0.1	91	25-125
o-Xylene	mg/kg (ppm)	2.5	<0.05	91	27-126
Styrene	mg/kg (ppm)	2.5	<0.05	92	39-121
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	92	34-123
Bromoform	mg/kg (ppm)	2.5	<0.05	86	18-155
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	90	31-120
Bromobenzene	mg/kg (ppm)	2.5	<0.05	92	40-115
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	94	24-130
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	94	27-148
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	92	33-123
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	91	39-110
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	92	39-111
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	95	36-116
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	96	35-116
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	33-118
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	94	32-119
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	92	38-111
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	89	39-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	91	40-111
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	92	37-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	95	31-121
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	88	24-128
Naphthalene	mg/kg (ppm)	2.5	<0.05	96	24-139
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	91	35-117

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL 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	mg/kg (ppm)	2.5	54	53	10-76	2
Chloromethane	mg/kg (ppm)	2.5	79	75	34-98	5
Vinyl chloride	mg/kg (ppm)	2.5	80	78	42-107	3
Bromomethane	mg/kg (ppm)	2.5	96	93	46-113	3
Chloroethane	mg/kg (ppm)	2.5	87	82	47-115	6
Trichlorofluoromethane	mg/kg (ppm)	2.5	91	91	53-112	0
Acetone	mg/kg (ppm)	12.5	110	106	39-147	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	92	65-110	1
Hexane	mg/kg (ppm)	2.5	81	80	55-107	1
Methylene chloride	mg/kg (ppm)	2.5	117	113	50-127	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	100	97	72-122	3
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	98	96	71-113	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	97	74-109	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	104	104	64-151	0
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	104	101	73-110	3
Chloroform	mg/kg (ppm)	2.5	107	104	76-110	3
2-Butanone (MEK)	mg/kg (ppm)	12.5	112	111	60-121	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	94	93	73-111	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	110	109	72-116	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	100	96	72-112	4
Carbon tetrachloride	mg/kg (ppm)	2.5	101	100	67-123	1
Benzene	mg/kg (ppm)	2.5	95	92	72-106	3
Trichloroethene	mg/kg (ppm)	2.5	107	104	72-107	3
1,2-Dichloropropane	mg/kg (ppm)	2.5	107	105	74-115	2
Bromodichloromethane	mg/kg (ppm)	2.5	105	102	75-126	3
Dibromomethane	mg/kg (ppm)	2.5	105	104	76-116	1
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	120	114	80-128	5
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	118	113	71-138	4
Toluene	mg/kg (ppm)	2.5	94	91	74-111	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	118	113	77-135	4
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	107	105	77-116	2
2-Hexanone	mg/kg (ppm)	12.5	106	104	70-129	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	99	98	75-115	1
Tetrachloroethene	mg/kg (ppm)	2.5	102	100	73-111	2
Dibromochloromethane	mg/kg (ppm)	2.5	106	102	64-152	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	104	102	77-117	2
Chlorobenzene	mg/kg (ppm)	2.5	102	100	76-109	2
Ethylbenzene	mg/kg (ppm)	2.5	101	97	75-112	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	98	97	76-125	1
m,p-Xylene	mg/kg (ppm)	5	100	98	77-115	2
o-Xylene	mg/kg (ppm)	2.5	101	100	76-115	1
Styrene	mg/kg (ppm)	2.5	102	99	76-119	3
Isopropylbenzene	mg/kg (ppm)	2.5	102	99	76-120	3
Bromoform	mg/kg (ppm)	2.5	95	92	50-174	3
n-Propylbenzene	mg/kg (ppm)	2.5	99	95	77-115	4
Bromobenzene	mg/kg (ppm)	2.5	100	97	76-112	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	105	100	77-121	5
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	103	98	74-121	5
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	98	95	74-116	3
2-Chlorotoluene	mg/kg (ppm)	2.5	97	96	75-113	1
4-Chlorotoluene	mg/kg (ppm)	2.5	101	98	77-115	3
tert-Butylbenzene	mg/kg (ppm)	2.5	104	101	77-123	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	106	102	77-119	4
sec-Butylbenzene	mg/kg (ppm)	2.5	101	98	78-120	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	99	77-120	3
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	101	98	76-112	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	98	95	74-109	3
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	101	97	75-114	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	102	98	68-122	4
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	103	98	75-122	5
Hexachlorobutadiene	mg/kg (ppm)	2.5	98	94	74-130	4
Naphthalene	mg/kg (ppm)	2.5	105	101	73-122	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	102	98	75-117	4

Date of Report: 03/14/16
Date Received: 02/25/16
Project: 080190 - Walker Chevrolet, F&BI 602439

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

Laboratory Code: 602471-06 rc (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.08	<0.004	69	50-150
Aroclor 1260	mg/kg (ppm)	0.08	0.012	80	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.08	89	92	55-130	3
Aroclor 1260	mg/kg (ppm)	0.08	89	92	58-133	3

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

602439

SAMPLE CHAIN OF CUSTODY

ME 2/25/16 C01/VS1

Page 1 of 1

Send Report To Alan Noell

Company Aspect Consulting

Address 401 2nd Ave. S., Ste 201

City, State, ZIP Seattle, WA 98104

Phone # 206.838.6592 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: 080190 - Walker Chevrolet

PO#

REMARKS: -Thanks-

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 2-DAY

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	cPAHs	Lead	PCBs				Notes
~~B-11-5.5~~ B11-5.5	01 A-E	2/25/16	0230	Soil	5	X	X		X			*	*	*				3-day * per AN 2/26/16
																		AN

Samples received at 1 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Knoedler	Aspect	2/25/16	
Received by: Rick Vanzwil	Rick Vanzwil	Reliex	2-25-16	1:07p
Relinquished by:				
Received by:	Hong Nguyen	FBI	2/25/16	13:30

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

March 14, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on March 4, 2016 from the Walker Chevrolet-080190, F&BI 603089 project. There are 22 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
ASP0314R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 4, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet-080190, F&BI 603089 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
603089 -01	AB-2D-15
603089 -02	AB-2D-10
603089 -03	AB-2D-27.5
603089 -04	AB-2D-37.5
603089 -05	AB-2D-52.5

All quality control requirements were acceptable.

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089
Date Extracted: 03/04/16
Date Analyzed: 03/04/16 and 03/07/16

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
AB-2D-15 603089-01 1/50	670	96
AB-2D-10 603089-02	<2	95
AB-2D-27.5 603089-03	18	101
AB-2D-37.5 603089-04	<2	96
AB-2D-52.5 603089-05	<2	95
Method Blank 06-366 MB	<2	95

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089
Date Extracted: 03/07/16
Date Analyzed: 03/07/16

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
AB-2D-15 603089-01	110 x	<250	97
AB-2D-10 603089-02	<50	<250	110
AB-2D-27.5 603089-03	<50	<250	107
AB-2D-37.5 603089-04	<50	<250	108
AB-2D-52.5 603089-05	<50	<250	107
Method Blank 06-422 MB	<50	<250	98

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2D-15	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	603089-01
Date Analyzed:	03/10/16	Data File:	603089-01.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	3.82

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2D-10	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	603089-02
Date Analyzed:	03/10/16	Data File:	603089-02.043
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.59

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2D-27.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	603089-03
Date Analyzed:	03/10/16	Data File:	603089-03.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.18

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2D-37.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	603089-04
Date Analyzed:	03/10/16	Data File:	603089-04.055
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.55

Analysis For Total Metals By EPA Method 200.8

Client ID:	AB-2D-52.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	603089-05
Date Analyzed:	03/10/16	Data File:	603089-05.056
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1.81

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/10/16	Lab ID:	I6-138 mb
Date Analyzed:	03/10/16	Data File:	I6-138 mb.022
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-15	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-01
Date Analyzed:	03/04/16	Data File:	030437.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	111	64	137
4-Bromofluorobenzene	98	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.15
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	0.35
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	1.0
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	3.3
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	14
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	26 ve
Benzene	<0.03	sec-Butylbenzene	0.59
Trichloroethene	<0.02	p-Isopropyltoluene	0.96
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-15	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-01 1/10
Date Analyzed:	03/04/16	Data File:	030435.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	105	64	137
4-Bromofluorobenzene	101	81	119

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<5	1,3-Dichloropropane	<0.5
Chloromethane	<5	Tetrachloroethene	<0.25
Vinyl chloride	<0.5	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.5
Chloroethane	<5	Chlorobenzene	<0.5
Trichlorofluoromethane	<5	Ethylbenzene	<0.5
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.5
1,1-Dichloroethene	<0.5	m,p-Xylene	<1
Hexane	<2.5	o-Xylene	<0.5
Methylene chloride	<5	Styrene	<0.5
Methyl t-butyl ether (MTBE)	<0.5	Isopropylbenzene	0.97
trans-1,2-Dichloroethene	<0.5	Bromoform	<0.5
1,1-Dichloroethane	<0.5	n-Propylbenzene	3.1
2,2-Dichloropropane	<0.5	Bromobenzene	<0.5
cis-1,2-Dichloroethene	<0.5	1,3,5-Trimethylbenzene	13
Chloroform	<0.5	1,1,2,2-Tetrachloroethane	<0.5
2-Butanone (MEK)	<5	1,2,3-Trichloropropane	<0.5
1,2-Dichloroethane (EDC)	<0.5	2-Chlorotoluene	<0.5
1,1,1-Trichloroethane	<0.5	4-Chlorotoluene	<0.5
1,1-Dichloropropene	<0.5	tert-Butylbenzene	<0.5
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	24
Benzene	<0.3	sec-Butylbenzene	0.60
Trichloroethene	<0.2	p-Isopropyltoluene	0.83
1,2-Dichloropropane	<0.5	1,3-Dichlorobenzene	<0.5
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<0.5
Dibromomethane	<0.5	1,2-Dichlorobenzene	<0.5
4-Methyl-2-pentanone	<5	1,2-Dibromo-3-chloropropane	<5
cis-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<2.5
Toluene	<0.5	Hexachlorobutadiene	<2.5
trans-1,3-Dichloropropene	<0.5	Naphthalene	<0.5
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<2.5
2-Hexanone	<5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-10	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-02
Date Analyzed:	03/04/16	Data File:	030432.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-27.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-03
Date Analyzed:	03/04/16	Data File:	030436.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	100	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-37.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-04
Date Analyzed:	03/04/16	Data File:	030433.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	100	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AB-2D-52.5	Client:	Aspect Consulting, LLC
Date Received:	03/04/16	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	603089-05
Date Analyzed:	03/04/16	Data File:	030431.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet-080190, F&BI 603089
Date Extracted:	03/04/16	Lab ID:	06-384 mb
Date Analyzed:	03/04/16	Data File:	030414.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	104	64	137
4-Bromofluorobenzene	100	81	119

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

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089

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

Laboratory Code: 603077-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	61-153

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089

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

Laboratory Code: 603085-24 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	109	102	64-133	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089

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

Laboratory Code: 603176-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	1.94	91	91	70-130	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	98	85-115

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089

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

Laboratory Code: 603089-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	33	28	10-56	16
Chloromethane	mg/kg (ppm)	2.5	<0.5	64	63	10-90	2
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	58	58	10-91	0
Bromomethane	mg/kg (ppm)	2.5	<0.5	83	88	10-110	6
Chloroethane	mg/kg (ppm)	2.5	<0.5	74	74	10-101	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	58	53	10-95	9
Acetone	mg/kg (ppm)	12.5	<0.5	107	109	11-141	2
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	69	72	11-103	4
Hexane	mg/kg (ppm)	2.5	<0.25	56	56	10-95	0
Methylene chloride	mg/kg (ppm)	2.5	<0.5	93	99	14-128	6
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	93	96	17-134	3
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	85	86	13-112	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	92	93	23-115	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	91	92	18-117	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	95	98	25-120	3
Chloroform	mg/kg (ppm)	2.5	<0.05	103	104	29-117	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	111	112	20-133	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	94	95	22-124	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	96	97	27-112	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	91	92	26-107	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	86	86	22-115	0
Benzene	mg/kg (ppm)	2.5	<0.03	88	90	26-114	2
Trichloroethene	mg/kg (ppm)	2.5	<0.02	101	104	30-112	3
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	101	103	31-119	2
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	100	101	31-131	1
Dibromomethane	mg/kg (ppm)	2.5	<0.05	102	105	27-124	3
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	117	117	16-147	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	109	112	28-137	3
Toluene	mg/kg (ppm)	2.5	<0.05	87	90	34-112	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	107	110	30-136	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	102	103	32-126	1
2-Hexanone	mg/kg (ppm)	12.5	<0.5	101	103	17-147	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	94	96	29-125	2
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	96	99	25-114	3
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	100	101	32-143	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	99	100	32-126	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	97	99	37-113	2
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	95	96	34-115	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	93	94	35-126	1
m,p-Xylene	mg/kg (ppm)	5	<0.1	95	97	25-125	2
o-Xylene	mg/kg (ppm)	2.5	<0.05	95	97	27-126	2
Styrene	mg/kg (ppm)	2.5	<0.05	96	98	39-121	2
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	96	99	34-123	3
Bromoform	mg/kg (ppm)	2.5	<0.05	89	90	18-155	1
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	93	96	31-120	3
Bromobenzene	mg/kg (ppm)	2.5	<0.05	95	97	40-115	2
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	97	101	24-130	4
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	96	100	27-148	4
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	93	98	33-123	5
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	94	95	39-110	1
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	95	99	39-111	4
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	97	101	36-116	4
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	100	104	35-116	4
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	95	99	33-118	4
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	97	99	32-119	2
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	96	99	38-111	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	94	96	39-109	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	95	99	40-111	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	91	92	37-122	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	95	98	31-121	3
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	94	96	24-128	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	95	99	24-139	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	92	96	35-117	4

Date of Report: 03/14/16
Date Received: 03/04/16
Project: Walker Chevrolet-080190, F&BI 603089

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	65	10-76
Chloromethane	mg/kg (ppm)	2.5	84	34-98
Vinyl chloride	mg/kg (ppm)	2.5	84	42-107
Bromomethane	mg/kg (ppm)	2.5	96	46-113
Chloroethane	mg/kg (ppm)	2.5	92	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	82	53-112
Acetone	mg/kg (ppm)	12.5	112	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	90	65-110
Hexane	mg/kg (ppm)	2.5	83	55-107
Methylene chloride	mg/kg (ppm)	2.5	103	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	98	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	94	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	97	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	92	64-151
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	99	73-110
Chloroform	mg/kg (ppm)	2.5	104	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	109	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	100	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	96	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	91	67-123
Benzene	mg/kg (ppm)	2.5	91	72-106
Trichloroethene	mg/kg (ppm)	2.5	103	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	102	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	96	75-126
Dibromomethane	mg/kg (ppm)	2.5	102	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	115	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	71-138
Toluene	mg/kg (ppm)	2.5	90	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	100	77-116
2-Hexanone	mg/kg (ppm)	12.5	102	70-129
1,3-Dichloropropane	mg/kg (ppm)	2.5	94	75-115
Tetrachloroethene	mg/kg (ppm)	2.5	99	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	97	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	97	77-117
Chlorobenzene	mg/kg (ppm)	2.5	98	76-109
Ethylbenzene	mg/kg (ppm)	2.5	94	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	91	76-125
m,p-Xylene	mg/kg (ppm)	5	96	77-115
o-Xylene	mg/kg (ppm)	2.5	96	76-115
Styrene	mg/kg (ppm)	2.5	95	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	96	76-120
Bromoform	mg/kg (ppm)	2.5	86	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	92	77-115
Bromobenzene	mg/kg (ppm)	2.5	93	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	97	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	92	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	93	74-116
2-Chlorotoluene	mg/kg (ppm)	2.5	93	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	95	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	96	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	94	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	96	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	94	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	93	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	92	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	91	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	94	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	96	74-130
Naphthalene	mg/kg (ppm)	2.5	93	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	90	75-117

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

603089

SAMPLE CHAIN OF CUSTODY

ME 3/4/16 BI1/VS1

Page # 1 of 1

Send Report To Alan Noell

Company Aspect Consulting

Address 401 2nd Ave. S., Ste 201

City, State, ZIP Seattle, WA 98104

Phone # 206.838.6592 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. Walker Chevrolet - 080190

PO#

REMARKS
-Thanks-

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	Pb						Notes
						ANALYSES REQUESTED												
AB-20-15	01 A	3/4/16	0950	Soil	5	X	X		X			X						
AB-20-10	02		0920			X	X		X			X						
AB-20-27.5	03		1040			X	X		X			X						
AB-20-37.5	04		1120			X	X		X			X						
AB-20-52.5	05		1230			X	X		X			X						
																		Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Knoedler	Aspect	3/4/16	1400
Received by:	VINT	FBI	3/4/16	1400
Relinquished by:				
Received by:				

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 23, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on May 11, 2016 from the 080190-Walker Chev, F&BI 605190 project. There are 24 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
ASP0523R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 11, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 080190-Walker Chev, F&BI 605190 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
605190 -01	B17-2
605190 -02	B18-3
605190 -03	B19-6
605190 -04	B20-4.5
605190 -05	B21-9.5

All quality control requirements were acceptable.

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190
Date Extracted: 05/12/16
Date Analyzed: 05/12/16

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

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

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B17-2 605190-01	<2	97
B18-3 605190-02	<2	96
B19-6 605190-03	<2	91
B20-4.5 605190-04	<2	100
B21-9.5 605190-05 1/50	190	101
Method Blank 06-944 MB	<2	104

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190
Date Extracted: 05/12/16
Date Analyzed: 05/12/16

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

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

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
B17-2 605190-01	<50	<250	111
B18-3 605190-02	<50	<250	112
B19-6 605190-03	<50	<250	109
B20-4.5 605190-04	68 x	760	97
B21-9.5 605190-05	<50	<250	112
Method Blank 06-960 MB	<50	<250	127

Analysis For Total Metals By EPA Method 200.8

Client ID:	B17-2	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-01
Date Analyzed:	05/19/16	Data File:	605190-01.138
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	1.71

Analysis For Total Metals By EPA Method 200.8

Client ID:	B18-3	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-02
Date Analyzed:	05/19/16	Data File:	605190-02.139
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	1.10

Analysis For Total Metals By EPA Method 200.8

Client ID:	B19-6	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-03
Date Analyzed:	05/19/16	Data File:	605190-03.140
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	1.29

Analysis For Total Metals By EPA Method 200.8

Client ID:	B20-4.5	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-04
Date Analyzed:	05/19/16	Data File:	605190-04.141
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	11.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	B21-9.5	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-05
Date Analyzed:	05/19/16	Data File:	605190-05.142
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	1.87

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	I6-303 mb2
Date Analyzed:	05/12/16	Data File:	I6-303 mb2.054
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B17-2	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-01
Date Analyzed:	05/14/16	Data File:	051351.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	104	55	145
4-Bromofluorobenzene	102	65	139

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B18-3	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-02
Date Analyzed:	05/14/16	Data File:	051352.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	105	55	145
4-Bromofluorobenzene	103	65	139

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B19-6	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-03
Date Analyzed:	05/14/16	Data File:	051353.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	105	55	145
4-Bromofluorobenzene	101	65	139

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B20-4.5	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-04
Date Analyzed:	05/14/16	Data File:	051354.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	106	55	145
4-Bromofluorobenzene	103	65	139

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B21-9.5	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	605190-05
Date Analyzed:	05/17/16	Data File:	051652.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	108	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	1.5
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	10
Hexane	<0.25	o-Xylene	3.9
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	0.17
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	0.19
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	0.34
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.85
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	0.052
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	11	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.23
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/12/16	Lab ID:	06-962 mb
Date Analyzed:	05/12/16	Data File:	051226.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	106	55	145
4-Bromofluorobenzene	104	65	139

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B21-9.5	Client:	Aspect Consulting, LLC
Date Received:	05/11/16	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/11/16	Lab ID:	605190-05 1/50
Date Analyzed:	05/12/16	Data File:	051205.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	70 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	080190-Walker Chev, F&BI 605190
Date Extracted:	05/11/16	Lab ID:	06-957 mb 1/5
Date Analyzed:	05/11/16	Data File:	051114.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	73	29	154

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

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: 605190-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

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

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: 605199-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	107	112	63-146	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	105	79-144

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: 605187-03 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	<10	93	86	70-130	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	98	85-115

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: 605191-66 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	18	20	10-142	11
Chloromethane	mg/kg (ppm)	2.5	<0.5	48	48	10-126	0
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	49	52	10-138	6
Bromomethane	mg/kg (ppm)	2.5	<0.5	64	68	10-163	6
Chloroethane	mg/kg (ppm)	2.5	<0.5	68	70	10-176	3
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	52	53	10-176	2
Acetone	mg/kg (ppm)	12.5	<0.5	85	82	10-163	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	64	67	10-160	5
Hexane	mg/kg (ppm)	2.5	<0.25	48	52	10-137	8
Methylene chloride	mg/kg (ppm)	2.5	<0.5	102	97	10-156	5
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	88	86	21-145	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	80	81	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	83	86	19-140	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	79	81	10-158	2
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	91	91	25-135	0
Chloroform	mg/kg (ppm)	2.5	<0.05	86	86	21-145	0
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	89	88	19-147	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	83	83	12-160	0
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	82	83	10-156	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	83	84	17-140	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	81	80	9-164	1
Benzene	mg/kg (ppm)	2.5	<0.03	86	86	29-129	0
Trichloroethene	mg/kg (ppm)	2.5	<0.02	85	86	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	91	91	30-135	0
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	90	90	23-155	0
Dibromomethane	mg/kg (ppm)	2.5	<0.05	89	89	23-145	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	93	93	24-155	0
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	92	91	28-144	1
Toluene	mg/kg (ppm)	2.5	<0.05	81	82	35-130	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	84	83	26-149	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	89	89	10-205	0
2-Hexanone	mg/kg (ppm)	12.5	<0.5	91	90	15-166	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	84	84	31-137	0
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	82	81	20-133	1
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	89	89	28-150	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	86	87	28-142	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	84	84	32-129	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	86	86	32-137	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	83	83	31-143	0
m,p-Xylene	mg/kg (ppm)	5	<0.1	85	86	34-136	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	85	85	33-134	0
Styrene	mg/kg (ppm)	2.5	<0.05	88	87	35-137	1
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	88	89	31-142	1
Bromoform	mg/kg (ppm)	2.5	<0.05	80	80	21-156	0
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	87	88	23-146	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	84	85	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	87	88	18-149	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	88	89	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	83	83	25-144	0
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	85	85	31-134	0
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	86	87	31-136	1
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	89	89	30-137	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	86	88	10-182	2
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	89	90	23-145	1
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	88	89	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	85	86	30-131	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	84	85	29-129	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	85	85	31-132	0
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	78	78	11-161	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	85	22-142	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	82	84	10-142	2
Naphthalene	mg/kg (ppm)	2.5	<0.05	82	81	14-157	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	85	85	20-144	0

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	50	10-146
Chloromethane	mg/kg (ppm)	2.5	71	27-133
Vinyl chloride	mg/kg (ppm)	2.5	82	22-139
Bromomethane	mg/kg (ppm)	2.5	91	38-114
Chloroethane	mg/kg (ppm)	2.5	95	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	90	10-196
Acetone	mg/kg (ppm)	12.5	109	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	95	47-128
Hexane	mg/kg (ppm)	2.5	99	43-142
Methylene chloride	mg/kg (ppm)	2.5	116	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	99	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	102	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	97	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	106	72-113
Chloroform	mg/kg (ppm)	2.5	100	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	111	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	96	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	100	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	104	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	100	60-139
Benzene	mg/kg (ppm)	2.5	102	68-114
Trichloroethene	mg/kg (ppm)	2.5	101	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	106	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	104	72-130
Dibromomethane	mg/kg (ppm)	2.5	104	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	108	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	75-136
Toluene	mg/kg (ppm)	2.5	94	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	94	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	99	75-113
2-Hexanone	mg/kg (ppm)	12.5	101	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	96	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	99	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	98	74-132
Chlorobenzene	mg/kg (ppm)	2.5	95	76-111
Ethylbenzene	mg/kg (ppm)	2.5	98	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	92	69-135
m,p-Xylene	mg/kg (ppm)	5	96	78-122
o-Xylene	mg/kg (ppm)	2.5	94	77-124
Styrene	mg/kg (ppm)	2.5	98	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	99	76-127
Bromoform	mg/kg (ppm)	2.5	88	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	101	74-124
Bromobenzene	mg/kg (ppm)	2.5	98	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	101	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	101	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	95	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	98	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	99	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	102	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	103	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	101	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	96	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	95	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	97	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	89	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	95	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	94	50-153
Naphthalene	mg/kg (ppm)	2.5	92	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	97	63-138

Date of Report: 05/23/16
Date Received: 05/11/16
Project: 080190-Walker Chev, F&BI 605190

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

Laboratory Code: 605187-03 1/50 (Matrix Spike) 1/50

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.8	<0.2	102	50-150
Aroclor 1260	mg/kg (ppm)	0.8	<0.2	94	50-150

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	80	79	55-130	1
Aroclor 1260	mg/kg (ppm)	0.8	108	107	58-133	1

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

605190

SAMPLE CHAIN OF CUSTODY ME 5/11/16

VS2/C01

Page # 1 of 1

Send Report To Alan Noell

Company Aspect Consulting

Address 401 2nd Ave. S Ste 201

City, State, ZIP Seattle, WA 98104

Phone # 206.838.6592 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.: 080190 - Walker Chev.

PO#

REMARKS: -Thanks-

TURNAROUND TIME
- [x] 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	Pb	PCB					Notes
						ANALYSES REQUESTED												
B17-2	01A	5/11/16	0205	Soil	5	X	X		X			X						
B18-3	02		0220		5	X	X		X			X						
B19-6	03		0305		5	X	X		X			X						
B20-4.5	04		0340			X	X		X			X						
B21-9.5	05		0415			X	X		X			X	X					
																		Samples received at 3 °C

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

FORMS/COC/COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		E. Knoodler	Aspect	5/11/16	1127
Received by:		Joseph G. Friedman	Fed Ex SDC	5/11/16	1127
Relinquished by:					
Received by:		Christopher Radford	FedEx	5/12/16	1155

APPENDIX F

Analytical Results for Groundwater Samples

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

April 3, 2015

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on March 20, 2015 from the Walker Chevrolet 080190, F&BI 503392 project. There are 18 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: data@aspectconsulting.com, Parker Wittman
ASP0403R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 20, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet 080190, F&BI 503392 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
503392 -01	MW-11-032015

Chromium in the 200.8 matrix spike and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results are likely due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392
Date Extracted: 03/23/15
Date Analyzed: 03/23/15

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-11-032015 503392-01	<100	100
Method Blank 05-564 MB	<100	93

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392
Date Extracted: 03/25/15
Date Analyzed: 03/25/15

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 41-152)
MW-11-032015 503392-01	82 x	<250	86
Method Blank 05-616 MB	<50	<250	98

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-032015	Client:	Aspect Consulting, LLC
Date Received:	03/20/15	Project:	Walker Chevrolet 080190, F&BI 503392
Date Extracted:	03/24/15	Lab ID:	503392-01
Date Analyzed:	03/25/15	Data File:	503392-01.028
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	ML

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	107	60	125
Indium	92	60	125
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	5.15
Barium	57.9
Cadmium	<1
Chromium	24.0
Lead	4.99
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Walker Chevrolet 080190, F&BI 503392
Date Extracted:	03/24/15	Lab ID:	I5-176 mb
Date Analyzed:	03/25/15	Data File:	I5-176 mb.023
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	ML

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125
Indium	91	60	125
Holmium	95	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	MW-11-032015	Client:	Aspect Consulting, LLC
Date Received:	03/20/15	Project:	Walker Chevrolet 080190, F&BI 503392
Date Extracted:	03/31/15	Lab ID:	503392-01
Date Analyzed:	03/31/15	Data File:	033118.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	65	50	150
Toluene-d8	65	50	150
4-Bromofluorobenzene	64	50	150

Compounds:	Concentration ug/L (ppb)
1,4-dioxane	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet 080190, F&BI 503392
Date Extracted:	03/31/15	Lab ID:	05-0643 mb
Date Analyzed:	03/31/15	Data File:	033117.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	75	50	150
Toluene-d8	75	50	150
4-Bromofluorobenzene	73	50	150

Compounds:	Concentration ug/L (ppb)
1,4-dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-032015	Client:	Aspect Consulting, LLC
Date Received:	03/20/15	Project:	Walker Chevrolet 080190, F&BI 503392
Date Extracted:	03/23/15	Lab ID:	503392-01
Date Analyzed:	03/23/15	Data File:	032324.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	105	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	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	1.2	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	3.0	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	<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 Chevrolet 080190, F&BI 503392
Date Extracted:	03/23/15	Lab ID:	05-0548 mb
Date Analyzed:	03/23/15	Data File:	032308.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	106	63	127
4-Bromofluorobenzene	97	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

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392
Date Extracted: 03/23/15
Date Analyzed: 03/23/15

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR 1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED
Results Reported as µg/L (ppb)

Sample ID Laboratory ID	EDB
MW-11-032015 503392-01	<0.01
Method Blank	<0.01

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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

Laboratory Code: 503389-01 (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	97	69-134

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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	87	93	63-142	7

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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

Laboratory Code: 503418-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	15.5	94	88	60-150	7
Barium	ug/L (ppb)	50	68.2	99	94	79-126	5
Cadmium	ug/L (ppb)	5	<1	93	92	80-124	1
Chromium	ug/L (ppb)	20	<1	189 vo	107	64-132	55 vo
Lead	ug/L (ppb)	10	<1	93	91	79-121	2
Mercury	ug/L (ppb)	10	<1	92	91	50-150	1
Selenium	ug/L (ppb)	5	1.35	97	98	68-142	1
Silver	ug/L (ppb)	5	<1	92	90	60-121	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	95	80-111
Barium	ug/L (ppb)	50	93	83-117
Cadmium	ug/L (ppb)	5	92	83-113
Chromium	ug/L (ppb)	20	96	80-119
Lead	ug/L (ppb)	10	98	83-115
Mercury	ug/L (ppb)	10	95	70-130
Selenium	ug/L (ppb)	5	96	81-119
Silver	ug/L (ppb)	5	98	75-120

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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

Laboratory Code: 503392-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-dioxane	ug/L (ppb)	2	<0.4	105	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-dioxane	ug/L (ppb)	2	99	105	70-130	6

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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

Laboratory Code: 503392-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	113	10-172
Chloromethane	ug/L (ppb)	50	<10	117	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	123	36-166
Bromomethane	ug/L (ppb)	50	<1	108	47-169
Chloroethane	ug/L (ppb)	50	<1	121	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	114	44-165
Acetone	ug/L (ppb)	250	<10	116	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	119	60-136
Methylene chloride	ug/L (ppb)	50	<5	114	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	108	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	110	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	110	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	101	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	113	71-127
Chloroform	ug/L (ppb)	50	1.1	106	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	127	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	106	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	105	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	114	69-133
Carbon tetrachloride	ug/L (ppb)	50	1.2	107	56-152
Benzene	ug/L (ppb)	50	<0.35	111	76-125
Trichloroethene	ug/L (ppb)	50	3.0	115	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	114	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	111	61-150
Dibromomethane	ug/L (ppb)	50	<1	110	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	128	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	116	72-132
Toluene	ug/L (ppb)	50	<1	105	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	105	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	104	68-131
2-Hexanone	ug/L (ppb)	250	<10	108	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	108	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	107	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	105	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	106	69-134
Chlorobenzene	ug/L (ppb)	50	<1	104	77-122
Ethylbenzene	ug/L (ppb)	50	<1	102	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	73-137
m,p-Xylene	ug/L (ppb)	100	<2	102	69-135
o-Xylene	ug/L (ppb)	50	<1	103	60-140
Styrene	ug/L (ppb)	50	<1	105	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	99	65-142
Bromoform	ug/L (ppb)	50	<1	102	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	100	58-144
Bromobenzene	ug/L (ppb)	50	<1	106	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	100	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	101	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	101	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	98	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	96	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	101	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	97	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	100	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	98	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	100	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	100	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	102	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	94	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	99	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	96	60-143
Naphthalene	ug/L (ppb)	50	<1	105	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	102	69-148

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

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	119	123	25-158	3
Chloromethane	ug/L (ppb)	50	122	119	45-156	2
Vinyl chloride	ug/L (ppb)	50	121	120	50-154	1
Bromomethane	ug/L (ppb)	50	112	115	55-143	3
Chloroethane	ug/L (ppb)	50	120	123	58-146	2
Trichlorofluoromethane	ug/L (ppb)	250	118	117	50-150	1
Acetone	ug/L (ppb)	250	117	116	53-131	1
1,1-Dichloroethene	ug/L (ppb)	50	115	118	67-136	3
Methylene chloride	ug/L (ppb)	50	108	109	39-148	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	108	109	64-147	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	110	111	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	108	109	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	107	110	55-143	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	110	111	80-123	1
Chloroform	ug/L (ppb)	50	104	104	80-121	0
2-Butanone (MEK)	ug/L (ppb)	250	115	116	57-149	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	104	103	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	105	105	83-130	0
1,1-Dichloropropene	ug/L (ppb)	50	111	110	77-129	1
Carbon tetrachloride	ug/L (ppb)	50	108	108	75-158	0
Benzene	ug/L (ppb)	50	108	108	69-134	0
Trichloroethene	ug/L (ppb)	50	112	112	80-120	0
1,2-Dichloropropane	ug/L (ppb)	50	111	111	77-123	0
Bromodichloromethane	ug/L (ppb)	50	110	110	81-133	0
Dibromomethane	ug/L (ppb)	50	109	107	82-125	2
4-Methyl-2-pentanone	ug/L (ppb)	250	126	122	65-138	3
cis-1,3-Dichloropropene	ug/L (ppb)	50	114	112	82-132	2
Toluene	ug/L (ppb)	50	101	101	72-122	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	102	101	80-136	1
1,1,2-Trichloroethane	ug/L (ppb)	50	100	100	75-124	0
2-Hexanone	ug/L (ppb)	250	104	103	60-136	1
1,3-Dichloropropane	ug/L (ppb)	50	103	104	76-126	1
Tetrachloroethene	ug/L (ppb)	50	103	103	76-121	0
Dibromochloromethane	ug/L (ppb)	50	104	105	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	103	102	82-125	1
Chlorobenzene	ug/L (ppb)	50	101	101	83-114	0
Ethylbenzene	ug/L (ppb)	50	98	100	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	103	105	84-127	2
m,p-Xylene	ug/L (ppb)	100	100	102	83-125	2
o-Xylene	ug/L (ppb)	50	100	102	81-121	2
Styrene	ug/L (ppb)	50	102	102	84-119	0
Isopropylbenzene	ug/L (ppb)	50	98	99	85-117	1
Bromoform	ug/L (ppb)	50	103	103	74-136	0
n-Propylbenzene	ug/L (ppb)	50	98	96	74-126	2
Bromobenzene	ug/L (ppb)	50	103	101	80-121	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	97	78-123	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	99	97	66-126	2
1,2,3-Trichloropropane	ug/L (ppb)	50	100	96	67-124	4
2-Chlorotoluene	ug/L (ppb)	50	96	94	77-127	2
4-Chlorotoluene	ug/L (ppb)	50	94	93	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	100	99	80-123	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	97	95	79-122	2
sec-Butylbenzene	ug/L (ppb)	50	99	97	80-125	2
p-Isopropyltoluene	ug/L (ppb)	50	98	96	81-123	2
1,3-Dichlorobenzene	ug/L (ppb)	50	99	97	85-116	2
1,4-Dichlorobenzene	ug/L (ppb)	50	99	97	84-121	2
1,2-Dichlorobenzene	ug/L (ppb)	50	102	101	85-116	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	97	96	57-141	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	101	98	72-130	3
Hexachlorobutadiene	ug/L (ppb)	50	101	97	53-141	4
Naphthalene	ug/L (ppb)	50	105	104	64-133	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	102	65-136	0

Date of Report: 04/03/15
Date Received: 03/20/15
Project: Walker Chevrolet 080190, F&BI 503392

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR 1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED

Laboratory Code: 503392-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 10)
1,2-Dibromoethane	ug/L (ppb)	<0.01	<0.01	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
1,2-Dibromoethane	ug/L (ppb)	0.10	98	70-130

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

503392

SAMPLE CHAIN OF CUSTODY

ME 03-20-15

B04 / AI2 / V2

Page # 1 of 1

Send Report To Alan Noell / Eric Geissinger

Company Aspect Consulting

Address 401 2nd Ave S. #201

City, State, ZIP Seattle, WA 98104

Phone # _____ Fax # _____

SAMPLERS (signature)

PROJECT NAME/NO. Walker Chevrolet

PO# 080190

REMARKS

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH _____
- Rush charges authorized by _____

SAMPLE DISPOSAL
- [x] 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	SVOCs by 8270	HFS	1,4 dioxane 8260C SIM	1,2 dibromoethane 8011	RCRA Metals				Notes
MW-11-032015	01A-M	3/20/15	0825	Water	13	X	X		X			X	X	X				
																		Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Geissinger	Aspect	3/20/15	
Received by:	Jason Kobs	FedEx	3/20/15	1:45pm
Relinquished by:				
Received by:	D O VO	F&BI	11	14:20

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.
Arina Podnozova, B.S.
Eric Young, B.S.

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

May 8, 2015

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on April 30, 2015 from the Walker Chevrolet, PO 080190, F&BI 504573 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: data@aspectconsulting.com, Parker Wittman
ASP0508R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 30, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, PO 080190, F&BI 504573 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
504573 -01	MW-11-042815

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-042815	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190
Date Extracted:	05/04/15	Lab ID:	5045763-01
Date Analyzed:	05/04/15	Data File:	5045763-01.059
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	98	60	125
Indium	81	60	125
Holmium	90	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	6.29
Barium	73.2
Cadmium	<1
Chromium	26.1
Lead	6.20
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet, PO 080190
Date Extracted:	05/04/15	Lab ID:	I5-274 mb
Date Analyzed:	05/04/15	Data File:	I5-274 mb.010
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125
Indium	94	60	125
Holmium	94	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	MW-11-042815	Client:	Aspect Consulting, LLC
Date Received:	04/30/15	Project:	Walker Chevrolet, PO 080190
Date Extracted:	05/06/15	Lab ID:	504573-01
Date Analyzed:	05/06/15	Data File:	504573-01.065
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	84	60	125
Indium	83	60	125
Holmium	88	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	12.5
Cadmium	<1
Chromium	1.76
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet, PO 080190
Date Extracted:	05/06/15	Lab ID:	I5-282 mb
Date Analyzed:	05/06/15	Data File:	I5-282 mb.056
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	SP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	93	60	125
Indium	91	60	125
Holmium	93	60	125

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Date of Report: 05/08/15
Date Received: 04/30/15
Project: Walker Chevrolet, PO 080190, F&BI 504573

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

Laboratory Code: 504568-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	104	106	60-150	2
Barium	ug/L (ppb)	50	3.72	101	102	79-126	1
Cadmium	ug/L (ppb)	5	<1	100	101	80-124	1
Chromium	ug/L (ppb)	20	4.97	91	91	64-132	0
Lead	ug/L (ppb)	10	<1	98	99	79-121	1
Mercury	ug/L (ppb)	10	<1	102	102	50-150	0
Selenium	ug/L (ppb)	5	<1	106	106	68-142	0
Silver	ug/L (ppb)	5	<1	99	101	60-121	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	110	80-111
Barium	ug/L (ppb)	50	96	83-117
Cadmium	ug/L (ppb)	5	111	83-113
Chromium	ug/L (ppb)	20	91	80-119
Lead	ug/L (ppb)	10	99	83-115
Mercury	ug/L (ppb)	10	112	70-130
Selenium	ug/L (ppb)	5	143 vo	81-119
Silver	ug/L (ppb)	5	96	75-120

Date of Report: 05/08/15
Date Received: 04/30/15
Project: Walker Chevrolet, PO 080190, F&BI 504573

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

Laboratory Code: 505058-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.71	97	100	60-150	3
Barium	ug/L (ppb)	50	55.9	101	103	79-126	2
Cadmium	ug/L (ppb)	5	<1	99	103	80-124	4
Chromium	ug/L (ppb)	20	<1	86	88	64-132	2
Lead	ug/L (ppb)	10	<1	97	97	79-121	0
Mercury	ug/L (ppb)	10	<1	100	100	50-150	0
Selenium	ug/L (ppb)	5	2.63	100	101	68-142	1
Silver	ug/L (ppb)	5	<1	94	96	60-121	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	100	80-111
Barium	ug/L (ppb)	50	102	83-117
Cadmium	ug/L (ppb)	5	104	83-113
Chromium	ug/L (ppb)	20	100	80-119
Lead	ug/L (ppb)	10	102	83-115
Mercury	ug/L (ppb)	10	102	70-130
Selenium	ug/L (ppb)	5	102	81-119
Silver	ug/L (ppb)	5	100	75-120

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

504573

SAMPLE CHAIN OF CUSTODY

ME 04/30/15

AI2

Page # 1 of 1

Send Report To Alan Noell

Company Aspect Consulting

Address 401 and Ave S, Ste. 201

City, State, ZIP Seattle WA 98104

Phone #206-838-6592 Fax #206-838-5853

SAMPLERS (signature) Enyeart

PROJECT NAME/NO. Walker Chevrolet

PO# 080190

REMARKS e-mail results to anoell@aspectconsulting.com

TURNAROUND TIME
- [X] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by

SAMPLE DISPOSAL
- [X] 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	Total RCRA Metals	Diss. RCRA Metals					Notes
MW-11-042815	01B	4/28/15	09:40	groundwater	2							X	X					Diss. sample field filtered

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Enyeart	Judy Enyeart	Aspect	4/30/15	14:00
Received by: Nhan Pham for BS	Nhan Pham	FCBI	4/30	1400
Relinquished by:				
Received by:				

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

October 14, 2015

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on October 7, 2015 from the Walker Chevrolet, 080190, F&BI 510106 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: data@aspectconsulting.com, Parker Wittman
ASP1014R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 7, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, 080190, F&BI 510106 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
510106 -01	MW-11-100715

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-100715	Client:	Aspect Consulting, LLC
Date Received:	10/07/15	Project:	Walker Chevrolet, 080190, F&BI 510106
Date Extracted:	10/09/15	Lab ID:	510106-01
Date Analyzed:	10/09/15	Data File:	100911.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	100	91	108
4-Bromofluorobenzene	102	76	126

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
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	3.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet, 080190, F&BI 510106
Date Extracted:	10/09/15	Lab ID:	05-2024 mb
Date Analyzed:	10/09/15	Data File:	100907.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	99	91	108
4-Bromofluorobenzene	100	76	126

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
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Date of Report: 10/14/15
Date Received: 10/07/15
Project: Walker Chevrolet, 080190, F&BI 510106

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

Laboratory Code: 510106-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	72	55-137
Chloromethane	ug/L (ppb)	50	<10	71	61-120
Vinyl chloride	ug/L (ppb)	50	<0.2	76	61-139
Bromomethane	ug/L (ppb)	50	<1	100	20-265
Chloroethane	ug/L (ppb)	50	<1	81	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	79	71-128
Acetone	ug/L (ppb)	250	<10	88	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	79	71-123
Hexane	ug/L (ppb)	50	<1	75	61-127
Methylene chloride	ug/L (ppb)	50	<5	84	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	91	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	84	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	87	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	104	58-132
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	63-126
Chloroform	ug/L (ppb)	50	<1	95	79-113
2-Butanone (MEK)	ug/L (ppb)	250	<10	98	69-123
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	87	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	90	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	106	70-132
Benzene	ug/L (ppb)	50	<0.35	86	78-108
Trichloroethene	ug/L (ppb)	50	3.2	93	75-109
1,2-Dichloropropane	ug/L (ppb)	50	<1	95	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	109	78-117
Dibromomethane	ug/L (ppb)	50	<1	97	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	111	79-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	105	76-120
Toluene	ug/L (ppb)	50	<1	89	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	105	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	101	81-116
2-Hexanone	ug/L (ppb)	250	<10	110	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	97	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	94	72-113
Dibromochloromethane	ug/L (ppb)	50	<1	113	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	114	79-120
Chlorobenzene	ug/L (ppb)	50	<1	98	75-115
Ethylbenzene	ug/L (ppb)	50	<1	97	71-120
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	115	76-130
m,p-Xylene	ug/L (ppb)	100	<2	99	63-128
o-Xylene	ug/L (ppb)	50	<1	101	64-129
Styrene	ug/L (ppb)	50	<1	107	56-142
Isopropylbenzene	ug/L (ppb)	50	<1	103	77-122
Bromoform	ug/L (ppb)	50	<1	116	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	101	74-117
Bromobenzene	ug/L (ppb)	50	<1	103	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	105	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	108	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	106	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	103	70-123
4-Chlorotoluene	ug/L (ppb)	50	<1	103	79-113
tert-Butylbenzene	ug/L (ppb)	50	<1	108	78-124
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	105	74-118
sec-Butylbenzene	ug/L (ppb)	50	<1	107	77-118
p-Isopropyltoluene	ug/L (ppb)	50	<1	108	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	102	79-109
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	102	78-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	105	81-111
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	123	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	106	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	112	67-120
Naphthalene	ug/L (ppb)	50	<1	112	62-140
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	110	59-130

Date of Report: 10/14/15
Date Received: 10/07/15
Project: Walker Chevrolet, 080190, F&BI 510106

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	105	102	54-149	3
Chloromethane	ug/L (ppb)	50	93	91	67-133	2
Vinyl chloride	ug/L (ppb)	50	96	94	70-119	2
Bromomethane	ug/L (ppb)	50	124	119	62-188	4
Chloroethane	ug/L (ppb)	50	99	96	66-149	3
Trichlorofluoromethane	ug/L (ppb)	50	96	94	70-132	2
Acetone	ug/L (ppb)	250	99	98	44-145	1
1,1-Dichloroethene	ug/L (ppb)	50	93	91	75-119	2
Hexane	ug/L (ppb)	50	90	87	51-153	3
Methylene chloride	ug/L (ppb)	50	92	90	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	99	98	70-122	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	94	93	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	98	96	80-116	2
2,2-Dichloropropane	ug/L (ppb)	50	128	127	62-141	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	98	80-112	0
Chloroform	ug/L (ppb)	50	101	100	81-109	1
2-Butanone (MEK)	ug/L (ppb)	250	103	103	53-140	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	91	79-109	1
1,1,1-Trichloroethane	ug/L (ppb)	50	111	110	80-116	1
1,1-Dichloropropene	ug/L (ppb)	50	99	98	78-112	1
Carbon tetrachloride	ug/L (ppb)	50	127	123	72-128	3
Benzene	ug/L (ppb)	50	94	93	81-108	1
Trichloroethene	ug/L (ppb)	50	100	98	77-108	2
1,2-Dichloropropane	ug/L (ppb)	50	102	100	82-109	2
Bromodichloromethane	ug/L (ppb)	50	114	113	76-120	1
Dibromomethane	ug/L (ppb)	50	102	101	80-110	1
4-Methyl-2-pentanone	ug/L (ppb)	250	110	109	59-142	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	114	113	76-128	1
Toluene	ug/L (ppb)	50	93	93	83-108	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	111	113	76-128	2
1,1,2-Trichloroethane	ug/L (ppb)	50	101	102	82-110	1
2-Hexanone	ug/L (ppb)	250	103	105	53-145	2
1,3-Dichloropropane	ug/L (ppb)	50	97	97	83-110	0
Tetrachloroethene	ug/L (ppb)	50	99	99	78-109	0
Dibromochloromethane	ug/L (ppb)	50	116	115	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	114	116	82-118	2
Chlorobenzene	ug/L (ppb)	50	97	98	84-108	1
Ethylbenzene	ug/L (ppb)	50	98	97	83-111	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	116	116	76-125	0
m,p-Xylene	ug/L (ppb)	100	100	99	84-112	1
o-Xylene	ug/L (ppb)	50	101	99	81-117	2
Styrene	ug/L (ppb)	50	104	104	83-121	0
Isopropylbenzene	ug/L (ppb)	50	102	101	81-122	1
Bromoform	ug/L (ppb)	50	116	117	40-161	1
n-Propylbenzene	ug/L (ppb)	50	100	100	81-115	0
Bromobenzene	ug/L (ppb)	50	99	101	80-113	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	102	102	83-117	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	100	101	79-118	1
1,2,3-Trichloropropane	ug/L (ppb)	50	100	101	74-116	1
2-Chlorotoluene	ug/L (ppb)	50	100	99	79-112	1
4-Chlorotoluene	ug/L (ppb)	50	99	99	81-113	0
tert-Butylbenzene	ug/L (ppb)	50	104	104	81-119	0
1,2,4-Trimethylbenzene	ug/L (ppb)	50	101	102	81-121	1
sec-Butylbenzene	ug/L (ppb)	50	104	104	83-123	0
p-Isopropyltoluene	ug/L (ppb)	50	103	102	81-122	1
1,3-Dichlorobenzene	ug/L (ppb)	50	99	98	82-110	1
1,4-Dichlorobenzene	ug/L (ppb)	50	96	96	81-105	0
1,2-Dichlorobenzene	ug/L (ppb)	50	98	98	83-111	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	122	123	62-133	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	101	101	77-117	0
Hexachlorobutadiene	ug/L (ppb)	50	110	107	70-116	3
Naphthalene	ug/L (ppb)	50	105	108	72-131	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	104	104	80-114	0

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

510106

SAMPLE CHAIN OF CUSTODY

ME 10/7/15 VI

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave S. #201
City, State, ZIP Seattle WA, 98104
Phone # 206-838-6592 Fax #

SAMPLERS (signature)
PROJECT NAME/NO. Walker Chevrolet
PO# 080190
REMARKS Email results to anoell@aspectconsulting.com

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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	VOCs 8260C						Notes
MW-11-100715	01 A D	10/7/15	1130	Water	4							X						Full Suite
													Samples received at 4 °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:		Simon Butler	Aspect	10/7/15	1530
Received by:		Nhan Phan	FEBI	10/7/15	1530
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
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(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

February 10, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on February 4, 2016 from the 080190- Walker Chevrolet Task 15, F&BI 602058 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: data@aspectconsulting.com, Parker Wittman
ASP0210R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 4, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 080190- Walker Chevrolet Task 15 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
602058 -01	MW-11-020316

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-020316	Client:	Aspect Consulting, LLC
Date Received:	02/04/16	Project:	F&BI 602058
Date Extracted:	02/04/16	Lab ID:	602058-01
Date Analyzed:	02/04/16	Data File:	020415.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	103	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
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	3.1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	F&BI 602058
Date Extracted:	02/04/16	Lab ID:	06-0205 mb
Date Analyzed:	02/04/16	Data File:	020407.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	102	63	127
4-Bromofluorobenzene	101	60	133

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

Date of Report: 02/10/16
Date Received: 02/04/16
Project: 080190- Walker Chevrolet Task 15, F&BI 602058

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

Laboratory Code: 602047-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	109	10-172
Chloromethane	ug/L (ppb)	50	<10	97	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	93	36-166
Bromomethane	ug/L (ppb)	50	<1	125	47-169
Chloroethane	ug/L (ppb)	50	<1	123	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	103	44-165
Acetone	ug/L (ppb)	250	<10	98	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	98	60-136
Hexane	ug/L (ppb)	50	<1	98	52-150
Methylene chloride	ug/L (ppb)	50	<5	107	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	101	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	111	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	103	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	98	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	97	56-152
Benzene	ug/L (ppb)	50	<0.35	96	76-125
Trichloroethene	ug/L (ppb)	50	<1	93	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	102	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	99	61-150
Dibromomethane	ug/L (ppb)	50	<1	103	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	99	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	100	72-132
Toluene	ug/L (ppb)	50	<1	90	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	97	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	98	68-131
2-Hexanone	ug/L (ppb)	250	<10	97	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	93	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	91	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	97	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	93	69-134
Chlorobenzene	ug/L (ppb)	50	<1	90	77-122
Ethylbenzene	ug/L (ppb)	50	<1	91	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	95	73-137
m,p-Xylene	ug/L (ppb)	100	<2	92	69-135
o-Xylene	ug/L (ppb)	50	<1	91	60-140
Styrene	ug/L (ppb)	50	<1	95	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	94	65-142
Bromoform	ug/L (ppb)	50	<1	91	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	93	58-144
Bromobenzene	ug/L (ppb)	50	<1	90	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	97	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	93	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	92	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	90	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	93	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	92	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	93	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	88	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	87	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	90	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	97	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	89	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	87	60-143
Naphthalene	ug/L (ppb)	50	<1	94	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	89	69-148

Date of Report: 02/10/16
Date Received: 02/04/16
Project: 080190- Walker Chevrolet Task 15, F&BI 602058

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	101	102	25-158	1
Chloromethane	ug/L (ppb)	50	94	93	45-156	1
Vinyl chloride	ug/L (ppb)	50	91	91	50-154	0
Bromomethane	ug/L (ppb)	50	126	121	55-143	4
Chloroethane	ug/L (ppb)	50	120	117	58-146	3
Trichlorofluoromethane	ug/L (ppb)	250	106	104	50-150	2
Acetone	ug/L (ppb)	250	98	97	53-131	1
1,1-Dichloroethene	ug/L (ppb)	50	99	99	67-136	0
Hexane	ug/L (ppb)	50	97	99	57-137	2
Methylene chloride	ug/L (ppb)	50	105	103	39-148	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	99	97	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	98	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	101	100	79-121	1
2,2-Dichloropropane	ug/L (ppb)	50	114	113	55-143	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	100	80-123	2
Chloroform	ug/L (ppb)	50	100	97	80-121	3
2-Butanone (MEK)	ug/L (ppb)	250	103	99	57-149	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	99	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	100	99	83-130	1
1,1-Dichloropropene	ug/L (ppb)	50	100	98	77-129	2
Carbon tetrachloride	ug/L (ppb)	50	100	98	75-158	2
Benzene	ug/L (ppb)	50	97	96	69-134	1
Trichloroethene	ug/L (ppb)	50	95	94	80-120	1
1,2-Dichloropropane	ug/L (ppb)	50	102	99	77-123	3
Bromodichloromethane	ug/L (ppb)	50	100	97	81-133	3
Dibromomethane	ug/L (ppb)	50	104	102	82-125	2
4-Methyl-2-pentanone	ug/L (ppb)	250	99	97	65-138	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	101	97	82-132	4
Toluene	ug/L (ppb)	50	90	89	72-122	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	97	94	80-136	3
1,1,2-Trichloroethane	ug/L (ppb)	50	98	96	75-124	2
2-Hexanone	ug/L (ppb)	250	94	90	60-136	4
1,3-Dichloropropane	ug/L (ppb)	50	92	90	76-126	2
Tetrachloroethene	ug/L (ppb)	50	91	88	76-121	3
Dibromochloromethane	ug/L (ppb)	50	96	94	84-133	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	92	89	82-125	3
Chlorobenzene	ug/L (ppb)	50	91	89	83-114	2
Ethylbenzene	ug/L (ppb)	50	92	90	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	97	95	84-127	2
m,p-Xylene	ug/L (ppb)	100	92	91	83-125	1
o-Xylene	ug/L (ppb)	50	93	91	81-121	2
Styrene	ug/L (ppb)	50	96	94	84-119	2
Isopropylbenzene	ug/L (ppb)	50	96	95	85-117	1
Bromoform	ug/L (ppb)	50	91	89	74-136	2
n-Propylbenzene	ug/L (ppb)	50	96	93	74-126	3
Bromobenzene	ug/L (ppb)	50	93	90	80-121	3
1,3,5-Trimethylbenzene	ug/L (ppb)	50	97	95	78-123	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	99	97	66-126	2
1,2,3-Trichloropropane	ug/L (ppb)	50	95	92	67-124	3
2-Chlorotoluene	ug/L (ppb)	50	95	93	77-127	2
4-Chlorotoluene	ug/L (ppb)	50	92	90	78-128	2
tert-Butylbenzene	ug/L (ppb)	50	96	95	80-123	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	95	93	79-122	2
sec-Butylbenzene	ug/L (ppb)	50	98	95	80-125	3
p-Isopropyltoluene	ug/L (ppb)	50	97	95	81-123	2
1,3-Dichlorobenzene	ug/L (ppb)	50	92	88	85-116	4
1,4-Dichlorobenzene	ug/L (ppb)	50	89	87	84-121	2
1,2-Dichlorobenzene	ug/L (ppb)	50	93	91	85-116	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	100	97	57-141	3
1,2,4-Trichlorobenzene	ug/L (ppb)	50	93	91	72-130	2
Hexachlorobutadiene	ug/L (ppb)	50	92	91	53-141	1
Naphthalene	ug/L (ppb)	50	97	96	64-133	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	93	92	65-136	1

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

602058

SAMPLE CHAIN OF CUSTODY

ME 02/04/16 V1

Page # 1 of 1

Send Report To Alan Noell
Company Aspect Consulting
Address 401 2nd Ave. S., Ste 201
City, State, ZIP Seattle, WA 98104
Phone # 206.838.6592 Fax # 206.838.5853

SAMPLERS (signature)

PROJECT NAME/NO.: 080190 - Walker Chevrolet Task 15

PO#:

REMARKS: Email to anoell@aspectconsulting.com

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
Rush charges authorized by

SAMPLE DISPOSAL
- [x] 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							Notes
MW-11-020316	01 A-D	2/3/16	10:00	water	4				X									
																		Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Eric Knoedler	Aspect	2/3/16	15:00
Received by: Enyeart	Judy Enyeart	Aspect	2/3/16	15:00
Relinquished by: Enyeart	Judy Enyeart	Aspect	2/4/16	7:45
Received by:	Khan Phan	FEBI	2/4/16	829

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

APPENDIX G

Analytical Results for Air Samples

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Aspect Consulting
Alan Noell
401 2nd Ave S. #201
Seattle, WA 98104

RE: Walker Chevrolet
Lab ID: 1503256

April 23, 2015

Attention Alan Noell:

Fremont Analytical, Inc. received 2 sample(s) on 3/24/2015 for the analyses presented in the following report.

Helium by GC/TCD
Petroleum Fractionation by EPA Method TO-15
Volatile Organic Compounds by EPA Method TO-15
Volatile Organic Compounds-EPA Method TO-15 (SIM)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
President

CC:
Eric Geissinger

Date: *04/23/2015*

CLIENT: Aspect Consulting
Project: Walker Chevrolet
Lab Order: 1503256

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1503256-001	SS-FPB-032015	03/20/2015 7:00 AM	03/24/2015 11:18 AM
1503256-002	IA-FPB-032315	03/23/2015 2:00 PM	03/24/2015 11:18 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1503256**
Date: **4/23/2015**

CLIENT: Aspect Consulting
Project: Walker Chevrolet

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 24.45 = (25C and 1 atm).

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below LOQ
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

WO#: **1503256**
Date Reported: **4/23/2015**

CLIENT: Aspect Consulting
Project: Walker Chevrolet

Lab ID: 1503256-001 **Collection Date:** 3/20/2015 7:00:00 AM
Client Sample ID: **SS-FPB-032015** **Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Helium by GC/TCD				Batch ID: R21574		Analyst: JY
Helium	ND	32.4		ppmv	1	3/31/2015 3:52:00 PM
Petroleum Fractionation by EPA Method TO-15				Batch ID: R21569		Analyst: JY
Aliphatic Hydrocarbon (EC5-8)	215	147		µg/m³	1	3/31/2015 5:43:00 AM
Aliphatic Hydrocarbon (EC9-12)	311	94.2		µg/m³	1	3/31/2015 5:43:00 AM
Aromatic Hydrocarbon (EC9-10)	221	4.54		µg/m³	1	3/31/2015 5:43:00 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%REC	1	3/31/2015 5:43:00 AM

Lab ID: 1503256-002 **Collection Date:** 3/23/2015 2:00:00 PM
Client Sample ID: **IA-FPB-032315** **Matrix:** Indoor Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Helium by GC/TCD				Batch ID: R21574		Analyst: JY
Helium	ND	32.7		ppmv	1	3/31/2015 3:59:00 PM
Petroleum Fractionation by EPA Method TO-15				Batch ID: R21569		Analyst: JY
Aliphatic Hydrocarbon (EC5-8)	194	147		µg/m³	1	3/31/2015 1:07:00 AM
Aliphatic Hydrocarbon (EC9-12)	807	754		µg/m³	1	3/31/2015 12:26:00 AM
Aromatic Hydrocarbon (EC9-10)	576	36.3		µg/m³	1	3/31/2015 12:26:00 AM
Surr: 4-Bromofluorobenzene	90.0	70-130		%REC	1	3/31/2015 1:07:00 AM

Client: **Aspect Consulting**
WorkOrder: 1503256
Project: Walker Chevrolet

Client Sample ID: SS-FPB-032015
Lab ID: 1503256-001A
Sample Type: Summa Canister

Date Sampled: 3/20/2015
Date Received: 3/24/2015

Volatile Organic Compounds by EPA Method TO-15

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
1,1,1-Trichloroethane	<0.200	<1.09	0.200	1.09		TO-15	03/31/2015	JY
1,1,2,2-Tetrachloroethane	<0.300	<2.06	0.300	2.06		TO-15	03/31/2015	JY
CFC-113	<0.500	<3.83	0.500	3.83		TO-15	03/31/2015	JY
1,1,2-Trichloroethane (TCA)	<0.500	<2.73	0.500	2.73		TO-15	03/31/2015	JY
1,1-Dichloroethane	<0.200	<0.810	0.200	0.810		TO-15	03/31/2015	JY
1,1-Dichloroethene (DCE)	<0.200	<0.793	0.200	0.793		TO-15	03/31/2015	JY
1,2,4-Trichlorobenzene	<0.300	<2.23	0.300	2.23		TO-15	03/31/2015	JY
1,2,4-Trimethylbenzene	14.8	72.5	2.40	11.8		TO-15	03/31/2015	JY
1,2-Dibromoethane (EDB)	<0.200	<1.54	0.200	1.54		TO-15	03/31/2015	JY
1,2-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	03/31/2015	JY
1,2-Dichloroethane	<0.200	<0.809	0.200	0.809		TO-15	03/31/2015	JY
1,2-Dichloropropane	<0.500	<2.31	0.500	2.31		TO-15	03/31/2015	JY
1,3,5-Trimethylbenzene	9.85	48.4	0.300	1.47		TO-15	03/31/2015	JY
1,3-Butadiene	<0.500	<1.11	0.500	1.11		TO-15	03/31/2015	JY
1,3-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	03/31/2015	JY
1,4-Dichlorobenzene	<0.300	<1.80	0.300	1.80		TO-15	03/31/2015	JY
1,4-Dioxane	<1.00	<3.60	1.00	3.60		TO-15	03/31/2015	JY
(MEK) 2-Butanone	1.36	4.00	0.500	1.47		TO-15	03/31/2015	JY
2-Hexanone	<1.00	<4.10	1.00	4.10		TO-15	03/31/2015	JY
Isopropyl Alcohol	8.02	19.7	8.00	19.7		TO-15	03/31/2015	JY
4-Methyl-2-pentanone (MIBK)	2.67	11.0	1.00	4.10		TO-15	03/31/2015	JY
Acetone	87.3	207	8.00	19.0		TO-15	03/31/2015	JY
Acrolein	<0.500	<1.15	0.500	1.15		TO-15	03/31/2015	JY
Benzene	0.654	2.09	0.200	0.639		TO-15	03/31/2015	JY
Benzyl chloride	<0.500	<2.59	0.500	2.59		TO-15	03/31/2015	JY
Dichlorobromomethane	<0.300	<2.01	0.300	2.01		TO-15	03/31/2015	JY
Bromoform	<0.200	<2.07	0.200	2.07		TO-15	03/31/2015	JY
Bromomethane	<0.500	<1.94	0.500	1.94		TO-15	03/31/2015	JY
Carbon disulfide	<1.50	<4.67	1.50	4.67		TO-15	03/31/2015	JY
Carbon tetrachloride	<0.200	<1.26	0.200	1.26		TO-15	03/31/2015	JY

Client: **Aspect Consulting**
WorkOrder: 1503256
Project: Walker Chevrolet

Client Sample ID: SS-FPB-032015
Lab ID: 1503256-001A
Sample Type: Summa Canister

Date Sampled: 3/20/2015
Date Received: 3/24/2015

Volatile Organic Compounds by EPA Method TO-15

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
Chlorobenzene	<0.200	<0.921	0.200	0.921		TO-15	03/31/2015	JY
Dibromochloromethane	<0.500	<4.26	0.500	4.26		TO-15	03/31/2015	JY
Chloroethane	<0.500	<1.32	0.500	1.32		TO-15	03/31/2015	JY
Chloroform	1.15	5.61	0.200	0.977		TO-15	03/31/2015	JY
Chloromethane	<0.500	<1.03	0.500	1.03		TO-15	03/31/2015	JY
cis-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793		TO-15	03/31/2015	JY
cis-1,3-dichloropropene	<0.500	<2.27	0.500	2.27		TO-15	03/31/2015	JY
Cyclohexane	<0.200	<0.688	0.200	0.688		TO-15	03/31/2015	JY
Dichlorodifluoromethane (CFC-12)	0.426	2.11	0.300	1.48		TO-15	03/31/2015	JY
Dichlorotetrafluoroethane (CFC-114)	<0.500	<3.50	0.500	3.50		TO-15	03/31/2015	JY
Ethyl acetate	<1.00	<3.60	1.00	3.60		TO-15	03/31/2015	JY
Ethylbenzene	2.94	12.8	0.300	1.30		TO-15	03/31/2015	JY
Heptane	<0.500	<2.01	0.500	2.01		TO-15	03/31/2015	JY
Hexachlorobutadiene	<1.00	<10.7	1.00	10.7		TO-15	03/31/2015	JY
m,p-Xylene	20.7	90.0	0.200	0.868		TO-15	03/31/2015	JY
Methyl methacrylate	<0.300	<1.23	0.300	1.23		TO-15	03/31/2015	JY
Methylene chloride	<1.50	<5.21	1.50	5.21		TO-15	03/31/2015	JY
Naphthalene	<0.300	<1.57	0.300	1.57		TO-15	03/31/2015	JY
Hexane	0.853	3.01	0.200	0.705		TO-15	03/31/2015	JY
o-Xylene	9.75	42.3	1.60	6.95		TO-15	03/31/2015	JY
4-Ethyltoluene	2.56	12.6	0.300	1.47		TO-15	03/31/2015	JY
Propylene	6.61	11.4	0.500	0.861		TO-15	03/31/2015	JY
Styrene	<0.300	<1.28	0.300	1.28		TO-15	03/31/2015	JY
Methyl tert-butyl ether (MTBE)	<0.200	<0.721	0.200	0.721		TO-15	03/31/2015	JY
Tetrachloroethene (PCE)	<0.300	<2.03	0.300	2.03		TO-15	03/31/2015	JY
Tetrahydrofuran	<0.500	<1.47	0.500	1.47		TO-15	03/31/2015	JY
Toluene	1.05	3.94	0.200	0.754		TO-15	03/31/2015	JY
trans-1,2-Dichloroethene	<0.200	<0.793	0.200	0.793		TO-15	03/31/2015	JY
trans-1,3-dichloropropene	<0.500	<2.27	0.500	2.27		TO-15	03/31/2015	JY
Trichloroethene (TCE)	<0.200	<1.07	0.200	1.07		TO-15	03/31/2015	JY

Client: **Aspect Consulting**
WorkOrder: 1503256
Project: Walker Chevrolet

Client Sample ID: SS-FPB-032015
Lab ID: 1503256-001A
Sample Type: Summa Canister

Date Sampled: 3/20/2015
Date Received: 3/24/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds by EPA Method TO-15								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
Trichlorofluoromethane (CFC-11)	<0.300	<1.69	0.300	1.69		TO-15	03/31/2015	JY
Vinyl acetate	<1.00	<3.52	1.00	3.52		TO-15	03/31/2015	JY
Vinyl chloride	<0.200	<0.511	0.200	0.511		TO-15	03/31/2015	JY
Surr: 4-Bromofluorobenzene	98.0 %Rec	--	70-130	--		TO-15	03/31/2015	JY

Client: **Aspect Consulting**
WorkOrder: 1503256
Project: Walker Chevrolet

Client Sample ID: IA-FPB-032315
Lab ID: 1503256-002A
Sample Type: Summa Canister

Date Sampled: 3/23/2015
Date Received: 3/24/2015

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Analyte	Concentration (ppbv)	Concentration (ug/m³)	Reporting Limit (ppbv)	Reporting Limit (ug/m³)	Qual	Method	Date/Analyst	
1,1,1-Trichloroethane	<0.00500	<0.0273	0.00500	0.0273		TO-15	03/30/2015	JY
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	03/30/2015	JY
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	03/30/2015	JY
1,1-Dichloroethane	<0.00800	<0.0324	0.00800	0.0324		TO-15	03/30/2015	JY
1,1-Dichloroethene (DCE)	<0.00900	<0.0357	0.00900	0.0357		TO-15	03/30/2015	JY
1,2,4-Trichlorobenzene	<0.0500	<0.371	0.0500	0.371		TO-15	03/30/2015	JY
1,2,4-Trimethylbenzene	<0.0730	<0.359	0.0730	0.359		TO-15	03/30/2015	JY
1,2-Dibromoethane (EDB)	<0.0200	<0.154	0.0200	0.154		TO-15	03/30/2015	JY
1,2-Dichloroethane	1.54	6.24	0.0200	0.0809		TO-15	03/30/2015	JY
1,4-Dioxane	<1.00	<3.60	1.00	3.60	*	TO-15	03/30/2015	JY
Benzene	0.716	2.29	0.0400	0.128		TO-15	03/30/2015	JY
Carbon tetrachloride	0.104	0.657	0.0200	0.126		TO-15	03/30/2015	JY
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	03/30/2015	JY
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	03/30/2015	JY
Chloroform	0.447	2.18	0.0200	0.0977		TO-15	03/30/2015	JY
Chloromethane	1.06	2.18	0.400	0.826		TO-15	03/30/2015	JY
cis-1,2-Dichloroethene	<0.0200	<0.0793	0.0200	0.0793		TO-15	03/30/2015	JY
Ethylbenzene	0.407	1.77	0.0500	0.217		TO-15	03/30/2015	JY
Hexachlorobutadiene	0.136	1.45	0.0166	0.177		TO-15	03/30/2015	JY
m,p-Xylene	1.48	6.44	0.0600	0.261		TO-15	03/30/2015	JY
Methylene chloride	0.462	1.61	0.0600	0.208		TO-15	03/30/2015	JY
Naphthalene	<0.300	<1.57	0.300	1.57		TO-15	03/30/2015	JY
Hexane	0.802	2.83	0.0700	0.247		TO-15	03/30/2015	JY
o-Xylene	0.431	1.87	0.0400	0.174		TO-15	03/30/2015	JY
Methyl tert-butyl ether (MTBE)	<0.00900	<0.0324	0.00900	0.0324		TO-15	03/30/2015	JY
Tetrachloroethene (PCE)	0.410	2.78	0.0500	0.339		TO-15	03/30/2015	JY
Toluene	2.88	10.9	0.0500	0.188		TO-15	03/30/2015	JY
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	03/30/2015	JY
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		TO-15	03/30/2015	JY
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	03/30/2015	JY

Client: **Aspect Consulting**
WorkOrder: 1503256
Project: Walker Chevrolet

Client Sample ID: IA-FPB-032315
Lab ID: 1503256-002A
Sample Type: Summa Canister

Date Sampled: 3/23/2015
Date Received: 3/24/2015

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Volatile Organic Compounds-EPA Method TO-15 (SIM)								
	(ppbv)	**(ug/m³)**	**(ppbv)**	**(ug/m³)**				
Surr: 4-Bromofluorobenzene	95.0 %Rec	--	70-130	--		TO-15	03/30/2015	JY

NOTES:
* - Flagged value is not within established control limits.

Date: *4/23/2015*

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Petroleum Fractionation by EPA Method TO-15

Sample ID **1503255-001AREP** SampType: **REP** Units: **µg/m³** Prep Date: **3/31/2015** RunNo: **21569**
Client ID: **BATCH** Batch ID: **R21569** Analysis Date: **3/31/2015** SeqNo: **409203**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	229	147						240.7	5.09	30	
Aliphatic Hydrocarbon (EC9-12)	214	94.2						209.1	2.20	30	
Aromatic Hydrocarbon (EC9-10)	153	4.54						149.1	2.27	30	
Surr: 4-Bromofluorobenzene	10.2		10.00		102	70	130		0	30	

Sample ID **LCS-R21569** SampType: **LCS** Units: **µg/m³** Prep Date: **3/30/2015** RunNo: **21569**
Client ID: **LCSW** Batch ID: **R21569** Analysis Date: **3/30/2015** SeqNo: **409210**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	114	147	113.9	0	99.8	70	130				
Aliphatic Hydrocarbon (EC9-12)	167	94.2	177.0	0	94.3	70	130				
Aromatic Hydrocarbon (EC9-10)	119	4.54	125.8	0	94.5	70	130				
Surr: 4-Bromofluorobenzene	10.1		10.00		101	70	130				

Sample ID **MB-R21569** SampType: **MBLK** Units: **µg/m³** Prep Date: **3/30/2015** RunNo: **21569**
Client ID: **MBLKW** Batch ID: **R21569** Analysis Date: **3/30/2015** SeqNo: **409211**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (EC5-8)	ND	147									
Aliphatic Hydrocarbon (EC9-12)	ND	94.2									
Aromatic Hydrocarbon (EC9-10)	ND	4.54									
Surr: 4-Bromofluorobenzene	9.28		10.00		92.8	70	130				

Date: *4/23/2015*

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Helium by GC/TCD

Sample ID	1503255-001AREP	SampType:	REP			Units:	ppmv	Prep Date:	3/31/2015		RunNo:	21574	
Client ID:	BATCH	Batch ID:	R21574					Analysis Date:	3/31/2015		SeqNo:	409291	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Helium		ND	30.2						0		30		

Sample ID	LCS-R21574	SampType:	LCS			Units:	ppmv	Prep Date:	3/31/2015		RunNo:	21574	
Client ID:	LCSW	Batch ID:	R21574					Analysis Date:	3/31/2015		SeqNo:	409295	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Helium		176,000	100	200,000	0	88.2	80	120					

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **1503255-001AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/31/2015** RunNo: **21559**
Client ID: **BATCH** Batch ID: **R21559** Analysis Date: **3/31/2015** SeqNo: **409019**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Propylene	1.18	0.500						1.228	3.79	30	
Dichlorodifluoromethane (CFC-12)	0.494	0.300						0.5186	4.88	30	
Chloromethane	ND	0.500						0		30	
Dichlorotetrafluoroethane (CFC-114)	ND	0.500						0		30	
Vinyl chloride	ND	0.200						0		30	
1,3-Butadiene	ND	0.500						0		30	
Bromomethane	ND	0.500						0		30	
Trichlorofluoromethane (CFC-11)	1.69	0.300						1.705	0.990	30	
Chloroethane	ND	0.500						0		30	
Acrolein	ND	0.500						0		30	
1,1-Dichloroethene (DCE)	ND	0.200						0		30	
Acetone	315	1.00						315.0	0.0766	30	E
Isopropyl Alcohol	15.0	1.00						13.06	13.6	30	E
Methylene chloride	ND	1.50						0		30	
Carbon disulfide	ND	1.50						0		30	
trans-1,2-Dichloroethene	ND	0.200						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.200						0		30	
Hexane	0.670	0.200						0.6649	0.824	30	
1,1-Dichloroethane	ND	0.200						0		30	
Vinyl acetate	ND	1.00						0		30	
cis-1,2-Dichloroethene	ND	0.200						0		30	
(MEK) 2-Butanone	3.35	0.500						3.677	9.31	30	
Ethyl acetate	ND	1.00						0		30	
Chloroform	0.252	0.200						0.2530	0.436	30	
Tetrahydrofuran	ND	0.500						0		30	
1,1,1-Trichloroethane	ND	0.200						0		30	
Carbon tetrachloride	ND	0.200						0		30	
1,2-Dichloroethane	ND	0.200						0		30	
Benzene	0.350	0.200						0.3556	1.47	30	
Cyclohexane	ND	0.200						0		30	
Trichloroethene (TCE)	ND	0.200						0		30	

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **1503255-001AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/31/2015** RunNo: **21559**
Client ID: **BATCH** Batch ID: **R21559** Analysis Date: **3/31/2015** SeqNo: **409019**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	0.500						0		30	
Methyl methacrylate	ND	0.300						0		30	
Dichlorobromomethane	ND	0.300						0		30	
1,4-Dioxane	ND	1.00						0		30	
cis-1,3-dichloropropene	ND	0.500						0		30	
Toluene	3.09	0.200						3.178	2.87	30	
trans-1,3-dichloropropene	ND	0.500						0		30	
1,1,2-Trichloroethane (TCA)	ND	0.500						0		30	
Tetrachloroethene (PCE)	ND	0.300						0		30	
Dibromochloromethane	ND	0.500						0		30	
1,2-Dibromoethane (EDB)	ND	0.200						0		30	
Chlorobenzene	ND	0.200						0		30	
Ethylbenzene	0.553	0.300						0.5490	0.726	30	
m,p-Xylene	3.00	0.200						3.025	0.657	30	
o-Xylene	0.518	0.200						0.5104	1.38	30	
Styrene	ND	0.300						0		30	
Bromoform	ND	0.200						0		30	
1,1,2,2-Tetrachloroethane	ND	0.300						0		30	
1,3,5-Trimethylbenzene	ND	0.300						0		30	
1,2,4-Trimethylbenzene	1.25	0.300						1.252	0.160	30	
Benzyl chloride	ND	0.500						0		30	
4-Ethyltoluene	0.854	0.300						0.8546	0.0234	30	
1,3-Dichlorobenzene	ND	0.300						0		30	
1,4-Dichlorobenzene	ND	0.300						0		30	
1,2-Dichlorobenzene	ND	0.300						0		30	
1,2,4-Trichlorobenzene	ND	0.300						0		30	
Hexachlorobutadiene	ND	1.00						0		30	
Naphthalene	2.56	0.300						2.480	2.98	30	
2-Hexanone	ND	1.00						0		30	
4-Methyl-2-pentanone (MIBK)	ND	1.00						0		30	
CFC-113	ND	0.500						0		30	

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **1503255-001AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/31/2015** RunNo: **21559**
Client ID: **BATCH** Batch ID: **R21559** Analysis Date: **3/31/2015** SeqNo: **409019**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptane	ND	0.500						0		30	
Surr: 4-Bromofluorobenzene	10.1		10.00		101	70	130		0		

Sample ID **LCS-R21559** SampType: **LCS** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **LCSW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409025**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Propylene	4.95	0.500	5.000	0	99.1	70	130				
Dichlorodifluoromethane (CFC-12)	5.10	0.300	5.000	0	102	70	130				
Chloromethane	3.79	0.500	5.000	0	75.8	70	130				
Dichlorotetrafluoroethane (CFC-114)	3.78	0.500	5.000	0	75.6	70	130				
Vinyl chloride	3.70	0.200	5.000	0	73.9	70	130				
1,3-Butadiene	5.73	0.500	5.000	0	115	70	130				
Bromomethane	4.68	0.500	5.000	0	93.6	70	130				
Trichlorofluoromethane (CFC-11)	4.65	0.300	5.000	0	93.0	70	130				
Chloroethane	4.75	0.500	5.000	0	95.1	70	130				
Acrolein	5.47	0.500	5.000	0	109	70	130				
1,1-Dichloroethene (DCE)	5.06	0.200	5.000	0	101	70	130				
Acetone	5.16	1.00	5.000	0	103	70	130				
Isopropyl Alcohol	5.59	1.00	5.000	0	112	70	130				
Methylene chloride	4.99	1.50	5.000	0	99.7	70	130				
Carbon disulfide	4.73	1.50	5.000	0	94.6	70	130				
trans-1,2-Dichloroethene	5.02	0.200	5.000	0	100	70	130				
Methyl tert-butyl ether (MTBE)	5.49	0.200	5.000	0	110	70	130				
Hexane	5.05	0.200	5.000	0	101	70	130				
1,1-Dichloroethane	4.85	0.200	5.000	0	97.0	70	130				
Vinyl acetate	5.51	1.00	5.000	0	110	70	130				
cis-1,2-Dichloroethene	5.18	0.200	5.000	0	104	70	130				
(MEK) 2-Butanone	5.83	0.500	5.000	0	117	70	130				
Ethyl acetate	5.57	1.00	5.000	0	111	70	130				
Chloroform	4.75	0.200	5.000	0	95.1	70	130				

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **LCS-R21559** SampType: **LCS** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **LCSW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409025**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	5.07	0.500	5.000	0	101	70	130				
1,1,1-Trichloroethane	4.80	0.200	5.000	0	96.0	70	130				
Carbon tetrachloride	4.79	0.200	5.000	0	95.8	70	130				
1,2-Dichloroethane	4.88	0.200	5.000	0	97.5	70	130				
Benzene	5.13	0.200	5.000	0	103	70	130				
Cyclohexane	5.07	0.200	5.000	0	101	70	130				
Trichloroethene (TCE)	5.18	0.200	5.000	0	104	70	130				
1,2-Dichloropropane	5.11	0.500	5.000	0	102	70	130				
Methyl methacrylate	6.05	0.300	5.000	0	121	70	130				
Dichlorobromomethane	5.04	0.300	5.000	0	101	70	130				
1,4-Dioxane	6.08	1.00	5.000	0	122	70	130				
cis-1,3-dichloropropene	5.59	0.500	5.000	0	112	70	130				
Toluene	5.70	0.200	5.000	0	114	70	130				
trans-1,3-dichloropropene	5.81	0.500	5.000	0	116	70	130				
1,1,2-Trichloroethane (TCA)	5.18	0.500	5.000	0	104	70	130				
Tetrachloroethene (PCE)	5.50	0.300	5.000	0	110	70	130				
Dibromochloromethane	5.26	0.500	5.000	0	105	70	130				
1,2-Dibromoethane (EDB)	5.43	0.200	5.000	0	109	70	130				
Chlorobenzene	5.34	0.200	5.000	0	107	70	130				
Ethylbenzene	5.88	0.300	5.000	0	118	70	130				
m,p-Xylene	11.2	0.200	10.00	0	112	70	130				
o-Xylene	5.65	0.200	5.000	0	113	70	130				
Styrene	5.13	0.300	5.000	0	103	70	130				
Bromoform	5.44	0.200	5.000	0	109	70	130				
1,1,2,2-Tetrachloroethane	5.29	0.300	5.000	0	106	70	130				
1,3,5-Trimethylbenzene	5.69	0.300	5.000	0	114	70	130				
1,2,4-Trimethylbenzene	4.95	0.300	5.000	0	99.0	70	130				
Benzyl chloride	4.96	0.500	5.000	0	99.2	70	130				
4-Ethyltoluene	5.00	0.300	5.000	0	100	70	130				
1,3-Dichlorobenzene	5.23	0.300	5.000	0	105	70	130				
1,4-Dichlorobenzene	5.46	0.300	5.000	0	109	70	130				

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **LCS-R21559** SampType: **LCS** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **LCSW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409025**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	5.86	0.300	5.000	0	117	70	130				
1,2,4-Trichlorobenzene	5.55	0.300	5.000	0	111	70	130				
Hexachlorobutadiene	5.12	1.00	5.000	0	103	70	130				
Naphthalene	5.24	0.300	5.000	0	105	70	130				
2-Hexanone	5.36	1.00	5.000	0	107	70	130				
4-Methyl-2-pentanone (MIBK)	5.96	1.00	5.000	0	119	70	130				
CFC-113	4.65	0.500	5.000	0	92.9	70	130				
Heptane	5.33	0.500	5.000	0	107	70	130				
Surr: 4-Bromofluorobenzene	10.3		10.00		103	70	130				

Sample ID **MB-R21559** SampType: **MBLK** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **MBLKW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409026**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Propylene	ND	0.500									
Dichlorodifluoromethane (CFC-12)	ND	0.300									
Chloromethane	ND	0.500									
Dichlorotetrafluoroethane (CFC-114)	ND	0.500									
Vinyl chloride	ND	0.200									
1,3-Butadiene	ND	0.500									
Bromomethane	ND	0.500									
Trichlorofluoromethane (CFC-11)	ND	0.300									
Chloroethane	ND	0.500									
Acrolein	ND	0.500									
1,1-Dichloroethene (DCE)	ND	0.200									
Acetone	ND	1.00									
Isopropyl Alcohol	ND	1.00									
Methylene chloride	ND	1.50									
Carbon disulfide	ND	1.50									
trans-1,2-Dichloroethene	ND	0.200									
Methyl tert-butyl ether (MTBE)	ND	0.200									

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **MB-R21559** SampType: **MBLK** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **MBLKW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409026**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexane	ND	0.200									
1,1-Dichloroethane	ND	0.200									
Vinyl acetate	ND	1.00									
cis-1,2-Dichloroethene	ND	0.200									
(MEK) 2-Butanone	ND	0.500									
Ethyl acetate	ND	1.00									
Chloroform	ND	0.200									
Tetrahydrofuran	ND	0.500									
1,1,1-Trichloroethane	ND	0.200									
Carbon tetrachloride	ND	0.200									
1,2-Dichloroethane	ND	0.200									
Benzene	ND	0.200									
Cyclohexane	ND	0.200									
Trichloroethene (TCE)	ND	0.200									
1,2-Dichloropropane	ND	0.500									
Methyl methacrylate	ND	0.300									
Dichlorobromomethane	ND	0.300									
1,4-Dioxane	ND	1.00									
cis-1,3-dichloropropene	ND	0.500									
Toluene	ND	0.200									
trans-1,3-dichloropropene	ND	0.500									
1,1,2-Trichloroethane (TCA)	ND	0.500									
Tetrachloroethene (PCE)	ND	0.300									
Dibromochloromethane	ND	0.500									
1,2-Dibromoethane (EDB)	ND	0.200									
Chlorobenzene	ND	0.200									
Ethylbenzene	ND	0.300									
m,p-Xylene	ND	0.200									
o-Xylene	ND	0.200									
Styrene	ND	0.300									
Bromoform	ND	0.200									

Date: *4/23/2015*

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method TO-15

Sample ID **MB-R21559** SampType: **MBLK** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21559**
Client ID: **MBLKW** Batch ID: **R21559** Analysis Date: **3/30/2015** SeqNo: **409026**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.300									
1,3,5-Trimethylbenzene	ND	0.300									
1,2,4-Trimethylbenzene	ND	0.300									
Benzyl chloride	ND	0.500									
4-Ethyltoluene	ND	0.300									
1,3-Dichlorobenzene	ND	0.300									
1,4-Dichlorobenzene	ND	0.300									
1,2-Dichlorobenzene	ND	0.300									
1,2,4-Trichlorobenzene	ND	0.300									
Hexachlorobutadiene	ND	1.00									
Naphthalene	ND	0.300									
2-Hexanone	ND	1.00									
4-Methyl-2-pentanone (MIBK)	ND	1.00									
CFC-113	ND	0.500									
Heptane	ND	0.500									
Surr: 4-Bromofluorobenzene	9.21		10.00		92.1	70	130				

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **1503256-002AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **IA-FPB-032315** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408832**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	1.16	0.400						1.056	9.21	30	
Vinyl chloride	ND	0.0850						0		30	
Chloroethane	ND	0.0980						0		30	
1,1-Dichloroethene (DCE)	ND	0.00900						0		30	
Methylene chloride	0.461	0.0600						0.4620	0.130	30	
trans-1,2-Dichloroethene	ND	0.00600						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.00900						0		30	
Hexane	0.802	0.0700						0.8025	0.0623	30	
1,1-Dichloroethane	ND	0.00800						0		30	
cis-1,2-Dichloroethene	ND	0.0200						0		30	
Chloroform	0.437	0.0200						0.4470	2.22	30	
1,1,1-Trichloroethane	ND	0.00500						0		30	
Carbon tetrachloride	0.102	0.0200						0.1044	2.33	30	
1,2-Dichloroethane	1.49	0.0200						1.542	3.70	30	
Benzene	0.714	0.0400						0.7164	0.406	30	
Trichloroethene (TCE)	ND	0.0170						0		30	
1,4-Dioxane	ND	1.00						0		30	*
Toluene	2.96	0.0500						2.882	2.66	30	
1,1,2-Trichloroethane (TCA)	ND	0.0200						0		30	
Tetrachloroethene (PCE)	0.412	0.0500						0.4100	0.559	30	
1,2-Dibromoethane (EDB)	ND	0.0200						0		30	
Chlorobenzene	ND	0.0700						0		30	
Ethylbenzene	0.434	0.0500						0.4068	6.42	30	
m,p-Xylene	1.45	0.0600						1.482	2.48	30	
o-Xylene	0.427	0.0400						0.4314	1.10	30	
1,1,2,2-Tetrachloroethane	ND	0.00620						0		30	
1,2,4-Trimethylbenzene	ND	0.0730						0		30	
1,2,4-Trichlorobenzene	ND	0.0500						0		30	
Hexachlorobutadiene	0.130	0.0166						0.1359	4.05	30	
Naphthalene	ND	0.300						0		30	
Surr: 4-Bromofluorobenzene	9.39		10.00		93.9	70	130		0		

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **1503256-002AREP** SampType: **REP** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **IA-FPB-032315** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408832**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
* - Flagged value is not within established control limits.

Sample ID **LCS-R21551** SampType: **LCS** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **LCSW** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408834**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	10.1	0.400	10.00	0	101	70	130				
Vinyl chloride	10.7	0.0850	10.00	0	107	70	130				
Chloroethane	9.04	0.0980	10.00	0	90.4	70	130				
1,1-Dichloroethene (DCE)	9.58	0.00900	10.00	0	95.8	70	130				
Methylene chloride	10.6	0.0600	10.00	0	106	70	130				
trans-1,2-Dichloroethene	9.01	0.00600	10.00	0	90.1	70	130				
Methyl tert-butyl ether (MTBE)	9.73	0.00900	10.00	0	97.3	70	130				
Hexane	10.0	0.0700	10.00	0	100	70	130				
1,1-Dichloroethane	9.97	0.00800	10.00	0	99.7	70	130				
cis-1,2-Dichloroethene	9.83	0.0200	10.00	0	98.3	70	130				
Chloroform	10.5	0.0200	10.00	0	105	70	130				
1,1,1-Trichloroethane	10.3	0.00500	10.00	0	103	70	130				
Carbon tetrachloride	10.6	0.0200	10.00	0	106	70	130				
1,2-Dichloroethane	10.7	0.0200	10.00	0	107	70	130				
Benzene	9.51	0.0400	10.00	0	95.1	70	130				
Trichloroethene (TCE)	10.5	0.0170	10.00	0	105	70	130				
1,4-Dioxane	11.2	1.00	20.00	0	55.8	70	130				S
Toluene	10.4	0.0500	10.00	0	104	70	130				
1,1,2-Trichloroethane (TCA)	10.4	0.0200	10.00	0	104	70	130				
Tetrachloroethene (PCE)	10.1	0.0500	10.00	0	101	70	130				
1,2-Dibromoethane (EDB)	10.4	0.0200	10.00	0	104	70	130				
Chlorobenzene	10.2	0.0700	10.00	0	102	70	130				
Ethylbenzene	10.6	0.0500	10.00	0	106	70	130				
m,p-Xylene	21.6	0.0600	20.00	0	108	70	130				
o-Xylene	11.0	0.0400	10.00	0	110	70	130				

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **LCS-R21551** SampType: **LCS** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **LCSW** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408834**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	10.4	0.0500	10.00	0	104	70	130				
Hexachlorobutadiene	9.93	0.0166	10.00	0	99.3	70	130				
Surr: 4-Bromofluorobenzene	42.7		40.00		107	70	130				

NOTES:
S - Outlying spike recovery observed for 1,4-Dioxane (low bias). Sample will be qualified with an *.

Sample ID **MB-R21551** SampType: **MBLK** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **MBLKW** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408835**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	ND	0.400									
Vinyl chloride	ND	0.0850									
Chloroethane	ND	0.0980									
1,1-Dichloroethene (DCE)	ND	0.00900									
Methylene chloride	ND	0.0600									
trans-1,2-Dichloroethene	ND	0.00600									
Methyl tert-butyl ether (MTBE)	ND	0.00900									
Hexane	ND	0.0700									
1,1-Dichloroethane	ND	0.00800									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane	ND	0.00500									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane	ND	0.0200									
Benzene	ND	0.0400									
Trichloroethene (TCE)	ND	0.0170									
1,4-Dioxane	ND	1.00									*
Toluene	ND	0.0500									
1,1,2-Trichloroethane (TCA)	ND	0.0200									
Tetrachloroethene (PCE)	ND	0.0500									
1,2-Dibromoethane (EDB)	ND	0.0200									
Chlorobenzene	ND	0.0700									

Date: *4/23/2015*

Work Order: 1503256
CLIENT: Aspect Consulting
Project: Walker Chevrolet

QC SUMMARY REPORT

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID **MB-R21551** SampType: **MBLK** Units: **ppbv** Prep Date: **3/30/2015** RunNo: **21551**
Client ID: **MBLKW** Batch ID: **R21551** Analysis Date: **3/30/2015** SeqNo: **408835**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	ND	0.0500									
m,p-Xylene	ND	0.0600									
o-Xylene	ND	0.0400									
1,2,4-Trichlorobenzene	ND	0.0500									
Hexachlorobutadiene	ND	0.0166									
Surr: 4-Bromofluorobenzene	9.86		10.00		98.6	70	130				

NOTES:
* - Flagged value is not within established control limits.

Sample Log-In Check List

Client Name:	**AC**	Work Order Number:	**1503256**
Logged by:	**Clare Griggs**	Date Received:	**3/24/2015 11:18:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☐	No ☑	NA ☐
		Air Samples		
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☐	No ☐	NA ☑
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Per client request, analyte 1,4 Dioxane added to TO15 SIM analysis.

Item Information

Air Chain of Custody Record - Whole Air Sample

Fremont Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 3/23/15

Laboratory Project No (Internal): 1503256

Page: 1 of: 1

Client: Aspect Consulting

Address:

City, State, Zip: Tel:

Reports To (PM): Alan Nevell / Eric Eensinger Email: anevell@aspectconsulting.com

Project Name: Walker Chevrolet

Location: Tacoma, WA

Collected by: Eric Eensinger

Project No: 032190

* Gas Matrix Codes: I = Indoor SS = Subslab L = Landfill SG = Soil Gas M = Plume Mapping Q = Fuel Gas Quality L = LEED (Consult Client Services)

** Container Codes: 6L = Six Liter Canister (Summa) TB = Tedlar Bag BV = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Cylinder HJ = Glass Headspace Jar

	Sample Name	Canister / Flow Reg Serial #	Sample Date & Time	Gas Matrix Code *	Anticipated Fill Time	Sample Volume	Container Type **	Internal: Evacuation Pressure (mtorr)	Internal: Pressure at Time of Pick-up (" Hg)	Internal: Equipment Certificaton Code	Field Initial Sample Pressure (" Hg)	Field Final Sample Pressure (" Hg)	Analysis Requested	Internal: Receipt Date	Internal: Final (psi)
1	SS-FPB-032015	17649	3/20/15	SS	70min	6L	Summa	10mtorr			-30	-5	- Full TO-15 - MAAP11 - ~~He~~ He -3C	3/21	-5
		FR70-05	0700					3/19/15 9:00			0810	0710		3/15	
2	IA-FPB-032015	12668	3/20/15	I	8hr	6L	Summa	10mtorr			-30	-5	-Full TO-15 SIM -MAAP11 -He by 3C	03/21	-6
		FR8-24	1420					3/19/15 9:00			0723	1421		0945	
3															
4															
5															

Rental Equipment (Circle all that apply): Manifold Mini-Pump Fittings Tedlar Bags Canisters Flow Controllers Helium Cylinder Flouridated Tubing Wrench

Condition:	Seals Intact: Y N N/A	Client Consult: Y( ) N( )	Special Remarks:
Relinquished x [signature]	Date/Time 3/23/15	Relinquished x	Date/Time
Relinquished x	Date/Time	Relinquished x [signature]	Date/Time 3/24/15 1118
			TAT --> STD Rush (specify)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 23, 2016

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

Dear Mr. Noell:

Included are the results from the testing of material submitted on May 10, 2016 from the Walker 080190, F&BI 605154 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: data@aspectconsulting.com
ASP0523R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 10, 2016 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker 080190, F&BI 605154 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
605154 -01	SSV-051016

Methylene chloride was detected in sample SSV-051016. The data were flagged as likely due to laboratory contamination.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-051016	Client:	Aspect Consulting, LLC
Date Received:	05/10/16	Project:	Walker 080190, F&BI 605154
Date Collected:	05/10/16	Lab ID:	605154-01
Date Analyzed:	05/19/16	Data File:	051905.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

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

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.4	<0.1
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.54	<0.1
Tetrachloroethene	<0.68	<0.1
Methylene chloride	130 lc	38 lc
Benzene	0.97	0.30
Toluene	8.7	2.3
Ethylbenzene	4.8	1.1
m,p-Xylene	23	5.2
o-Xylene	8.0	1.8
Naphthalene	1.0	0.20

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker 080190, F&BI 605154
Date Collected:	05/19/16	Lab ID:	06-974 mb
Date Analyzed:	05/19/16	Data File:	051904.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3	Concentration ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<0.26	<0.1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.4	<0.1
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.54	<0.1
Tetrachloroethene	<0.68	<0.1
Methylene chloride	<17	<5
Benzene	<0.32	<0.1
Toluene	<0.38	<0.1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.52	<0.1

Date of Report: 05/23/16
Date Received: 05/10/16
Project: Walker 080190, F&BI 605154

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ppbv	10	110	70-130
Chloroethane	ppbv	10	109	70-130
1,1-Dichloroethene	ppbv	10	110	70-130
trans-1,2-Dichloroethene	ppbv	10	109	70-130
Methylene chloride	ppbv	10	96	70-130
1,1-Dichloroethane	ppbv	10	111	70-130
cis-1,2-Dichloroethene	ppbv	10	108	70-130
1,2-Dichloroethane (EDC)	ppbv	10	109	70-130
1,1,1-Trichloroethane	ppbv	10	113	70-130
Benzene	ppbv	10	112	70-130
Trichloroethene	ppbv	10	111	70-130
Toluene	ppbv	10	114	70-130
Tetrachloroethene	ppbv	10	110	70-130
Ethylbenzene	ppbv	10	115	70-130
m,p-Xylene	ppbv	20	118	70-130
o-Xylene	ppbv	10	119	70-130
Naphthalene	ppbv	10	106	70-130

Date of Report: 05/23/16
Date Received: 05/10/16
Project: Walker 080190, F&BI 605154

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ppbv	10	110	70-130
Chloroethane	ppbv	10	109	70-130
1,1-Dichloroethene	ppbv	10	110	70-130
trans-1,2-Dichloroethene	ppbv	10	109	70-130
Methylene chloride	ppbv	10	96	70-130
1,1-Dichloroethane	ppbv	10	111	70-130
cis-1,2-Dichloroethene	ppbv	10	108	70-130
1,2-Dichloroethane (EDC)	ppbv	10	109	70-130
1,1,1-Trichloroethane	ppbv	10	113	70-130
Benzene	ppbv	10	112	70-130
Trichloroethene	ppbv	10	111	70-130
Toluene	ppbv	10	114	70-130
Tetrachloroethene	ppbv	10	110	70-130
Ethylbenzene	ppbv	10	115	70-130
m,p-Xylene	ppbv	20	118	70-130
o-Xylene	ppbv	10	119	70-130
Naphthalene	ppbv	10	106	70-130

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

605154

SAMPLE CHAIN OF CUSTODY ME 05/10/16

Report To ALAN NOEL
Company ASPECT CONSULTING
Address 401 2ND AVE S STE 201
City, State, ZIP SEATTLE, WA 98104
Phone 206.838.6592 Email

SAMPLERS (signature)
PROJECT NAME: WALKER / 080190
PO #
REMARKS: -THANKS-
INVOICE TO

Page # 1 of 1

TURNAROUND TIME
☒ Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Archive Samples
☐ Other

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs		Notes
SSV-051016	01	20543	39-44155	5/10/16	-30	0328	-5	0406		X	X		

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

FORMS\COC\COCTO-15.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		E. KNOEDLER	ASPECT	5/10/16	12:30
Received by:		Jorel Underd	Fedex	5-10-16	12:30
Relinquished by:					
Received by:					

Samples received at 21 °C

APPENDIX H

Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Former Walker Chevrolet	
Facility/Site Address: 633 Division Avenue, Tacoma, Washington 98403	
Facility/Site No: 3427832	VCP Project No.: SW1040

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Alan Noell, P.E.		Title: Remediation Engineer	
Organization: Aspect Consulting, LLC			
Mailing address: 401 2nd Avenue South, Suite 201			
City: Seattle	State: WA	Zip code: 98104	
Phone: 206-838-6592	Fax:	E-mail: anoell@aspectconsulting.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☒ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295