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





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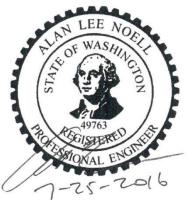
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- F Analytical Results for Groundwater Samples
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Acronyms

af artificial fill (Holocene)

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bgs below ground surface

BTEX benzene, toluene, ethylbenzene, and xylenes

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

μg/m³ 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 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

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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 (Ova). 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 aguitard, 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 (μ g/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 ($\mu g/m^3$) of PCE, which exceeds the 321 $\mu g/m^3$ sub-slab soil gas screening level, but is below the 1,350 $\mu g/m^3$ 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 $270 \,\mu\text{g/m}^3$ 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 $9.6 \,\mu\text{g/m}^3$ 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 vaporphase 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.

Site Name Former Walker Chevrolet Facility/Site No. 3427832 VCP No. SW1040 VCP Site Manager Nick Acklam Stadium District Properties, LLC **Property Owner** 2445 5th Avenue, Suite 210 San Diego, CA 92101 Aspect Consulting, LLC Alan Noell, P.E. Consultant and VCP Customer 401 2nd Avenue South, Suite 201 Seattle, WA 98104 633 Division Avenue Site Address Tacoma, Washington 98403 47° 15' 49" N, 122° 26' 56" W Site Coordinates Public Land System Location T21N, R3E, S32, SW1/4 of NE1/4 Pierce County Parcel Nos. 2031-13-0025 and 2030-12-0032 City of Tacoma Zoning Community Commercial Mixed-Use (CCX)

Table 2 - General Site Information

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. 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 1933³ 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. 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.

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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;
- o Groundwater has not been impacted by soil contamination;
- O 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.
 - o 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

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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 NAVD⁵ 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.

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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:

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- 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 benzene⁶ and the current reuse criteria for Category 3 fill⁷ (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 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 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 (μ g/L) and the PCE concentration was 1.3 μ g/L, which were below the 5 μ g/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 μ g/L in January 2014, which is below the 5 μ g/L Method A groundwater CUL, and chloroform was detected at a concentration of 0.39 μ g/L in January 2014, which is well below the 80 μ g/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 μ g/L, which is well below the 15 μ g/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 dieselrange 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 μ g/L and 6.29 μ g/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 μ g/L. Although the concentration of total arsenic was detected slightly above the 5 μ g/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 μ g/L, which is representative of background concentrations and is well below the 15 μ g/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 μ g/L in the six groundwater samples collected from MW-11, and the 95 percent upper confidence limit (UCL) is 3.81 μ g/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 μ g/L Method A groundwater CUL, and the 95 percent UCL is below the more stringent 4 μ g/L Method B groundwater CUL.

Carbon tetrachloride and chloroform were detected at concentrations ranging from 1.1 to 2.8 μ g/L in May 2009, December 2010, and March 2015, but the concentrations were below the 1 μ g/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 μ g/L federal MCL for carbon tetrachloride and 80 μ g/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 μ g/L of TPH-D detected in March 2015. The concentration of TPH-D was well below the 500 μ g/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 ($\mu g/m^3$), the toluene concentrations ranged from 130 to 240 $\mu g/m^3$, and the concentrations of xylenes ranged from less than 100 to 230 $\mu g/m^3$. Although PCE was detected above the 321 $\mu g/m^3$ Method B sub-slab soil gas screening level in GV-2, the concentration was below the 1,350 $\mu g/m^3$ 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 $270 \,\mu g/m^3$ and the TCE concentration was $1.2 \,\mu g/m^3$, 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 $2.09~\mu g/m^3$ near the produce preparation area drain and at $0.97~\mu g/m^3$ near the impacted soil in borings B11 and B21, which is below the $10.7~\mu g/m^3$ 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 $2.29~\mu g/m^3$ 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 μ g/m³ beneath the sidewalk, 0.61 μ g/m³ inside the cooler, and 2.78 μ g/m³ 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 μ g/m³ Method B indoor air CUL and the 40.4 μ g/m³ 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 $2.29 \,\mu\text{g/m}^3$ in indoor air above the floor drain, but $2.08 \,\mu\text{g/m}^3$ below the slab near the drain and $0.97 \,\mu\text{g/m}^3$ beneath the slab on the east side of the meat counter. Similarly, the concentration of heavier-range aliphatic hydrocarbons was $807 \,\mu\text{g/m}^3$ above the drain, but $311 \,\mu\text{g/m}^3$ below the drain; and the concentration of aromatic hydrocarbons was $576 \,\mu\text{g/m}^3$ above the drain, but $221 \,\mu\text{g/m}^3$ 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 μ g/m³ 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.

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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 μ g/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 μ g/L, which are below the 5 μ g/L Method A groundwater CUL. The 95 percent UCL is 3.8 μ g/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 $\mu g/m^3$. 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 $\mu g/m^3$. 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 μ g/L in six samples collected from May 2009 to February 2016, and the 95 percent UCL is 3.8 μ g/L. The TCE concentrations were below the 5 μ g/L Method A groundwater CUL, and the 95 percent UCL is below the more stringent 4 μ g/L Method B groundwater CUL.

Arsenic was detected in MW-11 at concentrations of 5.15 and 6.29 μ g/L, which exceed the 5 μ g/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 μ g/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/m³ 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/m³ 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/m³ Method B sub-slab soil gas screening level. The PCE concentration was 1,000 µg/m³, which is below the 1.350 ug/m³ modified Method B sub-slab soil gas screening level using a 40-hours-perweek exposure factor for worker exposure. The PCE concentration attenuated to 270 μg/m³ in the same area by January 2014, which is below the 321 μg/m³ standard Method B sub-slab soil gas screening level. PCE was detected at 0.61 µg/m³ inside the pressurized, refrigerated grocery cooler in January 2014, and at 2.78 µg/m³ 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/m³ 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/m³ in indoor air in the produce preparation area, which was higher than the collocated sub-slab soil gas sample, which contained 2.09 µg/m³ 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-footbgs 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

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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 wasteoil 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.

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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 $3.8~\mu g/L$ 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.

12Remedy 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.

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14Limitations

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.

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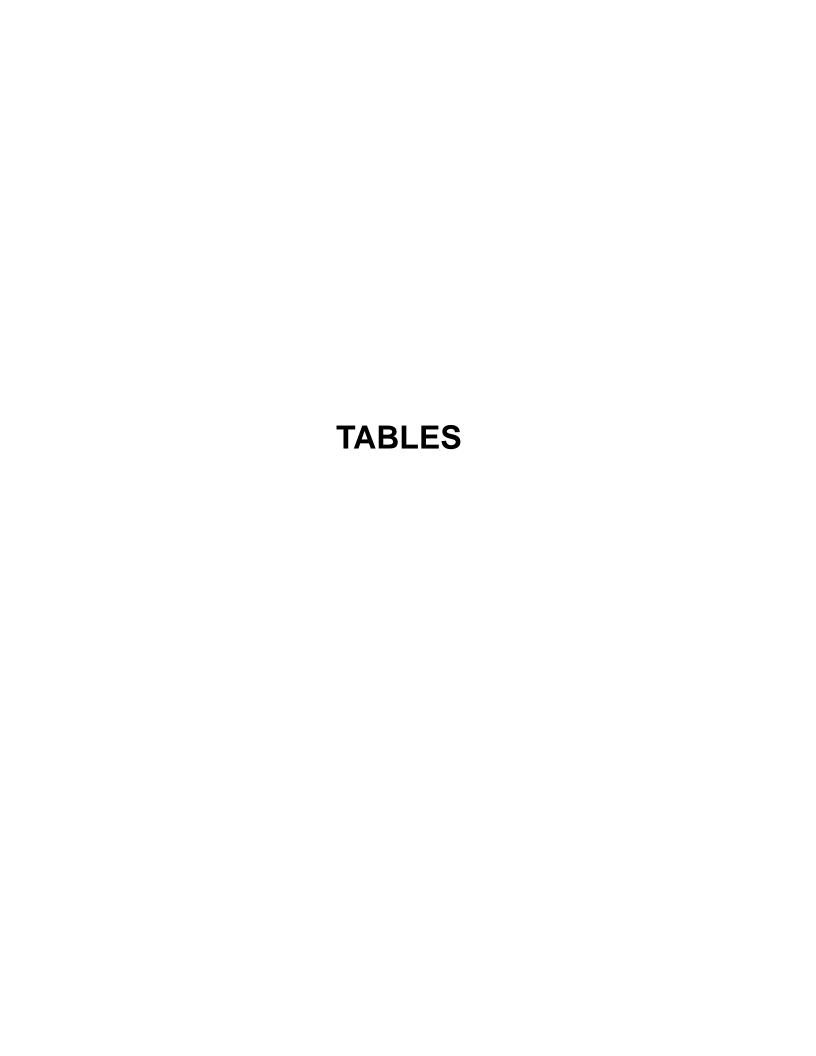


Table 1 - Response to Comments from Ecology

Ecology comments (November 11, 2014)

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.

Response

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 chromatographymass 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 0	Comments from Ecology
Ecology comments (November 11, 2014)	Response
are 0.438 μg/L, 1 mg/kg, and 0.5 μg/m³ 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 C	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	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.
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.	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 nonconsecutive 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 Response **Ecology comments (November 11, 2014)** 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 At the December 18, 2014 meeting, Aspect air evaluation at the Paint Booth/UST location agreed to collect sub-slab soil gas and indoor air were inadequate to provide any meaningful samples adjacent the floor drain in the produce conclusions about the risk of soil vapor intrusion preparation area for the requested COCs. The into the building. The singular indoor air sample highest sub-slab soil gas concentrations of PCE was collected from a produce cooler (a room with were detected in the previous sampling location. beneath sidewalk in front of the former roll-up limited human occupancy for brief periods of time) that was reported to have been built upon the door for the paint booth. PCE was not detected in former Paint Booth/UST. No information was soil gas near the drain. The concentrations of provided as to the integrity of the cooler, or for the benzene and vapor-phase hydrocarbons were building's slab floor in general. The cooler is semihigher in indoor air above the drain than in soil pressurized and contains colder, denser air; not gas below the drain. The FFS Addendum (Aspect, an ideal locale to evaluate soil vapor intrusion. 2015) attributed the hydrocarbon contamination to Ecology guidance indicates that indoor sub-slab indoor sources of chemicals, which are not soil vapor samples need to be collected from subject to MTCA regulation. within the footprint of the building in the Ecology requested additional sampling after contamination source area. Ecology has submission of the FFS Addendum. The VCP Site determined that a high-risk area such as a manager agreed to the collection of a sub-slab continuous work area and public areas are more soil gas sample from above the most appropriate locations to sample indoor air. The contaminated soil sample detected in February sub-slab soil vapor should be evaluated in the 2016. In May 2016, Aspect collected a sub-slab produce cooler staging area and likewise with the soil gas sample near the hydraulic-oil indoor air; there are several floor drains in the contamination (contains PCE) in B11 and lighterarea around the meat and produce coolers that range-hydrocarbon contamination in B21. The are potential soil vapor conduits. Also, there is a sub-slab soil gas sample did not contain substantial asphalt cap between Morrell's site and chlorinated VOCs and hydrocarbons were the Bruce Titus Chevrolet Site; this cap may

provide a subsurface pathway for the soil vapor

Table 1 – Response to Comments from Ecology

Ecology comments (November 11, 2014)

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.

Response

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)

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

Response

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).

relationships.

Table 1 – Response to 0	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

Advance Outwesh Wells Min-1 Former Walker Chevrolat 1022008 Min-2 1022008 Min	Well ID (Site Located)	Date	Vertical Angle	Screened Interval	Top of Casing Elevation (feet, site	Depth to Water	Groundwater Elevation (feet, site
## Sermen Walker Chevrolet 1022/2008	(0 = 0)		g	(feet bgs)	•	(feet)	-
Former Walker Chewrolet		- / /					
S111/2019 S111/2019 S13 68 228 57 277/2012 S12 277 227 32 277/2012 S12 277 227 32 277/2012 S12 277 277/2012 S12 2			0	50 to 65	280.25		
19/20/2016 S.5.8 fs 52/95 227.32	Former warker Chevrolet						
2772012							
Moverell's Dry Cleaners Moverell's Dry Cleaners Moverell's Dry Cleaners Moverell's Dry Cleaners 10/22008 10/22009 10/220							
MW-9 Cleaners 102/2008 59 to 65 278.14 51.50 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.57 228.64 228.65 228.64 228.65 228.64 228.65 228.64 228.65 228.		1/10/2014					
Mourell's Dry Cleaners							
S1/22009 S2.42 225.72 225.72 225.72 225.72 225.74 225.72 225.72 225.72 225.72 225.72 225.72 225.74 225.72			0	50 to 65	278.14		
1222/2010 52.44 225.70	Morrell's Dry Cleaners						
2772012 12712013 1 1 1 1 1 1 1 1 1							
12/12/2013 12/12/2014 11/2015 12/2016							
1/21/2015 51.83 226.31							
9/8/2016 51.77 226.37 226.07 277.07 47 226.07 277.07 47 47 47 47 47 47 47		6/24/2014	Injected 500 ga	Illons of biostimulant (w	ith 400 lbs of 3DMe	Factory Emulsifie	ed and 30 lbs of
MW-9							
MW-9							
Decommissioned 10/2/2008	MM / O		0	F0.4- 07	077 77		
Decommissioned 5/11/2009			0	52 to 67	2//.//	_	
MWY-4 10/25/2010							
MW-9 Morrell's Dry Cleaners (1922/2016) (Decommissioned)	(Decommissioned)						
Morrell's Dry Cleaners 10/2/2008	MW-4		0	49 to 64	278.01		
MW-5					1		
MW-F Morrell's Dry Cleaners 22/2/2008	(Decommissioned)				1	•	
Morrell's Dry Cleaners	NAV 5			# * :			
5/11/2009 52.28 22.58 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.21 22.59 52.28 22.58 51.80 22.58 51.88 22.67 51.61 22.05 22.05 51.61 22.05			0	50 to 65	278.13		
12/22/2010 52.21 225.92 52.26 225.92 19/2014 52.68 225.46 51.38 226.75 51.61 226.52 51.62 226.53 51.61 226.52 51.61 226.52 51.61 226.52 51.61 226.52 51.61 226.52 51.62 226.61 61.38 6	viorreil's Dry Cleaners				1		
2772012					1		
1/9/2014 4/28/2015 52.68 225.45 51.38 225.75 51.61 226.52 29/2016 61.02 2008 64 277.55 61.61 226.52 29/2016 61.02 2008 64 277.55 61.61 226.52 226.61 61.02 226.61 61.02					1		
99/2015 226.61 51.52 226.61							
MW-6							226.75
MW-6 (Morrell's Dry Cleaners (MW-6) (MW-9) (
Morrell's Dry Cleaners 10/2/2008							
Decommissioned 5/11/2009			0	49 to 64	277.55	_	
MW-71	-						-
MW-7 Morrell's Dry Cleaners	Decommissioned)						
Morrell's Dry Cleaners	MW-7		0	50 to 65	279.44		
Sint				00 10 00			
2/6/2012	, i	5/11/2009					
MW-8							
MW-8 Morrell's Dry Cleaners 5/12/2009							
Morrell's Dry Cleaners	144.0			-1. O.	070.44		
12/22/2010 27/72012 53.32 224.82 52.56 225.56			0	51 to 61	278.14		
2/7/2012 12/7/2013	Morrell's Dry Cleaners						
12/7/2013							
6/23/2014							
MW-9			Injected 525 ga	llons of biostimulant (w	ith 400 lbs of 3DMe	,	
MW-9							
WW-9 Morrell's Dry Cleaners (Decommissioned) 5/11/2009 12/22/2010 2/6/2012 12/16/2013 4/29/2015 0 60 to 70 278.78 dry					1		
Morrell's Dry Cleaners 12/22/2010 2/6/2012 dry	MM 0			22	070 70		
Decommissioned 2/6/2012 12/16/2013			0	60 to 70	278.78	_	
12/16/2013 4/29/2015						_	
MW-10	(Decommissioned)						
WW-10							
Morrell's Dry Cleaners (Decommissioned) 12/22/2010 2/6/2012 12/16/2013 4/29/2015 4/29/2015 4/29/2015 4/29/2015 4/29/2015 4/29/2016 52.20 226.32 52.20 226.32 52.24 226.28 1/23/2014 52.69 225.83 3/20/2015 52.07 226.45 4/28/2015 52.09 226.43 52.09 226.43 10/7/2015 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.43 52.09 226.51 52.09 226.43 52.09 226.51 52.09 226.51 52.09 226.43 52.09 226.51 52.09 2	MW-10		0	60 to 70	279.45		
CDecommissioned 2/6/2012 12/16/2013		12/22/2010			1	_	-
MW-11	(Decommissioned)					-	-
MW-11						_	
Former Walker Chevrolet	MA 44			F0 / 00	070.55		
1/23/2014 52.69 225.83 3/20/2015 52.07 226.45 4/28/2015 51.49 227.03 52.09 226.43 2/3/2016 52.01 226.51 2/3/2016 52.01 226.51 2/3/2014 52.01 226.51 2/3/2014 52.01 226.51 2/3/2014 52.01 2/3/2015 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 230 2/1/2016 49 2/1/2015 49 2/1/			0	53 to 63	2/8.52		
3/20/2015	onner warker Chevrolet				1		
4/28/2015 10/7/2015 52.09 226.43 52.01 226.51 MW-15					1		
10/7/2015 52.09 226.43					1		
MW-15 Morrell's Dry Cleaners 12/17/2013 37 44 to 60 278.84 53 226		10/7/2015					
Morrell's Dry Cleaners							
9/8/2015 2/1/2016 49 230 WW-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 3DMe Factory Emulsified and 3DMe Factory Emulsi							
2/1/2016 49 230	Morrell's Dry Cleaners		Injected 550 ga	allons of biostimulant (w	rith 400 lbs of 3DMe	1	
MW-16 MW-16 Morrell's Dry Cleaners 12/13/2013 6/23/2014 Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of 3DMe Factory Emulsified and 3DMe Facto					1	_	
Morrell's Dry Cleaners 6/23/2014 Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of 3DMe Factory Emulsified and 3DMe Factory Emulsifi	MW-16		23	41 to 60	277 88		
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 3DMe Factory Emulsified and 3DMe Factory Emulsified Emulsion Em							
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			,000.00 ga			1	
Morrell's Dry Cleaners 6/24/2014 Injected 550 gallons of biostimulant (with 400 lbs of 3DMe Factory Emulsified and 30 lbs of	MW-17		32	43 to 60	277.97		
				allons of biostimulant (w	•		
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 ga	Illons of biostimulant (wi	th 400 lbs of 3DMe		ed 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 ga	Illons of biostimulant (wi	th 400 lbs of 3DMe		•
	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 ga	Illons of biostimulant (wi	th 400 lbs of 3DMe		
	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

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

		Method A, Unrestricted Land Use,												
	Laboratory	Table Value	AB-1-15	AB-1-25	AB-1-45	AB-1-61.5	AB-2-16.5	AB-2D-10	AB-2D-15	AB-2D-27.5	AB-2D-37.5	AB-2D-52.5	AB-3-16.5	AB-4-16.5
Description/Chemical Name	Method	(mg/kg)	12/20/2013	12/20/2013	12/20/2013	12/20/2013	4/6/2015	3/4/2016	3/4/2016	3/4/2016	3/4/2016	3/4/2016	4/6/2015	4/6/2015
Location														
					parking lot pump island)		SE corner of parking lot (5 ft from S-1)			corner of parkin Adjacent to AB-2	•		SW corner of parking lot (1 ft from S-7)	medium south
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	
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	
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	
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	
Isopropyltoluene (mg/kg)	8270D SIM						NR	NR	NR	NR	NR	NR	NR	NR
p-Isopropyltoluene (mg/kg)	8270D SIM				ļ		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	Natari											

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

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

Description/Chemical Name		Method A, Unrestricted							
· .									Ī
· .		I and Haa							
· .	I abaratary I	Land Use, Table Value	6.4	S-2	S-3	S-4	S-5	6.6	S-7
· .	Laboratory Method		S-1 8/31/2006	8/31/2006		_	8/31/2006	S-6	8/31/2006
1	METHOD	(mg/kg)	0/31/2006	0/31/2000	8/31/2006	8/31/2006		8/31/2006	
Location						West	West		SW corner of
				East boundary		boundary of	boundary of	Middle of	parking lot
			parking lot	of parking lot	of parking lot	parking lot	parking lot	parking lot	(Nearest
			(Near former	(Near former	(Near former	(Near former	(Near former	(Near former	former pump
			Tank 5)	Tank 7)	Tank 4)	Tanks 1-4)	Tank 1)	pump island)	island)
Sample Depth			15 ft	15 ft	15 ft	15 ft	13 ft	8 ft	16 ft
Total Petroleum Hydrocarbons				_					
	WTPH-HCID, 418.1	30							
	WTPH-HCID, 418.1	2,000							
	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						

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

	Laboratory	Method A, Unrestricted Land Use, Table Value	S1	\$ 2	S 3	S4	S 5	S6	S 7	S8	S9	S10	S 11	S 12	S13	S14	S15
Description/Chemical Name	Method	(mg/kg)	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994	8/1/1994
Location																	
			Excavation,	Excavation,	Excavation,				Excavation,	Excavation,		Excavation,		Excavation,			Excavation,
			east wall,	bottom,	west wall,	south wall,		Excavation,	bottom,	south wall,	east wall,	bottom,	bottom,	east wall,	west wall,	bottom,	north wall,
			Tank 2-4	Tank 2	Tank 2-4	Tank 2-4	Tank 3	Tanks 5-7	Tank 5	Tank 5-7	Tank 5-7	Tank 6	Tank 7	Tank 5-7	Tank 5-7	Tank 4	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										<u>ļ</u>					ļ		
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		,								•						<u>I</u>	
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	- 4								I					T T		

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

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)	\$17 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	\$25 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	Metriou	(ilig/kg)	0/2/1994	0/2/1334	0/2/1994	0/2/1994	0/2/1994	Excavateu	0/2/1994	0/2/1994	0/2/1334	0/1/1334	0/1/1994	0/1/1994	0/1/1334	0/1/1994	0/2/1994
Location											C.coc.cotion						
			Evenuation	Evecyeties	Evenyetion	Fyggygtion	Cycoyotion	Excavation,	Evenuetion	Excavation,	Excavation,		Tank 3	Tools 1	Tank 5-8	Tank 5-8	Tank 1
			bottom,	east wall,	north wall,	Excavation, west wall,	south wall,	pump island	south wall,	west wall,	bottom, pump	Tank 2	Overburde	Tank 1 Overburde			Overburde
			Tank 1	Tank 1	Tank 1	Tank 1	Tank 1			pump island		overburden		n	n	n	n
Sample Depth			8 ft	6 ft	7 ft	6 ft	7 ft	2 ft	3 ft	3 ft	5 ft	overburden	- 11	- 11	11	- ''	11
Gample Depth			Oit	Oit	'''		'''	210	311	310	311						
Total Petroleum Hydrocarbons								Į.	ļ								
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		
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 ResultsProject 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 (u Federal and State Maximum Contaminant Le Groundwater CUL (ug/L)	ıg/L)		5 5 5	5 5 5	- 70 70	- 100 100	7 7	0.2 2 0.2	- 5 5	- 80	- - -
Advance Outwash Wells											
MW-1 Former Walker Chevrolet	50 - 65	8/28/07 1/30/08	1.3 <1	<1 <1	<1 <1	<1 <1	<1 <1	<0.2 <0.2	<1 <1	<1 <1	<1 <1
		10/2/08	<1	<1	<1	<1	<1	<0.2	<1	<1	<1
	The property of the property	<1 <1									
											<1 <0.2
MW-2	50 - 65	8/28/07	2,900	1,800	7,100		+	19		1	8.1
Morrell's Dry Cleaners											<1 1.0
		5/12/09	1,600	930	2,400	5.7	ND	2.7	<1	4.0	<1
				· ·							<1 <100
		12/12/13	1,600	840	1,100	2.7	<1	0.84	<1	3.3	<1
							1			1	rimer) <1
										-	<1 <1
		2/2/16	22	190	640		4.2	15	-	-	<1
MW-5 Morrell's Dry Cleaners	50 - 65										<1 <1
		10/2/08	75	3.2	17	<1	<1	<0.2	1.2	1.9	<1
											<1 <1
		2/7/12	140	8.7				<0.2	4.6	2.3	<1
						•		1			<0.2 d groundwater
		4/28/15	67	6.2	6.4	<1	<1	<0.2			<1
		2/2/16	27						-	-	<1 <1
MW-7 Morrell's Dry Cleaners	50 - 65										<1 <1
		10/2/08	<1	<1	<1	<1	<1	<0.2	1.5	<1	<1
											<1 <1
		2/6/12	<1	<1	<1	<1	<1	<0.2	2.2	<1	<1
MW-8	51 - 61										<1 <1
Morrell's Dry Cleaners		10/2/08	680	390	3,600	7.6	10	6.9	<1	2.5	<1
											<1 <1
											<100 <50
		6/23/14		njected 525 ga	llons of biost		400 lbs of 3DN	le Factory En			rimer)
									<5 -	<5 -	<5 <1
		9/10/15	18	13	1,000	1.5	4.2	Description Color Color	<1		
MW-11	53 - 63								1.4	- 1.9	<1 <1
Former Walker Chevrolet		12/22/10		4.6				<0.2	2.8		<1
											<1 <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											<10 rimer)
		9/8/15	86	53	220	<1	<1	4.0	-	-	<1
MW-16 (angled with 23 degree vertical angle)	41 - 60								2.2	2.5	<1 <1
Morrell's Dry Cleaners					•		1 _			1	rimer) <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 MW-18 (angled with 45 degree vertical angle)	46 - 60								nulsified and 30		rimer) <1
Morrell's Dry Cleaners		6/24/14	I		llons of biost			le Factory En	nulsified and 30	lbs of HRC P	rimer)
MW-19 Morrell's Dry Cleaners	45 - 60		62						ry Emulsified a		
		.,,							<5	<5	<5
		2/2/16	8.5	5.1				1.5		-	<1 <1
MW-20 Morrell's Dry Cleaners	45 - 60						1	,	,	,	<1 rimer)
		1/20/15	7.4	5.3	79	<1	<1	1.8		1	<1
										-	<1 <1
MW-21	45 - 60	12/17/13	500	130	460	<10	<10	<2		1	<10
Morrell's Dry Cleaners						•	1			1	rimer) <5
		9/8/15	7.1	9.2	510	1.6	<1	8.1		-	<1
Interglacial Deposit Wells		2/1/16	18	17	650	1.7	<1	9.7		-	<1
MW-8D	96 - 116										<1
Morrell's Dry Cleaners											<1 <1
		1/10/14	<0.2	<0.2	42	<0.2	<0.2	<0.2	1.7	0.68	<0.2
									1.7	<1 -	<1 <1
MW 43D	440 405	2/2/16	<1	<1	62	<1	<1	<0.2		-	<1
MW-12D Morrell's Dry Cleaners	113 - 133										<1 <1
		1/10/14	0.7	0.34	22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
		9/10/15			9.1			<0.2	-	-	<1 <1
MW-13D	125 - 14F									- _1	<1 <1
Morrell's Dry Cleaners	120 - 140	2/7/12	4.2	2.4	28			<0.2			<1 <1
Morrell's Dry Cleaners	1		5.9 <1	3.7 <1	32 14	<1 <1	<1 <1	<0.2 <0.2	<1 <1	<1 <1	<1 <1
Morrell's Dry Cleaners		4/7U/15	. \			1 `'			`'	l `'	<1
Morreir's Dry Cleaners		4/29/15 9/9/15	4.1	2.2	22	<1	<1	<0.2	-	-	
·	123 - 143	9/9/15 2/2/16	4.1 2.2	2.1	23	<1 <1 <1	<1	<0.2	- - <1	- - <1	<1
MW-14D Morrell's Dry Cleaners	123 - 143	9/9/15 2/2/16 2/6/12 1/23/14	4.1 2.2 4.2 2.4	2.1 3.3 1.0	23 28 4.5	<1 <1 <1	<1 <1 <1	<0.2 <0.2 <0.2	- - <1 <1	<1	<1 <1 <1
MW-14D	123 - 143	9/9/15 2/2/16 2/6/12	4.1 2.2 4.2	2.1 3.3	23 28	<1 <1	<1 <1	<0.2 <0.2			<1 <1

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
				Upgradient,	D	D	Former
Location Description				Area	Downgradien t of Property	t of Property	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		Compounds)					
Benzene (µg/L)	8260C	5	5	0.2 U		0.35 U	0.35 U
Toluene (µg/L)	8260C	1,000	1,000	0.2 U		1 U	1 U
Ethylbenzene (µg/L)	8260C	700	700	0.2 U		1 U	1 U
Xylenes, total (μg/L)	8260C	1,000	10,000	0.6 U		3 U	3 U
Tetrachloroethylene (µg/L)	8260C	5	5	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		1 U	1 U
trans-1,2-Dichloroethylene (µg/L)	8260C		100	0.2 U		1 U	1 U
1,1-Dichloroethylene (µg/L)	8260C		7	0.2 U		1 U	
Vinyl Chloride (μg/L)	8260C	0.2	2	0.2 U		0.2 U	0.2 U
Carbon Tetrachloride (µg/L)	8260C		5	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			0.05 U
Benzo(a)pyrene (µg/L)	8270D SIM	0.1	0.2	0.1 U			0.05 U
Benzo(b)fluoranthene (µg/L)	8270D SIM			0.1 U			0.05 U
Benzo(k)fluoranthene (µg/L)	8270D SIM			0.1 U			0.05 U
Chrysene (µg/L)	8270D SIM			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			0.05 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		0.006	
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 μ g/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

		Soil, MTCA Method A, Unrestricted Land Use,	Soil, MTCA Method B,															
Description/Chemical Name	Laboratory Method	Table Value (mg/kg)	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		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(3 3/	Sediment	Sediment	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)				Inside Drain	Inside Drain			<u> </u>										
TPH, Gasoline-Range (mg/kg)	NWTPH-Gx	100																
TPH, Diesel-Range (mg/kg)	NWTPH-Dx	2,000																
TPH, Motor Oil-Range (mg/kg) TPH, Gasoline-Range (mg/kg)	NWTPH-Dx WTPH-HCID, 418.1	2,000 100								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	20000	0.00	40.0	0.50	0.005.11	0.00.11	1	0.005.11	0.005.11	1 0 005 11	1	Г	1 0 004		0.005.11	0.005.11	0.005.11	0.005.11
Benzene (mg/kg) Toluene (mg/kg)	8260C 8260C	0.03	18.2 6,400	0.59 20	0.025 U 0.025 U	0.23 U 85		0.005 U 0.013	0.005 U 0.007	0.005 U 0.096 B			0.024 0.72 B	0.05 U 8.6 B	0.005 U 0.37 B	0.005 U 0.011 B	0.005 U 0.014 B	0.005 U 0.005 U
Ethylbenzene (mg/kg)	8260C	6	8,000	10	0.025 U	2.2		0.015 0.005 U	0.007 0.005 U	0.005 U			0.12 B	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	00000	0.005	0.5	4.11	0.05.11	0.40.11	ı	0.04.11	0.04.11	0.04.11			1 004 11	0.4.11	0.4.11	0.04.11	0.04.11	0.04.11
1,2-Dibromoethane (EDB; mg/kg) 1,2-Dichloroethane (EDC; mg/kg)	8260C 8260C	0.005	0.5 11	1 U 0.5 U	0.05 U 0.025 U	0.46 U 0.23 U	<u> </u>	0.01 U 0.005 U	0.01 U 0.005 U	0.01 U 0.005 U			0.01 U 0.005 U	0.1 U 0.05 U	0.1 U 0.05 U	0.01 U 0.005 U	0.01 U 0.005 U	0.01 U 0.005 U
Methyl tert-butyl ether (MTBE; mg/kg)	8260C	0.1	555.6	NR	0.025 U NR	0.23 U NR		0.005 U NR	0.005 U NR	0.005 U NR			0.005 U NR	0.05 U NR	0.05 U NR	0.005 U NR	0.005 U NR	0.005 U 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) Isopropylbenzene (mg/kg)	8260C 8260C			14 18	0.025 U 0.025 U	0.45 1.6		0.005 U 0.005 U	0.005 U 0.005 U	0.005 U 0.005 U			0.022 0.05	0.066 0.05 U	0.005 U 0.005 U	0.005 U 0.005 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			0.03	0.03 0	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) 1,2,4-Trimethylbenzene (mg/kg)	8260C 8260C		8,000	54 175	0.025 U 0.072	1.5 11		0.005 U 0.005 U	0.005 U 0.005 U	0.005 U 0.005 U			0.08 0.13	0.099 0.79	0.005 U 0.013	0.005 U 0.005 U	0.005 U 0.005 U	0.005 U 0.005 U
1,3,5-Trimethylbenzene (mg/kg)	8260C		800	66	0.072	5		0.005 U	0.005 U	0.005 U			0.13	0.73	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) cis-1,2-dichloroethylene (mg/kg)	8260C 8260C	0.03	12 160	0.5 U 0.5 U	0.025 U 0.025 U	0.23 U 0.23 U		0.005 U 0.005 U	0.005 U 0.005 U	0.005 U 0.005 U			0.005 U 0.005 U	0.05 U 0.05 U	0.05 U 0.05 U	0.005 U 0.005 U	0.005 U 0.005 U	0.005 U 0.005 U
Vinyl chloride (mg/kg)	8260C		0.67	1 U	0.025 U	0.23 U 0.46 U		0.003 U	0.003 U	0.003 U			0.003 U	0.05 U	0.03 U	0.003 U	0.005 U	0.005 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		1		I	ı		1	1	I	T	1		I	I	
Benzo(a)pyrene (mg/kg)	8270D SIM	0.1	0.137			1												
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) Dibenz(a,h)anthracene (mg/kg)	8270D SIM 8270D SIM		1.37 0.137	 	-	 				 	1							+
carcinogenic PAHs TEQ (mg/kg) (calculated) Polychlorinated biphenyls (PCBs)	OLI OD OIIVI	0.1	0.107															
Arochlor 1221 (mg/kg)	8082A				I													
Arochlor 1232 (mg/kg)	8082A																	
Arochlor 1016 (mg/kg)	8082A		5.6												· · · · · ·			
Arochlor 1242 (mg/kg)	8082A																	
Arochlor 1248 (mg/kg) Arochlor 1254 (mg/kg)	8082A 8082A		0.5	<u> </u>	-	-				-	-							
Arochlor 1260 (mg/kg)	8082A		0.5															
Arochlor 1262 (mg/kg)	8082A																	
Arochlor 1268 (mg/kg)	8082A																	
Polychlorinated biphenyl (PCB) mixtures Metals		1	0.5		<u> </u>		<u> </u>	<u> </u>	<u> </u>	L		<u> </u>				<u> </u>	<u> </u>	
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				<u> </u>								
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) Mercury (mg/kg)	200.8 200.8	250 2		2,140 3 U	918 3 U	25 3 U				-	1							
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:	-	-	•	•		-	NR = not rep	orted	-	TPH = total pe	etroleum hydro	carbon	•	-

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 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	Unrestricted Land Use, Table Value	Soil, MTCA Method B, Table Value	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	B17-2 5/11/2016	B18-3 5/11/2016	B19-6	B20-4.5 5/11/2016	B21-9.5 5/11/2016
Sample Depth	Wethod	(mg/kg)	(mg/kg)	4.5 ft	5.5 ft	5 ft	9 ft	4.5 ft	5.5 ft	10.5 ft	6.5 ft	2/25/2016 6 ft	2 ft	3/11/2016	5/11/2016 6 ft	4.5 ft	9.5 ft
·					J.J 10	-	J 11		0.5 10	. 5.5 10	0.5 10		- "		, ii		5.5 K
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) TPH, Motor Oil-Range (mg/kg)	NWTPH-Dx NWTPH-Dx	2,000 2,000		50 U 250 U	5,800 X 17,000	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	50 U 250 U	68 X 250 U	50 U 250 U
	WTPH-HCID, 418.1	100		250 0	17,000	250 0	250 0	250 0	250 0	250 0	250 0	250 0	250 0	250 0	250 0	250 0	250 0
	WTPH-HCID, 418.1	2,000															
ŭ \ ŭ ŭ/	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) Fuel Additives and Blending Compounds	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
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	0.000	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 8260C			0.05 U 0.05 U	0.1 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 0.05 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 0.052
p-Isopropyltoluene (mg/kg) Methylene chloride	8260C	0.02	480	0.05 U	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	0.052 0.5 U
4-Methyl-2-pentanone (MIBK) (mg/kg)	8260C	0.02	+00	0.02 U	1 U	0.5 U	0.5 U	0.02 U	0.02 U	0.02 U	0.5 U	0.02 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	00000	0.05	470	0.005.11	0.40	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11	0.005.11
Tetrachloroethylene (mg/kg) Trichloroethylene (mg/kg)	8260C 8260C	0.05 0.03	476 12	0.025 U 0.02 U	0.16 0.04 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U	0.025 U 0.02 U
cis-1,2-dichloroethylene (mg/kg)	8260C	0.03	160	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
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										ı	•	ı	ı		ı	•	,
Benz(a)anthracene (mg/kg)	8270D SIM	0.4	1.37		0.2									ļ			\vdash
Benzo(a)pyrene (mg/kg) Benzo(b)fluoranthene (mg/kg)	8270D SIM 8270D SIM	0.1	0.137 1.37		0.2 U 0.2 UJ									-			
Benzo(k)fluoranthene (mg/kg)	8270D SIM 8270D SIM		13.7		0.2 UJ									 			
Chrysene (mg/kg)	8270D SIM		137		0.49									1			
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)	00004				0.00.11			ı	ı	I		ı	I	Г	I	Ι	0011
Arochlor 1221 (mg/kg) Arochlor 1232 (mg/kg)	8082A 8082A				0.08 U 0.08 U						<u> </u>			 			0.2 U 0.2 U
Arochlor 1232 (mg/kg) Arochlor 1016 (mg/kg)	8082A 8082A		5.6		0.08 U						 			+			0.2 U
Arochlor 1949 (mg/kg) Arochlor 1242 (mg/kg)	8082A		5.0		0.08 U									1			0.2 U
Arochlor 1242 (mg/kg) Arochlor 1248 (mg/kg)	8082A				0.00 U						<u> </u>			1			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				<u> </u>	<u> </u>	I	<u> </u>	<u> </u>				ND
Metals Arsenic (mg/kg)	200.8	20	0.67					I	I	<u> </u>	1	<u> </u>	<u> </u>	1		<u> </u>	<u> </u>
Barium (mg/kg)	200.8	- 20	16,000							<u> </u>			<u> </u>	1			
Cadmium (mg/kg)	200.8	2	80								 			+			
Chromium (mg/kg)	200.8	2,000	120,000								1			1			
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								NR = not repo			TPH = total pe			

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 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		(99)	(99)	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) TPH, Diesel-Range (mg/kg)	WTPH-HCID, 418.1	100							
TPH, Heavy Oil-Range (mg/kg)	WTPH-HCID, 418.1 WTPH-HCID, 418.1	2,000 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) Ethylbenzene (mg/kg)	8260C 8260C	7 6	6,400 8,000	0.05 U 0.05 U	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) Methyl tert-butyl ether (MTBE; mg/kg)	8260C 8260C	0.1	11 555.6	0.05 U 0.05 U	0.05 U 0.05 U				
Lead (mg/kg)	200.8	250	333.0	1.71	1.10				
Other Petroleum Compounds					-		ı	ı	ı
n-Butylbenzene (mg/kg)	8260C		4000	NR	NR				
sec-Butylbenzene (mg/kg)	8260C 8260C			0.05 U	0.05 U 0.05 U				
Isopropylbenzene (mg/kg) p-Isopropyltoluene (mg/kg)	8260C 8260C			0.05 U 0.05 U	0.05 U				
Methylene chloride	8260C	0.02	480	0.05 U	0.05 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) 1,2,4-Trimethylbenzene (mg/kg)	8260C 8260C		8,000	0.05 U 0.05 U	0.05 U 0.05 U				
1,3,5-Trimethylbenzene (mg/kg)	8260C		800	0.05 U	0.05 U				
Chlorinated VOCs	02000		000	0.00 0	0.00 0		ı	l .	<u> </u>
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) Vinyl chloride (mg/kg)	8260C 8260C	-	160 0.67	0.05 U 0.01 U	0.05 U 0.01 U				
Chlorobenzene (mg/kg)	8260C		1,600	0.01 U	0.01 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		1	ı	I	I	I
Benzo(a)pyrene (mg/kg)	8270D SIM	0.1	0.137						
Benzo(b)fluoranthene (mg/kg)	8270D SIM	9	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) Dibenz(a,h)anthracene (mg/kg)	8270D SIM 8270D SIM	-	1.37 0.137						
carcinogenic PAHs TEQ (mg/kg) (calculated)	0210D SIIVI	0.1	0.137						
Polychlorinated biphenyls (PCBs)									
Arochlor 1221 (mg/kg)	8082A								
Arochlor 1016 (mg/kg)	8082A 8082A		E 0						
Arochlor 1016 (mg/kg) Arochlor 1242 (mg/kg)	8082A 8082A		5.6						
Arochlor 1242 (mg/kg) Arochlor 1248 (mg/kg)	8082A	1							
Arochlor 1254 (mg/kg)	8082A		0.5						
Arochlor 1260 (mg/kg)	8082A		0.5						
Arochlor 1262 (mg/kg) Arochlor 1268 (mg/kg)	8082A 8082A								
Polychlorinated biphenyl (PCB) mixtures	000ZA	1	0.5						
Metals		<u> </u>	5.5				<u>. </u>	<u>. </u>	<u>. </u>
Arsenic (mg/kg)	200.8	20	0.67						
Barium (mg/kg)	200.8	-	16,000						
Cadmium (mg/kg) Chromium (mg/kg)	200.8 200.8	2,000	80 120,000						
Lead (mg/kg)	200.8	2,000	120,000						
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

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

	Laboratory	Groundwater, Method A, Table Value	Federal and State Maximum Contaminant Level	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
Chemical Name	Method	(µg/L)	(µg/L)							
Site Name							er Walker Che			
Location Description						Forme	er Paint Booth	n 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				
Oil-Range Hydrocarbons (µg/L)	NWTPH-Dx	500				250 U	250 U			
Volatile Organic Compounds (COPCs										
Benzene (µg/L)	8260C	5	5	1 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
Ethylbenzene (µg/L)	8260C	700	700	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
Tetrachloroethylene (µg/L)	8260C	5	5	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
trans-1,2-Dichloroethylene (µg/L)	8260C		100 7	1 U		1 U			1 U	1 U
1,1-Dichloroethylene (µg/L)	8260C	0.0		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
Carbon Tetrachloride (µg/L)	8260C		5	1.4	2.8	1 U			1 U	1 U
Chloroform (µg/L) 1,4-Dioxane	8260C 8260C		80	1.9	2	1 U 10 U	1.1 0.4 U		1 U	1 U
,	02000					10 0	0.4 0			
Polycyclic Aromatic Hydrocarbons	8270D SIM					0.05 U				
Benz(a)anthracene (µg/L) Benzo(a)pyrene (µg/L)	8270D SIM 8270D SIM	0.1	0.2			0.05 U				
Benzo(a)pyrene (µg/L) Benzo(b)fluoranthene (µg/L)	8270D SIM 8270D SIM	0.1	0.∠			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 8260C/	0.1				ND				
Naphthalene (µg/L)	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					F7.0	1 U		
Barium (µg/L), total	200.8						57.9	73.2		
Barium (µg/L), dissolved Cadmium (µg/L), total	200.8 200.8	5					1 U	12.5 1 U		
Cadmium (µg/L), total Cadmium (µg/L), dissolved	200.8	5					1 0	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			
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)	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})	Ben	Sub-slab Air, eath Former Paint Bo	ooth	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	s)						8	8	8						1	1	0.5
Date and time collected	t						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
		μg/m³	μg/m³	ppm	g/mole	μg/m³	μg/m³	μg/m ³	μg/m³	μg/m ³	μg/m³	μg/m³	μg/m³	μg/m ³	μg/m ³	μg/m³	μg/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) Aromatic hydrocarbon	TO-15	140	588				807	NA	NA	4,667	19,600					311	
(EC9-10)	TO-15	180	756				576	NA	NA	6,000	25,200					221	

Bold highlighted font indicates exceedance of most conservative screening level. Dashes indicate no value available.

DCE = dichloroethylene

µg/m³ = 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/m³)	Indoor Air CUL, Method B, Table Value (µg/m³)
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/m³ – 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	Х
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	Х
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	Х
Biostimulation of groundwater on adjacent Morrell's Dry Cleaners site in June 2014.	X	Х	Х
SVE for PCE source contamination beneath building at adjacent Morrell's Dry Cleaners site from October 2014 to present.	X	Х	Х
Construction of vapor barrier for building above south gas station in 2016.	Х	Х	Χ
Future Activities			
Decommissiong MW-11.	X	Χ	X
Environmental covenant for Property for residual soil contamination.	X	Χ	
SVE for vapor-phase contamination in former paint booth area.		Χ	Χ
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 11

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 esent Value Cost ⁽¹⁾	_	consolidated resent 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			Year of	Itemized Present Value	Consolidated Present Value
	Units	Units	Unit Cost	Expenditure	Cost ⁽¹⁾	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		\$ 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 conceputal 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			Year of	Itemized Present Value	Consolidated Present Value
	Units	Units	Unit Cost	Expenditure	Cost ⁽¹⁾	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	•		Ψ 2,000.00	2017	1,000.20	
penetrations, electrical panel, and fencing	1	LS	\$ 7,500.00	2017	\$ 7,425.74	
Scope contingency for SVE (20%)	•		Ψ 7,000.00	2017	\$ 17,683.17	
Subtotal					Ψ 17,000.17	\$ 106,099.01
Excavation of Hydraulic Oil Contamination						Ψ 100,000.01
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	\$ 4,000.00	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	\$ 0,022.37	
Surface sweeping and site restoration	1	LS	\$ 2,300.00	2032	\$ 2,132.03	
Scope contingency for excavation (50%)	'	LO	\$ 1,000.00	2032	\$ 41,809.56	
Subtotal					φ 41,609.56	\$ 125,428.69
Site Closure Activities						\$ 125,428.69
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	1
Subtotal	'	LO	φ 1,000.00	2017	φ 990.10	\$ 1,980.20
PRESENT VALUE OF FUTURE COSTS, ROUNDED						\$ 1,980.20
Bid contingency (15%)						\$249,000 \$37,350
PRESENT VALUE OF ALTERNATIVE 3						\$37,350 \$286,000
FRESENT VALUE OF ALTERNATIVE 3			į .			\$ 200,000

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	Alternative 1	Alternative 2	Alternative 3
Restoration Time Frame Criteria	Instittutional and Engineering Controls	Soil Vapor Extraction and Instittutional and Engineering Controls	Permanent Cleanup
Potential Risk	below the Method B sub-slab soil gas scree Site is covered by the building or paved surf below the direct contact point of exposure. To contamination in the paint booth area is ben	ded. Groundwater is not impacted and the core ining levels in the paint booth area. The build faces. Soil contamination at the south gas started the City of Tacoma would be notified of soil of the building foundation in the grocery surfaces and Site contamination does not possible.	ing covers the entire Property and the entire ation is in the City of Tacoma ROW and contamination in the ROW. Soil tore. The Site is exempted from terrestrial
	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 building.
Practicality of Achieving Shorter Time Frame	Removal of hydraulic oil contamination canr and grocery stores have continuously opera	not be performed while the grocery store ope ated in the building since 1931.	rates. The grocery store is an anchor tenant
Impact to Current Use	None.		
Impact to Future Use	None.		
Availability of Alternate Water Supplies	The Site and nearby properties are connect is compliant with Method A groundwater CU	ed to the public water supply. Groundwater is JLs.	s not used, and the groundwater at the Site
Likely Effectiveness and Reliability of Institutional Controls		disrupting activities that have the potential to	
Monitor Contaminant Migration	Building limits surface water infiltration through impacted soil contamination. No monitoring is planned.	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 af	fect 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 Instittutional and Engineering Controls	Alternative 2 Soil Vapor Extraction and Instittutional 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.	area, these COCs are generally detected at concentrations near the Method A soil CULs. The heavier-range TPH, PCBs, and lead in the	(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.	, ,	(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. 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

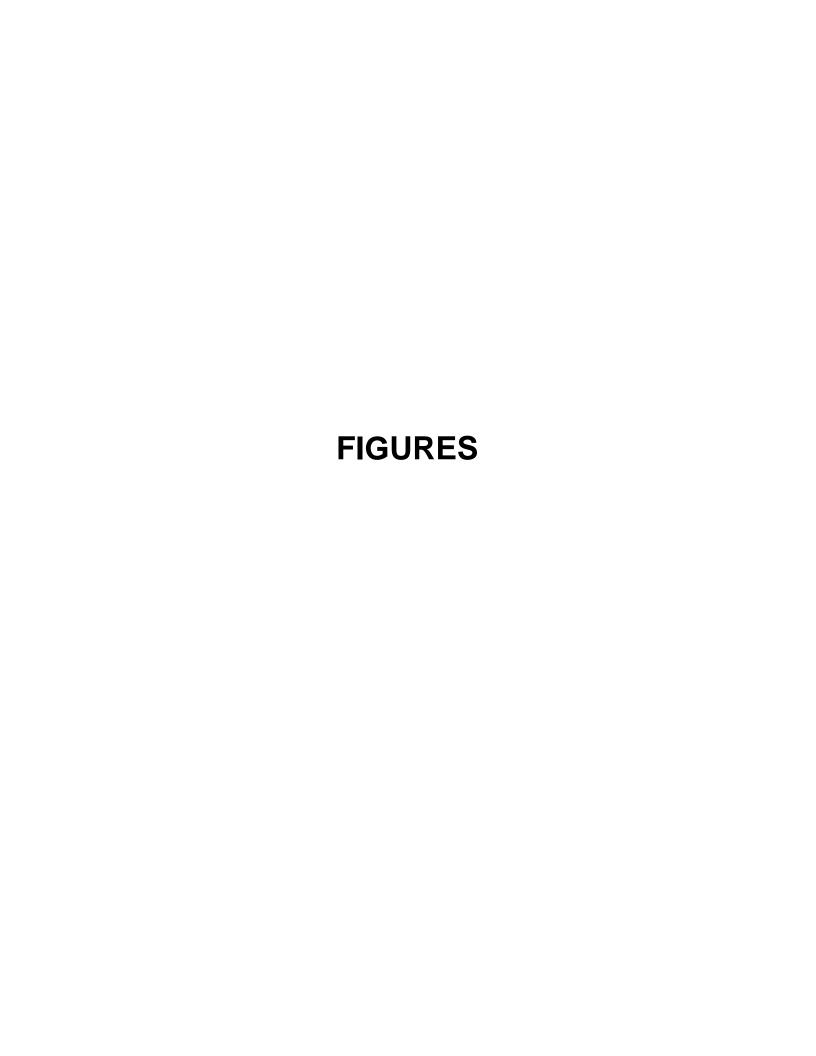
Project No. 080190, Former Walker Chevrolet Site (VCP No. SW1040) 633 Division Avenue, Tacoma, Washington

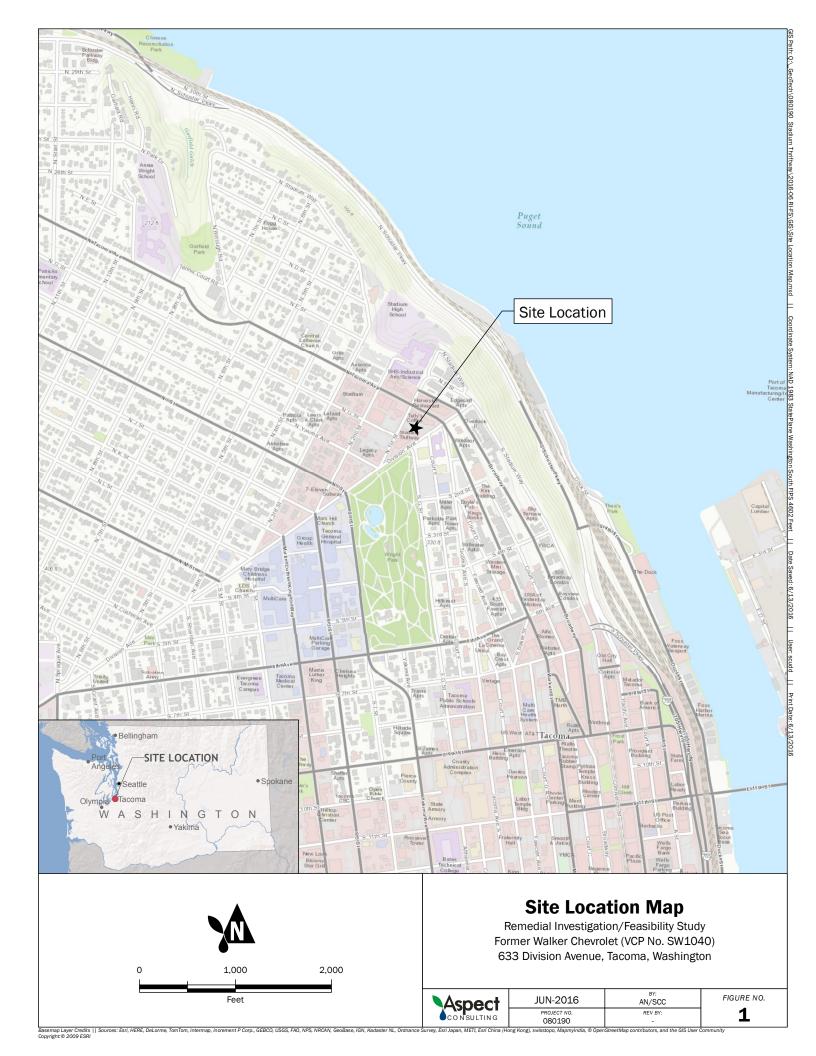
Permanence Criteria (Weighting Factor)	Alternative 1 Institutional and Engineering Controls	Alternative 2 Soil Vapor Extraction and Institutional and Engineering Controls	Alternative 3 Permanent Cleanup
Implementability (10%)	(5) Easily implementable.	(4) The SVE equipment is readily available and can 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 building 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

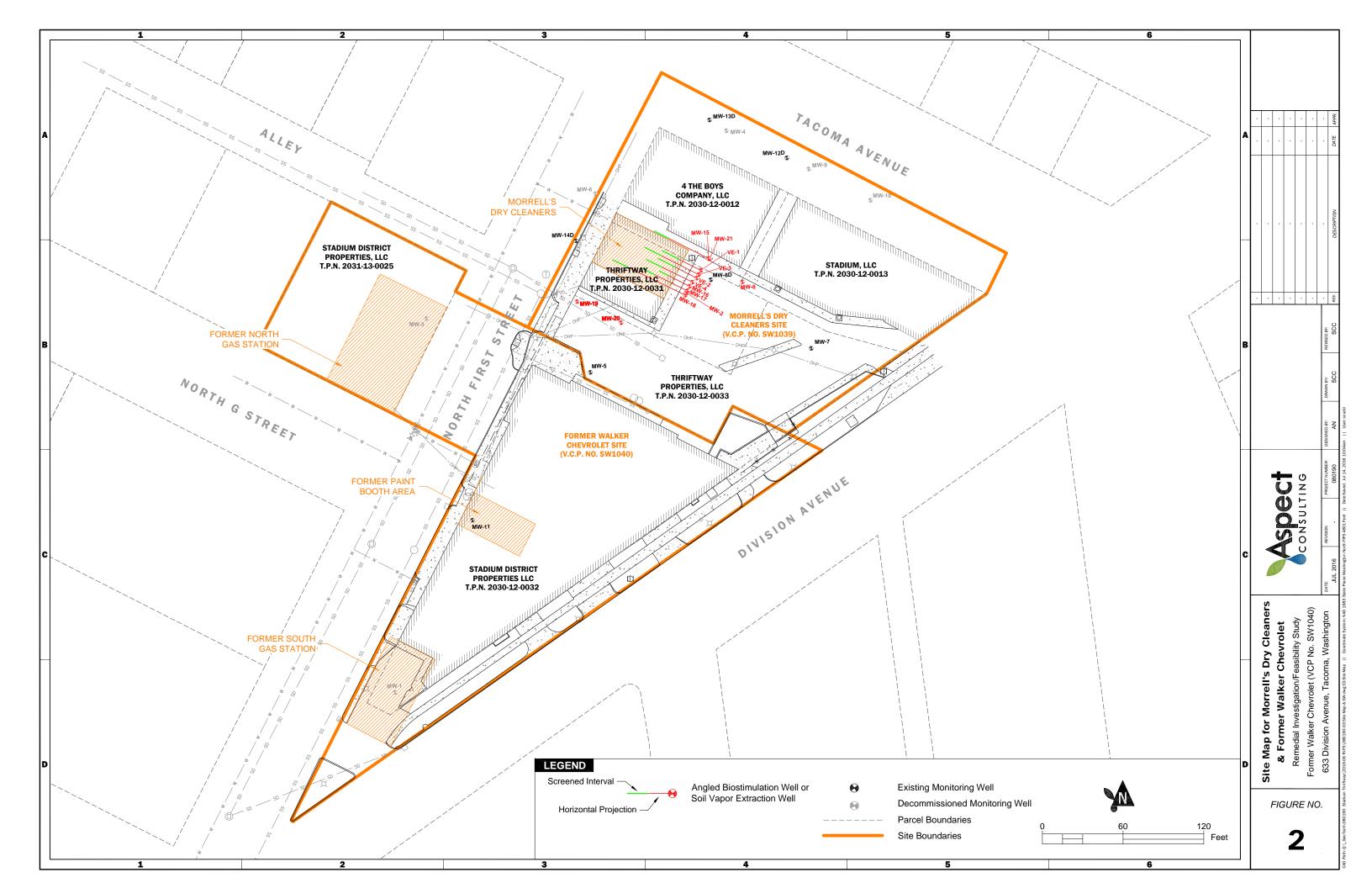
Notes:

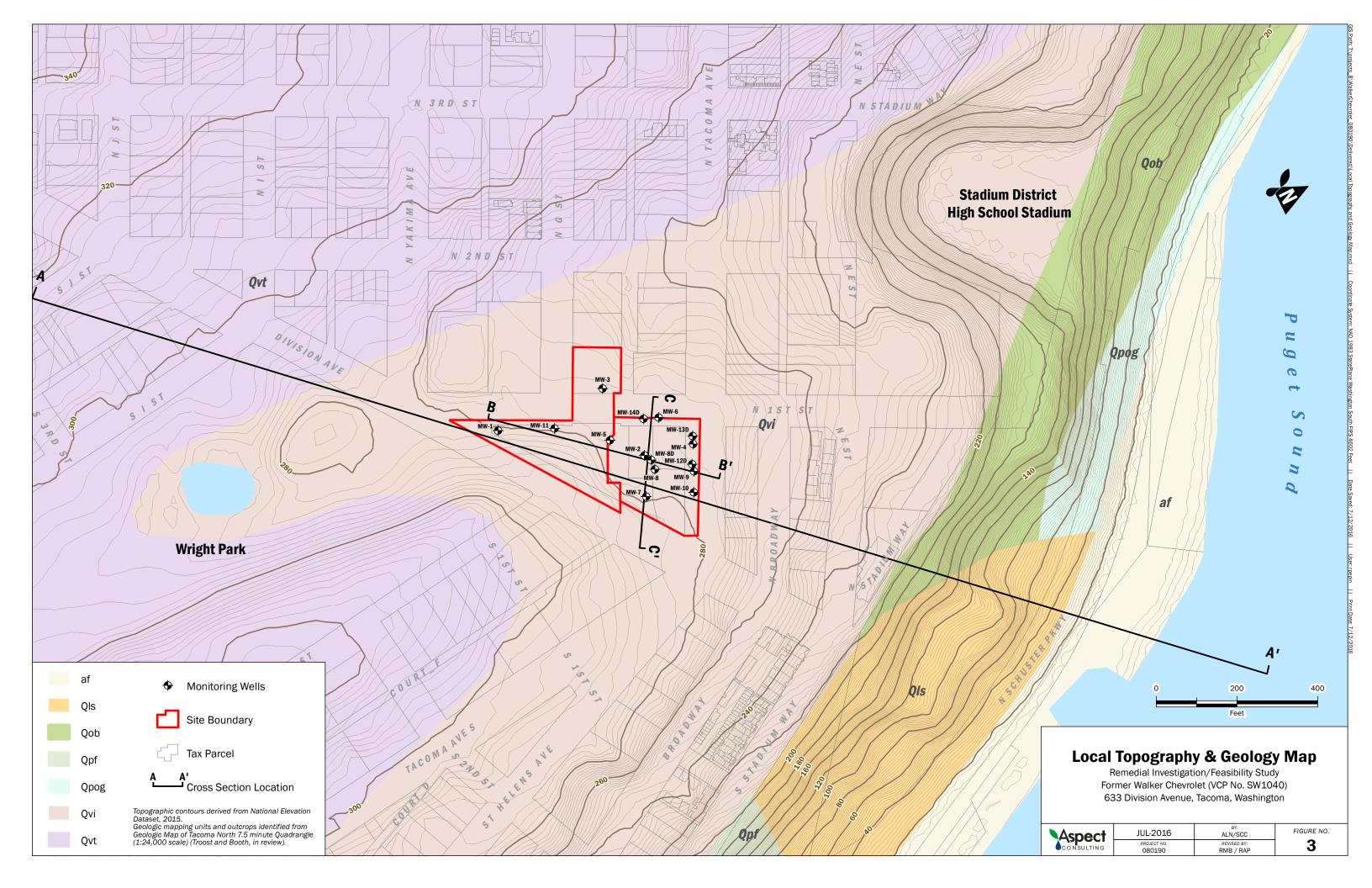
- 1) A numeric scale of 1 to 5 (presented in parantheses above e.g, (3)) is used to rate the alternatives with respect to the criteria to evaluate use of permanent solutions to the maximum extent practicable, as follows:
 - 1 meets criterion to a very low degree;
 - 2 meets criterion to a low degree;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

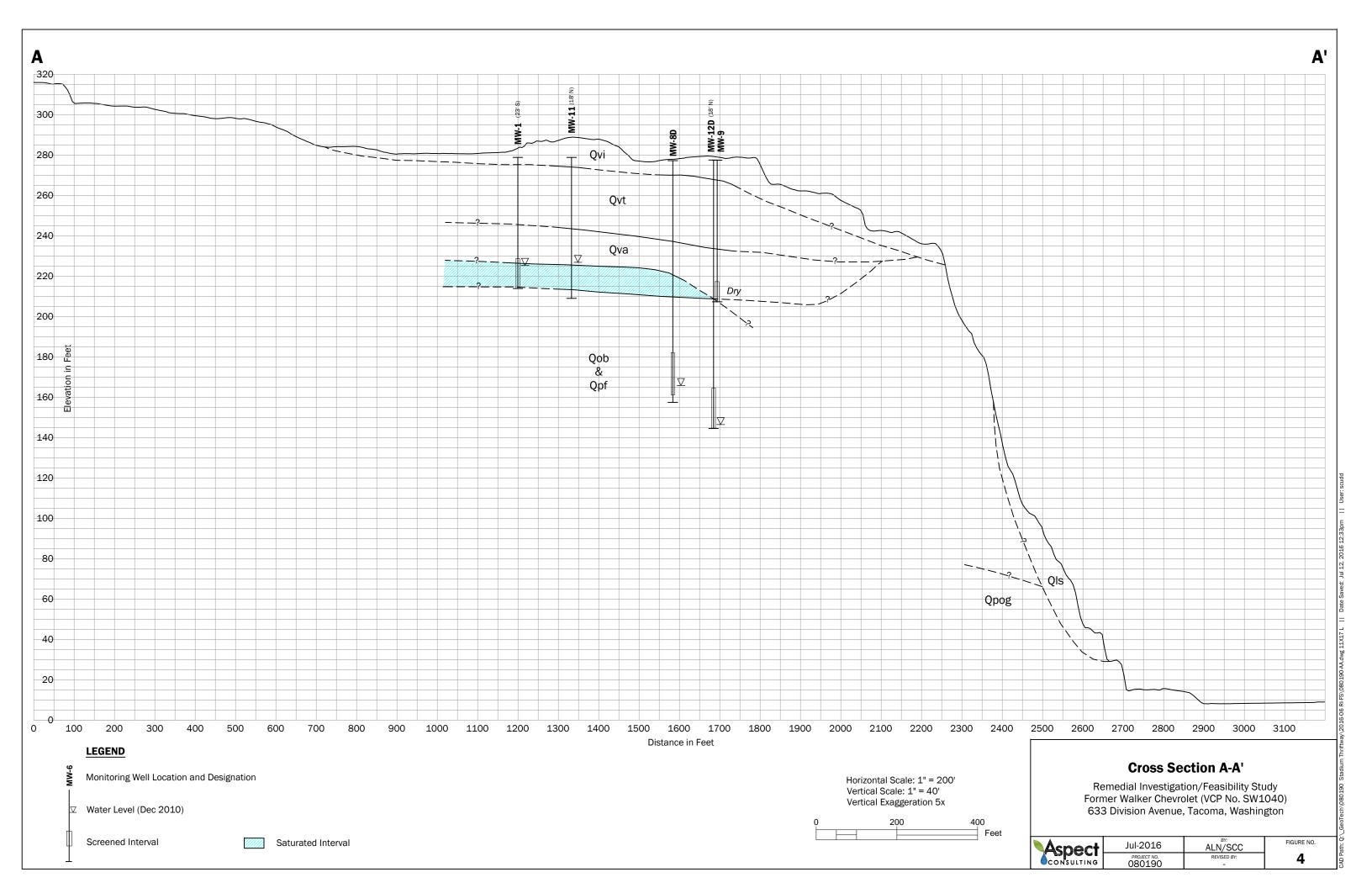
bgs = below ground surface, CUL = cleanup level, PCB = polychlorinated biphenyl, PCE = tetrachloroethylene, PCS = petroleum contaminated soil, ROW = right-of-way, SVE = soil vapor extraction, TPH = total petroleum hydrocarbon, UST = underground storage tank.

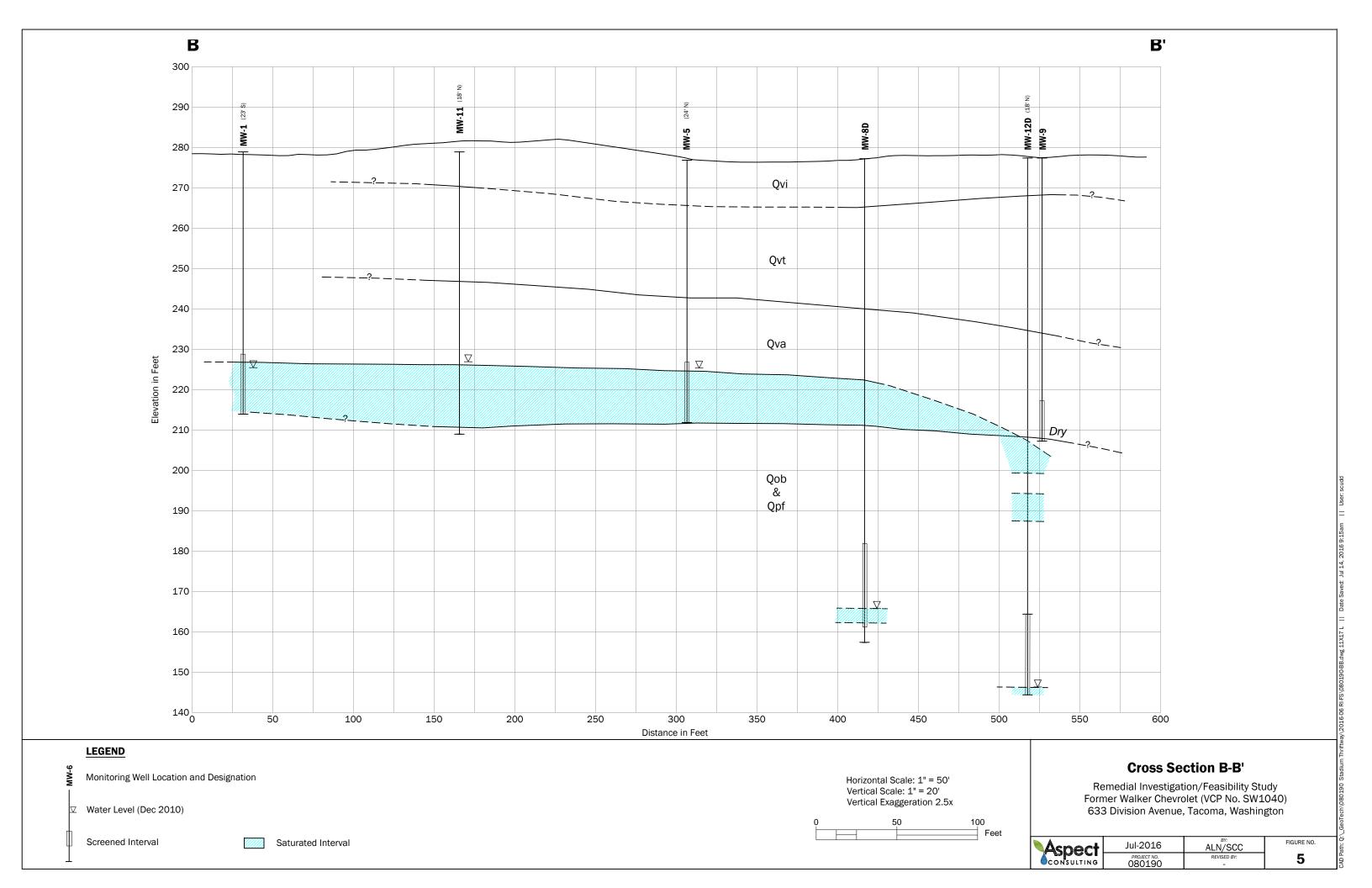


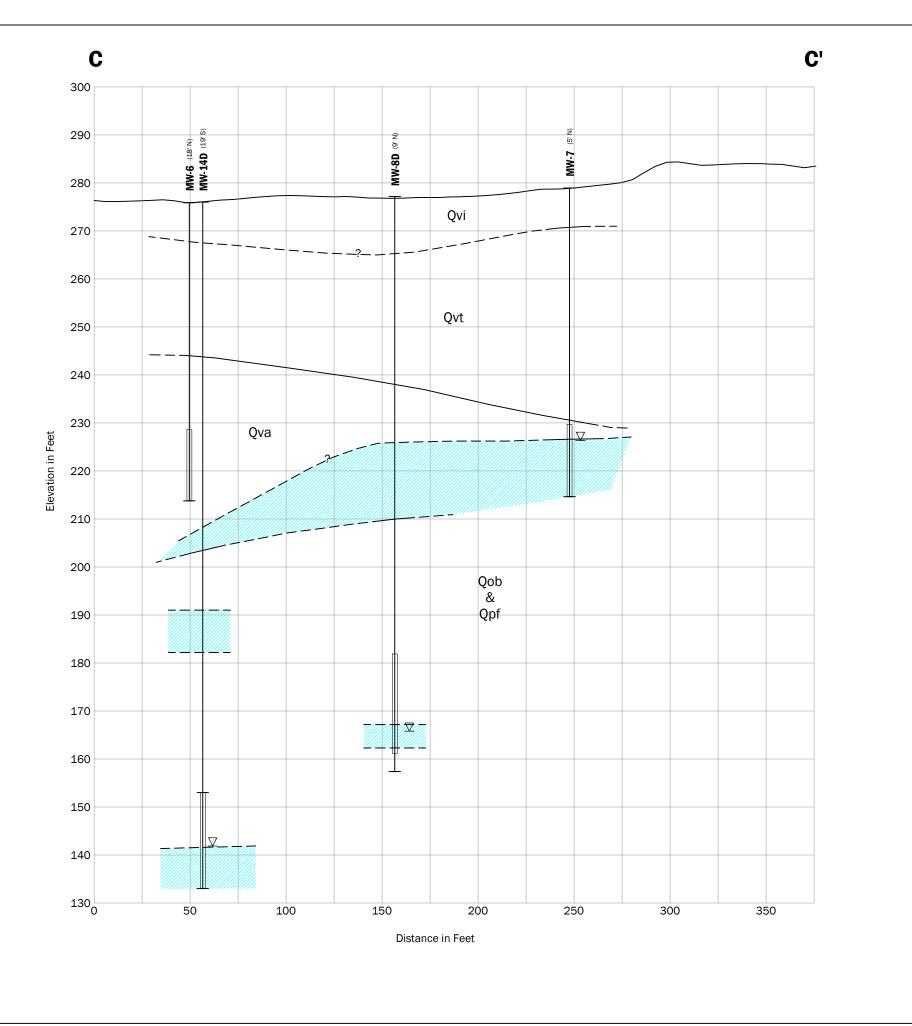




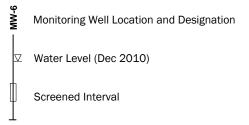








LEGEND





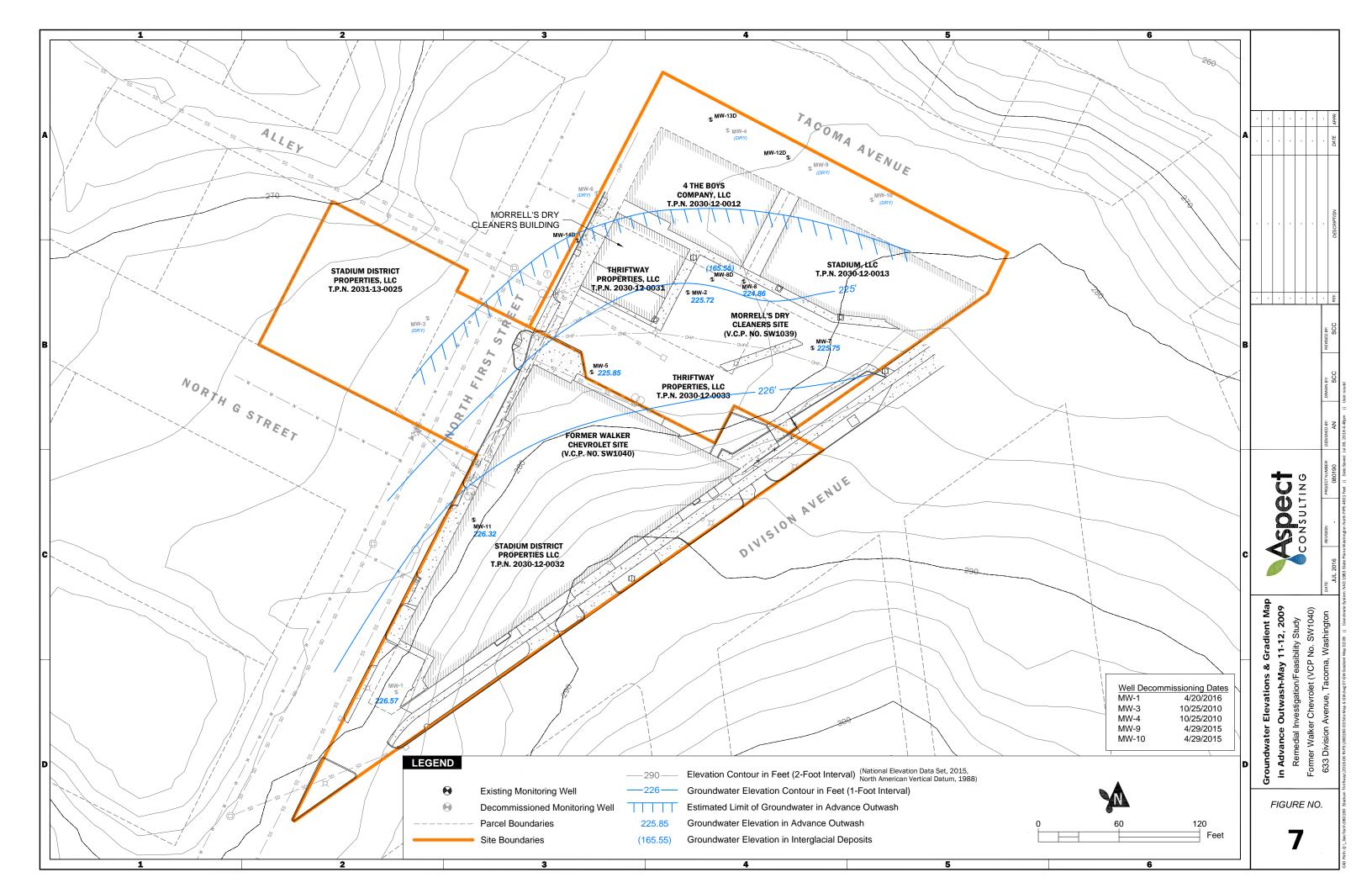
Horizontal Scale: 1" = 50' Vertical Scale: 1" = 20' Vertical Exaggeration 2.5x

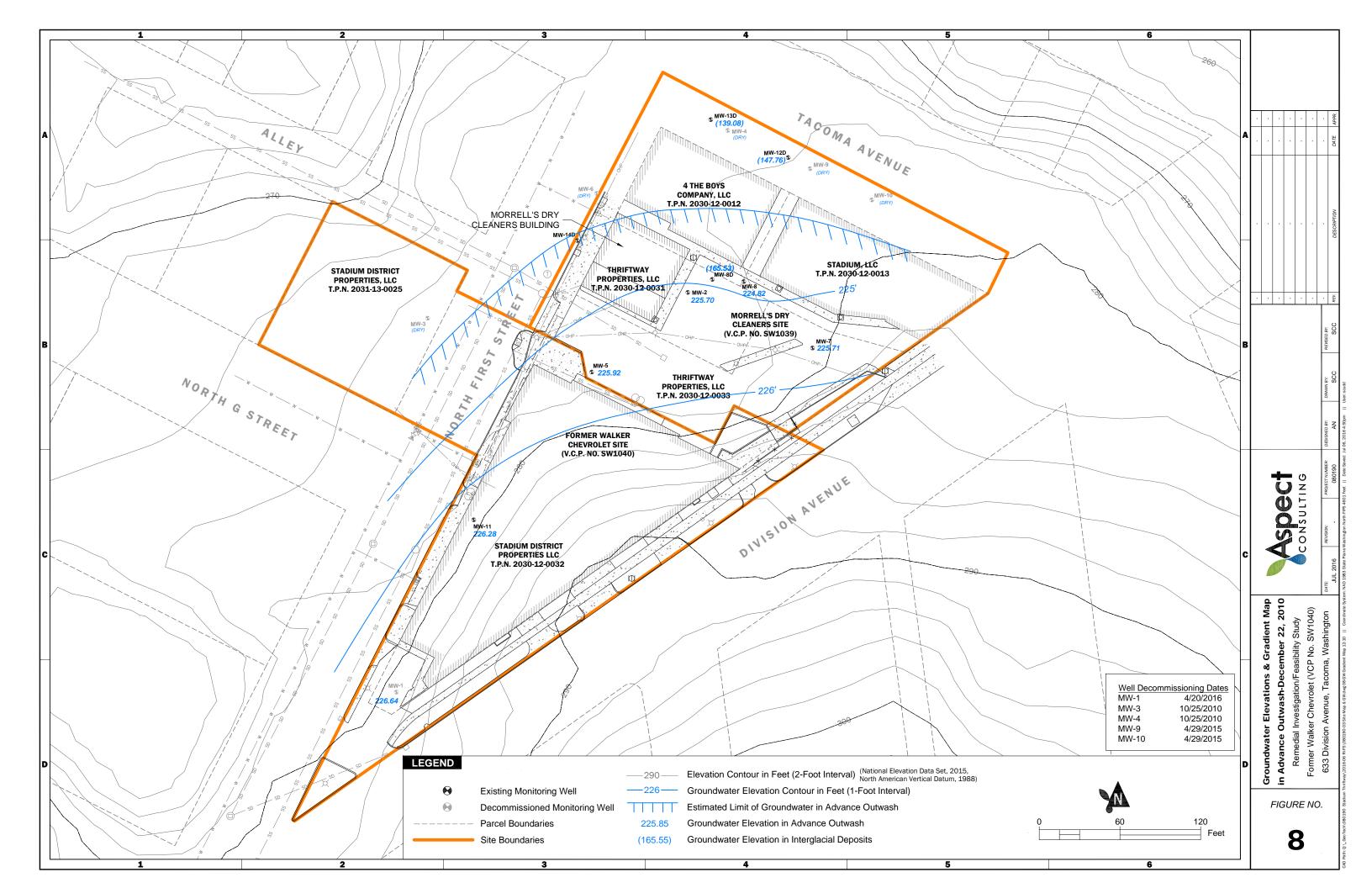


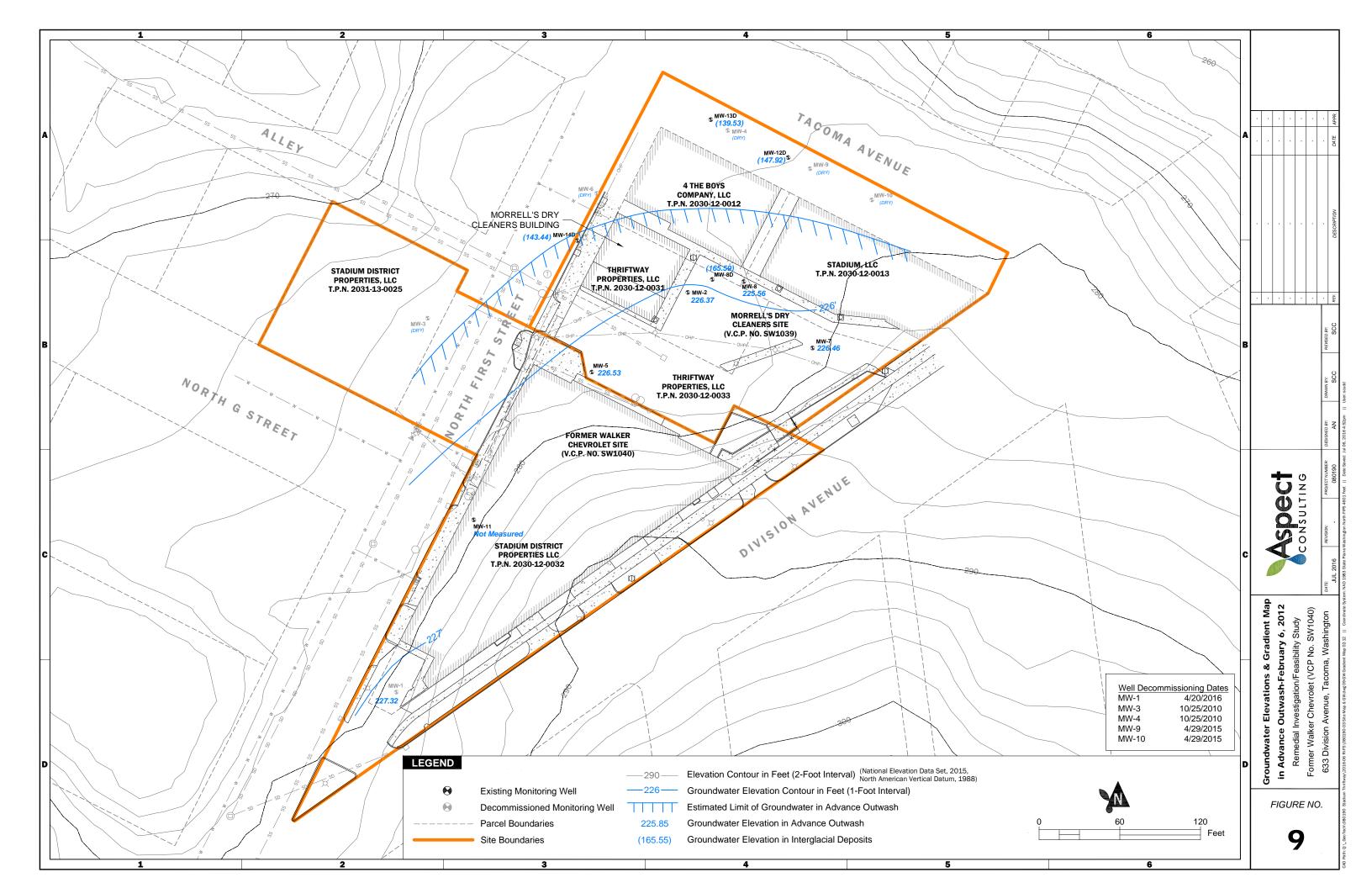
Cross Section C-C'

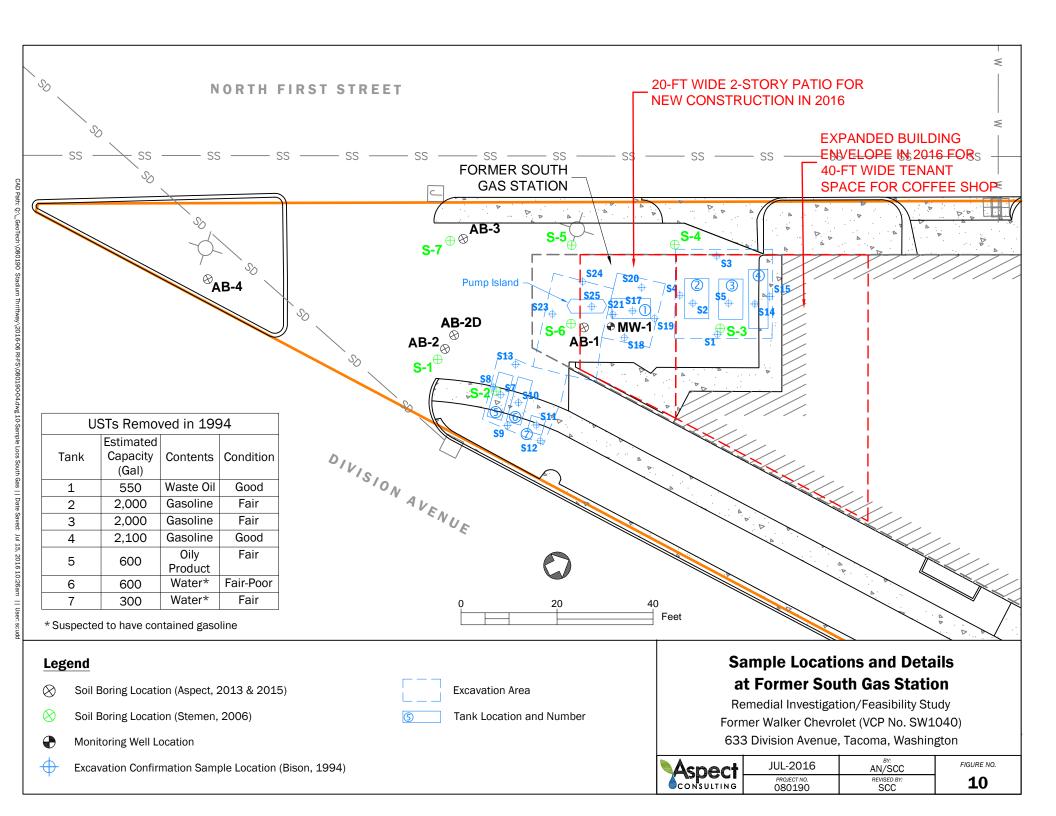
Remedial Investigation/Feasibility Study Former Walker Chevrolet (VCP No. SW1040) 633 Division Avenue, Tacoma, Washington

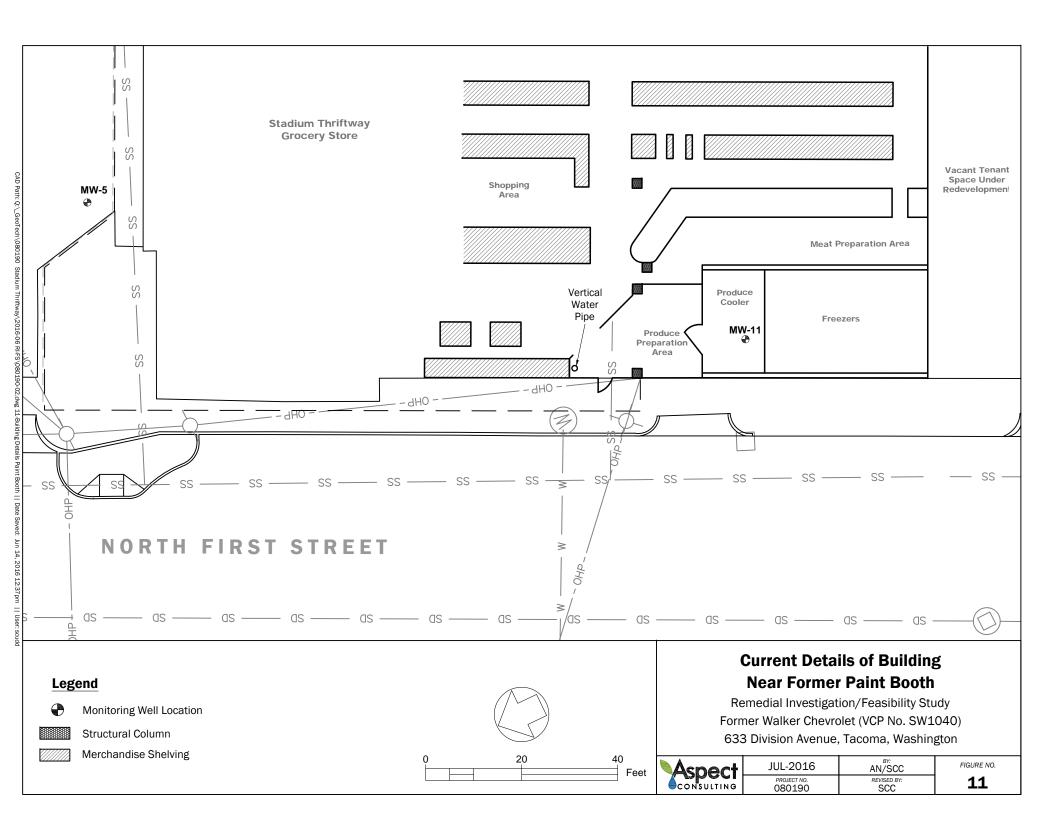
Aspect	Jul-2016	ALN/SCC	FIGURE NO.
CONSULTING	PROJECT NO. 080190	REVISED BY:	6

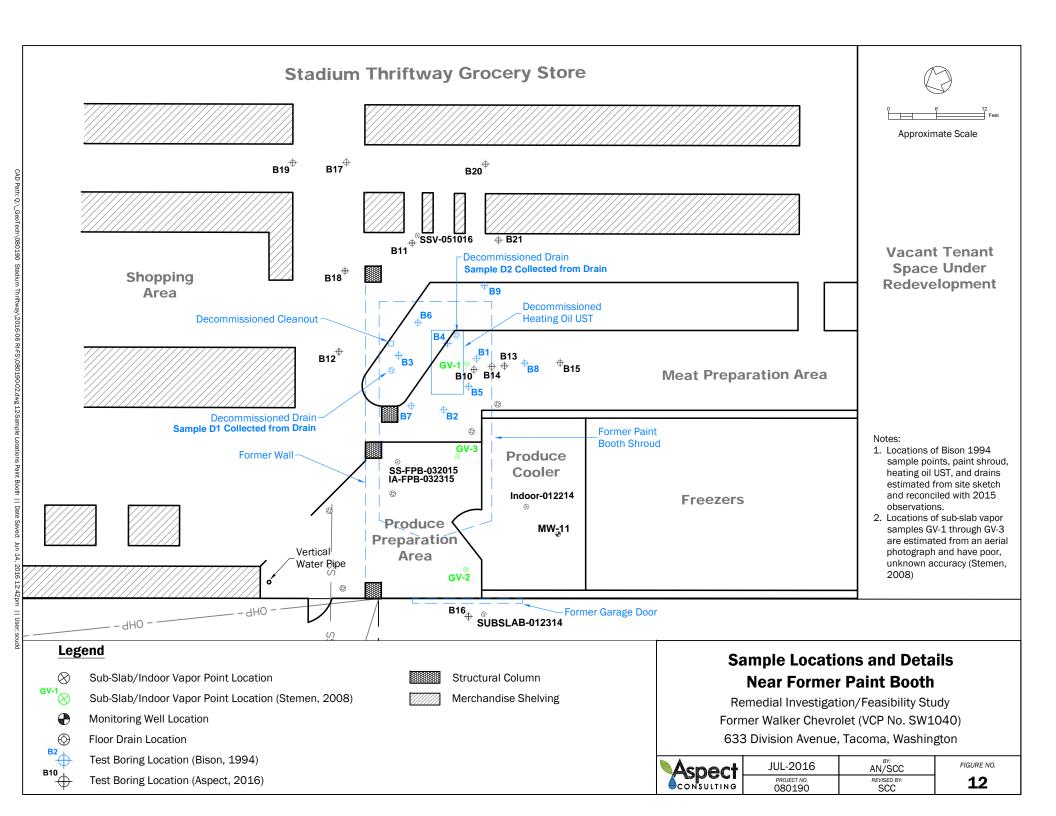












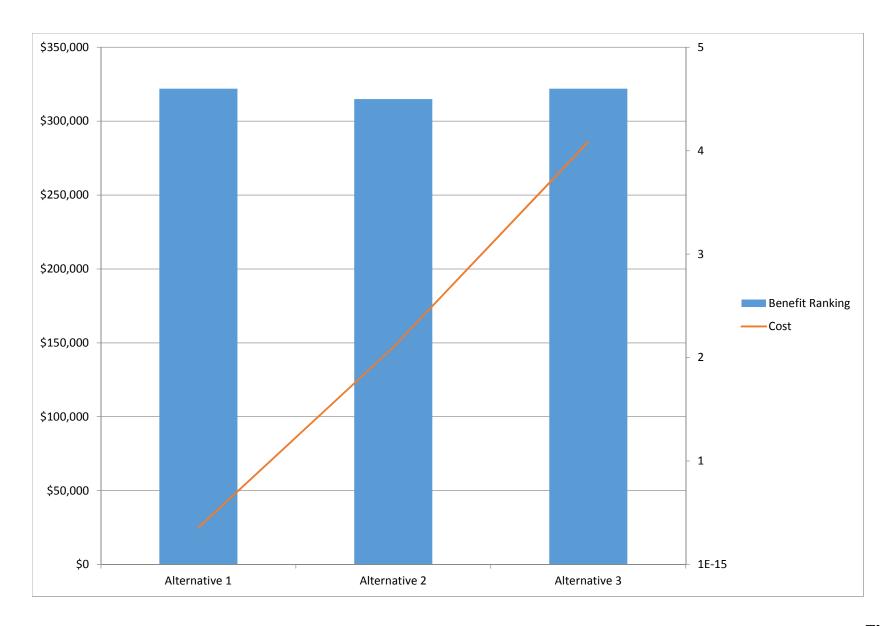
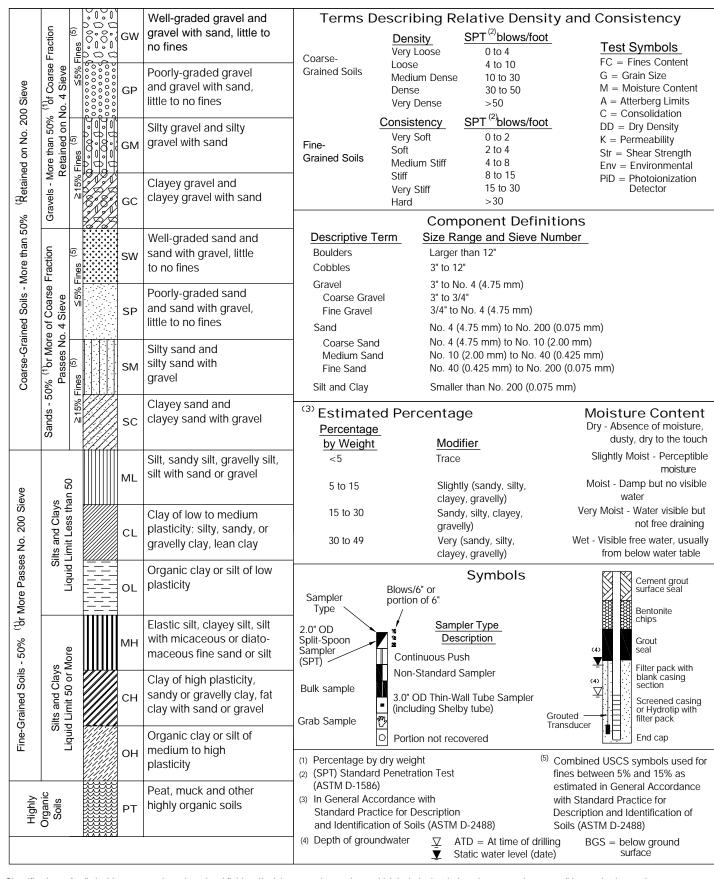


Figure 13
Disproportionate Cost Analysis

APPENDIX A

Well Construction and Soil Boring Logs for Sites



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



Exploration Log Key

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

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

MW-1

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

Signature KLVIII

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

MW-2

Project Name Beoce Tu	rus CHEU	Date 1-22-07
Well Identification #ALM-	<i>\$69</i>	County PIERCE SE 1/4 SE 1/4
Drilling Method SOALC 6"		Section 32 T 21N R 3E
DrillerKen Phi	llips	Street Address 630 STAOLUM WY
License #	2	Start Card R-70639
		Consulting Firm STEMEN ENV.
AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	ALM-169	
	MONUMENT: 8	BROWN SILTY SAND + GRAVEL FILL 20-30/2 -
		<u>FT</u>
	TYPE: 3/g CHLP	GEST SIETT SAME IC
	— SCREEN: 2 "x TYPE: PVC SLOT SIZE: . 0	IN COLOR C GC'FT
	— SAND PACK:	20 SILICA REMARKS

Holt Drilling A Division of Boart Longyear Company

Resource Protection Well Report

MW-3

Project Nar	THE BRUCE TITUS	SH∈V Date	2-1-07
Well identif	ication # ALM	- 068 County_	PIERCE SE 1/4 SE 1/4
Drilling Med	thod SCNIC	6" Section	32 T 21N R 3E
Drilling Method SCALC 6" Driller Ken Phillips License # 2652		lips Street A	ddress 633 DIVISION
			R 70639
_	-		ng Firm STEMEN ENVIORMENTAL
	AS-BUILT	WELL DATA,	FORMATION DESCRIPTION
- -	1		
	7		
£		- MONUMENT: 8' FLOSH	<u>0-3 F</u>
*		— CONCRETE SURFACE SEAL:	2" ASPHALT BROWN LOARSE
	经 位		SAND TGRAVEL 20-30/ -
		<u>2_f</u>	FT
i i	N = N	- RISER: 2 * 52 '	
<u>!</u>		- BACKFILL: 48 FT	<u>3- 54 ਸ਼ਾ</u>
1	13 13	TYPE: 3/4" CHIPS	GREY TO BROWN SILTY FINE
i :		TYPE: 79 CHIP	SAND HERY DENSE DRY OCCERNITE 20.30 / FINES (TILL)
! !			54- 45 FT
<u> </u>			Brown Moist Brown SAND
; ; ;			MEDIUM DENSE 10.15% FINES
1 1 1			
i !			CREY VERY DENSE GREY
) 	22 22		SILTY FINE SAND WITH
		— SCREEN: 2 "x 15"	CRAVELS (TILL)
! !		TYPE: FACTORY FLUSH	FT
		TYPE: IM-TOE: 1 COS.	
) ; ;		SLOT SIZE:, 020	
+		,	1
 		— SAND PACK:	
		MATERIAL: 10×20 SILICA	REMARKS
		- WELL DEPTH: 67'	1100000
-			<u> </u>
			<u> </u>

Signature YXA

BOART LONGYEAR E & I

Resource Protection Well Report

Project Nam	1e Staden th	buffung	Date 1/9/08
Weil Identifi	cation # BA M	1648	County Piace, NUS 1/2 SE
	nod Senje	,	Section <u>32 T. 21N</u> R. 3 €
Driller	Thomas W	! Croney	Street Address NIST N Tracany A
License #	2409		Start Card <u> </u>
			Consulting Firm Stemen ENV
	AS-BUILT	" WELLOATA	, FORMATION DESCRIPTION
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		MONUMENT TYPE: CONCRETE SURFACE FYC BLANK 2 "Y FYC BLANK 2	Men Bun till V- Densk SZ- lel = Compact Sand . Lt bun gravik Let
			Signature Thomas W. Cinio

BOART LONGYEAR E & I

MW-5

Resource Protection Well Report

Project Name Stadium Th	riftway	Date	1-11-08		
Well Identification # 15AM	168			. No 1/4	5E 1/2
Drilling Method Soit /		Section _	<u>32 </u>	21 N A.	3 <i>E</i>
Driller Thomas C	aney			+ N. Theoma	
License #			R 70822		
		Consulting	g Firm <u>5Teine</u>	en Env.	
AS-BUILT	" WELL DATA	7	Į, FORMAT	ION DESCRIPTION	
44'	MONUMENT TYPE: Flosh CONCRETE SURFACE 3 4. PYC BLANK 2 'Y EACKFIL 444 TYPE Ben tonit FLOS SCREET: 2 Y SLOT SIZE 10 TYPE FLOK 1 MATERIALIDY 2 D WELL DEFTH 65	15 ·	Med-dK Bourse well 42 med Bra	STAN Sand 57 - Till 63 - V EOUTSE WET	
		Signature	Thomas	Wh Gran	72_

BOART LONGYEAR E & I

Resource Protection Well Report

MW-6

Project Name Stadium Ti	priftway	Date 1-16-08
Well Identification # BAM	167	County Pierce NW 1/4 5E 1/4
Drilling Method <u>Son</u> C		Section 3.2 T. 21 N R. 3E
Driller Montas Coa	ney	Street Address N 12+ + N Tocomft Ave
License # <u>2409</u>		Start Card <u>R 70822</u>
		Consulting Firm Stemen Env.
AS-BUILT	" WELL DATA	FORMATION DESCRIPTION
-1.5' -4/3' -4/7'	MONUMENT TYPE: F/JS H CONCRETE SURFACE S INC. EVO BLANK & TY NEET CENTENT TO EACKFIL IT TYPE BENITORISE SLOT SIGE 120 TYPE Flysh Thren GRAVEL FLOX 17 MATERIALIONAL CIT	1 - 60 = Compact sand grul med Bru V. Dense
		Signature Monico W. Consus

Holt Drilling A Division of Boart Longyear Company

Resource Protection Well Report

MW-7

Project NameSTAD:	UM THRIFTWAY		1.18.08
Well Identification #		County_	P. FRCE NW 114 SE 114
Drilling Method	Some 4x6"	Section_	32 T 21N R 3E
Driller	Ken Phillips	Street Ac	Idrass N. 1St St + Tac Ave
License #	2652	Start Car	N K70822
 		Consulti	ng Firm STEMEN ENVIORNMENTAL
AS-BUILT	WELL DA	TA	FORMATION DESCRPITION
1	BAM-111		
	— MONUMENT:	} Fusa	ASPHALT + BEOWN SAND
- 郊 後	— CONCRETE SURI	FACE SEAL:	AND GRAVEL RUAD BASE
<u> </u>	2_	<u>FT</u>	<u> /- 50 гт</u>
9.0		50 ·	BROWN SILTY SAND WITH
			LARGE GRAVELS VERY DENSE
$\dot{-}$ 0 0	— BACKFILL:	FT	(TILL) FT
	TYPE: 3/4 Ct		
			<u>50-65FI</u>
			MEDIUM WET @ 55
			FT
		ا سود ،	<u> </u>
	— screen: <u>2 "</u>	<u>x 15 '</u>	FT
	TYPE: FACTO	et Fusit	
	SLOT SIZE:	020	
十一十月十			†
	SAND PACK:		
	MATERIAL: 10x		REMARKS
<u> </u>		65'	
1			
1 1 1	-		
1 1 4			
<u> </u>			

Signature KL MUZ

BOART LONGYEAR

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

	Mana	>c+			N	l loni	ito	ring Well Construction			
	Aspe				ct Numb 30190	per	_	Well Number MW-8D	Sheet 1 of 3		
	me: Walker Ch			U	30190				278.5		
Project Na								Ground Surface Elev.	278.11		
Location:	Tacoma, W							Top of Casing Elev	- 5/11/200	19	
Driller/Metl	nod: Boart Longyear / Spider Sonic Method: Continuous Core							Depth to Water5 Start/Finish Date 5	/4/2009 - 5/6/2009		
Depth /				T	Dlaws/	T		Start/Fillish Date	14/2003 - 3/0/2003		
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Materi Type	9	Description		Dept (ft)	
1 - 278	Flushmount monument, lockable							Blacktop and concrete.		-/ ₁ 1	
2 + 277	thermos cap, concre					\bowtie	X)	Vacuumed to 3'.		- 2	
$\frac{1}{3} + \frac{276}{275}$	seal 0'-1'						\mathbb{A}	Qvi		 3	
4 + 274								Very hard, slightly moist, light brov	vn, slightly sandy,	 4	
5 + 273		H						gravelly SILT (ML); fine sand; coar subrounded.	se to fine gravel,	+ 5	
6 + 272							`	oublourided.		+ 6	
7 + 8 + ²⁷¹										+ 7 - 8	
9 7 270							(Grades to sandy.		°	
10 + 269	2" diameter, schedu	ule.								10	
1 + 268	40 PVC, threaded										
2 + 267	connections, 0'-96'						η,	Qvt Very hard, brown, slightly gravelly,	silty SAND (SM)	12	
3 + 266						W.	1	fine gravel, rounded.	only of a to (onl),	13	
14 - 265 264										14	
$5 + \frac{204}{263}$										15	
16+										16	
7+ 261										17	
8+260										-18	
9+259	Hydrated bentonite	Ш								+19 +20	
258	chips, 1'-92'									-21	
$22 + \frac{257}{2}$							11	Gravelly.		-22	
23 + 256										-23	
255							11.	Slightly gravelly.		-24	
25 + 254 253		H						Siightiy graveliy.		-25	
26+										-26	
27+										-27	
28 + 250										-28	
29 + 249 30 + 249		Ш						Hard, brown, slightly gravelly, very	sandy SILT (ML);	-29 -30	
30 ₂₄₈							1	fine gravel, rounded.		-31	
32 + ²⁴⁷										-32	
33 + ²⁴⁶										-33	
$34 + \frac{245}{244}$								Hard, brown, slightly gravelly, very	silty SAND (SM);	-34	
35 + 243		H						fine gravel, rounded.		-35	
36+										-36	
37 + ₂₄₁							-	0		37	
38+								Qva Moist, red-brown, slightly silty SAN	ID (SP): medium	-38	
39 + 239 40 + 239						/	.] :	sand.	(- //	-39 -40	
10 238 11 -								Trace gravel.		-41	
42 + 237										-42	
43 + ²³⁶										-43	
$44 + \frac{235}{234}$										-44	
$45 + \frac{234}{233}$		H								- 45	
46+										-46	
47 + 231										-47	
48+ 230										-48	
49+							: -			- 49	
	npler Type:		PID - Ph			tector		Logged by:	DFR		
O No Red	-			tic Wate	r Level			Approved by:	ALN		
L Continu	uous Core		<u>▽</u> Wa	ter Leve	(ATD)						
								Figure No.			

	Mana	ct					ito	oring Well Construction		
	Aspe				ct Numb	er		Well Number	Sheet	
Dunia at Nav	me: Walker Ch			0	80190			MW-8D	2 of 3 278.5	
Project Nar ₋ocation:								Ground Surface Elev.	278.11	
ocation. Driller/Meth	Tacoma, WA	ar / Spider Soni	•					Top of Casing Elev. Depth to Water	- 5/11/2009	9
	Method: Continuous C								2009 - 5/6/2009	
Depth /				PID	Blows/			Start man Date		T_
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	(ppm)	6"	Materi Type		Description		Dep (ft)
$51 + \frac{228}{227}$										-51
52+										-52
3+ 225										+53
54 + 224 55 + 224	∑5/4/2009									+54 +55
6 + 223								Wet.		-56
7 + 222										-57
3 + 221										-58
$9 + \frac{220}{219}$										-59
)+		-								+60
1 + 217										-6
216										-62 -63
3+ 1+ ²¹⁵										6
5 + 214	10/20 sand filter pack	, L						_		-6
3+ 213	92'-120'					010		Brown.		+6
7 - 212						146		Qob Very hard, moist, brown, sandy, silty	GRAVEL (GM);	-6
3+211								non-plastic.	, ,,	-6
9+ 209							٥			-69
208							93			+70
207						818				+7: +7:
2+ 3+ ²⁰⁶						900				
. $+$ 205								Brown, slightly gravelly, very silty SAI non-plastic.	ND (SM);	+74
204								non-plastic.		-75
203										-76
201								Dark blue, slightly sandy SILT (ML); t	race gravel	+77
1 200								(),	g	-78
199										+79
198										-8 ¹
197							Ш			 8 2
196								Dry, gray, silty, very gravelly SAND (S	SM); fine sand.	-83
195										-84
194										-8
5+										-80
7 + 191								Trace cobbles, subrounded.		-8
190										-8
189										-8 -9
188										-9
2 + 187										-9
$3 + \frac{186}{185}$	2" diameter, 10-slot,						$\downarrow \downarrow$	Very hard, dry, blue gray, sandy, very	veilty GRAVEI	+ 93
4 + ₁₈₄ . :	schedule 40 PVC screen, 96'-106'							(GM).	only Ord WEE	-94
5+ ₁₈₃ [:										-9
6 + 182						8.8				+96 -97
7 + 181 18								Loose, slightly moist, brown, gravelly	very silty SAND	98
9 + 180 .	· = ::1							(SM).	, vory only of are	-99
179	∴⊟∵∐ npler Type:		PID - P	hotoioniz	ation De	tector		Logged by: DI	FR	
No Rec			_	atic Wate		iooioi				
=	uous Core		∇	ater Leve				Approved by: Al	_N	
			- • •	2.0	, -,			Figure No.		

		Mana	Menact			Monitoring Well Construction Log						
		Aspec				ect Numl 80190	ber	Well Number MW-8D	Sheet 3 of 3			
Project N	ame:	Walker Chev	rolet					Ground Surface Elev.	278.5			
ocation:		Tacoma, WA						Top of Casing Elev.	278.11			
Oriller/Me	ethod:	Boart Longyear	Spider Sonic					Depth to Water	- 5/11/200)9		
3ampling	Method	d: Continuous Core	•					Start/Finish Date	5/4/2009 - 5/6/2009			
Depth / Elevation (feet)	В	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (1		
01- 178										-10		
02+								Hard, dry, dark blue gray, grave	elly, sandy SILT (ML).	11		
03 175										+10 +10		
05 174										1		
06 173								Hard, dry, light gray, silty, very	gravelly SAND (SM);	- - - -		
07 172		-						fine sand; fine to coarse gravel.		-10		
08 171]								-10		
09 170										+10		
10+ 168		<u>\\</u>								 1		
11+		.]						Loose, wet, brown, slightly silty	SAND (SP); fine sand.	+1		
12+		<u>▼</u> 5/11/2009							<i>\ //</i>	+1		
13+		-								+1		
14+ 15+										+1 1		
16		: Threaded PVC endcap						Hard, dry, light gray, silty, very fine sand.	gravelly SAND (SM);	ļ. 1		
17+ 162								illie sailu.		+1		
18 161										 1		
19 160										 1		
20 158	1	<u>.</u>					111.11	Boring terminated 120 ft BGS. I	Depth to perched water	 1		
21+								was 55 ft BGS ATD. Depth to w	ater table at 112.56 ft	†1		
22+								BGS on 5/11/2009.		1:		
23										1:		
24+ 25+										+1: +1:		
153										1:		
27 152										1:		
28 151										-1:		
29 150										 1		
30 - 149										 1		
31+										+1		
32 146										1		
33+ 145 34+										-1 -1		
144 35										Ę'		
36										' -1		
37 ⁺ 142										+1		
38 141										+1		
39 140 139										-1		
138										 1		
11+ 137										+1		
136										+1		
43 + 135										+1		
134										+1 +1		
45+ 46+										+1		
47										['		
48 131										<u> </u>		
49 130										+1		
129	mpler T	ype:		PID - F	hotoioniz	l ation De	tector	Logged by:	DFR			
O No R				_	tatic Wate							
	nuous C							Approved t	by: ALN			
		-		÷ W	ater Leve	ı (AID)		F				
								Figure No.				

	Aspec	~ ‡					oring Well Constructio			
	CONSULTI				ct Numb 30190	oer	Well Number Shee MW-9 1 of			
roject Name:	Walker Chev			U	50190		Ground Surface Elev.	279.5	1 of 2	
ocation:	Tacoma, WA	710161					Top of Casing Elev.	278.78		
Oriller/Method:	Boart Longyear	/ Snider Sonic					Depth to Water	- 5/11/2009	9	
	d: Continuous Con						Start/Finish Date	5/5/2009		
Depth /				PID	Blows/	Material			Ь	
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	(ppm)	6"	Туре	Description			
1 + 279	Flushmount						Blacktop and concrete.		1	
2 + 278	monument, lockable						Vacuumed to 5'.		+	
3 + 277	thermos cap								+	
$4 + \frac{276}{275}$									+	
5 + 274							Qvi		+	
7 + 273	\S						Slightly moist, gray blue, gravelly,	sandy SILT (ML).	‡	
272									Ī	
271									\perp	
$_{0}$ \downarrow 270 \bigotimes	Quickrite portland						Qvt Dry, light brown, very gravelly, sar	ndy SILT (ML)	+	
269	cement, 0'-30'						Brown, slightly moist, gravelly, silt		+	
$2 + \frac{268}{267}$	\S						Brown, slightly moist, gravelly, slit	y SAND (SIVI).	+	
3+266						YIIII			t	
4+ 265	X									
264	\langle								Ī	
7 + 263							Dry, light gray.		1	
$3 + \frac{262}{3}$									1	
$9 + \frac{261}{260}$									+	
)+200	2" diameter, schedule	H							+	
1+ 258	40 PVC, threaded connections, 0'-60'								t	
2+257							Very dense, slightly moist, gray bl	ue.	+	
256									+	
i → ²⁵⁵ 🚫 🤾									+	
3+254							Day dork grow blue condy SILT (M) trace gravel	+	
7 + 253	\$						Dry, dark gray blue, sandy SILT (viL), trace graver.	+	
3+251							Slightly moist, brown, gravelly, ver	ry silty SAND (SM);	†	
1 250							fine to medium sand, predominan	tly fine.	t	
1+249										
$2 + \frac{248}{1}$									1	
$3 + \frac{247}{3} = \frac{1}{3}$							Grades to trace gravel.		+	
$1 + \frac{246}{245}$							Moist.		+	
5+ 244	Hydrated bentonite						Worst.		t	
6+243	chips, 30'-57'								t	
7 + 242									İ	
8+ 241 9+ 241							Very gravelly.		1	
$+^{240}$		H^{-1}					T		+	
1 + 239							Trace gravel.		ł	
$2 + \frac{238}{237}$							Qva		+	
3+236							Loose, moist, dark brown-red SAN	ND (SP), trace gravel;		
1+ 235							fine to medium sand, predominan subrounded.	uy tine; tine gravel,	İ	
5+ 6+ 234										
$7 + \frac{233}{1}$									Į	
8 + 232							Grades to slightly silty.		+	
$9 + \frac{231}{230}$									+	
Sampler 7	■ Γvpe·		PID - Ph	otoioniz	ation Do	tector	Logged by:	DFR		
No Recovery			_			COLOI	Logged by.			
Continuous (tic Wate			Approved by:	ALN		
, 55.7.1.1.0003 (20.0		≚ Wa	ter Leve	I (ATD)					
							Figure No.			

	Mana	~ +				/lonit	oring Well Construction		
	Aspec				ect Numb	er	Well Number	Sheet	
- · · · · · · ·	me: Walker Chev			0	80190		MW-9	2 of 2 279.5	
Project Nar		roiei					Ground Surface Elev.	279.5	
ocation:	Tacoma, WA	/ Cnidor Conio					Top of Casing Elev. Depth to Water	- 5/11/2009	
Oriller/Meth	nod: Boart Longyear Method: Continuous Core		:				Start/Finish Date	5/5/2009	
Depth /				- DID	Blows/	Ī	Stat (Fillish Date	0/0/2000	T_
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	6"	Material Type	Description		Dep (ft)
51 + 229									-51
$52 + \frac{228}{227}$	Hydrated bentonite						Grades to gravelly.		-52
53+ 226	chips, 30'-57'						Grades to gravelly.		+5
54 + 225	<u>V</u> 5/5/2009						Wet.		+5
55 + 224 66 + 224									+59 +50
7 - 223									-5
8 + 222 :	. . 10/20 sand filter pack,						No gravel.		-5
9 + 221	57'-70'								-59
0 + 220		H							-6
1 + 219									 6
2 217									+6
3+ 216	: = :								+6
1+ ₂₁₅ :	2" diameter, 10-slot, schedule 40 PVC								+6
214	screen, 60'-70'								+6 +6
6+ 7+ ²¹³ :	and and and and and and and and and and								-6
3 + 212									+6
211									+6
210	Threaded PVC endcap						Boring terminted 70' BGS. Depth to	water was E4 ft	 7
1 + 209							BGS ATD. Well was dry on 5/11/200	water was 54 it	-7
2 + 200							,		+72
3+ 206									 73
1 + 205									+74
5 + 204									+75 +76
7 + 203									7
3 + 202									-7
1 201									<u>+</u> 7
$+^{200}$									-8
1 + 199									-8
2+ 107									-8
3+ 196									+8
1+ 195									+8
5 + 194 6 + 1194									-8 -8
7 193									F8
8 + 192									-8
9 + 191									-8
) ¹⁹⁰									<u>+</u> 9
1 + 189									 9
2+									+9
3+ 186									+9
185									+9
95 + 184 96 + 184									-9 -9
7 183									-9
8 + 182									-9
99 + 181									-99
180 Sam	pler Type:		PID - Ph	 otoioniz:	ation De	l tector	Logged by: D	FR	
No Rec			_	itic Wate					
_	uous Core			ter Leve			Approved by: A	LN	
					()		Figure No.		

	Aspec		1	ect Numb		oring Well Construction Well Number	Sheet	_
Duningt Names	Walker Chev		0	80190		MW-10 Ground Surface Elev.	1 of 2	
Project Name: _ocation:	Tacoma, WA	TOICE				Top of Casing Elev.	279.45	
Driller/Method:	Boart Longyear	/ Snider Sonic				Depth to Water	- 5/11/2009	
Sampling Method:		•				Start/Finish Date	5/7/2009	
Depth / Elevation Box	rehole Completion	Sample Test	s PID (ppm)	Blows/	Material Type	Description		D
(feet)	F	Турель	(ррііі)		Type	Blacktop and concrete.		+
46-234 47-233 48-232 49-231	Flushmount monument, lockable thermos cap Quickrite portland cement, 0'-41' 2" diameter, schedule 40 PVC, threaded connections, 0'-60'					Medium dense, wet, dark brown gravelly SAND (SP); fine to coar gravel, rounded. Medium dense, mosit, gray purp SAND (SM); fine to coarse sand subrounded. Dry to slightly moist, brown to da Loose, moist, dark brown, slightl (SP); predominantly medium to gravel, subrounded. Medium dense, dry to slightly moist, ye gravelly, very slift, dry to slightly moist, be gravelly, very silty SAND (SM); fito coarse gravel, subrounded. Very stiff, dry to slightly moist, be sandy SILT (ML); fine to coarse gravel, subrounded. Medium dense, slightly moist, day gravelly SAND (SP); predor coarse sand; fine to coarse gravel, subrounded. Medium dense, slightly moist, day very gravelly SAND (SP); predor coarse sand; fine to coarse gravel, subrounded. Medium dense, dry to slightly moist, yell silty, sandy GRAVEL (GM); fine coarse gravel, subrounded. Medium dense, dry to slightly moist, yell silty, sandy GRAVEL (GM); fine coarse gravel, subrounded. Medium dense, dry to slightly moist, yell silty, gravelly SAND (SP); predominantly medium to coarse gravel, subrounded, incredepth. Medium dense, dry to slightly moist, yell sown, silty, very gravelly SAND (SP). Loose to medium dense, gravell Medium dense, slightly moist, yell gravelly SAND (SP). Loose to medium dense, gravell Medium dense, red-brown, gravell SAND (SP), trace gravel, perdominantly Medium dense, red-brown, gravell SAND (SP), trace gravel; perdominantly Medium dense to dense, gravell subrounded. Slightly gravelly; fine gravel. Gravelly lense. Gravelly lense. Gravelly lense.	see sand; fine to coarse see, silty, very gravelly; fine to coarse gravel, ark brown. y silty, gravelly SAND coarse sand; fine bist, fine to coarse solder. sellow-red to dark brown, ine to coarse sand; fine rown, gravelly, very seand; fine to coarse sark brown, silty, very see sand; fine to coarse sark brown, slightly silty, minantly medium to sel, subrounded. bow-red to dark brown, to coarse sand; fine to coarse sand; fine to coarse sand; fine to seasing gravel with solst, yellow-red to dark (SM); fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse subrounded. comes slightly silty, y. sellow-red, silty, very rse sand; fine to coarse	
Sampler Ty	pe:	PID	- Photoioniz	ation De	tector	Logged by:	JMS	
No Recovery		Ā	Static Water	er Level		Approved b	v· ALN	
Continuous Co	re	$\bar{\Sigma}$	Water Leve	el (ATD)		Approved by	y. / \LI4	
						Figure No.		

•	Mars a s						oring Well Construction	on Log	
	Aspe			-	ect Numb 80190		Well Number MW-10	Sheet 2 of 2	
Project Name:	Walker Chev				00100		Ground Surface Elev.	280	
Location:	Tacoma, WA						Top of Casing Elev.	279.45	
Driller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water	- 5/11/2009	9
-	Continuous Core	е					Start/Finish Date	5/7/2009	
Depth / Elevation (feet) Box	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _l
(feet) 51 - 229 52 - 228 53 - 227 54 - 226 55 - 225 56 - 224 57 - 223 58 - 222 59 - 221 60 - 220 61 - 219 62 - 218 63 - 217 64 - 216 65 - 215 66 - 214 67 - 213 68 - 212 69 - 211 70 - 210 71 - 209 72 - 208 73 - 207 74 - 206 75 - 205 76 - 204 77 - 203 78 - 202 79 - 201 80 - 200 81 - 199 82 - 198 83 - 197 84 - 196 85 - 195 86 - 194 87 - 193 88 - 192 89 - 191 90 - 190 91 - 189 92 - 188 93 - 187 94 - 186 95 - 185 96 - 184 97 - 183 98 - 182 99 - 181	Hydrated bentonite chips, 41'-56'11"	I syperiu					Loose, moist. perdominantly medium dense, wet, trace gravel medium sand; fine gravel. Red-brown with black staining, s Black, fine to medium sand. Loose to medium dense, very medium sand. Medium dense, wet, red-brown, sand (SC); predominantly fine to gravel. Medium dense, wet, dark brown, (SM); fine to coarse sand; fine gravel. Medium dense, wet, dark brown very sandy GRAVEL (GP); fine to coarse gravel, subrounded. Boring terminated 75 ft BGS. Depth to water was 55 ft BGS A 5/11/2009.	; predominantly lightly gravelly. Dist to wet, brown slightly clayey; fine to slightly gravelly, clayey o medium sand; fine silty, gravelly SAND ravel to cobbles, to gray, slightly silty, o coarse sand; fine to	-5 -5 -5 -5 -5 -5 -5 -6 -6 -6 -6 -6 -6 -6 -6
Sampler Ty No Recovery	po.		_	hotoioniz atic Wate		ICCIOI			
Continuous Co	ore		$\overline{}$	ater Leve			Approved by	: ALN	
							Figure No.		

	Mana			ľ	Monit	oring Well Constructio	n Log	
	Aspec	CT		ect Numl 80190	oer	Well Number MW-11	Sheet 1 of 2	
Project Name:	Walker Chev	. =	0	00190		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 Metho	d: Continuous Cor	2				Start/Finish Date	5/8/2009	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	s PID (ppm)	Blows/ 6"	Material Type	Description		Dep (fi
	Flushmount					Concrete.		1
1 -278 2 -277 3 -276 4 -275 5 -274 6 -273 7 -272 8 -271 9 -270 10 -269 11 -268 12 -267 13 -266 14 -265 15 -264 16 -263 17 -262 18 -261 19 -260 20 -259 21 -258 22 -257 23 -256 24 -255 25 -254 26 -253 27 -252 28 -251 29 -250 30 -249 31 -248 32 -247 33 -246 34 -245 35 -244 36 -243 37 -242 38 -241 39 -240 40 -239 41 -238 42 -237 43 -236 44 -235 45 -234	Flushmount monument, lockable thermos cap, concrete seal 0'-1' 2" diameter, schedule 40 PVC, threaded connections, 0'-53' Hydrated bentonite chips, 1'-49'11"					Concrete. Qvi Wet, light brown, silty, very grave coarse gravel, subround to suban Slightly moist, very silty. Wet, grades to gravelly, very silty coarse sand. Qvt Very dense, very silty, very sandy cobbles. Slightly moist, brown, silty, sandy to coarse sand; fine to coarse grades to brown-gray. Grades to brown-gray. Gray, very silty. Very moist, brown, silty, very sandy Cery hard, very moist, dark gray, SAND (SM) with sandy silt interbed coarse sand; fine to coarse grave Brown. Dry, gray, silty, very sandy GRAV coarse sand; fine to coarse grave Brown. Dry, brown, trace to slightly silty, very sandy. Moist, gray, sandy, very silty GRAB Brown, silty, very sandy. Very moist, red-brown to dark brovery silty SAND (SM). Trace gravel. Qva Very moist, red-brown, very silty sandy SILT (SM/ML) Very moist, red-brown, slightly silt trace gravel; fine to medium sand Very moist, red-brown, slightly silt interbeds of silty to very silty SAN fine to medium.	SAND (SM); fine to GRAVEL (GM); GRAVEL (GM); GRAVEL (GM). gravelly, very silty eds ELLY (GM); fine to I. Very sandy GRAVEL +4 +4	
46 +233 47 +232 48 +231	XXXX					Brown gray, silty SAND interbedon(SM-ML).	ded with sandy SILT	
49 ¹ 230 ₩ X	× √ 5/8/2009					Dark brown, predominately mediu	ım sand.	/-
Sampler ☐		PIC) - Photoioniz	ation De	tector	Logged by:	JTL	
No Recovery	•	Ţ	Static Wate	er Level		Approved by:	ALN	
Continuous	Core	$\bar{\Sigma}$	Water Leve	el (ATD)		Apploved by	· · -	
						Figure No.		

		Mana			Monitoring Well Construction Log								
		Aspe	_			ect Numl 80190		Well Number MW-11	Sheet 2 of 2				
Project N	ama:	Walker Chev			U	00190		Ground Surface Elev.	2 01 2				
ocation:		Tacoma, WA	TOICE					Top of Casing Elev.	278.52				
Driller/Me		Boart Longyear	/ Snider Sonic					Depth to Water	- 5/12/2009	9			
		d: Continuous Cor		<u> </u>				Start/Finish Date	5/8/2009	_			
Depth /			Sample		PID	Blows/	Material			Dep			
Elevation (feet)		Borehole Completion	Type/ID	Tests	(ppm)	6"	Туре	Description		(ft			
51 - 228								Wet.		-5			
52 - 227		5/12/2009								-52			
53 + 226		10/20 sand filter pack,						Gravelly.		-53			
54 +225		49'11"-63'						Trace gravel to slightly gravelly.		-54			
55 + 224			H					Wet, red-brown, interbedded silty S	SAND and slightly	+5			
56+223 57+222	I	2" diameter, 10-slot,						silty SAND (SM).		+50 +51			
57 T222 58 T 221		schedule 40 PVC								58			
59 + 220		screen, 53'-63'								-59			
60 + 219			H					Wet, brown, silty SAND (SM); fine	and	+60			
61 218								, , ,		6			
32 + 217								Wet, brown, slightly silty, gravelly S coarse sand.	SAND (SP); fine to	+62			
3+216		Threaded PVC endcap					9790	Qob		/ 6			
64 +215 65 +214							2.5.	Slightly moist, gray, very sandy, ve	ry silty GRAVEL	+6 -6			
66 - 213								(GM). Moist, brown.		6			
7 +212		•]					8.8.	Slightly moist, light brown, sandy.		+6			
88 - 211								Cradas to alimbth, resist array alimb	Alice and a superior live	+6			
69 210		Natural backfill, 63'-70'						Grades to slightly moist, gray, sligh SILT (ML); with wood.	itiy sandy, gravelly	-6			
70 +209		•						Boring terminated 70 ft BGS. Depth	n to water was 52.20	+7			
71 +208								ft BGS on 5/12/2009.		+7			
72+207 73+206										+72 +73			
74 - 205										72			
75 + 204										+75			
6 - 203										-76			
77 +202										-77			
78 + 201										 78			
79 + 200										+ 79			
30 199 31 198										- 80			
31 - 196 32 - 197										+8 ²			
33 – 196										-83			
34 + 195										-84			
85 194										-8			
36 + 193										-8			
37 + 192										-8			
38 191 39 190										-8			
90 + 189										-89 -90			
91 – 188										-9			
2 - 187										-9			
93 + 186										-93			
94 – 185										-9			
95 + 184										+9			
96 183 97 182										-9 ⁻			
98 + 181										98			
99 + 180										-99			
	mpler T			PID - P	hotoioniz	ation De	tector	Logged by:	JTL	L			
O No R				_	tatic Wate								
_	nuous (ater Leve			Approved by: A	ALN				
				- VV	alti Leve	: (AID)		Figure No.					
								rigure No.					

Project Number ORSUSTING Walker Chevrolet Tacoma, WA Tacoma, Wa Tacoma, WA Tacoma, WA Tacoma, Wa Tacoma, WA Tacoma, Wa Tacoma, Wa Tacoma, WA Tacoma, Wa Ta	•	\				N	/lonit	oring Well Construction	n Log	
Tacoma, WA Tacoma, WA Tacoma, WA Tacoma, WA Top of Casing Elev Technical Conditionate Core Technical Continuous Core Technical Continuous Core Technical Continuous Core Technical Core Technical Continuous Core Technical Core		CONSULTI	C T ng		-	ct Numb		Well Number	Sheet	
Simpling Method: South Continuous Core Shart Continuous Core Shart Continuous Core Shart Finish Date 10252010 - 10272010 Dry, gray-blue, slightly gravely, sandy SiLT (ML), fine to grave line to medium sand with fine to mean significant sign sign sign sign sign sign sign sign	Project Name:	Walker Chev	vrolet	l				Ground Surface Elev.	278	
Start/Finish Date Continuous Circle Conti	Location:	Tacoma, WA						Top of Casing Elev.		
Deposition Description Descrip	Driller/Method:	Boart Longyear	/ Spider Sonic					· · <u></u>		
Evereit Devote Compilation Surprise Tests (paper) Tests (p		Continuous Cor	e					Start/Finish Date10/2	25/2010 - 10/27/2010	
1 277 2 276 3 275 5 273 3 275 5 273 5 276 5 273 5 276 6 272 6 277 6 271 7 271 9 266 6 272 6 276 7 271 9 266 6 272 6 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 277 8 276 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 276 8 277 8 276 8 277 8 276 8 276 8 277 8 277 8 276 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277 8 277	Elevation Bo	rehole Completion	Sample Type/ID	Tests		1		Description		De _l
Sampler Type: PID - Photoionization Detector Logged by: JMS No Recovery Static Water Level Approved by: ALN	(feet) 1 - 277 2 - 276 3 - 275 4 - 274 5 - 273 6 - 272 7 - 271 8 - 270 9 - 269 10 - 268 11 - 267 12 - 266 13 - 265 14 - 264 15 - 263 16 - 262 17 - 261 18 - 260 19 - 259 20 - 258 21 - 257 22 - 256 23 - 255 24 - 254 25 - 253 26 - 252 27 - 251 28 - 250 29 - 249 30 - 248 31 - 247 32 - 246 33 - 245 34 - 244 35 - 243 36 - 242 37 - 241 38 - 240 39 - 239 40 - 238 41 - 237 42 - 236 43 - 235 44 - 234 45 - 233 46 - 232 47 - 231 48 - 230	Flushmount monument, thermos cap Concrete seal, 0'-5.5' Hydrated bentonite chips, 5.5'-110'	Sample Type/IID	Tests		1	Type	Air Vacuum - No Recovery Qvi Dry, gray-blue, slighlty gravelly, sa gravel; fine to medium sand Dark brown, gravelly, very sandy Scoarse gravel (2") Gray-blue/dark brown, slightly gravelly, sto coarse gravel (2.5"), rounded to Dry, dark brown, gravelly, silty SAN coarse gravel (2"), rounded to subrocoarse gravel (2"), fine to coarse gravel (2"); fine to coarse gravel (2"); fine to coarse gravel (2"); fine to coarse gravel, slightly gravely, slightly gravely, slightly gravely, sand Dry, dark brown, gravelly, very silty SAND (SM); fine gravel; predominastand Dark brown, gravelly, very silty SAND (SP), trace gravel, subrounded; fine to medium Dry, dark brown, slightly gravelly SAND (SP), gravel, subrounded; fine to medium Dark brown/yellow-red, gravelly SAND (SP) and brown, slightly gravelly SAND (SP) and brown, slightly gravelly SAND (SP) ark brown, gravelly SAND (SP) bark brown, gravelly SAND (SP) Dark brown/yellow-red, slightly gravelly SAND (SP) Dark brown/yellow-red, slightly gravelly SAND (SP) Dark brown/yellow-red, slightly gravelly SAND (SP) Dark brown/yellow-red, slightly gravelly SAND (SP)	SAND (SP-SM); fine to subrounded ND (SM); fine to counded; fine to make sand counded; fine to medium sand so (SM) SM) Gravel and silt; fine counded; fine to counded; fine to medium sand counded; fine to cound	- 1 2 3 4 5 6 7 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
No Recovery Static Water Level Approved by: ALN		pe:		PID - PI	hotoioniz	ation De	tector			
Approved by: ALN		F		_			.55101	90 ,		
⊔ Sommodo Solo	=	ore		∇				Approved by:	ALN	
	LI Continuous CC	лС		≚ Wa	ater Leve	I (ATD)				

•	Mone	ct					oring Well Construction		
	CONSULTI	U I ING		-	ct Numb 30190	per	Well Number MW-12D	Sheet 2 of 3	
Project Name:	Walker Che				30100		Ground Surface Elev.	278	
ocation:	Tacoma, WA						Top of Casing Elev.	277.72	
Oriller/Method:	Boart Longyea	r / Spider Sonic					Depth to Water (ft BGS)	- 10/29/201	0
Sampling Method:	Continuous Co	re					Start/Finish Date10/2	5/2010 - 10/27/2010	_
Depth / Elevation (feet) Box	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De _l
51 – 227							Medium to coarse sand		-5
52 +226							Slightly gravelly SAND (SP); fine to (1.5"); predominantly medium sand		+5
53 - 225							(1.0), predominantly mediam same	•	<u>+</u> 5
4-224									 5
55 + 223							Trace silt; fine gravel		+5
6+222							Trade citt, inte graver		+5
7+221						11111	D 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
8+220							Dry, dark brown, silty SAND (SM); fine to medium sand	trace fine gravel;	+5
9+219 0+218		Ш					Dry, dark brown SAND (SP); mediu	ım sand	5 6
1+217							bry, dark brown SAND (Sr.), medic	iii sana	-6
-217 -216									6
+215 +215									+6
1-214									+6
5-213									+6
6-212									+6
7-211							Gravelly SAND (SP); trace silt; fine		+6
8+210							(3"), subrounded; medium to coars	e sand	+6
9+209									+6
0+208		H				9191	Qob		十7
1+207						2014	Slightly moist, dark brown, slightly		+7
2+206 3+205							GRAVEL (GW-GM); fine to coarse coarse sand	graver (2), line to	<u></u>
4 - 204							Wet, dark brown/dark gray, slightly		7
5+203							SAND (SP-SM); fine to coarse grave coarse sand	vel (2"); medium to	 -7
6-202						RIR	Wet, red-brown, silty, very sandy G	RAVEL (GM); fine	┘ ├7
· - 201							to coarse gravel (2"); fine to coarse]-
3+200	록						Wet, yellow-red, silty, gravelly SAN coarse gravel (2"); fine to coarse sa	ID (SM); fine to	 7
199							Moist/very moist, dark brown, slight		/ 7
0+198 1+197							SAND (SP-SM); fine to coarse gravicoarse sand	vel (1.5"); fine to	8
2-196							Moist/very moist, yellow-red, silty, v (SM); fine to coarse gravel (2"); fine	very gravelly SAND	_
3-195		H				STATIA	Moist/very moist, yellow-red, silty, v		/ ├8
1+194							(GM); fine to coarse gravel (3.5"); f	ine to coarse sand] -8
5+193 6+192							Wet, red-brown/dark brown, slightly (SP); fine gravel; predominantly me] -8 -8
7 - 191						9000	Wet, dark brown, slightly silty, grav	elly SAND (SP-SM);	_
8+190						100	Wet, brown, silty, very sandy GRA		7+8
9+189							coarse gravel (2"); fine to coarse sa		8
00+188 01+187							silty, SAND (SP-SM) lense (6") Wet, dark brown, silty, very gravelly	V SAND (SM): fine to	9
01 + 187 02 + 186							coarse gravel (1"); predominantly c)
3-185							Dry, gray SILT (ML)		J
4-184							Red-brown slightly gravelly, slightly fine gravel; fine to medium sand	sandy SILT (ML);	F.6
5-183		\mathbf{H}					Dry, brown, gravelly, very silty SAN	ID (SM); fine gravel:	∦-°9
96-182							fine to coarse sand		J⊩9
97 + 181							Dry, dark brown, gravelly, very san coarse gravel; fine to coarse sand	dy SILT (ML); fine to	11 ~
98 + 180 99 + 179							Yellow-red, slightly silty, very grave		9 9 جار
Sampler Ty	ne.		חוח חו	hotoioniza	ation Do	tostor	fine to coarse gravel (2.5"); fine t	JMS	<u> </u>
No Recovery	po.		_	hotoioniza atic Wate		ieciof	Logged by.	5.010	
Continuous Co	ore		∇	ater Level			Approved by: A	ALN	
_			- vva	ater Level	(אוט)		Figure No.		
							Figure No.		

	Mana	at .					oring Well Construction		
	Aspe	CT		-	ct Numb		Well Number	Sheet	
	OCON SULT			08	30190		MW-12D	3 of 3	
Project Name:	Walker Che						Ground Surface Elev.	278 277.72	
ocation:	Tacoma, WA						Top of Casing Elev		
Driller/Method:	Boart Longyea	•					Depth to Water (ft BGS)	- 10/29/201	
Sampling Method Depth /	d: Continuous Co	ore				T	Start/Finish Date10/2	25/2010 - 10/27/2010	_
Elevation (feet)	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (
101-177							Slightly moist, dark brown, sandy, fine to coarse gravel (3"); fine to co		-10
102-176							g. a (c),		+10
103-175							Slightly moist/moist, dark brown, s	ilty, very gravelly	+10
104-174							SAND (SM); fine to coarse gravel	(1.5"); fine to coarse	+10
05+173 06+172		П					sand Moist, dark brown, silty, gravelly S	AND (SM); fine to	+10 +10
07-171							coarse gravel (3"); fine to coarse s	and	1
08-170							NA-i-t deal brown allahat alla	······································	- 10
169							Moist, dark brown, slightly silty, grant (SP-SM); fine to coarse gravel (1.5		10
110-168	· 10/20 filter pack,						sand	,	<u>/</u> +1·
11 167	110'-134.5'						Moist, dark brown SAND (SP); trace medium sand	ce fine gravel;	+1
12 166						9000	Slightly moist, dark brown, silty, ve	ry sandy GRAVEL	1
13+165 14-164	2" diameter, 10-slot,Sch 40 PVC screen,					2.5.	(GM); fine to coarse gravel (3"); fin	e to coarse sand	+1 +1
15-163	113'-133'	Ш							Ľ
16-162	-					8,8,8	0		1
17-161							Slightly moist, gray, sandy, very sil fine to coarse gravel (3"); fine to co		+1
18 160							to coa g. a.vo. (c), to co		+1
19 159						2.50			+1
20 158							Slightly moist, gray, gravelly, sand	y SILT (ML); fine	+1
21+157						3000	gravel; fine to coarse sand		/ 1
22 156]					8.8.	Dry, dark brown/gray, sandy, silty of gravel to cobbles, rounded to sub-		- 1 1
24-154		Н					coarse sand		↓ <u>'</u>
25-153	-						Moist, yellow-red/gray, slightly silty (GW-GM), fine to coarse gravel (3'		-1
26-152						8,8	sand), fille to coarse	+1
27-151	· <u>∇</u> 10/26/2010					9			+1
28 150	-					000			+1
29 149	1 0/29/2010					7 5 7 1 1	Moist, gray, slightly sandy, gravelly	/ SILT (ML); fine	+1
30 148							gravel; fine to coarse sand Dry, dark brown/gray, sandy, grave	ally SILT (ML): fine to	+1 +1
31+147 32+146							coarse gravel (2"); fine to coarse s	and	-1
33-145	PVC endcap								H
34 144	-						Very moist, gray, slightly sandy, gr	avolly SILT (ML):	+1
35 143	Hydrated bentonite	H				4464	\fine to coarse gravel (2"); fine to co	parse sand	H^{1}
36 142	chips, 134.5'-140'						Very moist, brown, silty, sandy GR		1
37-141							coarse gravel (3"), rounded to sub-	ounded; fine to	
38+140 39+139						8.8.			ľ
40-138	ļ	Ц				186	Wet, brown, silty, sandy GRAVEL \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\	(GM); fine to coarse	Ţ
41-137							graver (2), fille to coarse saild		/ إ.
42 136									ł
43 135									+
4 4 134									+
45 133									ť
4 6 132 47 131									<u> </u>
48-130									Ţ
49-129									Į
Sampler Tv	Nue.		DID I	Photoioniza	tion Do	tootor	Logged by:	JMS	L
No Recovery			_	Photoioniza Static Wate		RECION	90 ,		
Continuous C			$\overline{\nabla}$	/ater Level			Approved by:	ALN	
-			- V	valei Leve	(ΔΙΔ)		Figure No.		
							i igule ivo.		

	Mana				N	/lonit	oring Well Construction	Log	
	CONSULTI	CT NG		-	ct Numb 80190	oer	Well Number MW-13D	Sheet 1 of 3	
Project Name:	Walker Che	vrolet	l				Ground Surface Elev.	277	
Location:	Tacoma, WA						Top of Casing Elev.	276.96	
Oriller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010)
Sampling Metho	d: Continuous Co	re					Start/Finish Date10/2	7/2010 - 10/29/2010	
	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		D
Depth /		Sample	Tests					ace silt; fine to fine sand AND (SM); fine gravelly SAND (SP-SM) lense as and savelly SILT (ML); coarse sand (SM); fine to coarse sand avelly, silty SAND (SM); trace gravel; did (SM); fine to coarse sand avelly, silty SAND (SM); trace gravel; did (SM); fine to coarse sand avelly, silty SAND (SP-SM); fine to coarse sand avelly, silty SAND (SP-SM); fine to coarse sand savelly, silty SAND (SP-SM); fine to medium sand sand savelly; fine to medium sand savelly; fine to medium sand savelly; fine to medium sand savelly; fine to medium sand savelly; fine to medium sand savelly; fine to medium sand	
46 + 231 47 - 230 48 - 229 49 - 228							Yellow-red, slightly gravelly SAND (Dark brown, slightly gravelly SAND to coarse gravel (2"); predominantly sand	(SP); trace silt; fine	†
Sampler -	Гуре:		PID - Ph	otoioniz	ation De	tector	Logged by:	JMS	1
No Recovery				tic Wate	er Level		Approved by: A	ALN	
Continuous	Core		∑ Wa	ter Leve	l (ATD)				
							Figure No.		

,	Mana	~ ‡					oring Well Construction		
	CONSULTI	CT ING		-	ct Numb 30190	er	Well Number MW-13D	Sheet 2 of 3	
Project Name:	Walker Che	vrolet					Ground Surface Elev.	277	
ocation:	Tacoma, WA						Top of Casing Elev.	276.96	
riller/Method:	Boart Longyea	r / Spider Sonic	;				Depth to Water (ft BGS)	- 10/29/201	0
Sampling Method:	Continuous Co	re				1	Start/Finish Date10/2	7/2010 - 10/29/2010	_
Depth / Elevation Boil (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (f
51 -226							Trace gravel		-5
2 - 225									+5
3-224									+5
4 - 223									+ 5
5-222		H					Fine gravel		+5
6+221							Time graver		+5
7 +220									+5
8+219									+5
9+218							Slightly moist, gray, silty SAND (SM	1); fine sand	+5
)+217							Dry, dark brown/yellow-red SAND (+6
+216 2+215							sand		+6 +6
3+215 3+214									6
1-213							Slightly moist, dark brown, silty SAN medium sand	ND (SM); fine to	-6
5+212		\mathbf{H}						2D)	$+\epsilon$
6+211							Dry, yellow-red/dark brown SAND (3 Very gravelly SAND (SP) lense (6")	SP); medium sand	+6
7-210							very graverry SAND (SF) letise (0)		+6
3+209									+6
9+208									+6
0-207		H					Dark brown silty SAND (SM) lense Slightly moist/moist, dark brown, gr		+7
1+206							fine to coarse gravel (2"), rounded t		+7
2+205 3+204							medium-fine sand Moist/very moist, dark brown SAND	(SP): trace gravel	- 7
1-203						(D'LO)(•	, ado gavor	⊥′ ₇
5-202							Qob Wet, yellow-red/dark brown, silty, sa	andy GRAVFI	<u></u> +7
6-201						8 8	(GM); fine to coarse gravel (2"); fine	to coarse sand	 7
7-200						144			 7
3+199									+7
- 198							Moist, gray, slightly gravelly, very si	Ity SAND (SM); fine	+7
)+197	-7	П					gravel; fine to coarse sand		+8
1 +196 2 +195	☑						Wet, red-brown, silty, gravelly SANI coarse gravel (1.5"); fine to coarse	sand, predominantly	, 8 ′,⊢8
3-194							coarse		<u> </u>
194 1-193						1110	Wet, red-brown, slightly silty, grave fine to coarse gravel (3"); predomin		H-8
5-192		\mathbf{H}					Moist, red-brown, sandy, silty GRAV		∦-8
6-191							coarse gravel (3"), rounded to subro		-8
7+190							coarse sand Wet, red-brown, slightly silty, grave	lv SAND (SP-SM)	J -8
8-189							fine gravel; fine to coarse sand, pre	dominantly coarse	-8
9+188							Moist/very moist, yellow-red/red-bro very gravelly SAND (SP-SM); fine to		+8
0+187							rounded to subangular; fine to coars		\int_{0}^{2}
1+186 2+185							Dry, dark brown, sandy, very gravel	ly SILT (ML); fine to) - -
3+184							coarse gravel (2.5"), rounded to sub coarse sand	pangular, line to	1
4-183							Wet, dark brown, sandy, very silty 0		-6
5-182						12151	to coarse gravel (2"), rounded to su \text{\coarse sand}	brounded; fine to	<u>+</u> 9
96 - 181							No recovery		 6
7-180							-		-9
8+179									+9
9+178									+6
Sampler Ty	pe:		_	hotoioniza		tector	Logged by:	IMS	
No Recovery	aro.			atic Wate	r Level		Approved by: A	ALN	
Continuous Co	ore		∑ Wa	ater Level	(ATD)		,		
							Figure No.		

Ceation: Tacoma WA Boart Longyear / Spider Sonic Implies Implies Continuous Core Service Continuous Core Tests Simple Implies Continuous Core Service Continuous Core Service Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Service Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Service Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests Simple Implies Continuous Core Tests T	walker Chevrolet Tacome, WA Walker Chevrolet Tacome, WA Walker Chevrolet Tacome, WA Tac	•	Mena	~ +		D!			oring Well Construction		
Tracema, WA Boart Longyear / Spider Sonic Boart Longyear / Spider	Glech Name: Walker Chevrolet Tacoma, WA Top of Casing Elev 276 98 Top of Casing Elev 102782010 Start/Finish Date 1027/2010 -10/29/2010 Tests PO Policy Tests Policy Tests Polic		CONSULTI	⊌∎ NG		-		per			
InterPrinciple Boart Lorsgyear / Spider Sonic Depth to Watter (ft BGS) - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Decorption Boredoc Completion Surgery Propriet Boredoc Completion Surgery Propriet Decorption Most, brown, silty, sandy GRAVEL (GM); fine gravel to Start/Finish Date 10/27/2010 - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Start/Finish Date 10/27/2010 - 10/29/2010 Decorption Most, brown, silty, sandy GRAVEL (GM); fine gravel to Start Finish Date 10/27/2010 - 10/29/2010 Decorption Most, from the Completion of the Com	illier/Method. Doart Longyear / Spider Sonic Depth to Water (it BGS) 10/23/2010 Start/Finish Date 10/27/2010 - 10/28/2010 Start/Finish Date 10/27/2010 - 10/28/2010 Recensor Compotes Sarreta Treats mp	Project Name:					70.00				
ampling Method: Continuous Core Service Start Finish Date 10/27/2010 - 10/29/2010 11/10 Moist, brown, silly, sandy GRAVEL (GM); fine gravel to coasse gravel (3), rounded to subrounded, fine to coasse gravel (3), rounded to subrounded, fine to coasse gravel (3), rounded to subrounded, fine to coasse gravel (3), rounded to subrounded, fine to coasse gravel (3), rounded to subrounded, fine to coasse gravel (4), predominantly coasse sand (1), fine gravel to coasse gravel (5), fine to coasse gravel (2,5); fine to coasse grav	Impling Method: Continuous Core Restrict Compitation Restrict Continuous Core Restrict Compitation Restrict Com	_ocation:	Tacoma, WA						Top of Casing Elev.	276.96	
Standard Completion Seminator (1947) Breather Completion Seminator (1948) Tests (1949) Tests (1949) Breather Completion Seminator (1949) Tests (1949) Tests (1949) Breather Completion Seminator (1949) Tests (1949) Tests (1949) Tests (1949) Maist Completion Seminator (1949) Most Labor Normador or singularly SAND (SM) (SM) (SM) (SM) (SM) (SM) (SM) (SM)	Description Descri	Oriller/Method:	Boart Longyear	/ Spider Sonic					Depth to Water (ft BGS)	- 10/29/2010)
Breithick Completion Tests (point)	Tests part p		Continuous Core	e					Start/Finish Date 10/2	7/2010 - 10/29/2010	_
Only 176 Only 176 Only 177 Onl	17-176 17-176 17-176 17-177 17-177 17-177 18-1	Elevation Boi	rehole Completion	Sample Type/ID	Tests				Description		ŀ
	Sampler Type: PID - Photoionization Detector Logged by: JMS No Recovery Static Water Level Approved by: ALN	Elevation (feet) 101-176 102-175 103-174 104-173 105-172 106-171 107-170 108-169 1109-168 110-167 111-166 112-165 113-164 114-163 115-162 116-161 117-160 118-159 119-158 120-157 121-156 122-155 123-154 124-153 125-152 126-151 127-150 128-149 130-147 131-146 132-145 133-144 134-143 135-142 136-141 137-140 138-139 139-138 140-137 141-136 142-135 143-134 144-133 144-133 144-133 144-133 144-133 144-133 144-133 144-133 144-130 148-129	10/20 filter pack, 121'-146' 2" diameter, 10-slot, Sch 40 PVC screen, 125'-145' ✓ 10/28/2010	Sample Type/ID	Tests			Type	Moist, brown, silty, sandy GRAVEL cobbles (4"), rounded to angular; fir with silty, gravelly SAND (SM) lensed Moist, dark brown/gray, silty, gravel to coarse gravel (3"), rounded to succoarse sand Moist, brown/dark brown, sandy, silt fine to coarse gravel, rounded to succoarse sand Very moist, dark brown/yellow-red, (SM); fine to coarse gravel (1"); presand Very moist, brown/dark brown, sand GRAVEL (GM); fine to coarse gravel (2"); predominantly fine sand Dry, light brown, sandy, silty GRAV to cobbles (3.5"), rounded to subrocoarse sand Moist, brown, silty, gravelly SAND (Wet, dark brown, slightly silty, gravellense Very moist, brown, sandy, very silty fine gravel to cobbles (4"); fine to coarse gravel (2"); medium sand Moist, brown, silty, very sandy GRA coarse gravel (2"); predominantly moist, brown, silty, sandy, silty Gravel to cobbles (4"); predominantly moist, brown, silty, sandy, silty Gravel to cobbles (4"); predominantly moist, gray, sandy, very silty GRAV coarse gravel (2"); fine to coarse yeavel (2"); predominantly moist, gray, sandy, very silty GRAV coarse gravel (2"); fine to coarse sand Wet, brown, slightly silty, very graveline to coarse gravel (2"); predominantly occarse gravel (2"); fine to coarse sand Wet, brown, slightly silty, very graveline to coarse gravel (3"), rounded to succarse sand Wet, brown, slightly silty, very graveline to coarse gravel (3"), rounded to succarse gravel; fine to coarse sand Wet, brown, slightly silty, very graveline to coarse gravel (3"), predominantly sand Dry, gray-purple, slightly gravelly, segravel; fine to coarse sand Wet, brown, slightly silty, very graveline to coarse gravel (3"), predominantly sand Dry, gray-purple, slightly, sandy GRA fine to coarse gravel (3"), rounded to succarse gravel; fine to coarse gravel (3"), predominantly sand	ne to coarse sand; e (6") Illy SAND (SM); fine ibrounded; fine to Ity GRAVEL (GM); ibrounded; fine to silty, gravelly SAND idominantly coarse dy, very silty el (2.5"); fine to ghtly silty, gravelly yel (2"); EL (GM); fine gravel unded; fine to (SM) lense (6") elly SAND (SP-SM) or GRAVEL (GM); fine to nedium sand gravelly SAND predominantly AVEL (GM); fine to nedium sand GRAVEL (GM); fine to and gravelly SAND (SP-SM); antly medium to or SAND (SP-SM); antly coarse sand gravelly SAND (SP-SM); antly coarse sand gra	
		- 1	ore		∇				Approved by: A	ALN	

	Mana						oring Well Construction		
	Asped	CT		-	ct Numb	er	Well Number	Sheet	
Duningt Names	Walker Chev	· · · -		08	30190		MW-14D	2 of 3	
Project Name:		roiei					Ground Surface Elev.	277.46 ft	
Location:	Tacoma, WA	laffna/ Camia		04401.0.4		ام مدس	Top of Casing Elev	- 2/3/2012	
Driller/Method:	Major Drilling - J Continuous Core	,	: Geoprobe	8 140LS - t	rack mo	untea	Depth to Water (ft BGS) Start/Finish Date 1/3	30/2012 - 2/2/2012	
Depth /				- DID	Blows/	Ī	Start/Fillish Date	50/2012 2/2/2012	T_
Elevation (feet)	orehole Completion	Sample Type/ID	Tests	PID (ppm)	6"	Material Type	Description		De (1
51 -227							Moist, dark gray brown, slightly gra		- 5
52+226							medium to coarse sand, fine subro Moist, red-brown, slightly silty SAN		<i>J</i>
53 - 225							sand; trace gravel.	b (cr cm), modium	-5
54 – 224							Gravelly. Moist, yellow-brown SAND (SP); m	odium to coarso	∕ -5
55 + 223		H					sand.	edidiff to coarse	+5
56+222									+5
57 +221 58 +220									+5
59 +219							Moist, gray, slightly silty SAND (SP	-SM): fine to	\pm
60 +218		H ∣					medium sand, trace fine gravel; fair	nt stratification	$+\epsilon$
61 –217							Moist, brown to dark brown SAND ((SP); medium sand.	+6
62-216							Red-orange, slightly gravelly.		+6
63 - 215									+
64 +214									+
65 +213 66 +212							Very moist to wet, brown, very silty	SAND (SM); fine	+(
67 +211							sand. Grades to fine to medium sand.		\perp
68 -210		H					Wet, dark red-brown, very gravelly		1
69 + 209							sand; trace silt, with cobbles up to	3".	+
70 +208									+
71 +207							Wet, brown-gray SAND (SP); trace	gravel; medium	+
72+206 73+205						0,0,0	sand.		才.
73 - 203 74 - 204							Qob Wet, red-brown GRAVEL (GW); fin	e to coarse gravel;] - -
75 – 203							trace silt; trace coarse sand.] -
76 - 202							Moist, red-brown with iron staining, (SP); medium sand, fine to coarse		+
77 +201							cobbles up to 3"; trace silt; diamict		+
78 + 200						ППП	Brown. Dry, gray, gravelly, very sandy SIL	Γ (ML): fine to	1.
79 - 199 30 - 198		H					medium sand; subrounded to suba cobbles up to 4".	ngular gravel;	, ; ;
81+197 82+196							Moist, brown-red, slightly gravelly S sand; subrounded gravel; trace silt.	` ′	
83 195 84 194		H					Slightly moist, gray, gravelly, silty S medium sand; fine to coarse subro- gravel.		+:
35 + 193 36 + 192						rri []	Wet, brown SAND (SP); fine to me	dium sand, trace	+
87 – 191						0000	∖gravel. Wet, red-brown GRAVEL (GP); coa	arse gravel and	' -
88 +190 89 +189							\cobbles. Very moist to wet, brown, gravelly,	sandy SILT (ML);	<i>/</i> +;
90 - 188 91 - 187		H					diamict fabric, cobbles up to 4". Gray.		+
92 – 186						ШШП			\perp
93-185							Moist, gray-brown, slightly gravelly,	silty SAND (SM);	7
94 + 184							fine to medium sand.		+
95+183 96+182									+
90 T 102 97 - 181									Ι,
98 - 180							Moist to wet, brown-gray SAND (SF sand.	P); fine to medium	+;
99-179							Moist, gray-brown, slightly silty, gra	velly SAND	+;
Sampler Ty	rpe:		PID - F	Photoioniza	ation De	tector	Logged by:		
O No Recovery			▼ s	tatic Wate	r Level		A	A I NI	
Continuous Co	ore		∑ w	ater Level	(ATD)		Approved by: A	ALIN .	
			**	=0101	(J)		Figure No.		

Project Name: CONSULTING Walker Chevrolet Tacoms WA Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Tacoms WA Walker Chevrolet Tacoms Sand, fine to walker own, revision walker on walker of walker own walkers Tacoms walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms WA Tacoms WA Walker Chevrolet Tacoms WA Walker Chevrolet Tacoms Sand, fine to coarse sand,		Mana	ct					ni	tor	ring Well Construction		
Counter Surface Dev. 278 Continuous Core Sampling Method: Sampling Method: Continuous Core Sampling Method: Sampli		A -			-							
Tacama, WA Tacama, Wa Tacama	Project Name:				U	00190						
Major Drilling - Jeffrey / Sonic Geoprobe 8140LS - track mounted Sampling Method: Continuous Core Method: Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core Sampling Method: Continuous Core	,									_		
Sampling Method: Continuous Core Signify Finish Date 1/30/2012 - 2/2/2012				Cooprobo 0	1401.0	traal, m	21124			'		
Sample Sevents Comparison Surright (pred) Tests (pred)				Geoplobe o	140LS -	liack me	Juni	eu		` ` <u></u>		-
Description Treats open a provided pro	`				BID	Plours/	Т.,			Start i ilisii Date		T
01-177 103-175 103-175 103-175 103-175 103-175 105-173 106-173 106-173 107-171 108-170 109-189 110-188 110-18		Borehole Completion	Type/ID	Tests		1				Description		
20-176 00-177 00-178 00-177 00-178 00-177 00-179 0	01-177						300		വധ	,	000000000000000000000000000000000000000]
30-1775 00-1774 00-1773 00-1775 00-1775 00-1775 00-1775 00-1776 00-17							Ro					-
Singhty most, gray and trown mottled, gravely, sandy SLT (ML); fine to medium sand, fine to coarse gravel; diamict fabric. Moist, brown and gray mottled, gravely, silly SAND (SM); fine to medium sand; subrounded gravel up to 2°.	03-175						80				3	+
Still (Mil.); fine to medium sand; fine to coarse gravel: diamict fabric.	04 174						řň	îñ'		lightly moist, gray and brown m	nottled gravelly sandy	\dashv
07-171 09-169 10-168 10-168 10-168 10-168 11-167 12-166 13-165 14-164 15-163 16-162 17-161 19-169 1									s	SILT (ML); fine to medium sand;		†
1981-170 1991-199 1091-1991-19									di	iamict fabric.		1
199-198 111-187 121-168 111-187 121-168 111-187 121-168 111-187 121-168 111-187 121-168 111-187 121-168 131-185 141-184 141-184 141-187 141-181 141-1												1
10-168 11-167 12-168 13-165 13-165 13-165 13-165 13-165 14-167 15-163 16-162 16-162 16-162 17-161 18-160 19-19-19-19-19-19-19-19-19-19-19-19-19-1												1
11-167 12-168 12-168 13-165 14-164 15-163 16-162 16-163 16-162 16-163 16-163 16-164 16-165 16-163 16-165 1												
2-166 3-165 3-16							Щ	Щ				
Section of Bottom of Bot									· N	Moist, brown and gray mottled, g	gravelly, silty SAND	
Dry to slightly moist, gray with iron stain mottling, gravelly, sandy SiLT (ML); diamict fabric. Moist, brown-gray, gravelly, sandy SiLT (ML); diamict fabric. Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand; cobbles up to 3". Sand filter pack, 121-145.8 bgs 10/20 colorado silica sand filter pack, 121-145.8 bgs Water Level (ATD) Dry to slightly moist, gray with iron stain mottling, gravelly, sandy GRAVEL (GM); cobbles up to 3". Moist, brown-gray, gravelly, sandy GRAVEL (GM); cobbles up to 3". Moist, brown-gray, gravelly, sandy GRAVEL (GM); cobbles up to 3". Silightly moist, gray, gravelly, sandy GRAVEL (GM); cobbles up to 3". Woist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand; cobbles up to 4". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 4". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 4". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, brown-gray, gravelly, sandy SiLT (ML); fine to medium sand, cobbles up to 3". Moist, br			H						1 (3	Sivi), fille to medium sand, subi	ounded graver up to 2	٠.
19-10-10-10-10-10-10-10-10-10-10-10-10-10-									1	N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
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Section Sect	16-162											
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Up to 3°. Slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand; cobbles up to 3°. Slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand; cobbles up to 3°. Slightly moist, gray, gravelly, sandy SILT (ML); fine to coarse sand. Dry to slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand, cobbles up to 4°. Dry to slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand, cobbles up to 4°. Dry to slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand, cobbles up to 4°. Dry to slightly moist, gray, gravelly, sandy SILT (ML); fine to medium sand, cobbles up to 4°. Moist, brown-gray with orange mottling, slity, very gravelly SAND (SM); fine to coarse sand; fine to coarse and; fine to coarse subangular gravel; diamict fabric. Very gravelly, sandy SILT (ML); fine to coarse sand; fine to coarse subangular gravel; diamict fabric. Very gravelly, sandy SILT (ML); fine to coarse sand; fine to coarse subangular gravel; diamict fabric. Very gravelly, sandy SILT (ML); fine to coarse sand; fine to coarse sand; fine to coarse subangular gravel; diamict fabric. Very gravelly, sandy SILT (ML); fine to coarse sand; fine to coarse sand; fine to coarse subangular gravel; diamict fabric. Very gravelly, sandy SILT (ML); fine to coarse sand;							m	1	1.1			_
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33 155 24-154 25-153 25-153 26-152 26-152 27-151 2							Ш		s	lightly moist, gray, gravelly, sar	ndy SILT (ML); fine to	
24-154 25-153 25-152 25	1 1 1		П				W	III Ma	$M \sim$	· · · · · · · · · · · · · · · · · · ·	NDAVEL (ONA):	- حر
25-153 26-152 27-151 28-150 29-149 30-148 33-145 33-145 33-145 33-145 33-145 34-144 34-144 34-144 34-145 35-143 37-141 38-140 39-138 31-137 31-131 31-131 31-132 31-132 31-132 31-132 31-132 31-132 31-132 31-132 31-133 31-135 31-132 31-133 31-135 31-132 31-133 31-135 31-132 31-133 31-135 31-132 31-133 31-135 31-132 31-135 3	 						b] d					-
sand filter pack, 127-151 127-143.5 bgs 150 121-143.5 bgs 150 15	· . — ·	10x20 colorado silica					1	P	19			
27-151	26-152	. 1										
Sempler Type: PID - Photoionization Detector Logged by: AET	27-151	121'-143.5' bgs										
39-149	28 150	-]					Ш	Щ.	N	Moist brown-gray with grange m	nottling silty very	_
31 + 147 32 + 146 33 + 144 34 + 147 35 + 143 36 + 143 38 + 140 39 + 139 40 + 138 41 + 134 45 + 133 46 + 132 47 + 131 48 + 130 49 + 129 Sampler Type: Sampler Type: Sampler Type: No Recovery Continuous Core Water Level (ATD) Moist to wet, gray-brown, gravelly, sandy SILT (ML); fine to coarse subangular gravel; diamict fabric. Very gravelly. Moist to wet, gray-brown, gravelly, sandy SILT (ML); fine to coarse subangular gravel; diamict fabric. Very gravelly. Moist: Wet. Bottom of boring at 145' BGS.	29 149 🗏	·							∱ g	ravelly SAND (SM); fine to coal	rse sand; fine to coarse	· •
32 146 33 145 34 144 35 143 36 142 37 141 38 140 39 139 40 138 41 134 45 133 46 132 47 131 48 130 49 129 Sampler Type: No Recovery Continuous Core PID - Photoionization Detector Static Water Level Water Level Water Level Water Level Approved by: ALN	_ _ . · _ .	· . <u>V_2</u> /1/2012 · .	H						i a	ngular gravel with cobbles up to	o 3".	
33 145 34 144 35 143 36 142 37 141 38 140 39 139 40 138 41 137 42 136 43 130 49 129 Sampler Type: PID - Photoionization Detector No Recovery Continuous Core PID - Photoionization Detector Static Water Level Water Level (ATD) Water Level (ATD) Moist to wet, gray-brown, gravelly, sandy SILT (ML); fine to coarse subangular gravel; diamict fabric. Very gravelly. Moist. Wet. Bottom of boring at 145' BGS.												
34-144 35-143 36-142 37-141 38-140 39-139 45-133 45-133 45-133 48-130 49-129 Sampler Type: PID - Photoionization Detector Sampler Type: PID - Photoionization Detector Sampler Type: PID - Photoionization Detector Very gravelly. Moist to wet, gray-brown, gravelly, sandy SILT (ML); fine to coarse subangular gravel; diamict fabric. Very gravelly. Moist Wet. Bottom of boring at 145' BGS. Bottom of boring at 145' BGS. PID - Photoionization Detector Very gravelly. Moist Very gravelly. Moist Very gravelly. Moist Very gravelly. Approved by: AET Approved by: ALN Water Level (ATD)	I I - I											
Sampler Type: Sampler Type: Sampler Type: No Recovery Continuous Core 2" ID schedule 40 PVC and cap and c	_ -	∑ 2/3/2012					H	111		Noist to wet gray-brown grayell	lv_sandv SILT (ML)·	_
36- 142	H	2" ID schedule 40 PV	, L						fii	ne to coarse sand, fine to coars		
37 - 141	1 1. 1	20-slot screen,							11			
Sampler Type: No Recovery Continuous Core Wet. Wet. Wet. Wet. Wet. Wet. Wet. Wet. PID - Photoionization Detector Static Water Level Water Level (ATD)		123.5'-143.5' bgs							^	ery gravelly.		
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Sampler Type: No Recovery Continuous Core Bottom of boring at 145' BGS. Logged by: AET Static Water Level Approved by: ALN		Threaded PVC end										
Sampler Type: No Recovery Continuous Core Bottom of boring at 145 BGS. Bottom of boring at 145 BGS. Bottom of boring at 145 BGS. Logged by: AET Approved by: ALN		cap						\coprod	Ш			_
47-131 48-130 49-129 Sampler Type: PID - Photoionization Detector No Recovery Static Water Level Continuous Core PID - Water Level (ATD) Approved by: ALN									В	ottom of boring at 145' BGS.		
Sampler Type: PID - Photoionization Detector No Recovery Continuous Core PID - Photoionization Detector Value Level Approved by: ALN Water Level (ATD)												
Sampler Type: PID - Photoionization Detector No Recovery Continuous Core PID - Photoionization Detector Static Water Level Water Level (ATD) Logged by: AET Approved by: ALN												
Sampler Type: PID - Photoionization Detector No Recovery Static Water Level Approved by: ALN Water Level (ATD)												-
No Recovery Static Water Level Approved by: ALN Water Level (ATD)		Tunor		BIB =:	<u> </u>					1 1 1	ΛΕΤ	_
Continuous Core Approved by: ALN Water Level (ATD)	_			_			etec	or		Logged by:	AEI	
Continuous Core	=	•		0.0	tic Wate	er Level				Approved b	y: ALN	
Figure No.	Continuous	Core		⊻ Wa	ter Leve	l (ATD)				••		
<u> </u>										Figure No.		

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Осой	SULTING

Monitoring Well Construction Log
mber Well Number

Figure No.

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

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

Location: Tacoma, WA Top of Casing Elev. (site datum) 278.84 ft

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

Driller/Metho Sampling M	lethod: No samples	g / Hollow Stem	Auger - Ang	ie			Start/Finish Date 10/14/2013	
Depth /	Borehole Completion	Sample		PID	Blows/	Material		D
Elevation (feet)	Borenole Completion	Sample Type/ID	Tests	(ppm)	6"	Material Type	Description	De
1 + 🖔	Flushmount monument, lockable						Concrete.	_/
2 +	thermos cap, concrete						No logging or sampling.	+ :
3 +	seal 0'-4'							+ ;
4 +								+.
5 +							Boring drilled 37 degrees from vertical to intercept	+ !
6 +							saturated soil under alley.	+
7 +							·	+
8 +								+
9 +								t
10+	2" diameter, schedule 40 PVC, threaded							+:
11+	connections, 0'-55'							+1
12+ 13+								+ '
14 -								Į,
15+								1
6+								+
17+								↓.
8+								+
9+								+
0+	Hydrated bentonite							+:
1+	chips, 4'-52'							+
2+								+
23+								t
24+							Strong solvent-like odor in cuttings. (24 ft bgs)	+:
25 +								+:
26+								+:
27 + 28 +								+:
29 -								
30+				26.7				+:
81 +				36.7				+;
32+								+
3-								+
4+								+
5+								+
6+								H
7+								+
8+								+
9+								t
0+								t
1+								İ
2+								<u> </u>
3+ 4+								Į
5+								+
6+								+
7+								+
.8+								+
19 -								ļ.
				<u> </u>				L
	pler Type:		PID - Pho	toioniz	ation Det	ector	Logged by: AET	
No Reco	overy		▼ Stati	ic Wate	er Level		Approved by: ALN	
			_				, ,pp. 0 to 0 by . / t= 1 t	

Water Level (ATD)

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

	-	Monac	-+			N	/lonit	oring Well Construction		
		Aspec	⊿			ect Numb 80190	er	Well Number MW-15	Sheet 2 of 2	
Project Na	ame:	Walker Chev		'				Ground Surface Elev. (sit	e datum)	
Location:		Tacoma, WA						Top of Casing Elev. (site	datum) 278.84 ft	
Driller/Me	thod:	Cascade Drilling	/ Hollow Ster	m Auger - Ang	gle			Depth to Water		
Sampling	Method:	: No samples						Start/Finish Date	10/14/2013	
Depth /	Po	orehole Completion	Sample		PID	Blows/	Material	5		Dept
Elevation (feet)		renoie Completion	Type/ID	Tests	(ppm)	6"	Туре	Description		(ft)
51 + 52 + 53 + 54 + 55 -	10/20 sand filter pack, 52'-75' 2" diameter, 0.020-inch, schedule 40 PVC screen, 55'-75'									-51 -52 -53 -54 -55
56 + 57 - 58 -										-56 -57 -58
59 + 60 +								Well screen is completed in advalley, 33 to 45 ft west-northwest to 60 ft below ground surface	ance outwash beneath of monument, and 44	-59 -60
61 - 62 -										-61 -62
63 + 64 + 65 +										-63 -64 -65
66 – 67 –										-66 -67
68 - 69 -										-68 -69
70 - 71 -										-70 -71
72 + 73 + 74 +										-72 -73 -74
75 – 76 –		Threaded PVC endcap						Bottom of boring is 60 feet below	v ground surface.	-75 -76
77 - 78 -										-77 -78
79+ 80+ 81+										-79 -80 -81
82 - 83 -										-82 -83
84 - 85 -										-84 -85
86 - 87 -										-86 -87
88 + 89 +										-88 -89
90 + 91 - 92 -										-90 -91 -92
93 - 94 -										-93 -94
95 - 96 -										-95 -96
97 + 98 - 99 -										-97 -98 -99

PID - Photoionization Detector

Static Water Level

Water Level (ATD)

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Logged by: AET

Approved by: ALN

Figure No.

MONITORING WELL S

Sampler Type:

O No Recovery

	Aspect						Monit	onitoring Well Construction Log Well Number Sheet						
		Aspe	CT			ct Numb	oer	Well Number She						
		CONSULTI			0	80190		MW-16 1 of	f 2					
Project N	ame:	Walker Chev	/rolet					Ground Surface Elev. (site datum)						
Location:		Tacoma, WA							77.88 ft					
Driller/Me	thod:	Cascade Drilling	g / Hollow Stem	ı Auger - An	gle			Depth to Water						
Sampling	Metho	od: No samples						Start/Finish Date 10/15/201	3					
Depth / Elevation (feet)		Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	De (
1 +		Flushmount					2.30.001004.50.0	Asphalt over concrete.						
2 +		monument, lockable thermos cap, concrete						No logging or sampling.	+ 2					
3 +		seal 0'-4'							+ 3					
4 +									1					
5 🕂								Desire delle d 00 de sere e france continue a conse						
6 								Boring drilled 23 degrees from vertical, perpend the building.	icular to + 6					
7 🕂 🔝								3	+ 7					
3 +									+ 8					
) +									+ 9					
0+		2" diameter, schedule 40 PVC, threaded							+1					
<u> </u>		connections, 0'-45'							+1					
2+									+1					
3+ 4+									+1 +1					
5+									[' ₁					
; ;									ļ . Ļ1					
7									ļ. +1					
; 📙									<u>+</u> 1					
+									<u>+</u> 1					
+		Hydrated bentonite							-2					
+		chips, 4'-42'							-2					
2+									-2					
3+									+2					
<u> </u>									+2					
; +									+2 +2					
6+ '+									-2					
3+									+2					
,									-2					
,									 3					
-									-3					
2+									-3					
3+									+3					
1+									+3					
5+									+3					
6+ 7+									+3 +3					
3+									-3					
9+									+3					
5									-4					
1 +									-4					
2+								 Well screen is completed in advance outwash b	eneath +4					
3+		10/20 sand filter pack,						Morrell's Dry Cleaners building, 18 to 25 feet	+ 4					
4 +		42'-65'						west-northwest of monument, and 41 to 60 feet ground surface						
5+								ground surface	 4					
6+		긔							- 4					
7+	:								-4					
8+ 9+									+4 +4					
		• .												
Sai	mpler	Type:		PID - Ph	otoioniz	ation De	tector	Logged by: AET						
No Re	ecover	у		▼ Sta	atic Wate	er Level								
_				∇				Approved by: ALN						
				- vva	ilei Leve	ı (AID)		Element N						
				≚ Wa	ter Leve	I (ATD)		Figure No.						

	1	Mama a	-1			N	lonito	ring Well Constru	uction Log	g	
	`	\ Aspec			Proje	ct Numb	er	Well Number		Sheet	
		OCON SULTI			08	30190		MW-16		2 of 2	
Project N	ame:	Walker Chev	/rolet					Ground Surface Ele	v. (site datum)	1	
Location:		Tacoma, WA						Top of Casing Elev.	(site datum)	277.88 ft	
Driller/Me	ethod:	Cascade Drilling	g / Hollow S	Stem Auger - Ang	le			Depth to Water			
Sampling	Method:	No samples		-				Start/Finish Date	10/1	15/2013	
Depth / Elevation (feet)	Bore	ehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Desci	ription		Dep (ft

Sampling	g Method: No samples						Start/Finish Date10/15/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
51 - 52 - 53 - 54 - 55 - 56 -	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-65'							-51 -52 -53 -54 -55 -56
57 + 58 + 59 + 60 + 61 + 62 + 63 + 64 +								-57 -58 -59 -60 -61 -62 -63 -64
65 + 66 + 67 + 68 + 69 +	Threaded PVC endcap						Bottom of boring is 60 feet below ground surface.	65 -66 -67 -68 -69
70 - 71 - 72 - 73 - 74 -								-70 -71 -72 -73 -74
75 + 76 - 77 - 78 - 79 - 20								-75 -76 -77 -78 -79
80 + 81 + 82 + 83 + 84 +								-80 -81 -82 -83 -84
85 + 86 + 87 + 88 + 89 +								-85 -86 -87 -88 -89
90 + 91 + 92 + 93 + 94 -								-90 -91 -92 -93 -94
95 + 96 + 97 + 98 + 99 +								-95 -96 -97 -98 -99
Sa	ampler Type:		PID - Pho	toioniz	l ation De	tector	Logged by: AET	

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

O No Recovery

Static Water Level

Water Level (ATD)

Approved by: ALN

		_			/lonit	oring Well Constructio		
				ect Numb	er	Well Number	Sheet	
				80190		MW-17	1 of 2	
Project Name:	Walker Chev	rolet				Ground Surface Elev. (site	datum)	
Location:	Tacoma, WA					Top of Casing Elev. (site d	latum) 277.97 ft	
Driller/Method:	Cascade Drilling	/ Hollow Stem Auger	- Angle			Depth to Water		
Sampling Meth	nod: No samples					Start/Finish Date	10/15/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Depth (ft)
	Flushmount				20,203,203	∖Asphalt over concrete.		/ _
1 + 2 +	monument, lockable thermos cap, concrete					No logging or sampling.		+ 1 + 2
3 +	seal 0'-4'							- 3
4 +								- 4
5 +						Boring drilled 32 degrees from ve	rtical perpendicular to	- 5
6 +						the building.	raioai, perpenaioaiai te	† 6
7 + 8 +								+ 7 + 8
9 +								9
10+	2" diameter, schedule							10
11-	40 PVC, threaded connections, 0'-51'							11
12-	Connections, 0-01							12
13+								13
14 + 15 +								+14 +15
16 -								-16
17-								17
18+								18
19+								19
20 + 21 +	Hydrated bentonite chips, 4'-48'							-20 -21
22-								-22
23-								-23
24+								-24
25+								-25
26+ 27+								-26 -27
28+								-28
29-								-29
30+								-30
31+								-31
32+ 33+								-32 -33
34-								-34
35+								-35
36+								-36
37-								-37
38+ 39+								+38 +39
40+								-40
41-								-41
42-								-42
43-						Well screen is completed in advar	nce outwash beneath	-43
44 + 45 +						Morrell's Dry Cleaners, 27 to 38 fe monument, and 43 to 60 feet belo	et west-northwest of w ground surface	+44 +45
46 -							g. 1 2a 0aa00.	-46
47								-47
48								-48
49+	10/20 sand filter pack, 48'-71'							- 49
Sample		PID	- Photoioniz	ation De	tector	Logged by:	AET	
O No Recove	ery	Ţ	Static Water	er Level			. Δ1 NI	
		$\bar{\Sigma}$	Water Leve	l (ATD)		Approved by:	ALIN	

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

A spect	
■ CONSULTING	

Monitoring Well Construction Log
mber Well Number

Project Number Sheet 080190 MW-17 2 of 2

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

Top of Casing Elev. (site datum) 277.97 ft Location: Tacoma, WA

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

	g Method: No samples				. .		Start/Finish Date 10/15/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	
51 +								1
52								Į
								F
53+								I
54 +								
55 +	2" diameter, 0.020-inch, schedule							†
56+	40 PVC screen, 51'-71	ր						†
57 +								+
58+								t
59 +								t
60+								+
61+								t
62+								t
63+								t
64+								t
65+								t
66+								t
67+								t
68+								t
69+								t
70+								t
71+	Threaded PVC endca	9					Bottom of boring is 60 feet below ground surface.	
72+								t
73+								t
74+								t
75+								+
76+								t
77 +								t
78+								t
79+								t
80+								t
81 +								t
32+								+
83+								t
84+								t
85 +								+
36+								+
37 +								+
88+								+
39+								İ
90+								+
91+								+
92+								İ
93+								†
94 +								İ
95+								t
96 97 								İ
								<u> </u>
98+								İ
99 –								t
Sa	ampler Type:		PID - Ph	otoioniz	ation De	tector	Logged by: AET	
	ecovery		▼ Sta	tic Wate			Approved by: ALN	
			<u>▽</u> Wa	ter Leve	l (ATD)		FF	
							Figure No.	

		Mana	- L				Monit	oring Well Construct		
		Aspec				ct Numb	oer	Well Number	Sheet	
		Walker Chev			0	80190		MW-18	1 of 2	
Project Na Location:			roiei					Ground Surface Elev. (—
ocation. Driller/Me		Tacoma, WA Cascade Drilling	y / Hollow Sto	m Augor An	alo			Top of Casing Elev. (sit Depth to Water	e datum) 277.00 it	_
		d: No samples	j / Hollow Ste	ili Auger - An	gie			Start/Finish Date	10/16/2013	
Depth /		·			DID	Blows/	T			T
Elevation (feet)	E	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	6"	Material Type	Description	n	D
1 +		Flushmount					in terminal term	\Asphalt over concrete.		1
2 +		monument, lockable thermos cap, concrete						No logging or sampling, strong cuttings.	solvent-like odor in	1
3 🕂 📗		seal 0'-4'						- Cattiniger		+
4 🕂 🛮		1								+
5 +								Boring drilled 45 degrees from	vertical, perpendicular to	t
6 + 7 +								the building.		I
;										1
+										+
)		2" diameter, schedule 40 PVC, threaded								
1+		connections, 0'-65'								†
2+ 3+										I
í										+
;+										+
3+										t
7+ 3+										t
										I
5		Hydrated bentonite								+
1+		chips, 4'-62'								ł
2+										t
3+										t
4+ 5+										I
6 +										+
7+										ł
3+										t
9+ 0+										I
1 +										+
2+										+
3+										†
4+ 5+										1
6 +										
7+										+
3+										+
9+										t
)+ +										1
<u>'</u>										+
3+										+
4+										+
5+										†
6+ 7-										1
8+										+
9										+
Sar	mpler T	vne:		חוט טי	otoioni-	ation Da	toctor	Logged by	y: AET	T
امی No Re				PID - Ph ▼ Sta	otoloniz tic Wate		i e cior			
	- 00 i 0i y			$\overline{}$				Approved	by: ALN	
				≚ Wa	ter Leve	ı (AID)		Figure No		
								Figure No	i e e e e e e e e e e e e e e e e e e e	

•	Manaa	4			N	Monit	oring Well Construction		
	Aspec				ct Numb 80190	oer	Well Number MW-18	Sheet 2 of 2	
Project Name:	Walker Chevr			- 0	30130		Ground Surface Elev. (sit		
_ocation:	Tacoma, WA						Top of Casing Elev. (site	,	
Oriller/Method:	Cascade Drilling	/ Hollow Sten	n Auger - An	gle			Depth to Water		
Sampling Method:	No samples						Start/Finish Date	10/16/2013	
Depth / Elevation Bo (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		De (f
51 - 52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 - 63 - 64 - 65 - 66 - 67 - 68 - 66 - 67 - 71 - 72 - 73 - 74 - 75 - 76 - 77 - 78 - 79 - 80 - 81 - 82 - 83 - 84 - 85 - 86 - 87 - 88 - 89 - 90 - 91 - 92 - 93 - 94 - 95 - 96 - 97 - 98 - 99 - 99 - 99 - 99 - 99 - 99	10/20 sand filter pack, 62'-85' 2" diameter, 0.020-inch schedule 40 PVC screen, 65'-85' Threaded PVC endcap		PID - Pt	notoioniz	ation De	tector	Well screen is completed in adva Morrell's Dry Cleaners, 46 to 60 monument, and 46 to 60 feet below Bottom of boring is 60 feet below	feet west-northwest of ow ground surface	- 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 6 6
	pe.		_			tector	Loggea by:	AET	
○ No Recovery			$\overline{}$	atic Wate			Approved by	/: ALN	
			≚ Wa	iter Leve	I (ATD)		Figure No.		

	N A			N	/lonit	oring Well Construction Log		
	Aspe			ject Numb	er	Well Number	Sheet	
	● CONSULTI		(080190		MW-19	1 of 2	
Project Name:	Walker Chev	/rolet				Ground Surface Elev. (site	<u> </u>	
Location:	Tacoma, WA					Top of Casing Elev. (site <u>da</u>	tum) 278.15 ft	
Driller/Method:	Cascade Drilling	g / Hollow Stem Aug	er - Angle			Depth to Water		
	od: Dames & Moore	9				Start/Finish Date	10/17/2013	
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	ests PID (ppm)	Blows/	Material Type	Description		De _l
	Flushmount					Asphalt.	,	Τ,
1 +	monument, lockable thermos cap, concrete seal 0'-2' 2" diameter, schedule 40 PVC, threaded connections, 0'-45'			50/6		Very dense, moist, brown, slightly (SP-SM); diamict fabric, fine to me solvent-like odor.	silty, gravelly SAND dium sand,	
16 + 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19	Hydrated bentonite chips, 2'-42'			50/6		Very dense, moist, brown gray, silt (SM); diamict fabric, solvent-like of fine sand, fine to coarse gravel. Trace gravel.	y, gravelly SAND dor, predominantly	-1 -1 -1 -1 -2 -2 -2 -2 -2 -2 -2 -2 -2
28 + 29 + 30 + 31 + 32 + 33 +				50/6		Qva Very dense, moist, orange brown, SAND (SP); fine to medium sand,	slightly gravelly solvent-like odor.	+2 +3 +3 +3 +3 +3
35 + 36 + 37 + 38 + 39 +				21 21 30		Trace silt.		+3 +3 +3 +3
40 - 41 - 42 - 43 -	10/20 sand filter pack,			36 50/6		Trace fine gravel, slight solvent-like	e odor.	-4 -4 -4 -4
44 + 45 + 46 + 47 + 48 + 49 + 49 + 49 + 49 + 49 + 49 + 49	42'-60.5'			50/6				-2 -2 -2 -2 -2
Sampler	Type:	D	ID - Photoioni	zation Do	tector	Logged by:	AET	
_		_			ICCIOI	Logged by.	· ·- ·	
○ No Recover 3.25" OD Da Ring Sample	&M Split-Spoon	<u>▼</u>				Approved by:	ALN	
J				. /		Figure No.		

		Aspec	ct			ect Numb	Monit oer	oring Well Constructi Well Number	on Log Sheet	
		CONSULTI			0	80190		MW-19	2 of 2	
Project N	ame:	Walker Chev	/rolet					Ground Surface Elev. (si	te datum)	
ocation:		Tacoma, WA						Top of Casing Elev. (site	datum) 278.15	ft
Driller/Me	ethod:	Cascade Drilling	g / Hollow Ste	em Auger - Ar	ngle			Depth to Water		
Sampling	Method	l: Dames & Moore	9					Start/Finish Date	10/17/2013	
Depth / Elevation	Bo	orehole Completion	Sample	T4-	PID	Blows/	Material	Description		De
(feet)		or or or or or or or or or or or or or o	Sample Type/ID	Tests	(ppm)	6"	Туре			(f
51 -						50/6		Wet, red brown.		-5
52 +										-5
53 +										 5
54 🕂										 5
55+		2" diameter,								+5
56+		0.020-inch, schedule 40 PVC screen, 45'-60'								 5
7+										+5
58+										+5
59 60 		Threaded PVC endcap					,			-+5
1	The state of the s				50/6		Very dense, wet, dark red brown	SAND (SP); fine to		
2+								coarse sand, trace fine gravel. Bottom of boring is 60.5 feet be	low around surface	$ \downarrow$ ϵ
3+								Bottom of boning is 60.5 feet be	low ground surface.	+6
4										+6
5+										+6
6+										+6
7 +										+
3+										+6
9+										+6
0+										† 3
1+ 2+										+7 +7
3+										+7
4										<u> </u>
5 🕂										<u> </u>
6+										+7
7 +										+7
3+										+3
9+										+3
0+										†5
1+ 2+										+:
3+										<u> </u> ;
4										1
5 +										+
6+										+
7+										+
8+										+;
9+										†:
2+										†
1+										+:
2+ 3+										+!
4										+3
5 +										1
6+										+
7 🕂										+9
8+										+6
9+										+6
 Sa	mpler Ty	vpe:		PID - PI	notoioniz	ation De	tector	Logged by:	AET	
_	ecovery	/ I -		_	atic Wate					
3.25"	OD D&N	M Split-Spoon						Approved b	y: ALN	
⊔ King S	sampler		÷ Wa	ater Leve	r (ATD)		Figure No.			
								Figure No.		

Aspect		~			IN IN	/ionit	oring Well Construction Log			
		CONSULTIN				ct Numb 30190	per	Well Number MW-20	Sheet 1 of 2	
roject Na	ame:	Walker Chev						Ground Surface Elev. (site da		
ocation:		Tacoma, WA						Top of Casing Elev. (site date	um) 278.03 ft	
riller/Met	thod:	Cascade Drilling	/ Hollow Ste	m Auger - Ar	ngle			Depth to Water		
ampling	Method	I: No samples						Start/Finish Date	10/11/2013	
Depth / Elevation		orehole Completion	Sample	Tests	PID	Blows/	Material	Description		
(feet)		1	Type/ID	10313	(ppm)	6"	Туре	∖Asphalt.		
1 +	\mathbb{N}	Flushmount monument, lockable						No logging or sampling.	J	
2 +	(2) (2)	thermos cap, concrete seal 0'-2'							-	
3 +		Seal U-2							-	
1 + 5 +										
;										
,									-	
3 									-	
9 									-	
o+		2" diameter, schedule							-	
1+		40 PVC, threaded connections, 0'-45'							-	
2+		Connections, 6 40							-	
3+									-	
<u> </u>									-	
5+									-	
6+ 7+										
3+									-	
9									-	
)		Hydrated bentonite							-	
1+		chips, 2'-42'							-	
2+									-	
3+									-	
4									-	
5+									-	
6+ 7+										
8+									-	
9									=	
5+ I									-	
1 -									-	
2+									-	
3+									-	
4+										
5+									•	
6+ 7+										
3+									-	
9+									-	
5+									-	
1 +									-	
2+									-	
3+		10/20 sand filter pack,							-	
4		42'-60'							-	
5+									-	
6+ 7+ .										
/		•							-	
9									-	
	·· ⊟.· mpler Ty	vpe.		ים חום	notoioniza	ation Do	tector	Logged by: A	ET	
No Re		,,,,,		_	atic Wate		i c ciUl			
								Approved by: A	LN	
				≚ Wa	ater Leve	r(ATD)				

	Acres				N	/lonit	oring Well Construct	ion Log		
	Aspe	ST		Proje	ct Numb	per	Well Number	Sheet		
	OCON SULTI			0	80190		MW-20	2 of 2		
Project Name:	Walker Chev	/rolet					Ground Surface Elev. (s			
Location:	Tacoma, WA						Top of Casing Elev. (site	Top of Casing Elev. (site datum) 278.03 ft		
Driller/Method:	Cascade Drilling	g / Hollow Ste	em Auger - Ar	gle			Depth to Water			
Sampling Method:	No samples						Start/Finish Date	10/11/2013		
Depth / Elevation (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dept (ft)	
52 - 53 - 54 - 55 - 56 - 57 - 58 - 59 - 60 - 61 - 62 -	2" diameter, 0.020-inch, schedule 40 PVC screen, 45'-60' Threaded PVC endcap						Bottom of boring is 60 feet belo	ow ground surface.	-52 -53 -54 -55 -56 -57 -58 -59 -60 -61	
63 - 64 - 65 - 66 - 67 - 68 -									-63 -64 -65 -66 -67 -68	
69 - 70 - 71 - 72 - 73 - 74 - 75 - 76 -									-69 -70 -71 -72 -73 -74 -75	

_MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016 95-96 97 98-99-

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83 84 -

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Sampler Type:

O No Recovery

PID - Photoionization Detector

Ā Static Water Level

 ∇ Water Level (ATD) Logged by: AET

-76 -77 78

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Approved by: ALN

	Aspe	ct		Proje	ect Numb	<u>/Ionite</u> per	ring Well Construction Log Well Number Sheet		
	CONSULTI				80190		MW-21 1 of 2		
Project Name:	Walker Chev	vrolet					Ground Surface Elev. (site datum)		
_ocation:	Tacoma, WA						Top of Casing Elev. (site datum) 279.03	ft	
Oriller/Method:	Cascade Drilling	g / Hollow Ster	m Auger - Anç	gle			Depth to Water		
	d: Dames & Moore	e					Start/Finish Date 10/17/2013		
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Dept (ft)	
1 - 2 - 3 -	Flushmount monument, lockable thermos cap, concrete seal 0'-2'						\Asphalt. Qvt Very dense, moist, brown, silty, gravelly SAND (SM); diamict fabric, fine to medium sand.	+ 3	
4 + 5 + 6 + 7 + 8 +				0.0	50/6			- 4 - 5 - 6 - 7 - 8	
9 - 10 - 11 - 12 - 13 -	2" diameter, schedule 40 PVC, threaded connections, 0'-45'		VOC/FOC	10.5	26 50/6			- 9 -10 -11 -12 -13	
14 - 15 - 16 - 17 - 18 -			VOC/FOC	165	50/6			- 14 - 15 - 16 - 17 - 18	
19 + 20 + 21 + 22 + 23 +	Hydrated bentonite chips, 2'-42'			0.0	50/6			-19 -20 -21 -22 -23	
24 + 25 + 26 + 27 + 28 + 28 + 25 + 25 + 27 + 28 + 25 + 25 + 25 + 25 + 25 + 25 + 25			VOC/FOC	0.0	50/6			-24 -25 -26 -27 -28	
29+ 30+ 31+ 32+ 33+				0.0	50/6			-29 -30 -31 -32 -33	
34 + 35 - 36 - 37 - 38 - 39 -				0.0	50/5		Qva Very dense, moist, red brown, slightly gravelly SAND (SP); fine to medium sand.	-3 -3 -3 -3 -3	
40 - 41 - 42 - 43 -	10/20 sand filter pack, 42'-60.5'		VOC/FOC	0.0	50/6		Brown.	-4 -4 -4 -4	
44 + 45 + 46 + 47 + 48 + 49 + 49 + 49 + 49 + 49 + 49 + 49				0.0	50/6		Red brown, trace fine gravel.	-4 -4 -4 -4 -4	
	<u>1</u>				<u> </u>	III'N			
Sampler T	PID - Pho	otoioniza	ation De	tector	Logged by: AET				
¬	No Recovery 3.25" OD D&M Split-Spoon				er Level				

ON CHIECT

Managh	Monitoring Well Construction Lo									
Aspect	Project Number	Well Number								
CONSULTING	080190	MW-21								

mber Sheet 21 2 of 2

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

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

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

Sampling	g Method: Dames & Moore	e					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);	-51
52							fine sand.	-52
53 -								-53
54 –								-54
55	2" diameter,		VOC/FOC	0.0	F0/0	, ,	Variables a visat beauty CAND (CD) fine to readily	+ 55
56+	0.020-inch, schedule 40 PVC screen, 45'-60'		100/100	0.0	50/6		Very dense, wet, brown, SAND (SP); fine to medium sand.	-56
57+	40 FVC screen, 45-00							-57
58+								-58
59+	Threaded PVC endcap							-59
60 61 	Threaded PVC endcap			0.0	50/6	1	Bottom of boring is 60.5 feet below ground surface.	+60 +61
62							Dottom of borning is 60.5 feet below ground surface.	62
63								-63
64								64
65								-65
66+								-66
67+								-67
68+								-68
69 70 								-69 -70
71 -								71
72								-72
73								-73
74								-74
75+								-75
76+								- 76
77+								-77
78 79 								+78 -79
80 -								-80
81 –								-81
82								-82
83 –								-83
84+								-84
85+								-85
86 87 								-86 -87
88								-88
89 -								-89
90 -								90
91								91
92+								-92
93-								-93
94+								-94
95 96 								-95 -96
96 +								-96 -97
98								-98
99-								-99
C-	mmolor Type:		DID 5:	4-:		4	Logged by: AET	L
Sa	ampler Type:		PID - Pho	ioioniza	ation De	tector	Logged by. ALT	

MONITORING WELL STADIUM THRIFTWAY.GPJ July 7, 2016

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

Static Water Level

 ∇ Water Level (ATD) Approved by: ALN

		Manag	- +					toring Well Construction Log Well Number Sheet			
		Apher	⊿			ct Numb	oer		Sheet		
		OCON SULTIN			U	30190		VE-1	1 of 1		
roject Na	ame:	Walker Chev	rolet					Ground Surface Elev. (site datum) 273.99 ft			
ocation:		Tacoma, WA						Top of Casing Elev. (site <u>datum)</u>			
riller/Met	thod:	Cascade Drilling	/ Hollow Ste	m Auger - Ar	ngle			Depth to Water			
ampling	Method	d: No samples						Start/Finish Date10	/21/2013		
Depth / Elevation	В	orehole Completion	Sample	Tests	PID	Blows/	Material	Description			
(feet)	ST IN	Flushmount	Type/ID		(ppm)	6"	Туре	\Concrete.			
1 +	X	monument, lockable						No logging or sampling, strong solvent-l	ike odor in		
2 +		thermos cap, concrete						cuttings.	into odor iii		
3 + ∥		seal 0'-2'									
·											
5 †		4" diameter, schedule						Boring drilled 45 degrees from vertical,	perpendicular to		
i		40 PVC, threaded connections, 0'-25'						the building.	, ,		
' †											
; †											
<u>'</u> †											
2+		Hydrated bentonite chips, 2'-22'									
<u> </u>		5111p0, 2-22									
<u>:</u> †											
3+											
+ 											
I											
4											
4											
4											
∫											
1											
<u>.</u>											
3		. 10/20 sand filter pack,									
ı		22'-45'						Mall and a in a second at a discount at the	Al- NA III -		
5+								Well screen is completed in glacial till b Dry Cleaners building, 18 to 32 feet wes	eneath Morrell's		
3+								near-surface manifold, and 18 to 32 fee	t below ground		
' +]						surface			
3+ -											
)+ [
)	: 	-									
		.]									
?†											
3+	目										
		4" diameter,									
] 		- 0.020-inch, schedule									
,	目:	40 PVC screen, 25'-45'									
3 +	: = :	1									
,	目:	.]									
]	: 目:]									
+ 1	目										
<u>.</u>	目										
3+	目]									
1+	目	:									
5+ -	: -	Threaded PVC endcap						Bottom of boring is 32 feet below ground	d surface		
3+								ground			
7+											
3+											
9+											
Sampler Type: PII			PID - P	notoioniza	ation De	tector	Logged by: AET	-			
○ No Recovery			_	atic Wate							
				∇	ater Leve			Approved by: ALN	I		
				– vva	ater reve	(AID)					

		Manag				N	/lonit	oring Well Construction		
		Aspec	ST			ct Numb	oer	Well Number	Sheet	
		OCON SULTIN			0	80190		VE-2	1 of 1	
Project Nar	me:	Walker Chev	rolet					Ground Surface Elev. (site of	datum) 273.81 ft	
_ocation:		Tacoma, WA						Top of Casing Elev. (site datum)		
Oriller/Meth	nod:	Cascade Drilling	/ Hollow Stem	n Auger - An	gle			Depth to Water		
Sampling N	Method	l: No samples						Start/Finish Date 10/21/2013		
Depth / Elevation		orehole Completion	Sample	Tests	PID	Blows/	Material	Description		De
(feet)		Flushmount	Type/ID		(ppm)	6"	Туре	∖Concrete.		7 (
1 +		monument, lockable						No logging or sampling, strong solv	ent-like odor in	-/+ ·
2 + 🕌	12 K.K.2	thermos cap, concrete seal 0'-2'						cuttings.		+ 2
3 +		searu-z								+;
4 +										+ 4
5 +		4" diameter, schedule 40 PVC, threaded						Boring drilled 45 degrees from vert	ical, perpendicular to	5 + 5
3 +		connections, 0'-25'						the building.	-	+ 9
(†										† :
+										+ 5
		Hudratad hants-4-								
)+ +		Hydrated bentonite chips, 2'-22'								ļ.
. T										Ī
T I										Ţ
] -										Ţ
+ III										+
										+
·										+
+										+
+										+
+										+:
+										+
2+										+:
s+ F.		10/20 sand filter pack,								+:
1+		22'-45'						Well screen is completed in glacial	till beneath Morrell's	. +2
+	H							Dry Cleaners building, 18 to 32 fee	t west-northwest of	' :
3 + .		-						near-surface manifold, and 18 to 33 surface.	2 feet below ground	+:
'†								Surface.		+
3+ :	: : : :	-								+
)	Ħ.	-								+
)† -	: 日::::									+
[+
2+										t
1	. E∵	-								t
	· 目: ·	4" diameter								ļ
5 † . 5 +		 4" diameter, 0.020-inch, schedule 								Į
,] [:	目	40 PVC screen, 25'-45'								ļ
3 +		-								+
,										+
' ↓ :	目:]								ļ
<u> </u>	:目:									1
.										+
3	目::]								+
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; -		Threaded PVC endcap						Dottom of horizonia 20 for the	round overfor-	+
5+								Bottom of boring is 32 feet below g	round surface.	+
7										+
3+										+
+										+
Sam	pler Ty	ype:		PID - Ph	notoioniz	ation De	tector	Logged by:	AET	
No Rec	covery			▼ Sta	atic Wate	r Level			A 1 N 1	
								Approved by:	ALN	
				- vva	iter Leve	ı (AID)		<u>-</u>		
								Figure No.		

		Mana	_1			I	Monit	oring Well Constructio	n Log	
		Aspec				ect Numl 80190	oer	Well Number VE-3	Sheet 1 of 2	
Project Na	ame:	Walker Chev						Ground Surface Elev. (site		
ocation:		Tacoma, WA						Top of Casing Elev. (site d	atum)	
riller/Me	thod:	Cascade Drilling	/ Hollow Ster	n Auger - An	gle			Depth to Water		
ampling	Method	d: No samples			_			Start/Finish Date	10/22/2013	
Depth / Elevation	Е	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/	Material Type	Description		
(feet)	 	Flushmount	Турель		(ррііі)	6	Type	\Concrete.		7
1 + 2 +		monument, lockable thermos cap, concrete seal 0'-2'						No logging or sampling, strong so cuttings.	vent-like odor in	_
3 + 4 +		Sedi 0-2								
5 + 6 +		4" diameter, schedule 40 PVC, threaded connections, 0'-44'						Boring drilled 45 degrees from ver the building.	tical, perpendicular to	0 -
7 + 8 +		connections, 0 44						-		-
9 + 0 +		Hydrated bentonite								-
1 2 		chips, 2'-41'								
3+										
4+ 5+										
6+										
7+ 8+										
9										
0+										
1+ 2+										
3+										
4+ 5+										
6+										
7+ 8+										
9+										-
0+										-
1+ 2+										
3										-
4+										
5+ 6+										
7										
8+										
9+										-
0+ 1+		l								
2+		. 10/20 sand filter pack,						Well screen is completed in advar	nce outwash heneath	
3+		41'-64'						Morrell's Dry Cleaners building, 31	l to 45 feet	٠
4+ 5+		1						west-northwest of near-surface market below ground surface.	aniiroid, and 31 to 45	
16 -	目									-
17 +										-
18+										
.9+		<u> </u>		BIB 51		<u> </u>	<u> </u>	1 1 1-	ΛΕΤ.	_
Sar No Re	mpler T			PID - Ph ▼ Sta			tector	Logged by:	AET	
	JOUVE! Y				atic Wate			Approved by:	ALN	
				≚ Wa	iter Leve	ı (ATD)		Figure No.		

		N A	•			<u> </u>	/lonite	oring Well Constructi	on Loa	
		Aspec				ct Numl	per	Well Number	Sheet	
		CONSULTIN			0	80190		VE-3	2 of 2	
Project N	lame:	Walker Chev	rolet					Ground Surface Elev. (si	te datum) 273.92 f	ft
Location:	:	Tacoma, WA						Top of Casing Elev. (site	datum)	
Driller/Me	ethod:	Cascade Drilling	/ Hollow Ste	m Auger - Ar	ngle			Depth to Water		
Sampling	Method	d: No samples						Start/Finish Date	10/22/2013	
Depth / Elevation	В	orehole Completion	Sample Type/ID	Tests	PID	Blows/	Material	Description		Dep
(feet)	· · · · · · · ·	4" diameter,	Type/ID	1000	(ppm)	6"	Туре			(ft)
51 +		0.020-inch, schedule								-51
52+		40 PVC screen, 44'-64'								-52
53+										 53
54+										-54
55+										-5
6+ 7+										-50 -51
8-		-								-58
9+		.]								-59
0]								-6
1 +	目:	-								-6
2		<u> </u>								-6
3+]								-63
4+	*. *	Threaded PVC endcap						Bottom of boring is 45 feet below	w ground surface.	 64
5+								, and the second	Ū	-6
6+ 7+										-6
7 T 8 -										-6 -6
9										-6
0+										-70
1										-7
2+										-72
3+										 7:
4+										+ 74
5+										+7:
6+ 7+										+70 +7
' 8 										-78
9+										-79
o 🕂										-8
1+										-8
2+										-8
3+										-8
4+										-8
5+ 6+										-8 -8
7										-8
8										-8
9+										-8
0 🕂										-9
1 +										-9
2+										-9
3+										-9
)4 										-9
95 96 										-9: -9:
97 										-9
8										-98
9										-99
	mpler T	vne.		חום סי	hotois=!-	otion D-	tootor	Logged by:	AET	
_	ecovery			_	hotoioniz		ector	Logged by:	ALI	
J NO K	.covery			_	atic Wate			Approved b	y: ALN	
			∑ Wa	ater Leve	I (ATD)					
								Figure No.		

		Mane	Aspect Monito Project Number				ring Well Construction Log Well Number Sheet				
CONSULTING					80190		VE-4 1 of 2				
Project Name: W Location: T			Walker Chevrolet Tacoma, WA							273.53 ft	
								Top of Casing Elev. (site datum)			
			/ 04	A A							
		Cascade Drillin	g / Hollow St	em Auger - A	ngie			Depth to Water	10/18/2013		
	Meth	od: No samples						Start/Finish Date	10/10/2013		
Depth / Elevation (feet)		Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description			
1 -		Flushmount					te velativa velt	Concrete.		\int	
<u>'</u>		monument, lockable thermos cap, concrete						No logging or sampling, strong	solvent-like odor in		
3 +		seal 0'-2'						cuttings.			
í											
; 🗼		4" diameter, schedule									
1		40 PVC, threaded						Boring drilled 40 degrees from the building.	vertical, perpendicular t	0	
1		connections, 0'-39'						trie building.			
1											
, ‡											
)		Hydrated bentonite									
1 🕂		chips, 2'-37'									
2+											
;+											
.+											
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;+											
·+											
+											
+											
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<u>?</u> †											
3+											
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2+											
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' +								Well screen is completed in adv	vance outwach heneath	,	
3+		10/20 sand filter pack,						Morrell's Dry Cleaners building,	25 to 38 feet		
+		37'-59'						west-northwest of near-surface	manifold, and 30 to 45		
+								feet below ground surface.			
+	: 										
2+	目										
3+	目										
! 	 										
5+											
6+ 71											
7+		뭐									
3+ 9+	<u> </u> : ∄										
	mpler	Type:		DID 5	lhotale=!	ention D	tosts -	Logged by	AET		
			_	D - Photoionization Detector Static Water Level			Logged by:	ALI			
1 . 10 1 (· J		∇				Approved b	y: ALN		
				≚ W	ater Leve	el (ATD)					
								Figure No.			

		Aspec	-			N	/lonit	oring Well Construction		
						ct Numb	oer	Well Number	Shee	
·		OCONSULTIN		0	80190		VE-4	2 of :		
Project Name: _\		Walker Chev	Walker Chevrolet					Ground Surface Elev. (site	datum) 273	3.53 ft
		Tacoma, WA						Top of Casing Elev. (site datum)		
riller/Met	thod:	Cascade Drilling	/ Hollow Ste	m Auger - Ar	nale			Depth to Water		
		I: No samples						Start/Finish Date	10/18/2013	
Depth /						Dlaws/	T	Ctart mion bate		
Elevation (feet)	B:	orehole Completion 4" diameter,	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		
51 +		0.020-inch, schedule								-
2		40 PVC screen, 39'-59'								-
3	:: ::::: ::::									-
4	H									
5 -										
6										
7	目									
8										
9 +		Threaded PVC endcap								
9		micadeu F vo endeap						Bottom of boring is 45 feet below of	ground surface	
1+										
2+										
3+										
4										
'										
5										
7										
3										
9+										
0+										
1+										
2+										
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1+										
2+ 3+										
4+ 5+										
5+ 5+										
7+ 8+										
9+										
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1+										
2+										
2 T 3 +										
3 T 4 +										
5+										
6+										
7+ o_										
8+										
9+										
Sampler Type: PID			PID - PI	- Photoionization Detector			Logged by: AET			
No Re	covery			▼ Sta	atic Wate	r Level		A	AL NI	
				∑ wa	ater Leve	l (ATD)		Approved by:	∆LIN	
				- v v c	ALC: LEVE	· (/ (1 D)				

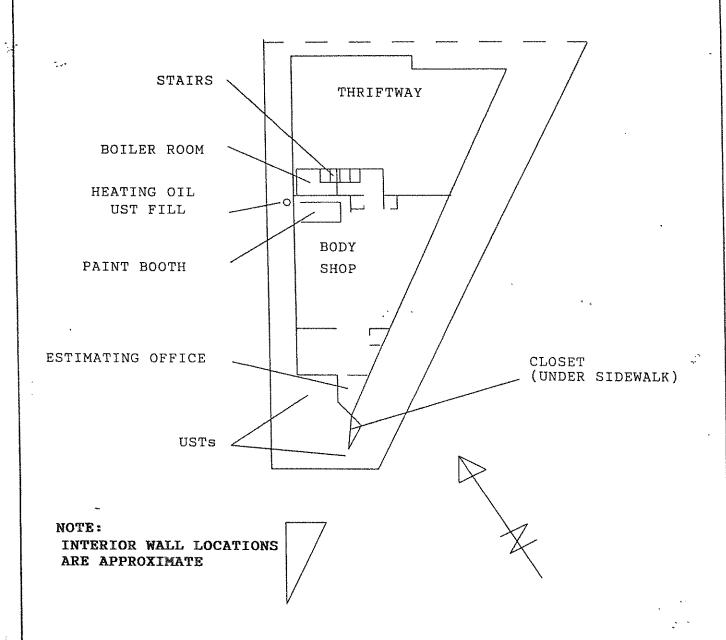
APPENDIX B

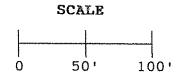
Summarized Figures and Data Tables from Phase I ESA and Remedial Action Reports in 1994, and Due Diligence Sampling from 2006 to 2008

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

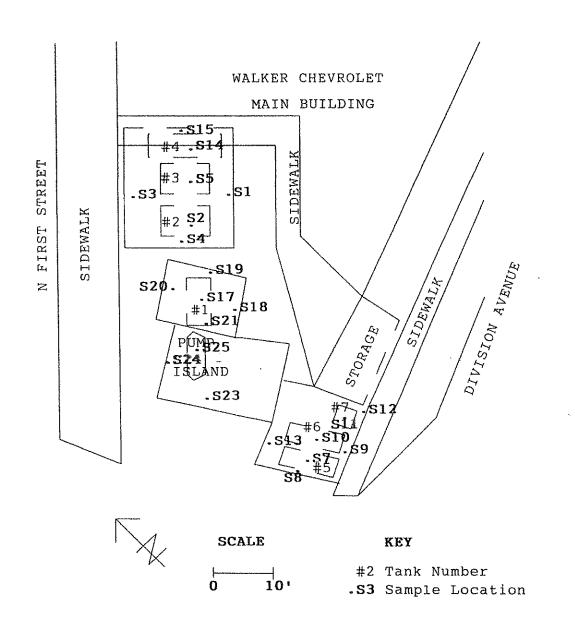
Prepared by Bison Environmental Northwest, Inc. August 1994





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





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



SAMPLE LOG WALKER CHEVROLET PROJECT # 94481

Sample Number		HCID	OTHER ANALYSIS	CLEANUP LEVEL (ppm)
namper			32. 32. 41. 42. 42. 42. 42. 42. 42. 42. 42. 42. 42	
S1	E wall tank 2-4 exc, 5'	ND	wa-r	-
S2	Bottom tank 2, 10'	-	Gasoline ND	1100
	,		BTEX ND	_
			Lead ND	_
s3	W wall tank 2-4 exc, 7'	ND	-	-
S4	S wall tank 2-4 exc, 7'	ND		
				100
S5	Bottom tank 3, 10'		Gasoline 39 ppm	100
			B ND	0.5
			T ND	40 20
			E 0.33 ppm	20 20
			X 3.30 ppm Lead 6 ppm	250
~ ~	m	ND		230
S6	Tanks 5-7, surface Bottom tank 5, 9'	ND		_
S7	S wall tank 5-7 exc, 7'	ND		
S8 S9	E wall tank 5-7 exc, 7'	ND		
33	E wall talk 5"/ exc, /	,,,,,		
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	<u>-</u> -	sum.
S14	Bottom tank 4, 10'		Gasoline ND	
			BTEX ND	
S15	N wall tank 2-4 exc, 8'	ND	-14-4	
S17	Bottom tank 1 exc, 8'	ND	Maryaria .	•••
S18	E wall tank 1 exc, 6'	ND	····	
S19	N wall tank 1 exc, 7'	ND		-
S20	W wall tank 1 exc, 6'	ND	are.	-
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						CLEANUP LEVEL
Number	Location	HCID	OTHER	ANALYSI	S	(mgg)
S23	S wall pump I exc, 3'	ND		-		_
S24	W wall pump I exc, 3'	ND		-		***
S25	Bottom pump I exc, 5'	ND		_		~
01	Tank 2 overburden	ND				
02	Tank 3 overburden	ND				
03	Tank 1 overburden	ND		-		-
04	Tank 5-8 overburden	ND		_		
05	Tank 5-8 overburden	ND				-
06	Tank 1 overburden	HO	Oils	1,900	ppm	200
			PCBs	ND		_
			VOCs	ND		_
		{metals}	Вa	88.4	ppm	5,600*
			Cđ	0.4		2
			\mathtt{Cr}	21.1		100
			Pb		ppm	250
		As,	Hg,Se,			_

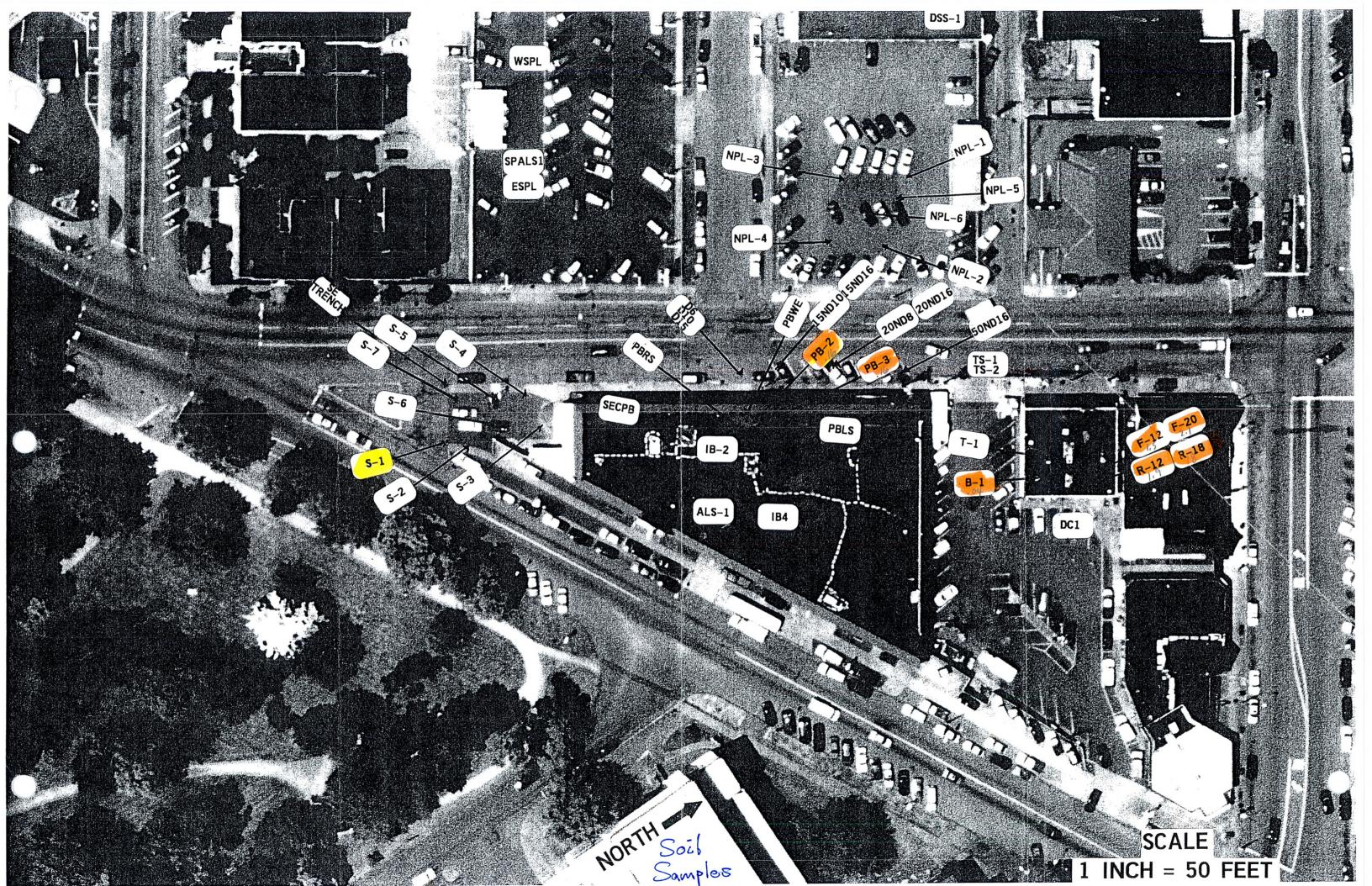
NOTES TO SAMPLE LOG

- 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) \mbox{HCID} analysis for petroleum hydrocarbons by $\mbox{WTPH-HCID}$ 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



SOIL SEMI-VOLATILE ORGANIC COI	MPOUNDS	BY METHOD 8270	
		- ME1110D 0210	·
SAMPLE-NUMBER	S-1-15	SOIL	
		REPORTING	
SAMPLE DATE	8/31/06	LIMITS	
DEPTHS	 15		
2 22 1110	IJ		-
	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 .		
PYRENE		0.1	
I TRENE	ND	0.1	
-			
- "			
SOIL PCB ANALYSES EPA METI	IOD 0000	•	
SOIL FCB ANAL 1 SES EPA METI	10D 8082		
CANADI E NI MADED			
SAMPLE-NUMBER	S-1-15		
CAMPLE DATE			
SAMPLE DATE	8/31/06		
DEDMITO			
DEPTHS	15'	•	
<u> </u>	•	MDL	_
PCB-1016	ND	0.2	
PCB-1221	ND	0.2	
PCB-1232	ND	0.1	
PCB-1242	ND	0.1	ĺ
PCB-1248	ND	0.1	
PCB-1254	ND	0.1	ŀ
PCB-1260	ND	0.1	1
I CD-1200	<u> </u>	0.1	

ANALYSES OF SOIL FOR SPECIF	IC HALOGEN	ATED			
HYDROCARBONS BY EPA 8260 C			-		• .
DITTO OF THE OTHER DITTO COUNTY	TILONINATEL				
SAMPLE-NUMBER		PB-3-8	S-1-15	DDO 4	504.0
The state of the s		L D-2-0	S-1-15	PB2-4	DC:1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	0104100
		0/3//00	0/3//00	0/3/1/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL	. ~.	, 10	-1	O
` `	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 .	NĎ	ND
BROMOMETHANE	0.05	ND	ND	ND	ND
CHLOROETHANE	0.05	ND	ND	ND	ND ND
TRICHLORÖFLÜOROMETHANE	0.05	ND	ND	ND .	
ACETONE	0.5	ND	ND .	ND .	ND
METHYLENE CHLORIDE	0.5	ND	ND		ND
METHYL-T-BUTY ETHER (MTBE)	0.05	ND	ND	ND	ND
TRANS 1,1 DICHLOROETHENE	0.05	ND	ND	ND ND	ND
1,1 DICHLOROETHENE	0.5	ND .	ND		ND
TRANS-1,2-DICHLOROETHENE	0.05	ND .	ND	ND ·	ND
1,1 DICHLOROETHANE	0.05	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	ND
1,1,1- TRICHLOROETHANE	0.05	ND .	ND -	ND	ND
1,2 DICHLOROETHANE	0.05	ND :		ND	ND
1,1-DICHLOROPROPENE	0.05	ND	ND	ND	ND
CARBON TETRACHLORIDE	0.05		ND	ND	ND
BENZENE	0.03	ND	ND	ND	ND
TRICHLOROETHENE (TCE)	0.02	ND	ND	ND	ND
1,2-DICHLOROPROPANE	0.02	ND ND	ND	ND	ND
DIBROMOMETHANE		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,-TRICHLOROPHOPENE	0.05	ND	ND	ND	ND
2-HEXANONE	0.05	ND	ND	ND	ND
1,3-DICHLOROPROPANE	0.05	ND	ND	ND	ND
	0.05	ND	NĎ	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	ЙD	ND
1,1,1,2-TETRACHLOROETHANE	0.05	ND	ND	ЙD	ND .
ETHYLBENZENE	0.05	ND	ND	ND	ND
XYLENES	0.05	0.13	5.7	0.12	0.16

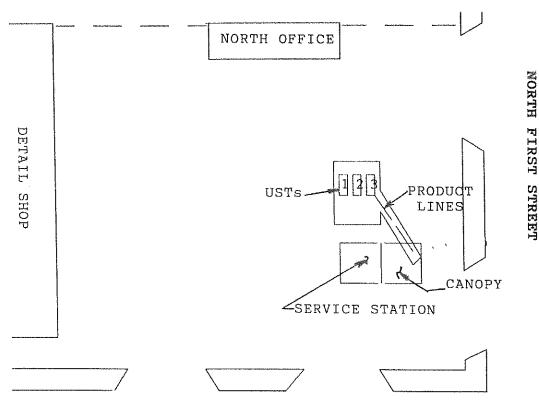
ANALYSES OF SOIL FOR SPECIF	IC HALOGENA	ATED			 -
HYDROCARBONS BY EPA 8260 C					
SAMPLE-NUMBER	•	PB-3-8	S-1-15	PB2-4	DC1-8
	-		, T. 1 . I I		:
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEDTU					
DEPTH	2011	8'	15'	4'	8'
	SOIL				·
	REPORTING	n.'			
STYRENE	LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
BROMOFORM	0.05	ND	ND	ND	ND
	0.05	ND	ND	ND	ND
1,1,2,2-TETRACHLOROETHANE	0.05	ЙD	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	NĎ
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 I

ANALYSES O	F SOIL FO	R TOTAL	PETROLEUI	M HYDROC	ARBONS	EPA METH	OD NWTPH-	Dx/Dx EX	TENDED	!	1
SAMPLE	SAMPLE		= \$40454 hours in		ETHYL-	TOTAL				i i i i i i i i i i i i i i i i i i i	
NUMBER	DATE	DEPTH	BENZENE	TOLLIEVE	1976 - 1 15 a eff som damen was som a 41 1944	TOTAL	GASOLINE	DIEGET		MINERAI	<u></u>
	D11112			TOLOLINE,	DEINZEINE	VITEINE?	GASOLINE	DIESEL	OIL	OIL	i Harakan kanan mu
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	i
S-1-15	8/31/06	15'	6.1	4.1	6	12	920	ND	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'	妆	*	*	*	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	1 May 14 as a
NPL-3-19	8/31/06 .	19'	ND	ND	ND	ND	ND	ND	ND	ND	.4
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	* PER HOLLOW
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'	*	2 j e ,	*	*	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"	ήc)اد -	*	*	ND	ND	87	ND	
PBLS-24	10/20/06	24"	* 4	*	*	*	ND	ND	ND	ND	
PBLS-36	10/20/06	36"	*	非	*	*	ND	ND .	ND	ND	
_ ALS-1	10/20/06	. 32"	*		γk	*	ND	ND :	220	ND	
DSS-1	10/20/06	36"	*	*	*	*	ND	ND _	ND	ND	to septem a consequence
PBRS	10/20/06	30"	*	*	*	*	ND	ND :	ND	ND	4 17 188 18 18 18 199
MDL		- 1.	0.02	0.05	0.05	0.05	10	30	40	40	"
* = Not analyze	d .					1		· · · New HALLMAN		:	

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



NORTH G STREET

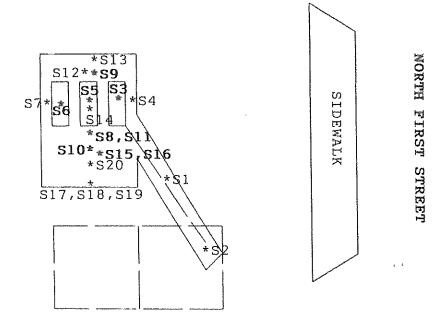
SCALE

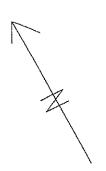
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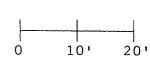
NOTE: Service Station and Canopy locations are approximate, and based on review of Sanborn Fire Insurance Maps, date 1945

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









SCALE

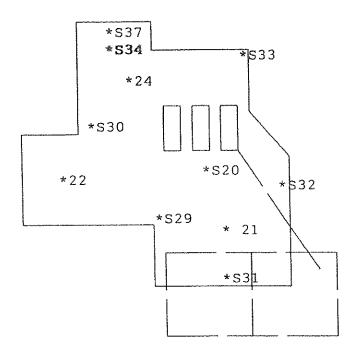
KEY

*S3 Sample Location-Contaminated Soil (removed)

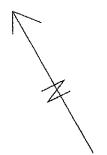
*S18 Sample Location-"Clean" Soi1

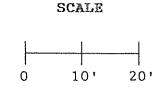
SITE PLAN - NORTH LOT on 9/2/94
BISON ENVIRONMENTAL NORTHWEST, INC.
PROJECT# 94481-3 SEPT 1994











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

				CLEANUP
Sample		HCID	OTHER ANALYSES	LEVEL
Number	Location	RESULTS	TYPE RESULTS	(ppm)
0.1	Downship Dund Times 2/	ND	_	
S1	Beneath Prod Lines, 3'	ND		
S2	Prob. Pump Isl Loc, 3'		Gasoline ND	100
83	Bottom tank 1, 5' (8/26) G,no	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	OTTS 240 PPM	
S5	Bottom tank 2, 5' (8/26		Oils 140 ppm	200
S6	Bottom tank 3, 5' (8/26	•	Gasoline 298 ppm	100
50	boccom cank 3, 3 (0)20	, 0,110	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	- crrs rooc bb	200 -
S8	S wall, 4' (8/26)	G,HO	Oils 21000 ppm	200
50	D Wall, 4 (0/20)	0,110	B ND	200
			T 0.027 ppm	40
			E 0.062 ppm	20
			- -	20
		c-Butylb	* *	NA
		opropylb		NA
		opropylt		NA
				320
	, "	-Propylb		NA
		imethylk		NA
		imethylb		NA
	1,0,0 11	_	VOCs ND	
		001101	PCBs ND	4100
		(metals)		5,600*
		(Cr 21.6 ppm	100
			Pb 27 ppm	250
		Cd.As.	Hg, Se, & Ag ND	
S 9	N wall, 4' (8/26)	но	Oils 100 ppm	200
	verburden Composite (8/26		Gasoline 173 ppm	100
		, 0,110	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
02 0	verburden Composite (8/20	5) G,HO		
	verburden Composite (8/20			-
	***	•		



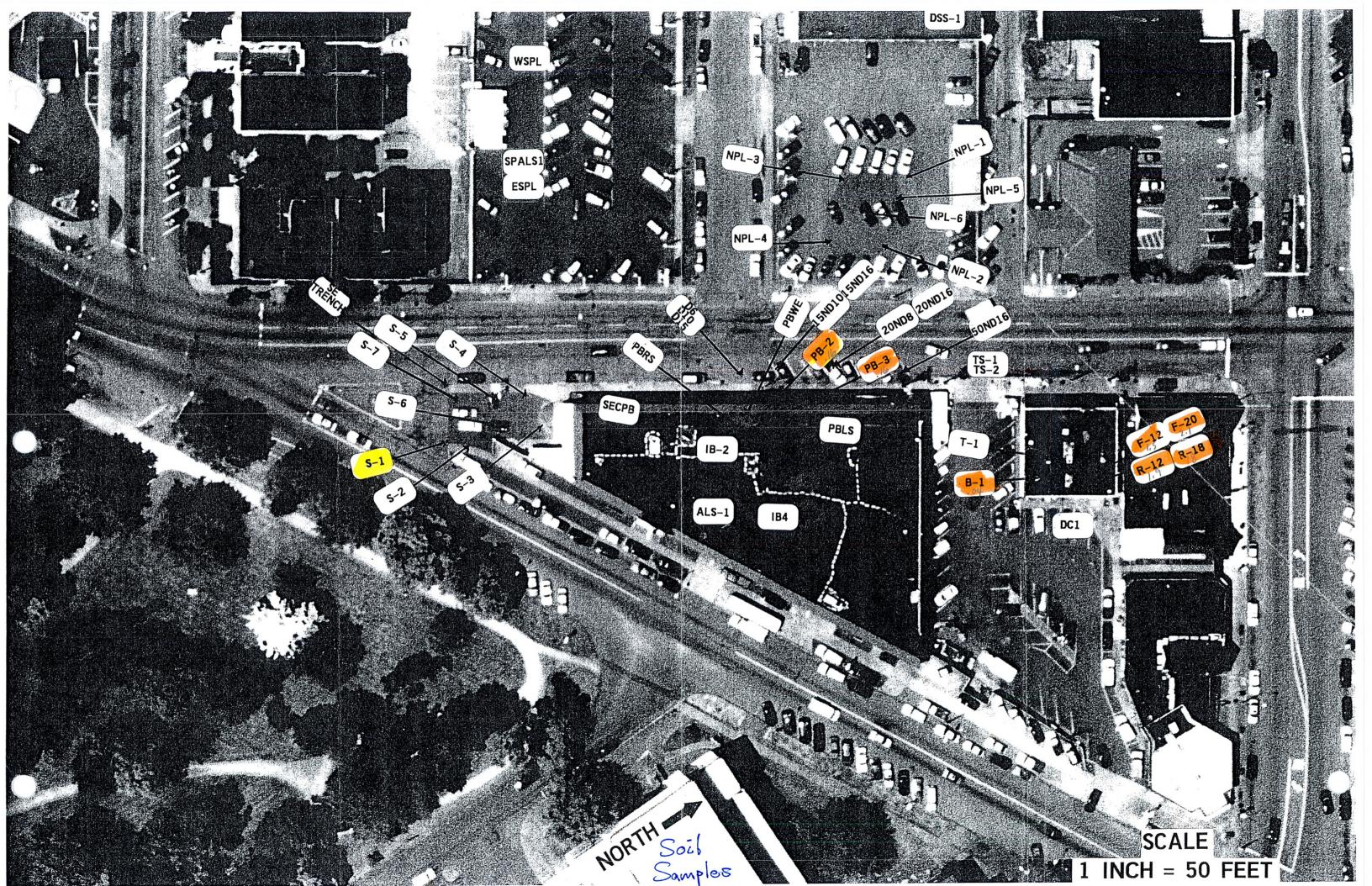
SAMPLE LOG (continued) WALKER CHEVROLET PROJECT # 94481-3

1) p -				CLEANUP
2) H Samp	le			LEVEL
и 1 Numb		HCID	OTHER ANALYSIS	(mqq)
3) V C S10	S wall, 4' (8/31)	НО	Oils 3400 ppm	200
4) N S11	S Bottom, 8' (8/31)	НО	Oils 880 ppm	200
d ro S12	N Bottom, 8' (8/31)	ND		4044
5) H II S13	N Wall, 4' (8/31)	ND	Profes	
m S14	Center Bottom, 8' (8/31)	MD		-
d \$15	South Bottom, 12' (9/2)	G,HO	Oils 10000 ppm	200
6) U.d. S16	S Bottom, 15' (9/2)	G,HO	Oils 560 ppm	200
7) U 1 S17	S Wall, 12' (9/2)	ND	Oils ND	200
v S18	S Wall, 8' (9/2)	ND	Oils ND	200
W.C S19	S Wall, 4' (9/2)	ND	Oils ND	200
S20	S Bottom, 17' (9/2)	ИD	Oils ND	200
21	Bottom, 16'(9/6)	ND	***	Name
22	Bottom W arm, 20' (9/6)	ND		
23	Composite, contam soil	G,HO	-	
	•	Ŋ	Naphthalene 1.0 p	om 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	was a	***
28	Overburden Composite (9/7)	ND	-	-
S29	W wall, 15' (9/8)	ND		
\$30	W wall, 16' (9/8)	ND		with
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	-	****
\$36	"Hot Spot" in overburder	ı	Oils 210 ppm	200
			Gasoline ND	100
			BTEX ND	****
\$37	N Wall, 16' (9/12)	ND	Teles.	

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



				: 						!		•				:				\$ \$ \$ \$ \$:				•		1		1		
		MINER/	OIL	mg/kg	R		QN	QN.	QN	QN QN	<u>О</u> Х	Q			2	Q Z	QN		2		<u>: Q</u>	Q.	R	QN	N	S	Q			R	ND	40	
	TENDED		OIL	mg/kg	2	2	Q N		Q Z	Ω̈́	Q	2 R	Q	<u>Q</u>	2	N		Q.	E R	<u>Q</u>	94	Ω	S	: QN :	8	87	Q	2	220	R	R	40	
<u> </u>	Dx/Dx EX		DIESEL	mg/kg	Q N	QN	NO	ON.	Q N		QN	2	- QN	Q	R	ND		Q Z	ΩN	R	2		- -2		2	R	- Q	R	Q	Q.	QN	30	
	EFA METHOD NWIPH-DX/DX EX		GASOLINE	mg/kg	920	Q Z	360	QX X		QX	ON.	30	N N		NO	QX	Ω	ΩZ	QN	QX	ND ND	QX	Q.	Q Z	Q Z	ND	OZ.	ΩN	ND	QN.		10	e de la companya de l
11000	EPA MEIH	TOTAL	XYLENES	mg/kg	12	ON ON	-	OZ.	OZ.	R	ON.	*	L QN	QZ	QN	Q Z		QZ	QN.	N CN	QX.	QN	*	: : : : *	*	*	- - - - - - - - - - -	: . *	: : !*	*	*	0.05	
01.600.00	T L L KOCAKBONS	ETHYL-	BENZENE	mg/kg	9	Q N					Q N	· *	: QX	QZ :	QX	QN		S	CN CN	QN	QN	ON ON	*	X	*	*	*	• • *	· *	* * * *	*	0.05	
٦,	\lnot.		TOLUENE	mg/kg	4.1	R		N N	ON '	N	Ω	*	NON	N	QN			Q N	ON.		P	QN	*	*	: : *	쏬	*	*	*	*	: *	0.05	
ara roduad	re i Koleon		BENZENE	mg/kg	6.1	ND		ND	N Q N	ΩZ	Q Q	*	NO ON	QN	ND	ND	ΩZ	QN		ΩN	ON ON	ΩN	*	*	*	*	*	*	· *	*	*	0.02	
TOTAT	TOTAL		DEPTH		15'	15'	16'	15'	15'	13'	∞	∞	20,	24	20'	21,	19'	19'	19'	20,	,9	∞	23.5'	18.5-20	09	24"	24"	36"	32"	36"	30"		
JE SOIL EOB		SAMPLE	DATE		8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	9/18/06	9/18/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	•	þe
ANATVOES	AND TOTAL SOLD FOR TOTAL PETROLEUM	SAMPLE	NOMBER		S-1-15	S-2-15	S-7-15	S-3-15	S-4-15	S-5-15	S-9-S	PB-3-8	NPL-6-20	ESPL-24	WSPL-20	NPL-1-21	NPL-2-19	NPL-3-19	NPL-4-19	NPL-5-20	IB2-6	SECPB-8	S PALS-1	DC PLAS-2	IB4	PBWE	PBLS-24	PBLS-36	ALS-1	DSS-1	PBRS		* = Not analyzed
			,											_						-							<u> </u>			-			

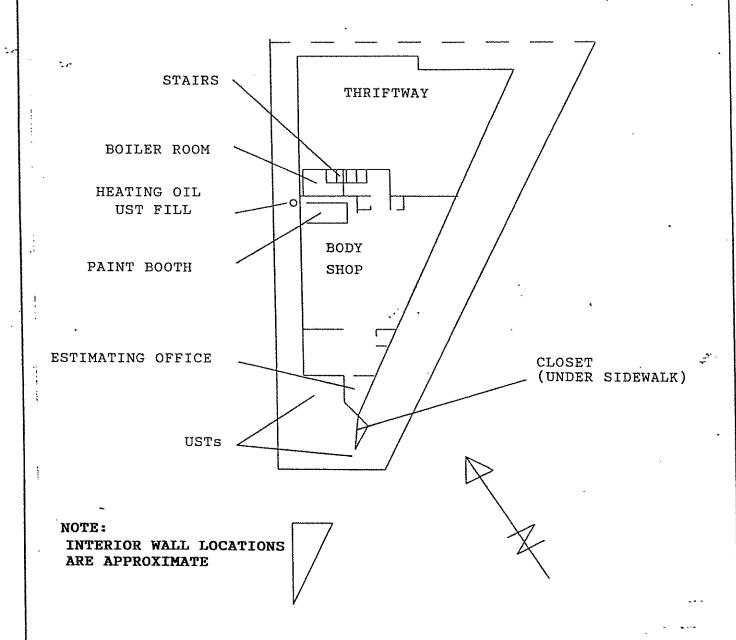
Former Paint Booth and Heating Oil UST - Figures and Data Tables

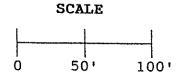
Phase 2 Studies, Floor Drain and Heating Oil UST Closure Walker Chevrolet Paint Booth 633 Division Avenue, Tacoma, WA 98403

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

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

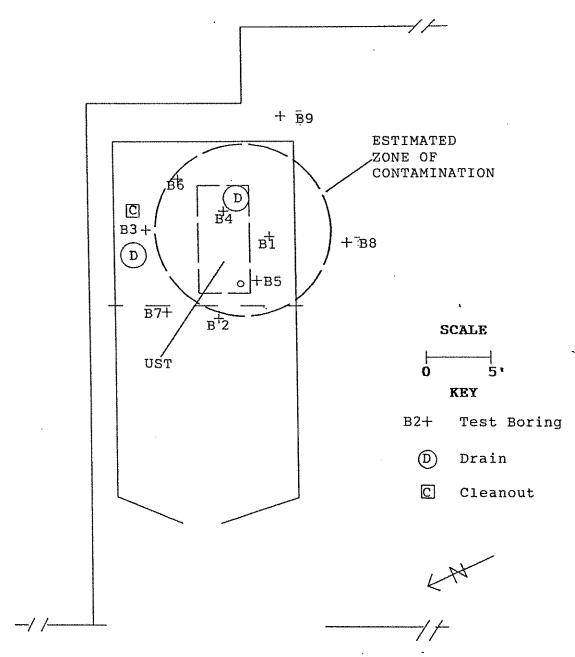
Prepared by Bison Environmental Northwest, Inc. September 12, 1994





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





NORTH FIRST STREET

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

A CONTRACT OF THE PROPERTY OF



TABLE A:
LABORATORY RESULTS - PREVIOUS STUDY

Sample <u>Locati</u>	•	s Analyte	Results	Cleanup Level
B1-5.5'	WTPH-418.1	TPH	8,000 ppm	200 ppm
Sedivent Semple	Total Meta	ls Barium Cadmium Chromium Lead As, Cd, SE, & Ag	43.8 ppm 50.2 ppm 110 ppm 2140 ppm ND	5,600 ppm* 2 ppm 100 ppm 250 ppm
Inside Pipe Removed During Decommission	1,2,4 T 1,3,5 T	Ethylbenzene Isopropylbenzene p-Isopropyltoluene Tetrachloroethene Naphthalene n-Propylbenzne Toluene rimethylbenzene rimethylbenzene Total Xylenes Other VOCs	2,200 ppb 1,600 ppb 480 ppb 210 ppb 1,100 ppb 1,500 ppb 85,000 ppb 11,000 ppb 5,000 ppb	20,000 ppb NA NA 500 ppb 320,000 ppb* NA 40,000 ppb NA NA 20,000 ppb
B2-5.5'	WTPH-418.1	TPH	79 ppm	200 ppm
B3-2'	WTPH-418.1	TPH	96 ppm	200 ppm
	EPA 8240	Toluene Total Xylenes Other VOCs	13 ppb 5 ppb ND	40,000 ppb 20,000 ppb
B4-3'	WTPH-418.1	ТРН	480 ppm	200 ppm
	EPA 8240	Toluene Total Xylenes Other VOCs	7 ppb 6 ppb ND	40,000 ppb 20,000 ppb

5 0...

TABLE B: LABORATORY RESULTS - TEST BORINGS

Sample No. Location	./ Analysi	s Analyte	Results	Cleanup <u>Level</u>	
B5-5'	WTPH-HCID	Hydrocarbons	Gasoline - ND Diesel - ND Oil - Detected		
	WTPH-418.1 EPA 8240	TPH Methylene Chloride Toluene Total Xylenes Other VOCs	390 ppm	200 ppm 500 ppb 40,000 ppb 20,000 ppb	
B5-7.5'	WTPH-418.1	ТРН	2500 ppm	200 ppm	
B5-9'	WTPH-418.1	ТРН	4400 ppm	200 ppm	•
B5-10'	WTPH-HCID	Hydrocarbons	Gasoline - ND Diesel - ND		
		Benzene n-Butylbenzene sec-Butylbenzene Ethylbenzene Isopropylbenzene p-Isopropyltoluene Tetrachloroethene Methylene Chlori n-Propylbenzene Toluene Trimethylbenzene Trimethylbenzene Total Xylenes Other VOCs	53 ppb	200 ppm 500 ppb NA NA 20,000 ppb NA 500 ppb 500 ppb NA 40,000 ppb NA NA 20,000 ppb	5°
B6-5'	WTPH-HCID	Hydrocarbons	Gas - Detected Diesel - ND Oil - ND		
		Gasoline n-Butylbenzene sec-Butylbenzene Ethylbenzene p-Isopropyltoluene Naphthalene n-Propylbenzne Toluene Trimethylbenzene Trimethylbenzene Total Xylenes Other VOCs		100 ppm NA NA 20,000 ppb NA 320,000 ppb NA 40,000 ppb NA NA 20,000 ppb	



TABLE B (continued)

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

NOTES:

- Compound also appeared in laboratory blank, suggesting crosscontamination 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

3 3

Date: 08-03-94

Location: West of South Drain and UST

No groundwater encountered

Depth (feet)

(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)

(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)

(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		

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

Group Sample # Depth 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'	11	11	п
B5-9'	t F	ŝī	. 12
B5-10'	18	· 11	11

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



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

Group

Symbol Sample # Depth Soil Description 0-1.5' 8" Concrete Slab FILL +/- 6" Gravel Subgrade Light Brown, gravelly, silty SAND, moist, medium dense to very dense 1.5-4' SP-SM B6-5' 4-6' SP-SM Blue-gray, gravelly, silty SAND, moist, very dense Moderate hydrocarbon odors Light Brown, gravelly, slightly silt SAND, moist, very dense B6-81 6-8'

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



Site <u>Walker Chevrolet - Paint Booth</u>				
Project Number 94481-2 Date 09/08/94				
Driller Burlington Environmental Logged by Henry Perrin				
Boring#_B7				
Location_1	3.5' W.	4' S, of	NEC Paint Booth	
		Group		
Sample #	Depth	Symbol	Soil Description	
	0-1.5'	FILL	8" Concrete Slab	
		1	+/- 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.				



Site Walker Chevrolet - Paint Booth	
Project Number <u>94481-2</u> Date <u>09/08/94</u>	
Driller <u>Burlington Environmental</u> Logged	by Henry Perrin
Boring# <u>B8</u>	
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
в8-8'	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.				

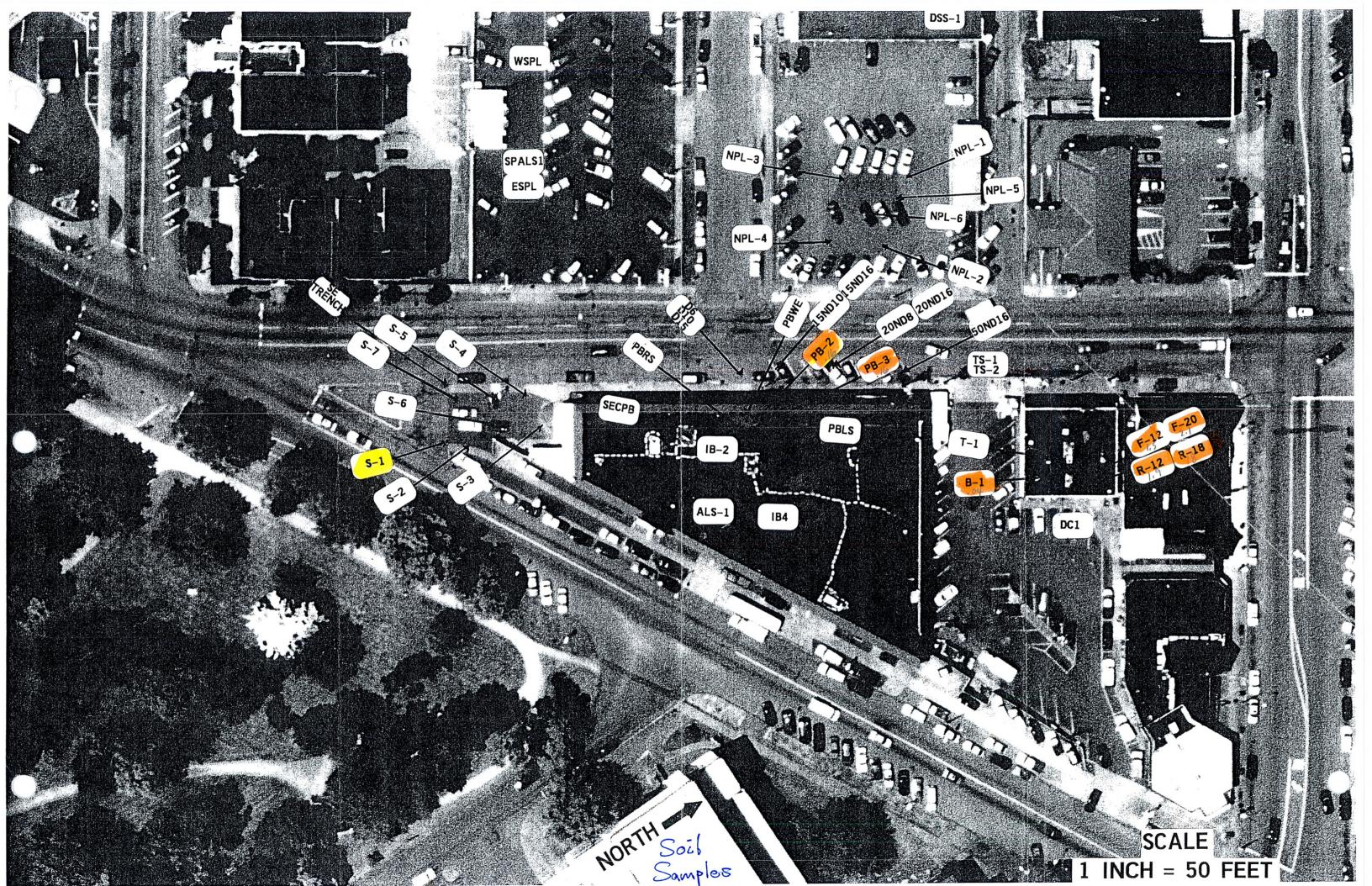
Site <u>Walker Chevrolet - Paint Booth</u>				
Project Number 94481-2 Date 09/08/94				
Driller Burlington Environmental Logged by Henry Perrin				
Boring# <u>B9</u>				
Location 2' E. 1' N. of SEC Paint Booth				
Sample #	Depth	Group Symbol	Soil Description	
	0-1.5'	FILL	6" Concrete Slab +/- 6" Gravel Subgrade	
в9-5'	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.				

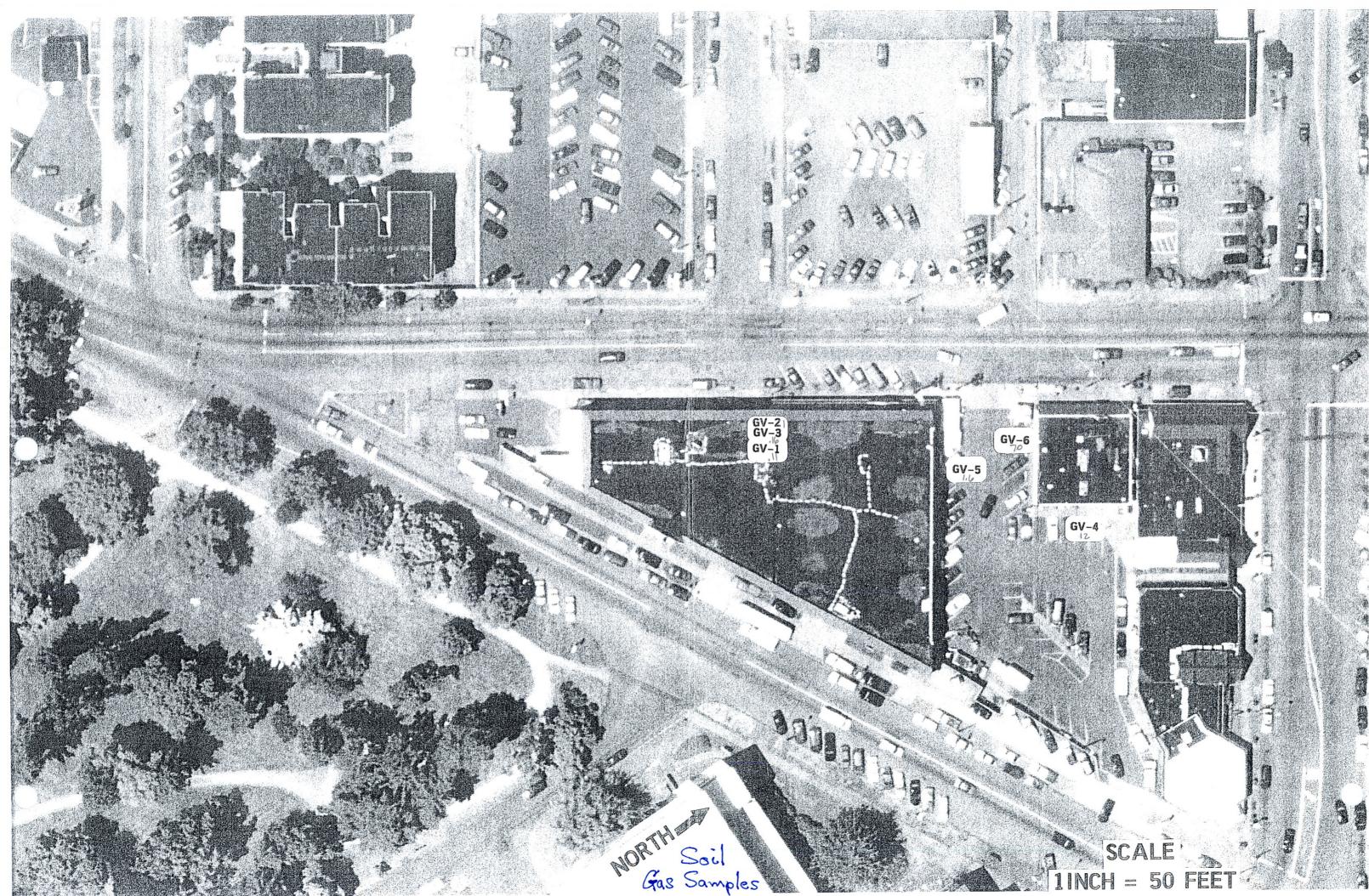


Former Paint Booth and Heating Oil UST - Figures and Data Tables

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

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





 $\frac{12 = 1,000 \, \text{cm}^3}{1000 \, \text{cm}^3 = 1,000 \, \text{cm}^3 = 1,000 \, \text{L}}$ TITUS/THRIFTWAY

: Multiply mg/L by 1,000 to get my/m3.

'ALYSES OF SOIL GAS VAPORS I	OR SPECI	FIC HAL	OGENATI	ED	<u> </u>		-
LITDROCARBONS BY EPA 8260					-		• -
SAMPLE-NUMBER	· .	GV-1	GV-2		GV-4	GV-5	GV-6
SAMPLE DATE	SOIL GAS	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08
	VAPORS REPORTING					.:	, -
	LIMITS	ug/L	ug/L	·	·	<u>i</u>	1 i
DICHLORODIFLUOROMETHANE	0.1	ND gg/F	, ug/L ND	ug/L ND	ug/L	ug/L	ug/L
CHLOROMETHANE	0.1	ND	ND	· ND	ND ND	ND	ND
VINYL CHLORIDE	0.2	ND	. ND	ND	0.54	: ND	ND ND
BROMOMETHANE	0.1	ND	ND	. ND	ND	. ND	, ND
CHLOROETHANE	0.1	ND	ND .		ND_	ND	ND
TRICHLOROFLUOROMETHANE	0.1	ND	ND	ND ND	ND	ND	ND .
ACETONE	. 1	ND	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 !	ND
TRANS-1,2-DICHLOROETHENE	0.05	ND	ND :	ND	ND ND	ND ,	ND
1,1 DICHLOROETHANE	0.1	ND .	ND	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 ND
1,1,2,-TRICHLOROETHANE	0.1	ND	ND	ND	ND ·	ND	ND .
2-HEXANONE	0.1	ND	ND	ND	ND	ND	ND

' 'ALYSES OF SOIL GAS VAPORS	FOR SPEC	IFIC HAL	OGENATE	D		:	
h. DROCARBONS BY EPA 8260	-	-					
SAMPLE-NUMBER	:	GV-1	CV 2	:	0)4.4		
		. 94-1	GV-2	GV-3	GV-4	GV-5	GV-6
SAMPLE DATE	SOIL GAS	-	5/8/08	5/8/08	5/8/08	5/8/08	5/8/08
	VAPORS		•			•	
	REPORTIN LIMITS					:	
1,3-DICHLOROPROPANE	0.1	ug/L ND	ug/L ND	ug/L ND	ug/L	ug/L	ug/L
DIBROMOCHLOROMETHANE	0.1	ND	· · · · · · ND	1	ND	ND	ND
TETRACHLOROETHENE (PCE)	0.02	0.11	1	ND	ND.	ND	ND
1,2-DIBROMOETHANE	0.02	· ND	. ' {	0.16	. 12	1.6	70
CHLOROBENZENE	0.1	ND	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	i ND	0.15	ND .	ND	ND '	ND
STYRENE	0.1	ND	. 0.15 ND	0.23	ND	ND :	ND
BROMOFORM	0.1	ND ·	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 i	ND .
,2,3-TRICHCHLOROPROPANE	0.1	· ND	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	ND
1,3,5-TRIMETHYLBENZE	0.1	· ND	ND	ND :	ND :	ND ;	ND
TERT-BUTYLBENZENE	0.1	ND	ND	ND	ND i	ND	ND ND
1,2,4-TRIMETHYBENZENE	0.1	. ND	ND.	ND	ND :	ND .	ND
SEC-BUTYLBENZENE	0.1	ND .	ND	ND .	÷	ND	ND
1,3-DICHLOROBENZENE	0.1	. ND	ND	• •	ND :	ND	ND
1,4-DICHLOROBENZENE	0.1	· ND	ND	ND ND	ND '	ND	ND ND
ISOPROPYLTOULENE	0.1	ND	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		ND	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 :	ND
HEXACHLORO-1,3-BUTADIENE	0.1	ND	ND	ND	ND	ND	ND MD
1,2,3-TRICHLOROBENZENE	0.1	ND	ND	ND	ND	ND	ND

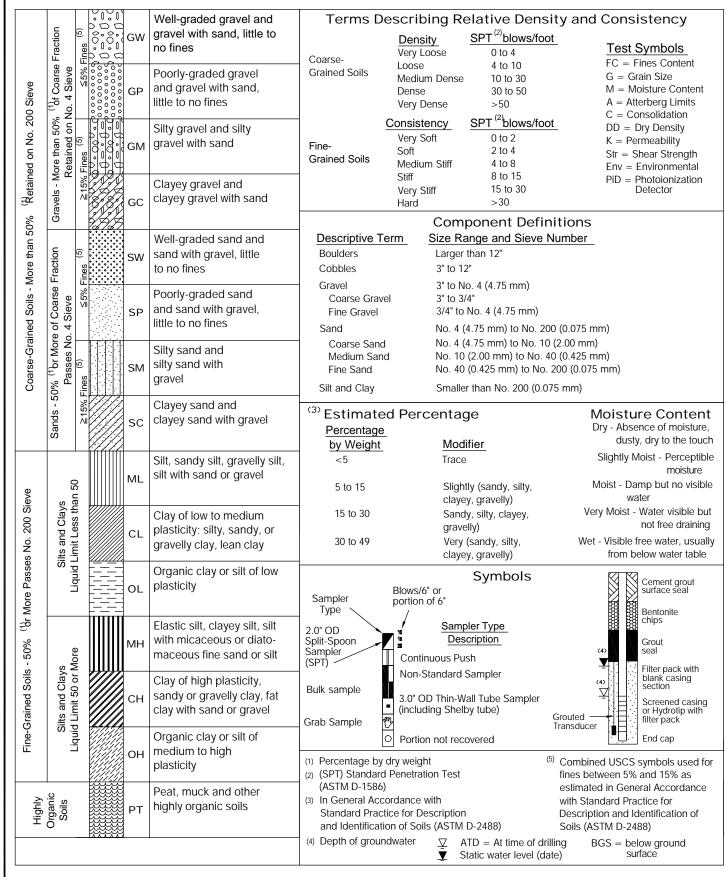
ANALYSES OF SOIL FOR SPECIF	IC HALOGEN	ATED	···		
HYDROCARBONS BY EPA 8260 C			-		• .
DITTO OF THE OTHER DITTO COUNTY	TILONINATEL				
SAMPLE-NUMBER		PB-3-8	S-1-15	DDO 4	504.0
The state of the s		L D-2-0	S-1-15	PB2-4	DC:1-8
SAMPLE DATE		8/31/06	8/31/06	8/31/06	0104100
		0/3//00	0/3//00	0/3/1/06	8/31/06
DEPTH		8'	15'	4'	8'
	SOIL	. ~.	, 10	-1	O
` `	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 .	NĎ	ND
BROMOMETHANE	0.05	ND	ND	ND	ND
CHLOROETHANE	0.05	ND	ND	ND	ND ND
TRICHLORÖFLÜOROMETHANE	0.05	ND	ND	ND .	
ACETONE	0.5	ND	ND .	ND .	ND
METHYLENE CHLORIDE	0.5	ND	ND		ND
METHYL-T-BUTY ETHER (MTBE)	0.05	ND	ND	ND	ND
TRANS 1,1 DICHLOROETHENE	0.05	ND	ND	ND ND	ND
1,1 DICHLOROETHENE	0.5	ND .	ND		ND
TRANS-1,2-DICHLOROETHENE	0.05	ND .	ND	ND ·	ND
1,1 DICHLOROETHANE	0.05	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	ND
1,1,1- TRICHLOROETHANE	0.05	ND .	ND ND	ND	ND
1,2 DICHLOROETHANE	0.05	ND :		ND	ND
1,1-DICHLOROPROPENE	0.05	ND	ND	ND	ND
CARBON TETRACHLORIDE	0.05		ND	ND	ND
BENZENE	0.03	ND	ND	ND	ND
TRICHLOROETHENE (TCE)	0.02	ND	ND	ND	ND
1,2-DICHLOROPROPANE	0.02	ND ND	ND	ND	ND
DIBROMOMETHANE		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,-TRICHLOROPHOPENE	0.05	ND	ND	ND	ND
2-HEXANONE	0.05	ND	ND	ND	ND
1,3-DICHLOROPROPANE	0.05	ND	ND	ND	ND
	0.05	ND	NĎ	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	ЙD	ND
1,1,1,2-TETRACHLOROETHANE	0.05	ND	ND	ЙD	ND .
ETHYLBENZENE	0.05	ND	ND	ND	ND
XYLENES	0.05	0.13	5.7	0.12	0.16

ANALYSES OF SOIL FOR SPECIF	IC HALOGENA	ATED			 -
HYDROCARBONS BY EPA 8260 C					
SAMPLE-NUMBER	•	PB-3-8	S-1-15	PB2-4	DC1-8
	-		, T. 1 . I I		:
SAMPLE DATE		8/31/06	8/31/06	8/31/06	8/31/06
DEDTU					
DEPTH	2011	8'	15'	4'	8'
	SOIL				·
	REPORTING	n.'			
STYRENE	LIMITS	mg/kg	mg/kg	mg/kg	mg/kg
BROMOFORM	0.05	ND	ND	ND	ND
	0.05	ND	ND	ND	ND
1,1,2,2-TETRACHLOROETHANE	0.05	ЙD	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	NĎ
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 I

				: 						!		•				:				\$ \$ \$ \$ \$:				•		1		1		
		MINER/	OIL	mg/kg	R		QN	QN.	QN	QN QN	<u>Д</u>	Q			2	Q Z	QN N		2		<u>: Q</u>	Q.	R	QN	N	S	Q			R	ND	40	
	TENDED		OIL	mg/kg	2	2	Q N		Q.	Ω̈́	Q	2 R	Q	<u>Q</u>	2	N		Q.	E R	<u>Q</u>	94	Ω	S	: QN :	8	87	QN	2	220	R	R	40	
<u> </u>	Dx/Dx EX		DIESEL	mg/kg	Q N	QN	NO	ON.	Q N		QN	2	- QN	Q	R	ND		Q Z	ΩN	R	2		- -2		2	R	- Q	R	Q	Q.	QN	30	
	EFA METHOD NWTPH-DX/DX EX	The state of the s	GASOLINE	mg/kg	920	Q Z	360	QX X		QX	ON.	30	N N		NO	QX	Ω	ΩZ	QN	QX	ND ND	QX	Q.	Q Z	Q Z	ND	OZ.	ΩN	ND	QN.		10	e de la companya de l
11000	EPA MEIH	TOTAL	XYLENES	mg/kg	12	ON ON	-	OZ.	OZ.	R	ON.	*	L QN	QZ	QN	Q Z		QZ	QN.	N CN	QZ.	QN	*	: : : : *	*	*	- - - - - - - - - - -	: . *	: : !*	*	*	0.05	
01.600.00	T L LKOCAKBONS	ETHYL-	BENZENE	mg/kg	9	Q N					Q N	· *	: QX	QZ :	QX	QN		S	CN CN	QN	QN	ON ON	*	** **	*	*	*	• • *	· *	* * * *	*	0.05	
٦,	┑.		TOLUENE	mg/kg	4.1	R		N N	ON '	N	Ω	*	NON	N	QN			Q N	ON.		P	QN	*	*	: : *	쏬	*	*	*	*	: *	0.05	
ara roduad	re i Koleon		BENZENE	mg/kg	6.1	ND		ND	N Q N	ΩZ	Q Q	*	NO ON	QN	ND	ND	ΩZ	QN		ΩN	ON ON	ΩN	*	*	*	*	*	*	· *	*	*	0.02	
TOTAT	TOTAL		DEPTH		15'	15'	16'	15'	15'	13'	∞	∞	20,	24	20'	21,	19'	19'	19'	20,	,9	&	23.5'	18.5-20	09	24"	24"	36"	32"	36"	30"		
JE SOIL EOB		SAMPLE	DATE		8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	8/31/06	9/18/06	9/18/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	10/20/06	•	þe
ANATVOES	AND TOTAL SOLD FOR TOTAL PETROLEUM	SAMPLE	NOMBER		S-1-15	S-2-15	S-7-15	S-3-15	S-4-15	S-5-15	S-9-S	PB-3-8	NPL-6-20	ESPL-24	WSPL-20	NPL-1-21	NPL-2-19	NPL-3-19	NPL-4-19	NPL-5-20	IB2-6	SECPB-8	S PALS-1	DC PLAS-2	IB4	PBWE	PBLS-24	PBLS-36	ALS-1	DSS-1	PBRS		* = Not analyzed
			,																	-							<u> </u>			-			

APPENDIX C

Soil Boring Logs for South Gas Station and Paint Booth Area



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



Exploration Log Key

DATE:	PROJECT NO
DESIGNED BY:	
DRAWNBY:	FIGURE NO.
REVISED BY:	C-1

1	Aspe	ct		D*-!	<u> </u>	onite	oring Well Construction		
	CONSULT				ct Numb 30190	er	Well Number AB-1	Sheet 1 of 3	
Project Name:	Walker Che			- 00	00100		Ground Surface Elev.	1010	
_ocation:	Tacoma, WA						Top of Casing Elev.		
Oriller/Method:	Holt Drilling / F		uger				Depth to Water		
Sampling Method:							Start/Finish Date	12/20/2013	
Depth / Elevation (feet)	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dept (ft)
	Asphalt patch						√Asphalt. Qvi		_
5 -				0.0	4 10 8		Medium dense, moist, brown, very gine to medium sand.	gravelly SAND (SP);	- 5
10-	Hydrated bentonite chip backfill	0		0.0	10 30 36		Qvt Very dense, moist, gray with iron st SAND (SP); fine to medium sand.	aining, gravelly	—10 —
- 15- - -			AB-1-15	96.1	20 32 50/5		Very dense, moist, gray and brown gravelly SAND (SM); fine to mediun fabric.	mottled, silty, n sand, diamict	+ -+15
20 +		0		21.1	19 50/3				- -20 - - -
Sampler Ty			PID - Ph ▼ Sta	otoioniza		ector	Logged by: A		
Standard Pene	etration Test)		∑ Wa	ter Level	(ATD)		Approved by: A	ALIN	

	Aspe	act.			N	/lonite	oring Well Construction		
	CONSUL				ct Numb 80190	er	Well Number AB-1	Sheet 2 of 3	
Project Name				00	00190		Ground Surface Elev.	2 01 3	
-							Ground Surface Elev Top of Casing Elev.		
Location: Driller/Metho	Tacoma, WA						Depth to Water		
Sampling Me		Hollow Stem A	uger				Start/Finish Date	12/20/2013	
Depth /				- DID	Blows/		Start I III311 Date		1_
Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	6"	Material Type	Description		Dept (ft)
30-			AB-1-25	0.0	35 50/4 33 50/4		Hard, gray brown, sandy, gravelly fabric.	· SILT (ML); diamict	
35-				0.0	21 33 50/5		Very dense, moist, red brown, slig SAND (SP-SM); diamict fabric.	ghtly silty, gravelly	- - - 35
40 -				0.0	23 50/6		Qva Very dense, moist, red brown, slig (SP); fine to medium sand, trace	ghtly gravelly SAND silt.	40
45 -			AB-1-45	0.0	14 30 37				+ + -45 + +
Sampl	er Type:		DID DI	notoioniz:	ation Do	tester	Logged by:	ΔFT	
			PID - Ph			ICCIO	Logged by.	, <u>, , _ , </u>	
○ No Reco	very Penetration Test			atic Wate	r Level		Approved by:	: ALN	
(ASTM D	Penetration Test 1586)		∑ Wa	iter Leve	l (ATD)		, .pp. 0.00 wy.		
					-		Figure No.		

	Mana	c+			<u> </u>	/lonit	oring Well Construction	Log
	Aspe	:CT			ct Numb	per	Well Number	Sheet
	CONSULT			0	80190		AB-1	3 of 3
roject Name:	Walker Che						Ground Surface Elev.	
ocation:	Tacoma, WA						Top of Casing Elev.	
Oriller/Method:	Holt Drilling / H	Hollow Stem	Auger				Depth to Water	10/00/00 10
Sampling Metho	od: SPT						Start/Finish Date	12/20/2013
Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	D
+ + + + + + + + + + + + + + + + + + + +				0.0	22 40 41			-
55 - - - -				0.0	22 33 47		Trace gravel.	
60			AB-1-61.5	0.0	38 44 50/5		Wet. Bottom of boring is 61.5 feet below g	ground surface.
_ _ - 65								- - -
+								+
+								+
+								+
1								1
70 +								+
†								†
T								Ţ
1								_
+								+
Sampler			PID - Ph			tector	Logged by: A	ET
○ No Recover Standard Pe (ASTM D15)	y enetration Test 86)		—	itic Wate ter Leve			Approved by: A	LN
(5 m D 10	,		.,,		· · · · · /		Figure No.	

	1	Aspe	ect		Proje	ct Numb	/lonit	oring Well Construction Well Number	Log Sheet	
		CONSULT				30190)CI	AB-2	1 of 1	
Project N	ame:	Walker Che				30.00		Ground Surface Elev.		
_ocation:		Tacoma, WA						Top of Casing Elev.		
Driller/Me	thod:	Holt Drilling / H		Auger				Depth to Water		
Sampling								Start/Finish Date	4/6/2015	
Depth / Elevation		rehole Completion	Sample	Tests	PID	Blows/	Material	Description		Dep
(feet)	X//XXI		Type/ID	10313	(ppm)	6"	Туре	Asphalt		(ft
5 -		Concrete patch			0 0	9 9 8 2 2 2 2 2		Qvi Very loose, moist, brown, slightly si SAND (SP-SM); fine to medium sai	Ity, very gravelly nd, fine gravel	- 5
10-		Cement/bentonite gro	out		0	2 2 5		Becomes loose, slightly gravelly		-10
+			0		0	5 12 16		Medium dense, moist, slightly grave (SM); fine to medium sand, fine gra	elly, silty SAND vel -	_
15-				AB-2-16.5	2.1 75.8 1724	6 25 26		Very dense, wet, gray to blue gray, gravelly SAND (SP-SM); petroleum Very dense, moist, gray to blue grasilty SAND (SP-SM); petroleum-like Bottom of boring 16.5ft below ground	slighly silty, slightly -like odor y, slightly gravelly, e odor	15
Sai	mpler Ty	pe:		PID - Ph			tector	Logged by:	AET	
Stand (AST)	ard Pene	etration Test)		\Box	itic Wate iter Leve			Approved by: A	ALN	
`		-						Figure No.		

	Acnac	4	٧			let - 08019)		Environmental	Exploration	n Log
	Aspec			-	ct Address & Site	•			Coordinates	'	n Number
•	CONSULTIN Contractor		vision <i>F</i> quipment	ive., Ta	icoma, WA, S	E corner of Sout Sampling Method		ng Lot	NA Ground Surface (GS) Ele	AB	-2D
	Holt		ıry drill r	ia	Autohomi	ner; 140 lb hamı		" dron	NA (est.)		
	Operator		tion Meth	-		ork Start/Completion		иор	Top of Casing Elev.	Depth to Wate	er (Relow GS
	Todd		-stem a		, ,	3/4/2016	Datos		NA	No Water E	
Depth feet)	Elev. Exploration (feet) Exploration	on Completion d Notes	Sample Type/II	Sam	Analytical hple Number & Lab Test(s)	Field Tests	Material Type		Description	1	Dept (ft)
1 -								Asphalt	t Qvt dense, moist, brown, gr	avelly silty SAND	- 1
2 +	Cor	ncrete patch						(SM); fir	ne to coarse sand, fine g	ravel	- 2
3 +											- 3
4 +								- - -			- 4
5 +								- - -			- 5
6 			N			SPT= 3, 3, 3		-			- 6
7 + 8 +											+ 7 - 8
9 +								-			- 9
0+					AB-2D-10 WTPH-Dx,						-10
1-			SS	NWT (VC	PH-Gx, 8260 DCs), 8270 NHs), 200.8	SPT= 5, 8, 10 PID= 0.2		. - -			-11
2				(17	(Pb)						-12
3			SS			SPT= 5, 13, 11 PID= 0.2		·] ·			-13
4+ _					AB-2D-15			· - - -			-14
5+ 6+	Bac ben	ckfilled with 3/8" Itonite chips	88	NWT	WTPH-Dx, PH-Gx, 8260 DCs), 8270	SPT= 18, 32, 22 PID= 1868		become SAND (es very dense, gray, sligh SM) at 15'	ntly gravelly, silty	+15 +16
7+					(Pb)	PID= 1606		-			+ 17
8-			SS			SPT= 32, 50/3		-			-18
9						SPT= 32, 50/3 PID= 316.9		- - -			-19
0			Z 9S					hecome	es slightly moist, gravelly	silty SAND (SM)	-20
1+						SPT= 50/6 PID= 186.4		20.5'	55 Slightly Moist, gravelly	, sinty OAIND (OIN)	-21
2+ 3+						PID= 30.1		become	es moist at 22.5'		+22 +23
4-			S7			SPT= 36, 50/0.5 PID= 20.9		- - - -			-24
	Legend No Soil San	nple Recover	y]	No Water	Encountered			oration Log Key for	Explo	ration
Method	Split Barrel			Water Level		- 12.22		Logged b	on of symbols by: ENK d by: Alan Noell	Io AB- Sheet	g -2D

$\Delta \Delta c$	spect		W			let - 08019	0		Environmental E		
	NSULTING	833 D	ivision A			Specific Location E corner of Sout	h Darki	na Lot	Coordinates NA	Exploration N	
	ontractor		quipment	ve., racoma	a, vvA, S	Sampling Method		ilg Lot	Ground Surface (GS) Elev.	— AB-2	2D
	Holt		ary drill ri	a A	Vutobamr	ner; 140 lb hamı		" dron	NA (est.)		
	perator		tion Metho	-		ork Start/Completion		шор	Top of Casing Elev.	Depth to Water (I	Relow G
	Todd		-stem au		"	3/4/2016	Datos		NA	No Water Enc	
				<u> </u>	cal	3/4/2010	1		INA	NO Water Life	
Depth Elev. (feet) (feet)	Exploration Co and Not	ompletion tes	Sample Type/ID	Analyti Sample Nu Lab Tes	mber & st(s)	Field Tests	Material Type		Description		De (1
26						SPT= 50/4 PID= 1341					-2
			H								
27+				AD 0D	07.5						+2
				AB-2D-	H-Dx,						
28+			O 88	NWTPH-G	5x, 8260	SPT= 50/4.5 PID= 100.4					+2
29+				(VOCs), (PAHs),		PID= 100.4		-			+2
29				(Pb							1
30+	XX										+3
31 +											+;
32+											+;
								Very de	nse, moist, gray, very grave	lly, slightly silty	
33+			S10			SPT= 36, 50/4 PID= 134.4		SAND (SW-SM); fine to coarse san gravel from 33.5' to 34'	d, fine gravel,	†;
34 -						PID= 134.4		Diokeii	graver from 55.5 to 54		+;
34								-			
35 +											<u></u>
								-			
36 +								-			+;
37+	333							-			+;
				AB-2D- NWTPI					Qva		
38+	333		S11	NWTPH-G	5x, 8260	SPT= 19, 43, 54		Very de medium	nse, moist, gray SAND (SP)	; trace fine sand,	+;
30				(VOCs), (PAHs),	200.8	PID= 5.9		•	es red brown		+;
39+	333			(Pb)			Decom	es rea brown		Γ,
40	333										↓.
	333										
41+	333										+4
	333										
42+	333							.]			+.
40								trace co	parse sand		
43+			S12			SPT= 20, 37, 50 PID= 20.8		:			†'
44+						PID= 20.8		:			ļ.
								1			
45											1
]			
46+								:			+4
_]			
47 +											+4
19											
48+			S13			SPT= 20, 50/5 PID= 1.2		:[+4
49+						PID= 1.2					1
-								1			
1.00							<u> </u>				
Lege	ena No Soil Sample	Recover	ν	1	No Water	Encountered			oration Log Key for	Explora	tion
ple Tod	Split Barrel 2" >							explanati	on of symbols	log	
Sample Method				Water				Logged b	by: ENK	AB-Ž	D
								Approve	d by: Alan Noell	Sheet 2 o	of 3

Review Stage:Final

	nect		V			let - 08019	0		Environmental Ex	ploration Log
	pect	ess Dir	ieion /		ct Address & Site	Specific Location E corner of Sou	th Darbir	na Lot	Coordinates NA	Exploration Number
	ntractor		ipment		Coma, WA, S	Sampling Metho		ig Lot	Ground Surface (GS) Elev.	AB-2D
ŀ	Holt	Rotar			Autohamr	ner; 140 lb ham		' drop	NA (est.)	
	perator	Exploration				ork Start/Completion		•	Top of Casing Elev.	Depth to Water (Below GS)
Т	odd	Hollow-s	tem a	-i		3/4/2016			NA	No Water Encountered
Depth Elev. (feet) (feet)	Exploration Co and No	ompletion tes	Sampl Type/I	le San	Analytical uple Number & Lab Test(s)	Field Tests	Material Type		Description	Depth (ft)
51+										+51
52+					B-2D-52.5					-52
53			S14	NWT	NTPH-Dx, PH-Gx, 8260	SPT= 19, 26, 27		fine to	medium sand from 52.5'	-53
54+			\square	(٧	DCs), 8270 AHs), 200.8 (Pb)	SPT= 19, 26, 27 PID= 0.8		Bottom	of exploration at 54 ft. bgs.	-54
55 —					(PD)			Bottom	or exploration at 54 it. bgs.	- 55
56+										-56
57 +										- 57
58+										- 58
59										-59
60 -										-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
Lege		- Possuser:			No Motor	Encountered		See Exp	loration Log Key for	Evaleration
	No Soil Sample Oplit Barrel 2" >		PT)	Water Level	เพบ พงสเติ	Encountered		explanat	ion of symbols	Exploration log
Sa				× Å				Logged be Approved	oy: ENK d by: Alan Noell	AB-2D Sheet 3 of 3

ASPECT STANDARD EXPLORATION LOG TEMPLATE P. GINTWIPROJECTS STADIUMTHRIFTWAY-080190.GPJ July 8, 2016

Review Stage:Final

	Aspe	LI.	1							
					ct Numb 30190	oer	Well Number AB-3	Sheet 1 of 1		
Danie of Manage	Walker Che			Uč	50 190		Ground Surface Elev. Top of Casing Elev. Depth to Water			
Project Name:		vroiei					Top of Casing Elev.			
ocation:	Tacoma, WA						Depth to Water Start/Finish Date 4/6/2015			
Oriller/Method:	Holt Drilling / H	ollow Stem /	Auger					4/6/2015		
Sampling Method Depth /	: SPI					Τ	Start/Finish Date	4/0/2013	_	
Elevation (feet)	orehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description		Dep (ft)	
5	Concrete patch Cement/bentonite grou			0 0	4 6 6 3 4 3 0 1 4		Asphalt Qvi Medium dense, moist, brown, slight SAND (SP-SM); fine to medium sate to medium sate to medium sand Loose, moist, gray brown, gravelly, fine to medium sand becomes very silty with iron staining 2-inch wet sand lens	silty SAND (SM);		
- - -		<u></u>		0	1 11 50/5		Very dense, moist, brown, gravelly (ML) to very silty SAND (SM); fine	, very sandy SILT sand		
15-			AB-3-16.5	0.3 74.1 316.2 664	4 4 8		Medium dense, moist, gray, slightly sandy SILT (ML); petroleum-like of Bottom of boring 16.5ft below grou	dor	<u>+18</u>	
Sampler Ty	rpe:		PID - Ph	otoioniza	ation De	tector	Logged by:	AET	+	
No Recovery Standard Pen	–		⊻ Sta	tic Wate	r Level		Approved by:	A I NI		

	•	Aspe	ct		Proie	ct Numb	/lonit	oring Well Construction Well Number	Log Sheet	
		CONSULT				30190	Ci	AB-4	1 of 1	
Project Na	ame:	Walker Che		I				Ground Surface Elev. Top of Casing Elev. Depth to Water		
_ocation:		Tacoma, WA						Top of Casing Elev. Depth to Water		
Driller/Me	thod:	Holt Drilling / H		Auger				Start/Finish Date 4/6/2015		
Sampling	Method:							Start/Finish Date	4/6/2015	
Depth / Elevation (feet)	Во	rehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/	Material Type	Description		Dep (ft)
(feet)		Concrete patch	O O		O O	1 1 1 0 0 0 1	in the second se	Asphalt FILL Very loose, moist, brown with iron sta	nining, slightly silty	- 5
10-		Cement/bentonite gro	ut _		0	5 3 2		Solid wood	· 	- 10
_			0		0	3 3 5	<i>Y</i>	Qvi Medium stiff, moist, green gray with i sandy SILT (ML); trace fine gravel	ron staining,	- - -
15-				AB-4-16.5	0	5 5 13		Medium dense/very stiff, very moist, silty SAND (SM); fine sand Bottom of boring 16.5ft below ground		15
	mpler Ty	pe:		PID - Ph	otoioniza	ation De	tector	Logged by: Al		<u></u>
No Re	ard Pene	etration Test		$\overline{}$	itic Wate ter Level			Approved by: Al	_N	
,,	500	,				· · · - /		Figure No.		

	cnoct		Walk	er Chevro	let - 08019	0		Environmental Ex	xploration Lo	g
	SPECT DRSULTING	633 Divisi	Projion Ave., T	ect Address & Site acoma, WA, A	Specific Location bout 12' S and 1 eat preparation a	0' E of c	olumn	Coordinates NA	Exploration Numi	ber
	Contractor	Equip	between p ment	produce and me	eat preparation a Sampling Metho	<u>reas</u> d		Ground Surface (GS) Elev.	- B10	
	ESN	Dolly-mour push	nted Direct h rig		Percussion ham			NA (est.)		
(Operator	Exploration			Vork Start/Completion			Top of Casing Elev.	Depth to Water (Belo	w GS)
	Colt	Direct	push		2/25/2016			NA	No Water Encour	ntered
Depth Elev. (feet)	Exploration Co	ompletion ites	Sample Type/ID	Analytical ample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 -	Backfille bentonit	e cap	St St St	B10-4.5 NWTPH-Gx, (TPH-Dx, 8260 (VOCs)	PID= 0.3	i y je	Become	FILL moist, brown, slightly gravelly boarse sand, fine gravel es gravelly at 4' of exploration at 5 ft. bgs. efusal at 5 ft. BGS.	y silty SAND (SM);	- 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8
Sample Method	gend No Soil Sample Continuous cor		Water	No Wate	r Encountered		explanati	oration Log Key for on of symbols by: ENK d by: Alan Noell	Exploration log B10 Sheet 1 of 1	

	\coct	· ·	Walke	r Chevro	let - 08019	0		Environmental Ex	xploration Lo	g
1	Spect ON SULTING	633 Division	Project Ave., Tac	ct Address & Site	Specific Location out 4.5' S and 2 at preparation a	5' E of c	column	Coordinates NA	Exploration Num	ber
	Contractor	Eguipmen	nt	oduce and me	at preparation a Sampling Methor	reas d		Ground Surface (GS) Elev.	- B11	
	ESN	Dolly-mounted push rig	d Direct		Percussion ham			NA (est.)		
	Operator	Exploration Met			ork Start/Completion			Top of Casing Elev.	Depth to Water (Beld	ow GS)
	Colt	Direct pus	sh		2/25/2016			NA	No Water Encou	ntered
Depth Elev (feet) (fee	ev. Exploration Co	ompletion Sam tes Type	nple Sam	Analytical pple Number &	Field Tests	Material Type		Description		Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9	Concrete	d with 3/4" e chip	SS NN NWT NWT (VC) (PA	B11-5.5 NTPH-Gx, PH-Dx, 8260 DCs), 8270 AHs), 8082 :Bs), 200.8 (Pb)	PID= 1.0 PID= 12.9 PID= 380.2		Bottom o	FILL rown, gravelly, silty SAND (Silty SAND) FILL ark brown, slightly sandy PE of exploration at 7 ft. bgs. efusal at 7 ft. BGS.		- 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8
Sample Method	egend ☑ No Soil Sample ☑ Continuous cor		Water Level	No Water	Encountered		explanation Logged b	oration Log Key for on of symbols by: ENK d by: Alan Noell	Exploration log B11 Sheet 1 of 1	

	coost		W	alker Chevro	let - 08019	0		Environmental Ex	xploration Lo	og
_	Spect ON SULTING	633 Divi	ision A	Project Address & Site ve., Tacoma, WA, A een produce and me	Specific Location Specific Specific Location Specific Location Specific Location	2' E of co	olumn	Coordinates NA	Exploration Num	ber
	Contractor	l Equi	ipment		Sampling Metho	d d		Ground Surface (GS) Elev.	B12	
	ESN	Dolly-mou pus	inted D sh rig	irect	Percussion ham	mer		NA (est.)		
	Operator	Exploratio			/ork Start/Completion	n Dates		Top of Casing Elev.	Depth to Water (Beld	ow GS)
	Colt	Direc	t push		2/25/2016					ntered
Depth (feet)	v. Exploration C	ompletion otes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type				Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 9 -	Concret	e cap	S3 S2 S3	B12-5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 5.2 PID= 8.2 PID= 4.0 PID= 2.7 PID= 2.7 PID= 3.2 PID= 1.2 PID= 1.2 PID= 0.8		Become Bottom of	FILL moist, brown to gray, gravell barse sand, fine gravel s moist at 7' of exploration at 9 ft. bgs. efusal at 9 ft. BGS.	y, silty SAND (SM);	
ص ج ⊡	egend No Soil Sample Continuous coi			No Wate Property No Wate	r Encountered		explanation Logged b	oration Log Key for on of symbols y: ENK I by: Alan Noell	Exploration log B12 Sheet 1 of 2	

	taces	V	Valker C	Chevro	let - 08019	0		Environmental E	A ce (GS) Elev. A (est.)	
	SPECI	633 Division A	Project Add ve., Tacom	dress & Site a, WA, Al	Specific Location bout 15' S and 1 at preparation a	0' E of c	olumn	Coordinates NA		
	Contractor	Equipment	veen produc	ce and me	at preparation a Sampling Methor	reas d		Ground Surface (GS) Elev.	─ B13	3
	ESN	Dolly-mounted push rig	Direct		Percussion ham			NA (est.)	t.) Depth to Water (Below GS) No Water Encountere	
	Operator	Exploration Meth	od(s)		ork Start/Completion			Top of Casing Elev.		Below GS)
	Colt	Direct pusl	h		2/25/2016			NA		ountered
epth Elev. eet) (feet)	Exploration Co	ompletion Sampl tes Type/II	D Campic it	/tical lumber &	Field Tests	Material Type		Description	Dej	
cety (icety	Concrete		Lab it	est(s)			Concret	te		(10)
	Backfille	d with 3/4"	7			* A A	No reco	overy		
	bentonito	e cnip					Bottom o	of exploration at 0.75 ft. bg	S.	
1 +							Note: Re	efusal at 0.75 ft. BGS.		+ 1
2 -										- 2
3 -										- 3
4 —										- 4
5 -										- 5
6 +										- 6
7 -										- 7
3 -										- 8
9 +										- 9
Method	gend No Soil Sample	e Recovery	Water Level	No Water	- Encountered		See Exples explanation Logged b	oration Log Key for on of symbols	Exploration log B13	tion

	cnoct			alker Chevro				Environmental Ex	xploration L	og
7	SPECT	633 Divisi	ion Ave	Project Address & Site e., Tacoma, WA, A en produce and m	Specific Location About 14' S and 1	0' E of co	olumn	Coordinates NA	Exploration Nun	nber
	Contractor	Equip	ment		eat preparation a Sampling Metho	d d		Ground Surface (GS) Elev.	B14	
	ESN	Dolly-mour push	าted Di า rig	rect	Percussion ham	mer		NA (est.)		
(Operator	Exploration	Method	(s)	Work Start/Completion	n Dates		Top of Casing Elev.	Depth to Water (Bel	ow GS)
	Colt	Direct	push		2/25/2016			NA	No Water Encou	ntered
epth Elev. (feet)	Exploration C and No	ompletion ites	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 11 -	Concret	e cap	S3 S2 S1	B14-4.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs) B14-5.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs)	PID= 2.3 PID= 0.7 PID= 0.7		Bottom of	FILL rown, slightly gravelly, silty Sand, fine gravel of exploration at 11 ft. bgs. efusal at 11 ft. BGS.	SAND (SM); fine to	- 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9
□ ہ ہ	gend No Soil Sample Continuous cor			Water Level	er Encountered	1	explanation Logged b	oration Log Key for on of symbols ny: ENK d by: Alan Noell	Explorati log B14 Sheet 1 of	

	cnoct		Walke	r Chevro	let - 08019	0		Environmental Ex	cploration Lo	g
_	SPECT DISULTING	633 Divisio	<i>Projec</i> on Ave., Ta	ct Address & Site coma, WA, Al	Specific Location bout 22' S and 19 at preparation a	0' E of c	olumn	Coordinates NA	Exploration Numb	er
	Contractor	Fauinm	nent	duce and me	Sampling Methor	d eas		Ground Surface (GS) Elev.	– B15	
	ESN	Dolly-mount push	ed Direct rig		Percussion ham	mer		NA (est.)		
(Operator	Exploration N		И	ork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Below	w GS)
	Colt	Direct p	oush		2/25/2016			NA	No Water Encoun	tered
Depth (feet) Elev.	. Exploration Co	ompletion Sates Ty	ample San	Analytical hple Number & Lab Test(s)	Field Tests	Material Type		(f		Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 -	Backfille bentonit	d with 3/4"	NV NWT	B15-6.5 WTPH-Gx, PH-Dx, 8260 (VOCs)	PID= 0.6 PID= 0.6 PID= 0.6		Bottom of	FILL moist, brown, slightly gravelly parse sand, fine gravel efusal at 7 ft. BGS.	, silty SAND (SM);	- 1 - 2 - 3 - 4 - 5 - 6 - 7
ص ج 🖸	gend No Soil Sample Continuous cor		Water Level	No Wate	r Encountered		explanation Logged b	oration Log Key for on of symbols y: ENK l by: Alan Noell	Exploration log B15 Sheet 1 of 1	n

	sport.		Walke	r Chevro	let - 08019	0		Environmental Ex	ploration Lo	g
C	Spect ONSULTING	633 Division Av	Project ve., Tacon	na, WA, Abou	Specific Location ut 45' S and 5' W g	of NW	corner of	Coordinates NA	Exploration Numb	oer
	Contractor	Equipme	nt	Dullulli	Sampling Method	1		Ground Surface (GS) Elev.	B16	
	ESN	Dolly-mounted push rig			Percussion ham			NA (est.)		
	Operator	Exploration Me	. ,	W	ork Start/Completion	Dates		Top of Casing Elev.	Depth to Water (Belo	
	Colt	Direct pu			2/25/2016	T		NA	No Water Encour	ntered
Depth Elev (feet) (feet	v. Exploration C and No	Completion Samotes Type	npie Sam	Analytical ple Number & ab Test(s)	Field Tests	Material Type		Description		Depth (ft)
1 2 3 4 5 6 7 8	Concret	ed with 3/4"	SS NV NWT	B16-6 VTPH-Gx, PH-Dx, 8260 (VOCs)	PID= 0.6 PID= 0.6 PID= 0.6 PID= 0.4 PID= 0.3	Type	become bettom of	·	O (SW-SM); fine to	- 1 - 2 - 3 - 4 - 5
9 -										- 9
م ہ ا	egend No Soil Sample Continuous cor		Water Level	No Water	r Encountered		explanation Logged b	oration Log Key for on of symbols y: ENK by: Alan Noell	Exploration log B16 Sheet 1 of 1	on

ploration Log	Environmental Ex		let - 08019				cnoct	Λ.	
Coordinates NA Ground Surface (GS) Elev. NA (est.) Top of Casing Elev. NA No Water Encountered		2' E of column	Specific Location out 3.5' N and 1 at counter	ct Address & Site	Project Ave., Tac	633 Divisi	Spect Substitute Spect		1
- B17		1	Sampling Metho	Jilleast of file	ent	Eauip	Contractor		_
Top of Casing Elev. NA Depth to Water (Below GS) NO Water Encountered Dept (ft)			Percussion ham		g	Dolly-mour push	ESN		
		Dates	ork Start/Completion	И		Exploration	Operator	(
			5/11/2016	Analytical		Direct	Colt		
		Material Type	Field Tests	nple Number & .ab Test(s)	npie San	mpletion es	Exploration C and No	h Elev. (feet)	h ()
, slightly silty fine gravel 1	FILL moist, brown, slightly gravelly SW-SM); fine to coarse sand, es dry, gray, gravelly silty SAN of exploration at 3 ft. bgs. efusal at 3 ft. BGS	Slightly SAND (S	PID= 1.0 PID= 0.9 PID= 0.7 PID= 0.6 PID= 0.5	B17-2 VTPH-Gx, PH-Dx, 8260 Cs), 200.8 (Pb)	N/N NWT		Concret		
Exploration log B17 Sheet 1 of 1	oration Log Key for on of symbols by: ENK d by: Alan Noell	explanati Logged b	Encountered	No Water	Water Level	⊋ 1.85" ID	gend Continuous co	Leg III	Method

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

Spe	,	633 Div		TOUGULAUUTESS & S				l ('oordinataa		nor			
	TING	033 DIV	ision Ave	e., Tacoma, WA,	te Specific Location About 4.5' N and neat counter	1' W of c	olumn	Coordinates NA	umn Coordinates Exploration Numb				
Contractor		l Equ	uipment		Sampling Metho	od		Ground Surface (GS) Elev.	B18				
ESN		Dolly-mo	unted Di ish rig	irect	Percussion ham			NA (est.)					
Operator			on Method	l(s)	Work Start/Completion			Top of Casing Elev.	, ,				
Colt			ct push						No Water Encountered				
	oloration Co	Į.	Sample	Analytical Sample Number &	Field Tests	Material				Dept			
et)	and No	tes	Type/ID	Lab Test(s)	Field Tests	Туре	Camara	Description		(ft)			
	Concrete	е сар				7 4 4	Concre	ie					
						0 A 7		EII I					
							Dry, gra	y, gravelly, slightly silty SAN	ND (SW-SM); fine to				
	>				PID= 0.5		coarse s	sand, fine gravel		1			
	>				1.15 0.0								
	>												
	>												
	>		2		DID- 0.0					- 2			
	}				PID= 0.6					_			
	}												
				R18-3	PID= 0.6								
	*			NWTPH-Gx,	0					+ 3			
	?			(VOCs), 200.8	PID= 0.7					3			
	Daaleilla	od with 2/4"		(Pb)									
	bentonite	e chip			PID= 0.8								
										١,			
										+ 4			
	>												
	>				PID= 1.3		Become	es slightly moist at 4.5					
	>												
	}		SS S		PID= 1.0					+ 5			
	>				PID= 1.1								
	>												
MMI	Ŋ						Bottom	of exploration at 6 ft. bgs.		+ 6			
							Note: Re	efusal at 6 ft. BGS					
										+ 7			
										8			
										- 9			
egend.													
	ious cor	e 1.85" ID		No Wa	ter Encountered		See Expl explanati	oration Log Key for on of symbols		on			
				/ate.				-	log				
				ا ت ≼			Logged b	oy: ⊨NK d by: Alan Noell					
e	egend	Concret Backfille bentonit	Concrete cap Backfilled with 3/4" bentonite chip	Concrete cap Concrete cap Backfilled with 3/4" bentonite chip 3/8	Concrete cap Backfilled with 3/4* bentonite chip Backfilled with 3/4*	Concrete cap PID= 0.5 PID= 0.6 PID= 0.6 PID= 0.6 PID= 0.6 PID= 0.8 PID= 0.8 PID= 0.8 PID= 0.7 (VOCs), 200.8 (Pb) PID= 1.3 PID= 1.1	Concrete cap Concrete cap Dipero Concrete cap Di	Concrete cap Concrete cap Dry, grac PID= 0.6 B18-3 NWTPH-Dx, 8260 (VOCs), 200.8 PID= 0.8 PID= 0.7 PID= 0.8 Become PID= 1.1 Bottom Note: Ri Note	Concrete cap Concrete cap Concrete cap Concrete cap FILL Dry, gray, gravelly, slightly silty SAN PID= 0.6 Baskfilled with 34* Baskfilled with 34* Baskfilled with 34* PID= 1.3 Baskfilled with 34* PID= 1.1 Becomes slightly moist at 4.5 PID= 1.1 Bottom of exploration at 6 ft. bgs. Note: Refusal at 6 ft. BGS Note: Refusal at 6 ft. BGS See Exploration Log Key for	Concrete cop Concrete cop Dry, gray, gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine grave) PID- 0.5 NNTPH-Dc, SECO (VOCs), 200.8 PID- 0.6 NNTPH-Dc, SECO (VOCs), 200.8 PID- 1.3 Becomes slightly moist at 4.5 PID- 1.1 Bettom of exploration at 6 ft. bgs. Note: Refusal at 6 ft. BGS Note: Refusal at 6 ft. BGS Replaced of the complex copy of the complex copy of the complex copy of the co			

Menact				W	alke	r Chevro	let - 08019	0	Environmental Exploration Log				
7		SPECT NSULTING	633 Divis	sion Av	Projed e., Tad	ct Address & Site coma, WA, Al ortheast of me	Specific Location bout 11' N and 1 eat counter	olumn	Coordinates NA		Exploration Nur	mber	
		ontractor	Egui	ipment		Trincast of fine	Sampling Metho	d		Ground Surface (GS)) Elev.	B19	
		ESN	Dolly-mou pus	sh rig Percussion i				mer		NA (e	est.)		
	C	perator	Exploratio	n Metho	d(s)	Work Start/Completion				Top of Casing Ele	ev.	Depth to Water (Be	low GS)
	Colt Direct pu		t push			5/11/2016			NA No Water Encoun			untered	
Depth (feet)	pth Elev. Exploration Completion Sam (feet) and Notes Type			Sample Type/ID	Sam	Analytical nple Number & .ab Test(s)	Field Tests	Material Type		Descripti		Depth (ft)	
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 9 -		Backfille bentonits end Continuous cor	d with 3/4" e chip	S2 S1	NWT	B19-6 VTPH-Gx, PH-Dx, 8260 CS), 200.8 (Pb)	PID= 0.8 PID= 0.9 PID= 0.5		Bottom of Note: Re	FIL moist, brown, gravelly fine to coarse sand of exploration at 7 ft. efusal at 7 ft. BGS oration Log Key for	y, slightly d, fine gra	silty SAND avel	- 1 - 2 - 3 - 4 - 5 - 6 - 7
Sample Method					Water Level				Logged b	on of symbols by: ENK d by: Alan Noell		log B19 Sheet 1 of	č

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

	/spost				let - 08019			Environmental E	xploration L	og
X	Spect	633 Division Av	Project e., Tacc	t Address & Site	Specific Location out 16.5' S and feat counter	11' E of	column	Coordinates NA	Exploration Nun	nber
-	Contractor	Equipment		rtneast of me	Sampling Method	1		Ground Surface (GS) Elev.	B20	
	ESN	Dolly-mounted I push rig	Direct		Percussion ham	mer		NA (est.)		
	Operator	Exploration Metho		W	ork Start/Completion	Dates		Top of Casing Elev. Depth to Water (Below		
	Colt	Direct push	ı		5/11/2016			NA No Water Encou		ıntered
Depth (feet)	ev. Exploration Co	ompletion Sample tes Type/II	≷ Sam	Analytical ple Number & ab Test(s)	Field Tests	Material Type		Description		Depth (ft)
1 - 2 - 3 - 5 - 6 - 8 - 9 -	Concrete	e cap	E NW NWTF (VO	320-4.5 VTPH-Gx, PH-Dx, 8260 Cs), 200.8 (Pb)	PID= 1.2 PID= 1.3 PID= 17.6 PID= 3.3 PID= 2.5 PID= 1.3		Dry, grav \(GW-GN Slightly (SW-SM	FILL moist, brown, gravelly, slightly; fine to coarse sand, fine to FILL moist, brown, gravelly, slightly; fine to medium gravel FILL moist, brown, gravelly, slightly; fine to coarse sand, fine to fexploration at 6.5 ft. bgs. efusal at 6.5 ft. BGS	y GRAVEL	-1 -2 -3 -4 -7 -8 -9
0 T	○ No Soil Sample ■ Continuous cor		Water Level	No Water	Encountered		explanation Logged b	oration Log Key for on of symbols y: ENK I by: Alan Noell	Explorati log B20 Sheet 1 of	

	Aspost			alker Chevro				Environmental Ex	xploration L	og
7	ASPECT CONSULTING	633 Divisi	on Ave	Project Address & Site ., Tacoma, WA, Ab northeast of me	Specific Location bout 15.5' S and	4' E of 0	column	Coordinates NA	Exploration Nur	nber
	Contractor	Eguip	ment		Sampling Metho	od .		Ground Surface (GS) Elev.	B21	
	ESN	Dolly-mour pust	nted Dir n rig	rect	Percussion ham	mer		NA (est.)		
	Operator	Exploration			Vork Start/Completion	n Dates		Top of Casing Elev.	Depth to Water (Be	low GS)
	Colt	Direct	push		5/11/2016			NA No Water Enco		
Depth (feet)	Elev. Exploration C (feet) and No	ompletion tes	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type		Description		Depth (ft)
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 -	Concrete	e cap	S3 S2 S1	B21-9.5 NWTPH-Gx, NWTPH-Dx, 8260 (VOCs), 8082 (PCBs), 200.8 (Pb)	PID= 3.2 PID= 1.3 PID= 0.9 PID= 0.9 PID= 1.2 PID= 54.3 PID= 2357	1 y be	Flat, ob thick Slightly medium	FILL moist, brown, gravelly, slight l); fine to coarse sand, fine to long cast-iron debris, about moist, brown, gravelly SAND sand, fine gravel of exploration at 9.5 ft. bgs. efusal at 9.5 ft. BGS	o medium gravel	- 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8
Sample Method	Legend ☐ No Soil Sample ☐ Continuous cor			No Water	r Encountered		explanati	oration Log Key for on of symbols	Explorati	on
Sa Me				اد ج			Logged b	y: ENK I by: Alan Noell	B21 Sheet 1 of	1

APPENDIX D

Groundwater Sampling Forms



GROUNI	OWATER S	SAMPLING R	ECORD			WELL NUMBER: MW- Page: of S						
Project Na	me:	Padrum	Thuriffu	vely		Project Number: 070121						
Measuring Screened I	by: Point of Wel nterval (ft. To	$00) \sim 50-6$	5			Starting Water Level (ft TOC): 53.0 # 9 Casing Stickup (ft): below 9 ra du Total Depth (ft TOC): 75 Casing Diameter (inches): 3						
Filter Pack	Interval (ft. 7	roc)	0 67									
Casing Vol	umes: 2" = (4" = 0.65 gp	f 6"	gpf) = 1,26 = 1.47 gpf	(L)(gal)		Sample Into	ake Depth (ft TOC):65		
PURGIN		0.62 Lpf REMENTS	4" = 2.46 Lp	1 0	= 5.56 Lpf							
Time		Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pН	Eh ORP (mv)	Turbidity (NTU)	Comments		
10:12				15,52	375	9.08	6.28	106.9	750 visual	cloudy		
10:17		240mL/min		14.98	535	2.22	6.33	68.6		inc flow rate		
10:21		400 ml / min		14,31	522	3.47	6.40	57.4				
10.26		400ml/mm		14,10	516		6.43	49.7				
10,31				14.03	511		6.47	37.3		Tuck out of rough		
10:36		2 Vonller		14.05	506	4.51	6,49	29.8	77	dec. flow rate		
10:41		- TOWN IN		14.15	505	4,27	6,49	28.4		Sampled		
					·					,		
10												
									·			
Total Gallo	ons Purged:					Total Casing	y Volumes I	Removed:				
Ending Wa	ater Level (ft	TOC):				Ending Tota	I Depth (ft	TOC):		-		
SAMPLE	E INVENTO	DRY	,						~	······································		
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe Color	Turbidity & Sediment		Remarks		
10:45	Worl	VOAS		4	NO	HCI	Clouding		TU16	out of Range		
	1 44											
			a Ari				1		 			
	<u> </u>	L	<u> </u>		I	1	L,					
METHO: Sampling	DS Equipment a	#120 nd IDs:	B.I. 5 <u>年</u> 566	G, QE	D New	v #2	CON	Freson				
Purging E			Indelon 1			_ Decon Equ	uipment:	A19111	10x 4	Water (Doleble & dust Hal		
Disposal c	of Discharged	Water: DV	1-5.+P	stora	ge							
Observatio	ons/Commen		<i>-</i>				<u>-i</u>					
	9	ED Re	511 6	n.b.	discharge	8,5		35 1	051			



GROUNE	OWATER S	SAMPLING R	ECORD			WELL NUMBER: MW-B Page: of of							
Project Nar	me: Stad	ism throffven			• .	Project Number: 030 (4)							
Date:						Starting Wa			1.84				
	by: JTL	¬			· .	Casing Stick	kup (ft): be	ow grode					
Measuring	Point of Wel	1: TOC				Total Depth (ft TOC): ~ 76'							
		DC)				Casing Diameter (inches): 2							
		OC)											
		(ft Water				(L)(ga	l)		Sample Int	ake Depth (ft TOC): 2 70'			
	. 2" =	0.16 gpf 6 0.62 Lpf 6	4" = 2.46 Lp	f 6'	' = 5.56 Lpf					bottom)			
PURGIN	G MEASU	REMENTS											
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)	pН	Eh ORP (mv)	Turbidity (NTU)		·		
16:43					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					Stated pump - Filled Mes orangish water colo	on jar +		
16:48				17.24	365	7,91	6.69	25.5	cloudy	and the cale			
		((0) 1			366	2.24	6.54	50.2	CIDACIA	Orangisk wary con	<u>'</u>		
16,53		400 mlpm		16.43									
16:58		1,		16.03	364	2.05	6.52	_	<u> </u>				
17:03				15.91	358	1,91	6.50	713					
17:08		,		15.87	357	1.96	6.50	75.2		turbididy 15 going dow	n		
17:13				15.86	359	2.04	6.51	75.4	51.2	turbididy 15 going dow			
				ļ		<u> </u>	-		ļ				
							 						
•													
	<u> </u>							1					
	,						+	1	<u> </u>				
							1	 					
T-1-1 0-11-	L	<u> </u>	l		I	Total Cools	a Valumas	Domayod:		<u> </u>			
l otal Gallo	ons Purged:					Total Casin	g volunies	Removed.					
Ending Wa	ater Level (ft	TOC):				Ending Total	al Depth (ft	TOC):		-			
SAMPLE	INVENTO	DRY				-,							
Time	Volume	Bottle Type		Quantity	Filtration	Preservatio	n Appe	earance		Remarks			
							Color	Turbidity &					
10 - 3	113	. 1		11	11.2	HCI		Sediment		1 1: m (where) a feath			
17.30	40 al	VOA		4	NO		clear	1		tim 75 17:15			
16:43	~50ml	Meson jt		/	NO	NO	Vellow	SOME	MW	2-purge"			
	1							\perp					
						1							
	<u> L</u>	L	L	L	L	<u> </u>							
METHO	DS	·	13	8									
Sampling I	Equipment a	nd IDs:/ 5-		<u> </u>	RED # 2	7							
Purging Ed		RED			,	Decon Ea	uipment:	leunos	+ Dota	6k+DI			
		Water: On	-5.Ho	drum				0	1 575				
]			7	5	7.5								
Observatio	ons/Commen	38 <i>0</i> :	- , - / 3	£ 11	1 Res	discha	rue -						
		D P	1 50	- 714									



Titus chey X street from The ftwom

		SAMPLING R			÷	WELL NUME	3ER: //I	かっと		Page: of		
Project Na	me: Stee	lin thrit	res			Project Numi	ber: <i>()</i> 7()	14)				
Date:	10.2.0	8				Starting Water						
Developed	by: 07					Casing Stick	up (ft) <u>:</u>	701				
		l:				Total Depth (ft TOC): 67						
	nterval (ft. To	OC)				Casing Diameter (inches):						
					/D -							
		(ft Water				(L)(gai)	1		Sample intak	e Depth (ft TOC):		
Casing von	2" = "	0.16 gpf 0.62 Lpf	4" = 2.46 Lp	r 6'	' = 5.56 Lpf				ouripio intak			
PURGIN		REMENTS	خالنىدىن خىنىدى دىيەن.	·								
Time	Cumul. Vol.		Water	/ Temp.	Specific	Dissolved	pН	Eh	Turbidity	Comments		
	(gal or L)	(gpm or Lpm)	Level (ft)	(C or F)	Conductance (µS/cm)	Oxygen (mg/L)		ORP (mv)	(NTU)			
		_			1	(mg/L)		(1110)				
				110	0	<u> </u>						
		()	M	M()			- The same of the					
			1.7	110	1	C CANADA CONTRACTOR OF CONTRAC						
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Total Gallo	ns Purged:				-	Total Casing	Volumes F	Removed:	-			
Ending Wa	ater Level (ft	TOC):				Ending Total	Depth (ft T	OC):				
	INVENTO	•										
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Anne	arance		Remarks		
11110	Volumo	Djottie Type		Quantity	I madon	T TOSOT VALION		Turbidity &		Comand		
	,						Color	Sediment				
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METUC												
METHO												
Sampling I	Equipment ar	nd IDs:										
Purging Ed	quipment:					_ Decon Equi	ipment:					
Disposal o	f Discharged	Water:										
Observatio	ns/Commen	ts:										
				,	-							



GROUN	OWATER S	SAMPLING R	•		WELL NUMBER: MW-4 Page: of						
Project Na	me: 5/20	lum that	tway			Project Numi				· · · · · · · · · · · · · · · · · · ·	
						Starting Wate	er Level (ft	TOC): De	~	· .	
Developed	by: TTL					Casing Stick	up (ft):	<u>/. // /</u>	/		
Measuring	Point of Well	: TOC				Total Depth (
Screened I	nterval (ft. To	DC)				Casing Diam	eter (inche	s <u>):</u>			
		OC)									
Casing Vol	ume	(ft Water	·) x	(Lpfv)	(gpf) =	(L)(gal))				
Casing volu	umes: 2" = (2" = (0.16 gpf 0.62 Lpf	4" = 0.65 gp 4" = 2.46 Lp	f 6" f 6'	' = 1.47 gpf ' = 5.56 Lpf				Sample Intal	xe Depth (ft TOC);	
PURGIN	G MEASUI	REMENTS									
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)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments	
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Total Gallo	ns Purged:				_	Total Casing	Volumes F	Removed:		· · · · · · · · · · · · · · · · · · ·	
Ending Wa	ter Level (ft 7	FOC):				Ending Total	Depth (ft T	OC):			
	INVENTO						, ,				
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Annea	arance		Remarks	
							Color	Turbidity &			
7.5		/						Sediment			
	<u> </u>									**************************************	
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						<u> </u>	· · · · · · · · · · · · · · · · · · ·	L	L		
METHO	os										
Sampling E	Equipment an	d IDs:									
Purging Eq						Decon Equi	pment:				
		Water:									
						•					
Observatio	ns/Comment	s:									



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GROUN	DWATER S	SAMPLING R	ECORD			WELL NUMBER: MW 6 Page: of						
Project Na	ıme:					Project Numb	ber:					
l .					۶. °C	Starting Water		TOC): TO	١ <u>٠</u>			
Developed	d by:					Casing Sticku						
Measuring	Point of Wel	ii:				Total Depth ((ft TOC <u>):</u>					
Screened I	Interval (ft, To	OC)				Casing Diam						
		TOC)							50			
Casing Vo	lume lumes: 2" = 0	(ft Water 0.16 gpf	r) x 4" = 0.65 apt	(Lpfv) f 6"	(gpf) = ' = 1.47 gpf	(L)(gal))		50 Sample Intak	ke Depth (ft TOC):		
		0.16 gpf 0.62 Lpf	4" = 2.46 Lp	f 6'	" = 5.56 Lpf							
	IG MEASU	REMENTS										
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)	pН	Eh ORP (mv)	Turbidity (NTU)	Comments		
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Total Gallo	ons Purged:				_	Total Casing	Volumes F	Removed:				
	_			,	_							
Ending Wa	ater Level (ft	TOC):				Ending Total	Depth (ft 7	TOC):		,		
SAMPLE	E INVENTO	DRY			. 7				-			
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	earance		Remarks		
		-				İ	Color	Turbidity & Sediment				
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N.F	DC .											
METHO												
Sampling l	Equipment ar	nd IDs:								· · · · · · · · · · · · · · · · · · ·		
Purging Ed	quipment:					_ Decon Equ	ipment:					
Disposal o	of Discharged	l Water:										
	. •	٠,							- 	_		
ouservatio	ons/commen	its:	·							<u> </u>		
										:		

Aspect consulting 1500444 WELL NUMBER: GROUNDWATER SAMPLING RECORD Page:_ of_ Project Name: Stodin Thy, flum Project Number: (780)9\ Date: しの1つ 53-08 Starting Water Level (ft TOC): Casing Stickup (ft): Below 9 -0-08 Developed by: TTL Total Depth (ft TOC): 15 Measuring Point of Well: 100 Casing Diameter (inches): Screened Interval (ft. TOC) Filter Pack Interval (ft. TOC) (Lptv)(gpf) = 9.3Casing Volume = まず 15 (ft Water) x <u>0.6</u>2 /(L)(gal) Sample Intake Depth (ft TOC): 65° Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf 0.68 4" = 2.46 Lpf 6" = 5.56 Lpf 2'' = 0.62 LpfPURGING MEASUREMENTS Turbidity Comments Water Specific Dissolved Cumul. Vol. Purge Rate Temp. (gpm or Lpm) ORP (NTU) (gal or L) Level (ft) (C or F) Conductance Oxygen 12:45 (µS/cm) (mg/L) (mv) 1248 12:50 6.87 Sterlfed 17.50 357 5.27 -24.1 Cloud 13:00 DUMP 13:05 300 mL/min 3.26 6.71 - 2*5.5* 13:10 400ml/mm 15.76 357 13:15 3.73 6.74 -25.8 15,43 352 6.74 347 -23.4 13:20 15.28 4,01 \$4.05 6.72 15.25 343 -21,6 13:25 13:30 15.26 3.85 6.71 -22.5 342 3.76 6.59 21.9 610 15,22 339 13:35 348 Sampled -21.0 13:40 15.21 339 3.61 6.68 3 Total Casing Volumes Removed: Total Gallons Purged: Ending Water Level (ft TOC): Ending Total Depth (ft TOC): SAMPLE INVENTORY Remarks Preservation Quantity Filtration Appearance Time Volume Bottle Type Turbidity & Color Sediment 24X NO 13:45 40ml VOA Clovely **METHODS** Sampling Equipment and IDs: Decon Equipment: Liguinary Dotable + DI Disposal of Discharged Water: Drumed on 5/40 Observations/Comments:



GROUNE	WATER S	SAMPLING R			WELL NUMBER: MW Page: of								
roject Nan	ne:			-		Project Number:							
eveloped Measuring i	by: Point of Wel	l:				Starting Wat Casing Stick Total Depth Casing Diam	up (ft) <u>:</u> (ft TOC <u>):</u>	- 40g	2.68				
		TOC)		4 -		Casing Dian		<u>. </u>					
				(Lpfv)	(gpf) =	(L)(gal)							
	ımes: 2" = 0	0.16 gpf	4" = 0.65 gp	f 6"	= 1.47 gpf				Sample Int	take Depth (ft TOC):			
		0.62 Lpf	4" = 2.46 Lp	of 6"	= 5.56 Lpf	V		·					
		REMENTS	Water	. Temp.	Specific	Dissolved	Hq	Eh	Turbidity	Comments			
Time ,	(gal or L)	Purge Rate (gpm or Lpm)	Level (ft)	(C or F)	Conductance (µS/cm)	Oxygen (mg/L)		ORP (mv)	(NTU)				
18:10		youym		16.38	388	8.02	6.94	-114.8		NW-8-PURGE	jan		
18:16		9								dry (?)			
18:18	•		53.7							/			
18:25	•	Goml/nin		16.43	360	6.58		-78.6	-	pupon			
18:32		1		16.13	351	1.49	6.49	75.0	grey				
18:38				15.91	345	0,40	6.45	-20,2	,				
18143		N/		15,92	351	0,68	6.45	-85.2					
18:68		V		15.93	357	a.83	6.48	-89.5					
18:53				15.92	356	0.82	6.47	-88.5	65/	Sampled			
B									<u> </u>				
		,											
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1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -													
otal Gallo	ns Purged:	.l.,				Total Casing	y Volumes F	Removed:			_		
•	_												
nding Wa	ter Level (ft	TOC):				Ending Tota	I Depth (ft 7	roc):					
	INVENTO	1			1	1	T		1 .				
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	***	arance Turbidity &		Remarks			
				ļ			Color	Sediment					
18:110	100n1	Major Jar		1	NO	NO	H. Yellow	Ion	MW-	8-purge			
18:55		, , , , , , , , , , , , , , , , , , , ,											
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METHO	10												
METHO				La.									
		nd IDs:											
Purging Ed						_	upment:		· · · · · · · · · · · · · · · · · · ·				
Disposal o	f Discharged	d Water:		7.	5	7.5	0 1						
Observatio	ns/Commer	nts: <u> </u>	5 P4;	6-	5 retill	A.F	discher	٠٠٤ .	•				
Wea	k to M	d Water:		VI-fidit	5 smel	′/							
						•							



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GROUND)WATER S	AMPLING RE	ECORD		WELL NUMBER: MW-1 Page: of							
Project Nar	ne: Sted:	m thris	Iway		Project Numbe	r: <u>680</u>	190					
Date: Developed	5-11-09 by: <u>TTL</u>	· 	- -		Starting Water Casing Stickup	Level (ft TC	DC): 53	1.67'(2)	3:18			
Measuring	Point of Well:				Total Depth (ft	TOC):	70					
	nterval (ft. BG: Interval (ft. BG	s) 3s)			Casing Diamet	er (inches):						
		ft Water x							اسير			
Casing volu		.16 gpf 4						Sample Intal	ke Depth (ft TOC): ~65'			
DI IDGINI	2" = 0. G MEASUR	.62 Lpf 4	!" = 2.46 Lpf	6" = 5	i.56 Lpf							
Time	Cumul. Vol.	Purge	Temp.	Specific	Dissolved	pH	Eh !	Turbidity	Comments			
	(gallons) (liters)	Rate (Lpm)	(C or F)	Conductance (umhos/cm)	1	P''	(ORP)	(NTU)				
13:38									\$6/30			
13:41		350 mlpm	15,75	452	11.16	 	-237.7					
13:44	Ī		14,73		1.52		247.0	71600	st, 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	6.85 -	-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	144	Sepled			
			!			<u> </u>						
Ending Wa	ns Purged; ster Level (ft TC	RY	T.		Total Casing V Ending Total D	epth (ft TO0	C):	·.	· .			
Time	Volume ·	Bottle Type	Quantity	Filtration	Preservation		arance Turbidity &		Remarks			
					<u> </u>	Color	Sediment					
14:00	40ml	VOA	3	NÜ	HCI	<u> </u>		MW1-	051109			
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МЕТНО	DS 2	T 1,011		dicadeal	Labine	1						
Decon Equ	uipment 👤	I Lyu.			tubing		050					
Decon Equ Purging Eq	uipment 1	OED,	451 #14	17	tubing Equ	ulpment:	QED !	oloslater	Pump.			
Decon Equ Purging Eq	uipment 👤	OED,	451 #14		tubing Equ	ulpment:	QED !	olodoler	Pump			
Decon Equ Purging Eq Disposal o	uipment 1	OED Water:	451 #14	17	Sampling Equ	ulpment:	QED !	olodoler .	Pump			



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GROUN	OWATER S	AMPLING R	ECORD		WELL NUMBER: Number: Number: Page: of					
Project Nar	me:	رط کیسے	Turist	was	Project Numbe	r:		<u> </u>		
Date:	5/n		<u>.</u>	. ,	Starting Water	Level (ft TC)C): <u></u> 5ス	· 42	-May 11, 2009	
		2 M 2			Casing Stickup					
	Point of Well: nterval (ft. BG		<u> </u>		Total Depth (ft					
	Interval (ft. Bo				Casing Diamet	er (inches):				
	=	ft Water	x	Lof =						
		.16 gpf						Sample Intak	e Depth (ft TOC):	
		0.62 Lpf	4" = 2.46 Lp	f 6"=	5.56 Lpf					
PURGIN	G MEASUF	REMENTS								
Time	Cumul, Vol.	Purge	Temp.	Specific	Dissolved	Hq	Eh	Turbidity	Comments	
	(gallons) . (liters)	Rate (Lpm)	(C or F)	Conductance (umhos/cm)	Oxygen (mg/L)		(ORP)	(NTU)		
13:12								_	Start Pumpin	
13:18		360	15-34	295	4.67	6.81	63.0			
13-24		74·	18-38	296	4.74	6-21	\$7.8			
13:30			15-32	296	4.75		50.5	665		
13:36			12.35	227	4.52			342		
13742			15.40	297	e4.06		46-2			
13545			15.32	247	3-42		44-5			
13248			15.27		3.80		44-1	9828	-	
13:21			15,36	298	3.76	7.00	43.5			
Total Gallos	ns Purged:		15.25	798	Total Casing V	olumes Ren	noved:	41.1		
	ter Level (ft T				>- / / Ending Total D			65 (r (
SAMPLE	INVENTO	RY ·			····	- 				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Арреа	rance		Remarks	
						Color	Turbidity & Sediment			
14,00	Mo	VOA	3	_	HCI		Secrification	VOCS	8260B	
			-			-		<u> </u>		
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METHOD	ន	1. in	. 7	[<i>1</i> = _	•	/ / /-	1-11	1.1Fr	
Decon Equi	pment	BED Car	100	~ 21h57	LAGUIN	Lox W	100	filled	Water	
Purging Eq.	ripment:	Octical Octocal	Dascer	rump	Sampling Equ	pment:	イント	ola	<u> </u>	
Disposal of	Discharged V	Vater: <u>Oru</u>	m med	<u>01 Si</u>	te					
Observation	s/Comments:				<u> </u>					



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GROUNDWATER SAMPLING RECORD N/W-3 WELL NUMBER: Page;_ of_ Project Name: Stading Thrittuay Project Number: Starting Water Level (ft TOC): Developed by: Casing Stickup (ff): Measuring Point of Well: Total Depth (ft TOC): Casing Diameter (inches): Screened Interval (ft. BGS) Filter Pack Interval (ft. BGS) Casing Volume ____ ____ ft Water x __ Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf6" = 1.47 gpf Sample Intake Depth (ft TOC): 2" = 0.62 Lpf 4" = 2.46 Lpf6" = 5.56 Lpf PURGING MEASUREMENTS Cumul. Vol. Temp. Specific Dissolved Εh Turbidity Comments (gallons) Rate (Lpm) (C or F) Conductance Oxygen (ORP) (NTU) (liters) (umhos/cm) (mg/L) Total Gallons Purged: Total Casing Volumes Removed: Ending Water Level (fl TOC): Ending Total Depth (ft TOC): _ SAMPLE INVENTORY Time Volume **Bottle Type** Quantity Filtration Preservation Appearance Remarks Turbidity & Color Sediment METHODS Decon Equipment Purging Equipment: Sampling Equipment: Disposal of Discharged Water: was Observations/Comments:



		RSAMPLING	_			WELL N	Page: of			
	Name:	tadium 7	Thesten	con _		Project N				
Date: _		77L	_	,		Starting V	Vater Level	(ft TOC):	Dry	
Measuri	ng Point of W	/eli:				Casing Si	іскир (ft) <u>: </u>			
Screene	id intervat (ft.	TOC)				Casing Di	ameter (inc	hes):		<u></u>
		TOC)				ļ				
Casing \	/alume /alumes: 2º :	(ft Wate = 0.16 gpf	r) x 4" = 0.65 gp	(Lpfv	/)(gpf) = 6* = 1.47 gpf	(L)(g	jal)		Samula Intak	e Depth (ft TOC):
		= 0.62 Lpf	4" = 2.46 Lp	f I	6" = 5.56 Lpf				Odnible IIIIda	e beput (it too)
PURG		UREMENTS	Tiar							
11100	(gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductanc (µS/cm)	Dissolved e Oxygen (mg/L)		Eh ORP (mv)	Turbidity (NTU)	Comments
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Fotal Gallo	ons Purged:	_			<u> </u>	Total Casing	Volumes (Removed:		·
nding Wa	ater Level (ft 1	TOC):				Ending Total	l Deoth (ft 1	LOCI.		·
SAMPLE	INVENTO	RY								
Time	Volume	Bottle Type	1	Quantity	Filtration	Preservation	Appe	arance		Remarks
********			_				Color	Turbidily & Sediment		
									<u>_</u>	
									-	
METHOD	os									
		i IDs:								
urging Eq						Decon Equi	ртепt:			
isposal of	Discharged V	Vater:	 							
		i								
		<u></u>								



GROUNDWATER SAMPLING RECORD							WELL NUMBER:					
Project Name:							Project Number: 10 80 \ q 0					
Date:	5-11-1	09		_			Starting Wa	ater Level (f	(TOC):	52.286	9:48	
					·		Casing Stic	kup (ft): 👌	Just boom			
	Point of Wel Interval (ft. T						Total Depth Casing Dia	i (ff TOC <u>):</u>	70	-		
	mtervat (it. 19 Kinterval (ft. 1					•	Casing Dial	sieter (inche	-s <u>)</u> 4			
			(ft Water	r) v	(I nfv)	(gpf) =	/L1/os	ďΥ		•		
Casing vol	lumes: 2" = 1	0.16 gp: 0.62 Lp	f f	4" = 0.65 gp 4" = 2.46 Lp	of 6'	' = 1.47 gpf ' = 5.56 Lpf		7		Sample Inte	ake Depth (ft TOC): $67'$	
	IG MEASU								·			
Time	Cumul. Vol. (gal or L)	_	e Rate or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)		Oxygen ORP (NTU) (mg/L) (mv)			Comments	
10:42	Haar	0,4	Lpm		14.32	326	4,13	6.45	86.4		5/10/ 35 psi	
10:46		_]	-		<u> </u>						
10:51		<i>;</i>			14.37	300	7.06	7.01	-25.7			
10156					14.34	211	6.73	7.18	-37.(
11:02					14:30	323	6.65	7.25	 	>1000		
1K05	~2901	٠.			14.30	330	6.65	7.26	-457	7/000		
11:08	<i>,</i>		1		14.31	331	6.62	7.26	~ 47. Z.			
11:12	~3401	- W			14.22	372	6.63	2.28	-4 F.1	783	Sconplan	
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Total Gallor	ns Purged:					-	Total Casing	Volumes F	Removed:			
Ending Wa	ter Level (ft T	OC):					Ending Total	Deoth (#T	OC):			
	INVENTO			-								
	Volume		Tyne		Quantity	Filtration	Preservation	Appea	Brance		Remarks	
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比写	4/11				1/	. (8)	3/2/		Sedlment	·		
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Sampling E	quipment and	(Ds: D/ .	Y51	叫,	QID	£3,145E _	Porac	1	ce bu	<u></u>	· -	
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	Discharged V			M Luc U	ver 3,78	<u>- </u>					· · · · · · · · · · · · · · · · · · ·	
Observation	is/Comments	:	#ŧ			,					· · · · · · · · · · · · · · · · · · ·	
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		SAMPLING F				WELL NU	Pager of					
Project N	lame:5	todius +	hr: Stn a			Project Nu	mber: O	80190	<u> </u>			
Develope	ed by:	59 oll:				Casing Stle	/ater Level (ckup (ft):	· · ·	Dry			
Screened	ng Point of VVe d Interval (ft. T	eil: FOC)				Total Depti	h (ft TOC <u>):</u> ameter (inch	nes):				
		TOC)				Occurs D.	miero /mo					
Casing V	olume	(ft Water	er) x	(Lpív))(gpf) =	(L)(g	al)					
Casing vo	olumes: 2" =	0.16 gpf 0.62 Lpf	4" = 0.65 gp	of 6	6" = 1.47 gpf	Sample Intake Depth (ft TOC):						
PURGI	NG MEASU	JREMENTS								-		
Time		. Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved e Oxygen (mg/L)	pH	Eh ORP (mv)	Turbidity (NTU)	Comments		
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Total Galio	ns Purged:					T-1-1 Cooins	1					
	•	OC):				Total Casing Ending Total						
	INVENTO											
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	агапсе		Remarks		
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811 First Avenue, Suite 480 Seattle, Washington 98104

GROUN	DWATER 8	SAMPLING R	ECORD		WELL NUMBER: MN-1 Page: of							
	ame: Sladi				Project Numbe				- rage			
	5-11-09		i i	•					11.62			
	by:		_		Starting Water Casing Stickup	· Lever (π. ro o (ft):	OU); <u>5 5</u>	146 16 11	148			
	Point of Wel				Total Depth (fi	TOC):						
	interval (ft. Bo interval (ft. B			·	Casing Diame	ter (inches)	:					
1		-			•			<u>.</u>	**			
		ft Water :).16 gpf			.47 gpf			Cample letel	ke Depth (ft TOC):			
).62 Lpf			i.56 Lpf			oampe ma	Re Deptit (It_100):			
PURGIN	G MEASU	REMENTS		<u>-</u>				,				
Time	Cumul. Vol.		Temp.	Specific	Dissolved	pН	Εħ	Turbidity	Comments .			
	(gallons) (liters)	Rate (Lpm)	(C or F)	Conductance (umhos/cm)	Oxygen (mg/L).		(ORP)	(NTU)				
12:06		0.4 Lpm	,		(•			
12,172		,,1	14,73	313	3.3-7	6.94	-138.4	71000				
12119	1,5		14.61	3/0	2.53	3,03		<u> </u>				
12,22			14.62	317	2.36	7.01	-176.5	563				
12:23			458	3M	2.30	7.04	-177.4					
12:28			1433	309	2.22	7.06	175.2	365	Sanpled			
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Total Gallo	ns Purged:	-			Total Casing V	'- olumas Rer	noved:					
	•		•		á	• •	•					
	ter Level (ft T			<u> </u>	Ending Total D	epth (ft TO	C):	·				
SAMPLE Time	INVENTO Volume		0	F11-12-	D. #			<u> </u>	<u> </u>			
Tillie	volume	Bottle Type	Quantity	Filtration	Preservation		arance Turbidity &		Remarks			
10 Th 10	41. 1		3		1, .	Color	Sediment		•			
1275	40x1	VOA S.r.	5	NO :	HC1		<u> </u>					
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METHOD	S						-					
Decon Equi	ipment \mathcal{D}_{e}	dicitar tu	oing,	1.811 no	C. C.Ne	, Q.						
Purging Eq	uipment:	VSI # 14	7 6	ED	Sampling Esti	loment: 6	JED L	holder 3	ama			
	Discharged V	Vater: Dru	mmed	on-5)+	المارة على المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة ا المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة المارة		21	versa . , The	<u> </u>			
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oservation	ns/Comments	:				·- <u>-</u>		<u> </u>				
												



826-3

401 Second Avenue S, Suite 201 Seattle, Washington 98104

(205) 328-7443 WELL NUMBER: WW - 8 GROUNDWATER SAMPLING RECORD Page:_ of Project Name: ___ Project Number: Date: 5-12-09 Starting Water Level (ft TOC): 53.2 オ Developed by: Casing Stickup (ft): Measuring Point of Well: Total Depth (ft TOC): Screened Interval (ft. BGS) Casing Diameter (inches): Filter Pack Interval (ft. BGS) Casing Volume _ __ ft Water x_ Casing volumes: 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 apf Sample Intake Depth (ft TOC): 2" = 0.62 Lpf4" = 2.46 Lpf 6" = 5.56 Lpf **PURGING MEASUREMENTS** Cumul. Vol. Time Purge Temp. Specific Dissolved Ëh Turbidity Comments Rate (Lpm) (gallons) (C or F) Conductance Oxygen (ORP) (NTU) (liters) (umhos/cm) (mg/L)4334 Purgin, 360 274 14-27 - 60. 9 7-30 11:40 0.30 12.05 281 310 11:46 7-33 0.28 - 71.8 360 11:57 15,10 O. Y.Y 7.44 -78.6 11258 305 1504 0.51 7.45 -39.1 71000 12:04 -76.8 15-01 317 0.41 7.46 12:13 14.92 322 7.43 -67.4 93-9 0.48 12:16 14-89 7-42 -64.5 45-5 555 0.52 14-89 324 12:19 0-47 741 -624 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 Аррвагалсе Remarks Turbidity & Color Sediment 40 UGA 3 Ital 82G0R 1/00 S 12:30 **METHODS** Decon Equipment Purging Equipment: Sampling Equipment: Disposal of Discharged Water: Observations/Comments:



B11 First Avenue, Suite 480 Seattle, Washington 98104 (206) 328-7443

(200) /60-95/0			— -		(200) 320-7443								
GROUNDWATER SAMPLING RECORD					WELL NUMBER: MW-8D Page: of								
Project Nan	iie;				Project Numbe	or:							
Date:			_		Starting Water	Lavel (ft TC)C):]/\(\frac{1}{\lambda}	56 0.15	130				
					Casing Stickup	o (ft):					1		
Measuring (Communed)	Point of Well:				Total Depth (ft								
ocreeneg (r Filter Pack	nterval (tt. 156 Interval (ft. 186	S)			Casing Diameter (Inches):								
		ft Water		l nf m									
	ımes: 2° = 0	.16 gpf 4	4" = 0.65 gpf	6" = "	1.47 gpf			Sample Inta	ke Depth (i	ft,TOC): _			
PURGING	3 MEASUR		<u> </u>		5.00 Epi				-				
Time	Cumul. Vol.	Purge	Temp.	Specific	Dissolved	рH	Eh {	Turbidity	T	Comme	nts		
	(gallons)	Rate (Lpm)	(CorF)	Conductance			(ORP)	(NTU)					
15:46	(liters)	mlPM		(umhos/cm)	(mg/L)	 			1110	60 psi			
						 -	 		, ,				
1805		70 000	11.71	1011	10. 0. 1	- 187					1.07.7.		
16:15		200		184	13 24	5.41	143.7		154. W	pater	5/15/60		
16120		250	16.50	355	11, 28 -	6.25	1,1955			1	15/15/65 pt		
16:25		200	15.0%	347	6.07	6.73	15.6		<u> </u>				
16:30		J.	14.90	344	5.61	6.78	-176,5			12	118/60050		
	-	11	14.83	337	5.57	6.68	- P(3)				,		
1/ . 1/7						6.54	-195,3	150					
16:35		"	14 8 14	"₹₹ <u>₹</u> "	1.5.711	10.77					li li		
16:40		- 1 - 1	14.8%	335	5.40 5.55	!	1 1	130	<u> </u>				
16:40 16:45			14.75	334	5.27	6.40	241.0		50	دريوا يؤرما			
16:40 16:45 16:50 Total Gallor	ns Purged:	<i>II</i>	11.78 11.72	334 332	5.27	6.40	241.0		1 50	upland			
16:40 16:45 16:50 Total Gallor 16:53	ı	v (15)	14.75	334 332	7 Total Casing V	6.40 6.30 6.31	241.0 moved:		1 30	سريرأ يتير مأ			
IKIYO IKIYO IKIBO Total Gallon IKISI Ending Wat	ter Level (ft T	\(\frac{1}{2}\) \(\frac{1}{2}	11.78 11.72	334 332	5.27	6.40 6.30 6.31	241.0 moved:		-1 -5e	· yal is of			
IKIYO IKIYO IKIBO Total Gallon IKISI Ending Wat	ı	\(\frac{1}{2}\) \(\frac{1}{2}	11.78 11.72	334 332	7 Total Casing V	6.40 6.30 6.31 Depth (ft TO	241.0 moved:			marks			
IK:40 IK:45 IK:50 Fotal Gallon IK:53 Endling Wat	ter Level (ft T	\(\frac{1}{1}\) \(\sigma\left(\frac{1}{2}\right)\) OC): RY	14.76 14.70	334 532 - 332 	F 2(1 Total Casing V 5.15 Ending Total D	6.40 6.30 6.31 Depth (ft TO	Turbidity &			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS IGUS IGUS IGUS Ending War SAMPLE	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.70	334 532 - 332 	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	THLO TO THE THE THE THE THE THE THE THE THE THE			· · · · · · · · · · · · · · · · · · ·			
IK:40 IK:45 IK:50 Fotal Gallon IK:53 Endling Wat	ter Level (ft T	\(\frac{1}{1}\) \(\sigma\left(\frac{1}{2}\right)\) OC): RY	14.76 14.76 14.76	334 332 932 Filtration	F 2(1 Total Casing V 5.15 Ending Total D	A 3 (I ofurnes Rel 5 3) Depth (ft TO	Turbidity &			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS Total Seallon IG:53 Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	Turbidity &			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS IGUS IGUS IGUS Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS IGUS IGUS IGUS Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	Turbidity &			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS IGUS IGUS IGUS Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
IGUS IGUS IGUS IGUS IGUS Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
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IGUS IGUS Total Seallon IG:53 Ending War SAMPLE Time	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
IGUS Total Sallon (6:53) Ending War SAMPLE	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
IGUS Total Sallon (6:53 Ending War SAMPLE	ter Level (ft T	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
IGUS Total Sallon (6:53) Ending War SAMPLE	ter Level (ft T INVENTO Volume	N (19) OC):RY Bottle Type	14.76 14.76 14.76	334 332 932 Filtration	Total Casing V	A 3 (I ofurnes Rel 5 3) Depth (ft TO	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
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METHOD	ter Level (ft T	NOC): RY Bottle Type	14.76 14.70 Quantity	334 332 932 Filtration	Total Casing V	Appe Color	arance Turbidity & Sediment			· · · · · · · · · · · · · · · · · · ·			
METHOE	ter Level (ft T	NY OC): RY Bottle Type	14.76 14.70 Quantity	334 533 933 Filtration	Total Casing V S Ending Total D Preservation	Appe Color	arance Turbidity & Sediment	147	Re	marks			
METHOE Decon Equ	ter Level (ft T	NOC): RY Bottle Type	14.76 14.70 Quantity 3	334 533 733 Filtration	Total Casing V Sampling Equation	Appe Color	arance Turbidity & Sediment	147	Re	marks			
METHOE Decon Equ	ter Level (ft T	NY OC): RY Bottle Type	14.76 14.70 Quantity 3	334 533 733 Filtration	Total Casing V Sampling Equation	Appe Color	arance Turbidity & Sediment	147	Re	marks			
METHOE Decon Equ	ter Level (ft T INVENTO) Volume Uowl DS sipment quipment: f Discharged	NOC): RY Bottle Type	14.76 14.76 14.76	334 533 933 Filtration	Total Casing V Sampling Equation	Appe Color	arance Turbidity & Sediment	147	Re	marks			



1		SAMPLING F				WELL NUMBER: MW-9 Page:					
Project N	lame: <i>5-ta</i>	dia The	ftnen			Project Nu	mber 07	30190			
Date: _	5/11/00	(- '					(ft TOC):	Drv		
Develope	ed by:					Casing Sti					
Screene	α interval (π,	UC)				Total Dept Casing Dia			·		
Filter Pac	ck Interval (ft.	TOC)									
Casing V	olume	(ft Wate	r) x	(Lpfv)(gpf) =	(L)(g	al)				
Casing v	olumes: 2" = 2" =	0.16 gpf 0.62 Lpf	4" = 0.65 gp	f 6	" = 1.47 gpf				Sample Intal	ke Depth (ft TOC):	
PURGI		REMENTS	4 - 2,40 Lp		6" = 5.56 Lpf		-		·- ··		
Time	Cumul. Vol.	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance		pН	Eh ORP	Turbidity (NTU)	Comments	
	 				(µS/cm)	(mg/L)	-	(mv)	-		
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Total Gallo	ons Purged:				-	Total Casing	Volumes	Removed:			
Ending Wa	ater Level (ft T	OC):				Ending Total	Depth (ft 1	FOC):			
SAMPLE	INVENTO	RY					-	-			
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks	
							Calor	Turbidity & Sediment			
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METHOD)S								. <u>.</u>		
Sampling E	quipment and	IDs:									
orging Eq						Decon Equi	pment:				
Disposal of	Discharged V	Vater:				-					
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		SAMPLING F			<u> </u>	WELL NUI	MBER: 🗸	11W - 1	O	Page: of
Project M	lame:	Fedram T	hittu	my		Project Nu	mber: \mathcal{O}	180190		
Date: _	<u> 5/11/0</u>	09 JTL	-	1		Starting Wa		(ft TOC):	Dow	
Develope Measurin	ed by: ng Point of We	ماله				Casing Stic	ckup (ft):			
Screened	d Interval (ft. T	TOC)	<u></u> _			Total Depth Casing Dia			-	
Filter Pac	ck Interval (ft.	TOC)						160/1		
Casing V	/olume	(ft Water	я) x	(Lpfv	/)(gpf) =	(L)(g:	al)			
Casing vo	olumes: 2" = 2" =	0.16 gpf 0.62 Lpf	4" = 0.65 gp 4" = 2.46 Lr	of 6	3" = 1.47 gpf 6" = 5.56 Lpf		•		Sample Intal	ke Depth (ft TOC):
PURGII	NG MEASU	JREMENTS								
Time		(gpm or Lpm)	Water Level (ft)	Temp. (C ar F)	Specific Conductance (µS/cm)	Dissolved e Oxygen (mg/L)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments
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Total Gallo	ons Purged:				_	Total Casing	, Volumes I	Removed:		
Ending We	ater Level (ft T	TOC):			·	Ending Total	Depth (ft 7	roc):		
	INVENTO					-	<u>-</u> ·	-		
Time	Volume	Bottle Type		Quantity	Filtration I	Preservation	Appe	arance		Remarks
							Color	Turbidily & Sediment	[
										
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METHOD)\$			· · · · · · · · · · · · · · · · · · ·						
iampling E	quipment and	i IDs:								
urging Equ	uipment:					Decon Equir	pment:			
isposal of	Discharged V	Water:								
)bservatior	ns/Comments:	: <u></u>	···					<u> </u>		
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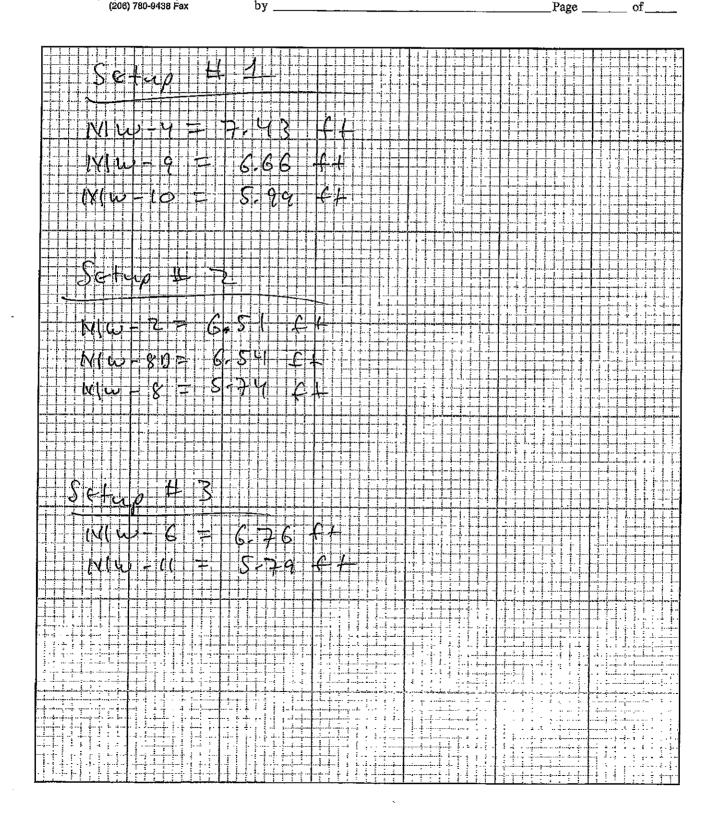
DWATER S	AMPLING R	ECORD	•	WELL NUMBE	:R: 1414	([Page;_ <u>L</u> _of/_
ime: <u>\$</u>	adium 71	Miltway		Project Numbe)r;			•
t by:	M 5 : 38)			Starting Water Casing Stickup Total Depth (ft	Level (ft TC) (ft); TOC);			
						_		
lumes: 2" = 0 2" = 0).16 gpf 4 0.62 Lpf	4° = 0.65 gp	of 6" ≍	1.47 gpf			Sample Intak	te Depth (ff TOC):
		1		T	• · · · · · · · · · · · · · · · · · · ·	-		
Cumul. Vol. (gallons) (liters)	Purge Rate (Lpm)	Temp. (C or F)	Specific Conductance (umhos/cm)		pH -	Eh (ORP)	Turbidity (NTU)	Comments
<u> </u>			<u></u> '					Start Purpy
	500 ml/21							
<u> </u> !								
			•	2-18	6.92	51-6		
		14,60		2.18	1		154	
		14,59	330	2.14	6.94	42.6	90-7	
				2.20				
		· · · · · · · · · · · · · · · · · · ·		2.10	6.96	36-7		
		14-58	329	2,23	6.95	35-2	69-4	
		Quantity	Filtration	Preservation	Appea			Remarks
1 d da	AAI	1 _)	<u> </u>	1.1.4.1	Color	Sediment		
70	UUM	ر ب	-	1501				
				•				
		,			•			
ļ - -			<u> </u>	- 7.				
				,	1	· •		
		1	· ·	-				
		,		•				
				-				
				•				
DS								
DS	Dedical	-ed 1	uking	Lieu	inox	w/ D.	stilled	Water
DS Ipment	Dedical QEOB	fed Tadder	uking frap	Sampling Equ	pment:	w/ 0; YSI	st:((cd 4120	Water
ripment uipment:	Dedical QEOB Vater: O(pment:	w/ n; YSI	stilled 4120	Water
	me: St S/12/6 by: S (Point of Well: Interval (ft. Belliume umes: 2"=0 2"=(G MEASUF Cumut. Vol. (gallons) (liters) ms Purged: ter Level (ft Telliume)	me: Stad:	S 12 69 Iby:	me: Stadium Thrithway S	Stadium 76/16/way	Stadium Thritimy Project Number: Starting Water Level (ft TC Casing Stickup (ft): Total Depth (ft TCC): Casing Diameter (inches): Interval (ft. BGS) Casing Diameter (inches): Casing	Project Number: Starting Water Level (ft TOC): Casing Stickup (ft): Total Depth (ft TOC): Casing Dlameter (Inches): Interval (ft. BGS) Interva	Stating Thrittoy Project Number:



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 <u>5/13/c</u>	> 9
Project	Stadium	741	riftway	Project 08019	<u>0</u>
	Monitor		· ·		
Reviewed		J			



	大型 Jass	n Bag	Sample	0071	0836	2930	1030	2915	2000	1.28	2311 :	5560
	12/22/10	Diffusion Bag retrieval	Need an extra SS weight? \$16.00 per wt Recommended for depths over 200' or 3 bag assemblies) CE PTO to SS weight? For extra CE TO FOR COMPANY CE TO FOR CO	13.65	52.44	52.2	53.73	53.32	112.58	52.24	137.68	129.96
	SS		Need an extra SS weight? \$16.00 per wt (Recommended for depths over 200' or 3 bag assemblies)									
	and twist-tie	1 V	Select fixed or adjustable hardware (no extra charge)	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable
-	nt, line, clips	ONE BOX	Clip at zero mark	(A)					1	***		
	ne SS weigt	HARNESS SUSPĒNSION, OPTIONS -CHECK ONE BOX	Fixed loop at zero mark (Extra fee may apply)							<i>y</i> .	# F	, i
	fety disc, or 5380	JSPĘNSION OP	Safety disc at zero mark.	3	>	>	>	3	>	>	>	>
	cludes a sa) 585-288-	HARNESS SI	Zero mark on line, then a few feet of line, then the safety disc					72.	*	-1		
	harness in r, NY 14609		Well PDB per diameter well (Extra (in) apply)	1	1	-	1	1	1	1	Υ-	1
Now the same	ART - Each ., Rocheste⊩	/ ਲਾ ਦੀ		2	2	. 2	.2	2	2	2	2	. 5
A STATE OF THE PARTY OF THE PAR	PASSIVE DIFFUSION BAG HARNESS CHARNE, 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		DEPTH to TOP, MIDDLE or BOTTOM of BAG (ft) (bojd face appropriate option)	59	59	59	59	57	115	58	141	7.132
	PASSIVE DIFFUSIC Columbia Analytical		WELL ID	MW-1	, MW-2	. MW-5	- MW-7	* MW-8	. MW-8D	* MW-11	· MW-12D 13	, MW-13D 12
L	<u> </u>		8		1	1.1	100	<u>- </u>	.,			

MW-9= DVG.

25

SAMPLE CHAIN OF CUSTODY

Send Report To JUC MOVINICE
Company ASDRA (RINSWITHING)
Address Hel 2nd Ave S. SUIRZEI
City, State, ZIP SCHILE, WA 98104

ja,e	ļ <u>-</u> -	
SAMPLERS (signature)	PROJECT NAMENO. Stalchin Thurfaag	~
Š		

PO# Z Standar C RUSH C Rush chau

REMARKS

Fax #_

Phone #_

	· ····································	Page #ofi TURNAROUND TIME	G Standard (2 Weeks) □ RUSH	Rush charges authorized by	SAMPLE DISPOSAL Z'Dispose after 30 days	Return samples Will call with instructions
The second secon		L		Rush	, c	

									AN	ALYS	ANALYSES REQUESTED	QUES	TED		
Sample ID	Lab	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	AOCs by 8021B	SAOCs ph 8570	SHH					 Notes
MW-1-122210		002/01/22/21		1 of rom	3			X	4						
MW-2-1222-10		. المعمودين	0830	¥ (۱۹۱۱) من المراجعة				×							
MW-5-122210		رية المائم المائم المائم	0880	- And Analysis (Angles of Street)	· vya Filotofy 37			\times	المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة الم						
MW-7-122210		Astrono Sempositivos	1030	, volumbles of Camp	-ultin calitation (re			\times						-	 ,
MW-8-122210			5/60	. स्थापन केवा जा में महत्वा के प्रश्नात	all-transactions -			$\stackrel{\sim}{-}$	9						 ,
MW-8D-122210		Territorist place of the Control	084C	in the manager of the	November (Economy)			又							
MW-11-122210		n paga pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang pinang	1130	Josephania de de .	♥ co dell'al papeanan			×	1 -						
MW-1315-122210	-	galago wasan king	5011	and every every	Michigal II : annume			×							
MW-120-122210		and the state of t	366	ты с былоуц , ж	MALINE LIVES			$\stackrel{\times}{-}$	ξ, ,						
Trip blank		->		→	- >			<u> </u>							

SIGNATURE	Relinquished by:	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	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
kelinquished by:	Amy Tice	ASTRCT	01/22/21	
Relinquished by:				

SAMPLE CHAIN OF CUSTODY

Send Report To DE MONTING
Company Association of the South of the South of the South of the State, SIP South of the WA 98104

Fax#_

Phone #_

SAMPLERS (signature) / 4
PROJECT NAME/NO. PO#
Stadium the Hady OSCIAL

REMARKS clissolved samplus were field filtered

TURNAROUND TIME

Ja Standard (2 Weeks)

D RUSH

Rush charges authorized by

SAMPLE DISPOSAL

☐ Return samples ☐ Will call with instructions

Notes										
						ì				
1509/180/180/5 8.225	X	X	×	X	×	×	×	×	X	
0/79 kg \$20A \$					-					
	\ <u>\</u>	.,	ند کا			ني	بحر	\ <u>\</u>	\	
	\triangle		<u> </u>					$\overline{}$		
						!				W.
TPH-Diesel										
# of containers	N	pagai sa Misila	i or madifierz, buy	frj 1840 s naganagi.	>romyshivesty.	· Bod and « Secondary	West Walker	ng agraphic and Strangery, in	7	
Sample Type	Natez	المراساتان مير	- walk say halp the Sale	************	Co-transportation (bhada vapy Vs		entitio stratilita in reggi	À.	
Time Sampled	1040	1125	1250	1535	1020	1150	(222)	1315	(352)	
Date Sampled	2/6/12	date i viterani, ra	II v styringt en nyste	>	2/1/2		محجوب وسنبهر		ك	
Lab ID										
Sample ID	719020- F.MM	MW-SD -020612	MW-12D-020612	1410-020012	MW-1-0209 12	MW-2-020712	MW-13D-902(712	MW-8-020912	71F0Z0-5-MM	
	Lab Date Time # of # of Time Sample Type containers HPS HPS AVOCs by 8270 SVOCs by 827	Lab Date Time sample Type containers HPS AVOCs by 8270 TPH-Diesel TPH-Diesel TPH-Gasoline Stool Sample Type Containers AVOCs by 8270 TPH-Casoline Sample Type Containers AVOCs by 8270 TPH-Casoline Sample Type Containers AVOCs by 8270 TPH-Casoline AVOCS by 8270 TPH-Casoline AVOC	Lab Date Time Sample Type containers HFS HFS AVOCs by 8270 TPH-Gasoline Sample Type Containers A VOCs by 8270 TPH-Gasoline Sample Type Containers A VOCs by 8270 TPH-Gasoline A VOCs by 8270 TPH-Diesel Type Containers A VOCs by 8270 TPH-DIESEL Type Containers A VOCs by 8270 TPH-DIESEL Type Containers A VOCs by 8270 TPH-DIESEL Type Containers A VOCs by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-DIESEL TYPE CONTAINERS A VOCS by 8270 TPH-	Lab Date Time Sample Type containers Sampled S	Lab Date Time Sampled Sampled Type containers Sampled Type work by 8021B TPH-Gasoline Type work by 8021B TPH-Gasoline Type Containers Sampled Sample	Lab Date Time Sampled Sample Type containers Sampled Type containers Sampled Type Containers Sampled S	Time Sample Type Sample	Date Time Sample Type Containers Sample Type Containers Sample Type Containers Sample Type Containers Sample Type Containers Sample Type Containers Sample Type Sample	Time Sampled	Lab Date Time Sample Type Containers Sample T

 Friedman & Bruya, Inc.

 3012 16th Avenue West

 Seattle, WA 98119-2029

 Ph. (206) 285-8282

 Fax (206) 283-5044

 Formscockcochock

SIGNALORE	PKINI NAME	COMPANY	DATE	TIME
Relinquished by:	Amu Tice	150PCT	2/12	
Received by:				
Relinquished by:				
Received by:				



GROUN	IDWATER	SAMPLING F	RECORD			WELL NUM	IBER: M	M-7		Page: of/_
Project Na	ame: _\$ [2	idium -	Mrith	Nay		Project Nur	nbe <u>r:</u>			
Date: 2	-10/12	AET	_			Starting Wa	ater Level (f	t TOC):	2.98	
Develope	d by:	AET	ELC	<u> </u>		Casing Stic	kup (ft):			
Measuring	g Point of We	ll:	TOC			Total Depth	(ft TOC):			
		OC)				Casing Dia	meter (inch	es). 2"		
E		TOC)								
		(ft Wate				(L)(ga	al)			
Casing vo	2" =	0.16 gpf 0.62 Lpf	4'' = 0.65 gp 4'' = 2.46 Lp	of 6'	' = 1.47 gpr ' = 5.56 Lpf				Sample Inta	ke Depth (ft TOC):
		REMENTS	<u> </u>							· ·
Time		Purge Rate	Water	Temp.	Specific	Dissolved	pН	Eh	Turbidity	Comments
	(gal or L)	(gpm or Lpm)	Level (ft)	(CorF)	Conductance (µS/cm)	Oxygen (mg/L)		ORP (mv)	(NTU)	
1020					(\/		START TIME
1023				13.78	341	2.71	,	101 1	cloudy	C 1747 1 100+0
1026			-	13.82	·	243		QUI.	16101104	
		 						94.0		
1029				13.81	322	2.60		95.1		·
1032	-			13.82		2.73		92.2		
1035				13.83	319	3,03		93.8	7000	BAMPLE
1						,	C.			-
		<u> </u>								-
-										
					,					
						_		•		
									-	
Total Gailo	ons Purged:					Total Casing	Volúmes F	Removed:		
					-					
	ater Level (ft				<u>. </u>	Ending Tota	I Depth (ft 1	roc):		. ,
	INVENTO				· -		ı			
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks
	'						Color	Turbidity & Sediment		
640i	40mc	VOA		4	no	Halno	grey	Cloudy	MW-	7-020612
	500ml	2014		i	yes .	H NO3	1		4	, ,
¥	7,00.170	reig				10.02		, 4-(- \/	
		~						 -		
							 -			
			<u> </u>					<u> </u>		
	<u> </u>							<u> </u> i		
METHOD	ns .									
Carrell T	Tanda	d IDs: <u>VS </u>	#120	•						
		- ا ران ا - ا ران ا	11 100	,				.1		
Purging Eq	•	QED S	ı	e pro		Decon Equ	ipment:	a (con	0 X	<u> </u>
		Water: <u> </u>								
Observation	ns/Comments	= pHS	211565	appo	ears to	3 be 1	naltu	notion	ing -	did not
	ecord	ı							J	
										



1		SAMPLING F				WELL NUM	IBER: M	<u>W</u> -81	\supset	Page: of
Project Na	ame: _\$F2	adium	7/11	1/7Wa	<u>V</u>	Project Nun	nber:			
Date: _2	-10/12		_	.~	/	Starting Wa	iter Level (ft	TOC):	2,52	
Developed	d by:	AET	FLC	>	<u> </u>	Casing Stick	kup (ft) <u>:</u>	<u> </u>		
	Point of Wel	!:	SOC			Total Depth			2	
	Interval (ft. T	OC)				Casing Diar	meter (inche	s):	2	
1		•								
		(ft Wate				(L)(ga	1)	•	C	-lia Danth (# TOO):
Casing vo	2" =	0.62 Lpf	4" = 0.65 yp	ıı ⊡ ıf 6'	= 1.47 gpr ' = 5.56 Lpf				Sample Int	ake Depth (ft TOC):
PURGIN		REMENTS	······································							
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)	рН ?	Eh ORP (mv)	Turbidity (NTU)	Comments
1114		, '								START
1117				14.64	334	4,66	4.58	95.8	Covos	
1120				14.56		4.96	4,67		7.3	
1123					352	5.27		111,2		
1127				14.50	354	5.28	4.30			
1130				1455	354	5.31		126,5	482	
1130				14672		3.71	2.11	12037	706	
										•
					1				·	
		-								
					·					
					<u> </u>					· · · · · · · · · · · · · · · · · · ·
	_			·			·	-		

Total Gallo	ns Purged:		·····		<u>-</u> '	Total Casing	Volumes R	emoved:		
Ending Wa	ter Level (ft T					Ending Total	Depth /ft To	OC1.		
	INVENTO						pépul (it i			
Time	Volume	Bottle Type	• 1	Quantity	Filtration	Preservation	Appea	rance	-	Remarks
v,	,				_ ,		Color	Turbidity & Sediment		
1135	40 ml	AOV		- 니	N	HCVWore	cleur	none:	MW.	8D-020615
1135	500ml	POLY)	Y	HNOS	4	, 4		7
			i							
METHOD	19									
		UD 1	191	# 12	S				•	,
	quipment and					<u> </u>		Λ		, , , , , , , , , , , , , , , , , , , ,
Purging Equ	-	<u> </u>		VPLE P	<u>x ()</u>	Decon Equi	pment:	<u></u>	TONOX	
ыsposal of	Discharged V		DRUM	·						
Observation	ns/Comments	: <u> </u>	Sign	<u> </u>	SEEMS -	IN BE	e dei	<u> </u>	·	



		SAMPLING R				WELL NUM	BER: _/\	W-121	>	Page: of
Project Na	ame:	STADIUM	2 TH	PIFTL	AY	Project Num	nber <u>:</u>			
Date:	2/6	/17 AET		•		Starting Wa	ter Level (ft	TOC):	129.80	
Developed	d by:/	1 AET	, ELC	>		Casing Stick	kup (ft):			
Measuring	Point of Wel	l:	TOC			Total Depth	(ft TOC):			
Concession	uncival (ir. 14	JU <u>/</u>				Casing Diar	neter (inche	s): Z		
Filter Pac	k Interval (ft. 1	roc)								
Casing Vo	olume	(ft Water	·) x	(Lpfv)	(gpf) =	(L)(ga	l)	-		,
Casing vo	lumes: 2" = 0 2" = 0	0.16 gpf 0.62 Lpf	4" = 0.65 gp <u>4" = 2.46 Lp</u>	of 6' of 6'	' = 1.47 gpf '' = 5.56 Lpf				Sample Inta	ske Depth (ft TOC):
PURGIN	IG MEASU									
Time		Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pΗ	Eh ORP (mv)	Turbidity (NTU)	Comments
1233										START
1236		-		14 93	354	6,85	1-31	135.7	al accident	ESTINE
									CIOVOL	
1239				(2-62	3560	7,21	10,61	138.2		
1242					357	7.25	10.21	138.5		
1245				12.93	358	7.26	6.09	139.3	476	
1248						· ·				
									··	
					-		_		-	
	 			-						
				-						
							l			
Total Gallo	ns Purged:				_	Total Casing	Volûmes R	emoved:		
Ending Wa	iter Level (ft T	OC):				Ending Total	Depth (ft To	OC):		
	INVENTO									·
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	rance		Remarks
	,				<u>·</u> _		Color	Turbidity & Sediment		
1250	40mL	VOA		4	N	HCL/NA			MW-	12D-020612
ψ	500mL	POLY) 1	Ŋ	HNO3		,		
				· · · · · · · · · · · · · · · · · · ·	· -					
										
				•						
						j				·
METUOT	16									
METHOD			1 /2	-45	138					
Sampling E	quipment and		YOL							
Purging Eq	uipment:	QET,) San	RUSE T	200	Decon Equi	pment:	Air	0120X	
	Discharged V	Vater:	De	M		- · · 	•		~ ~ / ~	
-	_			·						··- <u>-</u>
opservation	ns/Comments	·	•	Ċ.						· · · · · · · · · · · · · · · · · · ·
-				-		_		 -	 	



		SAMPLING R				WELL NUM	IBER: <u>/</u>	<u>1M</u> -14	.D	Page: of
Project Na	ame:	STADI	UM	THRIFT	YAW	Project Num	nber:			
Date: Developed	ع/د d by:	/12 AET	T, EL	<u> </u>		Casing Stick	kup (ft):		134.02	
Measuring	Point of We	H:	10	\mathcal{L}		Total Depth	(ft TOC):		2	· ·
Screened	interval (ft. T	OC)			<u> </u>	Casing Dian	neter (inche	es <u>):</u>	2	
		TOC)								
Casing Vo	lumes: 2" =	(ft Water 0.16 gpf	4" = 0.65 an	of 6'	t = 1.47 and	(L)(ga	l)	•	Sample Inta	ake Depth (ft TOC):
		0.62 Lpf	4" = 2.46 Lp	of 6'	' = 5.56 Lpf					
		REMENTS	347.3.	 		I 6."		r		
	(gal or L)	Purge Rate	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH 2	Eh ORP 7 (mv) v	Turbidity (NTU)	Comments
1514	0	00510				 	 	 		START
1517				15.78	363	7.51		99.4	cloud	,
1520				15.15		7.32			clear	
1523				15.01	361	6.28			clear	· ·
1526					360	5.56			den	
1529					360	5,46			1 1	
1532				15,00	359			<u> </u>	cheal	S. N. =
1974		-		Chico	2)	ノコン			38.3	Sample
									<u> </u>	
	_									
				•						
										· · · · · · · · · · · · · · · · · · ·
	-									
Total Gallor	ns Purged:	I				Total Casing	Volûmes F	l Removed:		
Ending Wa	ter Level (ft 7	ГОС):				Ending Total	Depth (ft T	OC):		
	INVENTO									i .
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Apoe	arance		Remarks
		7,					Color	Turbidity &		romano
يُس 7 سر ا	40m	VOA		u		1101 /		Sediment		(b. 80.410
1535	. ~				Ne	HCL/Nove	1			10-020612
4	Soch	POLY			YES	HNOZ	$- \overline{\lambda}$	nt	4	
				<u></u>		<u>-</u>				
			<u> </u>							-
METHOD	ns .									
		LIB	()c~	#13	29				-	
	quipment an			~ 1 ()	<u>ی ن</u>					
Purging Equ	-	<u>Q</u> E	.().			Decon Equi	pment:			
	-	Water:		RUM				<u> </u>		
Observation	ns/Comments	s: _pH/0	RP P	mhe_	<u>malfun</u>	choni	na?			
		1 ,,,,	-				J			· · · · · · · · · · · · · · · · · · ·
-										



		SAMPLING R				WELL NUN	IBER:/	1W-1		Page: of
Project N	ame:	taclivi	nn	Vit.		Project Nun	nber:	8019	D	
Date: 2	1607	12	• •	•		Starting Wa	ter Level (ft	TOC):	52.93	
Develope	d by:	MET I	-7 by			Casing Stick				
	g Point of We Interval (ft. T				·	Total Depth		-\-	7_,	
	k Interval (it. i				-	Casing Diar	neter (inche	:s):		
1		(ft Water	r) x	/I nfv/v	(anf) =	/I You	I)			
Casing vo	olumes: 2" =		4" = 0.65 gp	f . 6"		(с)(да	')		Sample Int	ake Depth (ft TOC):
PURGI		REMENTS	- 2.40 Ep	<u>, </u>	- 3.50 срі				<u>.</u>	
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)	pН	Eh ORP	Turbidity (NTU)	Comments
1005	0				(µ3/cm)	(1119/14)		(mv)		started
1008	-			17.94	522	8.53	6,87	77	morky	Statea
1011	 			13.05		4 30	6.83	139	MUIKY	
1014	<u> </u>					1171	6.63			
				13.14	525		6.45	154		
1017				17,19	524	8.14	6.80	162	71000	
. X	 				, .					
									·	
					<u> </u>					
-										-35
						_				
										, , <u>, , , , , , , , , , , , , , , , , </u>
Total Gallo	ons Purged:					Total Casing	Volumes R	temoved:		
Ending Wa	ater Level (ft T	ГОС):				Ending Total	Depth (ft T	OC):		
SAMPLE	INVENTO	RY			, ·		-		-	
Time	Volume	Bottle Type	•	Quantity	Filtration	Preservation	Appea	rance		Remarks
	mL						Color	Turbidity &		
1020	40	VCA	:	4	Nr,	Helino		Sediment	M 14! -	1-020712
	500	Polu		-/		HA)03	y(10:09)	· +	1-100	1 020-112
- -	200	100			yes	11/00.5	- V	, 4-		<u> </u>
				-			— 		- 	
									.	
										· —
METHO										
Sampling E	Equipment and	d IDs: <u>\(\(\) \</u>	138	hand	lhdd o	H. 021	>			
Purging Ed					,				·	
	•	Water:			_					
		· 	-	-				<u> </u>	 	
Observatio	ns/Comments	s:	<u>.</u>	-						
				**						



		SAMPLING R		,		WELL NUM	IBER: <u>M</u>	W-2		Page:_	of	
		adium	Mur	wai	1	Project Num	ber <u>:</u>					
Date:	2/7/12			٠	1	Starting Wa	ter Level (ft	TOC): 😲	51.77	<u> </u>		
		ITH ELL				Casing Stick	(up (ft):					
	g Point of We Interval (ft. T	11:				Total Depth Casing Dian		ie). 3	.13			
		TOC)				Odding Dian		.3)	·			
Casing Vo	olume	(ft Water	·) x	(Lpfv)	(gpf) =	(L)(gal	i)		4			
	lumes: 2" =	0.16 gpf 0.62 Lpf	4" = 0.65 gg	of 6'	' = 1.47 gpf	、	•		Sample In	take Depth (ft TO	C):	
PURGIN		REMENTS			,	-						•
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)	pН	Eh ORP (mv)	Turbidity (NTU)	Cor	nments	
1105	D									starte	·d	
1108				14,09	418	5,58	7.07.	197	cloud			
1111		6		14.59		5.51	698		i		.	
1114						c 79	7,03		1			
1117				14.65		5.29 5.27	7.06		7000		.	
! 1 ! !			-	1 114.7		·) · C ·]	1100	<u>-1</u>	1,00			
	 				• ,		_		 			
							- :		-			
											,	
		<u> </u>	_				·					
					-3							
											<u> </u>	
					£							
•												
									ļ			
Total Gallo	ns Purged:				_	Total Casing	Volumes R	lemoved:		<u>. </u>		•
Ending Wa	iter Level (ft 1	FOC)				Ending Total	Donth (ff T	OC)-				
	INVENTO					Litting Total	Deput (it i	00,		<u> </u>	•	
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	rango		. Remarks		
	mĿ		*	Quantity	rittation	rieseivauur	· Color	Turbidity & Sediment		. Remarks	·	
1120	40	VOA		4	no	HU				-2-021	2712	
4	500	polu		.\	Ules	HNOZ	47		Ŵ			
	·	_'			4.							
							0					
											-	:
				•								
				L						•		
		•			•			_				
METHOD		1 1 1	00	1. 1.	. , 4	1 1 1	1 1	î	000			
Sampling E	quipment an	d IDs: US	100		hand	held	PH a	ind	ORP			_
	quipment an		100	delic 1 pm		held Decon Equi		inol_	ORP			_
Sampling E Purging Eq	quipment an	New s	100					inol	ORP			<u> </u>
Sampling E Purging Eq Disposal of	Equipment and uipment:	(Na) S Water: (O	100					<u></u>	ORP		•	



		SAMPLING R		_		WELL NUM	IBER:	<u>\W</u> -13	30		Page: of
Project Na	me:	STADIO	M	THRIF	TWAY	Project Num	nber:				
Date: Developed	by:	12 Z/ AE	7/12 T.EL	<u>د</u>		Starting Wa	kup (ft):		137,4	3	
		l:				Total Depth	(ft TOC):				
		OC)				Casing Diar	neter (Inche	·s):			
Casing Vol	lume	(ft Wate 0.16 gpf	r) x	(Lpfv)	(gpf) =	(L)(ga	i)	-	Sample li	ntaka Do	oth (ft TOC):
	2" =	0.62 Lpf	4" = 2.46 Lp	of 6'	" = 5.56 Lpf			_	Cample	ntake De	July (11 100)
		REMENTS		<u> </u>				-			
Time	Cumul. Vol. (gal or L)	(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
205	Ď	200			- per per publich qu'es paper annique agre		**************************************			. 5	TART
208		,		14.09	336	6.16	7.15	238	Cleans		
211				14.01	331	619	7.00		i		
1214		17			328	592	6.941	254	V	-	
1217				1395		598	6.93	252	52.	1 00	mptecl
1219				19: 19), 162	(V:1.)	000	26-1	1 50	ivi pa ci
		-					-			-	
											
·										+	
										 -	
										ļ	
										 	· -
											2.400
								-			
	,							-			• • •
										-	
otal Gallor	ns Purged:				_	Total Casing	Volůmes R	Removed:			
nding Wat	ter Level (ft T	OC):				Ending Total	Depth (ft T	OC):	.=	_	
AMPLE	INVENTO	RY									
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	arance			Remarks
	4	7				į	Color	Turbidity & Sediment]		
220	VOA	40mL		Ч	No	HCL/None		deament	MI	-130	-020712
- <u></u>	7014	Booml		1	YEG	HNOZ			7 100	100	owne
	1001	7				11103		•			
\dashv	•										
		- -					:				
ļ											
ETHOD	S										
ampling F	ouipment acc	IIDs:	KT #	128	$\mathcal{U}^{\sigma n}$	DUFID	PH &	DEP			
raina E	inmont.	IIDs:)	100	(Docon Carl	nmant:	A	Car In	/	
лана ⊏4г			T)a	NM		Decon Equi	pment:	116	WNO	<u> </u>	
		vater:	1/4	シグベ			<u></u>			··	
isposal of	Discharged V		, ·								
sposal of	Discharged V s/Comments										



1		SAMPLING R				WELL NUM	IBER: M	M-8	· · · · ·	.]	Page:/_ of/
Project Na	ıme: 570	rdium				Project Num	nber:	, .			
Date: 2	17/12			•		Starting Wa	ter Level (ft	TOC):	2.58		1
Developed	by: /TE	T. TELLO				Casing Stick	кир (ft) <u>:</u>				
		11: TOC				Total Depth	(ft TOC):				
Screened	Interval (ft. T	OC)				Casing Dian	neter (inche	s):	2		ļ
1		TOC)									,
	lumes: 2" =	(ft Wate 0.16 gpf	4" = 0.65 gp	of 6'	' = 1.47 gpf	(L)(gal	1)	•	Sample Int	ake Dept	h (ft TOC):
		0.62 Lpf	4" = 2.46 Lr	of 6'	' = 5.56 Lpf	_				<u></u>	
1		REMENTS Purge Rate	Water	Temp.	Specific	Dissolved	pН	EL -	Total: dia.		0
Line	(gal or L)	(gpm or Lpm)	Level (ft)	(C or F)	Conductance (µS/cm)	1	рп	Eh ORP (mv)	Turbidity (NTU)		Comments
129L	<u></u>					 				5-10	crted
1254				14.94	321	4.73	10.95	-100	clear		
1257				14.98			6.85				··· -
									 		
1230	<u> </u>			14.95	288	1.66		-69		ļ	
1233				14.94	280	0.83		-72		<u></u>	
12360				14,94	273	1.12	6.79	-63			
17-351				14.93		1,24	10.81	-54	1		···································
0.0				14.93		1.34	6.81	-85 -85	<u> </u>		
1312				117,77	201	リクー	0.21	- 35	146		
				_							
							İ				
ļ.											
											<u> </u>
								-			
<u> </u>											
									.		
Total Gallor	ns Purged:		· <u>-</u>		_	Total Casing	Volumes R	emoved:			
Ending Wat	ter Level (ft T	FOC):				Ending Total	Depth (ft To	OC).			
	INVENTO						- ÷F (1.				,,
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Арреа	rance			emarks
	•							Turbidity &		1	JIG, RG
12	110	1.7.				1	Color	Sediment			
1315	40ml	UOA		4	no	HUMO			MW	-8 -(120712
<u> </u>	50	poly		_11	yes.	HNOS		ŧ	_		
	·	7			1	· · · · · · · · · · · · · · · · · · ·					
							-				
 											
											-
METHOD	is .					•					
ואיביווטט		(N 3	120	1	.01. 1	لہنے	c 1	י מאל ^ה	`		
_	quipment and	1 IDs: TPT	128.	nan	ane c	PIT	<u> 440</u>	UK	ر ———		
Sampling E	inmont	Q	ED.			Decon Equip	pment:				
Sampling Edu Purging Equ	athineut.										
Sampling Edu Purging Equ Disposal of	Discharged \	Nater:	Nev.	Μ							
Sampling Equipment of Chapter 1		Water: s:									



		SAMPLING F				WELL NUM	IBER: <u>(</u> V	M-2	. <u>-</u>	Page: of
		udium	Thr	Thu	ay	Project Num	nber:			
Date:	2/7/17	2_		•	J	Starting Wa		TOC): G	1.60	
Develope	d by:	ET EL	<u>6</u>			Casing Stick	кир (ft):		11140	 i
		ii: <u>700</u>	<u> </u>			Total Depth	(ft TOC):			
	Interval (ft. T					Casing Diar	neter (inche	s):		
i	k Interval (ft.									 -
		(ft Wate				(L)(ga	1)			
Casing vo		0.16 gpf 0.62 Lpf			" = 1.47 gpf <u>" = 5.56 Lpf</u>				Sample Inta	ake Depth (ft TOC):
PURGIN		REMENTS								
Time	Cumul. Vol. (gal or L)	(gpm or Lpm)	Water Level (ft)	Temp. (C or F)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments
1338	1									
13841				14.24	331	6.95	695	19	1 -	
1344	†			14.19	357	6.90	6.8)	49		,
1347	<u> </u>			14.13	373	4.65	6.79	80	1-1	
1350				14.13	374		6774	84		-
						6:29	680		•	
1353				14,12	371	6.20	6.78	<u>F8</u>	608	
-										
					_					
			-							
Total Gallo	ons Purged:			<u>.</u>	-	Total Casing	Volûmes R	temoved:		
Ending Wa	ater Level (ft 1	ГОС):				Ending Total	Depth (ft T	OC):		
SAMPLE	INVENTO									
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea			Remarks
	mL'						Color	Turbidity & Sediment		
1355	40	UOA		4	No	144			MW	5-020712
	500	poly			yes	HW3		1		
<u> </u>										
				•					_	-
METHOD	os									
		d IDs: <u>\(\forall \)</u>	138 4	HI.	hand h	eld of	1401	RP		
Purging Eq		QED				•				
	-	Water: dN				DOWN Equi	butour			
			•		· · · · · · · · · · · · · · · · · · ·	_		· · · · · · · · · · · · · · · · · · ·		
Observation	ns/Comments	s:						 -		

GROUNI	DWATER	SAMPLING	RECORD			WELL NUX	IBER: N	1W-19		Page: / of /
Project Na	ne:	Jalker	Che	Vrol	et	Project Num	nber: 08	3019	10	
Date:	1/8/1	ell: T			V	Starting Wa	iter Level (ft	TOC): 5	1.72	
ampled by	/:		7			Casing Stic	kup (ft):			
	rom or w nterval (ft.	TOC)				Total Depth Casing Diar	(ft TOC <u>):_</u>	<u>59,48</u>	1+0.5	<u>5_</u> =
		TOC)				Casing Diar	neter (inche	:s) <u>. </u>		
asing Vol	ume	(ft Wat	er) x	(Lpfv)(apf) =	(L)(na	a)			LANGUE PARENTE
asing volu	mes: 3/4	"= 0.02 gpf	2" = 0.16 gr	of 4"	= 0.65 gpf	6" = 1.47	gpf ·			ike Depth (ft TOC): $ u$ 55
	3/4"=	0.09 Lpf 2'	= 0.62 Lpf		2.46 Lpf					
PURGING	MEAS	JREMENTS								
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	рH	ORP	Turbidity	0
	Volume (gal or L)	(gpm or Lpm)	Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)		(mv)	(NTU)	Comments
3:00	-	40.4		13.5	389.5	a.39	6.07		(N10)	43 6 000
2.05				13.7		a.19				
* 10	_			13,7		a.a5		91.1		
3,13		1	 	13.8		22/	66			
8:16	-	8		13.5			-		 	
8.18			 		377.6	400 400	6.59	<u>93.a</u>		
2		1		13.8	3764		6.58	44.60		
3:80				13.8	374.6	90+8		960		
1:33				13.3		3.53	6.57	96.6		
134				13.8	371.9	243	6.57	97.4		
		*								
		1	1							
otal Gallons	Purged:	n 1111	Contract of the Contract of th			Total Casing	Volumes B	emoved:		
			Oct			rotta ogsnig	VOIGITIES IT	emoved		
nding Wate	r Level (ft	roc): <u>55</u>	N CON			Ending Total	Depth (ft To	OC):		
AMPLE I	NVENTO	RY					•			
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear				D
11 .			, а			Color	Turbidity & Sediment			Remarks
8:30		VOAS	4		2 WHCI	1	1	VOIDT	ries	(8260)
8:306	MODE	0014	1		-		-	NO2.	V. cOV	04 (@ 300)
8:30k	IMCO	polu	1					TOC	(410	
8:305	DOMI	polu	-		HNO3	1		FOI	200	2)
	18113	1 3			. , 990	\ 		EPYYN	C FOI	HACH)= C
	141.2		-					LIIUL	12161	HACH)= C
THODS					16					
rameters m	easured w	ith (instrument n	nodel & seria	al number):	YSI	12G10	420	3_	_	
rging Equip	ment: 🛈	ED BIO	<u>icacher</u>	Pun					DX+C	raicated tub
posal of Di	scharged \	Water: <u>D</u>	LMS 1	on Si	46			U		
				1						

	UNDWATE	R SAMPLING	RECORE)		WELLNIS	MBER: N	1W-18		n- 1 - i
		bulker (· · ·		Page: of
Project Date:	12/12/1	3	<u>OI ICVI</u>	OIC		Project Nu	mber:	801910	000	94-11
Sample	ed by:	JLO				Casing Stic	ater Level (1	ft TOC): E	35,44	Cargle
Measur	ring Point of V	Vell: TOC	/				h (ft TOC):	95	5.96	+055=00 = C
	ed Interval (ft						meter (inch	es):	10	TO.55=86.516
	ack Interval (A1,071
Casing	Volume	(ft Wa	iter) x	(Lpt	fv)(gpf) =	(L)(a	al)			
Casing	volumes: 3/	4"= 0.02 gpf	2" = 0.16 g	pf 4	* = 0.65 gpf		7 gpf		Sample In	take Depth (ft TOC): 55. 5
			$2^{u} = 0.62 \text{ Lpf}$		2.46 Lpf	6" = 5.56 L	.pf		× ×	
PURG	ING MEAS	UREMENTS	Bego	ruba	mping	@ 10;	30an	\cap		
Criter	ria:	Typical 0.1-0.5 Lpm	Otoble	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	Puras Data	Water	Temp.	Specific	Dissolved	L	I con A	100	
	Volume (gal or L)		Level		Conductance	Oxygen	pH c	ORP	Turbidity	Comments
1:08		- VO.3) (ft)	13.6	(μS/cm)	(mg/L)	100	(mv)	(NTU)	
		1	+			3.04	$\overline{}$			
		+	+	13,3						Water cleaning up
1:18		-	-	13.6		3.95	16.74	6.001		Adjusted pump
1:26	<u></u>		1	13.5	351.8	3.86	6.72	1.01		heard 40 100
1:a	8			13.5	346.5	3.90	6.70	113.2		70 100
1:34	t			13.3	344.9	4.01		115.8		
1:40	0					205	6.0	100		
1.50			+	13.11	342.8					
1130	1	*		13.4	340.5	3,83	6,07	134.7		·
								<u> </u>		11 -
				 	+					
	<u> </u>		+	 	-					
	+	-	 	-	-				· .	
	-		-							
		<u> </u>								
tal Gall	ons Purged:					Total Casing	Volumes B	emoved.		
		v. c	25 /				7 0.200 1 1			
	ater Level (ft		ا حالت			Ending Total	Depth (ft To	OC):		
MPLI	E INVENTO	DRY								
Гime	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance	t		
	1					Color	Turbidity &			Remarks
55		VOA	.4		ZHCL		Sediment	0		
	500 pt		1					8260	MOLCO	rties
		Sec. 1.72	1					NO3.1	VO2,	SOY
	500mL	poly						TOC		
.55 .55		bolh	ĵ		HNO3			Fe		
.55 .55	500ml		coel	dno	# Som	719	emil		AN	DIDIE ONT
·55.	500m2		ואגענוט		UN 111 N	10.	fi .		UII	10112113 BILL
·55.	500m2		POIL	drit	not in	144 1 1	7 1 1 1		1000	4 40
55 55 55			Coul	ant	get we	Her C	ULO I	to le	not.	of water
55 55 55			Coul	ant u	pet, wi	ind b	Qifer	Fe) le	00+1 04-1	of water.
55 55 55	os	rith (instrument	loud	al number):	pet with	AGIOL	Otter	76 Je	00+.f 04-v)	of water.
.55 .55 .55	DS s measured w		nodel & seri	_		AGIOL	over 1202		gy-v)	of water
55 55 55 THOE ameters	DS s measured w	D bladd	ungel ungel model & seri er pu	mp		AGIOL Decon Equip	over 1202		ngt. (jd-v)	cated tubing
55 55 55 THOE ameters	DS s measured w	D bladd water: <u>Dru</u>	nodel & seri	imp Si	He	Decon Equip	WHER HAOA ment: W	conox	gg t f	cated tubing
THOE armeters ging Equosal of	os s measured w uipment: O E Discharged	water: <u>Dru</u>	er pu	mp on si		Decon Equip	WHER HAOA ment: W	conox	idedi alou	cated tubing

GROUN	NDWATE	R SAMPLIN	G RECOR	D		WELL NU	MBER: N	1W-	2	Page: of
roject N	ame: 📐	larer	Che	role	t	Project Nu	mher:		<u></u>	
ate:	12992	31.0			_	Starting W	ater Level (f	ft TOC):	50,74	4
eachtin Jeachtin	r Point of V	Vell: TC				Casing Sti	ckun /ft)-			_
creened	Interval (ft	. TOC)				Total Dept	h (ft TOC <u>): (</u>	(00,81-	r 0.55=	Tol. 36
ilter Pac	k Interval (1	ft. TOC)				Casing Dia	meter (inch	es): 💋	18110	255
asing Vo	olume	(ft W	/ater) x	(Lpf	(v)(gpf) =	//)/~	-1\			
asing vo	iumes. 3/	4 = 0.02 gpt	2" = 0.16	gpf 4	" = 0.65 gpf	6" = 1.4	aı) 7 apf		Sample leteles	Depth (ft TOC): 55
		= 0.09 Lpf			2.46 Lpf				oampie intake	Deptin (π TOC):
		UREMENT				<u>_</u>				
Criteria:		Typical 0.1-0.5 Lp	mStable	. na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume	I Divers Dat	e Water	Temp.	Specific	Dissolved	рН	ORP		
	(gal or L)		Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)) Pri		Turbidity	Comments
3:21		N 0.3	5	100			6.81	(mv)	(NTU)	
3:26		r-i	B. 100 - 100	10.0		A PRINCIPAL OF THE PRIN	(0.76	137.2	El .	•
18:31				13.2	3342	4.37	92 /	1000	3	
3:36		+ 1		1/3 . /			Co.76	137.4		
:38		141	- Carrier	13.3	336,6		(P1+5)	139.1		
40			V=ACRA		336.7		6175	139.3		
.41			+	11,9	338.4	1	(0.75	140,2		
,07		+		12.0	337.7	14.39	6.74	140.9		
				-						
	<u>. </u>	50								
									· -	
			1	 						
l Gallone	s Purged:	- 1								
		10.1				Total Casing	Volumes Re	moved:		
ng Wate	r Level (ft	roc):	5a.7	5		Ending Total I	Denth (ft TO	CIPA	AD ST	
IPLE I	NVENTO	RY					- Opan (IL 10			
me	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	nce			
		n					Turbidity &		- Rem	arks
45	1	10A	41		A 11151	Color	Sediment			
A Property	OU	4 //	0	€naces .	a wither			8 Dec) vola	tiles
		pung		Emilia -	And the same			1/21	NO7 3	104
	300	DON		Organization			-	TOC	· · · · · · · · · · · · · · · · · · ·	4
15	500	DOW		(F) - F	TNO2			Te.		
		3					F	enno	1s Fe (HACH) 70.01
					• 1			011.00	20100	FITICITY 70.0
HODS							12	•)		
		Nh /! !			VOT	100:-	11000	7		
eters m	easured Wi	th (instrument	model & seri	al number):	107	12G10	4000	<u> </u>		
		ED BIC	- 6			Decon Equipn	nent: <u>a (</u>	CONOX	dedic	ated tubing
al of Dis	scharged W	ater: Dr	ims t	N SIT	ک ا					7
		Oil .	·	A 1 - 1		d ²⁰ 7. 6.		-427		from TOC.

GROU	NDWATE	R SAMPLIN	G RECORE)		WELL NU	MBER: N	1W-16)	Pares V of 1			
roject l	lame: W	ukerc	heum	let.				·		Page: \ of \ \			
Project Name: Walker Chevrolet Date: 12/13/12 Sompled by T. 12							Project Number: 080190 - 004 - 11 Starting Water Level (ft TOC): 57.08						
ampiec	ъу:	<u> </u>				Casino Sti	Casing Stickup (ft):						
		/ell:TO	<u></u>			Total Dept	h (ft TOC):	(p4)7=	HO:5	5=			
	d Interval (ft. ok Interval (f					Casing Dia	meter (inch	nes): 3					
Casing V	olume	(ft W	ater) x	(Lpf	v)(gpf) =	(L)(g	al)						
Jasing v	olumes: 3/4	F= 0.02 gpt	2" = 0.16 g	ipf 4	" = 0.65 gpf 2.46 Lpf	6" - 1.4	7 gpf	٠.	Sample Inta	ake Depth (ft TOC):			
PURGII	NG MEAS	UREMENTS			umpina								
Criteria		Typical 0.1-0.5 Lpn	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%				
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved	ρH	ORP	Turbidity	Comments			
	(gal or L)			(°C)	(µS/cm)	Oxygen (mg/L)		(mv)	(NTU)	Comments			
4:26		100.4		14.4	372.2		685		(INT U)				
4:31		1	_	14 2	370,4	1.27	603	1521					
4:36			-	1/1. 2	350 2	2 22	7000	102.7	-				
4:39		 	+	117, 3	359,2	10.00	6.04	129.4					
		 	+	114.3	358,7	19.99	684	53.4					
4.42		 	-	114,4	358.3	2.15	6.84	51.8					
4:44			1-	114,4	355,7	13.31	6.84	50.3	_				
4.46			_	14,4	3548	a,33	6.84	50.2					
4:48	_		_	14,4	353,3	a.36	6.83	шаа					
4:50		V			352.8	2 20	402	110.0					
				1	000,18	4.50	600	144,0	\rightarrow				
			 	-									
		· ·											
		<u> </u>											
				·	<u></u>								
al Gallor	s Purged:	S IN E	3										
					,	Total Casing	Volumes R	emoved:					
ding Wat	er Level (ft 7	OC):	7.17			Ending Total	Depth (# TC	oc). 57	49				
	INVENTO						- open (It 10						
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	Ince						
			, 1	1	-		Turbidity &		,.F	Remarks			
		100	()		- 111 1	Color	Sediment						
50		VOA	4		awitch			Volati	les cr	(Daves			
50 ,		ooly						NDa N	02.80	4 (300)			
50		ooly	1				- 1		415.17	7 (000)			
:50	500 k	2014			HN03		,			\			
	1	0			.17.00				8.00E	11100000			
								remo	usfe	(HACH) ->0,0			
THODS										II .			
meters n	neasured wit	h (instrument n	nodel & seria	l number\-	YSI	126 IN	H 202	2					
ina Eauir	ment:	ED bla	MPF	Ol A Don	10	MYIU	TOUC	Z^	0				
ood of D	noberes 111	TO DIG	LAC C	- ATTUB	10	Decon Equipm	nent:Q	ucon	DX ; CF	edicated tubin			
JSai ot D	scharged W	ater: Dru	nig C	on Sit					-				
		11.001	n . I	()									
rvations/	Comments:	CONCALE	<u>a well</u>	ull	measu	remen	ts in	1 inor	in Dom	talong			

11-		SPE			Sampl numbe	er MW-	-17-1	213	13		_		
Project Number: QS 0 Q - 0 - 0 - 1 Description	GROU	NDWATE	ER SAMPLING	G RECOR	D		WELL NU	MBER:	MW-17			Page: I of	1
Comparison Com	Date: Sampled Measurir Screened	by:	Well: TOC	_	olet		Starting W Casing Sti Total Dept	ater Level ckup (ft) <u>: (</u> h (ft TOC):	(ft TOC): (a	7-00 2,55 8+0.	4-11		
Criteria: Typical Otto State Otto	Casing V	olume olumes: 3 3/4"	(ft Wa /4"= 0.02 gpf '= 0.09 Lpf	2" = 0.16 2" = 0.62 Lpt	gpf 4" =	" = 0.65 gpf : 2.46 Lpf	6° = 1.4	7 gpf		Sample In	take Depti	h (ft TOC):	65
Chemina					jan p	rmbing	@ 12	:00					
Counter Coun		Cumul	0.1-0.5 Lpm	Water		Specific	Dissolved	1	_		,		
3.1(12:01	(gal or L	_) (gpm or Lpm	Level (ft)	(°C)	(µS/cm)	(mg/L)	<u> </u>	(mv)	1		Comments	
1+ 6 393.6 . 73 + .00 65.7 water. Surging 3.10	13:11	-	100,35								very	sity!	
3.24 1+5 39+4 1.70 7-01 65:5 PERCUIN BIOCOM 3.24 1+6 392.3 1.62 7.06 64.2 First one filled 3.24 1+6 392.3 1.62 7.06 64.2 First one filled 3.26 1+6 392.0 1.66 7.09 63.0 2+2.42. Porging 3.26 1+5 393.0 1.66 7.09 63.0 2+2.42. Porging 3.26 1+5 393.0 1.66 7.09 63.0 2+2.42. Porging 3.27 13:05 (not mud) 13:05	1316										Diffi	cut o	letting
It is a square It i	13:19							7.01	65.5		of LO	dacina	3100
Age alons Purged: Total Casing Volumes Removed: Sithy water Water Clear of Sithy water							1.62				first	One I	DICC
Algallons Purged: Total Casing Volumes Removed: Indicating Volumes Removed: Indicating Volu				-			1.38	7,10	63.7				
Sitty water water water water at 13:05 (not mud) al Gallons Purged: 13:05 (not mud) al Gallons Purged: 13:05 (not mud) Total Casing Volumes Removed: Ending Total Depth (fi TOC): 23:73 MPLE INVENTORY Imperimental Preservation Appearance Color Surviviny & Sediment Volume Bottle Type Quantity Fitration Preservation Appearance Color Surviviny & Sediment Volatics (8260) N03, N02, S04 (300) TOC (415.1) Felloos TOC (415.1) Felloos THODS THODS THODS THODS THOS TH	5.20		- V	+	14.5	393.0	1.66	7,09	63.0	_			
Water Clear of 13:05 (not mud) 14:05 (not mud) 14:05 (not			·	-	 				-		Silta	HOWL	er.
Total Casing Volumes Removed: Indignature				-	-						Wate	r'Clean	r'au
Ing Water Level (ft TOC):			 		 	-		· ·	-		13:0	5 (not	mud)
Ing Water Level (ft TOC):	•			 									
Ing Water Level (ft TOC):													
Ing Water Level (ft TOC):													
Ing Water Level (ft TOC):													
Ing Water Level (ft TOC):													
Ending Total Depth (ft TOC):	tal Gallon	s Purged:	ハ子				Total Casing	Volumos F	Pamaradi				
MPLE INVENTORY ime Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Remarks Color Turbidity & Remarks Sediment Volatics (8260) NO3, NO2, SO4 (300) TOC (415.1) FEC (200.8) FETTOUS FE > 0.0 Mg/L ITHOUS INDESTRUMENT MODEL AS SETIAL NUMBER): YSI 12G104 2020 THODS INDESTRUMENT MODEL AS SETIAL NUMBER): YSI 12G104 2020 Decon Equipment: QED bladder pump Decon Equipment: QICONOX, dedicated tubing Seal of Discharged Water: Drums on Site Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments: Angled urel. Qui measurements in unear feet of 1000 Covations/Comments.	odina Mat	or Louis /ft	TOO). W	(02 7	2		_		_				
THODS There we with (instrument model & serial number): SET 12G104 308 Decon Equipment: OLOGO Trurbidity & Sediment Notatives (82-60) Notati				001.			nding Total	Depth (ft T	OC): 0	1.13			
Appearance Color Turbidity & Sediment Volatics (8260) NO3, NO2, SO4 (300) TOC (415.1) Fe (200.8) Ferrous Fe > 0.0 mg/L. THODS THODS THODS Therefore measured with (instrument model & serial number): SI 12G104 200 Decon Equipment: OLCONOX, dedicated tubing sal of Discharged Water: Drums on site Valions/Comments: Angled urcu. Au measurements in unear feat a long accordance.	Time			Quantitu	Filt-eti-	B T							
NOA 4 — 2 WHCI Volaties (8260) 30 500 poly 1 — NO3, NO2, SO4 (300) TOC (415.1) FE (200.8) FERTOUS FE > 0.0 Mg/L. THODS THODS THE GEORGE WITH (Instrument model & serial number): YSI 12G104 2020 THODS THODS THE DED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder pump Decon Equipment: QED bladder QUIPMENT Q			Dollie Type	° adamity	Filtration	Preservation		Turbidity &	-	, ,	Remarks	12	
NO3, NO2, SO4 (300) TOC (415.1) FELZOO.8) FENOUS FE 70.0 M9/L. IST 12G104 202 Measured with (instrument model & serial number): YSI 12G104 202 Measured Water: Drums on site Valions/Comments: Angled well. All measurements in linear feat of 1000.	3:30		NOA	4		2 WHCI		Cedillelif	Volati	PC 18	2(0)		
TOC (415.1) FE (200.8) FETOUS FE > 0.0 Mg/L. IS THOS TOC (415.1) FE (200.8) THOS T												20)	
FECZOO.8) FECZOO.8) FECZOO.8) FECZOO.8) FECZOO.8) FECZOO.8) FECZOO.8) FECZOO.8 CHOCK			poly	1								<i>O</i>)	
Ferrous Fe 70.0mg/L. (Hach) THODS Interest measured with (instrument model & serial number): YSI 12G104 2020 Ing Equipment: QED bladder pump Decon Equipment: alconox, dedicated tubing seal of Discharged Water: Drums on site evations/Comments: angled well. All measurements in linear feat along.		500			-	+1463							
THODS THODS The content of the con	40	12/1	3/13								-	A D. DMC	2/1 /2
neters measured with (instrument model & serial number): YSI 12G104 aoa ng Equipment: OED bladder pump Decon Equipment: alconox, dedicated tubing sal of Discharged Water: Drums on site vations/Comments: angled well. all measurements in linear feat allow a									6 1 1			201011	y 5. "
vations/Comments: Ongled well. Our measurements in linear feat of 10000.	THODS)											
vations/Comments: Ongled well. Our measurements in linear feat of 10000.	ameters m	neasured w	rith (instrument m	nodel & seria	l number):	YSI	12 G1)4 ar	A				
vations/Comments: angled well. all measurements in linear feat a lange	ging Equip	oment:	DED bla	dder	pumo) [econ Fourier	nent:	N D D D D	Non	10001	1d -1 L .	
vations/comments: angled well. all measurements in linear feat a long.							Soon Equipi		COLICX	ب مادر	TUUT	U TUO	179
pe from Toc. Used a bladders.							Irom	nto	in lin	en :- (2001	0.10.0	-
To Julia o Duranes.	D-P -	Ernn	777	1100	J D L	1000	<u>u (111)</u>	LI 1/1/2	ni ui	cur f	elt	along	_
	7	1 01		USCL	0	MUU	75.						_

GROUN	IDWATER	SAMPLING	RECORD			WELL NU	MBER: N	1W-13	D	Page: of			
Project Na	ame: MO	uker c	herro	olet			_						
Date: 🏻	416/13	3	_			Project Number: 080190-004-11 Starting Water Level (ft TOC): 137.7-							
Sampled I	by: ,		_			Casing Stickup (ft):							
)			Total Depth	Total Depth (ft TOC): 142 194 + 0.55=						
	Interval (ft. 7 c interval (ft.					Casing Dia	meter (inch	es <u>):</u>					
asing vo	lumes: 3//!"	(π wa: = 0.02 gpf	ter) x	(Lpf	v)(gpf) =	(L)(ga	al)			tolled			
Jaonig vo		_ 0.02 gpr 0.09 Lpf 2			' = 0.65 gpf 2.46 Lpf	6" = 1.47 6" = 5.56 L		•	Sample Int	take Depth (ft TOC):			
PURGIN		REMENTS						2					
Criteria:		Typical		•	Jumpi	179CB							
Criteria:		0.1-0.5 Lpm		па	± 3%	± 10%	± 0.1	± 10 mV	± 10%				
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved	pН	ORP	Turbidity	Comments			
	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(µS/cm)	Oxygen (mg/L)		(mv)	(NTU)				
2:18		い0.\$2		13.3		5.77	6.59			Got water 15:18			
5: a3				13.4		5.27	6.60	76.6	_	GOU WATE 1311			
5:28			T		344, 2								
5:31	-		1_					80,4					
5:34			-	13.1	349,7	200	16.59	83,3					
			1-	13.3	341.7		6.59	83.2					
5:36				19.3	34a.8	5.27	6.59	83.9					
5:38		V		1a.3	342.3	5.39	6.59	84.7					
			-										
	_	<u> </u>											
				<u> </u>	L_								
tal Callan	a Dissenti	NOIS											
ilai Gallori	s Furgeu		_			Total Casing	Volumes R	emoved:					
ding Wate	er Level (ft T	oc): <u>13</u>	9:06			Ending Total	Denth (ft To)C).					
AMPLE	INVENTO	RY				- Total	Dopar (it 1	50)					
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Animan							
			Gradinity	Titration	reservation	Appear				Remarks			
- 11		100				Color	Turbidity & Sediment			T TOTAL TO			
5:45		VOA	4		awitch		. (8260) Vola	HILES			
5:45	12/16/1	3								on (HACH) = 0,0m			
								10100	70 24	OI (CHOICH) - O TO IT			
								 					
-+						•							
THODS	3							·					
		h (instrument n	nodol 9 es-i-	d number	VCT	INCINI	202						
								6		44.0			
		ED Blace				Decon Equip	ment: 🔼	cono	X, CIPC	dicated tubin			
oosal of D	ischarged W	ater: <u>Dru</u>	ms 1	<u> S </u>	1+6				,				

anuul	NDWA	ΓER	SAMPLING	REC	ORD			WELL NIIA	MBER: 'N	NW-8	>	Page: L of
						1000	+					
Project N	ame: _	112	UKer 113 _{TL}			MUIC		Project Nur	nber:	الماد	<u>0</u> -0	11-40c
Date: _	bur	117		O						(ft TOC): I	33.6	<u>4</u> '
Maasurin	a Point	× 18/	die .	11	2	*		Casing Stic	kup (ft):	100	2/-	
Screened	y romi d)	:OC)	10				Total Depth	(ft TOC):	6018	210	7.55
			TOC)					Casing Diar	neter (inch	10S):	_	
Casing Vo	olume _		(ft Wat	er) x _		(Lpfv)(gpf) =	(L)(ga	d)			10.0
Casing vo	olumes:	3/4"	= 0.02 gpf 0.09 Lpf 2'	2" = ().16 gr	of 4"	= 0.65 gpf	6" = 1.47 6" = 5.56 L	gpf	•	Sample	Intake Depth (ft TOC): 58
PURGIN			REMENTS				Impir		5:48			
Criteria			Typical 0.1-0.5 Lpm		table	na	± 3%	Ŭ ±10%	± 0.1	± 10 mV	± 10%	
Tîme	Cum		Purge Rate		ater	Temp.	Specific	Dissolved	pН	ORP	Totalista	
	Volu		-		evel		Conductance		μΠ		Turbidit	
	(gal c	n L)	(gpm or Lpm)		(ft) /	(°C)	(μS/cm)	(mg/L)		(mv)	(NTU)	
5,53			4,013	+-	-	14,4	301.1	0.30	(0)	139.1		
600				L		14.5	1297.3	0.31		277		
6:03						14.4	297.8	0.33	 	258	1	
	1 1			+-	+	11 1 1	SOF		 		- -	
6:06	1 1	,		+-	-	14.4	a95.8	0.5		253	\	
6.09						14.5	a99.2	-0,47		24.5	T	
6.11						14.5	304.3	0.41		297		
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	-			├	<u> </u>							<u> </u>
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		1										
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			101							<u> </u>		
otal Gallo	ns Purge	ed:	MI,					Total Casing	Volumes F	Removed:		
			BAR VI	-0	7	Q,						
nding Wa	ter Leve	(ft T	OC): KO	10	10			Ending Total	Depth (ft T	TOC):		_
AMPLE												
Time	Volum	e	Bottle Type	Qua	ntity	Filtration	Preservation	Appeara	ance	j		
- 1			•			_ ,		Color	Turbidity &	"		Remarks
015		-	VOA	, ,	-		2///	- 4.01	Sediment	. = . [0]	100	18-1-1
6.15	10		VOM	4		7	DHIME			UT) IQ	1165	(8260)
6:15	501	21	DOIL I	L						NID2 N	10-	804 (300)
6:15	501	\sum_{i}	2017	\top						100	7911	-11
1-1-	21		55/13	1		++	HIV03	-		120	(7)	211)
1010	<u> </u>		1014	}	\dashv		1117003			rec	UC)	(3.00-6)
0;20	12/1-	t/	3				1			Ferro	USF	(HACH) = O.On
T	1	11				1	•					
				-						32		
	S											
ETHOD		nd of	h (innt	ا - اسم	0 •	-1	YSI	1261	NIO	ク ユ		
		IW De	h (instrument n		& seria	al number):	107	1261	<u>U70</u>	Un	-	0010
ırameters		/ \		4 / 10	10//	r cill	$m \square$	Decon Equip	mont: O	MANA	$\alpha \alpha$	MICONDO TITAL
ırameters			<u>=0 bk</u>	\mathcal{L}	<u> LIK.</u>	Pu		Decoil Edaib	mem. C			
rameters rging Equ	ipment:		D :==	<u>یں</u> ۱۱ ر	<u> </u>	DOS	ite	Decon Equip	mem. <u>C</u>	<u> </u>	M, Co	COUCHO 1901
trameters orging Equipposal of I	ipment: Discharg	ed W	ater: Dri	LN	7 <u>8</u>	on s	site.			2/0-		
rameters rging Equ	ipment: Discharg	ed W	ater: Dri	LN	18 30r	on s	site.			YSI.		

GROUN	DWA	TER	SAMPLING	RECO	RD			WELL NUM	/BER:	: 1	1W-2	3 1	Page: of
Project Na	ıme:	Mo	liker (The	V	rolet					30190		
Date:	2-/	17	113 TLO								ft TOC):		
Sampled I	ру:		TLU	2/				Casing Stic	kup (ft	t):			
Measuring				つし				Total Depth	(ft TC)C):	57.7		.55=
Screened Filter Pack			TOC)					Casing Diar	neter	(inch	ies) <u>:</u>	2_	
				n#\ **		0.1							
Casing vo	umes:	3/4"=	(it vvati = 0.02 opf	er) x	16 ar	(Lptv)	(gpf) =	(L)(ga	tl) 7				ntake Depth (ft TOC): 455
-uonig vo	3	3/4"= 0	.09 Lpf 2'	= 0.62	Lpf	4" = 2	= 0.65 gpr 2.46 Lpf	6" ≈ 5.56 L	gpr of		•	Sample	ntake Depth (ft TOC):
PURGIN			REMENTS						<u> </u>		may.		1.10
Criteria:			Typical	Sta	ble	na	± 3%	± 10%		0.1	. 10 = 1/	4001	
		mul.	0.1-0.5 Lpm	Wa		1	Specific	± 10%	± (0.1	± 10 mV	± 10%	A Company of the Comp
Time		ume	Purge Rate	Lev		Temp.	Conductance		р	Н	ORP	Turbidity	Comments
		or L)	(gpm or Lpm)		t)	(°C)	(µS/cm)	(mg/L)			(mv)	(NTU)	
3:54			V14		<u> </u>	13.1	388.4	2.39	\square		50.6	. 1.	
3:59						1)4,4	381,5	1,98		=	51.6		
\$104						14.6	378.1	a117			51.9		
4:07						4.5	376.1	a. a7			53.3		
4:10				\Box		14.6	373,7	2.42			54,3		
4.12						145	369.7	2.51			55.4		
4:14						14.6	367.7			-	56.3	-	
							001.1	01.02		-			
									-			-	
										-			19.
	-									-			
	_	\vdash								_			
						80			·				
										L			
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		1								1			
otal Gallon	s Purg	jed:	<u>~2</u>					Total Casing	Volum	nes F	Removed:		
			5	3,7	1=	3							
ding Wat				<i>)</i>	_			Ending Total	Depth	(ft T	OC):		
AMPLE													
Time	Volur	ne	Bottle Type	Quant	ity	Filtration	Preservation	Appear	ance				
-			,			1	P	Color	Turbidi Sedim				Remarks »
1:20		1	VOA	4		1	RWHC		500		Vola	til-PC	(8260)
1.70		. (11/0c	T							N CAK	7	20000
170		- 1	mili	-	\dashv					\dashv	103,14	CALC	04 (300)
1:20			2017		-		HN03		_	-		100	715 . 1
1:25	17/1	7	811	-	+		m103			-	FO	<u> </u>	018
1.4	41	111	12		+						Ferrou	Ste	(HACH)=0.0 mg
THODS	3										•		
		red with	h (instrument n	ndel 2	gerin	il number).	YSI I	2612	121	בר			
nina Earli	nment	الله الله	ED bla	44	0 m					~		w/ ~10	diaglad live
			A COL	_				Decon Equip	ment:	<u>u</u>	1cono	x, al	ultured tubin
			ater: <u>DY1</u>			on E					1.40		o off measuren
				OPO	T 10	A 0 - 0	1 [] 🛆]			10	- \$11(1)	N	11

	SONSU	EC LTIN	G			Sample number	MW-	-15-12	4171	3			
GRO	UNDWA	TER	SAMPLING	G REC	ORD			WELL NUM	IBER: _	MW-16	5	Page: of	1
Date: Samp Measu Scree	12/1 led by:	t of We	oll:	_				Starting Wa	iter Level kup (ft):_ (ft TOC)	73.9	25,80		
Casing	g volumes	: 3/4"	= 0.02 gpf	ater) x	.16 gp	of 4")(gpf) = = 0.65 gpf 2.46 Lpf	6" = 1.47	gpf		Sample In	take Depth (ft TOC): V7-0	
PUR	GING MI	EASL	REMENTS				LMD: NC						
	eria:		Typical 0.1-0.5 Lpr	C+	able	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	9	
Tim	e Vol	mul. lume l or L)	Purge Rat	^B L€	ater evel (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pН	ORP (mv)	Turbidity (NTU)	Comments	
214:	-	1	N 0.2	5	<u> </u>	14.6	373.6	4.05	1	81.6		water "clear"	
0 50	씱	-		+	+	14.7	370.18	4.12		868	·	at 14:55	
3150	8	+		•	+	14.10	3748	4.13		74.5			
0 15:1			-			14, 6	374.6	4.01		73,4			
8 15:1				-		14.7	374.8			75.2			
0 15:1	5	+		+	+	14.7	374.0	4.08	\vdash	74.8			
		+		-						-			
													20
<u> </u>		+		-									
				-			<u> </u>		+	+			
													ı
					1								
Total G	allons Pur	ged:_	W1,6	>				Total Casing	Volumes	Removed:			
_	Water Lev			<u>5</u> -	7/	-		Ending Total	Depth (ft	TOC):			
Time			Bottle Type	Qua	ntity	Filtration	Preservation	Appear	ance	Т			
								Color	Turbidity & Sediment	7		Remarks	
15:2	0	=	VOA	4			2 WHO			mia	tiles	(8260	
15.21	<u> </u>	$\frac{2}{2}$	DIL	1	-					NOZ	NO2,5	S04 (3m)	
15.2		2	0013	1 '	\dashv	-377	40102			10C	7 (41	5.()	
15:2	D		VOIT	-4-			awit Cl			MW-I	5-12	1713DUP	*
15:24	5 12/	17	13				1. 1. 1. 1.			Ferro		(HACH)=0.0M	ALL
METHO	ODS /									5.			٧.
1		ıred wi	th (instrumen	t model (& seria	al number <u>):</u>	YSI	12610	420	9			
	Equipment of Discha			run	er	pur	SHe	Decon Equip	ment 🔾	10000	4 dec	ucated tubing	Ī
Observat	tions/Com	ments	PH 8	ens	or	- ma	lfunc	mont	ing Pa	-on V	SI.	No pH measure	ment
1/1/				10		7/13	The Contract of the Contract o		Ju	المال		FIFE WILLIAM	~ =1
UN C z:\Eq	juipment\Fiek	i Forms	Groundwater Sa	AU) mpling For	m.xlsx	uan	Defo	re sc	rw	pung	. Wit	4 Not develop	pea

	WATER	SAMPLING	RECORD			WELL NUM	ABER: N	1W-3	0	Page: of
Project Nan	ne: <u>W</u>	uker C	hevr	olet		Project Nur	nber:_O	P108	0	
Date: Sampled by	<u> </u>	<u> </u>	- 1		_	Starting Wa	iter Level (f	t TOC): 5č	402.6	
Sampled by	Coint of We	HITO				Casing Stic	kun /ft\·			
Screened in	tenval (ft	OC)	trace of the same			Total Depth	(ft TOC):	59.14	10.5	<u>7 = </u>
		TOC)				Casing Dia	neter (inchi	es <u>):</u>		<u></u>
		(ft Wate	erl v	(1 06	\/4\	(1.)/	15			
Casing volu	mes: 3/4*	= 0.02 gpf	2" = 0.16 or	(Lpiv)(gpi) = - 0.65 apt	(L)(ga	il)		O= 1 1 1	1 6
	3/4"= (0.09 Lpf 2"	= 0.62 Lpf	4" = 2	2:46 Lpf	6" = 5.56 L			Sample Inti	ake Depth (ft TOC):
PURGING	MEASU	REMENTS						-		
Criteria:		Typical	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	0.1-0.5 Lpm Purge Rate	Water	T -	Specific	Dissolved				
14116	Volume	1	Level	Temp.	Conductance	Oxygen	pΗ	ORP	Turbidity	Comments
09.05	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(µS/cm)	(mg/L)	Un Mara	(mv)	(NTU)	<u> </u>
	R	W . T		13.4	34602	9,,				
09:10				13.7	351.2		671			
09.15				13.7	3546			1098	r F	
09.18				13.9	3566		(al68	110.7	1	
09:21				13,4	358.7	5,87	la Ide	112.4		
9.23				13.9	.359.7	5.84	665	113.3		
0.00		V		13.9	300	5.87	Color	113.8		
						- 102	(4)			
	4								1	
									_	
·										
	1								_	
	- 8		1	<u> </u>					_	
-	(i		11						-	
	8		- 1							
	11	N 11								
otal Gallons	Purged:	11.5			•	Total Casing	Volumes R	emoved:		
ading Mater	Level (# T	oc): <u>52</u>	604	-						_
			il .	_		Ending Total	Depth (ft To	OC):		
Time			<u> </u>							
, , , ,	/olume	Bottle Type	Quantity	Filtration	Preservation	Appeara				Remarks
· 1						Color	Turbidity & Sediment	4 6	fa	riomains .
0 000	3	YOAS	L.	/T	awhci T		1.	YOM to	PS (8260)
9:30		Personal T	í.					VO2.	40-1	704 (360)
0		DOM	18					- W 1 1		
9.305	Donl	2014 2014	8				1-	TTY "	PLILE	
9.305	Dank Charl	00 N	-		HNOZ			TIC.	(415	
9.30 5. 9.30 5. 9.30 5.		Car B	-		HNO3			TOC.	300.8	?)
9.305		DOIN DOIN	-		HNO3		N. S. S. S. S. S. S. S. S. S. S. S. S. S.	TOC Ferious	300.8	11) 14(H)=0.2NC

	NS ULTIN			Sample number	MW-	-5-c	109	14		
		SAMPLING				WELL NU	MBER: N	W-5	IDE:	Page: 1 of 1
Date: Sampled Measuring Screened	19/14 by: T	0 oc)	_	V	75	Starting Warden Casing Stice Total Depth	ater Level (f	59.0	a. 68	
Casing Vo	lumes: 3/4":	(ft Wat = 0.02 gpf 0.09 Lpf 2	2" = 0.16 gg	of 4*	(gpf) = = 0.65 gpf 2.46 Lpf	6" = 1.47	7 gpf		Sample In	take Depth (ft TOC): <u>~55</u>
PURGIN	IG MEASU	REMENTS								
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.	Specific Conductance (µS/cm)	(mg/L)	pН	ORP (mv)	Turbidity (NTU)	Comments
9.07				13,3	366.2	3.60	653 653	947		
9115			C.	13.1	365,1	3.60	6.53	90.0		
6:90 6:18	FA Co.		7 2	13.1	365.5	3.40	6.53			
9.33				13,1	360.4	3.01	6.52	82.0		
9:a6 9:a8				13.2	354.8	2.44	6.51	77.9		×
9:30				13.3	350.6	2.11	6.51	74.6		
9:32		\V		13.2	351.3	206	6.51	73.8		• 0
, .										
	· ·	11								7
Fotal Gallon		oc): 53	29			Total Casing				_
	INVENTOR					Ending Total	Depth (ft To	OC):		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	Turbidity & Sediment			Remarks •
9.30	ocome (MOPS	4	li I	anaci	N.	Sediment	VOlad	hies	(8360)
9:30	CONF 1	19dms			HNOS			Pchs	(808)	21
94305	SOOMU I	2016	2					NO3,1	102 S	ioy (300)
I PITODS	7 0	9:40				e (4	HCH	19	200	Of /L
		h (instrument m			YSI P		HADE		14 de	dicated tubing
isposal of D		ater: Dru			E TIS F	e d	#n	Lon	חח	112011101119
ACTIVITY.	tabl	Mize			7 17 9 1				10	WHILLIT

ROU	NDWATER	RSAMPLING	RECORD			WELL NUM	BER: M	W -=	7	Page: of
Project N	lame: W	alker	Chev	role	<u></u>	Project Nun	nber: O	8019	0	
Date: _	1/7-/1	4	_			Starting Wa	ter Level (fi	TOC): 5	4.1	
Sampled	by:	() /ell:()				Casing Stic	kup (ft):		Lux O	
	g Point of W Interval (ft.								7+0	155
	k Interval (ft					Casing Diar	meter (inche	es):		
		(ft Wate	er) x	(I pfv)(anf) -	(1.)/00	IV.			
Casing v	olumes: 3/4	"= 0.02 gpf	2" = 0.16 g	of 4"	= 0.65 gpf	6" = 1.47	apf		Sample Inta	ake Depth (ft TOC): V57
		0.09 Lpf 2'				6" = 5.56 L				
PURGII	NG MEASI	UREMENTS				9				
Criteria	1:	Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	•
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	рН	ORP	Turbidity	Comments
	Volume (gal or L)		Level (ft)	(°C)	Conductance (µS/cm)		pii		(NTU)	Comments
11:09		v0.a	1 7	11,4	3394	(mg/L) 5,49	6.80	57.2	(1410)	
11:14		1		12.1	338.6	500	6.81	40.8		0
11.19			 	1214	336.3	600		990/	- 1	
- F1 P			+	-		6.98	6.83	49.7		
11:23			+	13.5	335.6	TUM	6.07	437		
11:25		1.6		19.5	333.3	7.51	6.85	45.8		
1 2-				12,4	331.8	7,52	(0.75	975		
11:29			- 7	112,4	331.4	7.82	6.85	48.5		·
1.3/		, Se 1	- 12	12.4	330.8	8.37	686	493		
1.33		1		12.5	330.2	8.61	6.86	51.1		
11.35		1 5 1		12.4	980·3		(0.8.7	1		
1,57		V		12.5	3885		6.87			- F
	1	129		10,0		K D C P F	(40 N			
			1.0						1	
		7 1 1 1	7 / 4	1.7		·	_			
		101		LV P. II.						
			11 2 2	11						
		1015								
otal Gallo	ns Purged: _	7.113	0.00	4.2.5		Total Casing	Volumes R	Removed:		
nding Wa	iter Level (ft	TOC): 54	08			Ending Total	Depth (ft T	OC):		
AMPLE	INVENTO	RY		100		3		/		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance			
						Color	Turbidity &			Remarks
1.30		YOAS	4		awhel	COIOI	Sediment	2/0101		(02/0)
	16				armi,			Volat	100	(8260)
1.30		amper					-	1744	607	<u>Q</u> /
	500ml	amber	2		163			PCD S	80	82)
	500ml	POIL		10	HNU 3			PO &	Fe (200.8)
10U	500mil	poly		4	,			TOC. (415.)
JOU	500ml	poru	14.5	100		8	1	NO3,	NO2	,504 (300)
ETHOD	117119			3.5			Î	ere of	AS IN	CHACA = OCE
		tale Const.	1, 54 9	. 24	YSI	120	10110	10-		0.81
	measured w	ith (instrument r	nodel & seri	al number):	-	H 40 500		<u> </u>	B-0- U	Marian Land L. In
arameters		ATT A DESCRIPTION	A 5.75 - 55 - 1	Pun	1 11	Decon Equip	ment:	KILLY	1	dedicated tub
ırging Eqi		-4	elfe s	17.5	100	- soon qoip		5 7		The state of the s
irging Eqi		Water: Cr L	elfe s	on s	i-fe	. 1-		U		7

	NSULTIN	G			number	MW-	1-0	101	+		À	
		SAMPLING					WELL NUM	IBER: N	W-7	_		Page: of
Date:			_	The	2V.		Project Nun Starting Wa	nber:	TOC):	(a)	111	0008-004-12
Sampled to	oy:	ell: T	77	<u> </u>			Casing Stick	kup (ft):	. —			
	Interval (ft. 1						Total Depth Casing Diar			-		
	k Interval (ft.											
Casing Vo	lume	(ft Wat	er) x_		(Lpfv)(gpf) =	(L)(ga	i)				
Casing vol	lumes: 3/4"	= 0.02 gpf 0.09 Lpf 2	2" = (0.16 gp	of 4"	= 0.65 gpf 2.46 Lpf		gpf		Sample	e Int	ake Depth (ft TOC):
PURGIN	G MEASU	REMENTS	-									Λ.,
Criteria:	;	Typical 0.1-0.5 Lpm	S	table	na	± 3%	± 10%	± 0.1	± 10 mV	± 10°	%	
Time	Cumul. Volume	Purge Rate	L	/ater evel	Temp.	Specific Conductance	Dissolved Oxygen	рН	ORP	Turbio	dity	Comments
1600	(gal or L)	(gpm or Lpm)	+-	(ft)	(°C)	(μS/cm)	(mg/L)	6 . 111	(mv)	(NTL	J)	. (4)
401	 	0013	-		13,()	1.4841	<u>0.53</u>	6,44	101.3			1
1606		1	+-	1	13.1	14-88.1	U.50	6144	103.4			
60	 				13,5	1484.3	10.03	6.45	107.8			
6113			11		13.3	489.1	0.55	6.42	109.3			· · · · · · · · · · · · · · · · · · ·
1(0i15		ĺ			13.2	1490.1	0.42	6.41	1137			
16:H					13.3	490.1	0.41	6.41	1137			N,
16:19		V		_	13.3	490.8	0.40	6.41	113.7			0.
												A
			IT									
	1 1										_	19
•											_	
	-										\dashv	**
					-				,	-	-	
1											+	
											\dashv	
otal Gallon	s Purned:	M/2	>				Total Casina	I				
	er Level (ft T	oc): 5 ²	1, 0	9			Total Casing Ending Total					
AMPLE	INVENTO	RY					<u> </u>	1 = 1				
Time	Volume	Bottle Type	Qua	ıntity	Filtration	Preservation	Appeara	ance			_	•
					P	İ	Color	Turbidity &				Remarks-
0.255	Unil	amera	0	λ,				Sediment -	TOLL /	111	00	20()
625		VITE	1	_		BNIHO		·	TIDH	Curt C		1660
2	-	VMS	7	-		SALIC	300		MINI	77	<u>)(</u>	(Spe)
	TM	mher	3			AVILLA			2011	TW.	3	(0000)
2	A R R R R R	NO 100 100						[nn (10 d	TC	
0.25	50014	0/1/1				gardifficher stamps	-	1	VCZ, NY	124		14 (-500)
6.35	10 D	20/U	+		1	Married Co.			1 1 10			
6.25 t	500 500	001U 001U 001U	1	20		HIVIT			POTE	DI	15	
	10		10)	114		HV3	in Cal	2/12	Port	27	/5 5	FE (UFCH) = 0.2
	measured wi	th (instrument r		4 Serie		HN03 YSI	raGio	04a	PATE	27	5	FE (UFCH) = 0,2
arameters r Irging Equi	measured wi	th (instrument r	nodél	<u> 161</u>		YSI	PaGI(042/ ment: LK	POTE TENTO	2 215	15 5 +(FE (LIACH) = 0,2
arameters r urging Equi	measured wi ipment: O	th (instrument r		<u> 161</u>		YSI DD SHE	PaGI(0425 ment: LK	POTE TO THE POTE T	0) 5	15 5 T	FE (WACH) = 0.2 OLCHICATECH
arameters r urging Equi sposal of D	measured wi	th (instrument r	nodél	<u> 161</u>		YSI	PaGI(Decon Equip	0437 ment: [R	Fer	in the second	5 + U	S Fe defect

GROUN	DWATE	R SAME	PLING	REC	ORD			WELL NU	MBER: M	W-8C			Page:l_of
Project Na	me: U	Valk	er	C	ne	V		Project No	ımber:	2008	10		
Date:	<u>/10/</u>	14						Starting W	ater Level (ft TOC):	12.5	70	7
Sampled I	by:	Well:	$\mathcal{Q}_{\mathcal{A}}$					Casing Sti	ckup (ft):			30	
		t. TOC)						Total Dept	h (ft TOC <u>):</u>	118-40	0		
		(ft. TOC)						Casing Dia	ameter (inch	es <u>):</u>			
		_		orl v		(1 -4	v)(gpf) =						_
Casing vol	umes: 3	/4"= 0.02 g	pf	2" = 1	0.16 ar	(Lpi	v)(gpt) = " = 0.65 gpf						10115
	3/4	= 0.09 Lpf	2	<u>" = 0.6</u>			2.46 Lpf		7 gpf .pf	•	Sampl	e Intake Dep	oth (ft TOC):
PURGIN	G MEA	SUREME											
Criteria:		0.1-0	pical .5 Lpm	s	table	na	± 3%	± 10%	± 0.1	± 10 mV	± 10°	 %	
Time	Cumul Volum		e Rate	1	/ater .evel	Temp.	Specific	Dissolved	рН	ORP	Turbio	dita	
	(gal or L	- 1	or Lpm)		(ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)		(mv)	(Comments
0:53		100	2115	\$		10.3			6.15		(NTI	J)	
0:58			T	T		10,8	343.2	701	(0.66	1008		-	
0:03				1		10.7	340 3	1 / 1/-				-	
1:06		1-	_	+-	_					108.1			
		+	1-	+-	-	10.7			6.67				
1:11	_		-			10.9		8.93	6.67	11000			
		+	1	 			341.3		6:67	110.7			
1113		1	<u>y</u>	<u> </u>		10.8	340.8	17.64	6.67	111.7			
									-		-		
			•										
$\overline{}$	_	+		\vdash									
	-	 				•							
		+						> 2			<u>. </u>		©
		-											
		1											
tal Gallons	Purged:	5	0,	5			· .	Total Casing	Volumes R	emoved:			
dina Wata	r Lovol /4	TOC):	ון מי	12.	21								
				<u>~</u>	0/			Ending Total	Depth (ft TO	DC):			
MPLE I													
lime	Volume	Bottle 1	ype	Quar	ntity	Filtration	Preservation	Appear	ance				
								Color	Turbidity & Sediment			Remarks	\$
15		VOA	S	4	T	17.1	anitci	1		Volati	100	1001	207
15.5	SOM	polu		1	_	1							20)
15.5		poli		1						103,1V		304 (3	(00)
155					-		INO			<u> 100 (</u>	415		
25		0114	9-+		-+-		H103	\rightarrow	- 1 - 1 -		100·		
	7.11	717	-		-+			\rightarrow	F	errou	SR	CHAC	(H) = 0m
	· ·								1 4				
THODS													
meters m	easured v	vith (instru	nent m	ററിച്ച് ഉ	epriot	number).	YSI	10 6.15	71120	^			
ina Fauire	nent (100	7001 0	oenal	number):	0 10T	10910	JT AU	<u>a</u>		la la	
								Decon Equip	ment: 119	<u> </u>	40	dedicat	ted tubin
roal OI DIS	charged	Water:			S_C	on si	10			8			

MITTER # 1.11	NSULTIN	SAMPLING	DECCE		er MW-					
_						WELL NUI	/IBER: /\	1W-12	0	Page: / of 2
Project N	ame: <u>VVC</u>	uker 13	UIC	vrule	<u>t </u>	Project Nur	nber:			
Sampled	by:	76				Starting Wa	ater Level	(ft TOC): 16	19,93	3
/leasuring	g Point of We	ell:TO	0			Casing Stic	kup (ft):	136	27 1	0.55=
	Interval (ft. 7					Casing Dia	neter (inch	nes):	× (o T	0/50
	k Interval (ft.				<u> </u>					
asing Vo	olume	(ft Wa	ter) x	(Lp	fv)(gpf) =	(L)(ga	d)			
asing vo	numes: 3/4° 3/4"= (= 0.02 gpt 0.09 lpf 2	2" = 0.16 g 0.16 g = "C	gpf - 4 : 4"-	" = 0.65 gpf = 2.46 Lpf				Sample in	take Depth (ft TOC): <u>~/32</u>
URGIN	IG MEASU	REMENTS					of .	110-	141 (
Criteria:		Typical	Stable	U	pump	- (1	» [[.	42am	NOF	t20 by 12:05, pull
	Cumul.	0.1-0.5 Lpm	VA/et-s	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	Begin pumping 1
Time	Volume	Purge Rate	Level	Temp.	Conductance	Dissolved Oxygen	рН	ORP	Turbidity	Comments
	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	
			+	-						could not get
	-		1	-	+	· ·				water to airfo
					-	-				Called Amir'y
			-		-					Eric to troub
			-	 						shoot Pulled
			 	-						Pump TNICE WILL
			-	-						try again when
			_							tubing at a
			-							later date. It's
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										I could be
									-	Change.
										Or led refe
										used 12 bladders
										JOST E NOOCC
d Gallon	s Purged:					Total Casing	/olumes R	lemoved:		=
na Wata	ar I myol (# T/	DC):								_
						Ending Total I	Depth (ft To	OC):		
me	Volume		0							
	Joining	Bottle Type	Quantity	Filtration	Preservation	Appeara				Remarks
-		· ·					Turbidity & Sediment			
\rightarrow										
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HODS										
		(instrument m	nodel & serie	al number).	YCT	12610	4203	 ሕ		
neters m	neasured with	i (instrument m	nodel & seria	al number):		12G10			c' al-	
neters m ng Equip	neasured with oment: <u>Q</u> E	D Blac	dder 1	Dum)				×, de	edicated tubin
neters m ng Equip sal of Di	neasured with oment: © E scharged Wa	i (instrument m D Blace ater: Dru	ider i	on S		Decon Equipm	nent: <u>a</u>	cono		SI. Confirmed

	PEC			Sample	MW-	12D -	01071	4-0	1101-	t
GROUN	DWATER	SAMPLING	RECORD			WELL NU	MBER: M	1W-12	D	Page: 2 of D
Measuring Screened I	Point of Wonterval (ft.	ell: FOC)	Chevr 1/14	Olet		Starting Warner Casing Stice Total Depti	ater Level (kup (ft):	1341	39.9	004-11)
Filter Pack Casing Vol		(ft Wate	er) v	/1 =6	4/6					
Casing volu	umes: 3/4" 3/4"= (= 0.02 gpf 0.09 Lpf	2'' = 0.16 gp	of 4"	= 0.65 apf	6" = 1.43	7 anf		Sample Inta	ke Depth (ft TOC): $ u$ 133
	G MEASU	Typical								
Criteria:	Cumul.	0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Volume (gal or L)	Purge Rate (gpm or Lpm)	Level (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments
14:31		1015	#	13.1	343.2	9.02	7.36	1140		
14.41		10112		13.1	341.8	8.45	7.36	1/3		
14:43				13.3	342.2	8.75	7.36	112.0	ş	
14:45				13.5	341,4	885	736	112.5		
14:47				13.3	341.9	8.79	7.35	112.8		
7-1. 7-1				13.5	339.9	8.34	7·35	114,2		
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atal Callaga	Dimendi	NO.5								
otal Gallons			スク つ	<u> </u>	,	Total Casing	Volumes Re	emoved:		_
nding Water			30,2	<u> </u>		Ending Total	Depth (ft TC	DC):		
	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	nce			
							Turbidity & Sediment		R	emarks »
4:50	1 (1 2 (1)	MAS 1	+		ZWHO		Sediment.	volar	sies	(8260)
4:55	1/10/12	/		-/-			T I	emm	1S Fel	#ACH)=0mg/
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				+-+		8				
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ETHODS	<u>-</u>				> A.C.					
rging Equipn	nent: 🕡	instrument mo	del & serial	number):	P	Decon Equipr			x + de	dicated tubing
sposal of Dis		Dile	ims	on S	He	La	0)	
servations/C	comments:	to T	he	tor	3.	nei	-e. 1	100k	<u> </u>	min to get

A c	Spec			Sample	No	sam	DIR				
		SAMPLING				WELL NU	MBER: ^	1W ~1	4D	Pa	age: of
Project I	Varne: 08	0190	-Ma	uzer	Che	V a Project Nu	mber: C	1080	90		
Date: _	1 / 1 O / 1 1 by:	JLO	_			Starting W	ater Level (ft TOC): /	34,20	6	
	ng Point of W					Casing Sti	ckup (ft):	144,			
	d Interval (ft.						meter (inch		0/-		
	ck Interval (ft.										140
Casing \	/olume	(ft Wate	er) x	(Lpf	v)(gpf) =	(L)(g	al)				L NOW A
Jasii iy v	3/4"= ('= 0.02 gpf 0.09 Lpf 2'	= 0.16 g '= 0.62 Lof	pr 4" 4" =	= 0.65 gpt	6" = 1.4 6" = 5.56 L			Sample Int	ake Depth (ft TOC): MAKE
PURGI		JREMENTS				0 - 0.30 [.рі				
Criteri	a:	Typical	Stable	na.	± 3%	± 10%	± 0.1	± 10 mV	4004		
Time	Cumul.	0.1-0.5 Lpm Purge Rate	Water		Specific	Dissolved	T		± 10%		
111116	Volume (gal or L)	(gpm or Lpm)	Level	Temp.	Conductance	Oxygen	pH	ORP	Turbidity		Comments
	(garor L)	(gpin or Lpin)	(ft)	(°C)	(μS/cm)	(mg/L)		(mv)	(NTU)	· · · ·	
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Mai Gallo	ons Purgea:					Total Casing	Volumes F	removed:			16
ding Wa	ater Level (ft T	OC):				Ending Total	Depth (ft T	OC):			
AMPLE	INVENTO	RY									
Time	·Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance				
						Color	Turbidity &		25	Remarks	
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servation	s/Comments;	TOT	o d	UCD.	Thir	- Q1	201	an	Our	20/	20
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And Compression Number: Turn and Requested: Proper: of Analytical Resources, Incorporated Analytical Resources,						0			T			_			_			7/	_			
Page: of Coolers: State Coolers: Sta			ok										400-070-019	AN SUNCION	100 J -0104	3 1	Sample ID	Cleat Polect to O	Walker Or	Client-Project Name:	0	ARI Assigned Number:
Matrix No. Containers Cooler's Temps: 7, 6 Matrix No. Cooler's Temps: 7, 6 Matrix No. Cooler's Temps: 7, 6	4/10/14		Subana.		Signature ov								100		415		Date	Samplers:	~~2		J. J.	Turn-arounc
Page: Others Page: Others	i	4 (3)	DSAK	N. W.	ラー								\$.50 F. S.	1	09.30	7	Time	6	7		Phone:	Requested:
Page: of Date: los Page: of Posemity Present	大	,			\$ 								MONE	wax,	SQ.		Matrix				100 ASP	
Page: of Page: of Coolers Cool	Date of Time:	A second	COMPLET OF THE PROPERTY OF THE	Printed Name:	Received by:								+	1	10		No. Containers				9557	
Cooler Temps: 5,6 Agalysis Requested Agalysi	-	M	CAR MI	of the	1:00							-Au	X	X	7		VO IO	ties		Coolers:		Page:
Ralysis Requested A Time: A Time: A Time: Company:	7 7	e e	Pillse.	The state of the s					-						7	100	2000	10)		-	+	(See Co.)
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X 1 TOC (415.1) + Pb (200.8)	ime:	y:	1 de 1	re)	shed by:					+				χ.	+	CAS	102, A 103, A	(8)	ysis Requeste	516	~	
Analytical Resources, Incorpo Analytical Chemists and Consu 4611 South 134th Place, Suite Tukwila, WA 98168 206-695-6200 206-695-6201 Notes/Comments Ness/Comments Received by: (Signature) Printed Name: Date & Time:														X	1	7	DC 415	1)	ă			
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physical interest in the physical interest ind																			Notes/Co	200 206-6	Chemists au h 134th Pla	Resources,
fax. (fax)																			mments	95-6201 (fax)	nd Consultan ce, Suite 100	Incorporate

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-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

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 tion schedules have been established by work-order or contract.

ARI Assigned Number	Chain of Custody Record & Laboratory Analysis Request
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d:	Analysis Request

Turn-around Requested:

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	Dh.t			Comments/Special Instructions						MN-1-OIIDIT	Sample ID Sample ID	Client Project #: 110CO8-CO4-13-	45 CT	100	ARIXCHART CURSURE	
1/10/14	A STATE OF THE REAL PROPERTY.		Signature Signature	Relinguis/red/by:						41/01/	# P	Samplers:	ENTOR		まる	
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													Notes/Comments	-6200 206-695-6201 (fax)	Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila. WA 98168	Analytical Resources, Incorporated

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 afternate 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 comeets 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 signed agreement between ARI and the Client.

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

retention schedules have been established by work-order or contract.

City, State, ZIP Seattle, WA 98104 Address 401 and Aut. S, SHE. 36 company ASPECT CONSULTING Send Report To Alan NOEII Phone #(206)828-7443Fax #(206)838-5853

•	REMARKS	Chevrolet	Walker	PROJECT NAME/NO.	SAMPLERS (signature)
		1-4:00	- 461080	PO#	MOS

TURNAROUND TIME
Design (2 Weeks)
Design RUSH Rush charges authorized by Page # SAMPLE DISPOSAL

☐ Return samples EDispose after 30 days

☐ Will call with instructions

FORMS\COC\COC.DOC	Fax (206) 283-5044	Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.						SH171-17-MM	MW-15-121713-DUP	MN-15-121713	MW-8-121713	MIN-13D-121613	Sample ID	
	Received by:	Relinquished by:	Received by:	Kelinquished by:		-						0				Lab ID	
	by:	hed by:	by: V	hed by:	SIGN						13/13/14:20	12/17/13	14/7/13	12/17/13	12/16/13	Date Sampled	
					ATURE							15:20	15:20	16:50	5:45	Time Sampled	
				₩ -							water	14/13 15:20 Water	12/19/13 15:20 water	12/13/13 16:50 mater	water	Sample Type	
	1		9	· Libert	PR						4	+	4	4	4	# of containers	
-				9	PRINT NAME	L			_	_						TPH-Diesel	
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Phone # 206-528-7443Fax #206-838-585	City, State, ZIP Seathle, WA 98104 REMARKS	Address 401 and Aurs, Ste. 201	company Aspect Consulting	Send Report To Alan Nocli
\	REMARKS	Walke	PROJECT N	SAMPLERS

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REMARKS

Page # of J
TURNAROUND TIME
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Rush charges authorized by

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

FORMS\COC\COC.DOC	Fax (206) 283-5044	Ph. (206) 285-8282	2029		3012 16th Avenue West	Friedman & D.	-		-							MW-2-121213	MW-18-121215	Sample ID	
	Received by:	Relinquished by:	Received by:		Relinquished by							1						Lab ID	
	by:	hed by:	by:	T	hed by											12/12/13	12/12/13	Date Sampled	
			ı	200	SIGNATURE											35	11:55	Time Sampled	
				7												14/13/13/15 water	12/12/13 11:55 mater	Sample Type	
				Judy olesan	PRI											4	4	# of containers	
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Phone # 2010-838-65 City, State, ZIP \\ \\ \) Company HSC Send Report To Address_ REMARKS

SAMPLERS (signature)(ECT NAME/NO. PO#

> TURNAROUND TIME
> Standard (2 Weeks) Page #

Rush charges authorized by

SAMPLE DISPOSAL

Prispose after 30 days

☐ Return samples
☐ Will call with instructions

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bs(8082)	Pad(2008)	Ð	
Notes	05/8082)		
	Notes		

Fax (206) 283-5044	Ph. (206) 285-8282	West 2029	Friedman & Bruya, Inc.		· ny		6.			47-600-40-MM	MW-19-010814	418010-06-MM	Sample ID	
Received by:	Relinquished by:	Received by:											Lab ID	
by:	hed by:	by:	SIGN		1				-	有石	4.81	1/8/14	Date Sampled	
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FORMS\COC\COC.DOC

	N-140-012314
GROUNDWATER SAMPLING RECORD	WELL NUMBER: MW -140
Project Name: Walker	raye07_1
Date: 1/23/14 Sampled by: JUO	Project Number: Starting Water Level (ft TOC): 134, 33
Measuring Point of Well:	Casing Stickup (ft):
Screened Interval (ft. TOC)	Total Depth (ft TOC): 144, 68
Filter Pack Interval (ft. TOC)	Casing Diameter (inches):
Casing Volume (ft Water) x (Lpfv)(gpf) = Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" - 0.65 gpf	(L)(gal)
2/4" 0.00 t 1 = 0.16 gpt 4" = 0.65 gpf	6" ≈ 1.47 gpf · Sample Intake Depth /# Too.
PURGING MEASUREMENTS 2" = 0.62 Lpf 4" = 2.46 Lpf	6" = 5.56 Lpf
Criteria: Typical	
O.1-0.5 Lpm Stable na ±3% Time Cumul. Purce Pete Water Specific	± 10% ± 0.1 ± 10 mV ± 10%
Volume Purge Rate Level Temp. Specific	
// 3 (gpin or Lpm) (ft) (°C) (μS/cm)	(mg/L) (mv) (NTU)
11:33 V0.04 11:5 338	55.33 6.29 74.4
11.2(-) 11.3 338.	4 5.52 6.31 72 1
11.30	
11.42	5.68 6.35 71.5
11 41 4331.9	5.676.3671.8
11.11/	+5,44 6,3621.9
11:40 19:0 19:0	5,196,372,8
1110 317.3	
11.50 12.0 311.9	5.26 6.37 720
otal Gallons Purged: VO, 3	
	Total Casing Volumes Removed:
nding Water Level (ft TOC): 134, 27	
AMPLE INVENTORY	Ending Total Depth (ft TOC):
Time Volume Bottle Type Quantity Filtration Preservation	
* Teservation	Appearance Color Turbidity & Remarks
:55 40ML VOA 4 DO HCI(3)	Sediment
2:00 1/23) 14 ho HU(2)	VOORICES 260)
	Fentous Fe (HACHT) = 0,04 may
	5=0,4ma/
THODS	
ameters measured with (instrument model & serial number): YSI	11F100633
ging Equipment: WED DOOPPOLING	
posal of Discharged Water: DMAMS on SHE	Decon Equipment: OLCIONOX & OCCUCA FEOTUL
ervations/Comments: Water is Matheway bro	113b + 0000
S MINING DIO	wh & opaque, high turbidity

		TER SAM						WELLN	IIMPED.	MW-	-11				
Project N	lame:	Wark.	er C	rei	/ ,									Page:	_ of
Date: I	1 50	114						Project N	Number:_	0801	90	2			
Sampled	by:	JL of Well:	0					Starting \	Water Lev Stickup (ft)	vel (ft TOC):	52	160	3	7	
Screened	y roint d I interval	of Well: (ft. TOC)_	TOC					Total Dec	oth (ft TO		3 , =	FC2			
Filter Pac	k Interva	(ft. TOC) _						Casing D	iameter (i	inches):	21				
								(L)(_	
Casing vo				^ ≈ 0.16	(i anf	Lpfv)(gpf) = 4" = 0.65		(L)(gal)						
	3/4	4"= 0.09 Lpf	2 4	0.62 L	of 4	4 = 0.65 1" = 2.46 Lp	gpr f	6" = 1.4 6" = 5.56	47 gpf	•	Sa	ample ir	take Dept	h (ft TOC):	N6
PURGIN	IG ME	SUREME	NTS				·	0 = 3.38	црт						
Criteria			oical 5 Lpm	Stable	∍ na	. +	3%	. 100/							
Time	Cumu	.l. D	Rate	Wate	r To-	1 0-	ecific	± 10%	± 0.	1 ± 10 m	V .	± 10%			
	(gal or	10		Level		Cond	uctance	Oxygen		ORP	T	urbidity		Comme	nte
09:46		20	.2	1	12.) (µS	3/cm)	(mg/L)		(mv)		(NTU)		00111110	IIIS
09:49		1		+	1.0		9.3		6.00	e 10a.	$H_{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline{\underline$		-		
ঞ:5৯				+	12,	2 3	<u>0.0</u>	10/05	$-1(\sqrt{\alpha})$	ulan =	7-				
09.55				+	1 0	3 24	8,5	a,24	6.1	186°	1				
09:58			_	+		2124	n. 7	12,24	16.1	380.2	N				
10:00	_	1		+-	12,4	+ 1341	0.4	2.29	61	4177.0	1				
10:02	-	-			12.	134	6.0	2.30	(0.14	+ 775					
0:04		+		+-	12.4	t 1.344	7.5	232	1-15	-7-0		1-1			
0:06			,	-		21246	t. +1	2.33	1/2 15	5/7/11/0		 			
0.00	+-	1 1	-	-	12.5	5 349	3.→	2.28	(0.16	072.9					
	+-	+		-					9		-				
	+	+	-								-				
	+	-		_	- 4					+	-				
	-									+	-	-			
-	-	 								-	-	-			
-	1	 								 					
		1 - 0					_			-	-				
tal Gallons	Purged:_	<u>~3</u>						otal Casina N							
ding Water	Level (ft	тос):5	a. (6				otal Casing \	Volumes F	Removed:			_		
MPLE IN							Eı	nding Total D	Depth (ft T	OC):	_				
	olume	Bottle Typ								li li	11				
		Dottie Typ	e Qua	ntity	Filtration	Preservat	tion	Appearar	nce						
10 40	lool	110 Da	-			,			urbidity & Sediment			R	əmarks		ь
10 1		VOAS	4		n b	HELL	2)		Sediment	White	500	1.0			
		Ambei	1		no	700				CALL	<u> </u>	60			
10 50		poly	11		100	HNO:	2					370]		
10 1		Amber	1		100	70	1				∞ .				
100		mber	1		no	Tho	+-		-	PCBS			1		
10140	WLI	VOA	14			HO (3	5			11	<u> </u>	-			
HODS	1	3/14						Fen	77712		J X				
	Sured	h (inct				1/0-						CH)= 6	MOF	
na Fanisses	nt. AI	instrument DIO	t model &	serial	number):	YSI	<u>1</u>	FIOC	63	33				U	
					AID		_ Dec	on Equipme	ent: O	conox	<u></u>	do	dico	100-1-	
Jai of DiSCI		ater: DY	urns	0	n s	ite					-1	CIC	JI COL	TC TC	man
vations/Cor															

GROUNI	DWATER !	SAMPLING R	RECORD			WELL NUM	IBER: M	W-20)	Page: _ of			
Project Na	me 8 V	yaker (Cheur	olet		Project Num	nher: 08	<u>₹719</u>	$\overline{\Omega}$				
Date:	120114	+		<u> </u>		Starting Wat	ater Level (ft	TOC): 5	3.34				
Sampled by	v: IL	_E				Casing Stick	kup (ft):						
/leasuring	Point of Wel		,			Total Depth	(ft TOC):						
Screened I	Interval (ft. To	OC)			-	Casing Diam	neter (inche	.s) <u>:</u>	<u>.5</u>				
	Interval (ft. 1				·					~ 55			
		(ft Water								14 15 75			
Casing volu		= 0.02 gpf 2							Sample Into	take Depth (ft TOC):			
OINI		0.09 Lpf 2" :	= 0.62 Lpt	4" = 2	1.46 Lpt	6° = 5.56 Lp)f						
URGIN	3 MEASU	Tunical											
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	1			
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved	рН	ORP	Turbidity	Comments			
	Volume (gal or L)	(gpm or(Lpm))	Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)	''	(mv)	(NTU)				
79:37		VO.26	\ \frac{1}{2}	12,0	900		5.65	65.8	<u> </u>	09.30 Start			
942 PA2		1	-	12.5	926	2.17			 	0 -1.00			
_			<u> </u>				5.77	-	-	+			
99:47				12.7		<u>a.3a</u>	+	47.0		<u> </u>			
97:50	·'	1	ļ	1 <u>a.5</u>	942	a.30		46.8	1				
A:53	!			1a.6	+			46.7	<u> </u>				
7 9.55	·		Γ	12.5	966	12,29	5.79	46.8					
79:57		V		12.6					67.1	10:08 Stop			
7-1	1	1		101.		6.0	<u> </u>	1		10.00			
		 		+		 	1			1			
	· · · · · · · · · · · · · · · · · · ·	 		 	 		-	-	 	<u> </u>			
	تــــــــــــ			<u> </u>		 	 	 ' '	 				
				<u> </u> '	<u> </u>	4	Щ.	 '	<u> </u>				
		<u> </u>	Ĺ	<u></u> '	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>			
			Ī	<u> </u>	<u>'</u>	Ē'	[!		ſ <u></u> '				
	,			'	1			1	,				
	,			1									
	,——			+									
		1-06						لـــــــــ	ــــــــــــــــــــــــــــــــــــــ	<u> </u>			
otal Gallor	ıs Purged: _	<u>v</u> a.	7		,	Total Casing	, Volumes H	removed:_		_			
inding Waf	al Gallons Purged: Total Casing Volumes Removed:												
	INVENTO					Litoria	Борга	30,					
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear			<u> </u>				
Time	Volume	Bottle Type	Guaring	Filliano.	Preservatio		Turbidity &	i		Remarks			
			<u></u> '	 	- 11101	Color	Sediment	14000					
0:00	40mL	VOAS	4	No	awha			1000c	· by	8200C			
0.001	500mL	HOPE	<u> </u>	No	NO			NO2/1	103/50	04(353.2/375			
0:00	500m4	HOPE	1	No	HN03			Fe	DU((10à0)			
0:00	11411	11 Epm	nus	Fe		(T		4.00	11	00010			
7.04	-H77	7	00-0				1		191-				
$\overline{}$		-	0673+					<u> </u>					
			<u> </u>										
/ETHOD	s												
		vith (instrument n		:-! number).	YSI	13F1	0294	17					
otors	_		10del a sci.		~ <u>~~</u>			\0.5	200	NON TILL			
		たし しい	<u> </u>	<u>pun</u>	110	Decon Equip	pment: 🔽	<u>ICUI N</u>	JATI	ICU. I uu			
'urging Equ		1		me	~ 1-0								
urging Equ	Discharged \	1	ums Su Sh	<u>on</u>	on NO		Red-		unae	1			

GROUND)WATER	SAMPLING F	RECORD			WELL NUM	IBER: <u>IV</u>	1M-71		Page: _ of _		
Date: \frac{\fir}}}{\firac{\f{\f{\f{\frac{\frac{\frac{\f{\f{\f{\f{\fir}}}}}}}{	y: Point of Wel nterval (ft. To	JLE JLE JLE JLE JCC) TOC)				Starting Wa Casing Stick Total Depth	ater Level (ft ckup (ft) <u>:</u> n (ft TOC <u>):</u>	8019(ft TOC): 52 59,3 res): 1,5	a.78 31			
Casing Volu	ume	(ft Wate	er) x	(Lpfv)	/)(gpf) = = 0.65 gpf				Sample In	take Depth (ft TOC):		
	3/4"= 0.	0.09 Lpf 2"	= 0.62 Lpf	4" = 2	2.46 Lpf	6" = 5.56 Lp	ρf					
	i MEASU	Typical	~									
Criteria:	Cumul.	0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	T		
Time	Volume (gal or L)	Purge Rate (gpm or Lpm)	Level (ft)	Temp.	Conductance (µS/cm)	Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)			
11:23	!	100,0A		12.1	898	4.35		65.1	<u> </u>	11:20 start		
1:28	!	1		13.6		11.74				<u> </u>		
1:33		1		13.7			5.92		 '			
1.36				13.8		1.17		535		-		
1:39				13.8	1180	1.01		48,9	+			
1.41		1	 '	13,9	1179	1.00	15:37	46.5	1	time atom		
1,7		l V	 '	13.8	1175	1.06	13.44	144.01	1100	11:49 Stop		
-		 		-	-							
	+			-	+			+				
					1							
	1	-			 		 	 				
		·				1						
		·										
otal Gallons	s Purged: _	v a.a5	5			Total Casing	Volumes F	Removed:				
ndina Wate	er Level (ft 7	тос): 52	1.79			Ending Total						
	INVENTO		<u> </u>			Thung	Depti. (30,		-		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	rance					
		,	1		1	Color	Turbidity & Sediment	1		Remarks		
1:45	40mL	VOAS_	4	No	awitci		Jeume	11000	2 bu	8360		
1.455	500mL	HOPE	 	No	NO			MOZIN	03/502	4 by 353.21375		
1:45	MML	HOPE	danozi	No	HNO3				<u>002 YC</u>			
1.45	HACH!	+ Ferro	JUS F					5.5 m				
								I	01			
ETHODS								·				
		vith (instrument m	model & seri	al number):	YSI	13E10	1294	2				
	1000	ED blo	rdde	rou					X 41	deal tubin		
		Water: Dru	JMS	n's	HC_							
op			All the same of th							en over		

	pec			Sample number	MW-8	-0120	15										
GROUN	DWATER	SAMPLING F	RECORD			WELL NUM	BER: M	W-8		Page: of							
Date:	20/15 y:	: :	-			Project Num Starting Wai Casing Stick Total Depth Casing Dian	ter Level (ft cup (ft): (ft TOC <u>):</u>	тос) <u>:</u> 5	ia, 70 -1								
Casing Vo	ume umes: 3/4":	(ft Wate = 0.02 gpf 0.09 Lpf 2"	2" = 0.16 gp	f 4" :	= 0.65 gpf	6" = 1.47	gpf ·		Sample Int	258 ake Depth (ft TOC): <u>10500</u>							
PURGIN	G MEASU	REMENTS															
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.	Specific Conductance (µS/cm)	(mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments							
1a:a7		no.28		14.3	776	2.49	5.67	277		12:33 Start							
1a:32				14.6	787	0.68	5.65										
1a:37				14.6	749	0.28	5.65	44.3									
13:40			i	14.6	740	0.4+	5.67	40.1									
18:43 12:45				14.6	767	0.43	5.67										
12 47		1		14.6	734	0.40				13:00 Stop							
1017		- V		17,0	1 01	0.310	3.00	00.1	71000	131003100							
									l								
		L		l													
	ns Purged: _ ter Level (ft ⁻	5/-	110			Total Casing Ending Total											
SAMPLE	INVENTO	RY					<u> </u>										
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear Color	Turbidity & Sediment			Remarks							
12:50	40mL	VOAS	4	No	3M/HCI			NOCE	3 DV	20068							
12:50	500mL	HOPE		No	No			NO2/1	2 <mark>1801/</mark>	X4-by 353.2 375.2							
12:50	<u>500ml</u>	HOPE	١	No	HNO3			Fe b	oy (ic	<u> </u>							
12:50	HA	CH FE	mou	S FE				1.0m	914								
					•												
																	
Purging Eq	measured v uipment: <u></u>	vith (instrument in SIO BIO Water: Drug	dder ums	on	site	Decon Equi	pment: Q			dedicated tubing							
Observation	s/Comment	s: <u>Odol</u> nilky 1		incic 2. Re		<u>oil). (</u>	<u>Grea</u> <u>Qun</u>	Sy SI Kat	<u>neen</u> - bot	on water. tom of well							

GROUN	DWATER	SAMPLING F	RECORD			WELL NUM	IBER: M	M-ICI		Page: of
Project Na	me: Wal	Ker Che	vrole	2+		Project Nun	nber: O	2010	10	
Date: \	121/15		_	4		Starting Wa	ter Level (ft	TOC): 🗸	53 -	> water sine
Sampled b	v: ' JLE	Ξ.				Casing Stick	cup (ft):			not reading
Measuring	Point of We	II:	<u> </u>			Total Depth Casing Diar	(ft TOC <u>):</u>	L. 5		Clearly Clean
	interval (it. 1 Interval (ft. 1					Casing Diar	neter (inche	(S): 11 G		- 4 Jepiaco
		(ft Wate	دا ح	(l. nfu)	\(anf) =	()/aa	D			battery but not fixed take Depth (ft TOC): 56
		= 0.02 gpf							Sample Int	take Depth (ft TOC): 56
		.09 Lpf 2"								
PÜRGIN	G MEASU	REMENTS							-	
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	pH	ORP	Turbidity	Comments
11110	Volume (gal or L)	(gpm or Lpm)	Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)	F	(mv)	(NTU)	
10:57		wo.26	(,	19.8	724	0.60	5.37		(11107	10:54 start
11:02		1		13.1	815	0.28				10.010000
11:07				13.2	854		5-38		•	
11:10			l	13.3						
						0.31		48.0		
11:13				13.3	879	0.34	5.61	44.1		
11:15				13.3		0.35				
11.17				13.3	886	0.36	5.62	42.3	642	11:30 Stop
		:		ļ						
									- 2	
									*	
Takal Oalla	n a Di uma a di	va:	25			Tatal Casina	Volumes F			
otal Gallo	ns Purged:			- see n	OHP	Total Casing	volumes F	removed:		
nding Wa	ter Level (ft 7	OC):	3.5	apo	ve	Ending Total	Depth (ft T	OC):		-
SAMPLE	INVENTO	RY			.					
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear				Remarks
						Color	Turbidity & Sediment			riomano
1:20	40mL	VOAS	A	No	awhcl			VOCS	3 Du	83600
1:20	5(Mm)	HDPF	1	No	NO			11001/1	1020	14 by 353.2/375.2
1.30	500ml	HDPE	- 1		HNO3			Eo i	2 u 60	020
06:1		Femi	01 6C T	50	TINUS			200	20 00	140
1.00	HHCH	ren	1012 F					0,01	41-	*
					<u>-</u>					
METHOD	S									
arameters	measured w	rith (instrument r	nodel & seri	al number):	YSI	13E102	942	ı		
	_	ED PIO	1 h -						OX	- dedirated tubil
		Water: Dr		nn <	Site	Decon Equi	pinoni. W			- man contract of which
			1 1		milku	. 24-	21-1		1 0	100 11 100
		: Wat		1 1 1 -	1 7 1 1 1 1	. / W 1/	18 1 8	2001	w \ 1/3/	

Ocol	Spec	G		Sample number	MW-15					
		SAMPLING I				WELL NUM	IBER: M	W-15		Page: of
Date: 1 Sampled b Measuring Screened	by:	LE FOC)		<u>olet</u>		Project Num Starting Wat Casing Stick Total Depth Casing Dian	ater Level (ft kup (ft) <u>:</u> ı (ft TOC <u>):</u>	74.0	69	
Casing Vol	olume olumes: 3/4"= 3/4"= 0	TOC) (ft Wate = 0.02 gpf 0.09 Lpf 2"	er) x 2" = 0.16 gpf	of 4" =			gpf		Sample Intake	e Depth (ft TOC):
		JREMENTS Typical	<u> </u>							
Criteria: Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm or Lpm)	Stable Water Level (ft)	na Temp. (°C)	± 3% Specific Conductance (µS/cm)	± 10% Dissolved Oxygen (mg/L)	± 0.1	± 10 mV ORP (mv)	± 10% Turbidity (NTU)	Comments
		CON WOO'	It SI	UME E CI E FF	ole.	The the	PU	MP TE		
		too (LOS	e +	O tr	re a	ng	ea		
		•								
	_									_
		TOC):				Ending Total	Depth (ft To	OC):		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara Color	rance Turbidity & Sediment		R	Remarks
									1901	
				,						
Purging Equ Disposal of [measured wi uipment: Discharged V	Water:								vell's angle.

GROUNI	WATER S	SAMPLING F	RECORD			WELL NUM	BER: IV	<u>1W-1</u>	6	Page	: of						
Date: 1 Sampled by Measuring	21/15 y:	LE 1: TOC 1: TOC	-	olet		Project Num Starting Wat Casing Stick Total Depth Casing Dian	ter Level (ft sup (ft): (ft TOC):	64.5	615								
ilter Pack	Interval (ft. 7	TOC)															
		(ft Wate					!)				w/a1						
Casing volu		: 0.02 gpf					gpf ·		Sample Int	ake Depth (ft T	OC): <u> </u>						
DIDGIN		.09 Lpf 2*	= 0.62 Lpi	4 = 2	.46 Lpf	6" = 5.56 Lp	<u> </u>										
	3 WEASO	Typical		<u>.</u>		100/		10 1/	. 400/								
Criteria:	Comment	0.1-0.5 Lpm	Stable	па	± 3%	± 10%	± 0.1	± 10 mV	± 10%	<u> </u>							
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Conductance (µS/cm)	Oxygen (mg/L)	pΗ	ORP (mv)	Turbidity (NTU)		omments						
3:15		~0.98		12.6	941	5.07				Sturt	1a:57						
13:20				13.5	954	5.90		21.4									
3:25				13.7	958	4.62	6.25		<u> </u>								
3:28				13.7	957	4.58				Water	<u>clearec</u>						
3:31				13.6	952	4.33	6.27	1.4									
3:34				13.6	942	4.40	6,29	1.4									
3.37		V		13,7	933	4.36	6.30	-3.4	236	stop	13:44						
-		*															
-tol Colleg	o Durandi	∨ a.5			L	Total Casing	Volumes E	Pernoved:	l								
		-/				Total Casing	Volumes	ieinoved	·								
nding Wat	er Level (ft	roc): 😇 🔾	0.20			Ending Total	Depth (ft T	OC):									
AMPLE	INVENTO	RY															
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear				Remarks							
						Color	Turbidity & Sediment			- Contains							
340	40mL	VOAC	4	No	DHIWG			VOC	s b	1836	00						
3.40	500ml	HDPE	l	No	No			NOI	40318	304 by 3	53.2/375						
3.40	500m L	HDPE	1	No	HN03			Fe L		090	- 1						
3:40	THAC	Feri	fous	Fe				4.0	1 .	_							
	,,,,,	<u> </u>	- 04						31								
-																	
			· · · · · · · · · · · · · · · · · · ·					Ei I									
IETHOD					1/1-		0040	,									
	-	vith (instrument	model & seri			13E10	2442	10 = =	- > - > -	ما مما . م	Jod III						
urging Equ	uipment: 众	ED blo	100er	- bur	vō 	Decon Equi	pment: \underline{Q}	Trou	DX Y	<u>araice</u>	ittertur						
	Discharged	Water: Or	ums	on	SITE				E) 1	75 7							
isposal of											to Clea						

GROUNE	OWATER S	SAMPLING F	ECORD			WELL NUM	BER: M	W-2_		Pa	ge: <u> </u>		
Project Nar	me: Wal	Ker Cr	reviro	let		Project Num		3019					
ate:	121/15					Starting Wat		TOC): 5	1.83				
ampled by		ILE TO				Casing Stick Total Depth	(th TOC):	n0. 87					
-	Point of Wel nterval (ft. T		<u> </u>			Casing Dian	neter (inche	s): 1.5	•				
	Interval (ft. 7												
asing Vol	ume	(ft Wate	r) ×	(Lpfv)	(gpf) =	(L)(gal	l)				\smile	50	
	umes: 3/4"=	: 0.02 gpf 2	2" = 0.16 gpf	4" =	= 0.65 gpf	6" = 1.47	gpf ·		Sample Int	ake Depth (ft TOC):	<u> </u>	
		.09 Lpf 2"	= 0.62 Lpf	4" = 2	.46 Lpf	6" = 5.56 Lp	ot						
PURGIN	G MEASU	REMENTS				····			ensir.				
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0,1	± 10,004	± 10%	T			
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pН	ORP (mv)	Turbidity (NTU)		Comments		
5.30		~0.20		13.9	1056	3.25	63A	24.2		star	t 140	30	
5:33				13.5	1028	3,47	6.32	21.0		D WO	Hr@1	5.30	
5.36		V		12.8	1009	3.29	6.31	21,4		Wate	r SIL	TY!	
5.39		VO:16		12.4	994	2.82	6,29	<i>a</i> 3,5					
5.42				1a.1	977	2.80	6.28	25.4				_	
5:45				12.0	962	a.44		27.6					
5:48		1		11.6	956	2:18	6.27	29.0					
5.50		VO.12		11.2	956	2.08	6.27	29.7					
5:52		1		10.8	954	1.95	6.26	30.8					
5:54				10.3	955	1,70	(0.26	32.3					
5.56				9.8	962	1.58	6.25	33.4	71000	San	nolin	a	
3.74		*			,	1				beca	Liseu	Jester	
1										Dlow	is d	roppi	
										16:10	Str	50	
				-								'	
	i												
otal Gallo	ns Purged: _	52				Total Casing	Volumes F	Removed:					
otal dallo	ils i diged	10.5	-2/1	Reac	ing not								
nding Wa	ter Level (ft	TOC):	52.66	CIPI	ry	Ending Total	Depth (ft T	OC):					
SAMPLE	INVENTO	I				1							
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appea	Turbidity &			Remarks			
						Color	Sediment	1.00		001	66		
(DiOO)	40mL	VOAS	4		aWHE			VUS	<u> in Dy</u>	NACO	2=2:0	1 777	
6:00	500mL	HOPE		No	No			<u>MÖ2¦</u>	MORIS	WHD!	353.2	<u>4 9 1 2 1</u>	
6:00	500mL	-		No	HNIOZ			, .	<u>oy (o</u>	000	_		
6:00	HAC	4 Ferr	bust	e_				3.51	MIL				
		1			<u> </u>			4.7					
METHOD	os												
		with (instrument	model & seri	ial number):	YSI	13E(0)	2942						
	_	ED BIO	١ 📥 -	PILITY	_	Decon Equ		leon	0X 9+ 0	dedi	Cated	tub	
	Imbinetir 7	<u> </u>	- 0	- C	- 0		.p <u></u>		· ·				
	Discharged	Water: Unu	Come	1 600	T								

Phone # A W C	City, State, ZIP	Address	Company 🛝	Send Report To
839-4542 Fax #844-556-5853	Seathle win Obion		Pedi Caroni Terro	
	77		- T	1 0

REMARKS E-moul results to	PROJECT NAME/NO.	SAMPLERS (signature)
	PO#	The San III

TURNAROUND TIME D'Standard (2 Weeks)

Page #___

___ of ___

Rush charges authorized by

REMARKS REMARKS CONTROL OF STATE OF ST
TYSES REQUE
STI
SAMPLE DISPOSAL Dispose after 30 days Return samples Will call with instructions

Г		Ph. (206) 285-8282	029							MW-8-012015	MW-21-012015	N/W-20-012015	Sample ID	
	Received by:	Relinqui	Received by: :	Relinquished by									Lab ID	
	1 by:	Relinquished by:	1 by: 👍	shed by	SIGN				ē		1/20/15	1/23/15	Date Sampled	
			C		SIGNATURE					12:50		10:00	Time Sampled	
										12:50 WORET	NO. HOT	MOHES	Sample Type	
			Cons		PR					6	E	C	# of containers	
					PRINT NAME								TPH-Diesel	
١				DEAL .	Z								TPH-Gasoline	
1			فيبا		ME								BTEX by 8021B	
l				CO						×	X	X	VOCs by8260	_
١				-4									SVOCs by 8270	NA
				3 3									HFS	LYS
				X						X	X	X	NO2/NG3 S. 353,2	ES F
			ent 79	4/	Q					X	X	X	8045 Z	OH)
				X	COMPANY					X	X	X	ET 6020	ANALYSES REQUESTED
				1	N/N/									Ù
			***	Anti-co			<u> </u>			ļ.,				L
			1	OF ST	DATE			Vice.					Notes	
				5.8	TIME								tes	
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a, Inc.	SIGNATURE	PRINT NAME	COMPANY	DA1E	IIIVIE
West	Relinquished by	JUGIJ EMJERITE	大文文()	ではあ	15.20
-2029	Received by: ()		41 .73	n.	
22	Relinquished by:				
44	Received by:				

FORMS\COC\COC.DOC

Fax (206) 283-5044	Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruva, Inc.					*		NN-3-013115	1810-01-NIN	HEIG-BI-WIM	Sample ID		Phone # 3000-838-45 Bax #	On	Send Report To
Rec	Rel							-		4	J.	J.		<u>, , , , , , , , , , , , , , , , , , , </u>		100		
Received by:	nqui	eived	nquis											Lab * ID		Fax	6	
l by:	Relinquished by:	Received by:	. O. 1	SIGN							<u>ラ</u>	13/1/5	llallis	Date Sampled		# 0,042		
		0	8	SIGNATURE							16:00	13.40	11:20	Time Sampled				
									e		3	NO HE	MARK	Sample Type			A REMARKS	SAMPL PROJECT
											1	1	We.			G T	ARI	
			5	PI		-					6	5	10	# of containers		Delice The Control of the Control of	IARKS	SAMPLERS (signature)
				PRINT NAME										TPH-Diesel		0		CO utur
				Z										TPH-Gasoline		6	7	
			3										\mathcal{H}	BTEX by 8021B		0	S	\$ W
			-				*			16	X	×	X	VOCs by8260	_	9	5	8
			+		lu.									SVOCs by 8270	NA	9	1+5	
				4			J							HFS	LYS	3	(/)	
)		<i>[18]</i>		<i>y</i>			X	X	X	Nº2/1989/2	ES R	J. C. Soure	-	P
		4 76		S							X	X	X	1 575 Z	EQU	ed.	d	PO#
		Ч	T	COMPANY							X	X	X	Et Was	ANALYSES REQUESTED			
				Ä											B	5		H C Bee
				$\overline{}$												<u> </u>	D.	Sta ☐ Rt Rush
																ll cal	SAN	Page # TURN Andard USH 1 charge
		or the same		ַן		_				_	+-				H	Will call with in	APLE afte	# NAR d (2 v
		4900		DATE												☐ Will call with instructions	SAMPLE DISPOSAL Dispose after 30 days	Page # of
		-												Notes		tructi	POS lays	of ID TI
														SS		ons	AL	by A

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on-Site @ 8:30 Established on 8:45 wout to learn buckets No empty drums on site. Storing ordering drum per Alan. A lot of Officialty with to a GED pump inacessible on-Sitt @ 08:45 (cloudy) JLE offsite @ 13:30 Sampled MW-30, MW-31, New tubing for MW-24
MW-16. Offsite@ 16.45 1/21/15 Warker Cherrolet (Cloudy) 19

	Spec			Sample number	MW-	-11-0	3201	5		-
GROUI	NDWATER	SAMPLING	RECORD			WELL NUM	BER: M	W-11		Page: of
Sampled Measurin Screened	by: g Point of Will I Interval (ft.	ell: TOC <u>)</u>	Chevro - Tec	le+		Project Nur Starting Wa Casing Stic Total Depth Casing Diar	ter Level (ft kup (ft): (ft TOC <u>):</u>		52.07	F
Casing V	olumes: 3/4	(ft Wate '= 0.02 gpf	2" = 0.16 gp	of 4"		6" = 1.47	gpf		Sample Int	ake Depth (ft TOC):
PURGII	NG MEASU	JREMENTS			-					
Criteria Time	Cumul. Volume (gal or L)	Typical 0.1-0.5 Lpm Purge Rate (gpm or Lpm)	Stable Water Level (ft)	Temp.	± 3% Specific Conductance (µS/cm)	± 10% Dissolved Oxygen (mg/L)	± 0.1	± 10 mV ORP (mv)	± 10% Turbidity (NTU)	Comments
880Z 0807		0.30	52,07	17.8	368.7	3,02	6.17	125.2	1,0	Start,
0817				12.9	368.0 360.2	2.58	6.21			
			,			Z . 54		-		Sampled
	INVENTO	PRY Bottle Type	Quantity	Filtration	Preservation	Ending Total Appear)C):		-
0825	40mL 40mL	VOA	8 2	<i>N</i>	HCI N	Color	Turbidity & Sediment			Remarks
	500ml	Amber	2	2	λ ¹				-	
urging Eq isposal of	measured vuipment:	vith (instrument r	200	m.		Pre Decon Equip	+ 12	K101	171 Ncono	x wash

GROUN	DWATER	SAMPLING	RECORD			WELL NUM	MBER:	4M-1	4D	Page: of
Project Na	ame; MC	uker c	hevi	rolet		Project Nur	mber: 08	2019	0	
Date:	1/29	JLE JLE	_			Starting Wa	ater Level (fi	TOC):	33,82	2
Sampled b	y:	JLE	1			Casing Stic	kup (ft):	14511	(-0	
		ell: TC				Casing Dia			00	7. ·
	Interval (ft.									
	17.	(ft Wate	er) v	(I pfv)(apf) =	(L)(ga	al)			
Casing vol Casing vol	umes: 3/4"	= 0.02 gpf	2" = 0.16 gr	of 4"	= 0.65 gpf	6" = 1.47	gpf		Sample In	take Depth (ft TOC):
		0.09 Lpf 2"								
PURGIN	G MEASL	JREMENTS				1				
Criteria:		Typical	Stable	na	± 3%	± 1,0%	±0/	± 10 mV	± 10%	
-	Cumul.	0.1-0.5 Lpm	Water	Tama	Specific	Dissolved	рН	ORP	Turbidity	Comments
Time	Volume	Purge Rate	Level	Temp.	Conductance		pri		(NTU)	Comments
11:00	(gal or L)	(gpm or Lpm)	(ft)	18.9	(μS/cm) 288·4	(mg/L) 8,49	7.89	(mv)	(N10)	Start purge
16:02	-	40,098	-	17.4	200.4	11 10	7.39	142.2		@15:57
16:06		1.00	-	1.1	244.1	11.19	1 1	142.2		W15.5T
6:10		NO:110		16.6	314.6	6,49	(0,(0)	14+1+		
16:14				10.1	306.8	(p.4+	6.58	145.3		The state of the s
16:17		10.110		15.9	304.4	6.25	6.59	143.9		12 (01)
16:20				15.8	303.7	6.21	6.60	143.3	959	stop purge
									,	@ 16:24
	·	 								
		<u> </u>								
				·						
										and the second second
otal Gallor	ns Purged:_	W		1		Total Casing	Volumes R	emoved:		
otal Gallo.	.o ,g		22 0	$\overline{}$		_		1 11 6	5,60	
nding Wat	er Level (ft	roc):	33.8			Ending Total	Depth (ft To	OC):	5140	_
AMPLE	INVENTO	RY								
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance			Remarks
			-2			Color	Turbidity & Sediment			Hemarks
	10ml	VOAS	3	No	HCI		-	Chlor	inat	ed vocs
10130	TOTAL	VOTIS		140	1101		· '	71101	18 1001	
6:30	1									
6:30										
6:30		1					+			8 6
6:30			101	1						
6,30										
6:30										
					1					
ETHOD					VC T	NH1	12 45	8		
ETHOD:	measured w	rith (instrument n		al number):	YSI	14+1	245	8	12 N	dedicated tit
ETHOD: arameters urging Equ	measured w	ED PU	mp			14H1() 2 45 oment: <u>Q</u>	8 Conc)X+(dedicated tub
ETHOD: arameters urging Equipments	measured wipment:		mp Lm8	on 8	site	14H10 Decon Equip	oment: <u>Q</u>	conc	DX+(dedicated tub

7940727 VOT 10 957810 SEE	DWATER	SAMPLING F	RECORD			WELL NUM	IBER: M	<u>W-12</u>	-D	Page: of
Project Na	me: N	alker	che	vrole	et	Project Nun	nber: 08	3010	10	3
Date:	Ha9/	JLE.	-			Starting Wa		TOC): 1	19,80	1
Sampled b	y:'	all: TOC				Casing Stick Total Depth		1351	19	
		OC)				Casing Diar	Old Control of the Co			
	Interval (ft.									
Casing Vo	ume	(ft Wate	r) x	(Lpfv)(gpf) =	(L)(ga	I)			NIZA
Casing vol	umes: 3/4"	= 0.02 gpf	2" = 0.16 gp	f 4"	= 0.65 gpf	6" = 1.47	gpf		Sample Int	ake Depth (ft TOC): 134
		0.09 Lpf 2"	= 0.62 Lpf	4" = 2	2.46 Lpf	6" = 5.56 Lp	ot	-2		
PURGIN	G MEASL	REMENTS					,			
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	±10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume	Purge Rate	Water Level (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pН	ORP (m)v)	Turbidity (NTU)	Comments
5:03	(gal or L)	(gpm or Lpm)	(11)	18.2	3662	9,21	7.57	138.2		start purge
5:07		40.05		18.1	355.4	1000	7.90	128.8		@ 14:54
SIUT		40.036		18.2	356,3	9.86	7.76	129.6)	<u> </u>
0.11		V0.03		18.2	356.8	8,73	7,00	131.0		
15:15				18.0	356,7	2.20	7.61	129,9		
15:18		0.		17.3	355.6	8.34	1 40		58.6	stop purge
15:21	- X	40.036		1413	222.4	0.01	7.00	100.0		015:30
	19									<u>@15.50</u>
			*							
					-					
		e								
									,	
1			-							
otal Gallor	s Purged: _	MUIZ	-5			Total Casing	Volumes Re		(_
nding Wat	er Level (ft	гос):130	1.89			Ending Total	Depth (ft TO	oc):13	5.1	1
	INVENTO									
	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	Turbidity &			Remarks
Time					() 61	Color	Sediment	W. I	1 -	d Colinita
Time				NO.	HCI	1	. (Chlori	nate	d Solvents
Time	40mL	VOAS	3	110	110					
	40mL	VOAS	3	740	110					
Time	40mL	VOAS	3	740	110					
Time	40mL	VOAS	3	740	ng					
Time	40mL	VOAS	3	, to	ng -					
Time	40mL	VOAS	3	740	ng ·					
Time 5,30		VOAS	3	7,0						
Time	S					4H 10	9 459	8		
Time 5,30	S measured v	vith (instrument n							x+C	tedicated to
Time 5,30	S measured v	with (instrument n				4H 10 Decon Equip			x+C	tedicated tu
Time 5,30 ETHOD arameters urging Equ	S measured v	with (instrument n					oment: <u></u>	conc	x+C	tedicated tu
Time 5,30 ETHOD arameters urging Equisposal of	S measured v	with (instrument name) ED PU						conc	to t	tedicated tu

ROUN	DWATER	SAMPLING I	RECORD			WELL NUM	IBER: M	IW-13	D	Page:	L of A
Date: <u>4</u> Sampled I Measuring	py:	JLE ell: TOC	-	irole	t	Project Nun Starting Wa Casing Stick Total Depth Casing Diar	ter Level (ft kup (ft): () (ft TOC):	8916	10	<u> </u>	
	Interval (ft.										
asing Vo	lume	(ft Wate	er) x			(L)(ga	I)			2	V147
asing vo		= 0.02 gpf			= 0.65 gpf	6" = 1.47	70		Sample Int	take Depth (ft TO	0):
		0.09 Lpf 2"	= 0.62 Lpt	4" = 2	2.46 Lpf	6" = 5.56 L	OT				
URGIN	G MEASI	Typical	- A-						100/		
Criteria		0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	1	
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pН	ORP (mv)	Turbidity (NTU)	Com	ments
02:F((gal or L)	(gpm or Lpm)	(ft)	10.0	374.7	12.00	6.68	178.4	(1,1,0)	Start	07:15
77.00	-	0,000		9,8	3590	10.67	7.05	13.2		purae	
7:00		 		9,7	361.9	12.00	7.21	176.3		1	
7:00				9.6	3/00	11 41	7.33	1(0(0.1			
17.3E	-		-	9.6	353.9	10,37	7 43	1640		> Not C	PHINA
)7:35	·			07	351 4	9 42	7 47	154.7		endic	TO INTO THE
7.00			 	9.7	350.0	0.30	756	154.2		Strop	Ji van
7:41				711	330.0	9.40	1,24	13 1.2		SHOOL	D7:44
1.94										Ollma	VIII
1.45		00 020	Control of Control	10.0	227 A	010	2.55	F73.8		Stof h	urge (a)
4:14		10.030		13.3	337.9	0.10	7.43	1/00		00:15	orge
Mid		010		13.6	7300	9,01	7.77	100.0		09.15	
4.05	U	0,010		13.7	3007	0.04	7.50	1715			
1.04				14.0	337.0	8,50	7110	101.0			
4130	,			14.4	2201	70.0	7.13	1510			
7135		00		14.9	2201	014	690	101/		I not r	10W @
4:38		0.0	,	15.0	300.1		6,91			LUGUE	2000
	ns Purged: _	VO.2	5 7 15			Total Casing			2 25	- agi	
		roc): <u>13</u>	7.10			Ending Total	Depth (ft To	OC):	0.00		2
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance				
111110	Volume	Bottio Type	douning	1 111 0110	1.1.5	Color	Turbidity &			Remarks	
7.40	40mL	> mno	3	DIO.	77.		Sediment	Chlor	-ina-	ed VD	S
7:40	TOME	VUITS	0	140	ПО			CATION	11 1001		
									-		
-							-			1-	
					•						
ETHOD	S				. / .	A 1 18 4					
rameters	measured v	vith (instrument r	nodel & seri	al number <u>):</u>	YSI 1	44102	1458		1 =1 =	01:0	1011-100
	ipment:	a	mp			Decon Equip	oment:	(LONO)	CTOP	Cicate	Tubin,
posal of	Discharged	Water:D	rums	son	Site		1				se eticle
				1 0-	16 000	0 (0)	7/0-1		0-	002010	34) 6ED 0 11/

A	Spec	i G		Sample	e MW	1-130) -0	420	715	_
NORTH CONTRACTOR		SAMPLING				WELL NU	MBER: N	1W-13	D	Page: 2 of 2
Date: Sampled Measurin Screened	by:g Point of We Interval (ft. **)	ell:	r Cr	iev		Starting W Casing Stid Total Depti	ater Level (ckup (ft): h (ft TOC <u>):</u>			
Casing vo	3/4"=	(ft Wate '= 0.02 gpf 0.09 Lpf 2'	2" = 0.16 g	of 4'	" = 0.65 gpf	6" = 1.4	7 gpf		Sample In	take Depth (ft TOC):
		JREMENTS Typical			*					
Criteria Time	Cumul. Volume	0.1-0.5 Lpm Purge Rate	Stable Water Level	na Temp.	± 3% Specific Conductance	± 10% Dissolved Oxygen	± 0.1	± 10 mV	± 10%	Comments
10:00	(gal or L)	(gpm or Lpm)	(ft)	13.9	(μS/cm) 340. ((mg/L)	(4.88	(mv) 153.7	(NTU)	start purge @ 09:55 (Char o-ringo + blo
		No	tur	bidi-				0		Stop purge
		e								
	-	OC):				Total Casing		-		——————————————————————————————————————
AMPLE	INVENTO									
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear Color	Turbidity & Sediment			Remarks

METHODS Parameters measured with (instrument model & serial number): Purging Equipment: Disposal of Discharged Water: Observations/Comments:

THODS Impeters measured with (instrument model & serial number): Decon Equipment:	GROUN	IDWATE	RSAMPLING	RECOR	D		WELL NU	MBER: _	MM-	8D	Page:	_ of
Starting Water Level (ft TOC)	Project Na	ame; M	alker	Che	role	t	Project Nu	mber:	8010	10		_
Troat Depth (N TOC) Total Depth (N TOC) Dept	Date:	4/28	15						ft TOC):	12.45	5	
Casing Diameter (inches): Casing Volume									118	21		
Casing Volume Casing Volum												
24 = 0.02 pt 2" = 0.16 pt 4" = 2.46 Lpt 6" = 5.56 Lpt 5" = 5.56 Lpt												
24 = 0.02 pt 2" = 0.16 pt 4" = 2.46 Lpt 6" = 5.56 Lpt 5" = 5.56 Lpt	Casing Vo	lume	(ft Wa	ter) x	(Lpf	v)(gpf) =	(L)(ga	al)				1 - 1 1 1
Page Page	Casing vol	lumes: 3/4	l"= 0.02 gpf	2" = 0.16	gpf 4'	' = 0.65 gpf	6" = 1.47		× .	Sample In	take Depth (ft TOC):	ville
Criteria: Typical 1,0				2" = 0.62 Lpt	4" =	2.46 Lpf	6" = 5.56 L	.pf				
Communication Communication Communication Conductance Conducta	PURGIN	G MEAS		***						17		
Volume General Conductance Conductan	Criteria:	16		Stable	na	± 3%	±10%	±,0.1	± 10 mV	± 10%	18 7	
	Time			Water	Temp.	Specific		DH	ORP	Turbidity	Comm	ents
1.13			(gpm or Lpm)		(°C)							51110
1 1 1 1 3 0 5 8 0 6 6 14 5 0 0 14 5 0 1 1 1 1 1 1 1 1 1	11:13		100.18			7	1	7.29		(11.0)	Start	11:00
15.0 359.3 5.40 0.03 143.9 15.1 357.6 5.21 0.02 144.3 15.1 350.7 5.19 0.01 145.4 157 15.1 350.7 5.19 0.01 145.4 157 15.1 350.7 5.19 0.01 145.4 157 15.1	1:17				15.1		5.86	(1.05	141.5		DILLOIS	11.0
15.1 357.6 5.12 6.03 144.3 157 157 158 15.1 356.7 5.19 6.01 145.4 157 15	1:21			1	15.0	000	546	663	1420		Pargo	
al Gallons Purged:	1:25				1510		5.70	100	1442			
al Gallons Purged:	1128		 	-	1151		12,51	1	117.0	100		
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113	MOON		-	-	11211	330,7	3,19	6.61	175.4	157		
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113	אנטוטו		-	-	-	ļ						
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113			-	-	-							
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113					-							
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113												
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113												18-
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113												
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113												
Total Casing Volumes Removed: Inding Water Level (ft TOC): 113												
ting Water Level (ft TOC):						7						
ting Water Level (ft TOC):												
ting Water Level (ft TOC):												
ting Water Level (ft TOC):	al Callan	- Down and	10									
THODS Imple Inventory Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment Color Sediment THODS Imple Inventory	al Gallons	s Purgea: _		0			Total Casing	Volumes Re	emoved:		_	
THODS Imple Inventory Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Remarks Sediment Color Sedime	ding Wate	er Level (ft 7	гос):	5,92			Ending Total I	Depth (ft TC	DC): 118	1-1-		
THODS Impeters measured with (instrument model & serial number): Decon Equipment: Color Turbidity & Sediment Color Sediment Color Turbidity & Sediment Color Sediment Color Turbidity & Sediment Color Sediment Color Turbidity & Sediment Color Turbidity & Sediment Color Turbidity & Sediment Color Sedi	MPLE	NVENTO	RY		57							
THODS Impeters measured with (instrument model & serial number): Decon Equipment: Color Turbidity & Sediment C	Time			Quantity	Filtration	Preservation	Appeara	ance	9			
THODS Impeters measured with (instrument model & serial number): YSI 14H10 2458 Integration of the pump Decon Equipment: QUODOX4 WATER, DECIDENTS					1 1 1		9	Turbidity &			Remarks	
THODS Impeters measured with (instrument model & serial number): YSI 14H10 3458 Ing Equipment: OED pump Decon Equipment: OLODOX4 WATER, PEDICATED	1251	Down	MAC	2	Na	1101	00/0/	Sediment	16100	2001	00 11000	
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL	100 4	OIDL	VO/15)	140	HU			MOL	II ICT	ed vas	
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL									- 1000			
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL												
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL												12.22
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL												
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL												
imeters measured with (instrument model & serial number): YSI 14H10 2458 Decon Equipment: QCODOX4 WOTER, PERSONAL												
ing Equipment: OFO pump Decon Equipment: OCONOX4 WOTER, PEDICOTED	THORS						411100	1-0				
	THODS					10-						
	meters m	easured wi			al number):	YSI	144109	458				(
osal of Discharged Water: Drums on SIHC	meters m	easured wi	ED pu	mp	al number):			ment: 000	DOOXS	towe	er, Pedis	ated

GROUN	DWATER	SAMPLING	RECORD			WELL NUM	MBER: M	IM-11		Page:	_ of
Sampled b Measuring		alker 115 ULE 100)	_	role		Project Nur Starting Wa Casing Stic Total Depth Casing Diar	ater Level (fi kup (ft) <u>:</u> ı (ft TOC <u>):</u>	(02)	0 51,40	21	
		TOC)				Casing Dia	motor (mone	,. <u>,</u>			
Casing Vol	lume	(ft Wate	er) x	(Lpfv)(gpf) =	(L)(ga	ıl)				1 5
Casing vol	umes: 3/4"	= 0.02 gpf 0.09 Lpf 2"	2" = 0.16 gp	of 4"	= 0.65 gpf	6" = 1.47	gpf .		Sample Int	ake Depth (ft TOC): 100
PURGIN		REMENTS		****	•						
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	¥	
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance		рН	ORP	Turbidity (NTU)	Comr	ments
09:21	(gal or L)	(gpm or Lpm) 50,25	(ft)	13.0	(μS/cm)	(mg/L)	6.33	(mv)	(NTO)	start	1000
30.15		0100		13.2	381.8	3.03	6.33	114.		pural	0911
70:30	7 8		-	13.3	3760	3.07	6.34	11/0.8		pargo	Year and
0:33				13.3	3/09/4	303	6.35	1204			
20:36				12 3	3(17 3	3.00	6.36	122.6			
70:30				13.3	362.1	a .93		124.6	405	SHOO	09:4
39,39				1313	Oubiii	9190	W104	· W 114	100	nural	091
										parge	
								7			
	-							-			
- 1	-					w 10°	.				
•			3.5			1					
							<u></u>				1.
otal Gallon	s Purged:	W 2, 3	15		-	Total Casing	Volumes Re	emoved:		-	
nding Wate	er Level (ft T	oc): 5	,50			Ending Total	Depth (ft TC	DC): 6	2.84		1
AMPLE	INVENTO	RY									
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	Turbidity & Sediment			Remarks	
Q:40 F	more	Mon		No	HNO3		-	Tota	UR	CRA MO	tal
20:40	JMC T	00/1		VES	HNOZ	2 - 1	- 3	DISS	duec	RCRAT	neta
11 10		4014		100	11140						
						2.3			81.0		
								- #	1,1	Y Y	
•							45.72	, 1,7			
ETHODS					110.7	MILIN.	7:150	>		5× ,) , , , ,	
		th (instrument m	odel & seria	I number):	127	TH 10	970 C	00001	N-VA IO.	IDV. DEC	icat
	pment:	ALD D	unp) "	\(\frac{1}{2}\)	Decon Equip	ment: 🔱	MINOX	TIVU	TU, Fü	bird
		Lane Company		5							
	ischarged V	Vater: Drl	ims	on	SITE				-		-

		SAMPLING				WELL NUM	IBER: _	1M-E)	Page: of
Project N	ame: W	alker 5 JLE	Chev	rolt	t	Project Nun	nber: 0	80191		
Date:	-128/1	5	-	W		Starting Wa	ter Level (f	TOC): 5	1,38	
Sampled	by:	JLE				Casing Stick	kup (ft):	163	7	
Measuring	g Point of W	ell:				Casing Diar		(00,3		
		TOC)				Casing Diai	neter (inche	35) <u>.</u>		
		(ft Wate		/l pf/	\(ant\) =	(L)/na	1)			2
Casing vo	olumes: 3/4	(11 vvale "= 0.02 gpf	2" = 0.16 ar	(Lpiv	= 0.65 gpf	6" = 1.47	gpf		Sample Int	ake Depth (ft TOC): $\sqrt{58}$
Jasing vo			= 0.62 Lpf		2.46 Lpf					
PURGIN		JREMENTS								,
Criteria		Typical	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
	Cumul.	0.1-0.5 Lpm	Water	T	Specific	Dissolved	рН	ORP	Turbidity	Comments
Time	Volume	Purge Rate	Level	Temp.	Conductance		PIT	1000000	(NTU)	Commone
20:11	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(μS/cm) 391.8	(mg/L)	6.18	(mv)	(1410)	Start 08:10
08:14		vo.28	<u> </u>	1117		603	(0.31	104.6	·	0000
38:18		1		14.7	39a.a	W43	(20	-	-	Puigo
08:99	1			14.7	304.6	6.50	6.00	102.6		
28:36				14.6	391.4	5.44	6.30	103.0		
P6:80		253		14.6	391.6	4.84	6.39	103.7		
DB:32				14.6	391.1	4.63	6,39	1047		0.87
78:35				14,0	389.1	4.39	6.40	105.8		
78:20				14.6	387.0	4,20	6.40	100.4	595	Stop 08:4
70.00	1	<u> </u>		1110	001.0	7.20	0 10			pural
										Purg
				 						
		ļ								
		0								
									e .	
otal Gallo	ns Purged:	v 2.5)			Total Casing	Volumes R	emoved:		
		FI	,40					(r	0.3	
nding Wa	ter Level (ft	TOC):	110			Ending Total	Depth (ft T	oc):	,0,0	-
AMPLE	INVENT	DRY								
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear				Remarks
						Color	Turbidity & Sediment			Tromaine
78:35	40mL	VOCS	3	NO.	HCI			Chlor	inat	+0 VOCS
70.20	10.11.	1000			-1-0-1					
					1					
ETHOD	S									
ramatara	meseured	with (instrument r	nodel & seri	al number).	YST	14410	1245	28		
arameters	ineasured (ED DU	MA	a. Hamber <u>).</u>	1	Decon Fouir	ment.	Ulent	OXA	water, PEBSE
		Water: Dr		00	Site	Dooon Equip				
		ANAIEL, I II I								

Phone # 300	City, State, ZIP	Address 401	Company. AS	Send Report To
Phone # 206 - 538 - 659 Fax # 206-838 - 5853	Scattle WA 98104	and Aves Ste. aci	Dect Consulting	Alan Noell

النا			
REMARKS e-mail results to anoelle aspectionsulting com	Walker Chevrolet 080190	PROJECT NAME/NO. () PO#	SAMPLERS (signature) Se JUROUT

SAMPLE DISPOSAL Schönberg after 30 days Return samples Will call with instructions	TURNAROUND TIME Standard (2 Weeks) RUSH Rush charges authorized by
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	And I										-		
	Friedman & Bruya, Inc.	7		Put			MW-140-043915	MW-12D-042915	MW-13D-049915	MW-8D-04a815	MW-5-042815	Sample ID	
Relingui												Lab ID	
Relinquished by:	SIGN			- Inter-			21/128	4/29/15	4129/15	4/28/15	4/28/15	Date Sampled	
する。	SIGNATURE						16:30	15:30	91:40	11:35	08:35	Time Sampled	
							Proundurater	15:30 groundwark	groundwater	groundwater 3	groundwater	Sample Type	
Chich Envegr	PR						W.	T)	W	W	S	# of containers	
2	N		4									TPH-Diesel	
0	NA											TPH-Gasoline	
20	PRINT NAME											BTEX by 8021B	
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												SVOCs by 8270	NA
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Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044
FORMS\CCC\CCC.DCC

ruya, Inc.	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
nue West	Relinguished by:	Judy Enveart	ASpect	4/30/5	14:00
119-2029	Received by:	sem.			
8282	Relinquished by:	(92.00			
5044	Received by:				
3					

FORMS\COC\COC.DOC	Fax (206) 283-5044	Ph. (206) 285-8282	Seutte, WA 90119-2029	_/			Alexander (į						S18640-11-MM	Sample ID		sil	City, State, ZIP SQUHIC WA 9810 Phone # 206-838-6592 Fax # 206-838-	el and	Company ASPECT	Send Report To Alar
	Received by:	Relinquished by:	received by.	Newhylasiica of	PAI											Lab			592 Fax #30	The same		Z
	d by:	ished	u oy.	a led	((1	SS			* \S	(1)	9	NOC
		by:	C	S. C.	SIGN										4/28/15	Date Sampled			2 30 C	102	Su	
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				'											graundwak	Sample Type		3	COR	2	PR(SAI
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				3	PRINT NAME											TPH-Diesel		10	esalta	3	ON	atur
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				DIA DIA	ME				19							BTEX by 8021B		C	5+	13	9	m
				+	190				9							VOCs by8260	A	9	20	TR		-
																SVOCs by 8270	NAI	7	-		C	Jus Jus
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			_	30	DATE			1				-		-	以			with i	ILE I fter 3 mple	s aut	(2 W	ARO
			,	7	H										2:	z		nstru	OISPO 80 da	horiz	eeks)	
		70		A	TI									-	172	Notes		☐ Will call with instructions	SAMPLE DISPOSAL pose after 30 days urn samples	Rush charges authorized by	TATT	Page # of
				0	TIME										至			S		У	t	I

		RSAMPLING				WELL NU	MBER: _	MM-S	3D	Page: of _/
Measurino Screened	g Point of W Interval (ft.	alker 5 JLE /eli:TC TOC)		vrole	t	Starting W	ater Level (kup (ft): n (ft TOC):	118	1912	<u>₹ 3</u>
Casing Vo	lumes: 3/4	(ft Wat = 0.02 gpf 0.09 Lpf 2	2" = 0.16 g	pf 4"	v)(gpf) = = 0.65 gpf 2.46 Lpf	(L)(ga 6" = 1.47 6" = 5.56 L	7 gpf	are	Sample In	take Depth (ft TOC):
PURGIN	G MEAS	UREMENTS							3 33 3	N 2
Criteria	:	Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate	Water Level (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments
3:18		10.00		18.9	370.2	7.25	6.75	52.9		Begin purge
3:26 3:29				17.5	366.8	5.35	6.52	53.6		@ 13:15
3:32				17.3	367.9	5.35	6.62	53,9		
3:36		1		17.3			6.62		650	endpurge @13:42
		4								
tal Gallor	s Purged: _					Total Casing	Volumes F		0.0-	
	er Level (ft		.05			Ending Total	Depth (ft T	OC):[]	8,92	
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	Turbidity & Sediment			Remarks
3:40	40mL	VOAS	4	NO	ard		Sedifierit	vocs	by 8	ted only)
THODS	l									
ameters r	neasured w	ith (instrument m		al number <u>):</u>	YS1 14	Decon Equip		Jeor	10x d	ded tubin
		Water: Dru		on s		-3-'P	-		170110	

Project Number			R SAMPLING	RECORD) -, -		WELL NU	MBER: N	1W-	2_	Page: of
Starting Water Level (NTOC): 51.77 Starting Water Level (NTOC): 51.77 Casing Statuting Water Level (NTOC): 51.77 Casing Starting Water Level (NTOC): 51.77 Casing Starting Water Level (NTOC): 51.77 Casing Starting Water Level (NTOC): 51.77 Casing Starting Water Level (NTOC): 51.77 Casing Diameter (Inches):	Project N	lame: W	alker				Project Nu	mber: O	2019	0-1	13
Total Depth (if TOC):	Date: "	7/8/	15	_			Starting W	ater Level (ft TOC):	51,7	7
Casing Diameter (inches): Casing Diameter (inches): Casing Volume (In Poc) (In Water) x			10 TO	-					7-1-0	-1	
Comment Common			TOC)							<u> </u>	
Casing Volume Cit Water) x		elit i responsacionamia - Antibi					Casing Dia	meter (inch	es) <u>.</u>		
Sample June Side Out of part 2 = 0.16 gpf 4 = 0.65 gpf 6 = 1.47 gpf Sample Intake Depth (it TOC); Out of part					(I nfv	()(apf) =	(1.)(a:	al\			
### 246 Lpf 6" = 5.56 Lpf 6" =	Casing v	olumes: 3/4	1"= 0.02 gpf	2" = 0.16 a	of 4"					Sample In	take Depth (ft TOC):
Criteria: Typical Stable na 25% ±10% ±0.1√ ±10 mW ±10%										cumple m	take Depth (it 100).
Time Cumul. Purge Rate Level Temp. Conductance	PURGI	NG MEAS	UREMENTS								
Time Cumul Purge Rate Water Temp Condition	Criteria	a:		Stable	na	± 3%	± 10%	± 0.1./	± 10 mV	+ 10%	
Volume (gal of L) (th) (cs) (th) (cs) (th) (cs) (th)	Time	Cumul.			T			·	T	1	T
	rime		150			Conductance	Oxygen	pH	ORP		Comments
4:17	11.10			(ft)					1	(NTU)	
4:21 4:24 4:24 4:27 17:3 446.8 0.0 7 5.76 38:3			1,0118	 		430	0,04	0.70	56.9		
4:24 4:27 4:28 4:30 17:3 44:37 17:3 44:38 17:4 4:33 17:3 44:38 17:4 4:38 17:5 44:38 17					1+.3	445.6	0.14	5.16	42.4		
4.24 4.30 17.2 44.4.7 17.3					17,3	1446.8	0.07	5.76	38.3	,	(0) 14:07
A 30	4:24	-			17.3	442.5	0.07	5.76	40.1		
4.30 4.33 17.3 14.5 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.3 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 14.7 17.8 17.3 14.7 17.8 14.7 17.8 17.3 14.7 17.8 17.3 14.7 17.8 14.7 17.8 17.3 14.7 17.8 17.3 14.7 17.8 17.3	4:27	1			17.2	440,4	0.15	5.77	41.8		
A:33 17:3 447.5 017 5:78 44.7 578 End Durge @14:38 18:38 18:39	4.30				17.6	444.7	0.17	5.77			
Total Casing Volumes Removed: Ending Total Depth (ft TOC):			1 2/				017				End ourse
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 40,07 IMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Remarks Sediment VOCS by 82,00 C (Chlorino+ed Only) THODS ameters measured with (instrument model & serial number): VS 1 A HID 3458 ping Equipment: OFD PUMP Decon Equipment: OLCONOX & CRO. Turbidity & Decon Equipment: OLCONOX & CRO.		1			1110	711.5	0.1	3170	1) . [370	9413090
al Gallons Purged:		 	-	 	-						@14:38
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 41.07 IMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment Color Turbidity & Sediment NOCS DY 8240C (Chloring Hemarks) THODS Implements measured with (instrument model & serial number): YS 1 A H102458 Decon Equipment: QED PUMP Decon Equipment: QCDNOX + QED, Tubbing		-		-							
Total Casing Volumes Removed: Inding Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 61.07						1		4			J. 1
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 61.07 MPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment NOCS DY 8260C (Chloring Hemarks) THODS THOD											1
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 61.07 MPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment NOCS DY 8260C (Chloring Hemarks) THODS THOD											
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 41.07 MPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment NOCS by 8260C (Chloring Hemarks) THODS THOD					7.						
tal Gallons Purged:											
Total Casing Volumes Removed: Ending Water Level (ft TOC): 51,98 Ending Total Depth (ft TOC): 41.07 MPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment NOCS by 8260C (Chloring Hemarks) THODS THOD											
Total Casing Volumes Removed: Standard Casing Volumes Removed:											
Total Casing Volumes Removed: Standard Casing Volumes Removed:			101		L					1	
Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Remarks Sediment H:35 40mL VOAS A NO 2MHC VOAS WOCS BY 82 60 C (Chloring Color) THODS ameters measured with (instrument model & serial number): YS 1 4 H10 J45 8 Decon Equipment: QCDDX 4 d2d, Tubing	tal Gallo	ns Purged: _	<u> </u>	^^			Total Casing	Volumes R	emoved:		
Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment H:35 40mL VOAS A NO 2NHC VOAS WOOD (Chloring Color) THODS ameters measured with (instrument model & serial number): YS 1 14 H10 J45 8 Decon Equipment: QED PUMP Decon Equipment: QCDNX 4 QPD, TUDING	ding Wa	ter Level (ft	TOC): 51	,98			Ending Total	Depth (ft To	nc) (el	.07	
Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment NOCS by 82 (GOC) (Chloring+Color) THODS The matter of the		-									·
Color Turbidity & Sediment H-35 40mL VOAS 4 NO 2MHCI VOCS BY 8240C (Chlorinated only) THODS THODS The sediment vocas of the sed				Quantity	Filtration	Preservation	Annear	2000			
THODS ameters measured with (instrument model & serial number): YS 1 14 H10 2458 ging Equipment: OED PUMP Decon Equipment: QUEDNOX & QRO, Tubing		70.00	Dotted Type	Guarnity	rittation	reservation					Remarks
THODS ameters measured with (instrument model & serial number): YS1 14-H10J458 ping Equipment: OED PUMP Decon Equipment: QCDNOX 4 ded. Tubing	-	A = 1	.5.0.0	Α	2).		Color		1 - 0		
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubing	-:33	40mL	VOAS	4	NO	2N/HCI			VIDES	DA 8.	700C
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubing									(chlo	rinat	red only)
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubin Q											3/
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubin Q											
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubin Q											
ameters measured with (instrument model & serial number): \(\sigma \) 14 H10 J 458 ging Equipment: \(\sigma \) Decon Equipment: \(\sigma \) CDNOX 4 ded. \(\sigma \) Tubin Q	\neg							-+			
ging Equipment: OED PUMP Decon Equipment: OCDNOX 4 ded, Tubing									· ·		
ging Equipment: OED PUMP Decon Equipment: QUCDNOX & ded. Tubing	THOD	S		A MARKET							
ging Equipment: OED PUMP Decon Equipment: QCDNOX 4 ded. Tubing	ameters	measured w	rith (instrument n	nodel & seria	al number):	YS1 12	ROIHT	459			
									יטטטי	1010	ed tubino
						10	Docon Equip	mont. UN		40	an rauning

GROUN	DWATER	SAMPLING F	RECORD			WELL NUM	IBER: <u></u>	IM-1	5	Р	age: of
Project Na	me: WO	utter				Project Num	nber: 0 8	3019	0-15	13	
Date:	7/8/1	5	_			Starting Wa	ter Level (ft	TOC): (01.3	1	
Sampled b	Point of Wa	JLE TOC	4			Casing Stick Total Depth	kup (π) <u>:</u> (ft TOC):	78.8	34		
	Interval (ft. T					Casing Dian					
Filter Pack	Interval (ft.	TOC)			<u> </u>					-	
		(ft Wate				(L)(ga	1)			I D - 45	(ft TOC): 47
Casing vol		= 0.02 gpf 0.09 Lpf 2"			= 0.65 gpf 2.46 Lpf	6" = 1.47 6" = 5.56 Lp	gpf		Sample Int	аке Бертп	(1100)
DURGIN		IREMENTS	= 0.62 Lpi	4 = 1	2.40 Lpi	0 = 0.50 E	ř				
		Typical	0.11		± 3% /	± 10% \		± 10 my	± 10%		
Criteria:	Cumul.	0.1-0.5 Lpm	Stable	na	Specific	Dissolved		Γ		T	Comments
Time	Volume	Purge Rate	Level	Temp.	Conductance	Oxygen	рН	ORP	Turbidity	0	Comments
110110	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(μS/cm)	(mg/L)	6.17	(mv)	(NTU)	BOO	in puro
15:10		NO.15		19.5	386.8	0.54	6.18	3,9			5:06, flo
15:14				17.0	377.1	0.33	6.20	4.6		@15	./ }
15:18				1911	3699	0.39	6.21	5.7		0.0	, 0 F
15:21				17.0	365.3	0.07	6.22	7.1	-		
5124		1		10/4		0.23	6,23	A -	107	SHO	poura
5:27		-		19.6	363,0	0.00	W103	0.5	104	1015	1 30 0
									<u> </u>	0.0	7.08-
					1991						
					- 180					<u> </u>	
		<u> </u>		- 2.9							
		100								<u> </u>	
otal Gallor	ns Purged: _	N 0'=	15			Total Casing	Volumes R		0.4		
nding Wat	ter Level (ft	TOC): 01	00)			Ending Total	Depth (ft T	OC): + 6	3.84	_	
	INVENTO				7.						
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	rance		*	Remarks	
						Color	Turbidity & Sediment			Hemarks	•
5:35	40mL	VOAS	4	NO	aWHC		Codimon	VIDES	bu "	3260	00
0.00	10111	VO.10		10				(chlo	rina	ted	ONN)
								COLL	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		- 13
					•						
IETHOD	S		20 11 12		Vot	14	201	-0			
arameters	measured v	vith (instrument r	model & seri	al number):	YSI	1441	DAZ	50	D. 1 1	dod	woodness a la ' poor
urging Equ	uipment:	YED DU	MP		0:10	Decon Equi	pment: Q	1(DI)	DXA	uta	TUDIN
isposal of	Discharged	Water:	rum	algng	site		A				
									1		

GROUN	DWATER	SAMPLING	RECORD			WELL NUI	ивек: М	M-51		Pa	ge: of	_
Project Na	me; Wa	lker				Project Nur	mber: 08	0190)- 15	(3		
Date:	1/8/1	5	_			Starting Wa	ater Level (f	t TOC):	52.8	3		
Sampled b	y:	JLE ell:	7			Casing Stic	kup (ft):	50.5	=()			
Screened I	nterval (ft.	TOC)	00				meter (inch		00			
	Interval (ft.							<u>/-</u>				
Casing Vol	ume	(ft Wat	er) x	(Lpfv)(gpf) =	(L)(ga	al)				(-1	-C
Casing vol	umes: 3/4'	'= 0.02 gpf	2" = 0.16 g	of 4"	= 0.65 gpf	6" = 1.47	7 gpf		Sample In	take Depth (ft TOC):	
		0.09 Lpf 2'	" = 0.62 Lpf	4" = 2	2.46 Lpf	6" = 5.56 L	pf					-
PURGIN	G MEASU	JREMENTS										
Criteria:		Typical 0.1-0.5 Lpm	Stable	na L		± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity	-	Comments	
	(gal or L)	(gpm or Lpm)		(°C)	(μS/cm)	(mg/L)		(mv)	(NTU)			-
6:24		ND:15		19.0	695	0,09	5.19	a0.7		Star	t pur	2
16:28				18.2	667	0.71	5.14	26.2		@16:	03:41	2
6:32				18.1	656	1.31	5.21	60.5		016:	7. 1	
6:35				18.1	653	0.0	5.24			- '0'	00,	
ψ.38			†	19.7	652	010	5.27	59.4				
16:41				18.6	(051	0.05	5.32	65.8				
		-	<u> </u>		105		5.32	82.8				
6:44				18.5	653	0.00		-				_
6:47			-	18.5	656	0.05		100.5				-
16:50				18.6	657	0.05		111.5	5,5,5	Cla.		_
6:53				18.60	658	0.05	5.36	116.5	11000		purg-	2
				-						@16	:56	
		*				-						
											,	
											u	
otal Gallon	s Purged: _	va				Total Casing	Volumes R	emoved:				
			اند، داخی	on wit 1					1.58			
		roc): <u>100</u>	olly-1	unce	je ru	Ending Total	Depth (ft To	oc):	1100			
	INVENTO				-				-			_
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear				Remarks		
						Color	Turbidity & Sediment					
6:45	40mL	VOAS	4	NO	2W/HCI			VOCs	by 8	3260	00	
7. 0								chlor	rina	tedo	only	
											0	
		8										
												_
					•							
			- 1					-				
												Attended
ETHODS	6				1/0=	14.14	100 4		-			
		rith (instrument r	nodel & seri	al number <u>):</u>	YSI	14 H	1024	58	N.			_
rameters r	neasured w	rith (instrument r	nodel & seri	al number):	YSI	14-H Decon Equip	1024 oment: Q	58 1000	xtc	ded -1	tubin	3
rameters n rging Equi	neasured w	PEDP	nodel & seri	al number):	YSI		1024 oment: <u>O</u>	58 1000	×+c	ded t	tubing	3

	## CO. 18 18 18 18 18 18 18 1	SAMPLING				WELL NUI	MBER: 🖊	VM-5	O	Page: of
Project N	ame: M	alker	•			Project Nu	mber: 0	3019		生13
Date:	7/9/16 by:	5	_			Starting Wa	ater Level (ft TOC): 5	1.83	
sampied Measurin	a Point of We	ell: TO				Casing Stic		59,	02	
Screened	Interval (ft.	roc)				Casing Dia			<u> </u>	
ilter Pac	k Interval (ft.	TOC)								
		(ft Wate								1058
Casing vo		= 0.02 gpf 0.09 Lpf 2'	-					i.e	Sample Int	take Depth (ft TOC): <u>58</u>
PURGIN		JREMENTS	= 0.62 Lpi	4" =	2.46 Lpf	0 = 5.56 L	pr			
Criteria		Typical	Stable	na	± 3%	± 10%	± 0,1	± 10,mV	± 10%	
	Cumul.	0.1-0.5 Lpm	Water	T	Specific	Dissolved		T	T	
Time	Volume	Purge Rate	Level	Temp.	Conductance	Oxygen	рН	ORP	Turbidity	Comments
7:12	(gal or L)	(gpm or Lpm)	(ft)	16.7	(μS/cm) 524, (n	(mg/L)	5.86	(mv) 144.2	(NTU)	Start Duras
)7:16	1	0.0119	1	-	524.5			153.4	-	@ 07:05:f10
				16.7		0.98	5.86		-	@ 07:05;ftc
7:20			-	16.8	524.0	1.22	5.87	150.8		Ø 07.07
A:23)			16.8	524,5	1.32	5.89	156.7		
7:26			-	16.6	594.6	1.54	5.90	144.7		
7:29			-	16.5	525.0	1.86	5.91	109.2		
2732			<u> </u>	16.3	525.1	1.84	5.92	105.3	0.41	
735				16.4	525.6	1.95	5.93	100,4	341	
										,
		*								
										11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
tal Gallo	ns Purged: _	51				Total Casing	Volumes F	Removed:		V
		51	.73					F-0	7.02	50,000,000
	ter Level (ft 7					Ending Total	Depth (ft T	OC):	1:02	:
T	INVENTO		I	en.						
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	Turbidity &			Remarks
					= 1/10	Color	Sediment			
7:35	40mL	VOPS	4	No	awHa			VOCS	by)	3260C
								(Chlor	tonic	rd only)
)/
								Market Market		
THAN										
THOD					VO T	14-11-1	5715	50		
		ith (instrument n	nodel & seria	il number):	107	14H1	JOT	1000-	V. A	0 1
	ipment: <u>Q</u>	Dick	11112	- IO O	. 10	Decon Equip	ment: 🗘	100119	X+U	tu. tubing
	Discharged V	Vater: /]/ [111115	711 5	HT OL	_				0

A	Spec	16		Sample	Mw-	5- C	900	715		_
GROU	NDWATER	SAMPLING	RECORD			WELL NU	MBER: <u>M</u>	IW-5		Page: of
Date: Sampled Measurin Screened	ng Point of W d Interval (ft.	ENK / S ENK / S ell: TO TOC) TOC)	C			Starting W Casing Stice Total Depti	mber: OE ater Level (ickup (ft): h (ft TOC): meter (inch	(DD)		
Casing V Casing v	olume olumes: 3/4 3/4"=	(ft Wate "= 0.02 gpf 0.09 Lpf 2'	er) x 2" = 0.16 gp	(Lpfv	= 0.65 gpf	6" = 1.4	7 gpf	×	Sample In	take Depth (ft TOC): 59,5
PURGI		JREMENTS Typical	Stable	na	± 3%	± 10%	± 0/1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm of Lpm)	Water Level (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved		ORP (mv)	Turbidity (NTU)	Comments
0803		.150	1 (1)	15.8	452.6	7.17	6.45	69.5	(1410)	start ourgela
0806	1			15.7	451.7	7.24	6.48	79.6		07:55; Flowe
0809				15.7	451.4	7.17	20.49	88.4		0758
0812				15.7	450.9	7.22	6.50	96.8		
0815	d			15.7	450.7	7.14	6.50	103.5		
0818				15.7	450.4	7.07	6.50	109.8		
0821		1		15,7	450,3	7.06	6.50	116.3	21000	
0824	-	V								STOP PURGE @
				-						0828
			-							
		<u> </u>	 	 		,				
	<u> </u>								-	
					7					
Ending Wa		тос): 52	.,13			Total Casing		1-5	0.21	
	INVENTO			F:::	I					
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appea Color	Turbidity & Sediment			Remarks
0830	40mL	YOA	4.		2-HCL	ORANGE		VOC'S	BY 8	260C
								(CHLC	RINATE	O ONLY)
_							1			
TETHO		4	8.4							
		vith (instrument r		al number <u>):</u>	YSI	14H1 Decon Equi	DA45	58	×	
	1/2	Water: Dru		5000	-C-L	-1-1				
	ns/Comments	0.0000	sure (@ 70	pet)	20:10	CyC	e. 10	DARDA	morange,
VYU	101					ı				

000	SPEC DISULTIN	R SAMPLING	RECORD	10 10 10	MW-		MBER: №		9	Page: of
			NECOND						10-t	A 12
Project I	Vame:	UKEr 15	-			Project Nu Starting W	mber: ater Level (# TOC):	70 F	213
Sampled	bv:	MI	ENK		8	Casing Stic	ckup (ft):			
		'ell:	\sim				n (ft TOC):		74	
	d Interval (ft. ck Interval (ft					Casing Dia	meter (inch	ies):		
		(ft Wate	er) v	(I pf	v)(apf) =	(1.)(a)	21)			
		"= 0.02 gpf			' = 0.65 gpf	6" = 1.4			Sample In	take Depth (ft TOC): 458
		0.09 Lpf 2"	= 0.62 Lpf							
PURGI	NG MEAS	UREMENTS								
Criteri	a:	Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0,1	± 19 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments
0850	1	0.180	1	17,3	987	0.36	5.67	96.9	T (NYO)	Start purge @
0855				18.3	986	0.23	5.67	107.7		08:45, flowa
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		
6913				16.8	904	0.12	5.74	93.9		
0916		W.		16.9	901	0.26	5.75	94.2		
0919		Mar.		16.8	898	0.14	5.77	95.1		
0922				16.8	896	0,21	5.77	95.7		
1925				16.8	897	0.22	5.78	96.3		
2928				16.9	895	0,22	5.78	96.6	227	
										PURGE STOPE 0930
		2 2	****							
										1)
otal Gallo	ns Purged: _	NI	-			Total Casing	Volumes R	lemoved:		
	ter Level (ft		84			Ending Total	Depth (ft To	oc): <u>58</u>	3.74	-
	INVENTO				Г	•				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance Turbidity &			Remarks
	112	> 700 A			5 (1)	Color	Sediment	. 15.6		3
0930	4UML	YOA	4	NO	DHIME			VOCE	by	82600
365								(ch lo	nna	Hd only)
									_	
ETHOD	S				. 5 /-		W 1992			
rameters	measured w	rith (instrument m	odel & seria	al number <u>):</u>	YSI	14H	1024	+58		
rging Equ	ipment:	DED D	um	2		Decon Equip	ment:	1con	DX+	ded tubing
sposal of	Discharged \	Water: Dru	ms	On	Site					, 0
servation	s/Comments	: purae	initi	al Sil	Hy wa	Her-T	Hamile	4511		
	Pumpe	. LT								
	MMPC	10 101	40.10	yu	-	****				

GROU	NDWATER	RSAMPLING	RECORD			WELL NU	MBER:	1W-12	4D	Page: of
Date: C Sampled Measurin Screene	by: ng Point of W	Vell: TO	JK			Starting W Casing Stic Total Depti	mber: ater Level (ckup (ft):_ h (ft TOC):_ meter (inch	ft TOC): 1	34.16	13
Casing V Casing v	olumes: 3/4 3/4"=	(ft Wat "= 0.02 gpf 0.09 Lpf 2	2" = 0.16 g	pf 4	v)(gpf) = ' = 0.65 gpf 2.46 Lpf	6" = 1.4	7 gpf	5 1	Sample In	take Depth (ft TOC): MYLSC
Criteria		UREMENTS Typical	Stable	na	± 3%	± 10%	± 0,1	± 10/mV	± 10%	
Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm or Lpm)	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	рН	ORP	Turbidity	Comments
1028		(gpm or(_pm)) 0.050	(ft)	(°C) 18.3	(μS/cm) 326.6 328.6	(mg/L) 9,58	6.81	(mv) 27.0	(NTU)	Start purgela
1036				17.7	329.0	5.76	6.65	68.3		STOP PUMPE 1010-
1042				17.7	343,3 350.5	5.46	6.58	80.5		B/C SEPLEYED PUMP
1051				17.6	357.3	5.16	6.55	92.2	238	AT 1016. flow@10il
	ns Purged: _	V D.5	13			Fotal Casing		1114	5.30	
AMPLE	INVENTO									
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara Color	Turbidity & Sediment		1 6	Remarks
0:22	40mL	VOAS	4	No	ZWHCI			(CHLE	Dy &	3000 ()
rging Equ	measured wipment:	50	ump	on s	site	Decon Equip		LConc	eycle	led tubing

GROU	NDWATER	RSAMPLING	RECORD			WELL NU	MBER: N	1W-13	3D	Page: of _
Project N	ame: WC	uker				Project Nu	mber: 0	801C	10-	13
Date:	1/9/	15	= 014			Starting W	ater Level (ft TOC): 1	37.2	2
Sampled Measurin	a Point of W	JLE/E	C			Casing Sti	ckup (ft) <u>:</u> h (ft TOC):	150	1.4	
	Interval (ft.						meter (inch		, ,	
Filter Pac	k interval (ft	. TOC)					*****			
		(ft Wat								101
Casing vo		"= 0.02 gpf 0.09 Lpf 2'			' = 0.65 gpf	6" = 1.4			Sample In	take Depth (ft TOC):
PURGIN		UREMENTS	= 0.02 Lpi	4 =	2.40 Lpi	0 = 5.50 L	-pi	4		
Criteria		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	Purge Rate	Water	Temp.	Specific	Dissolved	рН	ORP	Turbidity	Comments
	Volume (gal or L)		Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)	Pr.	(mv)	(NTU)	Comments
11:26		0.03		19.6	0 10 0	6.73	6.98		(1110)	start ourou
11:30			1	19,9	328.3	6.43	7.36			11:19: £10 H
11:34				21.5		6.58	7.40	†		11:22 - FLOR
#:38	Ya e			20.7	334.8	7.50	7.22	104,5		REDUCED TO ~
HIAT				20.0		6.54	6.77	116.2		PULLED PUMP
H:44				19.9	339.0	6.72	6.66	125.4		REDEPLOYED @
H;47				19.8	338.8	7,35	6.68	130,3		FLOW @ 38ML/
1204				19.7	338.1	6.66	6.67	134.0		PEBW 9 JOML/
1208				20.3	338.5	6.00	6.66		SIER	
					1200.0	- 1 COS	0.00	10071	OVER	
										Pump OFFE 122
1										TAMP BYP C TOO
	1,									
otal Gallo	ns Purged:	N 0.5	5			Total Casing	Volumes B	lemoved.		
						_		_		-
		TOC):138	3.47			Ending Total	Depth (ft To	OC):		-
	INVENTO				Г					-
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	Turbidity &			Remarks
	10	0	_			Color	Sediment	. 100		_
215	40mL	VOAS	4	NO	5HC	MED .		VOCS	, 64	82600
								(Chio	rina	ted only)
										17
					7					
ETHOD	S							140.		
		ith (instrument m	nodel & ceris	al number\	VST	141	102	458		
	ipment:		III	number <u>):</u>	4	Decon Equip	mort	1000	m d	ded to be
	Discharged \	1	IMC	an	Cite	Decon Equip	menti			السار السار
	- IOU I I UCU I			1 /1 1	/ 18 1					

GROU	NDWATER	SAMPLING	RECORD	1		WELL NU	MBER: _	1-MM	20	Page: of
Project N	lame:	ALKER				Project Nu	ımber: O	8019	- OF	13
Date: _	9/9/	ENK ell: TOC				Starting W	ater Level (ft TOC):	30,9	6
Sampled Measurin	by:	ell: TOO	Tre			Casing Sti	ckup (ft): h (ft TOC):	135	. 01	
Screened	d Interval (ft.	TOC)					meter (inch		100	
	ck Interval (ft.									
Casing V	olume	(ft Wa	ter) x	(Lpf	v)(gpf) =	(L)(g	al)			
Casing vo					" = 0.65 gpf				Sample In	take Depth (ft TOC): 132
DIJECIN		0.09 Lpf 2	2'' = 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56 L	_pf			
		Typical								
Criteria	Cumul.	0.1-0.5 Lpm	10/	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity	Comments
-	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(μS/cm)	(mg/L)		(mv)	(NTU)	
	 			-				ļ		Start purge
										12:36 Frome
_										PULLED PUMP @ 1246
	-						-			ble NO FLOW; REPU
			1							FITT ING FOR AIR ON
										AT QEN
									*	RE-START PURGEC
										1251; FLOWE NO
										FLOW TURNED OFF
										Pump & 1307; REP.
										TUBING - BACK OW A
		¥								1315; UP AT 1321-NO H
										REP BADDLE SRESMA
										1325-NOH, 0-
										SUUT-DOWN @ 135
										8 8 6
ding Wat		OC):				Total Casing Ending Total				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appear	ance			
						Color	Turbidity & Sediment			Remarks
				,			Sediment			
									W-W-1-2	
		10	-							
	-	6								
	- 1									
		1								
THODS	S									
		th (instrument n	nodel & seria	al number):	YSI	1414	16245	58		
ameters	measured wi	th (instrument n			YSI	14 H	10245 ment: _A	58 LCONOX	4 DE	DICATED TURENGE
ameters i	measured wi		QMU		[14 H Decon Equip	10245 ment: _A	58 Leonox	£ 06	DICATED TUBENO

Criteries	Date: _ Sampled Measurin Screene Filter Pa Casing V	d by:	EYUK / J.V. /ell: T TOC)TOC)	200			Project Nu	8	0 - 10	20 1	
Filter Pack Interval (It. TOC)	Filter Pa Casing V Casing v	ck Interval (ft /olume rolumes: 3/4	. TOC)				Starting W Casing Sti Total Dept	ater Level ckup (ft): h (ft TOC):	(ft TOC):	49.76	
Casing Volume	Casing V	/olume					Casing Dia	meter (incl	nes):		
Criteria: Typical O.1-0.5 Lpm Stable na	PURGI		"= 0.02 gpf	2" = 0.16 g	pf 4	" = 0.65 gpf	6" = 1.4	7 gpf		Sample In	ntake Depth (ft TOC):
Time											
Volume General Gen		Cumul.	0.1-0.5 Lpm	Water		Specific	Dissolved		T -		Comments
16.6		(gal or L)	(gpm or Lpm)		(°C)	(µS/cm)	(mg/L)		(mv)	1	
16.6 756 0.88 5.19 53.2 16.6 753 0.25 5.00 51.9 16.6 753 0.25 5.00 51.9 16.6 753 0.25 5.00 51.9 16.5 755 0.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84 5.00 50.84		-	0.160	-							
			-	1							0651; FLOW CO105
10.5 755 0.84 5.30 50.8 10.5 756 0.31 5.21 52.4 10.5 757 0.33 5.30 51.8 10.6 758 0.33 5.30 51.8 10.6 758 0.33 5.30 51.8 10.6 758 0.33 5.30 50.1 10.6 757 0.35 5.32 49.1 71000 10.6 757 0.35 5.32 49.1 71000 10.6 757 0.35 5.32 49.1 71000 10.6 757 0.35 5.32 49.1 71000 10.6 757 0.35 5.32 49.1 71000 10.6 757 10.5 10.5		-	-								
16.5 750 0.31 5.24 16.5 757 0.33 5.30 51.8 16.5 757 0.33 5.30 51.8 16.6 758 0.33 5.30 51.8 16.6 758 0.33 5.30 50.1 16.6 757 0.35 5.30 50.1 16.6 757 0.35 5.30 49.1 71000 16.6 16.6 757 0.35 5.30 49.1 71000 16.6			-	-		+	 	1	1		
16.5 757 0.33 5.30 5.18 16.6 758 0.33 5.30 5.				1		+					
Total Casing Volumes Removed: Color Turbidity & Sedment	1,000			 							
Total Casing Volumes Removed: Color Turbidity & Sediment				1				1			
tal Gallons Purged: Total Casing Volumes Removed: Ging Water Level (ft TOC): TUD OTN FOR FRACTION For FRACTING Ending Total Depth (ft TOC): Q1 34 MMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment VOC 3 QY 83600(CHLORENATES ONLY) THODS ameters measured with (instrument model & serial number): YST 14 H 10 2 4 5 8 ping Equipment: QED Pung Decon Equipment: ALCONDATE TURBING ON STH						+				71000	
Total Casing Volumes Removed: Color	•										Diggs complete @
Total Casing Volumes Removed: Color											
Total Casing Volumes Removed: Color			9								Pumport @ 0728
AMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment 725 40mL VOC 4 2w/HCL MICKY VOC'S BY 8260C(CHLORITATER ONLY) THODS THODS THODS THORY THE Remarks THOSE Ameliers measured with (instrument model & serial number): YST 14 H 102458 Decon Equipment: QED Pump Decon Equipment: ALCONDY + DISTRIBUTED TURBINGS Decon Equipment: ALCONDY + DISTRIBUTED TURBINGS					·						
THODS ameters measured with (instrument model & serial number): THODS THOS											
AMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment 725 40mL VOC 4 2w/HCL MICKY VOC'S BY 8260C(CHLORITATER ONLY) THODS THODS THODS THORY THE Remarks THOSE Ameliers measured with (instrument model & serial number): YST 14 H 102458 Decon Equipment: QED Pump Decon Equipment: ALCONDY + DISTRIBUTED TURBINGS Decon Equipment: ALCONDY + DISTRIBUTED TURBINGS											
AMPLE INVENTORY Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbldity & Sediment 725 40mL VOC 4 2w/HCL MILKY VOC'S BY 8260C(CHLORITNATEX ONLY) ETHODS ameters measured with (instrument model & serial number): YSI 14 H 102458 Decon Equipment: QED Pump Decon Equipment: ALCOMON TO TURBLE TEXT TURBLES Decon Equipment: ALCOMON TO TURBLES Decon Equi											
Time Volume Bottle Type Quantity Filtration Preservation Appearance Color Turbidity & Sediment 7.25 40 mL VOC H 2 w/HCL MRKY VOC'S BY 8260C(CHLORINATEX ONLY) THODS ameters measured with (instrument model & serial number): YSI 14 H 10 2 4 5 8 ping Equipment: QED Pump Decon Equipment: Accords to Decore	ding Wa	ter Level (ft T	OC): <u>TUO</u> (oily"fi	or re	1			, ,	.34	
Color Turbidity & Sediment 725 40mL VOC H 2w/HCL MILKY VOC'S BY 8260C(CHLORINATEX ONLY) ETHODS ameters measured with (instrument model & serial number): YSI 14 H 10 2 4 5 8 ging Equipment: QED Pump Decon Equipment: ALCONOX + DEDICENTED TURBING possal of Discharged Water: Drums on Sith				Ougntity	Eiltration	Proconvotion	Appear	2000	-		
THODS ameters measured with (instrument model & serial number): \(\sigma \) ging Equipment: \(\Q \) Pump Decon Equipment: \(\text{ALONDX} \) Decon Equipment: \(\text{ALONDX} \) Decon Equipment: \(\text{ALONDX} \) Decon Equipment: \(\text{ALONDX} \) Decon Equipment: \(\text{ALONDX} \)	rine	Volume	Bottle Type	Quantity	Filtration	Fieservation		Turbidity &			Remarks
THODS ameters measured with (instrument model & serial number): \(\sigma \) ging Equipment: \(\Q \) Pump Decon Equipment: \(\frac{\text{ALOMOX} + \text{DEDECATED}}{\text{DEDECATED}} \) THOOSAI of Discharged Water: \(\text{DrumS on SiHe} \)	725	40mL	VOC	Ч	\	2 W/HCL 1	NIKY		Vocis	BY 82	60C(CHLORINATED
parmeters measured with (instrument model & serial number): \(\sqrt{SI} \) 14 H 10 2 4 5 8 ging Equipment: \(\Q \in D \) Pump \(\text{DEDECATED TUBING} \) posal of Discharged Water: \(\text{DrumS on SiHe} \)			-						ONL	/.)	
pameters measured with (instrument model & serial number): YST 14 H 10 2 4 5 8 Decon Equipment: ALCONOX + DEDECATED TUBING Dosal of Discharged Water: Drums on Sittle							-				3
parmeters measured with (instrument model & serial number): \(\sqrt{SI} \) 14 H 10 2 4 5 8 ging Equipment: \(\Q \in D \) Pump \(\text{DEDECATED TUBING} \) posal of Discharged Water: \(\text{DrumS on SiHe} \)									2.5		
pameters measured with (instrument model & serial number): YST 14 H 10 2 4 5 8 Decon Equipment: ALCONOX + DEDECATED TUBING Dosal of Discharged Water: Drums on Sittle											
parmeters measured with (instrument model & serial number): \(\sqrt{SI} \) 14 H 10 2 4 5 8 ging Equipment: \(\Q \in D \) Pump \(\text{DEDECATED TUBING} \) posal of Discharged Water: \(\text{DrumS on SiHe} \)									38		
ping Equipment: QED Pump Decon Equipment: ALCONOX + DEDECATED TUBETHS posal of Discharged Water: Drums on Sith	THOD	S									
posal of Discharged Water: Drums on Site					l number <u>):</u>					- 0 -	
					DSH	P .	Jecon Equip	11-11	COMOX	UEDE	TATED LUBING
ervations/Comments: Pump SET AT 100 ft. Alexander - CAM2; 20:10 Cycle, Water has							<i>a</i> -		21.112	00	0 110 105 1000

GROU	JNDWATE	R SAMPLING	RECOR)		WELL NU	MBER: M	1W-1	3-D	Page: of
Project	Name:	ALKER	08019	0		Project Nu	ımber:		lv-us-us-	100
Date:	9/10/	15				Starting W	ater Level	(ft TOC):	130.90	, <u> </u>
Sample Measur	d by: ina Point of \	ENK/	JLE			Casing Stic	ckup (ft):	135	- 10 /	
Screene	ed Interval (ft	. TOC)					ameter (inch		.00	
	ack Interval (
Casing '	Volume	(ft Wa	ater) x	(Lp	ofv)(gpf) =					
Casing		4"= 0.02 gpf = 0.09 Lpf			4" = 0.65 gpf = 2.46 Lpf	6" = 1.4		8	Sample In	take Depth (ft TOC): 134, G
PURG		SUREMENTS		7	= 2.40 Lpi	6" = 5.56 L	<u>-pī</u>			
Criter		Typical	Stable	na	± 3%	± 10%	± 0.1	: 10 m\/	100/	
Time	Cumul.		1 14/-4	T	Specific	Dissolved	T	± 10 mV	± 10%	T
Time	Volume		Level	Temp.	Conductance	Oxygen	pH	ORP	Turbidity	Comments
0801	(gal or L)	0.77	(ft)	(°C)	(μS/cm) 380,5	(mg/L)	1. 50	(mv)	(NTU)	, , ,
0806		0.66	+	17.1	354.7	8.42	6.59	5.6		START PURINE @ 075
2809		0.0-		17.1	352.0	8.43	7.16	4.4		WATERE 0758
0812		0.55		17.2	351.3	8,48		10.0	-	
0815			_	17.1	351.1	8.01	7.44	15,3		
0818			1	17.2		7,98	7.52	19,7	0//	
70.0	+	 	1.	() 0	300.0	77.0	1.32	20.0	24.1	
		 		+				-		PUBLIC COMPLETE @
			1							1818
			+	 	+					PumpoFF@0825
			+							
			1							
			 							
					1				-	
tal Gallo	ons Purged:					Total Casing	Volumes B	- L		
						Total Gasing	VUILLIES III	ernovea		
		TOC):13	4,41			Ending Total I	Depth (ft To)C):		
	INVENTO									
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara				Remarks
- 0-						Color	Turbidity & Sediment			nemarks
825	HOWL	VOC	4		2 no/HCL					
					10.					
					-					
-									125	

Send Report To ANAUS NOC II

Company ASPECT CONSULTING

Address 401 2nd Ave S, Ste. 201

City, State, ZIP Seathe, NA 98104

Phone # (206) 838-6592 Fax # (206) 838-5853

City State City Seather NA 98104

REMARKS

Walker	PROJECT NAME/NO.	SAMPLERS (signature)
-060080	PO#	Ares

TURNAROUND TIME

ELStandard (2 Weeks)

RUSH

Rush charges authorized by

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

nstructions

Notes

Page #

_	-											1	×	1
-	2/8/15	51/b/b	3/19/15	3/19/15	9/9/15	51/6/12	3/8/15	9/8/15	9/8/15	Date Sampled			1x # (2016)	1/4
	百大	13:15	10.55	09:15	08:30	07:35	15:35	14:35	3:3	Time Sampled			85-86	010
	water	mater	Mater	water	NOTE	water	Water	WOLKET!	Water	Sample Type			53 emai	
	4	1	7	P	P	4	4	4	Agree	# of containers			email to: annell (cospect consult	
								1		TPH-Diesel				*
强 小		4							1. s	TPH-Gasoline			00	
	1			2						BTEX by 8021B	2 30			
4	X	X	X	X	X	X	×	×	X	VOCs by8260C			18)
1	- 1		13							SVOCs by 8270	AN		S	
	pir.	it								HFS	ALY	1	5,0	,
	7			1					19	Grand Control	SES	F	38	
	-			No.						1	REQ		750	
				1	7 - 64				12		ANALYSES REQUESTED		-	
	1	4	- - - 	A. II							TED		THE STATE OF THE S	
1	15	Z-36	1			6				- 2			□ Re !	Q D
+	1	j.	*			11-11				7 (TI Chi	turn :	ennee
-	- mil	The state of the s	or Manager	Marie 1 2 10 Section 1			- 111	COO	C.			T TINE AN I	Return samples Will call with in	Dispose after 30

Fax (206) 283-5044
FORMS\COC\COC.DOC

Seattle, WA 98119-2029

Received by:

Received by:

Relinquished by:

Friedman & Bruya, Inc. 3012 16th Avenue West

Relinquished by:

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

MN-120-091019

NW-19-CACHIS

SET IN

-090

NN-15-090815

70908

Sample ID

Lab

18-20-03PM

Ph. (206) 285-8282

Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 10th Avenue West	Friedman & Bruya, Inc.		72-12		12 6			Modera		S10160-8-NIM	Sample ID		Phone #(206) 638-6592 Fax # (206)	City, State, ZIP Seattle	Address 40 2nc	Company ASDECT	Cond Bonnet H
Relinquished by:	Received by:	Kelinquished by			,								Lab ID		342 F	十日	F	0	7
iishe	ed by	ushe										0		-	ax #	5	0	750	とうも二
d by:	77-	Pay:	SIGN	i de la companya de l	tyr y tarket of the		t Madagan accordi			A11	116	21/01/6	Date Sampled		1206	Z	(P)	F	enteren entere
	0		SIGNATURE									07:25	Time Sampled		838-88	520 50 50 50 50 50 50 50 50 50 50 50 50 50	450	3	
		+		*		- NP SE - 1-		****	n Aranana			Nater	Sample Type		853 arabe	REMARKS	5	PROJ	SAM
	/	/_										,			00	ARI	P	EC.	PLE
		2	PR		with the latest the la					_00 = 0 VA +4		4	# of containers		10	SS	MAIKET	PROJECT NAME/NO.	SAMPLERS (signature)
			PRINT NAME										TPH-Diesel		asper to .		7	NO	atur
		3	NA										TPH-Gasoline		5				e
	4	7	ME										BTEX by 8021B		3			0	2
	3	0										X	VOCs by8260		2				Y)
	(4											SVOCs by 8270	ANALYSES REQUESTED	1				5
+			_										HFS	LYS	5		9	9×	5
	+	R												ES R	1		8	78)
	+	5	2											EQU	0		B	PO#	6
		0	MP											JES.	3		10		
	1	F	COMPANY											TED		pla.	0-		
															☐ Parameter 30 days ☐ Return samples ☐ Will call with instructions	2	Rush charges authorized by	TURNAROUND Standard (2 Weeks)	
+	-	0													spose turn II cal	SAN	char	TUR	Page #
	1	7	DA			+	+			0	ay (5			samp l wit	APLI	ges a	NAR d (2	#
	- 5	7	DATE							0.00	5	7			r 30 des	DIS	utho	OUN	3
+	-	-								anne	-	7.	Notes		days	SAMPLE DISPOSAL	rized	TURNAROUND TIME andard (2 Weeks)	of
		ナン	TIME									1	8		ons	AL	by	ME	0

134

FORMS\COC\COC.DOC Fax (206) 283-5044

Received by:

TIME

No.

PO#

TURNAROUND TIME

ALStandard (2 Weeks)

Page #

Rush charges authorized by

SAMPLE DISPOSAL

DRUSH_

Return samples
Will call with instructions Dispose after 30 days

PROJECT NAME/NO. PROJECT NAME/NO. REMARKS COMODING OSP	Phone # (206)838-659/2Fax # (206)838-5853 andell(THE STATE OF	0 9	Send Report To Alan NOCI
ect cons	email to	REMARKS	NAIKER	SAMPLERS (signature)

		_			 							
3012 16th Avenue West	Friedman & Bruya, Inc.							- No.	LEGISUM-OGIOIS	DISPDRUM-091015	Sample ID	
Relinqui)								N	5	Lab ID	
Relinquished by:	SIGN								9/10/15	2/0/15	Date Sampled	
2	SIGNATURE								8:3	8:50	Time Sampled	
									water	CS:SO MOKE	Sample Type	
N. I.	PR								A	A	# of containers	
TATI	PRINT NAME										TPH-Diesel	
CAL	Z								1		TPH-Gasoline	
TIAIT											BTEX by 8021B	
										\times	VOCs by8260	
											SVOCs by 8270	AN.
											HFS	ATA
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MO							+					UE
COMPANY			-	0.0		100	+					ANALYSES REQUESTED
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DATE		i								9		
TIME								1		SOGN	Notes	
	3.										Mar.	_

FORMS\COC\COC.DOC

Fax (206) 283-5044

Received by:

Ph. (206) 285-8282

3012 16th Avenue West

Relinquished by:

Seattle, WA 98119-2029

Received by:

Relinquished by:

GROUN	DWATE	R SAMPLING	G RECOR	D		WELL NU	ЈМВЕП: _	MM-	2_	Page: of
Project Na Date: Sampled I	2/2	JUKE	r		· ·	Project Nu	umber: O	8019		Task 13
Measuring	Point of V		00				th (ft TOC):			
Screened	Interval (ft.	TOC)					ameter (inch			
	(Interval (f							Name of the last o		
Casing Vo	lume	(ft Wa	ater) x	(Lp	ofv)(gpf) =	(L)(g	al)			NEI
Casing voi	3/4"=	0.09 Lpf	2" = 0.16 (2" = 0.62 Lpt		4" = 0.65 gpf = 2.46 Lpf	6" = 1.4 6" = 5.56 l			Sample In	take Depth (ft TOC): 51
PURGIN		UREMENTS	-	-	= 2.40 Lpi	0 = 5.56 [_pi			
Criteria:		Typical	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume	0.1-0.5 Lpm Purge Rate	Water	100000	Specific	Dissolved	1)	ORP	Turbidity	Comments
0.00	(gal or L)		7	(°C)	(μS/cm)	Oxygen (mg/L)		(mv)	(NTU)	Comments
3:30		00,246	5 5a.14	7 13.0	630.7	10.87	5.53	17.4	/	12:18 Start
0.04				14.3	547a	0.54	-5.64	11.6	/-	purge
2:00				14.	4399.4	0.43	5.70	19,8	1	O Treating
2:31				14.5	378.2	10,41	5.73	8.8		
2:34				141	3755	10.42	5.73	18.2	/ .	
2:37			-	114.=	+ 376.8	0.47	5.79	7.5	/	8
2:44				114.7	-374.0	6.45	5174	7.2	276	12:45 Stop
					7			,		DUVAL
										Por Jo
		* .								
						30.1				
al Gallons	Purged:	42				Total Casing	Volumes Re	moved:		
	_	oc): 52	.26			Ending Total I				
	VENTO	, ,								
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara				Remarks
000	1.10			- 1			Turbidity & Sediment			
1:37-	tomL	VOAS	4	No	9MH9		(Mor	7. VDC	S DU 8260
										3
										t i
					•			1770		
THODS		h (instrument m	odel & seria	l number):	YSI	lifi	006	33	1000	ded to be
ing Fourier	nearn. //					Decon Equipm	nent:(I //	M ILA:	IVIT	LIVI TUDE
ing Equipnosal of Dis		ater: DY	2mc	nn o	Site					100

GROUN	DWATE	RSAMPLING	RECOR	D		WELL NU	MBER: 1	1W-E	5	Page: _ l _ of l
Project Na	ame: W	10	· Ohe	3v 101	et	Project Nu	umber:	801	90 -	-TOSKIS
	by:/		7- 7-				ckup (ft):	(ii 100) <u>. </u>	11.0	
Measuring	Point of W Interval (ft.		00				th (ft TOC):			
Screened Filter Pack	interval (ft. c Interval (fi	TOC)				Casing Dia	ameter (incl	nes):		
		(ft Wa	tor) v	// -4	-1/1	4.14				
Casing vol	umes: 3/4	"= 0.02 gpf	2" = 0.16	(Lpi	v)(gpi) = " = 0.65 apf	6" = 1.4	7 opf		Sample In	take Depth (ft TOC):
		0.09 Lpf 2					100 m		oumpie in	take Deptif (it 100).
PURGIN	G MEAS	UREMENTS								
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± Ø.1	± 10 mV	/± 10%	
Time	Cumul. Volume	Purge Rate	Water	Temp.	Specific	Dissolved	рН	ORP	Turbidity	Comments
	(gal or L)		Level	(°C)	Conductanc (µS/cm)	e Oxygen (mg/L)		(mv)	(NTU)	Comments
08:38		0.300			405.6		(0.45	41.0	(1110)	08:36 Star
08:42				11.1	412.4	- 6.29	640	29.2		Purae
8:46				13.5	405.3		(0.4)	17.3		rorgo
8:49			1	13.6	404.6	672	6.43	15.2		, , , , , , , , , , , , , , , , , , , ,
8:52				13.7	404.8	(0.73		14.2	378	08:57 Stop
8:55				1000	1040	0110	W.77	117.2	200	00.51500
				†				-		purge
				1		<u> </u>				
						 		-		
		60	 	1						
			 	-		 				
-				-						
_				-						
			 	-						
									.	
					1		-			
		1		-						
	Purged: _)			Total Casing	Volumes Re	emoved:		
ding Water	Level (ft T	oc): <u>52</u>	.45		_	Ending Total	Depth (ft TC	OC):		
	VENTO							•		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	ance			
			-			Color	Turbidity & Sediment			Remarks
8.55 4	-OmL	VOAs	4	No 1	2447		Countries	Chin	r. V1	re 1018261
					.,,,,,,			0.110	, 00	15 by 5401
										Charles and the control of the contr
							-			
								*		
THODS					1/0	1				
	10	h (instrument m	odel & seria	l number):	YSI	11F10	063	3		*
	nent: 🕦	ED PU	MP		4	Decon Equipn	nent:QU	MOUNT	4 dec	1. tubina
ing Equipr										
	charged W	ater: Dru	ms	on	SITE					



GROUN	DWATER	SAMPLING F	RECORD			WELL NU	MBER: M	W-8		Page:_
		alker Cheverolet				Project Nu	mber:		080190	
eveloped leasuring creened	Interval (ft. T					Casing Sti	ckup (ft): h (ft TOC):_		52,31	
asing Vol	umes: 2" = 2" =	(ft Water 0.16 gpf 0.62 Lpf	r) x 4" = 0.65 gpt	(Lpfv)	(gpf) =	(L)(gal)		Sample In	take Depth (ft TOC):
Criteria:		REMENTS Typical	Stable and			-				
Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm or Lpm)	minimal and Water Level (ft)	Temp.	± 3% Specific Conductivity (µS/cm)	± 10% Dissolved Oxygen (mg/L)	± 0.1	± 10 mV Eh ORP (mv)	± 10% Turbidity (NTU)	Comments
								1 ()	(1110)	Start purge @_ 1105
19		0.6		13.9	699	0.54	5,12	102.8		LATER @ 1108
15		0.4		13.8	709	0.36	5.17	87.5		1100
18				13.9	702	0.32	5.17	86.8		
QI I		0.3		13.3	700	0.26	5.17	78.1	482	
24				13.8	692	0.24	5.17	74.0		
27				13.9	695	0.22	5,17	每71.4	384	
_										
-										

										Stop purge @
ng Wate	Purged: r Level (ft TO	DC): <u>56,5</u>	-9			Total Casing Ending Total				
ime	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	rance	s 10 j.L. 1	Remarks
_							Color	Turbidity & Sediment		
0		VOA		4	N/A	2-HCL			MW-8-0	80116
-	- +								voc's by	8260 (CHLORANATED
-+									UNLY)	
-										
-										
HODS										
		IDs:	YST	YELD	فياد					
		30 Pump					ment: A	Alconox + De	edicated tubi	na
		ater:Dr								

GROUN	DWATER	SAMPLING	RECORD			WELL NU	MBER: 🖊	1W-	8D	Page: of
Date: Sampled be Measuring Screened	py: Point of W Interval (ft.					Project Nu Starting W Casing Stic Total Depti Casing Dia	ater Level (ckup (ft): n (ft TOC):		3.5	-TOSK 13
	Interval (ft.	1.0	- \				n			3
	umes: 3/4'	(ft Wat "= 0.02 gpf 0.09 Lpf 2	2" = 0.16 g	pf 4'			7 gpf	1	Sample In	take Depth (ft TOC):
PURGIN		JREMENTS								*5
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.	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments
11:30		40,220			353.C	9.90	7.67	22.1		11:27 Star
1:34				13.8	362,3	A.46	16,75	21.7	/	purge
1:38				A.I	3656	74.38	(0.72	20.5	/	• 0
1:41				14.2	365,5	4.34	6.71	19.6		
1:44			-	14.2	36A.Z	4.23	6.69	17.8	71001	11:49 Stog
1:47										purge
										0
			1				-			
					ļ					
			ļ							
-+						-				
		*								
-+										
- +			ė .							
	Purged:		3.39	7		Total Casing Ending Total				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appeara	ance			·
		1				Color	Turbidity & Sediment			Remarks
:472	HOML	VOAS	4	No	aHCI		Sediment	Chlor	VOUS	5 bu 8260
								<u> </u>		
						6				
								and the lates		
					<u> </u>					
THODS ameters m	easured wi	th (instrument m	nodel & seria	ıl number):	YSI	IIFIC	DO 6	33	NA	ded, tobing
	scharged W	Vater: Dr	oms	DD	Site	—	ment.	TO I	20 '	va. Ivalil
osal of Di										



GROUN	DWATER	SAMPLING F	RECORD			WELL NUN	BER: M	W-11		Page: \ of \
Project Na	ame:Wa	lker Cheverolet				Project Nun	nber:		- 080190	
Date:	2/3/	ENK	_						52.01	
						Casing Stic				
		l:	TOC			Total Depth			2"	
		OC)				Casing Diar	neter (Inche	(s):	0	
ı		(ft Water				(L)(gal)				
		0.16 gpf				(L)(gai)			Sample In	take Depth (ft TOC):
	2" =	0.62 Lpf	4" = 2.46 Lpt	f 6'	' = 5.56 Lpf					
PURGIN	IG MEASU	REMENTS								
Criteria	:	Typical 0.1-0.5 Lpm	Stable and minimal and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductivity	Dissolved Oxygen	рН	Eh ORP	Turbidity	Comments
	(gal or L)	(gpm or Lpm)	(ft)	(C or F)	(µS/cm)	(mg/L)		(mv)	(NTU)	
							ļ	 	1	Start purge @ 0940
0948				12.3	689	2.72	6.49	193,7	71000	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	
091000										
S -										
									 	
							-			
	,									Stop purge @ 0958
Total Gallo	ns Purged:				_	Total Casing	Volumes R	emoved:	2	
Ending Wa	ter Level (ft T	oc):52	.01			Ending Total	Denth (ft To	JC).		
			11//			Litting Total	Deptii (it it	50)		
Time	INVENTO		T	Overstitu	Filturation	Description	A			Remarks
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	Turbidity &		Remarks
							Color	Sediment		
1000	40 ml	VOA		4	NA	2-HCL				020316
									CHLORIA	DATED VOC'S \$5 BY
						197			1000/een 07 CT)
						D.				
						1 1				
METHOD					,					*
		n IDs: YSI								
Purging Equ	uipment: 🙋	ED PUMP &	MPID C	ONTROLE	SE	Decon Equip	oment:	Alconox + [Dedicated tu	bing
Disposal of	Discharged V	Vater:	Drums on site	e					-	
Observation	ns/Comments	No Ma	TREARIA	E BID	ANOX+	00885	JOTEA			
		The state of the s		,						
·										

anour	NDWATER	SAMPLING	RECORD			WELL NU	MBER:	1W-12	20	Page: of
Project N	ame; W	alker			,	Project Nu	mber: O	801	90-	Taskis
	2/2/	16	_				ater Level (ft TOC):	131.0	3
Sampled		JLE				Casing Sti	ckup (ft):	41		
	g Point of W						h (ft TOC):			
	Interval (ft. k Interval (ft.					Casing Dia	meter (inch	es):		
					v)(gpf) =					12n
asing vo		'= 0.02 gpf 0.09 Lpf 2			' = 0.65 gpf				Sample In	take Depth (ft TOC): 130
DIRGIN		JREMENTS	= 0.02 Lpi	4 =	2.46 Lpf	6" = 5.56 L	_pi			
Criteria:		Typical	Chabla		20/	400/				
	Cumul.	0.1-0.5 Lpm	Mator	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	<u>r </u>
Time	Volume	Purge Rate	Level	Temp.	Conductance		pН	ORP	Turbidity	Comments
	(gal or L)	(gpm or Lpm)		(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)	
0:30		0.140	131.03	311.9	373.5	8.07	7.06	6.Ca		10:27 Start
0:34		6		13,7	346,7	4.57	7.54	10.4		purae
0:38				13.4	347.0	7.10	7.59	14.3		1 3
0:41			1	12.8	337.2	2.30	7.50	1100		
0:44		 	+		346.5	726	750	10 1	1006	10:00 0 100
0.47				13,0	1346.2	7.76	4.08	18.1	506	10.50 8 COD
										purge
			1 1							')
			 		 					
		*								
				8.1						
					-					
								1		
al C-"	s Purged:	UD:	75			<u>-</u>				
	s Furgea	10	100		* 1	Total Casing	Volumes He	emovea:		
al Gallon	er Level (ft T	oc): 131	,49		E	Ending Total	Depth (ft TC	OC):		
		RY								
ding Wate	INVENTO		Quantity	Filtration	Preservation	Appeara	ance			
ding Wate	Volume	Bottle Type			<u> </u>		Turbidity &			Remarks
ding Wate		Bottle Type				Color	0			
MPLE I	Volume		Λ	NID	2 14 1	Color	Sediment	061-	VIDE	0 1-1.00/-0
MPLE I		Bottle Type	4	N.0	a HCI	Color	Sediment	Chlor	· VOC	s by8260
MPLE I	Volume		4	No.	a HCI	Color	Sediment	Chlor	· VOC	s by8260
MPLE I	Volume		4	No.	a HCJ	Color	Sediment	Chlor	· VOC	s by8260
MPLE I	Volume		4	No	a HCJ	Color	Sediment	Chlor	· VOC	s by8260
MPLE I	Volume		4	No.	a HCI	Color	Sediment	Chlor	· VOC	s by8260
MPLE I	Volume		4	No.	a HCJ	Color	Sediment	Chlor	- VOC	s by8260
MPLE Time	Volume +Om-		4	No.		Color	Sediment	Chlor	- VDC	s by8260
MPLE I	Volume +Om-		4	No.		Color	Sediment	Chlor	· VOC	s by8260
MPLE Time	Volume +Om/-		4			Color	Sediment	Chlor 633	· VOC	s by 8260
THODS	Volume Om neasured with	VOAS	4		YSI	IIF	100	Chlor 633	OX 9	s by 8260 ded. tubir
THODS	Volume Om/ neasured with the parametric operation of the parametric operation operation of the parametric operation of the parametric operation operation of the parametric operation op	h (instrument n	4		YSI	Color Decon Equip	100	Chlor 633	OX 4	s by 8260 - ded. tubir
THODS meters in ing Equiposal of Di	Volume Om neasured with	h (instrument n	4		YSI	IIF	100	Chlor 633	ox ox	ded tubin

278787#



GROU	NDWATER	SAMPLING F	RECORD			WELL NU	MBER: M	W-13D		Page: of
Project N	ame: Wa	alker Cheverolet				Project Nur	mber:		080190	
Measurin Screened	g Point of We Interval (ft. T	ENK II: FOC)	TOC			Casing Stic	:kup (ft): n (ft TOC):_	t TOC):		
Casing Vo	olume	(ft Water 0.16 gpf 0.62 Lpf	r) x 4" = 0.65 gpf	(Lpfv)	" = 1.47 gpf	(L)(gal)		Sample In	take Depth (ft TOC):
PURGIN	NG MEASU	REMENTS					4.4			
Criteria	ı:	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	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments
-						-				Start purge @ 1109
1117		0.3		10.4		9.27	7.20	#32,3		WATER @ 1112
1120				11.0	297.2	11.26	7.40	20.7	282	
1193				11.4	313.2	9.44	7.18	19.3		
1126				11.6	316.1	7.50	6.89	17.1		
1109	-			11.5	316.3	6.79	6.77	15.60	747	
1131	-			11.5	314.7	6,0	6.72	17.3		
					-					
				V)			-			
_				8558						
5%										Stop purge @ 1132
	ns Purged:		5,19		_	Total Casing				
		OC):				Ending Total	Depth (ft To	OC):		5
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Annos	arance		Remarks
	Volume	Bottle Type		Quantity	Tittation	rieservation	Color	Turbidity & Sediment		Remarks
11.35	V5A	VOA		4	NA	2-HCL			MW-13	3D-0ana16
	40mL									W 155

METHOD	S				***			- manufu		
ampling E	quipment with	IDs:	У	51-124	4101171 ()	(errow)				
		ED PUMP W					oment:	Alconox + D	edicated tub	oing
		Vater:								
bservation	ns/Comments:	No No	mcea Be	E RED	/ ANDREE	00006		200 - 200 -		
					/					



GROUN	DWATER	SAMPLING F	RECORD			WELL NUM	BER: Mu	J-14D		Page: of
Project Na	ime:Wa	lker Cheverolet				Project Nun	nber:		080190	
Date:	2/2/1	(0				Starting Wa	iter Level (fi	TOC):	134.11	
Developed	d by:	ENK				Casing Stic	kup (ft):		100 (111)	
Measuring	Point of Wel	II:	TOC			Total Depth	(ft TOC):			
Screened	Interval (ft. T	OC)				Casing Diar	meter (inche	es) <u>:</u>		
Filter Pack	Interval (ft.	гос)					******	v in		
		(ft Water				(L)(gal)				
100		0.16 gpf 0.62 Lpf							Sample In	take Depth (ft TOC):
		REMENTS		- 97						3
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.	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pН	Eh ORP (mv)	Turbidity (NTU)	Comments
	(gai oi L)	(gpin or cpin)	(11)	(COIT)	(долоні)	(Hig/L)		(IIIV)	(1410)	Start purge @ 0940
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		71000	I RICIEC O I O
1008				13.3	291.1	5.93	6.94	-26.7	2	
1011				13.1	291.4	5.81	6.90		>1000	
1014				10.1	01119	2.01	0.10	- d Tiu	/	
1017						 	 	 		
									-	
1090										
										196
								-		
					-			-		
		A .								
		2						-		
										Stop purge @ 1012
		oc): 134	.10		-	Total Casing Ending Total				
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	arance		Remarks
							Color	Turbidity & Sediment		
1015	40mL	Voa		4	N/A	2-HCL			MW-140	0.090910
										DATED VOC'S ONLY BY
									8260	
					100 10 10 10 10 10 10 10 10 10 10 10 10					
METHOD						, ,				
		n IDs:								
urging Equ	uipment: <u>Q</u>	DO Pump is,	MP-10 C	ONTROLEY		Decon Equip	pment:	Alconox + [Dedicated tul	bing
isposal of l	Discharged V	Vater:I	Drums on site	е						
bservation	s/Comments	RAN OUT	OF GAS-	RE-STA	RT PURGE	AT 0953	No.	B.D /AN	00000	Dores



GROUI	NDWATER	SAMPLING F	RECORD			WELL NUN	MBER: M	W-15		Page:l_ of _l
		alker Cheverolet				Project Nun	nber:		080190	
Develope Measurin	g Point of We	EN K				Starting Wa Casing Stick Total Depth	kup (ft): (ft TOC):			
		OC)				Casing Diar	meter (inche	es):	2"	
	olumes: 2" =	(ft Water 0.16 gpf 0.62 Lpf	4" = 0.65 gpf	f 6"	= 1.47 gpf	(L)(gal)			Sample Int	take Depth (ft TOC):
PURGII		REMENTS								
Criteria	a:	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 (pm)	Water Level (ft)	Temp. (C or F)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pН	Eh ORP (mv)	Turbidity (NTU)	Comments
		0.45						1	-	Start purge @ 1435
1501				11.1	421.9	1.62	6.17	43,4		WATER @ 1437
1504				10.2	378.1	1.27	6.26	38.6	665	
1507				11.2	356.4	0.91	6.31	30.4		
1510				11.8	355.6	0.70	6.34	26.8	371	
1513		0.40		11.9	354.4	0.57	6.37	24.1	200	
1516				11.9	354.0	0.46	6.40	21.5	++0	- 198M (A
1519				11.0	353,5	0,53	6.41	19.9	110	
1502				10,3	348,4	0.50	6.43	18.9	,,,,	
.										Stop purge @
Ending Wa		oc):	1.86			Total Casing Ending Total				
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Annes	arance		Remarks
	, commo	Detail Type		Quantity	This door	T TOSCI VALION	Color	Turbidity & Sediment		Kemarks
1510	40 m L	VOR		4	N/A	2-HCL			MW-15	- 020116
										32.00
METHOD)S								1	
WE I HOL		IDs:	YSI 12	K 1011	11 (Yeur	(wo				
Sampling E	1	_								
Purging Eq	uipment:(Vater:			OLER	Decon Equip	ment:	Alconox + E	Dedicated tub	oing

a,,,,	NDWATER	SAMPLING	RECORD		2	WELL NUI	MBER: 1	1-MM	9	Page: of
Project N		uker	Cheur	ole	-	Project Nu		1080	70-	TOSK 13
Sampled	by:		_			Casing Stic		(ft TOC): 5	1,04	-
/leasuring	g Point of W	ell: T	50			Total Depth				
	Interval (ft.					Casing Dia	meter (inc	hes):		
	k Interval (ft.									
					/)(gpf) =					V5
asing vo					= 0.65 gpf			*	Sample Int	take Depth (ft TOC): 5
URGIN		0.09 Lpf 2 JREMENTS	= 0.02 Lpi	4 =	2.46 Lpf	6" = 5.56 L	рг			
Criteria:		Typical	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul.	0.1-0.5 Lpm Purge Rate	Water	Temp.	Specific	Dissolved	DH.	ORP	Turbidity	Comments
	Volume (gal or L)	(gpm or Lpm)	Level	(°C)	Conductance (µS/cm)	Oxygen (mg/L)		(mv)	(NTU)	- Commonte
7:23		100.12	351.64	8.5	618.5	79.8	5.9	30.2		09:21 Start
1:27				13.0	879	0.81	6.13	13.2		Durge
1:31				13.3	8410	0.53	60.)1	95		Porge
1:34				10 2	821	553	to:05	1000	_	
:37			-	11 0	801	0.56	500	13.0		
9.40		<u> </u>	-	111		556	7017	4	411	00:45 -1
1,70				11.5	800	0.56	5.98	13.7	411	09.49 STD
										purge
										. 0
					-					di di
							-			
									-	
\neg							4			
	-									
		10 10	20			1		L		
I Gallon	s Purged: _	0.	1 3			otal Casing	Volumes F	Removed:		
na Mat	er Level (ft T	oc): <u>5</u> =	1.04		· E	Ending Total	Depth (ft T	OC):		
ny wate	INVENTO						11.11			
		Bottle Type	Quantity	Filtration	Preservation	Appeara				Remarks
IPLE	Volume	Dottie Type		- 1	1	Color	Turbidity & Sediment			Homans
IPLE	Volume	Bottle Type		7		COIOI				H18260
MPLE me	40mL	VOAs	4	No:	2W/HC/	00101	Countent	chlor.	VDCS	> 000000
MPLE me		VOAs	4	No:	2W/HC/	COIOI	,	Chlor.	VOCS	s 430200
MPLE me		VOAs	4	No :	2W/HC/	Color	Comment	Chlor.	VDCS	5 436200
MPLE me		VOAS	4	No !	3WHO	COOL	·	Chlor.	VDcs	5 430200
MPLE me		VOA'S	4	No .	2W/HC/	COO	·	Chlor.	VDCS	s 430200
MPLE		WAS.	4	No .	2W/HC/	COO		Chlor.	VDcs	5 03 6200
MPLE me		VOAS	4	No .	2W/HC/	Color	·	Chlor	VOCS	s w 6200
MPLE ime	40mL	VOA'S	4	No .	2W/HC/	Color		Chlor	VOCS	s 430200
MPLE ime	40mL	VOAS			2W/HC/	IF ID!		Chlor.	VOCS	s w 6200
MPLE me	40mL	VOA'S			YSI	IIF ID() 63	Chlor.	VOCS	ded, tolaine
HODS meters in g Equip	40mL	th (instrument m			YSI	INF ID () 63	Chlor. 3	VDCS	ded. tubing



GROUN	DWATER	SAMPLING F	RECORD		3.77	WELL NUM	IBER: M	W-20		Page: of
Project Na	me:Wa	lker Cheverolet			7.50	Project Num	nber:		080190	
Date:	2/2/	16	_			Starting Wa	ter Level (fi	TOC):	51.95	
Developed	l by:	ENK				Casing Stick				
Measuring	Point of Wel	l:	TOC			Total Depth				
Screened I	Interval (ft. 10 Interval (ft. 1	OC)				Casing Dian	neter (inche	es):		
		(ft Water				(L)(aal)				
	umes: 2" =	0.16 gpf	4" = 0.65 gpf	f 6"	= 1.47 gpf	(L)(gai)			Sample In	take Depth (ft TOC):
PURGIN		0.62 Lpf REMENTS	4 = 2.46 Lpi	. 6	= 5.56 Lpr					
Criteria:		Typical	Stable and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	0.1-0.5 Lpm Purge Rate (gpm or(Lpm)	minimal and Water Level (ft)	Temp.	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	рН	Eh ORP (mv)	Turbidity (NTU)	Comments
	(3=:=:=/	0.2	\.,		(1.0			Start purge @ _08 [4
0821				7.2	534.6	1.09	5.94	62.5		LUATER @ 0817
0824				7.1	531.6	0.78	5.98	51.2	808	DATE TO COLOR
				7,9	530.0	0.61	6.01	41.1	008	
0827				 				31.1	485	
0830				8.1	530.1	0.51	6.06	22.6	700	
0833				8.1	539.7	0.48	6.10	347151	30.00	
0836				8,1	528.8	0.42	6.13		247	
0839				8.2	528.3	0.43	6.15	7.7	000	
0842				8.2	525.9	0.35	6.18	0.6	221	
0845				8.2	523,3	0.39	6.20	-7.8	188	
	, ·									
9										Stop purge @ <u>0850</u>
Total Gallor	ns Purged:					Total Casing	Volumes F	Removed:	5	
					_					
Ending Wat	ter Level (ft T	OC):	1.82			Ending Total	Depth (ft T	OC):		
SAMPLE	INVENTO	RY								
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appe	arance		Remarks
- 2					1 4		Color	Turbidity & Sediment		
0850	HOML	VOA		4	NA	2-HCL			Mw-2	0-030316
0000	101110									IATED VOC'S ONLY BY
									8260	TIBE VOLS DION IO
					N-1				0000	
									X	
METHOD	S									
Sampling Ed	quipment with	h IDs:	YSI	12K	101171 (YELLOW	/			
		RED Pum						Alconox + D	edicated tu	bing
		Vater:								
		J. 63-65-66-56-56-56-56-56-56-56-56-56-56-56-								- /2:10/5: 25505
oservation	is/Comments	JUFGIHT F	4E224EE	4M WELL	. WON OPE	MJWW.	1001	ATTIOL	BLE B	to Anoxec oddes



GROUN	DWATER	SAMPLING F	RECORD			WELL NUM	MBER: MI	w-21		Page: of/_
Project Na	ame:Wa	lker Cheverolet				Project Nur	mber <u>:</u>		080190	
oate:	8/1/ d by:	ENIC				Starting Wa	ater Level (f	t TOC):	53.21	
easuring	Point of Wel	l:	TOC			Total Depth	(ft TOC):			
creened	Interval (ft. To	OC)				Casing Dia	meter (inch	es): <u>a</u>	')	
		гос)								
		(ft Water				(L)(gal))			
asing vo	lumes: 2" = 1	0.16 gpf	4" = 0.65 gp	f 6'	' = 1.47 gpf				Sample In	take Depth (ft TOC):
LIRGIN		0.62 Lpf REMENTS	4 = 2.46 Lp	1 6	= 5.56 Lpt					
Criteria		Typical	Stable and	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume	0.1-0.5 Lpm Purge Rate	Water	Temp.	Specific Conductivity	Dissolved	рН	Eh	Turbidity	Comments
	(gal or L)	(gpm or (pm)	Level (ft)	(C or F)	(µS/cm)	Oxygen (mg/L)		ORP (mv)	(NTU)	
102		0,4		11.1	597.8	1.95	5141	59.9		Start purge @1255
205		0.3		10.6	602.0	1.04	5.40	60.6	475	WATER @ 1258
08				9.5	602.7	0.37	5.40	61.7	1	WRIEIC C 1000
11				8.7	606,8	0.46	5,40	62.5		
14				8.6	580.0	0.39	5.41	63.6	580	
17				9,2	568.9		5.42	63.3	300	
						0.23			\100 = -	
20				9,5	564.5	0.17	5.43	63.3	>1000	
23		-		9.6	561.3	0.13	5.43	63.5		
26		<u> </u>		9.9	558.0	0.12	5,43	64.6	957	
	-									
										Stop purge @ _1327
al Gallor	ns Purged:					Total Casing	Volumes R	Removed:		
		<i>T</i> 3	~							
		oc): <i>53</i> ,.	35			Ending Total	Depth (ft T	OC) <u>:</u>		
	INVENTO									
Time	Volume	Bottle Type		Quantity	Filtration	Preservation	Appea	arance		Remarks
							Color	Turbidity & Sediment		
30	40mL	VDA		4	N/A	a-HCL			mw-24	-020116
									CHLOREN	ATED VOC'S ONLY
)
										A
										* * * * * * * * * * * * * * * * * * *
THOD					Q 2				in fil	
pling Ed	quipment with	IDs:	I # 12	K10117	1 (YELLOU	,)				
		DED Pump					ment:	Alconox + E	edicated tub	ping
		/ater:								

valion	s/comments:	LATEIL PRI	ESSURE IN	J WELL C	N OPENIN	0, 100	NOTECH	ARLE B	D/ ANO	22000 311

Send Report To HLAN Noene	SAMPLERS (signature
Company ASPECT CONSULTENSON	PROJECT NAME/NO.
Address 40, 200 Ave. 5, STE 201	680190 - WALKER
City, State, ZIP Sentle, Lon 98104	REMARKS
Phone # 200.838.6593 Fax # 306 938 5853 Email to:	Email to:

SAMPLERS (signature)		Page #
PROJECT NAME/NO. PO#		TURN
680190- LOALLER TOSK	V	Rush charg
REMARKS 13		SAM
Email to:		Bispose a

Page # of O	PO# Aslandard (2 Weeks)	TOSK CRUSH Rush charges authorized by	CAMPIE PROPERTY	SAMPLE DISPOSAL SAMPLE DISPOSAL]
State Leave (318ndiure)	PROJECT NAME/NO.	- 680190- WALKER	REMARKS		353 ANDELL & OSPECTORSULTING. COM	

									AN	IALY	SES	REOL	ANALYSES REQUESTED		
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8270	HEZ ZAOC ² p ³ 8530					Notes
Mw-8-020116		2/1/16 1130	1130	WATER	T		-	×	+						
Mw. Al-bacure			1330	LUMBER	1		+	×						1	CHEORINATED VOC
M1050-15-0116		→	1510	WATER	7			×		-				_	6054
MW-20-030316		2/2/10	0850	WATER	ı			>		-					
MW-5-020216		01/2/2	M 55:80 01/2/5	water	t		+	X							
MW-19-020216		2/2/16	2/2/16 09: 40 Wa-	water	士			×	-,						
MW-120-020216		47/10/01/2/2	10:47	water	7		-	X	1					_	
MW-14D-090316		5101 n1/c/e	1015	WATER	ゴ			X	-						
MN-8D-020216		47:11 01/2/2	古:二	water	4		+	X							
MW-130-020216		2/2/16/135	1135	WATER	ナ	-	+	. ×	-						
						-	1	-							

Friedman & Bruya, Inc 3012 16th Avenue West Seattle, WA 98119-202 Fax (206) 283-5044 Ph. (206) 285-8282 FORMS\COC\COC.DOC

-	NAIE TIME	9/4/10/7:45					
COMPANY	1	ASDECT					
PRINT NAME	+ 4	חשיאה האקנה					
Rain ichod hu	1	Roceived by:		Relinquished by:		Received by:	
	COMPANY DATE I	PRINT NAME COMPANY DATE	Old Iny eart ASDECT A/4/116	913 Judy Eny-eart ASDRC+ 3/4/16	Old Invent ASpect 3/4/16	Old Enyeart ASpect 3/4/16	Old Enyeart ASpect 3/4/16

Send Report To Alan Noell	SAMPLERS (signature)
Company Aspect Consulting	PROJECT NAME/NO.
Address 401 and auc S. Ste 201	080190-Wa
City, State, ZIP Seathle WA 98104	REMARKS
Phone # 206 - 838 - 659 4 #	

A Standard (2 Weeks)

C RUSH

Rush charges authorized by

ASD TRU

TURNAROUND TIME

of_

Page #

SAMPLE DISPOSAL Pispose after 30 days	☐ Return samples ☐ Will call with instructions	1 8		Notes		S. S. Carlotte	This make	vocs only	9										Y DATE TIME	
		ANAI Vere DEOTIEGRED	TISES NECOESTE	HES															COMPANY	100
		ANA		VOCs by 8270	- 1						1	1		\dagger						
			L	AOC ⁸ p ^A 8500 LEX p ^A 8051B		×		1		L	-	\perp		1		_			ונז	,
			H	TPH-Gasoline	- 1			+		-	+	 +	_	+		+	\dashv	IAAA	AIVI	1
			-	TPH-Diesel	+			+			\dagger	+	_	 +		+	\dashv	DRINT NAME	INI	9110
CKS				# of containers		4												I dd	IVI	LINGS FOR PORT
REMAKKS				Sample Type		WORL													1	
200				Time Sampled	20.5	10.71	4											SIGNATURE	000	えら と
てなっ	# >			Date Sampled	11140	14.0 14.34												NDIS	ned by;	- 1
2 6	- Cara			Lab		B												4	STAR	-
Phone # 2016 - 828 - 662				Sample ID	MW-7-07216														3012 16th Avenue West (Re	

Judy Erycart

Relinquished by:

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044 FORMS\COC\COC.DOC

Received by:

A Standard (2 Weeks)
□ RUSH
Rush charges authorized by

TURNAROUND TIME

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

SAMPLE DISPOSA

									AN	ALY	SES	ANALYSES REQUESTED	ESTE	D			
Sample ID	Lab	Date	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	2AOCs ph 8510 AOCs ph8560	HES							Notes
Mw-11-020316		00:01 1/8/	00:01	water	4			×									
									-	_					-		
								-	-	_				\vdash			
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								\vdash	-	-	_				+		
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									-	-	_				+		
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									-	-	_				+		
Friedman & Bruya, Inc.		SIGN	SIGNATURE			PRINT NAME	NA.	WE	$\left\{ \right\}$		_] 8	COMPANY		$+ \lceil$	DATE	TIME
3012 16th Avenue West	Relinqu	Relinquished by:	*	,	They Lineary on	1	1	6			_	Asper				3/2/11	11/6/

3/16/15:00

10:01

43

ASPECT

Judy Envicant

East Knozover

Seattle, WA 98119-2029

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

FORMS\COC\COC.DOC

ASPECT

Rite in the Pain.	
	1- Pr. July 0,000 8 1- 12
13:30 (Jmmate from Site	9:30-10 pigo sampleop
13:15 Lear Site	9-19:30 unload equipment
12:50 MW 72 Stab	19/31/15
V-2 Start	5-413
-8D Stop	6.30 arrive @ office
8D Start	500 of 514
3000 021-	4:40 RS-2
12D Start	4:30 RS-1
10000	P
19 start	3:0 RW-10
09:00 MW-S SCOO	300 arrul on six
08:30 MW-5 start	2:00 leave office
on site	1:30 load equipment
7500)
2/2/16 Walker Sunny	12/30/15 U-Saut Sunny

- CHARLOR O.25 hrs & 2.5 mi ONE-WAY BOWN TAC. Dome BERE THE PROBLEM CONT CERCOW ANG. THE ENSTREAMOR 0300- Aparile on SITE. BELOW W/ YSI CALLIB CATION, RELES has & 2.5 MAS CALLED THE TECH SUPPORT NUMBER (300.897,4151) MUST W/O THE CASLE, HE TOLD ME THAT THERE 0940 - VSI 14HIDSYSS WAL NOT EUNETRON - IT THENS OFF IMMEDIATELY DETER THE PAWER-UP SLEEDY. I DESCRIPTION PROBLEMS TRYING TO START - UP THE OF NEW BATTURES. I SPONE W/ BEN, AFTER WERDER: OVERCAST IN MUCH . ~ 250F, SUNSHANERS PROSELT WALLER CHEVEROLUT (080190/13) THEOLOGICAL LATE MOEN & AFTERNOON EQUAPMENT: YCE - 12K101171 (YOLOW) DED PUMP & CONTROLER OBJECTIVE: COLLECT (TIL) SAMPLES (,050) J STATION & SOTE DATE: 3/1/16

1300 - PERTENETO CALLS FROM S. BURNE & ELLC G. EEGARDING.

1030- Jusy Assert

1050 - Judy Departs

YSI BLUE

1015 - DEPART SETE AFTER SAMPLENCE MW. B, MW. 31, 4ND

MW-15. - HENDED TO LAPENSKE FUED.

1/16-110008/9

-ALAIN NOOL CALLED & ASK THAT I MHELL THE
LOCATION OF MUS-13 FOR PIC TACOMA, THE
THE ROW OF PALFER HUE, S ALENA 99 MST.
S. AND 100MST. S. IN FRONT OF THE FORMED
LAPENNET FLEE LOCATION

BILL FROM STADEMM THREEWAY TO S. STE (0.25 he \$ 7.7 mi) AND FROM SITE TO
TACOMA DOME STATION (0.25 hr \$ 10.1 mi)

TALOMA DOME STATION (0.25 hr \$ 10.1 mi)

Scale: 1 square =

SULCOFESTED WE SETTED THE UNIT IN. WE HAVE

~ 6 MONTHS LEFT OF THE 3-40. WARDENTY

Scale: 1 square =

IS LITTLE ELSE TO DO OVER THE PHONE. HE

BUCKET, AND RETURNING KEYS TO MORRELL'S, AA BATTORES FOR THE TURBEDSMETTER AND 1320 - HETER PACKENG MY GERRY, EMPTYENG PLAGE I HEND THAT THEFTHAY TO BUY SOME SOME C BATTERIES FOR THE YSI. 1300 - Jusy DEPARTS 1345-DEPART SITE SAMPLENSE MIN-11, MERE WAS NOT INS - SPOKE US/ ANGELS OZDO- ARENE ONSTIE - PARE NEW AW - 30 % STARP METANDE SAID THEY WILL BE BONJE BREAKING WENTER: CLERK, SLEDNY GOLDZE, WZSOF THI MODAL 1930 - LOOKER FOR MEYE TO CHECK ON SCHEDULE FOR DOWN THE MORENS & SHIPMENT BY 0800, 623 I SCHEDULED 4 STORY TIME OF 0830 FOR Sour PROSECT: UNALILER CHEVEROLET (080190/13) CARCALADE TO MIN 40'S Mecanite - ASST. PRODUCE MNOR OBTECTIVE: COLLEGE GILD SAMPLES CALL IREATIONS YSE YELD Bru: 7.25 hrs & 5 mi Denter - Presule Mobile STAFF: E. KNDENIER (ASPECT) J. ENVENCT (ASPECT) EQUIPMENT: SEE PO !! SAMPLENIES MILD-11. DATE: 2/2/2016 0750 - Judy Allenes

2

Scale: 1 square =

Scale: 1 square =

VFA LOW- FLOW SAMPLEWIS. SAMPLE WITH BE Miled-11 (ENGED & STROKEM THEFFURY FREEZER) OBJECTIVE! COLLECT A CACALLAWARER SAMOLE FROM Judmines to FEB FOR Tone VOC'S BY PROJECT: UMLKER CHENBROLET (OBDIGO/15) E STAFF: E. KNOEDLED (MSPELT) J. ENYEART (MSPECT) WENNIER: BUER CAST & ~ 40°F EQUIPMENT: SEE PO! Pres 20 Member 8260. 0800 - ARRIVE CINSLITE 0830- SULY ARRIVE DATE: 2/3/16 Bril;

- BAL A MOSTE GUY FOR KORSIND CONSTRUCTION

-Con #2(3) GUESN (I)

NoT TWE OR FRE MORN; CLOWED ITS AM; NO WED. SILD

APS-ME BETHERE DON'T MARK FLOOR

Schedule 3/ ESM NW - DRILL ERS

· MAP IS SKETCH

BORENC NOTES FOR STROMM TOPFINAY: ESNY

10

~7 HIGH DOUBLE DOORS AT GACK OF WHIT PLED FOR ACLIES

Do produce area bornou LAST

1020 - ALAN AND I GO OVER THE PROBING LOLATIONS ENSTOR STRONG THEATMAN. DBSO - July DEPARTS 0940 - ALAN ARRIVES

-> Let Kousme know when Locate is Happening 1350 - FRUISHED HALDROCK ERAND MEN-STRL . DEEP EORINGS MAY BE IN MARCH - UMITENG FOR 1350- ALLINE AT OFFICE - UNLORD EQUIPMENT * CHARGE DISTAS TO THSK 15, THE REST 1215 - DEPART SITE HENDED TO OFFICE GOES TO TRACK 13 NEED TO DECOND. Sroy Limbish ROW PERMIT

Scale: 1 square =

Scale: 1 square =

Rite in the Run

APPENDIX E

Analytical Results for Soil Samples

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

ENVIRONMENTAL CHEMISTS

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.

<u>Laboratory ID</u>	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.

ENVIRONMENTAL CHEMISTS

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	<u>Gasoline Range</u>	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

ENVIRONMENTAL CHEMISTS

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	$\frac{\text{Diesel Range}}{(C_{10}\text{-}C_{25})}$	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	< 50	<250	83

ENVIRONMENTAL CHEMISTS

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: Soil Instrument: ICPMS

Units: mg/kg (ppm) Dry Weight Operator: ML

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

Concentration

Analyte: mg/kg (ppm)

Lead 3.46

ENVIRONMENTAL CHEMISTS

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

Lower Upper Internal Standard: % Recovery: Limit: Limit: Holmium 98 60 125

Concentration

Analyte: mg/kg (ppm)

Lead 7.26

ENVIRONMENTAL CHEMISTS

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

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

Concentration

Analyte: mg/kg (ppm)

Lead 1.85

ENVIRONMENTAL CHEMISTS

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

Lower Upper Internal Standard: % Recovery: Limit: Limit: Holmium 100 60 125

Concentration

Analyte: mg/kg (ppm)

Lead <1

ENVIRONMENTAL CHEMISTS

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 mg/kg (ppm) Dry Weight Units: Operator: VM

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 95 31 163
Benzo(a)anthracene-d12 115 24 168

Concentration Compounds: 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

ENVIRONMENTAL CHEMISTS

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 mg/kg (ppm) Dry Weight Units: Operator: VM

Lower Upper Surrogates: % Recovery: Limit: Limit: Anthracene-d10 99 31 163
Benzo(a)anthracene-d12 115 24 168

115 Benzo(a)anthracene-d12 Concentration Compounds: 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

ENVIRONMENTAL CHEMISTS

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
D . D 1	0.4/0.0/4 =	T 1 TD	E0 4440 00 4 /F

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

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	93	31	163
Benzo(a)anthracene-d12	115	24	168

Concentration Compounds: 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

ENVIRONMENTAL CHEMISTS

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 04/08/15 Date Analyzed: Data File: 040804.D GCMS6 Matrix: Soil Instrument: Units: mg/kg (ppm) Dry Weight Operator: VM

Surrogates: Kecovery: Limit: Limit: Anthracene-d10 95 31 163
Benzo(a)anthracene-d12 117 24 168

Concentration Compounds: 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

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 Data File: Date Analyzed: 04/08/15 040819.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	99	89	113
Toluene-d8	111	64	137
4-Bromofluorobenzene	95	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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

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 Data File: Date Analyzed: 04/08/15 040824.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	104	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 04/08/15 040818.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	104	64	137
4-Bromofluorobenzene	98	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 04/08/15 040817.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

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

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

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

Date Extracted: 04/08/15 Lab ID: 05-0713 mb 04/08/15 Data File: Date Analyzed: 040808.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	99	64	137
4-Bromofluorobenzene	99	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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

ENVIRONMENTAL CHEMISTS

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)

Laboratory Coue.	ooiiio oo (Bapiicac	<i>~</i>)			
			D	uplicate	
	;	Sample R	esult	Result	RPD
Analyte	Reporting Units	(Wet W	Vt) (Wet Wt)	(Limit 20)
Gasoline	mg/kg (ppm)	<2		<2	nm
Laboratory Code:	Laboratory Control	Sample			
			Percent		
		Spike	Recovery	Acceptance	
Analyte	Reporting Units	Level	LCS	Criteria	_
Gasoline	mg/kg (ppm)	20	100	71-131	_

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	< 50	108	97	64-133	11

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	107	58-147

ENVIRONMENTAL CHEMISTS

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)

· ·		-	Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Lead	mg/kg (ppm)	50	9.90	95	95	59-148	0

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Lead	mg/kg (ppm)	50	102	80-120

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(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

Edbordtory Code. Edbordt	ory conteror camp	.10 1, 0	Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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)

Debts				Sample	Percent	Percent		
Dehbredfluteromethane		Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Chioromethane	Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Vinyl chloride mylk (ppm)								
Bromomethane		mg/kg (ppm)						
Chlorosthane mg/kg (ppm)								
Tirchlorofulnementhane mg/kg (ppm) 2.5 -0.5 58 59 10.95 5								
Acetane mg/sk (ppm) 12.5								
1.1-Dichloropene								
Methyle-thotyle-ther(MTBE)								
Methyl-butyl ether (MTBE)								
trans 1.2 Dichlorocthene mg/kg (ppm) 2.5 <0.05 73 77 13-112 5								
1.1-Dichloroethane								
2-2 Dichloropropane								
cis-12-Dichforocthene mg/kg (ppm) 2.5								
Chloroform mg/kg (ppm) 2.5								
2-Butanone (MEK) mg/kg (ppm) 12.5		mg/kg (ppm)						
1.2-Dichloroethane (EDC)								
1.1.1-Trichloropene								
1.1-Dichloropropene					79	81		2
Carbon tetrachloride mg/kg (ppm) 2.5							26-107	1
Benzene								4
Trichloropropane mg/kg (ppm)	Benzene		2.5	< 0.03	76	78	26-114	3
Bromodichloromethane	Trichloroethene		2.5	< 0.02	79	80	30-112	1
Dibromomethane	1,2-Dichloropropane						31-119	0
4-Methyl-2-pentanone mg/kg (ppm) 12.5 <0.5	Bromodichloromethane	mg/kg (ppm)					31-131	
cis-1.3-Dichiropropene 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-Dichiropropene mg/kg (ppm) 2.5 -0.05 84 84 30.136 0 1.12-Trichiropropene mg/kg (ppm) 2.5 -0.05 84 82 32.126 2 2.14-Exanone mg/kg (ppm) 12.5 -0.5 88 86 17.147 2 2.13-Dichiropropane mg/kg (ppm) 2.5 -0.05 87 88 86 17.147 2 2.13-Dichiropropane mg/kg (ppm) 2.5 -0.05 87 88 86 17.147 2 2.13-Dichiropropane mg/kg (ppm) 2.5 -0.05 87 88 32.143 1 2.13-Dichiropropane mg/kg (ppm) 2.5 -0.05 87 88 32.143 1 2.13-Dichiropropane mg/kg (ppm) 2.5 -0.05 87 85 32.126 2 2.14-Etrachirocethene mg/kg (ppm) 2.5 -0.05 87 85 32.126 2 2.15-Chirocheure mg/kg (ppm) 2.5 -0.05 82 83 37.113 1 2.15-Diromoethane (EDB) mg/kg (ppm) 2.5 -0.05 82 83 37.113 1 2.15-Diromoethane (EDB) mg/kg (ppm) 2.5 -0.05 82 83 37.113 1 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 84 34.115 4 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 84 34.115 4 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 84 37 27.126 4 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 84 87 27.126 4 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 87 89 39.121 2 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 87 89 39.121 2 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 88 89 34.123 3 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 81 81 81 81 81 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 81 81 81 81 81 81 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 80 88 87 110 1 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 80 88 87 110 1 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 80 88 87 110 1 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 80 88 37 112 1 2.15-Diromoethane mg/kg (ppm) 2.5 -0.05 80 88 37								
Toluene mg/kg (ppm) 2.5								
trans-13-Dichloropropene mg/kg (ppm) 2.5 -0.05 84 84 30-136 0 11-27-Trichlorochane 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 2 - Hexanone mg/kg (ppm) 2.5 -0.05 87 84 29-125 4 Tetrachlorochloromethane mg/kg (ppm) 2.5 -0.05 87 84 29-125 4 12-Dibromochloromethane (EDB) mg/kg (ppm) 2.5 -0.05 87 85 32-126 2 12-Dibromochloromethane (EDB) mg/kg (ppm) 2.5 -0.05 87 85 32-126 2 Chlorobenzene mg/kg (ppm) 2.5 -0.05 87 85 32-126 2 Chlorobenzene mg/kg (ppm) 2.5 -0.05 81 84 34-115 4 Lthylbenzene mg/kg (ppm) 2.5 -0.05 81 84 34-115 4 1,1,12-Tetrachlorocthane mg/kg (ppm) 2.5 -0.05 83 86 35-126 4 Nylene mg/kg (ppm) 2.5 -0.05 87								
1.1.2 Trichloroethane								
2-Hexanone mg/kg (ppm) 12.5								
1.3-Dichloropropane mg/kg (ppm) 2.5 < 0.05 87 84 29-125 4 Tetrachloroethene mg/kg (ppm) 2.5								
Tetrachloroethene								
Dibromochlaromethane mg/kg (ppm) 2.5 < 0.05 84 83 32-143 1 1 1 1 2 - Dibromochane (EDB) mg/kg (ppm) 2.5 < 0.05 87 85 32-126 2 2 2 2 2 2 2 2 2								
1.2-Dibromethane (EDB) mg/kg (ppm) 2.5 <0.05								
Chlorobenzene mg/kg (ppm) 2.5 < 0.05								-
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								
1.1.Î.2-Tetrachloroethane mg/kg (ppm) 2.5 <0.05								
mp. 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 86 89 34-123 3 Bromoform mg/kg (ppm) 2.5 <0.05 83 81 18-155 4 n-Propylbenzene mg/kg (ppm) 2.5 <0.05 81 81 18-155 4 n-Propylbenzene mg/kg (ppm) 2.5 <0.05 81 81 40-115 0 1,35-Trimethylbenzene mg/kg (ppm) 2.5 <0.05 86 86 24-130 0 1,1,2,3-Tethachioroethane mg/kg (ppm) 2.5 <0.05 89 88 27-148 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>								
o-Xylene								
Styrene mg/kg (ppm) 2.5 <0.05 87 89 39-121 2 Isopropylbenzene mg/kg (ppm) 2.5 <0.05								
Sopropylbenzene								
Bromoform								
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 83 84 39-110 1 4-Chlorotoluene mg/kg (ppm) 2.5 <0.05 89 92 36-116 3 1,2.4-Trimethylbenzene 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 85 87 35-116 2 sec-Butylbenzene mg/kg (ppm) 2.5 <0.05 85 83 32-119 3 1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 85 88 32-119 3 1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 85 88 32-119 3 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 80 82 38-111 2 1,4-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 80 82 38-111 2 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 80 83 40-111 4 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 89 88 37-122 1 1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05 80 80 81 81 81 81 81 81 81 81 81 81 81 81 81			2.5	< 0.05	78	81	18-155	4
Bromobenzene mg/kg (ppm) 2.5 <0.05 81 81 40-115 0 1,3,5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05	n-Propylbenzene		2.5	< 0.05	83	85	31-120	2
1,3.5-Trimethylbenzene mg/kg (ppm) 2.5 <0.05	Bromobenzene		2.5	< 0.05	81	81	40-115	0
1,2,3-Trichloropropane mg/kg (ppm) 2.5 <0.05	1,3,5-Trimethylbenzene			< 0.05		86	24-130	0
2-Chlorotoluene mg/kg (ppm) 2.5 <0.05								
4-Chlorotoluene mg/kg (ppm) 2.5 <0.05								
tert-Butylbenzene								
1,2,4-Trimethylbenzene mg/kg (ppm) 2.5 <0.05								
sec-Butylbenzene mg/kg (ppm) 2.5 <0.05 84 88 33-118 5 p-Isopropyltoluene mg/kg (ppm) 2.5 <0.05								
p-Isopropyltoluene mg/kg (ppm) 2.5 <0.05 85 88 32-119 3 1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05								
1,3-Dichlorobenzene mg/kg (ppm) 2.5 <0.05								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								
1,2-Dichlorobenzene mg/kg (ppm) 2.5 <0.05								
1,2-Dibromo-3-chloropropane mg/kg (ppm) 2.5 <0.5								
1,2,4-Trichlorobenzene mg/kg (ppm) 2.5 <0.25								
Hexachlorobutadiene mg/kg (ppm) 2.5 <0.25 81 83 24-128 2 Naphthalene mg/kg (ppm) 2.5 <0.05								
Naphthalene mg/kg (ppm) 2.5 <0.05 86 90 24-139 5								
	1,2,3-Trichlorobenzene	mg/кg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.25	86 83	90 85	24-139 35-117	5 2

ENVIRONMENTAL CHEMISTS

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

·	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	58	10-76
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	76 81	34-98 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) trans-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	102 100	72-122 71-113
1.1-Dichloroethane	mg/kg (ppm) 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 2.5	101 97	67-123
Benzene Trichloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101	72-106 72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	104	72-107 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 2.5	109 108	70-129 75-115
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103	73-115 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 Isopropylbenzene	mg/kg (ppm)	2.5 2.5	109 110	76-119 76-120
Bromoform	mg/kg (ppm) 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 1,2,4-Trimethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	112 107	77-123 77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	107	77-119 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 1.2.3-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	108 102	73-122 75-117
1,2,0-11 (CHIO) ODEHZEHE	mg/vg (hhm)	د.ن	102	13-111

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dy Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- 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.

Friedman & Bruya, Inc.					AB-4-16.5	AB-3-14.5	AB-2-16.5	Sample ID	
Dalinania					03/	2	01 2	Lab ID	
SIGNATURE							5119113 10	Date Sampled	
ATURE					1200	1100	950	Time Sampled	
					←		50,1	Sample Type	
PR			i		5	5	5	# of containers	
PRINT NAME					X	×	×	TPH-Diesel	П
NA					×	×	×	TPH-Gasoline	
ME								BTEX by 8021B	
					×	×	×	VOCs by8260	
								SVOCs by 8270	ANA
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.						\times	X	PAHS	ES F
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TIME 830

Ph. (206) 285-8282

Seattle, WA 98119-2029

Received by:

Relinquished by:

Relinquished by:

3012 16th Avenue West

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 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

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 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.

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

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	<u>Diesel Range</u> (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

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 mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	102	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B12-5 Client: Aspect Consulting, LLC Date Received: 02/25/16 Project: 080190 - Walker Chevrolet

Date Extracted: 02/26/16 Lab ID: 602438-02 Data File: Date Analyzed: 022910.D 02/29/16 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B12-9	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet

Date Extracted: 02/26/16 Lab ID: 602438-03 Data File: Date Analyzed: 02/29/16 022911.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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 Data File: Date Analyzed: 022912.D 02/29/16 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	99	81	119

C	Concentration	Community de	Concentration
Compounds:	mg/kg (ppm)	Compounds:	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		

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 02/29/16 022913.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	99	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Date Extracted: 02/26/16 Lab ID: 602438-06 Data File: Date Analyzed: 022914.D 02/29/16 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	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 Data File: Date Analyzed: 02/29/16 022915.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	101	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B16-6	Client:	Aspect Consulting, LLC
Date Received:	02/25/16	Project:	080190 - Walker Chevrolet

Date Extracted: 02/26/16 Lab ID: 602438-08 Data File: Date Analyzed: 02/29/16 022916.D Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

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

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

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

Date Extracted: 02/26/16 Lab ID: 06-0372 mb 02/26/16 Data File: Date Analyzed: 022634.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

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

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

ENVIRONMENTAL CHEMISTS

Date of Report: 03/03/16 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)

			Duplicate	
		Sample Result	Result	RPD
Analyte	Reporting Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

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

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	< 50	95	96	63-146	1

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	91	79-144

ENVIRONMENTAL CHEMISTS

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)

Laboratory Code: 002456-02	(Water in Spine)		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	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 Acetone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	<0.5 <0.5	73 97	70 92	10-95 11-141	4 5
1,1-Dichloroethene	mg/kg (ppm)	2.5	< 0.05	81	92 75	11-141	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 12.5	<0.05 <0.5	96 106	90 97	29-117 20-133	6 9
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05 <0.05	87	97 82	20-133 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	111 101	103	16-147	7
cis-1,3-Dichloropropene Toluene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	101 84	95 80	28-137 34-112	6 5
trans-1,3-Dichloropropene	mg/kg (ppm) 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
Ethyl benzene 1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	91 91	86 82	34-115 35-126	6 10
m,p-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5 5	<0.05 <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 6
2-Chlorotoluene 4-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	89 92	84 87	39-110 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 Naphthalene	mg/kg (ppm)	2.5 2.5	<0.25 <0.05	87 92	85 86	24-128 24-139	2 7
1,2,3-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.25	92 89	86	24-139 35-117	3
1,2,5-111CHOLOBEHZEHE	mg/vg (bhiii)	۵.3	~U.LJ	00	00	33-117	3

ENVIRONMENTAL CHEMISTS

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

•	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	64	10-76
Chloromethane Vinyl chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	81 84	34-98 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 2.5	99 85	65-110 55-107
Hexane Methylene chloride	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	85 107	50-107 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 2-Butanone (MEK)	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	106 114	76-110 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 Bromodichloromethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	106 102	74-115 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 12.5	105	77-116
2-Hexanone 1,3-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	12.5 2.5	107 100	70-129 75-115
Tetrachloroethene	mg/kg (ppm)	2.5	99	73-113
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 m,p-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5 5	98 100	76-125 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 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	98 102	76-112 77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	102	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 p-Isopropyltoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100 100	78-120 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 1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5 2.5	101 98	73-122 75-117
1,2,5-11 teniorobenzene	mg/kg (ppm)	۵.3	98	73-117

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dy Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- $hr\ -\ The\ sample\ and\ duplicate\ were\ reextracted\ and\ reanalyzed.\ RPD\ results\ were\ still\ outside\ of\ control\ limits.\ Variability\ is\ attributed\ to\ sample\ inhomogeneity.$
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

B12-5 FORMS\COC\COC.DOC B+15-6.5 BIH - 10.5 Seattle, WA 98119-2029 B-15-5 B+16-6 B114-4.5 B+12-9 Ph. (206) 285-8282 3012 16th Avenue West Fax (206) 283-5044 Friedman & Bruya, Inc. B1-5.5 B110-4.5 Phone #26.838.6592 Fax # City, State, ZIP SCATTLE, WA 98104 Address Company _ Send Report To Huan NocaL していたいけいりょう 854609 Sample ID 401 2" Ave. S., STERM 201 H SPECT CONSULTANCE Received by: Relinquished by: Received by: Relinquished by: 80 50 gA S 90 25 Lab ID 7 2/35/16/0210 Date Sampled SIGNATURE Time Sampled 0430 0435 0350 2480 STE 2000 0300 9540 SAMPLE CHAIN OF CUSTODY Sample Type 2500 SAMPLERS (signature) REMARKS 080190 -PROJECT NAME/NO. containers Cole Vesus 一天艺人 **FOOT** ら # of LYALKER CHEVROLET PRINT NAME \sim × メ X メ TPH-Diesel NAMEO $\overline{ imes}$ $\overline{\mathsf{X}}$ × $\overline{\mathsf{x}}$ × × TPH-Gasoline BTEX by 8021B X X × X X × × VOCs by8260 SVOCs by 8270 NALYSES REQUESTED **HFS** Relex PO# 2/25/16 coz/1/52 COMPANY Samples redeived at ☐ Return samples
☐ Will call with instructions Standard (2 Weeks) ☐ Dispose after 30 days Rush charges authorized by TURNAROUND TIME SAMPLE DISPOSAL 7-25-19 DATE Aded to R. Notes 020.1 13:30 TIME ကိ

2/26/16

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 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

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.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

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.

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

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	<u>Diesel Range</u> (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	< 50	<250	88

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

 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

Concentration

Analyte: mg/kg (ppm)

Lead 3,250

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead <1

ENVIRONMENTAL CHEMISTS

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
	G 13	- .	0.01.00

Date Analyzed:03/03/16Data File:030304.DMatrix:SoilInstrument:GCMS6Units:mg/kg (ppm) Dry WeightOperator:VM

~		Lower	Upper
Surrogates:	% Recovery:	Limit:	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.

ENVIRONMENTAL CHEMISTS

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

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	8 d	31	163
Benzo(a)anthracene-d12	131 d	24	168

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.

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 03/02/16 030214.D Matrix: Soil Instrument: GCMS6 mg/kg (ppm) Dry Weight Units: Operator: VM

	0.4	Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
Anthracene-d10	89	31	163
Benzo(a)anthracene-d12	99	24	168

Benzo(a)anthracene-d12	99	24	168
	Concentration		
Compounds:	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		

ENVIRONMENTAL CHEMISTS

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 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

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	94	81	119

C	Concentration	C	Concentration
Compounds:	mg/kg (ppm)	Compounds:	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.

ENVIRONMENTAL CHEMISTS

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 Data File: 022521.D Date Analyzed: 02/25/16 Matrix: Soil Instrument: GCMS9 mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	101	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For 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

Concentration Compounds: 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.

ENVIRONMENTAL CHEMISTS

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

< 0.02

< 0.02

Concentration Compounds: 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

Aroclor 1268

ENVIRONMENTAL CHEMISTS

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)

			Duplicate	
		Sample Result	Result	RPD
Analyte	Reporting Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

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

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	1,900	88	83	63-146	6

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	79-144

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Lead	mg/kg (ppm)	50	11.1	104	93	70-130	11

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Lead	mg/kg (ppm)	50	102	85-115

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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)

•	-		Sample	Percent	
	Reporting	Spike	Result	Recovery	Acceptance
Analyte	Units	Level	(Wet wt)	MS	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 77	10-91
Bromomethane Chloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.5	67	10-110 10-101
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	60	10-101
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 cis-1,2-Dichloroethene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	86 91	18-117 25-120
Chloroform	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	91 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 2.5	< 0.05	92 94	31-131
Dibromomethane 4-Methyl-2-pentanone	mg/kg (ppm) mg/kg (ppm)	2.5 12.5	<0.05 <0.5	94 108	27-124 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 2.5	<0.05 <0.05	95 92	32-126
Chlorobenzene Ethylbenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	92 90	37-113 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 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	< 0.05	92 94	40-115
1,3,3-1 rimethylbenzene 1,1,2,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	94 94	24-130 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 1,2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	89 91	39-109 40-111
1,2-Dicnioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.5	91 92	40-111 37-122
1,2,4-Trichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.25	92 95	31-121
Hexac hlorobutadiene	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

ENVIRONMENTAL CHEMISTS

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

•	Percent Perce		Percent			
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	54	53	10-76	2
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	79 80	75 78	34-98 42-107	5 3
Bromomethane	mg/kg (ppm) 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 Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	117 100	113 97	50-127 72-122	3 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) 1,1,1-Trichloroethane	mg/kg (ppm)	2.5 2.5	94 110	93 109	73-111 72-116	1 1
1,1-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	100	96	72-116 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 2.5	118 94	113 91	71-138 74-111	4 3
Toluene trans-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	94 118	113	74-111 77-135	3 4
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	107	105	77-133	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 1.1.1.2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	101 98	97 97	75-112 76-125	4 1
n,p-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5 5	100	97 98	76-125 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 2.5	105 103	100 98	77-121 74-121	5 5
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	98	98 95	74-121 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 1,2-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	98 101	95 97	74-109 75-114	3 4
1,2-Dicnioropenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	101	97 98	75-114 68-122	4
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	102	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

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	
	Reporting	Spike	Result	Recovery	Control
Analyte	Units	Level	(Wet Wt)	MS	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

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- $hr\ -\ The\ sample\ and\ duplicate\ were\ reextracted\ and\ reanalyzed.\ RPD\ results\ were\ still\ outside\ of\ control\ limits.\ Variability\ is\ attributed\ to\ sample\ inhomogeneity.$
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

FORMS\COC\COC.DOC Ph. (206) 285-8282 Seattle, WA 98119-2029 Fax (206) 283-5044 3012 16th Avenue West Friedman & Bruya, Inc. Phone # 2010.838.6592 Fax # Address 401 2" Ave. S., STE 201 Company ASPET CONSULTING City, State, ZIP SEATTLE, WA 98104 602439 Sample ID 1311-5.5 Alan Noce Received by: Received by, at Jarail Relinquished by: Relinquished by: 81 A-#3/25/16 Tab Date Sampled SIGNATURE Time Sampled 0230 SAMPLE CHAIN OF CUSTODY Sample Type | containers 40 080190 - WALLER CHEVROLET SAMPLERS (signature) PROJECT NAME/NO REMARKS - HANKS Earc Roy K Vasan HOICH NAMES U # of KNOODUSA PRINT NAME × TPH-Diesel × TPH-Gasoline BTEX by 8021B X VOCs by8260 ANALYSES REQUESTED SVOCs by 8270 **HFS** ME 2/25/16 COI/VSI FR * ASPECT CPAHS lelec PO# * COMPANY PCBs * Samples redeived at ☐ Return samples
☐ Will call with instructions ☐ Standard (2 Weeks)

▼ RUSH ②- DAY ☐ Dispose after 30 days Rush charges authorized by TURNAROUND TIME SAMPLE DISPOSAL 0/25/16 2.25.18 DATE * po Nº 2/2// Notes 13:30 050:1 TIME

ENVIRONMENTAL CHEMISTS

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

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

ENVIRONMENTAL CHEMISTS

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.

ENVIRONMENTAL CHEMISTS

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 (<u>% Recovery</u>) (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

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 3.82

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 03/10/16 603089-02.043

Matrix: Instrument: ICPMS1 Soil Units: SP

mg/kg (ppm) Dry Weight Operator:

Concentration

Analyte: mg/kg (ppm)

Lead 2.59

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 2.18

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 2.55

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 1.81

ENVIRONMENTAL CHEMISTS

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:03/10/16Lab ID:I6-138 mbDate Analyzed:03/10/16Data File:I6-138 mb.022Matrix:SoilInstrument:ICPMS1

Units: mg/kg (ppm) Dry Weight Operator: SP

Concentration

Analyte: mg/kg (ppm)

Lead <1

ENVIRONMENTAL CHEMISTS

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 Data File: 030437.D Date Analyzed: 03/04/16 Matrix: Instrument: GCMS9 Soil Units: mg/kg (ppm) Dry Weight Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	89	113
Toluene-d8	111	64	137
4-Bromofluorobenzene	98	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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		

ENVIRONMENTAL CHEMISTS

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: Data File: 03/04/16 030435.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	105	64	137
4-Bromofluorobenzene	101	81	119

	Concentration		Concentration
Compounds:	mg/kg (ppm)	Compounds:	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		

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 030432.D 03/04/16 Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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: Data File: 03/04/16 030436.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	100	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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: Data File: 03/04/16 030433.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	102	64	137
4-Bromofluorobenzene	100	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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: Data File: 03/04/16 030431.D Matrix: Instrument: GCMS9 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	89	113
Toluene-d8	103	64	137
4-Bromofluorobenzene	101	81	119

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

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

Date Received: Not Applicable Project: 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 mg/kg (ppm) Dry Weight Operator: Units: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	89	113
Toluene-d8	104	64	137
4-Bromofluorobenzene	100	81	119

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

ENVIRONMENTAL CHEMISTS

Date of Report: 03/14/16 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)

		Sample	Duplicate	
		Result	Result	RPD
Analyte	Reporting Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

			reiteiit	
		Spike	Recovery	Acceptance
Analyte	Reporting Units	Level	LCS	Criteria
Gasoline	mg/kg (ppm)	20	100	61-153

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	< 50	109	102	64-133	7

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

ENVIRONMENTAL CHEMISTS

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)

-			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Lead	mg/kg (ppm)	50	1.94	91	91	70-130	0

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Lead	mg/kg (ppm)	50	98	85-115

ENVIRONMENTAL CHEMISTS

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)

,	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	< 0.5	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 83	58 88	10-91	0
Bromomethane Chloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.5	83 74	88 74	10-110 10-101	6 0
Trichlorofluoromethan e	mg/kg (ppm)	2.5	<0.5	58	53	10-101	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 2,2-Dichloropropane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	92 91	93 92	23-115 18-117	1
cis-1,2-Dichloroethene	mg/kg (ppm) 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 Trichloroethene	mg/kg (ppm)	2.5 2.5	<0.03 <0.02	88 101	90 104	26-114 30-112	2 3
1,2-Dichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.02	101	104	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 2-Hexanone	mg/kg (ppm)	2.5 12.5	<0.05 <0.5	102 101	103 103	32-126 17-147	1 2
1,3-Dichloropropane	mg/kg (ppm) 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 o-Xylene	mg/kg (ppm)	5 2.5	<0.1 <0.05	95 95	97 97	25-125 27-126	2 2
Styrene	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05	96 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 2.5	<0.05 <0.05	96 93	100 98	27-148 33-123	4 5
1,2,3-Trichloropropane 2-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	93 94	98 95	39-110	3 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 2.5	<0.05 <0.05	94 95	96 99	39-109	2
1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.5	95 91	99 92	40-111 37-122	4
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

ENVIRONMENTAL CHEMISTS

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

· ·	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	65	10-76
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	84 84	34-98 42-107
Bromomethane	mg/kg (ppm) 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 Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	103 98	50-127 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 2.5	96 100	73-111 72-116
1,1,1-Trichloroethane 1,1-Dichloropropene	mg/kg (ppm)	2.5 2.5	96	72-116 72-112
Carbon tetrachloride	mg/kg (ppm) mg/kg (ppm)	2.5	90 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 Toluene	mg/kg (ppm)	2.5 2.5	106 90	71-138 74-111
trans-1,3-Dichloropropene	mg/kg (ppm) mg/kg (ppm)	2.5	103	77-135
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	100	77-135
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 Ethylbenzene	mg/kg (ppm)	2.5 2.5	98 94	76-109 75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm) mg/kg (ppm)	2.5	94 91	76-112 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 2.5	92	77-115
Bromobenzene 1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5 2.5	93 97	76-112 77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm) 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 p-Isopropyltoluene	mg/kg (ppm)	2.5 2.5	94 96	78-120 77-120
1.3-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5	94	76-112 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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dy Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- $hr\ -\ The\ sample\ and\ duplicate\ were\ reextracted\ and\ reanalyzed.\ RPD\ results\ were\ still\ outside\ of\ control\ limits.\ Variability\ is\ attributed\ to\ sample\ inhomogeneity.$
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Company Aspect Consulting Phone # 206.838.6592 Fax # City, State, ZIP SEATTLE, WA 98104 Address 401 2 No Ave. S., STE 201 Send Report To Han Noell

SAMPLE CHAIN OF CUSTODY	121/174 91/h/C 21/1	1116
SAMPLERS (signature)	,	Page #
		TURNAROUND TIME
PROJECT NAME/NO.	PO#	Standard (2 Weeks)
WALKER CHEVROLET - 080190		Rush charges authorized by
REMARKS		SAMPLE DISPOSAL
	-	☐ Dispose after 30 days
ーーキュストン・		☐ Return samples
		☐ Will call with instructions

82
ne 21B 60

. Ph. (206) 28 Friedman & 3012 16th A Seattle, WA Fax (206) 2.

FORMS\COC\COC.DOC

& Bruya, Inc.	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
i Avenue West	Reknquished by:	Here KNOEDLER	Aspect	3/4/16	1400
A 98119-2029 Received by:	Received by:	く) 2 十	TB/	3/4/16	16 14 0-
285-8282	Relinquished by:				
283-5044	Received by:				

ENVIRONMENTAL CHEMISTS

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

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

ENVIRONMENTAL CHEMISTS

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.

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

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	Diesel Range	Motor Oil Range	Surrogate (% Recovery)
Laboratory ID	$(C_{10}-C_{25})$	$(C_{25}-C_{36})$	(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

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: B17-2 Aspect Consulting, LLC Client:

080190-Walker Chev, F&BI 605190 Date Received: 05/11/16 Project:

Date Extracted: 05/12/16 Lab ID: 605190-01 Data File: Date Analyzed: 05/19/16 605190-01.138

Matrix: Soil Instrument: ICPMS1 AP

mg/kg (ppm) Dry Weight Units: Operator:

Concentration

Analyte: mg/kg (ppm)

Lead 1.71

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 1.10

ENVIRONMENTAL CHEMISTS

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

Matrix: Soil Instrument: ICPMS1 Units: mg/kg (ppm) Dry Weight Operator: AP

Concentration

Analyte: mg/kg (ppm)

Lead 1.29

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 11.1

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead 1.87

ENVIRONMENTAL CHEMISTS

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

Concentration

Analyte: mg/kg (ppm)

Lead <1

ENVIRONMENTAL CHEMISTS

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 051351.D Data File: Date Analyzed: 05/14/16 Matrix: Instrument: GCMS4 Soil Units: mg/kg (ppm) Dry Weight Operator: JS

_		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	104	55	145
4-Bromofluorobenzene	102	65	139

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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: Data File: 051352.D 05/14/16 Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	105	55	145
4-Bromofluorobenzene	103	65	139

Dichlorodifluoromethane	Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Chloromethane < 0.5 Tetrachloroethene < 0.025 Vinyl chloride < 0.05	•	0 0 11	•	
Vinyl chloride <0.05 Dibromochloromethane <0.05 Bromomethane <0.5				
Bromomethane				
Chloroethane <0.5				
Trichlorofluoromethane <0.5 Ethylbenzene <0.05 Acetone <0.5				
Acetone <0.5				
1,1-Dichloroethene	Trichlorofluoromethane	< 0.5		< 0.05
Hexane <0.25 o-Xylene <0.05 Methylene chloride <0.5		< 0.5		< 0.05
Methylene chloride <0.5	1,1-Dichloroethene	< 0.05	m,p-Xylene	< 0.1
Methyl t-butyl ether (MTBE) <0.05		< 0.25	o-Xylene	< 0.05
trans-1,2-Dichloroethene <0.05	Methylene chloride	< 0.5	Styrene	< 0.05
1,1-Dichloroethane <0.05		< 0.05	Isopropylbenzene	< 0.05
2,2-Dichloropropane <0.05	trans-1,2-Dichloroethene	< 0.05	Bromoform	< 0.05
cis-1,2-Dichloroethene <0.05	1,1-Dichloroethane	< 0.05	n-Propylbenzene	< 0.05
Chloroform <0.05	2,2-Dichloropropane	< 0.05	Bromobenzene	< 0.05
2-Butanone (MEK) <0.5	cis-1,2-Dichloroethene	< 0.05	1,3,5-Trimethylbenzene	< 0.05
1,2-Dichloroethane (EDC) <0.05	Chloroform	< 0.05	1,1,2,2-Tetrachloroethane	< 0.05
1,1,1-Trichloroethane <0.05	2-Butanone (MEK)	< 0.5	1,2,3-Trichloropropane	< 0.05
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2-Dichloroethane (EDC)	< 0.05	2-Chlorotoluene	< 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	1,1,1-Trichloroethane	< 0.05	4-Chlorotoluene	< 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	1,1-Dichloropropene	< 0.05	tert-Butylbenzene	< 0.05
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Carbon tetrachloride	< 0.05	1,2,4-Trimethylbenzene	< 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	Benzene	< 0.03	sec-Butylbenzene	< 0.05
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Trichloroethene	< 0.02		< 0.05
$\begin{array}{llllllllllllllllllllllllllllllllllll$	1,2-Dichloropropane	< 0.05	1,3-Dichlorobenzene	< 0.05
4-Methyl-2-pentanone<0.5	Bromodichloromethane	< 0.05		< 0.05
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	Dibromomethane	< 0.05	1,2-Dichlorobenzene	< 0.05
Toluene<0.05Hexachlorobutadiene<0.25trans-1,3-Dichloropropene<0.05	4-Methyl-2-pentanone	< 0.5	1,2-Dibromo-3-chloropropane	< 0.5
trans-1,3-Dichloropropene <0.05 Naphthalene <0.05 1,1,2-Trichloroethane <0.05 1,2,3-Trichlorobenzene <0.25	cis-1,3-Dichloropropene	< 0.05	1,2,4-Trichlorobenzene	< 0.25
1,1,2-Trichloroethane <0.05 1,2,3-Trichlorobenzene <0.25	Toluene	< 0.05	Hexachlorobutadiene	< 0.25
1,1,2-Trichloroethane <0.05 1,2,3-Trichlorobenzene <0.25	trans-1,3-Dichloropropene	< 0.05	Naphthalene	< 0.05
		< 0.05		< 0.25
	2-Hexanone	< 0.5		

ENVIRONMENTAL CHEMISTS

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 Data File: Date Analyzed: 05/14/16 051353.D Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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 051354.D Date Analyzed: Data File: 05/14/16 Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	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)
•	0 0 11	•	
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	1,2,0 111011010001120110	````š
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ENVIRONMENTAL CHEMISTS

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: Data File: 051652.D 05/17/16 Matrix: Instrument: GCMS4 Soil mg/kg (ppm) Dry Weight Units: Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	108	55	145
4-Bromofluorobenzene	102	65	139

Dichlorodifluoromethane <0.5	Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Chloromethane <0.5 Tetrachloroethene <0.025 Vinyl chloride <0.05	•	0 0 11	•	0 0
Vinyl chloride <0.05 Dibromochloromethane <0.05 Bromomethane <0.5				
Bromomethane <0.5				
Chloroethane <0.5 Chlorobenzene <0.05 Trichlorofluoromethane <0.5				
Trichlorofluoromethane <0.5				
Acetone <0.5				
1,1-Dichloroethene <0.25				
Hexane <0.25				
Methylene chloride <0.5 Styrene <0.05 Methyl t-butyl ether (MTBE) <0.05	•			
Methyl t-butyl ether (MTBE) <0.05	110114110		· ·	
trans-1,2-Dichloroethene <0.05	•		•	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
2,2-Dichloropropane <0.05	•			
$\begin{array}{llllllllllllllllllllllllllllllllllll$	•			
Chloroform <0.05		< 0.05		
2-Butanone (MEK) <0.5		< 0.05		0.34
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 <0.05 1,2-Dibromo-3-chloropropane <0.5 cis-1,3-Dichloropropene <0.05 1,2,4-Trichlorobenzene <0.25 Toluene11Hexachlorobutadiene <0.25 trans-1,3-Dichloropropene <0.05 Naphthalene <0.23	Chloroform	< 0.05	1,1,2,2-Tetrachloroethane	< 0.05
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2-Butanone (MEK)	< 0.5	1,2,3-Trichloropropane	< 0.05
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1,2-Dichloroethane (EDC)	< 0.05	2-Chlorotoluene	< 0.05
Carbon tetrachloride<0.051,2,4-Trimethylbenzene0.85Benzene<0.03	1,1,1-Trichloroethane	< 0.05	4-Chlorotoluene	< 0.05
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 Toluene11Hexachlorobutadiene <0.25 trans-1,3-Dichloropropene <0.05 Naphthalene <0.23	1,1-Dichloropropene	< 0.05	tert-Butylbenzene	< 0.05
Trichloroethene<0.02p-Isopropyltoluene0.0521,2-Dichloropropane<0.05	Carbon tetrachloride	< 0.05	1,2,4-Trimethylbenzene	0.85
1,2-Dichloropropane<0.05	Benzene	< 0.03	sec-Butylbenzene	< 0.05
1,2-Dichloropropane<0.05	Trichloroethene	< 0.02	p-Isopropyltoluene	0.052
Bromodichloromethane<0.051,4-Dichlorobenzene<0.05Dibromomethane<0.05	1,2-Dichloropropane	< 0.05		< 0.05
4-Methyl-2-pentanone<0.51,2-Dibromo-3-chloropropane<0.5cis-1,3-Dichloropropene<0.05		< 0.05		< 0.05
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	Dibromomethane	< 0.05	1,2-Dichlorobenzene	< 0.05
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	4-Methyl-2-pentanone	< 0.5	1,2-Dibromo-3-chloropropane	< 0.5
Toluene 11 Hexachlorobutadiene <0.25 trans-1,3-Dichloropropene <0.05 Naphthalene 0.23	ŭ 1	< 0.05		< 0.25
		11	Hexachlorobutadiene	< 0.25
		< 0.05		
1,1,2-Trichloroethane <0.05 1,2,3-Trichlorobenzene <0.25	1,1,2-Trichloroethane	< 0.05	1,2,3-Trichlorobenzene	
2-Hexanone <0.5				

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

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

Date Received: Not Applicable Project: 080190-Walker Chev, F&BI 605190

Date Extracted: 05/12/16 Lab ID: 06-962 mb05/12/16 Date Analyzed: Data File: 051226.D Matrix: Soil Instrument: GCMS4 Units: mg/kg (ppm) Dry Weight Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	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)
•	0 0 11	•	
Dichlorodifluoromethane	< 0.5	1,3-Dichloropropane	< 0.05
Chloromethane	< 0.5	Tetrachloroethene	< 0.025
Vinyl chloride	< 0.05	Dibromochloromethane	< 0.05
Bromomethane	< 0.5	1,2-Dibromoethane (EDB)	< 0.05
Chloroethane	< 0.5	Chlorobenzene	< 0.05
Trichlorofluoromethane	< 0.5	Ethylbenzene	< 0.05
Acetone	< 0.5	1,1,1,2-Tetrachloroethane	< 0.05
1,1-Dichloroethene	< 0.05	m,p-Xylene	< 0.1
Hexane	< 0.25	o-Xylene	< 0.05
Methylene chloride	< 0.5	Styrene	< 0.05
Methyl t-butyl ether (MTBE)	< 0.05	Isopropylbenzene	< 0.05
trans-1,2-Dichloroethene	< 0.05	Bromoform	< 0.05
1,1-Dichloroethane	< 0.05	n-Propylbenzene	< 0.05
2,2-Dichloropropane	< 0.05	Bromobenzene	< 0.05
cis-1,2-Dichloroethene	< 0.05	1,3,5-Trimethylbenzene	< 0.05
Chloroform	< 0.05	1,1,2,2-Tetrachloroethane	< 0.05
2-Butanone (MEK)	< 0.5	1,2,3-Trichloropropane	< 0.05
1,2-Dichloroethane (EDC)	< 0.05	2-Chlorotoluene	< 0.05
1,1,1-Trichloroethane	< 0.05	4-Chlorotoluene	< 0.05
1,1-Dichloropropene	< 0.05	tert-Butylbenzene	< 0.05
Carbon tetrachloride	< 0.05	1,2,4-Trimethylbenzene	< 0.05
Benzene	< 0.03	sec-Butylbenzene	< 0.05
Trichloroethene	< 0.02	p-Isopropyltoluene	< 0.05
1,2-Dichloropropane	< 0.05	1,3-Dichlorobenzene	< 0.05
Bromodichloromethane	< 0.05	1,4-Dichlorobenzene	< 0.05
Dibromomethane	< 0.05	1,2-Dichlorobenzene	< 0.05
4-Methyl-2-pentanone	< 0.5	1,2-Dibromo-3-chloropropane	< 0.5
cis-1,3-Dichloropropene	< 0.05	1,2,4-Trichlorobenzene	< 0.25
Toluene	< 0.05	Hexachlorobutadiene	< 0.25
trans-1,3-Dichloropropene	< 0.05	Naphthalene	< 0.05
1,1,2-Trichloroethane	< 0.05	1,2,3-Trichlorobenzene	< 0.25
2-Hexanone	< 0.5	, , , , , , , , , , , , , , , , , , , ,	

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B21-9.5	Client:	Aspect Consulting, LLC
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Date Received: 05/11/16 Project: 080190-Walker Chev, F&BI 605190

Date Extracted: 05/11/16 Lab ID: 605190-05 1/50 Data File: Date Analyzed: 05/12/16 051205.D Matrix: Soil Instrument: GC7 Units: mg/kg (ppm) Dry Weight Operator: MP

Upper Limit: Lower

Surrogates: TCMX % Recovery: 70 d Limit: 29 154

Concentration Compounds: 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

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

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

080190-Walker Chev, F&BI 605190 Date Received: Not Applicable Project:

Date Extracted: 05/11/16 Lab ID: 06-957 mb 1/5 05/11/16 Date Analyzed: Data File: 051114.D Matrix: Soil Instrument: GC7 Units: mg/kg (ppm) Dry Weight Operator: MP

Upper Limit: Lower

Surrogates: TCMX % Recovery: 73 Limit: 154 29

Concentration Compounds: 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

ENVIRONMENTAL CHEMISTS

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)

_	_	Sample	Duplicate	
		Result	Result	RPD
Analyte	Reporting Units	(Wet Wt)	(Wet Wt)	(Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

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

ENVIRONMENTAL CHEMISTS

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)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet Wt)	MS	MSD	Criteria	(Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	< 50	107	112	63-146	5

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Diesel Extended	mg/kg (ppm)	5,000	105	79-144

ENVIRONMENTAL CHEMISTS

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)

-		_	Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Lead	mg/kg (ppm)	50	<10	93	86	70-130	8

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Lead	mg/kg (ppm)	50	98	85-115

ENVIRONMENTAL CHEMISTS

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)

•	-		Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	18	20	10-142	11
Chloromethane	mg/kg (ppm)	2.5 2.5	<0.5 <0.05	48 49	48 52	10-126 10-138	0
Vinyl chloride Bromomethane	mg/kg (ppm) mg/kg (ppm)	2.5	<0.05 <0.5	64	68	10-138	6 6
Chloroethane	mg/kg (ppm)	2.5	<0.5	68	70	10-103	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 Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.5 <0.05	102 88	97 86	10-156 21-145	5 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) 1,2-Dichloroethane (EDC)	mg/kg (ppm)	12.5 2.5	<0.5 <0.05	89 83	88 83	19-147 12-160	1
1,1,1-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	82	83	12-160	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	i
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 Dibromomethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	90 89	90 89	23-155 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 <0.05	91 84	90 84	15-166 31-137	1
1,3-Dichloropropane Tetrachloroethene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.025	84 82	84 81	20-133	1
Dibromochloromethane	mg/kg (ppm)	2.5	< 0.025	89	89	28-150	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	< 0.05	86	87	28-142	í
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 o-Xylene	mg/kg (ppm)	5 2.5	<0.1 <0.05	85 85	86 85	34-136 33-134	1
Styrene	mg/kg (ppm) mg/kg (ppm)	2.5	< 0.05	88	87	35-137	1
Isopropylbenzene	mg/kg (ppm)	2.5	< 0.05	88	89	31-142	i
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 1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	87 88	88 89	18-149 28-140	1 1
1,1,2,2-1 etrachioroethane 1,2,3-Trichloropropane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	83	83	28-140 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 1.3-Dichlorobenzene	mg/kg (ppm)	2.5 2.5	<0.05 <0.05	88 85	89 86	21-149 30-131	1 1
1,4-Dichlorobenzene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	<0.05 <0.05	85 84	85	29-129	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	< 0.05	85	85 85	31-132	0
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	78	78	11-161	Õ
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

ENVIRONMENTAL CHEMISTS

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

	-		Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	50	10-146
Chloromethane Vinyl chloride	mg/kg (ppm)	2.5 2.5	71 82	27-133 22-139
Bromomethane	mg/kg (ppm) 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	99 116	43-142
Methylene chloride Methyl t-butyl ether (MTBE)	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	99	42-132 60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	102	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	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 2.5	100 104	62-131
1,1-Dichloropropene Carbon tetrachloride	mg/kg (ppm) mg/kg (ppm)	2.5	104	69-128 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 2.5	94 94	66-126 72-132
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	94 99	72-132 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 5	92 96	69-135 78-122
m,p-Xylene o-Xylene	mg/kg (ppm) mg/kg (ppm)	2.5	94	77-124
Styrene	mg/kg (ppm)	2.5	98	74-124
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 2-Chlorotoluene	mg/kg (ppm)	2.5 2.5	95 98	61-137 74-121
4-Chlorotoluene	mg/kg (ppm) mg/kg (ppm)	2.5	99	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	102	73-122
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 2.5	89 95	58-138
1,2,4-Trichlorobenzene Hexachlorobutadiene	mg/kg (ppm)	2.5 2.5	95 94	64-135 50-153
Naphthalene	mg/kg (ppm) mg/kg (ppm)	2.5 2.5	94 92	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	97	63-138
, ,	-00 (FF)			

ENVIRONMENTAL CHEMISTS

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

			Sample	Percent	
	Reporting	Spike	Result	Recovery	Control
Analyte	Units	Level	(Wet Wt)	MS	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

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY (5/11/6

Send Report To HLAN NOCL

Company ASPECT CONSULTANCE

Address 401 2NO Ave. S STE 201

City, State, ZIP SEATTLE, IN A 98104

Phone # 2010. 355. 16592 Fax #

SAMPLERS (signature)	and the same of the same of
PROJECT NAME/NO.	PO#
 080190 - WALKER CHEY.	
REMARKS	
- TANKS -	

SAMPLE DISPOSAL

Dispose after 30 days
Return samples
Will call with instructions

Rush charges authorized by

X Standard (2 Weeks)
□ RUSH

Page #____

TURNAROUND TIME

				B21-9.5	Bao-4.5	B19-6	B18-3	817-2	Sample ID	
				050	140	B	22	DIAE	Lab ID	
				-				OIA 85/11/16 0205	Date Sampled	
				0412	0340	0305	0220	0205	Time Sampled	
				-				Sor	Sample Type	
						VI	ท	U	# of containers	
				×	×	×	×	×	TPH-Diesel	
				×	×	×	X	×	TPH-Gasoline	
				:					BTEX by 8021B	
				×	\times	×	X	X	VOCs by8260	
									SVOCs by 8270	NA.
									HFS	\LY\
		:	:	×	\times	×	\times	X	Pb	ES
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7012			_			-				
<u>ड</u> ाह्य							\dashv			
Samples received at	N S								Notes	

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

k Bruya, Inc.) SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Avenue West	Relinquished by:	E. KNOCOLER	ASPECT		11,30
98119-2029 Received by:	Received by:	108 6 BC		5/1/11 1/27	11/1
85-8282	Relinquished By:		190	2///6	7
<i>#</i> 3-50+#	Reserved by Tild	The section of the se			5.
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APPENDIX F

Analytical Results for Groundwater Samples

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

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.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

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.

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

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

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW-11-032015	Client:	Aspect Consulting, LLC
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Date Received: 03/20/15 Project: Walker Chevrolet 080190, F&BI 503392

Date Extracted: 03/24/15 Lab ID: 503392-01 Data File: Date Analyzed: 03/25/15 503392-01.028 Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: ML

		Lower	Upper
Internal Standard:	% Recovery:	Limit:	Limit:
Germanium	107	60	125
Indium	92	60	125
Holmium	95	60	125

Concentration

<1

Analyte:	ug/L (ppb)
Arsenic	5.15
Barium	57.9
Cadmium	<1
Chromium	24.0
Lead	4.99
Mercury	<1
Selenium	<1

Silver

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: Method Blank Client: Aspect Consulting	LL	æ
---	----	---

Date Received: NA Project: Walker Chevrolet 080190, F&BI 503392

Date Extracted: 03/24/15 Lab ID: I5-176 mb Data File: I5-176 mb.023 Date Analyzed: 03/25/15 Matrix: Water Instrument: ICPMS1 Units: ug/L (ppb) Operator: ML

		Lower	∪pper
Internal Standard:	% Recovery:	Limit:	Limit:
Germanium	98	60	125
Indium	91	60	125
Holmium	95	60	125

Concentration

Analyte: ug/L (ppb)

Arsenic <1 Barium <1 Cadmium <1 Chromium <1 Lead <1 Mercury <1 Selenium <1 Silver <1

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 Data File: Date Analyzed: 03/31/15 033118.D Matrix: GCMS7 Water Instrument: Units: ug/L (ppb) Operator: JS

Lower Upper Limit: Surrogates: % Recovery: Limit: 1,2-Dichloroethane-d4 150 65 50 Toluene-d8 65 50 150 4-Bromofluorobenzene 64 50 150

Concentration

Compounds: ug/L (ppb)

1,4-dioxane <0.4

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 03/31/15 Data File: Date Analyzed: 033117.D Matrix: Water Instrument: GCMS7 Units: ug/L (ppb) Operator: JS

Lower Upper Limit: Surrogates: % Recovery: Limit: 1,2-Dichloroethane-d4 50 150 75 Toluene-d8 75 50 150 4-Bromofluorobenzene 73 50 150

Concentration

Compounds: ug/L (ppb)

1,4-dioxane <0.4

ENVIRONMENTAL CHEMISTS

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: Data File: 032324.D 03/23/15 Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	95	60	133

	Concentration		Concentration
Compounds:	ug/L (ppb)	Compounds:	ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	< 0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	1.1	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

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 503392

Date Extracted: 03/23/15 Lab ID: 05-0548 mb 03/23/15 Date Analyzed: Data File: 032308.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	97	60	133

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

ENVIRONMENTAL CHEMISTS

Date of Report: 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

MW-11-032015
503392-01

Method Blank

<0.01

ENVIRONMENTAL CHEMISTS

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)

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

			Percent		
	Reporting	Spike	Recovery	Acceptance	
Analyte	Units	Level	LCS	Criteria	
Gasoline	ug/L (ppb)	1,000	97	69-134	

ENVIRONMENTAL CHEMISTS

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

·	v	•	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	87	93	63-142	7

ENVIRONMENTAL CHEMISTS

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)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
1,4-dioxane	ug/L (ppb)	2	< 0.4	105	50-150

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
1,4-dioxane	ug/L (ppb)	2	99	105	70-130	6

ENVIRONMENTAL CHEMISTS

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)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	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 Acetone	ug/L (ppb)	50 250	<1 <10	114	44-165
1.1-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<10	116 119	10-182 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) 1,2-Dichloroethane (EDC)	ug/L (ppb)	250 50	<10 <1	127 106	10-129 69-133
1,1,1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <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 Toluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	116 105	72-132 76-122
trans-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	50	<1	105	76-122 76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	103	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 Ethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	104 102	77-122 69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1	102	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 1,3,5-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	106 100	75-124 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 1.3-Dichlorobenzene	ug/L (ppb)	50 50	<1	98 100	65-141
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	100	72-123 69-126
1,2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 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

ENVIRONMENTAL CHEMISTS

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

· ·	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	119	123	25-158	3
Chloromethane	ug/L (ppb)	50	122	119	45-156	2
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	121 112	120 115	50-154 55-143	1 3
Chloroethane	ug/L (ppb) 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 50	108	109	64-147	1 1
trans-1,2-Dichloroethene 1,1-Dichloroethane	ug/L (ppb) ug/L (ppb)	50 50	110 108	111 109	68-128 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 50	105 111	105 110	83-130 77-129	0 1
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb) ug/L (ppb)	50 50	108	108	77-129 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 cis-1,3-Dichloropropene	ug/L (ppb) ug/L (ppb)	250 50	126 114	122 112	65-138 82-132	3 2
Toluene	ug/L (ppb) 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 Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50 50	103 104	103 105	76-121 84-133	0 1
1,2-Dibromoethane (EDB)	ug/L (ppb) ug/L (ppb)	50 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 50	100 102	102 102	81-121	2
Styrene Isopropylbenzene	ug/L (ppb) ug/L (ppb)	50 50	98	102 99	84-119 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 96	66-126	2
1,2,3-Trichloropropane 2-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	100 96	96 94	67-124 77-127	4 2
4-Chlorotoluene	ug/L (ppb)	50	94	93	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	100	99	80-123	i
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 1,4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	99 99	97 97	85-116 84-121	2 2
1,4-Dichlorobenzene 1.2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	102	97 101	84-121 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

ENVIRONMENTAL CHEMISTS

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)

	Reporting	Sample	Duplicate	RPD
Analyte	Units	Result	Result	(Limit 10)
1,2-Dibromoethane	ug/L (ppb)	< 0.01	< 0.01	nm

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
1,2-Dibromoethane	ug/L (ppb)	0.10	98	70-130

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

FORMS\COC\COC.DOC Friedman & Bruya, Inc. 3012 16th Avenue West Fax (206) 283-5044 Ph. (206) 285-8282 Seattle, WA 98119-2029 City, State, ZIP _ Address___ Company __ Send Report To Phone # MW-11-032015 Sample ID Aspect Consulting Settle Received by: Received by: -Relinquished by: Relinquished by: OI P-I Lab ID Fax # Ave (3.#20) Sampled | Sampled WA 98104 Kric Gerssmaga SIGNATURE 2280 Time SAMPLE CHAIN OF CUSTODY ME 03-20-15 Sample Type water SAMPLERS (signature) REMARKS PROJECT NAME/NO. Walker Cherrolet Jason Kobs containers Eric Geissimpy $\bar{\omega}$ PRINT NAME TPH-Diesel TPH-Gasoline BTEX by 8021B VOCs by8260 ANALYSES REQUESTED SVOCs by 8270 HFS
1.4 diorane
BELOCK SIM
1.2 dibromoethane
8011 080190 F+3I tryent PO# COMPANY RCRA Metals Samples received at ☐ Return samples
☐ Will call with instructions Page # 1/ Dispose after 30 days 赵Standard (2 Weeks) Rush charges authorized by □ RUSH_ TURNAROUND TIME SAMPLE DISPOSAL 3/20/15 DATE ~ Notes 1.45pm TIME

ENVIRONMENTAL CHEMISTS

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

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

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

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 30, 2015 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Walker Chevrolet, PO 080190, F&BI 504573 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

504573 -01 MW-11-042815

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

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

		Lower	Upper
Internal Standard:	% Recovery:	Limit:	Limit:
Germanium	98	60	125
Indium	81	60	125
Holmium	90	60	125

	Concentration
Analyte:	ug/L (ppb)

Arsenic	6.29
Barium	73.2
Cadmium	<1
Chromium	26.1
Lead	6.20
Mercury	<1
Selenium	<1
Silver	<1

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Walker Chevrolet, PO 080190
Date Extracted:	05/04/15	Lab ID:	I5-274 mb
Date Analyzed:	05/04/15	Data File:	I5-274 mb.010

Date Analyzed: 05/04/15 Data File: 15-274 mt

Matrix: Water Instrument: ICPMS1

Units: ug/L (ppb) Operator: SP

		Lower	Upper
Internal Standard:	% Recovery:	Limit:	Limit:
Germanium	96	60	125
Indium	94	60	125
Holmium	94	60	125

Concentration Analyte: ug/L (ppb)

Arsenic <1 Barium <1 Cadmium <1 Chromium <1 Lead <1 Mercury <1 Selenium <1 Silver <1

ENVIRONMENTAL CHEMISTS

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

		Lower	Upper
Internal Standard:	% Recovery:	Limit:	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

ENVIRONMENTAL CHEMISTS

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

		Lower	Upper
Internal Standard:	% Recovery:	Limit:	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

ENVIRONMENTAL CHEMISTS

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)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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)

				Percent	Percent		
	Reporting	Spike	Sample	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	Result	MS	MSD	Criteria	(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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Seattle, WA 98119-2029 Friedman & Bruya, Inc. City, State, ZIP SOUTHE WA 98104 company Aspect Consulting Address 401 and Aut S, Ste, 201 Send Report To HIWN NOC! FORMS\COC\COC.DOC Ph. (206) 285-8282 Fax (206) 283-5044 Phone # 200-838-6592 Fax #200-838-5853 MW-11-042815 Sample ID Received by: Relinquished by or 184/28/15/09:40 groundwater Lab Date Sampled SIGNATURE Time Sampled 分的分 Sample Type SAMPLERS (signature) Eugeny Po# Walker Chevrolet | 080190 PROJECT NAME/NO. containers # of PRINT NAME TPH-Diesel TPH-Gasoline VOCs by8260 ANALYSES REQUESTED HFS
TOTAL RCPA
METALS
DISS. RCPA
METALS FOR topec: COMPANY Samples received at Rush charges authorized by Kstandard (2 Weeks) □ RUSH_ TURNAROUND TIME Notes

50457

SAMPLE CHAIN OF CUSTODY

ME 04/30/1S

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

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.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

510106 -01 MW-11-100715

All quality control requirements were acceptable.

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 Data File: 100911.D Date Analyzed: 10/09/15 Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	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	<0.2 <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	<10	m,p-Xylene	<2
Hexane	<1	o-Xylene	<2 <1
Methylene chloride	<1 <5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	· ·	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene Bromoform	<1
1,1-Dichloroethane	<1 <1	n-Propylbenzene	<1
•	<1 <1	Bromobenzene	<1
2,2-Dichloropropane cis-1,2-Dichloroethene	<1 <1		<1
Chloroform	<1 <1	1,3,5-Trimethylbenzene 1,1,2,2-Tetrachloroethane	<1
	<10		<1
2-Butanone (MEK)	<10 <1	1,2,3-Trichloropropane 2-Chlorotoluene	<1 <1
1,2-Dichloroethane (EDC)	· -	2-Chlorotoluene 4-Chlorotoluene	· -
1,1,1-Trichloroethane	<1		<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	< 0.35	sec-Butylbenzene	<1
Trichloroethene	3.2	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: 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 10/09/15 Data File: 100907.D Date Analyzed: Matrix: Water Instrument: GCMS9 Units: ug/L (ppb) Operator: JS

		Lower	Upper
Surrogates:	% Recovery:	Limit:	Limit:
1,2-Dichloroethane-d4	102	85	117
Toluene-d8	99	91	108
4-Bromofluorobenzene	100	76	126

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

ENVIRONMENTAL CHEMISTS

Date of Report: 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)

•	-			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	72	55-137
Chloromethane	ug/L (ppb)	50	<10	71	61-120
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<0.2 <1	76 100	61-139 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 Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	<5 <1	84 91	61-126 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)	50 250	<1	95 98	79-113
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	<10 <1	98 87	69-123 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 Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	95 109	80-111 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 2-Hexanone	ug/L (ppb)	50 250	<1 <10	101 110	81-116 74-127
1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	<10	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 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	97 115	71-120 76-130
m,p-Xylene	ug/L (ppb) 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 Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	101 103	74-117 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 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	108 105	78-124 74-118
sec-Butylbenzene	ug/L (ppb) 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 50	<10	123	69-129
1,2,4-Trichlorobenzene Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	106 112	66-123 67-120
Naphthalene	ug/L (ppb)	50	<1	112	62-140
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	110	59-130

ENVIRONMENTAL CHEMISTS

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

· ·	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	105	102	54-149	3
Chloromethane	ug/L (ppb)	50 50	93 96	91 94	67-133 70-119	2 2
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	96 124	94 119	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 Mathedon ablastida	ug/L (ppb)	50 50	90	87	51-153	3
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 50	92 99	90 98	63-132 70-122	2 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)	50 250	101 103	100 103	81-109	1 0
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	92	91	53-140 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	i
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 Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	102 114	100 113	82-109 76-120	2 1
Dibromomethane	ug/L (ppb)	50 50	102	101	80-110	1
4-Methyl-2-pentanone	ug/L (ppb)	250	110	109	59-142	i
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 2-Hexanone	ug/L (ppb) ug/L (ppb)	50 250	101 103	102 105	82-110 53-145	1 2
1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 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 1.1.1.2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	98 116	97 116	83-111 76-125	1 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 50	116 100	117 100	40-161 81-115	1
n-Propylbenzene Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	99	101	80-113	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50 50	102	102	83-117	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	100	101	79-118	ĺ
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 50	99 104	99 104	81-113	0 0
tert-Butylbenzene 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	104	102	81-119 81-121	1
sec-Butylbenzene	ug/L (ppb)	50	104	104	83-123	0
p-Isopropyltoluene	ug/L (ppb)	50	103	102	81-122	ĺ
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 50	98 122	98 123	83-111 62-133	0 1
1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	122 101	123 101	62-133 77-117	0
Hexachlorobutadiene	ug/L (ppb)	50 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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

ME 10/7/15

SAMPLERS (signature)	
 PROJECT NAME/NO.	PO#
walker chruster	080190
REMARKS Eme: 1 results to	
anoell@aspediansolling.com	\$

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3012 16th Avenue West	Friedman & Bruya, Inc.							MW-11-100715	Sample ID	
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Ph. (206) Fax (206, Seattle, I

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36) 285-8282	Relinquished by:				
96) 283-5044	Received by:				

ENVIRONMENTAL CHEMISTS

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

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

February 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

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.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

602058 -01 MW-11-020316

All quality control requirements were acceptable.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-11-020316	Client:	Aspect Consulting, LLC
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Project: Date Received: 02/04/16 F&BI 602058 Date Extracted: 02/04/16 Lab ID: 602058-01 Date Analyzed: Data File: 02/04/16 020415.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

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

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
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Not Applicable Project: Date Received: F&BI 602058 Date Extracted: 02/04/16 Lab ID: 06-0205 mb 02/04/16 Data File: Date Analyzed: 020407.D Matrix: Water Instrument: GCMS4 Units: ug/L (ppb) Operator: JS

		Lower	∪pper
Surrogates:	% Recovery:	Limit:	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		

ENVIRONMENTAL CHEMISTS

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)

,	-			Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	109	10-172
Chloromethane	ug/L (ppb)	50	<10	97	25-166
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<0.2 <1	93 125	36-166 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 Methylene chloride	ug/L (ppb)	50 50	<1 <5	98 107	52-150 67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50 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)	50 250	<1 <10	98 103	65-132
2-Butanone (MEK) 1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	250 50	<10 <1	103	10-129 69-133
1,1,1-Trichloroethane	ug/L (ppb)	50 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 Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	102 99	78-125 61-150
Dibromomethane	ug/L (ppb)	50 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 2-Hexanone	ug/L (ppb) ug/L (ppb)	50 250	<1 <10	98 97	68-131 10-185
1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	<10	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 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	91 95	69-135 73-137
m,p-Xylene	ug/L (ppb) 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 Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	93 90	58-144 75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50 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 1,2,4-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	93 92	65-137 59-146
sec-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50 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 50	<10	97	32-164
1,2,4-Trichlorobenzene Hexachlorobutadiene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	89 87	66-136 60-143
Naphthalene	ug/L (ppb)	50 50	<1	94	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	89	69-148
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ENVIRONMENTAL CHEMISTS

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

	-		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	101	102	25-158	1
Chloromethane	ug/L (ppb)	50 50	94 91	93 91	45-156 50-154	1
Vinyl chloride Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	126	121	50-154 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 Methylene chloride	ug/L (ppb)	50 50	97 105	99 103	57-137 39-148	2 2
Methyl t-butyl ether (MTBE)	ug/L (ppb) ug/L (ppb)	50	99	97	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	98	68-128	ĩ
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 2-Butanone (MEK)	ug/L (ppb) ug/L (ppb)	50 250	100 103	97 99	80-121 57-149	3 4
1,2-Dichloroethane (EDC)	ug/L (ppb) ug/L (ppb)	50 50	103	99	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	100	99	83-130	ĩ
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 1,2-Dichloropropane	ug/L (ppb)	50 50	95 102	94 99	80-120 77-123	1 3
Bromodichloromethane	ug/L (ppb) ug/L (ppb)	50 50	102	99 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 1,1,2-Trichloroethane	ug/L (ppb)	50 50	97 98	94 96	80-136 75-124	3 2
2-Hexanone	ug/L (ppb) 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 Ethylbenzene	ug/L (ppb)	50 50	91 92	89 90	83-114 77-124	2 2
1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50	97	95	84-127	2
m,p-Xylene	ug/L (ppb)	100	92	91	83-125	ĩ
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 2
Bromoform n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	91 96	89 93	74-136 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 4-Chlorotoluene	ug/L (ppb)	50 50	95 92	93 90	77-127 78-128	2 2
tert-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	92 96	90 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 1,2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	89 93	87 91	84-121 85-116	2 2
1,2-Dichioropenzene 1,2-Dibromo-3-chloropropane	ug/L (ppb) ug/L (ppb)	50 50	100	91 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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Notes

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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.

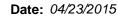
Thank you for using Fremont Analytical.

Malchelyn.

Sincerely,

Mike Ridgeway President CC:

Eric Geissinger





CLIENT: Aspect Consulting Work Order Sample Summary

Project: Walker Chevrolet Lab Order: 1503256

 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



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 & Acronyms

WO#: **1503256**

Date Reported: 4/23/2015

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			Batcl	h ID: R2	21574 Analyst: JY
Helium	ND	32.4	ppmv	1	3/31/2015 3:52:00 PM
Petroleum Fractionation by EPA Method TO-15				h ID: R2	21569 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

Client Sample ID: IA-FPB-032	watrix:	watrix: Indoor All					
Analyses	Result	Result RL Qual		DF	Date	Date Analyzed	
Helium by GC/TCD			Batcl	n ID: R	21574	Analyst: JY	
Helium	ND	32.7	ppmv	1	3/31/2	2015 3:59:00 PM	
Petroleum Fractionation by EPA	A Method TO-15	<u>i</u>	Batcl	n ID: R	21569	Analyst: JY	
Aliphatic Hydrocarbon (EC5-8)	194	147	μg/m³	1	3/31/2	2015 1:07:00 AM	
Aliphatic Hydrocarbon (EC9-12)	807	754	µg/m³	1	3/31/2	2015 12:26:00 AM	
Aromatic Hydrocarbon (EC9-10)	576	36.3	µg/m³	1	3/31/2	2015 12:26:00 AM	
Surr: 4-Bromofluorobenzene	90.0	70-130	%RFC	1	3/31/2	2015 1:07:00 AM	



WorkOrder: 1503256

Project: Walker Chevrolet

 Client Sample ID:
 SS-FPB-032015
 Date Sampled:
 3/20/2015

 Lab ID:
 1503256-001A
 Date Received:
 3/24/2015

Analyte	Concer	ntration	Reportii	ng Limit	Qual	Method	Date/Analy	/st
Volatile Organic Compounds by	/ EPA Method TO	<u>D-15</u>						
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
1,1,1-Trichloroethane	< 0.200	<1.09	0.200	1.09		TO-15	03/31/2015	J١
1,1,2,2-Tetrachloroethane	< 0.300	<2.06	0.300	2.06		TO-15	03/31/2015	J١
CFC-113	< 0.500	<3.83	0.500	3.83		TO-15	03/31/2015	J١
1,1,2-Trichloroethane (TCA)	< 0.500	<2.73	0.500	2.73		TO-15	03/31/2015	J١
1,1-Dichloroethane	< 0.200	<0.810	0.200	0.810		TO-15	03/31/2015	J١
1,1-Dichloroethene (DCE)	< 0.200	<0.793	0.200	0.793		TO-15	03/31/2015	J١
1,2,4-Trichlorobenzene	< 0.300	<2.23	0.300	2.23		TO-15	03/31/2015	J١
1,2,4-Trimethylbenzene	14.8	72.5	2.40	11.8		TO-15	03/31/2015	J١
1,2-Dibromoethane (EDB)	<0.200	<1.54	0.200	1.54		TO-15	03/31/2015	J١
1,2-Dichlorobenzene	< 0.300	<1.80	0.300	1.80		TO-15	03/31/2015	J١
1,2-Dichloroethane	<0.200	<0.809	0.200	0.809		TO-15	03/31/2015	J١
1,2-Dichloropropane	< 0.500	<2.31	0.500	2.31		TO-15	03/31/2015	J١
1,3,5-Trimethylbenzene	9.85	48.4	0.300	1.47		TO-15	03/31/2015	J١
1,3-Butadiene	<0.500	<1.11	0.500	1.11		TO-15	03/31/2015	J١
1,3-Dichlorobenzene	< 0.300	<1.80	0.300	1.80		TO-15	03/31/2015	J١
1,4-Dichlorobenzene	< 0.300	<1.80	0.300	1.80		TO-15	03/31/2015	J١
1,4-Dioxane	<1.00	<3.60	1.00	3.60		TO-15	03/31/2015	J١
(MEK) 2-Butanone	1.36	4.00	0.500	1.47		TO-15	03/31/2015	J١
2-Hexanone	<1.00	<4.10	1.00	4.10		TO-15	03/31/2015	J١
Isopropyl Alcohol	8.02	19.7	8.00	19.7		TO-15	03/31/2015	J١
4-Methyl-2-pentanone (MIBK)	2.67	11.0	1.00	4.10		TO-15	03/31/2015	J١
Acetone	87.3	207	8.00	19.0		TO-15	03/31/2015	J١
Acrolein	<0.500	<1.15	0.500	1.15		TO-15	03/31/2015	J١
Benzene	0.654	2.09	0.200	0.639		TO-15	03/31/2015	J١
Benzyl chloride	<0.500	<2.59	0.500	2.59		TO-15	03/31/2015	J١
Dichlorobromomethane	<0.300	<2.01	0.300	2.01		TO-15	03/31/2015	J١
Bromoform	<0.200	<2.07	0.200	2.07		TO-15	03/31/2015	J١
Bromomethane	<0.500	<1.94	0.500	1.94		TO-15	03/31/2015	J١
Carbon disulfide	<1.50	<4.67	1.50	4.67		TO-15	03/31/2015	J١
Carbon tetrachloride	<0.200	<1.26	0.200	1.26		TO-15	03/31/2015	J١



WorkOrder: 1503256

Project: Walker Chevrolet

 Client Sample ID:
 SS-FPB-032015
 Date Sampled:
 3/20/2015

 Lab ID:
 1503256-001A
 Date Received:
 3/24/2015

Analyte	Concent		Reporting Limit		Qual	Method	Date/Analys	st
Volatile Organic Compounds by EF	PA Method TO)-1 <u>5</u>						
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
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	JΥ
Cyclohexane	<0.200	<0.688	0.200	0.688		TO-15	03/31/2015	JΥ
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



WorkOrder: 1503256

Project: Walker Chevrolet

 Client Sample ID:
 SS-FPB-032015
 Date Sampled:
 3/20/2015

 Lab ID:
 1503256-001A
 Date Received:
 3/24/2015

Analyte	Concen	Concentration		Reporting Limit		Method	Date/Analyst	
Volatile Organic Compounds by				_				
	(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	



WorkOrder: 1503256

Project: Walker Chevrolet

 Client Sample ID:
 IA-FPB-032315
 Date Sampled:
 3/23/2015

 Lab ID:
 1503256-002A
 Date Received:
 3/24/2015

Analyte	Concen	tration	Reporting Limit		Qual	Method	Date/Analyst		
Volatile Organic Compounds-E	PA Method TO-15	5 (SIM)							
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)					
1,1,1-Trichloroethane	<0.00500	< 0.0273	0.00500	0.0273		TO-15	03/30/2015	J,	
1,1,2,2-Tetrachloroethane	<0.00620	<0.0426	0.00620	0.0426		TO-15	03/30/2015	J,	
1,1,2-Trichloroethane (TCA)	<0.0200	<0.109	0.0200	0.109		TO-15	03/30/2015	J,	
1,1-Dichloroethane	<0.00800	< 0.0324	0.00800	0.0324		TO-15	03/30/2015	J,	
1,1-Dichloroethene (DCE)	<0.00900	< 0.0357	0.00900	0.0357		TO-15	03/30/2015	J,	
1,2,4-Trichlorobenzene	< 0.0500	<0.371	0.0500	0.371		TO-15	03/30/2015	J,	
1,2,4-Trimethylbenzene	< 0.0730	< 0.359	0.0730	0.359		TO-15	03/30/2015	J,	
1,2-Dibromoethane (EDB)	<0.0200	<0.154	0.0200	0.154		TO-15	03/30/2015	J,	
1,2-Dichloroethane	1.54	6.24	0.0200	0.0809		TO-15	03/30/2015	J,	
1,4-Dioxane	<1.00	<3.60	1.00	3.60	*	TO-15	03/30/2015	J,	
Benzene	0.716	2.29	0.0400	0.128		TO-15	03/30/2015	J,	
Carbon tetrachloride	0.104	0.657	0.0200	0.126		TO-15	03/30/2015	J,	
Chlorobenzene	<0.0700	<0.322	0.0700	0.322		TO-15	03/30/2015	J,	
Chloroethane	<0.0980	<0.259	0.0980	0.259		TO-15	03/30/2015	J,	
Chloroform	0.447	2.18	0.0200	0.0977		TO-15	03/30/2015	J,	
Chloromethane	1.06	2.18	0.400	0.826		TO-15	03/30/2015	J,	
cis-1,2-Dichloroethene	<0.0200	< 0.0793	0.0200	0.0793		TO-15	03/30/2015	J,	
Ethylbenzene	0.407	1.77	0.0500	0.217		TO-15	03/30/2015	J١	
Hexachlorobutadiene	0.136	1.45	0.0166	0.177		TO-15	03/30/2015	J١	
m,p-Xylene	1.48	6.44	0.0600	0.261		TO-15	03/30/2015	J١	
Methylene chloride	0.462	1.61	0.0600	0.208		TO-15	03/30/2015	J١	
Naphthalene	<0.300	<1.57	0.300	1.57		TO-15	03/30/2015	J,	
Hexane	0.802	2.83	0.0700	0.247		TO-15	03/30/2015	J,	
o-Xylene	0.431	1.87	0.0400	0.174		TO-15	03/30/2015	J,	
Methyl tert-butyl ether (MTBE)	<0.00900	<0.0324	0.00900	0.0324		TO-15	03/30/2015	J,	
Tetrachloroethene (PCE)	0.410	2.78	0.0500	0.339		TO-15	03/30/2015	J١	
Toluene	2.88	10.9	0.0500	0.188		TO-15	03/30/2015	J١	
trans-1,2-Dichloroethene	<0.00600	<0.0238	0.00600	0.0238		TO-15	03/30/2015	J١	
Trichloroethene (TCE)	<0.0170	<0.0914	0.0170	0.0914		TO-15	03/30/2015	J١	
Vinyl chloride	<0.0850	<0.217	0.0850	0.217		TO-15	03/30/2015	J١	



WorkOrder: 1503256

Project: Walker Chevrolet

 Client Sample ID:
 IA-FPB-032315
 Date Sampled:
 3/23/2015

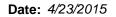
 Lab ID:
 1503256-002A
 Date Received:
 3/24/2015

Sample Type: Summa Canister

Analyte	Concen	tration	Reporti	ng Limit	Qual	Method	Date/Analyst
Volatile Organic Compounds-El	PA 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.





Work Order: 1503256

QC SUMMARY REPORT

Aspect Consulting CLIENT:

Project: Walker Chevrolet Petroleum Fractionation by								on by EPA	Method	TO-1	
Sample ID 1503255-001AREP SampType: REP			Units: µg/m³			Prep Date: 3/31/2015			RunNo: 21569		
Client ID: BATCH	Batch ID: R21569					Analysis Date:	3/31/20)15	SeqNo: 40	9203	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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)15	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 H	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:	3/30/20)15	RunNo: 21 :	569	
Client ID: MBLKW	Batch ID: R21569					Analysis Date:	3/30/20)15	SeqNo: 40	9211	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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

QC SUMMARY REPORT

CLIENT: Aspect Consulting
Project: Walker Chevrolet

Helium by GC/TCD

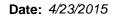
Sample ID 1503255-001AREP SampType: REP	Units: ppmv	Prep Date: 3/31/2015	RunNo: 21574
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Client ID: **BATCH** Batch ID: **R21574** Analysis Date: **3/31/2015** SeqNo: **409291**

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	SampType: LCS		Units: ppmv		Prep Date: 3/31/2015)15	RunNo: 21574		
Client ID: LCSW	Batch ID: R21574					Analysis Da	te: 3/31/20)15	SeqNo: 409	9295	
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				

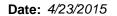




QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID 1503255-001AREP	SampType: REP			Units: ppbv		Prep Dat	e: 3/31/2 0	015	RunNo: 21	559	
Client ID: BATCH	Batch ID: R21559					Analysis Dat	e: 3/31/2 0	015	SeqNo: 40 9	9019	
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	Е
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	





QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID 1503255-001AREP	SampType: REP			Units: ppbv		Prep Dat	e: 3/31/2 0	015	RunNo: 21	559	
Client ID: BATCH	Batch ID: R21559					Analysis Dat	e: 3/31/2 0	015	SeqNo: 409	9019	
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	

Date: 4/23/2015



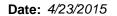
Work Order: 1503256

QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID 1503255-001AREP	SampType: REP			Units: ppbv		Prep Da	te: 3/31/2 0)15	RunNo: 21	559	
Client ID: BATCH	Batch ID: R21559					Analysis Da	te: 3/31/2 0)15	SeqNo: 409	9019	
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 Da	te: 3/30/2 0)15	RunNo: 21	559	
Client ID: LCSW	Batch ID:	R21559					Analysis Da	te: 3/30/2 0)15	SeqNo: 409	0025	
Analyte	R	esult	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				

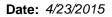




QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID LCS-R21559	SampType: LCS			Units: ppbv		Prep Dat	e: 3/30/2 0	15	RunNo: 21	559	
Client ID: LCSW	Batch ID: R21559					Analysis Dat	te: 3/30/2 0	15	SeqNo: 409	9025	
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				

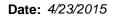




QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID LCS-R21559	SampType: LCS			Units: ppbv		Prep Dat	te: 3/30/20	15	RunNo: 21	559	
Client ID: LCSW	Batch ID: R21559					Analysis Da	te: 3/30/20	15	SeqNo: 40 9	9025	
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 Dat	te: 3/30/20)15	RunNo: 21 :	559	
Client ID: MBLKW	Batch ID: R21559					Analysis Da			SeqNo: 40		
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									

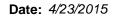




QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID MB-R21559	SampType: MBLK			Units: ppbv		Prep Da	te: 3/30/20)15	RunNo: 215	559	
Client ID: MBLKW	Batch ID: R21559					Analysis Da	te: 3/30/20)15	SeqNo: 409	1026	
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									

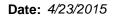




QC SUMMARY REPORT

CLIENT: Aspect Consulting Project: Walker Chevrolet

Sample ID MB-R21559	SampType: MBLK			Units: ppbv		Prep Date:	3/30/20)15	RunNo: 21	559	
Client ID: MBLKW	Batch ID: R21559					Analysis Date:	3/30/20)15	SeqNo: 40 9	9026	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	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				



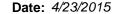


QC SUMMARY REPORT

CLIENT: Aspect Consulting
Project: Walker Chevrolet

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID 1503256-002AREP	SampType: REP			Units: ppbv		Prep Da	te: 3/30/2	015	RunNo: 21	551	
Client ID: IA-FPB-032315	Batch ID: R21551					Analysis Da	te: 3/30/2	015	SeqNo: 408	8832	
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		





QC SUMMARY REPORT

CLIENT: Aspect Consulting
Project: Walker Chevrolet

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 Dat	te: 3/30/20)15	RunNo: 21	551	
Client ID: LCSW	Batch ID: R21551					Analysis Da	te: 3/30/2 0)15	SeqNo: 408	8834	
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				

Date: 4/23/2015



Work Order: 1503256

QC SUMMARY REPORT

CLIENT: Aspect Consulting Walker Chevrolet Project:

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID LCS-R21551	SampType:	LCS			Units: ppbv		Prep Dat	e: 3/30/2 0)15	RunNo: 215	551	
Client ID: LCSW	Batch ID:	R21551					Analysis Da	te: 3/30/2 0)15	SeqNo: 408	3834	
Analyte	R	esult	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 NOTES:		42.7		40.00		107	70	130				

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

QC SUMMARY REPORT

CLIENT: Aspect Consulting
Project: Walker Chevrolet

Volatile Organic Compounds-EPA Method TO-15 (SIM)

Sample ID MB-R21551	SampType: MBLK			Units: ppbv		Prep Date	e: 3/30/2	015	RunNo: 21	551	
Client ID: MBLKW	Batch ID: R21551					Analysis Date	e: 3/30/2 0	015	SeqNo: 40	8835	
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				

^{* -} Flagged value is not within established control limits.



Sample Log-In Check List

CI	ient Name:	AC	Work Order Number:	1503256	
Lo	ogged by:	Clare Griggs	Date Received:	3/24/2015 11:	18:00 AM
Cha	in of Custo	<u>ody</u>			
1.	Is Chain of C	ustody complete?	Yes 🗸	No 🗆 N	ot Present
2.	How was the	sample delivered?	Client		
Log	<u>In</u>				
3.	Coolers are p	present?	Yes	No 🗹	NA \square
			Air Samples		
4.	Shipping con	tainer/cooler in good condition?	Yes 🗸	No \square	
5.	Custody seal	s intact on shipping container/cooler?	Yes	No No	t Required 🗹
6.	Was an atten	npt made to cool the samples?	Yes	No 🗌	NA 🗸
7.	Were all cool	ers received at a temperature of >0°C to 10.0°C	Yes	No 🗌	NA 🗸
8.	Sample(s) in	proper container(s)?	Yes 🗸	No 🗌	
9.	Sufficient sar	mple volume for indicated test(s)?	Yes 🗸	No \square	
10.	Are samples	properly preserved?	Yes 🗸	No \square	
11.	Was preserva	ative added to bottles?	Yes	No 🗸	NA 🗌
12.	Is the headsp	pace in the VOA vials?	Yes	No 🗌	NA 🗹
		es containers arrive in good condition(unbroken)?	Yes 🗹	No 🗌	
		ork match bottle labels?	Yes 🗹	No 🗌	
15	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No 🗆	
		at analyses were requested?	Yes 🗸	No 🗌	
		ling times able to be met?	Yes 🗸	No 🗌	
Spe	cial Handl	ing (if applicable)			
		otified of all discrepancies with this order?	Yes	No 🗌	NA 🗸
	Person	Notified: Date			
	By Who		eMail Phone	e ∏ Fax ∏ Ir	n Person
	Regardi	-			
	_	nstructions:			
10	Additional rer	marke:			

Per client request, analyte 1,4 Dioxane added to TO15 SIM analysis.

Item Information

					Date/Time		ā	Relinquished x			23/15	Date/Time 3/2.2/15	Relinquished Relinquished
	Special Remarks:				() N()	Client Consult: Y() N()	CHe		×	× ×	Seals Intact:		Condition:
		d)	ang Wrench	Flouridated Tubing		ers Helium Cylinder	Flow Controllers	Canisters F	Tedlar Bags Ca	Fittings Ted	Mini-Pump F	Manifold M	Rental Equipment (Circle all that apply):
-	-Ha	241 %	6727			3/19/15 2:00		5			J241	FR8-24	11000000
1	- FUI 50-15 SIND ON	1	-30			10mtorr	Summa	Ξ	8hr	H	3/24/15	12668	4-F08-137215
100	- He -30 7	Orto o	Dw 10			3/19/15 8:00	-	6	701111	1	0.50	FR70-05	Clutch at 17
×.	-FUI TO-15	5	130			10mtorr	Simple	1.1	70min	C.	3/2/15	17649	ת-תיבי-ריביות
異 光		trai Field Final le Sample se Pressure (*) Hg)	int Sample ion Pressure ("Hg)	Equipment Certification Code	Pressure at Time of Pick- up ("Hg)	Evacuation Pressure (mtorr)	Container Type **	Sample	Anticipated Fill Time	Gas Matrix Code *	Sample Date & Time	Canister / Flow Reg Serial #	Sample Name
internal		-	+	4 1	internal			_					
		*	HJ = Glass Headspace Jar	HJ = Glass	oasuk Client S	MC = 1 Liter MiniCan HP = High Pressure Oylinder	er MiniCan	MC=1Ub	BV = 1 Liter Bottle Vac	BV=1Ht	TB = Tedlar Bag	suosiao L=Lan	** Container Codes: 6L = Strüter Canister (Summa) TB = Tediar Bag BV = 1 Liter Bottle Vac MC = 1 Liter MiniCan HP = High Pressure Opinder HJ = 0
	Project No: 033190			3	3. 66	anodlespertens. Itim	issay tar	modice	Email: A	Consort Emails	FERIL E	N35W/	Reports To (PM): Alan
	Cossinger	Eric	by:	Collected by:					Tel:				City, State, Zip:
	acana wa	-1		Location:									Address:
	les Cheriolet	£3	ame	Project Name:								nsulting	Client: Aspect Consulting
	Page: of:				5	172/1	10		Date:		7178	Tel: 206-352-3790 Fax: 206-352-7178	3500 Framont Ave N. Seattle, WA 98103
	58					_	1					Analytical	A
	or caseary record - whole on sample	· Anon									-		

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

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.

<u>Laboratory ID</u> <u>Aspect Consulting, LLC</u>

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.

ENVIRONMENTAL CHEMISTS

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

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

Compounds:	Concen ug/m3	tration 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

ENVIRONMENTAL CHEMISTS

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
Data Callastade	05/10/16	Lob ID.	06 074 mb

Date Collected: 05/19/16 Lab ID: 06-974 mb Data File: Date Analyzed: 05/19/16 051904.D Matrix: Air Instrument: GCMS7 Units: ug/m3 Operator: MP

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concer ug/m3	ntration 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

ENVIRONMENTAL CHEMISTS

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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

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

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	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

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c The presence of the analyte may be due to carryover from previous sample injections.
- cf The sample was centrifuged prior to analysis.
- d The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv Insufficient sample volume was available to achieve normal reporting limits.
- f The sample was laboratory filtered prior to analysis.
- fb The analyte was detected in the method blank.
- fc The compound is a common laboratory and field contaminant.
- hr The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs Headspace was present in the container used for analysis.
- ht The analysis was performed outside the method or client-specified holding time requirement.
- ip Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- \boldsymbol{J} The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc The presence of the analyte is likely due to laboratory contamination.
- L The reported concentration was generated from a library search.
- nm The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- $\mbox{\it ve}$ The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo The value reported fell outside the control limits established for this analyte.
- x The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

FORMS\COC\COCTO-15.DOC	Ph. (206) 285-8282	Seattle, WA 98119-2029	3012 16th Avenue West	Friedman & Bruya, Inc.				250-051016	Sample Name		Phone 200, 838 459 25 mail	City, State, ZIP SCATTLE, wit 98,04	Address 401 2 No Ave 5 STE 201	Company A ANT C	
Received by:		Received by	Relinquished by:					01 20543 WHISS	` `		Email	ATTLE LIM 98104	ALES SERBI	ALT C	2
	Soul Underd	E. KNOEGLER	PRINT NAME					5/10/16-30 0338 -5	Field Field Field Field Field Field Field Field Field Final Field Final Field Final Field	AN	-THANKS-	REMARKS	WALKER /080190	PROJECT NAME	SAMPLERS (signature)
Samples received at	Feder	ASPECT	COMPANY					×	TO-15 BTEXN TO-15 cVOCs		000	INVOICE TO	# O #		
ived at 2/°C	510-16		DATE TIME						Z		Disp Arch Oth	SAMPLE DISPOSAL	DRUSH Rush charges authorized by:	TURNAROUND TIME	-

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 2 nd Avenue South, Suite 201				
City: Seattle		Sta	te: 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 If you answered "NO" or "UKNOWN," then skip to Step 3B of this form. Unknown 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 \boxtimes 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.

В.	. Simplified evaluation.				
1.	. Does the Site qualify for a simplified evaluation?				
		es If you answered "YES," then answer Question 2 below.			
	☐ No Unkno	or or or own If you answered "NO" or "UNKNOWN," then skip to Step 3C of this form.			
2.	Did you co	nduct a simplified evaluation?			
		es If you answered "YES," then answer Question 3 below.			
	□ No	If you answered "NO," then skip to Step 3C of this form.			
3.	Was furthe	r evaluation necessary?			
		es If you answered "YES," then answer Question 4 below.			
	□ Ne	If you answered "NO," then answer Question 5 below.			
4.	If further ev	valuation was necessary, what did you do?			
		Used the concentrations listed in Table 749-2 as cleanup levels. <i>If so, then skip to</i> Step 4 of this form.			
		Conducted a site-specific evaluation. If so, then skip to Step 3C of this form.			
5.	If no furthe	r evaluation was necessary, what was the reason? Check all that apply. Then skip			
	-	nalysis: 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 Ar	nalysis: WAC 173-340-7492(2)(b)			
	No potential exposure pathways from soil contamination to ecological receptors.				
	Contamina	nt 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. <i>If so, then skip to</i> Question 5 below.			
	Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. <i>If so, then answer Questions 3 and 4 below.</i>			
3.	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.	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.	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 160 th 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	

