ANDERSON GEOLOGICAL

PHASE II ENVIRONMENTAL SITE ASSESSMENT

SADRI PROPERTY
TAX LOT 200, MAP 1S1025
TILLAMOOK, OREGON

Prepared for

TILLAMOOK COUNTY, OREGON

P.O. Box 649
Wilsonville, Oregon 97070
(503) 682-2500

Project #1420.01
February 14, 2014

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1.0 INTRODUCTION

Anderson Geological, Inc. (AGI) was authorized by Tillamook County to complete this Phase II Environmental Site Assessment of Tax lot 200, Map 1S1025, Tillamook, Oregon (Subject Property). Tillamook County is in the process of acquiring the property under the as part of the Southern Flow Corridor (SFC) project. The purpose of the SFC project is to provide flood level reduction benefits by removing man-made impediments to flood flow and to permanently restore and protect tidal wetland habitats at the confluence of the Wilson and Trask Rivers.

The SFC project accomplishes this by extensive removal of existing levees and fill, including the levees on and adjacent to the Subject Property. New setback tidal dikes are required to protect adjacent private lands. Areas outside the setback dikes will be restored to tidal marsh.

Details of the restoration are not finalized, and may include excavation of soils on the southeast corner of the Subject Property in the vicinity of the former log mills to enhance the effectiveness of the flood reduction benefits.

The completion of the SFC involves the acquisition of private lands, which includes the Subject Property. This Phase II Environmental Assessment is intended to provide an initial assessment of the environmental concerns identified during a Phase I Environmental Assessment of the subject property by AGI.

1.1 Site Location and Setting

The Subject Property is a 65.98-acre spruce forest wetland located along Hoquarten Slough on the north side of the downtown area of Tillamook, Oregon (Fig. 1). Excavation and the construction of levees and dikes over the past 80 years have created marshes and ponds on the east end of the property that were used as log ponds for the log peeling mills that operated on the subject property during the mid 20th century. Two separate mills operated on the property and are referred to in this report as "East Mill" which operated prior to 1944, and "West Mill" which operated from 1944 through approximately 1965. The approximate locations of the mills are shown on Figures 2 and 3.

The Subject Property is currently vacant and consists of woodland and marshes. The levees and dikes around the perimeter and interior areas of the property remain, forming shallow marshes and ponds in the middle section of the property referred to in this report as West Pond and East Pond. A narrow inlet off of Hoquarten Slough, referred to as the Inlet Pond, was used as a log pond when the East Mill was in operation prior to 1944.

Upland areas are located on the east and west ends of the site. Much of the site is overgrown with small trees and dense undergrowth. A foot trail was recently cut through the vegetation along the tops of the levees and dikes, providing access to interior areas of the site. A lack of recent rains resulted in low

water levels in the ponds, exposing the sediment and marsh grasses in all areas except in narrow channels.

1.2 Geology and Hydrogeology

The regional geology consists of flood plain and terrace alluvium overlying Tertiary volcanic deposits. The area is underlain by floodplain and marine bay mud deposits with layers of sand and gravelly sand and organic matter to depths of more than 150 feet, These deposits are underlain by marine sedimentary deposits. Areas around the former mills on the east end of the subject property are believed to be partially underlain by fill material consisting of wood waste (chips and sawdust).

During the current investigation, saturated soils were first encountered at depths of 1-3 feet below ground surface (bgs). Given the lack of significant topographic features in the area, the groundwater surface is expected to be relatively flat, with a probable net flow toward Hoquarten Slough.

Surface water in the area consists of marsh and wetlands throughout the subject property that display standing water at various times of the year in response to precipitation events. The upland portions of the subject property are isolated from these intermittent surface water bodies and Hoquarten Slough by low, earthen levees.

2.0 BACKGROUND

The site history and regulatory background of the subject property is presented in the findings of a Phase I Environmental Assessment report completed by Anderson Geological in November 2013. The following is a summary of the history of the property and the findings and conclusions of the report.

Phase I Environmental Site Assessment
Sadri Property
Tax Lot 200, Map 1S1025
November 22, 2013

The Subject Property was undeveloped until the 1920's when the Tillamook Spruce Veneer Company opened a veneer mill on the east end of the property, near Douglas Street and Front Avenue. The mill was built in the low-lying area on pilings. Logs were transported to the mill from Hoquarten Slough and into a narrow inlet on the north side of the mill. The mill included saws, dry kilns, a woodworking house, a boiler house, machine shop and oil house. It is believed that the mill was powered by steam generated from wood waste from the mill.

In 1944, the mill was abandoned and a new mill, operated by Aberdeen Plywood Company, was constructed west of the original mill. A log pond was created in the low-lying area west of the mill

and the Hoquarten Slough inlet was no longer used for log delivery to the mill. The new mill was also built on pilings and had a lathe room, a filing room (saw and knife sharpening), a clipper room (for trimming veneer) and a power room. A second log pond was created west of the existing pond in the mid- to late-1950's.

The mill was originally powered by electricity and steam. The mill may have abandoned steam power in the late 1950's when a separate burner was constructed near the old mill for burning wood wastes. The green veneer was shipped from the new mill to the company's plywood plant in Tacoma, Washington for further processing. There is no evidence that plywood manufacturing was ever performed on the subject property.

The mill closed in the mid-1960's and the log ponds were drained. Fill material, possibly from the areas around the former mill buildings, was placed on the southeast corner of the west log pond around the same time as the closure of the mill. The filled area is currently overgrown with trees and dense vegetation.

No *recognized environmental conditions* were identified in connection with the Subject Property, except for the following:

- The Subject Property was the site of two different veneer mills between the 1920's and 1965. The mills appear to have been powered by electricity and steam power fueled by wood waste from the mills. A concern exists that lubricants, solvents, and hydraulic fluid may have been released to the subsurface, including sediments in the adjacent log ponds. *Recommendation*: Complete a shallow soil and sediment investigation in the vicinity of the former mill buildings and log ponds to identify potential contaminants in those media.

- Historic aerial photographs show that fill material from an unknown source was placed on the southeast corner of the west log pond in the 1960's. A concern exists that environmental contaminants could have been present in the fill material when it was placed on the subject property. *Recommendation:* Collect samples of the fill material to identify potential contaminants in the material.

3.0 PURPOSE AND SCOPE

The purpose of the current investigation was to evaluate the Subject Property for the potential presence of petroleum and hazardous substances in the soil, groundwater and sediment on the subject property as a result of 1) the previous use of the site as a log peeling mill that is assumed to have used petroleum products, including lubricants and hydraulic fluids, and 2) the placement of fill material from an unknown source or sources in a portion of one of the log ponds.

The scope of work included the following:

- Advanced eight hand-augered borings across the site and logged the subsurface materials for lithology, structures, staining, moisture, etc. The borings were located in the former locations of mechanical equipment, a boiler house, and mechanical room and "oil house", and a woodworking area. Soil and groundwater samples were collected from the borings.
- Analyzed one soil sample from each boring for diesel and heavy oil petroleum hydrocarbons and 8 RCRA metals. Analyzed selected soil samples for volatile organic compounds, and polychlorinated biphenyls (PCBs).
- Collected groundwater samples from selected borings for analysis for diesel and heavy oil petroleum hydrocarbons, volatile organic compounds and 8 RCRA metals.
- Sampled sediment from five locations in marshy areas that were previously used by the mills as log ponds and analyzed the samples for diesel and heavy oil, polychlorinated biphenyls and metals.
- Collected soil samples from the portion of the west log pond that was filled in the 1960's with fill from an unknown origin and analyzed the samples for diesel and heavy oil, polychlorinated biphenyls and metals.
- Prepared this report presenting the methods, results, and conclusions of this investigation. Interpreted the results for human exposure risk with respect to the *Oregon Risk-Based Cleanup Rules for the Remediation of Petroleum-Contaminated Sites* (September 22, 2003, revised June 7, 2012). A preliminary screening of ecological risks was completed by comparing contaminant concentrations with screening levels from various EPA and Oregon DEQ sources.

4.0 FIELD METHODS

The presence of dense vegetation and soft, wet ground made the use of powered sampling equipment impractical. Given the shallow depth of the proposed sampling and the fine-grained nature of the soils, all sampling was performed using manually-operated equipment. The field investigation involved sampling of soil and sediment from hand-augered borings. Sample locations were field-marked with orange pin flags.

4.1 Soil Sampling

A total of ten borings were completed in upland soils using an AMS hand auger with a 3½-inch mud auger bit. The approximate boring locations are shown on Figures 4 through 6.

The recovered soil was removed from the auger and examined for lithology and evidence of environmental contamination such as staining, sheens, etc. A portion of recovered soil was removed and screened for volatile organic compounds using a portable photoionization detector (PID). The

boring logs are included in Appendix A.

The borings were completed in four areas:

- Three borings near the boiler room, machine shop and oil room (East Mill);
- Two borings near the woodworking area (East Mill);
- Three borings around the concrete structure around the filing room, power room and lathe room (West Mill).
- Two borings on the southeast corner of the west log pond that received fill in the 1960's.

One soil sample was collected from each boring from the depth of the groundwater capillary fringe, where petroleum-based contaminants would likely be concentrated. None of the recovered soils displayed field evidence of contamination.

The soil samples collected from the East Mill (machinery rooms and woodworking area) and West Mill were analyzed for Total Petroleum Hydrocarbons - Diesel extended (Northwest Method NWTPH-Dx) prepared with a silica gel cleanup to reduce biogenic interference from sawdust and other woody matter. The samples near the former machinery rooms were also analyzed for 8 RCRA metals. The soil sample from each of the three areas that contained the highest concentration of diesel/heavy oil was also analyzed for volatile organic compounds, polynuclear aromatic hydrocarbons, and polychlorinated biphenyls (PCBs).

The soil samples from the fill material in the west pond were analyzed for Total Petroleum Hydrocarbons - Hydrocarbon Identification (NWTPH-HCID), 8 RCRA metals and polychlorinated biphenyls (PCBs).

4.2 Groundwater Sampling

Groundwater samples were collected from borings WM-1 (West Mill) and EM-2 (East Mill). The samples were collected from slotted 1-inch PVC groundwater sampling screens placed within the bore holes which were completed to 3 to 3½ feet bgs. Polyethylene tubing was placed into the well point and the temporary well was purged of 3-5 liters of water using a peristaltic pump to remove suspended sediment. After purging, groundwater was sampled using the peristaltic pump. The groundwater sample for metals analysis was field-filtered using a 0.45 micron in-line filter.

The groundwater samples were analyzed for Total Petroleum Hydrocarbons - Diesel extended (Northwest Method NWTPH-Dx) volatile organic compounds (EPA Method 8260) and 8 RCRA metals (EPA Method 6020).

All soil and groundwater samples were immediately packed with ice and placed in an ice chest. The samples were delivered directly to Apex Labs, Tigard, Oregon under chain of custody

documentation.

4.3 Sediment Sampling

Three sediment samples were collected from the east log pond (samples EP-1 through EP-3) and the inlet log pond (samples IP-1 and IP-2). The sampling was completed by AGI using a hand-operated AMS hand auger with a 3½-inch mud auger bit. The locations of the sediment samples are shown on Figures 4 and 5

The samples were collected from a depth of 6-12 inches within the sediment column. Attempts were made to minimize the amount of plant matter and woody material in the samples.

All of the sediment samples were analyzed for diesel and heavy oil (Northwest Method NWTPH-Dx), 8 RCRA metals, and polychlorinated biphenyls (PCBs) by EPA Method 8082. The sample from each pond that contained the highest concentration of heavy oil was also analyzed for polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270-SIM mode,

Sediment samples were subjected to silica gel treatment prior to analysis to minimize the effects on the analytical results from sawdust and woody material present in the sediments.

5.0 INVESTIGATION RESULTS

5.1 Subsurface Conditions

Throughout the site, the upland borings encountered topsoil and silty mud mixed with varying amounts of sawdust and wood chips to depths of 1-3 feet below ground surface (bgs). Groundwater was encountered at depths of 1-3 feet bgs. None of the recovered soils or groundwater displayed any field evidence of environmental contamination (i.e. sheen, odor).

The soil and groundwater analytical results are summarized in Tables 1 through 5. The laboratory report is included in Appendix B.

Although the soil and sediment samples were subject to silica gel treatment prior to analysis to try to minimize effects on the analytical results from sawdust and woody material present in the sediments, residual wood or plant debris may still be present in sediment samples after silica gel treatment. Although some or all of the reported heavy oil in the samples may be from such residual debris, the material reported as heavy oil will be treated in this discussion as a contaminant.

5.2 East Mill Building

5.2.1 Soil

The shallow soil around the boiler house and machine shop included significant debris including bricks, metal scraps, and a large steel plate that appears to be from the demolition of the nearby boiler house. The material encountered in the borings consisted of silty sandy fill with brick fragments.

Heavy oil was detected in the soil sample from boring EM-1 (sample #EM1-2) at a concentration of 721 milligrams per kilogram (mg/kg). No VOCs or PCBs were detected in the sample above the laboratory reporting limits. Various metals were detected in the sample, including arsenic (10.3 mg/kg) and chromium (41.2 mg/kg). Twelve of thirteen PAH compounds were detected in soil sample EM1-2 at concentrations ranging from 0.580 mg/kg to 56.7 mg/kg.

No diesel or heavy oil were detected in either of the other two soil samples (sample #EM2-3 and EM3-2). Various metals were detected in the samples, including arsenic (5.57 to 5.98 mg/kg) and chromium (38.3 to 53.2 mg/kg).

5.2.2 Groundwater

Groundwater was encountered in the borings at depths of 1½ to 2½ feet bgs. The groundwater sample from boring EM-2 contained no diesel, heavy oil or volatile organic compounds above the laboratory reporting limits. The only metal detected in the sample was barium (27.3 µg/l).

5.3 West Mill Building

5.3.1 Soil

The shallow soil around the lathe room, filing room and power room included a thin topsoil underlain by brown silty material with abundant sawdust and wood chips to depths of at least 3½ feet bgs. No field evidence of contamination was observed in the soils recovered from any of the borings.

Heavy oil was detected in the soil samples at concentrations of 330 to 2,680 mg/kg. Various metals were detected in the samples, including lead (25.6 to 98.4 mg/kg) and chromium (30.1 to 52.0 mg/kg). No VOCs or PCBs were detected in soil sample WM3-1 above the laboratory reporting limits. Twelve of thirteen PAH compounds were detected in soil sample EM1-2 at concentrations ranging from 0.117 to 2.74 mg/kg.

5.3.2 Groundwater

Groundwater was encountered in the borings at a depth of 1 foot bgs. The groundwater sample from boring WM-1 contained no diesel, 500 µg/l heavy oil, and no volatile organic compounds above the laboratory reporting limits. The only metals detected in the sample were barium (7.20 µg/l), chromium (3.40 µg/l) and lead (0.933 µg/l).

5.4 Log Ponds - Sediment

5.4.1 East Log Pond

The three sediment samples collected from the east log pond contained no diesel, heavy oil, or PCBs above the laboratory reporting limits. The sediment samples contained various metals, including arsenic (less than 3.85 to 4.97 mg/kg), chromium (41.9 to 51.6 mg/kg) and lead (10.3 to 13.5 mg/kg).

5.4.2 Inlet Log Pond

The two sediment samples collected from the inlet log pond contained no diesel, heavy oil, PAHs or PCBs above the laboratory reporting limits. The sediment samples contained various metals, including arsenic (3.19 and 4.43 mg/kg), chromium (34.5 and 44.8 mg/kg) and lead (17.7 and 39 mg/kg).

5.5 Fill Area - West Log Pond

The two soil samples collected from the fill area (samples FILL1-1 and FILL2-1) contained no diesel, heavy oil, or PCBs above the laboratory reporting limits. The soil samples contained various metals, including arsenic (less than 3.12 to 3.58 mg/kg), chromium (29.4 to 40.4 mg/kg) and lead (9.65 to 20.3 mg/kg).

6.0 CONCEPTUAL SITE MODEL

The conceptual site model evaluates current and future uses with respect to potential exposure to the contaminants of concern. A summary of the conceptual site model is presented in Figure A. The conceptual site model evaluates the potential exposure to the contaminants of concern based on future land use as a natural marsh and wetland with no residents, permanent buildings or other public access.

6.1 Nature and Extent of Contamination

The compounds detected on the site consist of heavy-fraction petroleum hydrocarbons, polynuclear aromatic hydrocarbons and metals. The metals are naturally-occurring and are typically present within predictable ranges (i.e. background concentrations). In the absence of site-specific data for background levels of metals in soil and sediment, Oregon DEQ commonly refers to default background levels for soils and sediment (fresh water and marine) which are based on various sources of historical published data for Oregon and Washington. This data is commonly used as an initial screening tool for determining whether metals concentrations at a given site exceed regional background concentrations (Memo to DEQ cleanup managers, October 28, 2002).

The concentrations of metals in the pond sediments closely resemble the concentrations in the upland soils. This is expected, given that the ponds were created by excavating shallow depressions in the native marine bay mud sediments and using the excavated material for the levees around the ponds. For this reason, the published default background concentrations for marine sediments will be used in this report as background levels for both the pond sediments and the upland soils.

6.1.1 East Mill Building

One of the soil samples collected around the former machine shop (sample EM1-2) contained heavy oil, arsenic, cadmium, and lead at concentrations above default background levels for marine sediment and numerous PAH compounds. One of the other soil samples collected in the area (sample EM3-2) contained lead above background levels. No heavy oil or dissolved metals were detected in the groundwater sample from EM-3 except for barium (27.3 micrograms per liter).

The lateral and vertical extent of the contamination was not determined.

6.1.2 West Mill Building

All three soil samples collected around the former filing room, power room and lathe room contained heavy oil and lead at concentrations above default background levels for marine sediment. The sample containing the highest concentration of oil also contained numerous PAH compounds. Heavy oil and dissolved barium, chromium and lead were detected in the groundwater sample from boring EM-1.

The lateral and vertical extent of the contamination was not determined.

6.1.3 East Log Pond and Inlet Log Pond

The concentrations of metals in the pond sediment samples (Table 8) show a close similarity to

the concentrations of metals in the upland soils (Table 2), with the exception of soil sample EM1-2, which appears to have been impacted by contaminants near the former machine shop. Lead concentrations are also slightly higher overall in the upland soil samples when compared to the sediment samples.

The concentrations of metals in the pond sediments are below the default background levels for marine sediments, with the exception of a slight elevation in the lead concentration in sample IP1-1, suggesting there has not been a significant impact to the sediments from the former mill operations.

6.1.4 Fill Area - West Log Pond

The soil samples from the filled area contained no contaminants above default background levels for marine sediment.

6.2 Current and Future Land Use

The Subject Property is currently vacant land consisting of woodland and marshes. The Subject Property is bordered to the north by Hoquarten Slough and vacant land beyond, to the east by a vacant woodland owned by the City of Tillamook, to the west by agricultural land (pasture), and to the south by commercial and residential properties across Front Street.

Approximately 4 acres of the Subject Property are located within the Tillamook City limits. The rest of the property is located within unincorporated Tillamook County while within the city's urban growth boundary and is therefore subject to city zoning as Open Space.

The future restoration plans for the subject property include the removal of the levees along Hoquarten Slough and interior areas of the property to allow unrestricted flow of flood waters, and possible removal of soil on the southeast corner of the Sadri property to depths of up to 8 feet bgs for the enhancement of the flood reduction benefits. No buildings, trails or other features providing public access to the site are planned. The field work associated with the restoration project is planned to commence in 2016. Details of the restoration of the Subject Property have not yet been finalized.

6.3 Contaminant Sources

The contaminants on the subject property consist of heavy oil, metals and polynuclear aromatic hydrocarbons in the shallow soils around the two former mill sites. The contaminants are believed to have originated from releases of wastes associated with the mill operations including equipment lubrication, general machining, and sharpening of cutting and log peeling equipment.

6.4 Human Receptors

The subject property consists of undeveloped woodland and wetland with no dwellings or other habitable structures. Current development plans for the subject property include the removal of the levees around the site and the possible excavation of shallow soil over portions of the site. No recreational uses such as hiking trails are planned for the former mill areas of the Subject Property. Based on these plans, future construction workers associated with the levee removal and excavation could be exposed to contamination on the site.

6.5 Ecological Receptors

Terrestrial and aquatic ecological receptors may be exposed to contaminants on the subject property. Terrestrial receptors are expected to include plants, invertebrates (worms), and birds. Game trails and tracks observed on the site indicate that deer use the property as a travel corridor and for possible bedding areas.

Aquatic receptors in the log ponds may include some fish species, although the low areas of the site (log ponds) are only periodically inundated with water during periods of heavy or prolonged precipitation, and no permanent resident fish species are expected in the area. It is expected that the final design of the flood restoration features on the subject property will take into account potential exposure of ecological receptors to contaminants.

A formal ecological risk assessment, including the identification of species of concern on the subject property, has not been conducted.

6.6 Exposure Pathways

Risk assessments completed at the former Tillamook City Shops located adjacent to the south of the Subject Property and at the former Erskine bulk fuel facility adjacent to the southeast corner of the subject property concluded that groundwater is not used for drinking water, and the drinking water exposure pathway was considered incomplete. Given the proximity of these properties to the Subject Property, neither the direct pathway (*Ingestion/inhalation from Tap Water)* nor the indirect soil pathway (*Leaching to Groundwater*) for groundwater ingestion are considered to be complete.

Based on the proposed use of the Subject Property, which will not include any permanent, occupied structures, the exposure pathway for *Vapor Intrusion into Buildings* will also be considered an incomplete pathway. Since no construction is proposed on the Subject Property except for soil excavation and re-grading, the exposure pathway for *Construction Worker* will also be considered incomplete.

There will be no residential or occupational uses of the Subject Property, therefore the exposure

pathway for *Volatilization to Outdoor Air* is considered to be incomplete.

Based on these assumptions, the following exposure pathways are considered complete and are discussed:

Soil

- **Excavation Worker**
  Persons performing underground work and excavating soil on the Subject Property can be exposed to contaminants in the soil. However, none of the detected contaminants exceed risk-based concentrations for this pathway.

Groundwater

- **Groundwater in excavation**
  Persons performing underground work on the Subject Property can come in contact with contaminants in groundwater, which is generally less than than 3 feet below ground surface. However, none of the detected contaminants exceed risk-based concentrations for this pathway.

In addition to these human exposure pathways, ecological exposure is possible through migration of contaminants to surface water and sediment in Hoquarten Slough and the former log ponds, and by long-term exposure to contamination in shallow soils by terrestrial organisms. Further evaluation of the potential exposure to ecological receptors is beyond the scope of this investigation.

Figure A - Conceptual Site Model
Sadri Property
Tillamook, Oregon

Date 2/14/2014	Pathway	Receptor	Table #1 Is Pathway Complete?	Is GRBC Exceeded?	Comments
Soil	Ingestion, Dermal Contact and Inhalation	Residential and/or Urban Residential	No	Yes	No residential or occupational receptors. No soil contaminants exceed GRBCs for Construction Worker or Excavation Worker.
		Occupational	No	Yes	
		Construction Worker	No	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban Residential	No	No	No residential or occupational receptors.
		Occupational	No	No	
	Vapor Intrusion Into Buildings	Residential and/or Urban Residential	No	No	No buildings on the property (current or future).
		Occupational	No	No	
	Leaching to Groundwater	Residential and/or Urban Residential	No	No	Groundwater is not used for drinking water.
		Occupational	No	No	
Groundwater	Ingestion & Inhalation From Tap Water	Residential and/or Urban Residential	No	No	Groundwater is not used for drinking water.
		Occupational	No	No	
	Volatilization to Outdoor Air	Residential and/or Urban Residential	No	No	No VOCs detected in groundwater.
		Occupational	No	No	
	Vapor Intrusion Into Buildings	Residential and/or Urban Residential	No	No	No VOCs detected in groundwater. No buildings on the property(current or future).
		Occupational	No	No	
	Groundwater in Excavation	Occupational	Yes	No	No groundwater contaminants exceed GRBCs.
Ecological		Terrestrial, Surface Water, Sediment	Yes	Yes	Concentrations in sediment are consistent with upland soil concentrations except lead in one sample. Lead and PAHs in upland soil exceed background levels and JSCS SLVs for sediment.

Notes:

GRBC - Generic Risk Based Concentration

CMMP - Contaminated Media Management Plan

7.0 RISK-BASED ANALYSIS

It is understood that the proposed future use of the property is to permanently restore and protect tidal marsh by removing levees along Hoquarten Slough and removing soil on the southeast corner of the Subject Property. No buildings are proposed to be built on the site and no features such as hiking trails are proposed for public access to the impacted areas. Based on this proposed future land use, Anderson Geological proposes to apply human risk-based cleanup levels for excavation workers.

The risk to ecological receptors in soil and groundwater is evaluated using Oregon DEQ/ USEPA Portland Harbor Joint Source Control screening level values - SLVs (2007). The SLVs for soil exposure are based on ecological exposure to sediment derived from erosion of contaminated upland soil or stormwater sediment deposited in a surface water body.

When evaluating the risk to human and ecological receptors, default background concentrations will take precedence over the RBCs and SLVs.

7.1 Soil Screening

The contaminant concentrations in the upland soil samples, the human and ecological screening levels, and the default background concentrations are provided in Tables 1-3. Analytical values that exceed RBCs or SLVs and background concentrations were evaluated with respect to the conceptual site model(CSM).

Based on this screening, none of the contaminants in soil pose an unacceptable risk to human health.

With respect to ecological risk, soil sample EM1-2 contained arsenic and lead in excess of bioaccumulation SLVs and cadmium in excess of ecological toxicity SLVs. The concentrations of lead in five of the six soil samples near the production areas of the east and west mills also exceeded bioaccumulation SLVs.

These findings suggest the potential for elevated ecological exposure to contaminants in sediment from erosion of contaminated shallow soils into water bodies. Stormwater in the upland areas is presently isolated from the other surface water bodies (Hoquarten Slough, former log ponds) by levees, and the water in the upland areas seeps directly into the ground without eroding upland soils for deposition in surface water bodies. However, the future restoration of the site will include significant modification of surface water flow in the area which will require consideration of contaminant migration pathways.

7.2 Groundwater Screening

No RBCs for complete human exposure pathways were exceeded for groundwater.

The primary risk posed by contaminated groundwater is to ecological receptors. The lead concentration in the groundwater sample from the west mill exceeded the JSCS SLV. This SLV represents the maximum contaminant concentration that is protective of aquatic organisms from migration of groundwater-borne contaminants to surface water bodies. No other ecological SLVs were exceeded.

7.3 Sediment Screening

The contaminant concentrations in the log pond sediment samples, and the ecological screening levels and the default background concentrations are provided in Tables 6-8. Analytical values that exceed SLVs and background concentrations are highlighted.

Based on this screening, the only contaminant in sediment that poses an elevated ecological risk is lead in one of the inlet pond sediment samples (IP1-1). The lead in the sample exceeded the background level and the Oregon DEQ Level II ecological screening value. This SLV represents the maximum contaminant concentration that is protective of aquatic organisms with direct contact to the sediment. No other ecological SLVs were exceeded.

8.0 SUMMARY AND CONCLUSIONS

Anderson Geological completed ten hand-augered borings in the shallow soils and five hand-augered borings in the exposed sediment in the former log ponds. The purpose of the borings was to collect soil, sediment and groundwater samples to assess these media for possible contaminants resulting from the past use of the site as two log-peeling mills.

Samples were analyzed for petroleum hydrocarbons (diesel and heavy oil), metals, PCBs, VOCs, and PAHs. The analytical results were screened for elevated risk to human and ecological receptors, although a formal ecological risk assessment was not completed. The concentrations of metals were also compared to default background levels which were based on published data for marine sediments.

Contamination by heavy oil, polynuclear aromatic hydrocarbons and metals was discovered in the shallow soil, and contamination by heavy oil and metals was discovered in the groundwater in the log peeling and mechanical areas on the two mill sites. The source of the contamination is assumed to be from releases of lubricating oils and waste products from former operations at the mills. The sediment in one area of the inlet log pond contained a slightly elevated concentration of lead.

A conceptual site model (CSM) was developed for the site to identify potential pathways for exposure of human and ecological receptors to the contamination. No unacceptable risks to human health were identified for the complete exposure pathways based on the CSM. The preliminary risk-based screening identified potential unacceptable risks for the following pathways:

Ecological toxicity and bioaccumulation in wildlife by exposure to lead, arsenic, cadmium and PAHs in soil. This exposure pathway includes the erosion of contaminated soils and their deposition as sediment in surface waters. This pathway may not be complete at the present time due to the presence of levees that prevent storm water runoff in the former mill areas from entering the log ponds and Hoquarten Slough. However, modifications to the site are planned that will result in a more direct connection between Hoquarten Slough and the interior portions of the subject property. Future modifications undertaken in this area during the Southern Flow Corridor project should take into account potential ecological exposures to the identified contaminants.

Ecological toxicity and bioaccumulation in wildlife by exposure to lead in groundwater and surface water. This exposure pathway includes migration of contaminants to surface waters via groundwater discharge to surface water. Future ecological risk assessments should address possible ecological exposures to contaminants in surface water.

9.0 LIMITATIONS

This report was prepared for Tillamook County for the property Sadri Property, tax lot 200, map 1S1025, Tillamook, Oregon. This report is not intended for use by others without written consent from Anderson Geological, Inc. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time the report was prepared. No warranty or other conditions, expressed or implied, should be understood.

Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from a limited number of sampling locations. It is possible that contamination exists in areas that were not explored, sampled, or analyzed.

ANDERSON GEOLOGICAL, INC.

Expires 3/31/2014

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Hydrogeologist

References

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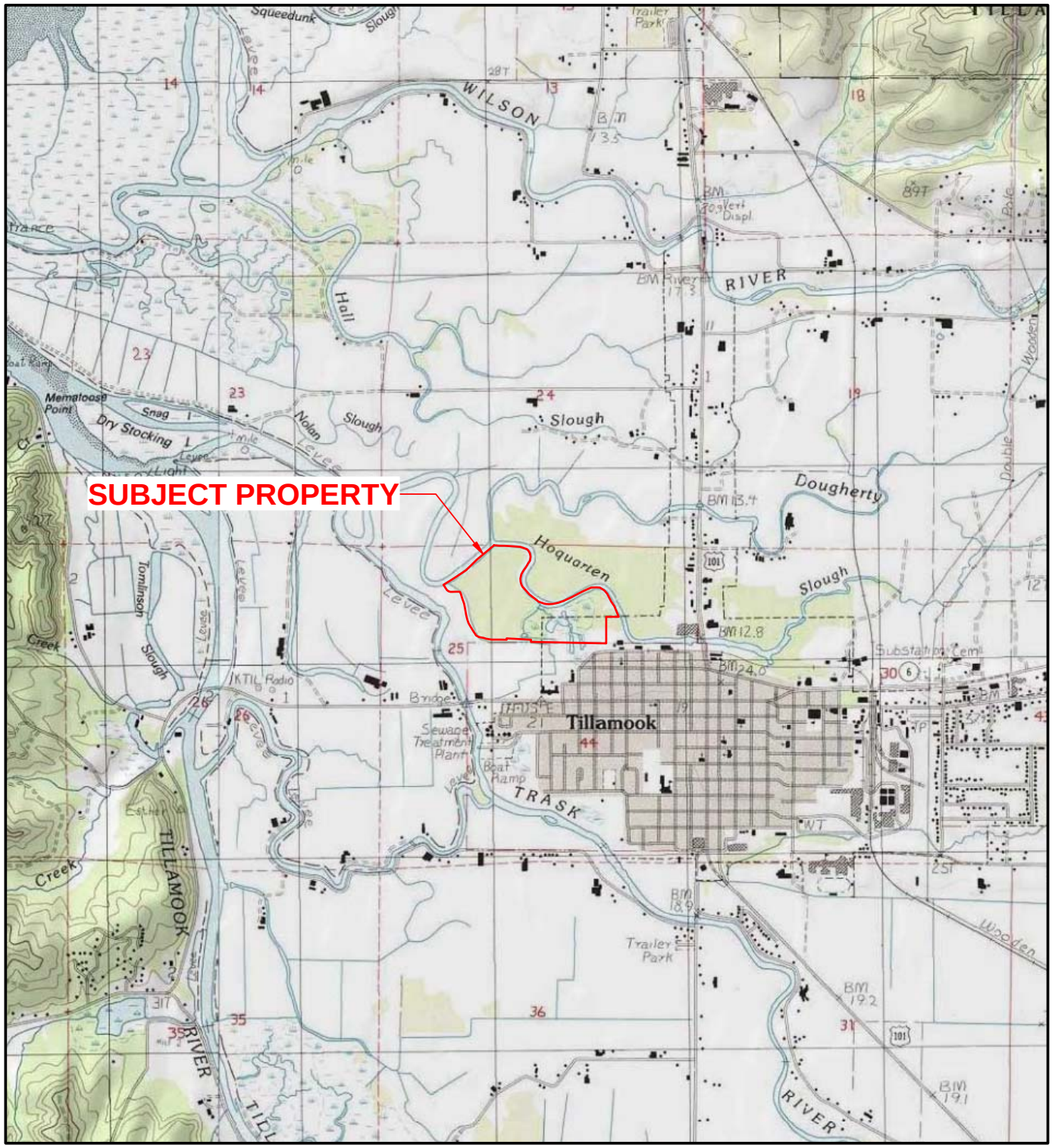
FIGURES



ANDERSON GEOLOGICAL	SITE LOCATION MAP	
	Sadri Property, Tillamook, Oregon	
SIZE A	PROJECT NO. 1420.01	REV
	February 2014	FIGURE 1

LEGEND

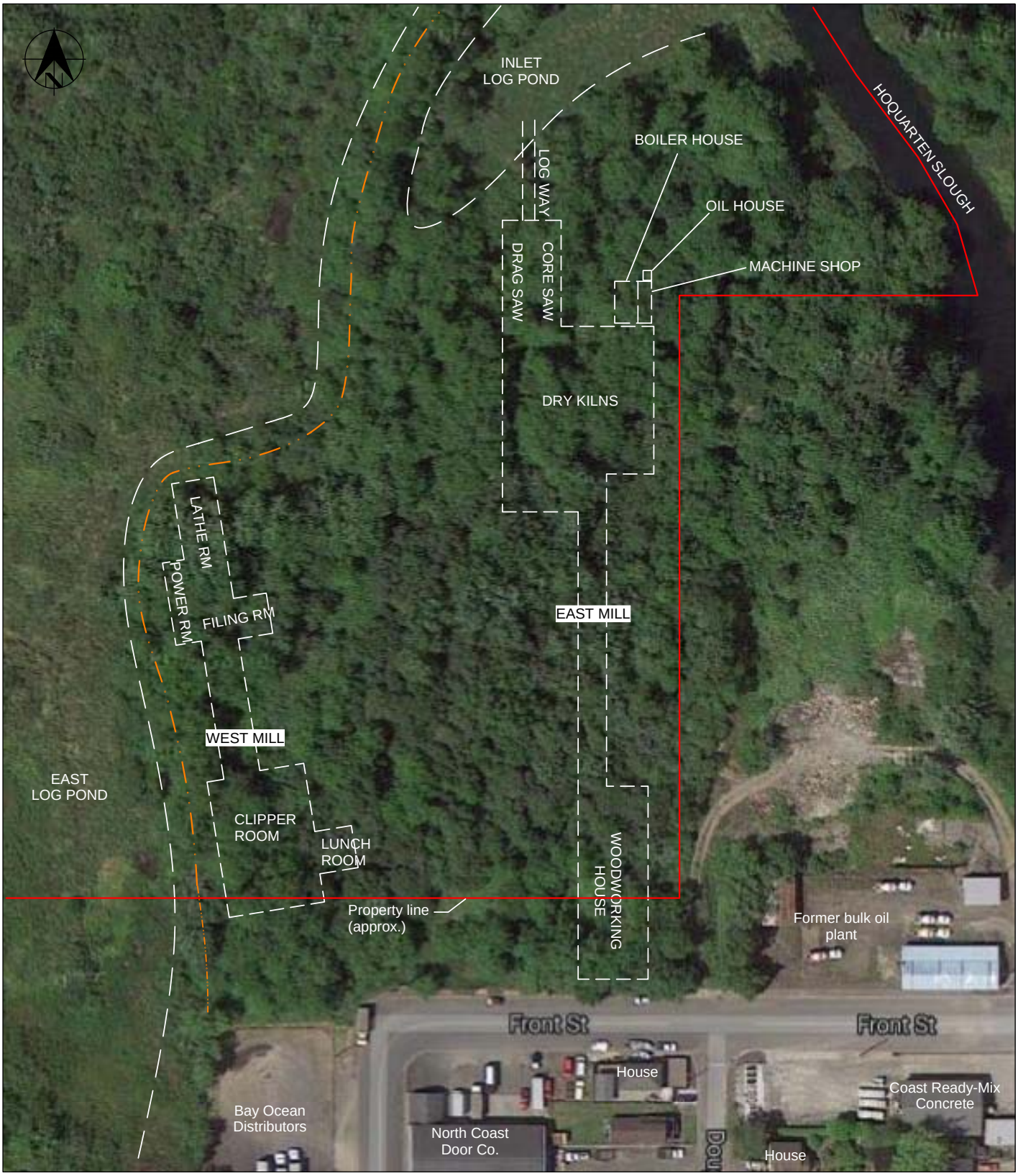
Path along top of dike/levee

ANDERSON GEOLOGICAL

SITE AND VICINITY PLAN

Sadri Property, Tillamook, Oregon

SIZE		PROJECT NO.	REV
A		1420.01	
		February 2014	FIGURE 2



LEGEND

Path along top of dike/levee

ANDERSON GEOLOGICAL

SITE DETAIL and
FORMER MILL FEATURES

Map 1S1025, Tax Lot 200, Tillamook, Oregon

SIZE A | PROJECT NO. 1420.00 | REV

February 2014 | FIGURE 3

SOIL	
WM-3 @ 1'	
Heavy oil	2,680
PCBs	
Arsenic	3.48
Barium	93.9
Cadmium	0.599
Chromium	30.1
Lead	98.4
Mercury	ND
Selenium	ND
Silver	ND
PAHs	
Acenapth	ND
Anthracene	0.242
B(a)Anth	0.763
B(b+k)Fluor	2.74
B(a)Pyrene	1.23
B(g,h,i)Per	0.93
Chrysene	1.34
Dib(a,h)An	0.235
Fluoranth	1.92
Fluorene	0.134
Ind(1,2,3)	1.05
Naph	0.117
Pyrene	1.79

SOIL	
WM-2 @ 1'	
Heavy oil	1,290
PCBs	---
Arsenic	3.90
Barium	112
Cadmium	0.692
Chromium	34.5
Lead	62.2
Mercury	ND
Selenium	ND
Silver	ND

SOIL		GROUNDWATER	
WM-1 @ 2'		WM-1 (water)	
Heavy oil	330	Heavy oil	500
PCBs	---	VOCs	ND
Arsenic	5.26	Arsenic	ND
Barium	53.5	Barium	7.20
Cadmium	0.638	Cadmium	ND
Chromium	52.0	Chromium	3.40
Lead	25.6	Lead	0.933
Mercury	ND	Mercury	ND
Selenium	ND	Selenium	ND
Silver	ND	Silver	ND

SEDIMENT	
EP3-1 @ 1'	
Heavy oil	ND
PCBs	ND
Arsenic	4.69
Barium	76.2
Cadmium	ND
Chromium	51.5
Lead	13.5
Mercury	ND
Selenium	ND
Silver	ND

SEDIMENT	
EP-2 @ 1'	
Heavy oil	ND
PCBs	ND
Arsenic	4.97
Barium	119
Cadmium	ND
Chromium	51.6
Lead	10.3
Mercury	ND
Selenium	ND
Silver	ND

SEDIMENT	
EP-1 @ 1'	
Heavy oil	ND
PCBs	ND
Arsenic	ND
Barium	69.3
Cadmium	ND
Chromium	41.9
Lead	12.8
Mercury	ND
Selenium	ND
Silver	ND

Sawdust bin

EAST MILL (FIGURE 5)

Property line (approx.)

FRONT ST.

CEDAR AVE.

General outline of former mill building

Clipper room

Filing room

Lathe room

Power room

Bay Ocean Distributors

Trail

East log pond

LEGEND

- Hand auger boring
- Sediment sample
- Concrete structure
- Path along top of dike/levee

PAHs: Polynuclear aromatic hydrocarbons
Acenapth: Acenapthene
B(a)Anth: Benzo(a)Anthracene
B(b+k)Fluor: Benzo(b+k)Fluoranthene
B(a)Pyrene: Benzo(a)Pyrene
B(g,h,i)Per: Benzo(g,h,i)Perylene
Dib(a,h)An: Dibenz(a,h)Anthracene
Fluoranth: Fluoranthene
Ind(1,2,3): Indeno(1,2,3)Pyrene
Naph: Naphalene

ND: None detected
--- Not analyzed
All soil and sediment values in milligrams per kilogram
All water values in micrograms per liter (ug/l)

Values exceed ecological screening values for upland soil/sediment (JSCS SLVs, 2007)

Building locations and uses were obtained from Sanborn Fire Insurance maps (1943, 1954, 1963)

SCALE 1"=35' (approx.)

0 17.5 35 52.5 70

ANDERSON GEOLOGICAL

DETAIL PLAN: WEST MILL (Post-1944)

Sadri Property, Tillamook, Oregon

SIZE A | PROJECT NO. 1420.01 | REV

February 2014 | FIGURE 4

SOIL	
EM-2 @ 3'	
Heavy oil	ND
PCBs	---
Arsenic	5.57
Barium	261
Cadmium	0.606
Chromium	53.2
Lead	14.3
Mercury	ND
Selenium	ND
Silver	ND

GROUNDWATER	
EM-2 (water)	
Heavy oil	ND
VOCs	ND
Arsenic	ND
Barium	27.3
Cadmium	ND
Chromium	ND
Lead	ND
Mercury	ND
Selenium	ND
Silver	ND

SOIL	
EM-1 @ 2'	
Heavy oil	721
PCBs	ND
Arsenic	10.3
Barium	1,290
Cadmium	5.12
Chromium	41.2
Lead	108
Mercury	ND
Selenium	ND
Silver	1.04
PAHs	
Acenapth	ND
Anthracene	5.05
B(a)Anth	29.2
B(b+k)Fluor	56.7
B(a)Pyrene	37.4
B(g,h,i)Per	16.0
Chrysene	32.3
Dib(a,h)An	5.26
Fluoranth	36.8
Fluorene	0.58
Ind(1,2,3)	19.8
Naph	3.31
Pyrene	45.3

SOIL	
EM-5 @ 1'	
Heavy oil	140
PCBs	---
Metals	---

SOIL	
EM-4 @ 1'	
Heavy oil	326
PCBs	---
Metals	---

SEDIMENT	
IP-2 @ 1'	
Heavy oil	374
PCBs	ND
Arsenic	4.43
Barium	101
Cadmium	ND
Chromium	44.8
Lead	17.7
Mercury	ND
Selenium	ND
Silver	ND

SEDIMENT	
IP-1 @ 1'	
Heavy oil	595
PCBs	ND
Arsenic	3.19
Barium	76.2
Cadmium	ND
Chromium	34.5
Lead	39
Mercury	ND
Selenium	ND
Silver	ND
PAHs	ND

SOIL	
EM-3 @ 2'	
Heavy oil	ND
PCBs	---
Arsenic	5.98
Barium	239
Cadmium	ND
Chromium	38.3
Lead	39.0
Mercury	ND
Selenium	ND
Silver	ND

Former bulk oil plant

Dirt road

Property line (approx.)

Machine shop

Boiler house

Oil house

Inlet log pond

Log way

East log pond

Sawdust bin

WEST MILL (FIGURE 4)

FRONT STREET

SCALE 1"=50' (approx.)

0 25 50 75 100

LEGEND

- Hand-augered boring
- Sediment sample
- Path along top of dike/levee
- Concrete structure

PAHs: Polynuclear aromatic hydrocarbons

Acenapth:	Acenapthene
B(a)Anth:	Benzo(a)Anthracene
B(b+k)Fluor:	Benzo(b+k)Fluoranthene
B(a)Pyrene:	Benzo(a)Pyrene
B(g,h,i)Per:	Benzo(g,h,i)Perylene
Dib(a,h)An:	Dibenz(a,h)Anthracene
Fluoranth:	Fluoranthene
Ind(1,2,3):	Indeno(1,2,3)Pyrene
Naph:	Naphalene

ND: None detected
--- Not analyzed
All soil and sediment values in milligrams per kilogram
All water values in micrograms per liter (ug/l)

Values exceed ecological screening values for upland soil/sediment (JSCS SLVs, 2007)

Building locations and uses were obtained from Sanborn Fire Insurance maps (1943, 1954, 1963)

ANDERSON GEOLOGICAL

DETAIL PLAN: EAST MILL (Pre-1944)

Sadri Property, Tillamook, Oregon

SIZE A | PROJECT NO. 1420.01 | REV

February 2014 | FIGURE 5

LEGEND

Hand augered boring

Path along top of dike/levee

ND: None detected
All values in milligrams per kilogram (mg/kg)

ANDERSON GEOLOGICAL

FILL AREA - WEST LOG POND

Sadri Property, Tillamook, Oregon

SIZE		PROJECT NO. 1420.01	REV
A			
		February 2014	FIGURE 6

TABLES

Table 1
Soil Analysis Summary
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Petroleum Hydrocarbons			PAHs													
				Gasoline	Diesel	Heavy Oil	Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Pyrene
WM1-2	West Mill	2	1/21/2014	–	<45.4	**330**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WM2-1	West Mill	1	1/21/2014	–	<67.8	**1,290**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WM3-1	West Mill	1	1/21/2014	–	<956	**2,680**	<0.10	**0.242**	**0.763**	**2.74**		**1.23**	**0.93**	**1.34**	**0.235**	**1.92**	**0.134**	**1.05**	**0.117**	**1.79**
EM1-2	East Mill	2	1/21/2014	–	<207	**721**	<0.0955	**5.05**	**29.2**	**56.7**		**37.4**	**16.0**	**32.3**	**5.26**	**36.8**	**0.580**	**19.8**	**3.31**	**45.3**
EM2-3	East Mill	3	1/21/2014	–	<41.1	<82.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EM3-2	East Mill	2	1/21/2014	–	<68.1	<136	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EM4-1	East Mill	1	1/22/2014	–	<42.8	**326**	<0.0194	<0.0194	<0.0194	<0.0194		<0.0194	<0.0194	<0.0194	<0.0194	<0.0194	<0.0194	<0.0194	**0.02**	**0.0195**
EM5-1	East Mill	1	1/22/2014	–	<41.3	**140**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
FILL1-1	Fill Area	1	1/22/2014	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	–	–
FILL2-1	Fill Area	1	1/22/2014	ND	ND	ND	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Generic Risk-Based Levels (Occupational)																				
Volatilization To Outdoor Air				69,000	>Max	>Max	>Max	>Max	NV	NV	NV	NV	ne	>Csat	NV	NV	NV	NV	99	>Csat
Excavation Worker				>MAX	>MAX	>MAX	>Csat	>Max	590	590	5,900	59	ne	57,000	59	>Csat	>Max	590	16,000	>Csat
JSCS screening level values*																				
Toxicity				–	–	–	0.30	0.845	1.05	ne	13	1.45	0.30	1.29	1.30	2.23	0.536	0.100	0.561	1.52

Generic Risk-Based Levels are based on *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003* (revised June 7, 2012)
>Csat: The soil RBC exceeds the saturation limit of the soil
>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.
NV: This chemical is considered "non-volatile" for purposes of the exposure calculations
ne - Not established
ND- None detected
All values in milligrams per kilogram (mg/kg)
– Sample not tested
* Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLV) from Oregon DEQ/EPA, 2007

Table 2
Soil Analysis Summary
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Polychlorinated Biphenyls (PCBs)								Metals							
				Aroclor 10106	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TOTAL AROCLORS	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
WM1-2	West Mill	2	1/21/2014	–	–	–	–	–	–	–	–	**5.26**	**53.5**	**0.638**	**52.0**	**25.6**	<0.176	<2.20	<0.440
WM2-1	West Mill	1	1/21/2014	–	–	–	–	–	–	–	–	**3.90**	**112**	**0.692**	**34.5**	**62.2**	<0.252	<3.14	<0.629
WM3-1	West Mill	1	1/21/2014	<0.0201	<0.0201	<0.0201	<0.0201	<0.0201	<0.0201	<0.0201	<0.1407	**3.48**	**93.9**	**0.599**	**30.1**	**98.4**	<0.184	<2.30	<0.461
EM1-2	East Mill	2	1/21/2014	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<0.1351	**10.3**	**1,290**	**5.12**	**41.2**	**108**	<0.167	<2.09	**1.04**
EM2-3	East Mill	3	1/21/2014	–	–	–	–	–	–	–	–	**5.57**	**261**	**0.606**	**53.2**	**14.3**	<0.156	<1.96	<0.391
EM3-2	East Mill	2	1/21/2014	–	–	–	–	–	–	–	–	**5.98**	**239**	<0.683	**38.3**	**39.0**	<0.273	<3.42	<0.683
EM4-1	East Mill	1	1/22/2014	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<0.133	–	–	–	–	–	–	–	–
EM5-1	East Mill	1	1/22/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
FILL1-1	Fill Area	1	1/22/2014	<0.0279	<0.0279	<0.0279	<0.0279	<0.0279	<0.0279	<0.0279	<0.195	<3.12	**67.6**	<0.624	**29.4**	**9.65**	<0.250	<3.12	<0.624
FILL2-1	Fill Area	1	1/22/2014	<0.0231	<0.0231	<0.0231	<0.0231	<0.0231	<0.0231	<0.0231	<0.162	**3.58**	**78.2**	<0.512	**40.4**	**20.3**	<0.205	<2.56	<0.512
Generic Risk-Based Levels (Occupational)																			
Volatilization To Outdoor Air				ne	ne	ne	ne	ne	ne	ne	NV	NV	NV	NV	NV	NV	NV	ne	NV
Excavation Worker				ne	ne	ne	ne	ne	ne	ne	120	370	>Max	4,300	>Max	800	2,600	ne	4,300
JSCS SLV screening level values*																			
Bioaccumulation				ne	ne	ne	ne	ne	ne	ne	0.00039	7	ne	1	ne	17	0.07	2	ne
Toxicity				0.53	ne	ne	ne	1.5	0.30	0.20	0.676	33	ne	4.98	111	128	1.06	5	5
Default background concentrations (a)																			
Soil				ne	ne	ne	ne	ne	ne	ne	ne	7	ne	1	42	17	0.07	2	1
Marine Sediment***				ne	ne	ne	ne	ne	ne	ne	ne	9	ne	0.9	140	22	0.3	0.5	0.4

Generic Risk-Based Levels are based on *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003* (revised June 7, 2012)
>Csat: The soil RBC exceeds the saturation limit of the soil
>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.
NV: This chemical is considered "non-volatile" for purposes of the exposure calculations
ne - Not established
ND- None detected
All values in milligrams per kilogram (mg/kg)
– Sample not tested
Highlighted cells exceed the indicated screening values **and** background concentrations.
* Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLV) from Oregon DEQ/EPA, 2007
** The naturally-occurring background concentration (9 mg/kg) is used in lieu of this value.
*** Marine sediment background values should more accurately represent the site soils given their origin as marine bay sediment.

Table 3
Soil Analysis Summary
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	VOCs													BTEX			
				1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dibromoethane	1,2-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene chloride	Naphthalene	Tetrachloroethene	Trichloroethene	1,1,1-Trichloroethane	Vinyl chloride	Benzene	Toluene	Ethylbenzene	Xylenes
WM1-2	West Mill	2	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WM2-1	West Mill	1	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
WM3-1	West Mill	1	1/21/2014	<0.0722	<0.0722	<0.0722	<0.0722	<0.0722	<0.144	<0.144	<0.722	<0.289	<0.0722	<0.0722	<0.0722	<0.0722	<0.0361	<0.0722	<0.0722	<0.2162
EM1-2	East Mill	2	1/21/2014	<0.0638	<0.0638	<0.0638	<0.0638	<0.0638	<0.128	<0.128	<0.638	<0.255	<0.0638	<0.0638	<0.0638	<0.128	<0.0319	<0.128	<0.0638	<0.1918
EM2-3	East Mill	3	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EM3-2	East Mill	2	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EM4-1	East Mill	1	1/22/2014	<0.0713	<0.0713	<0.0713	<0.0713	<0.0713	<0.143	<0.143	<0.713	<0.285	<0.0713	<0.0713	<0.0713	<0.0713	<0.0356	<0.0713	<0.0713	<0.2143
EM5-1	East Mill	1	1/22/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
FILL1-1	Fill Area	1	1/22/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
FILL2-1	Fill Area	1	1/22/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Generic Risk-Based Levels (Occupational)																				
Volatilization To Outdoor Air				>Csat	>Max	>Csat	0.65	15	1,000	>Csat	830	99	>Csat	96	>Csat	89	50	>Csat	160	>Csat
Excavation Worker				>Csat	17,000	>Max	230	5,000	54,000	86,000	75,000	16,000	44,000	3,400	>Max	830	9,500	>Max	44,000	>Csat
JSCS screening level values*																				
Toxicity				ne	ne	ne	ne	ne	ne	ne	ne	ne	0.50	2.10	ne	2.10	ne	ne	ne	ne

Generic Risk-Based Levels are based on *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003* (revised June 7, 2012)
>Csat: The soil RBC exceeds the saturation limit of the soil
>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.
NV: This chemical is considered "non-volatile" for purposes of the exposure calculations
ne - Not established
ND- None detected
All values in milligrams per kilogram (mg/kg)
– Sample not tested
* Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLV) from Oregon DEQ/EPA, 2007

Table 4
Groundwater Analysis Summary
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Petroleum Hydrocarbons			Metals							
				Gasoline	Diesel	Heavy Oil	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
WM1-W	West Mill	0-3	1/21/2014	–	<196	**500**	<1.00	**7.20**	<0.200	**3.40**	**0.933**	<0.080	<1.00	<0.200
EM2-W	East Mill	0-3	1/21/2014	–	<189	<377	<1.00	**27.3**	<0.200	<1.00	<0.200	<0.080	<1.00	<0.200
Generic Risk-Based Levels (Occupational)														
Groundwater in Excavation				14,000	>S	>S	5,800	2.5E+07	57,000	>S	>S	>S	ne	1.0E+06
JSCS Screening Level Values*				ne	ne	ne	3.10	ne	0.094	11	0.54	0.012	35	0.12

Generic Risk-Based Levels are based on *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003* (revised June 7, 20
>S: This groundwater RBC exceeds the solubility limit
NV- Not volatile
ne - Not established
All values in micrograms per liter (ug/l)
– Sample not tested
* Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLV) from Oregon DEQ/EPA, 2007 (ecological exposure)

Table 5
Groundwater Analysis Summary
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Volatile Organic Compounds													BTEX			
				1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1-Dichloroethane	1,2-Dibromoethane	1,2-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	Tetrachloroethene	Trichloroethene	1,1,1-Trichloroethane	Vinyl chloride	Benzene	Toluene	Ethylbenzene	Xylenes
WM1-W	West Mill	0-3	1/21/2014	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<1.00	<2.00	<0.500	<0.500	<0.500	<0.500	<0.250	<0.500	<1.00	<1.50
EM2-W	East Mill	0-3	1/21/2014	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<1.00	<1.00	<2.00	<0.500	<0.500	<0.500	<0.500	<0.250	<0.500	<1.00	<1.50
Generic Risk-Based Levels (Occupational)																				
Groundwater in Excavation				43,000	24,000	14,000	10,000	28	630	1,700	23,000	500	5,400	430	1,100,000	1,200	1,700	210,000	4,400	23,000
JSCS Screening Level Values*				ne	ne	ne	47	0.033	0.73	ne	ne	12	0.12	0.17	11	0.015	1.2	9.8	7.3	200

Generic Risk-Based Levels are based on *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003* (revised June 7, 2012)
>S: This groundwater RBC exceeds the solubility limit
ND- None detected
ne - Not established
All values in micrograms per liter (ug/l)
– Sample not tested
Only selected compounds are listed. See laboratory report for complete list of anayltes.
* Portland Harbor Joint Source Control Strategy (JSCS) screening level values (SLV) from Oregon DEQ/EPA, 2007

Table 6
Sediment Analysis Summary - TPH, PCBs
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Depth (ft)	Date	Petroleum Hydrocarbons			Polychlorinated Biphenyls (PCBs)							
				Gasoline	Diesel	Heavy Oil	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	TOTAL AROCLORS
EP1-1	East Pond	1	1/21/2014	–	<90.3	<181	<0.365	<0.365	<0.365	<0.365	<0.365	<0.365	<0.365	<2.55
EP2-1	East Pond	1	1/21/2014	–	<61.2	<122	<0.293	<0.293	<0.293	<0.293	<0.293	<0.293	<0.293	<2.051
EP3-1	East Pond	1	1/21/2014	–	<93.8	<188	<0.367	<0.367	<0.367	<0.367	<0.367	<0.367	<0.367	<2.569
IP1-1	Inlet Pond	1	1/22/2014	–	<85.5	**595**	<0.290	<0.290	<0.290	<0.290	<0.290	<0.290	<0.290	<2.03
IP2-1	Inlet Pond	1	1/22/2014	–	<105	**374**	<0.341	<0.341	<0.341	<0.341	<0.341	<0.341	<0.341	<2.387
Level II Ecological Screening Level Values (a)														
Sediment - Fresh Water				ne	ne	ne	ne	ne	ne	ne	21	7	ne	34
Sediment - Marine				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	22
Sediment - Bioaccumulation				ne	ne	ne	420	ne	ne	2	4	10	ne	ne

All values in milligrams per kilogram (mg/kg)
– Sample not analyzed
ne - Not established
(a) Level II Ecological Screening Values from Table 2 of *DEQ Guidance for Ecological Risk Assessment, January 1998*.

Table 7
Sediment Analysis Summary - PAHs
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Depth (ft)	Date	Polynuclear Aromatic Hydrocarbons (PAHs)															
				Acenaphthene	Anthracene	Benz(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Benzo(g,h,I)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
EP1-1	East Pond	1	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EP2-1	East Pond	1	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EP3-1	East Pond	1	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IP1-1	Inlet Pond	1	1/21/2014	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276	<0.0276
IP2-1	Inlet Pond	1	1/21/2014	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Level II Ecological Screening Level Values (a)																			
Sediment - Marine				7	47	75	1,800	1,800	89	670	107	6	113	21	600	35	86	152	
Sediment - Bioaccumulation				ne	ne	ne	ne	ne	100	ne	ne	ne	ne	ne	ne	ne	ne	ne	

All values in milligrams per kilogram (mg/kg)
– Sample not analyzed
ne - Not established
(a) Level II Ecological Screening Values from Table 2 of *DEQ Guidance for Ecological Risk Assessment, January 1998* .

Table 8
Sediment Analysis Summary - Metals
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Depth (ft)	Date	Metals							
				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
EP1-1	East Pond	1	1/21/2014	<3.85	**69.3**	<0.771	**41.9**	**12.8**	<0.308	<3.85	<0.771
EP2-1	East Pond	1	1/21/2014	**4.97**	**119**	**0.770**	**51.6**	**10.3**	<0.257	<3.21	<0.642
EP3-1	East Pond	1	1/21/2014	**4.69**	**76.2**	<0.770	**51.5**	**13.5**	<0.308	<3.85	<0.770
IP1-1	Inlet Pond	1	1/22/2014	**3.19**	**76.2**	<0.639	**34.5**	**39**	<0.255	<3.19	<0.639
IP2-1	Inlet Pond	1	1/22/2014	**4.43**	**101**	<0.657	**44.8**	**17.7**	<0.263	<3.28	<0.657
Default Background Concentrations(b)											
Sediment - Marine				9	ne	0.9	140	22	0.3	0.5	0.4
Oregon DEQ Level II Screening Values (c)											
Sediment - Marine				7	48	0.7	52	19	0.1	1	0.7
Sediment - Bioaccumulation				4	ne	0.003	4,200	128	ne	0.1	ne

All values in milligrams per kilogram (mg/kg)
– Sample not analyzed
ne - Not established
Highlighted cells exceed background concentration levels for marine sediments and Level II SLVs.
(a) Level II Ecological Screening Values from Table 2 of *DEQ Guidance for Ecological Risk Assessment, January 1998*.
(b) Background sediment concentrations based on memo to DEQ Cleanup Project managers from DEQ Toxicology Workgroup (10/28/2002)
(c) From Guidance for Ecologcial Risk Assessment, Level II Screening Level Values, Table 2 (December 2001)

APPENDIX A

Exploratory Boring Logs

BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #WM-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 3.5'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1						
2			0	WM1-2		**0'-1': Dark brown silty topsoil with abundant organic matter, damp.**
3			0			**1'-1.5': Wood chips and sawdust with silty sand (FILL), wet.**
4						**1.5'-2.5': Med. gray silty clay FILL w/ minor organics (wood chips), high plasticity, wet. Odor of organic decay (H2S).**
5						**2.5'-3.5': Med. gray-brown silty CLAY w/abundant wood chips and sawdust.**
6						**Static water level: 1' bgs**
7						
8						
9						
10						
11						
12						
13						**Screened boring from 0'-3.5', collected water sample w/ peristaltic pump.**
14						
15						
16						
17						
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20						
21						
22						
23						
24						
25						

BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #WM-2	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 1.5'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	WM2-1		**0'-0.5': Dark gray silty topsoil with abundant organic matter, damp.** **0.5'-1.5': Med. brown silty FILL with abundant organic matter (wood chips, sawdust, roots), wet.**
2			0			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #WM-3	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 1.2'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	WM3-1		**0'-1': Dark brown silty topsoil with abundant organic matter, damp.** **1'-1.2': Dark brown dense woody material (wood chips), wet.**
2			0			
3						
4						
5						
6						
7						
8						
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ANDERSON GEOLOGICAL

BOREHOLE LITHOLOGIC LOG

BORING #EM-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 2'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0			**0'-2': Med. gray/brown loose sandy FILL w/ abundant brick fragments, damp. Wet at 1.5'.**
2			0	EM1-2		
3						
4						
5						
6						
7						
8						
9						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EM-2	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 3'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0			
2			0			**0'-3': Med. gray/brown loose sandy FILL w/ abundant brick fragments, damp. Wet at 2.5'.**
3				EM2-3		
4						**Screened boring from 0'-3', collected water sample w/ peristaltic pump.**
5						
6						
7						
8						
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ANDERSON GEOLOGICAL

BOREHOLE LITHOLOGIC LOG

BORING #EM-3	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 3'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0			**0'-3': Med. gray/brown loose sandy FILL w/ abundant brick fragments, damp. Wet at 2.5'.**
2			0	EM3-2		
3						
4						
5						
6						
7						
8						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EM-4	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 2'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	EM4-1		**0'-1': Med. brown silty FILL w/ sawdust and wood chips, gravel at 1'-1.2', damp.** **1'-2': Sawdust and wood chips, damp. Refusal in hard woody debris.**
2			0			
3						
4						
5						
6						
7						
8						
9						
10						
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12						
13						
14						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EM-5	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 2'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	EM5-1		**0'-1': Med. brown silty FILL w/ sawdust and wood chips, damp. Wet at 1'** **1'-2': Sawdust and wood chips, damp. Refusal in hard woody debris.**
2			0			
3						
4						
5						
6						
7						
8						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #FILL-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	FILL1-1		0'-1': Med. brown soft clayey silty FILL, damp with abundant fine roots. Refusal at 1' in dense roots
2						
3						
4						
5						
6						
7						
8						
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ANDERSON GEOLOGICAL

BOREHOLE LITHOLOGIC LOG

BORING #FILL-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 1.5'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1			0	FILL2-1		**0'-1.5': Med. brown soft clayey silty FILL, damp with abundant fine roots. Refusal at 1.5' in dense roots**
2						
3						
4						
5						
6						
7						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EP-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1				EP1-1		**0'-1': Med-dark gray loose silty mud w/ fine roots and organics, wet.**
2						
3						
4						
5						
6						
7						
8						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EP-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1				EP2-1		**0'-1': Med-dark gray loose clayey silty mud w/ fine roots and organics, cohesive, wet.**
2						
3						
4						
5						
6						
7						
8						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #EP-3	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/21/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1				EP3-1		**0'-1': Med-dark brown loose silty mud w/ fine roots and organics.**
2						
3						
4						
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6						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #IP-1	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1				IP1-1		**0'-1': Dark gray loose silty mud w/ fine roots and sticks.**
2						
3						
4						
5						
6						
7						
8						
9						
10						
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BOREHOLE LITHOLOGIC LOG

ANDERSON GEOLOGICAL

BORING #IP-2	PROJECT # 1420.01	SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
Geologist: E. Anderson
Sample Method: Hand auger

Start/End Date: 1/22/14
Borehole Depth: 1'
Borehole diameter: 3"

DEPTH (ft.)	WELL DETAILS	SMPL INTVL	PID	SAMPLE #		SOIL DESCRIPTION
1				IP2-1		**0'-1': Dark gray loose silty mud w/ fine roots and sticks.**
2						
3						
4						
5						
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APPENDIX B

Laboratory Report and Sample Chain of Custody

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Monday, February 10, 2014

Erik Anderson
Anderson Geological
PO Box 649
Wilsonville, OR 97070

RE: Sadri Property / 1420.01

Enclosed are the results of analyses for work order A4A0483, which was received by the laboratory on 1/22/2014 at 2:45:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

Darwin Thomas, Business Development Director

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WMI-2	A4A0483-01	Soil	01/21/14 10:38	01/22/14 14:45
WM2-1	A4A0483-02	Soil	01/21/14 11:20	01/22/14 14:45
WM3-1	A4A0483-03	Soil	01/21/14 11:45	01/22/14 14:45
EP1-1	A4A0483-04	Soil	01/21/14 13:06	01/22/14 14:45
EP2-1	A4A0483-05	Soil	01/21/14 13:20	01/22/14 14:45
EP3-1	A4A0483-06	Soil	01/21/14 13:46	01/22/14 14:45
EM1-2	A4A0483-07	Soil	01/21/14 14:38	01/22/14 14:45
EM2-3	A4A0483-08	Soil	01/21/14 14:56	01/22/14 14:45
EM3-2	A4A0483-09	Soil	01/21/14 15:10	01/22/14 14:45
IP1-1	A4A0483-10	Soil	01/22/14 09:42	01/22/14 14:45
IP2-1	A4A0483-11	Soil	01/22/14 09:56	01/22/14 14:45
EM4-1	A4A0483-12	Soil	01/22/14 11:00	01/22/14 14:45
EM5-1	A4A0483-13	Soil	01/22/14 11:14	01/22/14 14:45
FILL1-1	A4A0483-14	Soil	01/22/14 11:44	01/22/14 14:45
FILL2-1	A4A0483-15	Soil	01/22/14 11:58	01/22/14 14:45
WM1-W	A4A0483-16	Water	01/21/14 12:20	01/22/14 14:45
EM2-W	A4A0483-17	Water	01/21/14 15:40	01/22/14 14:45

Apex Laboratories

Darwin Thomas, Business Development Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
FILL1-1 (A4A0483-14)			**Matrix: Soil**		**Batch: 4010516**			
Gasoline Range Organics	ND	---	64.2	mg/kg dry	1	01/24/14 22:24	NWTPH-HCID	
Diesel Range Organics	ND	---	161	"	"	"	"	
Oil Range Organics	ND	---	321	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*95 %*	*Limits: 50-150 %*	"	"	"	
FILL2-1 (A4A0483-15)			**Matrix: Soil**		**Batch: 4010516**			
Gasoline Range Organics	ND	---	55.5	mg/kg dry	1	01/24/14 22:47	NWTPH-HCID	
Diesel Range Organics	ND	---	139	"	"	"	"	
Oil Range Organics	ND	---	278	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*87 %*	*Limits: 50-150 %*	"	"	"	

Apex Laboratories

Darwin Thomas, Business Development Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EP1-1 (A4A0483-04)			**Matrix: Soil**		**Batch: 4010589**			
Diesel	ND	---	90.3	mg/kg dry	1	01/28/14 20:06	NWTPH-Dx	
Oil	ND	---	181	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
EP2-1 (A4A0483-05)			**Matrix: Soil**		**Batch: 4010589**			
Diesel	ND	---	61.2	mg/kg dry	1	01/28/14 20:24	NWTPH-Dx	
Oil	ND	---	122	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
EP3-1 (A4A0483-06)			**Matrix: Soil**		**Batch: 4010589**			
Diesel	ND	---	93.8	mg/kg dry	1	01/28/14 20:42	NWTPH-Dx	
Oil	ND	---	188	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
IP1-1 (A4A0483-10)			**Matrix: Soil**		**Batch: 4010589**			
Diesel	ND	---	85.5	mg/kg dry	1	01/28/14 21:18	NWTPH-Dx	
Oil	**595**	---	171	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 103 %*	*Limits: 50-150 %*	"	"	"	
IP2-1 (A4A0483-11)			**Matrix: Soil**		**Batch: 4010589**			
Diesel	ND	---	105	mg/kg dry	1	01/28/14 21:54	NWTPH-Dx	
Oil	**374**	---	211	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
WM1-W (A4A0483-16)			**Matrix: Water**		**Batch: 4010586**			
Diesel	ND	---	196	ug/L	1	01/29/14 00:27	NWTPH-Dx	
Oil	**500**	---	392	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 85 %*	*Limits: 50-150 %*	"	"	"	
EM2-W (A4A0483-17)			**Matrix: Water**		**Batch: 4010586**			
Diesel	ND	---	189	ug/L	1	01/29/14 00:50	NWTPH-Dx	
Oil	ND	---	377	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 83 %*	*Limits: 50-150 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WMI-2 (A4A0483-01)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	45.4	mg/kg dry	1	01/28/14 20:56	NWTPH-Dx/SG	
Oil	**330**	---	90.7	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 95 %*	*Limits: 50-150 %*	"	"	"	
WM2-1 (A4A0483-02)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	67.8	mg/kg dry	1	01/28/14 21:14	NWTPH-Dx/SG	
Oil	**1290**	---	136	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	956	mg/kg dry	20	01/28/14 21:32	NWTPH-Dx/SG	
Oil	**2680**	---	1910	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: %*	*Limits: 50-150 %*	"	"	"	*S-01*
EM1-2 (A4A0483-07RE1)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	207	mg/kg dry	5	01/29/14 11:13	NWTPH-Dx/SG	
Oil	**721**	---	414	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	*S-05*
EM2-3 (A4A0483-08)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	41.1	mg/kg dry	1	01/28/14 22:24	NWTPH-Dx/SG	
Oil	ND	---	82.1	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
EM3-2 (A4A0483-09)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	68.1	mg/kg dry	1	01/28/14 22:42	NWTPH-Dx/SG	
Oil	ND	---	136	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*	"	"	"	
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	42.8	mg/kg dry	1	01/28/14 22:59	NWTPH-Dx/SG	
Oil	**326**	---	85.5	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
EM5-1 (A4A0483-13)			**Matrix: Soil**		**Batch: 4010581**			
Diesel	ND	---	41.3	mg/kg dry	1	01/28/14 23:16	NWTPH-Dx/SG	
Oil	**140**	---	82.6	"	"	"	"	F-03
Surrogate: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
Acetone	ND	---	2.89	mg/kg dry	50	01/30/14 14:48	5035/8260B	
Benzene	ND	---	0.0361	"	"	"	"	
Bromobenzene	ND	---	0.0722	"	"	"	"	
Bromochloromethane	ND	---	0.144	"	"	"	"	
Bromodichloromethane	ND	---	0.144	"	"	"	"	
Bromoform	ND	---	0.144	"	"	"	"	
Bromomethane	ND	---	1.44	"	"	"	"	
2-Butanone (MEK)	ND	---	1.44	"	"	"	"	
n-Butylbenzene	ND	---	0.144	"	"	"	"	
sec-Butylbenzene	ND	---	0.144	"	"	"	"	
tert-Butylbenzene	ND	---	0.144	"	"	"	"	
Carbon tetrachloride	ND	---	0.0722	"	"	"	"	
Chlorobenzene	ND	---	0.0722	"	"	"	"	
Chloroethane	ND	---	1.44	"	"	"	"	
Chloroform	ND	---	0.144	"	"	"	"	
Chloromethane	ND	---	0.722	"	"	"	"	
2-Chlorotoluene	ND	---	0.144	"	"	"	"	
4-Chlorotoluene	ND	---	0.144	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.722	"	"	"	"	
Dibromochloromethane	ND	---	0.289	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0722	"	"	"	"	
Dibromomethane	ND	---	0.144	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0722	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0722	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0722	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.289	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0722	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0722	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0722	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0722	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0722	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0722	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0722	"	"	"	"	
2,2-Dichloropropane	ND	---	0.144	"	"	"	"	
1,1-Dichloropropene	ND	---	0.144	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
cis-1,3-Dichloropropene	ND	---	0.144	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.144	"	"	"	"	
Ethylbenzene	ND	---	0.0722	"	"	"	"	
Hexachlorobutadiene	ND	---	0.289	"	"	"	"	
2-Hexanone	ND	---	1.44	"	"	"	"	
Isopropylbenzene	ND	---	0.144	"	"	"	"	
4-Isopropyltoluene	ND	---	0.144	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	1.44	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.144	"	"	"	"	
Methylene chloride	ND	---	0.722	"	"	"	"	
Naphthalene	ND	---	0.289	"	"	"	"	
n-Propylbenzene	ND	---	0.0722	"	"	"	"	
Styrene	ND	---	0.144	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0722	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0722	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0722	"	"	"	"	
Toluene	ND	---	0.144	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.722	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.722	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0722	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0722	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0722	"	"	"	"	
Trichlorofluoromethane	ND	---	0.289	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.144	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.144	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.144	"	"	"	"	
Vinyl chloride	ND	---	0.0722	"	"	"	"	
m,p-Xylene	ND	---	0.144	"	"	"	"	
o-Xylene	ND	---	0.0722	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 109 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*94 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*103 %*	*Limits: 70-130 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM1-2 (A4A0483-07)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
Acetone	ND	---	2.55	mg/kg dry	50	01/30/14 15:13	5035/8260B	
Benzene	ND	---	0.0319	"	"	"	"	
Bromobenzene	ND	---	0.0638	"	"	"	"	
Bromochloromethane	ND	---	0.128	"	"	"	"	
Bromodichloromethane	ND	---	0.128	"	"	"	"	
Bromoform	ND	---	0.128	"	"	"	"	
Bromomethane	ND	---	1.28	"	"	"	"	
2-Butanone (MEK)	ND	---	1.28	"	"	"	"	
n-Butylbenzene	ND	---	0.128	"	"	"	"	
sec-Butylbenzene	ND	---	0.128	"	"	"	"	
tert-Butylbenzene	ND	---	0.128	"	"	"	"	
Carbon tetrachloride	ND	---	0.0638	"	"	"	"	
Chlorobenzene	ND	---	0.0638	"	"	"	"	
Chloroethane	ND	---	1.28	"	"	"	"	
Chloroform	ND	---	0.128	"	"	"	"	
Chloromethane	ND	---	0.638	"	"	"	"	
2-Chlorotoluene	ND	---	0.128	"	"	"	"	
4-Chlorotoluene	ND	---	0.128	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.638	"	"	"	"	
Dibromochloromethane	ND	---	0.255	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0638	"	"	"	"	
Dibromomethane	ND	---	0.128	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0638	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0638	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0638	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.255	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0638	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0638	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0638	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0638	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0638	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0638	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0638	"	"	"	"	
2,2-Dichloropropane	ND	---	0.128	"	"	"	"	
1,1-Dichloropropene	ND	---	0.128	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM1-2 (A4A0483-07)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
cis-1,3-Dichloropropene	ND	---	0.128	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.128	"	"	"	"	
Ethylbenzene	ND	---	0.0638	"	"	"	"	
Hexachlorobutadiene	ND	---	0.255	"	"	"	"	
2-Hexanone	ND	---	1.28	"	"	"	"	
Isopropylbenzene	ND	---	0.128	"	"	"	"	
4-Isopropyltoluene	ND	---	0.128	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	1.28	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.128	"	"	"	"	
Methylene chloride	ND	---	0.638	"	"	"	"	
Naphthalene	ND	---	0.255	"	"	"	"	
n-Propylbenzene	ND	---	0.0638	"	"	"	"	
Styrene	ND	---	0.128	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0638	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0638	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0638	"	"	"	"	
Toluene	ND	---	0.128	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.638	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.638	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0638	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0638	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0638	"	"	"	"	
Trichlorofluoromethane	ND	---	0.255	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.128	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.128	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.128	"	"	"	"	
Vinyl chloride	ND	---	0.0638	"	"	"	"	
m,p-Xylene	ND	---	0.128	"	"	"	"	
o-Xylene	ND	---	0.0638	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 109 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*106 %*	*Limits: 70-130 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
Acetone	ND	---	2.85	mg/kg dry	50	01/30/14 15:37	5035/8260B	
Benzene	ND	---	0.0356	"	"	"	"	
Bromobenzene	ND	---	0.0713	"	"	"	"	
Bromochloromethane	ND	---	0.143	"	"	"	"	
Bromodichloromethane	ND	---	0.143	"	"	"	"	
Bromoform	ND	---	0.143	"	"	"	"	
Bromomethane	ND	---	1.43	"	"	"	"	
2-Butanone (MEK)	ND	---	1.43	"	"	"	"	
n-Butylbenzene	ND	---	0.143	"	"	"	"	
sec-Butylbenzene	ND	---	0.143	"	"	"	"	
tert-Butylbenzene	ND	---	0.143	"	"	"	"	
Carbon tetrachloride	ND	---	0.0713	"	"	"	"	
Chlorobenzene	ND	---	0.0713	"	"	"	"	
Chloroethane	ND	---	1.43	"	"	"	"	
Chloroform	ND	---	0.143	"	"	"	"	
Chloromethane	ND	---	0.713	"	"	"	"	
2-Chlorotoluene	ND	---	0.143	"	"	"	"	
4-Chlorotoluene	ND	---	0.143	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	0.713	"	"	"	"	
Dibromochloromethane	ND	---	0.285	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.0713	"	"	"	"	
Dibromomethane	ND	---	0.143	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.0713	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.0713	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.0713	"	"	"	"	
Dichlorodifluoromethane	ND	---	0.285	"	"	"	"	
1,1-Dichloroethane	ND	---	0.0713	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.0713	"	"	"	"	
1,1-Dichloroethene	ND	---	0.0713	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.0713	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.0713	"	"	"	"	
1,2-Dichloropropane	ND	---	0.0713	"	"	"	"	
1,3-Dichloropropane	ND	---	0.0713	"	"	"	"	
2,2-Dichloropropane	ND	---	0.143	"	"	"	"	
1,1-Dichloropropene	ND	---	0.143	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010643**			**V-16**
cis-1,3-Dichloropropene	ND	---	0.143	mg/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	0.143	"	"	"	"	
Ethylbenzene	ND	---	0.0713	"	"	"	"	
Hexachlorobutadiene	ND	---	0.285	"	"	"	"	
2-Hexanone	ND	---	1.43	"	"	"	"	
Isopropylbenzene	ND	---	0.143	"	"	"	"	
4-Isopropyltoluene	ND	---	0.143	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	1.43	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	0.143	"	"	"	"	
Methylene chloride	ND	---	0.713	"	"	"	"	
Naphthalene	ND	---	0.285	"	"	"	"	
n-Propylbenzene	ND	---	0.0713	"	"	"	"	
Styrene	ND	---	0.143	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.0713	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.0713	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.0713	"	"	"	"	
Toluene	ND	---	0.143	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	0.713	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	0.713	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.0713	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.0713	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.0713	"	"	"	"	
Trichlorofluoromethane	ND	---	0.285	"	"	"	"	
1,2,3-Trichloropropane	ND	---	0.143	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	0.143	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	0.143	"	"	"	"	
Vinyl chloride	ND	---	0.0713	"	"	"	"	
m,p-Xylene	ND	---	0.143	"	"	"	"	
o-Xylene	ND	---	0.0713	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 108 %*	*Limits: 70-130 %*	1	"	"	
1,4-Difluorobenzene (Surr)			*100 %*	*Limits: 70-130 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 70-130 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*103 %*	*Limits: 70-130 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM1-W (A4A0483-16RE1)			**Matrix: Water**		**Batch: 4010459**			
Acetone	ND	---	20.0	ug/L	1	01/22/14 22:04	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM1-W (A4A0483-16RE1)			**Matrix: Water**		**Batch: 4010459**			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM2-W (A4A0483-17RE1)			**Matrix: Water**		**Batch: 4010459**			
Acetone	ND	---	20.0	ug/L	1	01/22/14 22:28	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM2-W (A4A0483-17RE1)			**Matrix: Water**		**Batch: 4010459**			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 113 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*104 %*	*Limits: 80-120 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4020003**			**C-07**
Aroclor 1016	ND	---	0.0201	mg/kg dry	1	02/03/14 15:45	EPA 8082A	
Aroclor 1221	ND	---	0.0201	"	"	"	"	
Aroclor 1232	ND	---	0.0201	"	"	"	"	
Aroclor 1242	ND	---	0.0201	"	"	"	"	
Aroclor 1248	ND	---	0.0201	"	"	"	"	
Aroclor 1254	ND	---	0.0201	"	"	"	"	
Aroclor 1260	ND	---	0.0201	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 62 %*	*Limits: 60-125 %*	"	"	"	
EP1-1 (A4A0483-04RE1)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0365	mg/kg dry	1	01/29/14 10:24	EPA 8082A	
Aroclor 1221	ND	---	0.0365	"	"	"	"	
Aroclor 1232	ND	---	0.0365	"	"	"	"	
Aroclor 1242	ND	---	0.0365	"	"	"	"	
Aroclor 1248	ND	---	0.0365	"	"	"	"	
Aroclor 1254	ND	---	0.0365	"	"	"	"	
Aroclor 1260	ND	---	0.0365	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 83 %*	*Limits: 60-125 %*	"	"	"	
EP2-1 (A4A0483-05)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0293	mg/kg dry	1	01/29/14 09:29	EPA 8082A	
Aroclor 1221	ND	---	0.0293	"	"	"	"	
Aroclor 1232	ND	---	0.0293	"	"	"	"	
Aroclor 1242	ND	---	0.0293	"	"	"	"	
Aroclor 1248	ND	---	0.0293	"	"	"	"	
Aroclor 1254	ND	---	0.0293	"	"	"	"	
Aroclor 1260	ND	---	0.0293	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 78 %*	*Limits: 60-125 %*	"	"	"	
EP3-1 (A4A0483-06)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0367	mg/kg dry	1	01/29/14 09:47	EPA 8082A	
Aroclor 1221	ND	---	0.0367	"	"	"	"	
Aroclor 1232	ND	---	0.0367	"	"	"	"	
Aroclor 1242	ND	---	0.0367	"	"	"	"	
Aroclor 1248	ND	---	0.0367	"	"	"	"	
Aroclor 1254	ND	---	0.0367	"	"	"	"	
Aroclor 1260	ND	---	0.0367	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EP3-1 (A4A0483-06)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 79 %*	*Limits: 60-125 %*	1	"	EPA 8082A	
EM1-2 (A4A0483-07RE1)			**Matrix: Soil**		**Batch: 4020035**			**C-07**
Aroclor 1016	ND	---	0.0193	mg/kg dry	1	02/04/14 11:41	EPA 8082A	
Aroclor 1221	ND	---	0.0193	"	"	"	"	
Aroclor 1232	ND	---	0.0193	"	"	"	"	
Aroclor 1242	ND	---	0.0193	"	"	"	"	
Aroclor 1248	ND	---	0.0193	"	"	"	"	
Aroclor 1254	ND	---	0.0193	"	"	"	"	
Aroclor 1260	ND	---	0.0193	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 72 %*	*Limits: 60-125 %*	"	"	"	
IP1-1 (A4A0483-10)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0290	mg/kg dry	1	01/29/14 10:06	EPA 8082A	
Aroclor 1221	ND	---	0.0290	"	"	"	"	
Aroclor 1232	ND	---	0.0290	"	"	"	"	
Aroclor 1242	ND	---	0.0290	"	"	"	"	
Aroclor 1248	ND	---	0.0290	"	"	"	"	
Aroclor 1254	ND	---	0.0290	"	"	"	"	
Aroclor 1260	ND	---	0.0290	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 78 %*	*Limits: 60-125 %*	"	"	"	
IP2-1 (A4A0483-11)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0341	mg/kg dry	1	01/29/14 10:06	EPA 8082A	
Aroclor 1221	ND	---	0.0341	"	"	"	"	
Aroclor 1232	ND	---	0.0341	"	"	"	"	
Aroclor 1242	ND	---	0.0341	"	"	"	"	
Aroclor 1248	ND	---	0.0341	"	"	"	"	
Aroclor 1254	ND	---	0.0341	"	"	"	"	
Aroclor 1260	ND	---	0.0341	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 99 %*	*Limits: 60-125 %*	"	"	"	
EM4-1 (A4A0483-12RE1)			**Matrix: Soil**		**Batch: 4020035**			**C-07**
Aroclor 1016	ND	---	0.0190	mg/kg dry	1	02/04/14 11:59	EPA 8082A	
Aroclor 1221	ND	---	0.0190	"	"	"	"	
Aroclor 1232	ND	---	0.0190	"	"	"	"	
Aroclor 1242	ND	---	0.0190	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM4-1 (A4A0483-12RE1)			**Matrix: Soil**		**Batch: 4020035**			**C-07**
Aroclor 1248	ND	---	0.0190	mg/kg dry	1	"	EPA 8082A	
Aroclor 1254	ND	---	0.0190	"	"	"	"	
Aroclor 1260	**0.111**	---	0.0190	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 54 %*	*Limits: 60-125 %*	"	"	"	*S-03*
FILL1-1 (A4A0483-14)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0279	mg/kg dry	1	01/29/14 10:24	EPA 8082A	
Aroclor 1221	ND	---	0.0279	"	"	"	"	
Aroclor 1232	ND	---	0.0279	"	"	"	"	
Aroclor 1242	ND	---	0.0279	"	"	"	"	
Aroclor 1248	ND	---	0.0279	"	"	"	"	
Aroclor 1254	ND	---	0.0279	"	"	"	"	
Aroclor 1260	ND	---	0.0279	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 89 %*	*Limits: 60-125 %*	"	"	"	
FILL2-1 (A4A0483-15)			**Matrix: Soil**		**Batch: 4010576**			**C-07**
Aroclor 1016	ND	---	0.0231	mg/kg dry	1	01/29/14 09:35	EPA 8082A	
Aroclor 1221	ND	---	0.0231	"	"	"	"	
Aroclor 1232	ND	---	0.0231	"	"	"	"	
Aroclor 1242	ND	---	0.0231	"	"	"	"	
Aroclor 1248	ND	---	0.0231	"	"	"	"	
Aroclor 1254	ND	---	0.0231	"	"	"	"	
Aroclor 1260	ND	---	0.0231	"	"	"	"	
Surrogate: Decachlorobiphenyl (Surr)			*Recovery: 83 %*	*Limits: 60-125 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4010665**			**Q-39**
Acenaphthene	ND	---	0.100	mg/kg dry	5	01/30/14 16:29	EPA 8270D (SIM)	
Acenaphthylene	**0.547**	---	0.100	"	"	"	"	
Anthracene	**0.242**	---	0.100	"	"	"	"	
Benz(a)anthracene	**0.763**	---	0.100	"	"	"	"	
Benzo(a)pyrene	**1.23**	---	0.100	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**2.74**	---	0.200	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**0.930**	---	0.100	"	"	"	"	
Chrysene	**1.34**	---	0.100	"	"	"	"	
Dibenz(a,h)anthracene	**0.235**	---	0.100	"	"	"	"	
Fluoranthene	**1.92**	---	0.100	"	"	"	"	
Fluorene	**0.134**	---	0.100	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**1.05**	---	0.100	"	"	"	"	
Naphthalene	**0.117**	---	0.100	"	"	"	"	
Phenanthrene	**1.62**	---	0.100	"	"	"	"	
Pyrene	**1.79**	---	0.100	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 81 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*92 %*	*Limits: 30-120 %*	"	"	"	
EM1-2 (A4A0483-07)			**Matrix: Soil**		**Batch: 4010665**			
Acenaphthene	ND	---	0.0955	mg/kg dry	5	01/30/14 17:21	EPA 8270D (SIM)	
Acenaphthylene	**3.97**	---	0.0955	"	"	"	"	
Anthracene	**5.05**	---	0.0955	"	"	"	"	
Benz(a)anthracene	**29.2**	---	0.0955	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**56.7**	---	0.191	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**16.0**	---	0.0955	"	"	"	"	
Chrysene	**32.3**	---	0.0955	"	"	"	"	
Dibenz(a,h)anthracene	**5.26**	---	0.0955	"	"	"	"	
Fluoranthene	**36.8**	---	0.0955	"	"	"	"	
Fluorene	**0.580**	---	0.0955	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**19.8**	---	0.0955	"	"	"	"	
Naphthalene	**3.31**	---	0.0955	"	"	"	"	
Phenanthrene	**5.59**	---	0.0955	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 77 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*94 %*	*Limits: 30-120 %*	"	"	"	
EM1-2 (A4A0483-07RE1)			**Matrix: Soil**		**Batch: 4010665**			
Benzo(a)pyrene	**37.4**	---	0.955	mg/kg dry	50	01/31/14 09:33	EPA 8270D (SIM)	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM1-2 (A4A0483-07RE1)			**Matrix: Soil**		**Batch: 4010665**			
Pyrene	**45.3**	---	0.955	mg/kg dry	50	"	EPA 8270D (SIM)	
IP1-1 (A4A0483-10)			**Matrix: Soil**		**Batch: 4010665**			
Acenaphthene	ND	---	0.0276	mg/kg dry	1	01/30/14 17:47	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0276	"	"	"	"	
Anthracene	ND	---	0.0276	"	"	"	"	
Benz(a)anthracene	ND	---	0.0276	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0276	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0552	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.0276	"	"	"	"	
Chrysene	ND	---	0.0276	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0276	"	"	"	"	
Fluoranthene	ND	---	0.0276	"	"	"	"	
Fluorene	ND	---	0.0276	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0276	"	"	"	"	
Naphthalene	ND	---	0.0276	"	"	"	"	
Phenanthrene	ND	---	0.0276	"	"	"	"	
Pyrene	ND	---	0.0276	"	"	"	"	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 72 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*74 %*	*Limits: 30-120 %*	"	"	"	
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010665**			
Acenaphthene	ND	---	0.0194	mg/kg dry	1	01/30/14 18:14	EPA 8270D (SIM)	
Acenaphthylene	**0.0209**	---	0.0194	"	"	"	"	
Anthracene	ND	---	0.0194	"	"	"	"	
Benz(a)anthracene	ND	---	0.0194	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0194	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0387	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.0194	"	"	"	"	
Chrysene	ND	---	0.0194	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0194	"	"	"	"	
Fluoranthene	ND	---	0.0194	"	"	"	"	
Fluorene	ND	---	0.0194	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0194	"	"	"	"	
Naphthalene	**0.0200**	---	0.0194	"	"	"	"	
Phenanthrene	ND	---	0.0194	"	"	"	"	
Pyrene	**0.0195**	---	0.0194	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010665**			
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 86 %*	*Limits: 45-120 %*	1	"	EPA 8270D (SIM)	
p-Terphenyl-d14 (Surr)			*93 %*	*Limits: 30-120 %*	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WMI-2 (A4A0483-01)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**5.26**	---	2.20	mg/kg dry	10	01/28/14 16:29	EPA 6020A	
Barium	**53.5**	---	2.20	"	"	"	"	
Cadmium	**0.638**	---	0.440	"	"	"	"	
Chromium	**52.0**	---	2.20	"	"	"	"	
Lead	**25.6**	---	0.440	"	"	"	"	
Mercury	ND	---	0.176	"	"	"	"	
Selenium	ND	---	2.20	"	"	"	"	
Silver	ND	---	0.440	"	"	"	"	
WM2-1 (A4A0483-02)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**3.90**	---	3.14	mg/kg dry	10	01/28/14 16:32	EPA 6020A	
Barium	**112**	---	3.14	"	"	"	"	
Cadmium	**0.692**	---	0.629	"	"	"	"	
Chromium	**34.5**	---	3.14	"	"	"	"	
Lead	**62.2**	---	0.629	"	"	"	"	
Mercury	ND	---	0.252	"	"	"	"	
Selenium	ND	---	3.14	"	"	"	"	
Silver	ND	---	0.629	"	"	"	"	
WM3-1 (A4A0483-03)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**3.48**	---	2.30	mg/kg dry	10	01/28/14 16:35	EPA 6020A	
Barium	**93.9**	---	2.30	"	"	"	"	
Cadmium	**0.599**	---	0.461	"	"	"	"	
Chromium	**30.1**	---	2.30	"	"	"	"	
Lead	**98.4**	---	0.461	"	"	"	"	
Mercury	ND	---	0.184	"	"	"	"	
Selenium	ND	---	2.30	"	"	"	"	
Silver	ND	---	0.461	"	"	"	"	
EP1-1 (A4A0483-04)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	ND	---	3.85	mg/kg dry	10	01/28/14 16:38	EPA 6020A	
Barium	**69.3**	---	3.85	"	"	"	"	
Cadmium	ND	---	0.771	"	"	"	"	
Chromium	**41.9**	---	3.85	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EP1-1 (A4A0483-04)			**Matrix: Soil**					
Lead	**12.8**	---	0.771	mg/kg dry	10	"	EPA 6020A	
Mercury	ND	---	0.308	"	"	"	"	
Selenium	ND	---	3.85	"	"	"	"	
Silver	ND	---	0.771	"	"	"	"	
EP2-1 (A4A0483-05)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**4.97**	---	3.21	mg/kg dry	10	01/28/14 16:53	EPA 6020A	
Barium	**119**	---	3.21	"	"	"	"	
Cadmium	**0.770**	---	0.642	"	"	"	"	
Chromium	**51.6**	---	3.21	"	"	"	"	
Lead	**10.3**	---	0.642	"	"	"	"	
Mercury	ND	---	0.257	"	"	"	"	
Selenium	ND	---	3.21	"	"	"	"	
Silver	ND	---	0.642	"	"	"	"	
EP3-1 (A4A0483-06)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**4.69**	---	3.85	mg/kg dry	10	01/28/14 16:56	EPA 6020A	
Barium	**76.2**	---	3.85	"	"	"	"	
Cadmium	ND	---	0.770	"	"	"	"	
Chromium	**51.5**	---	3.85	"	"	"	"	
Lead	**13.5**	---	0.770	"	"	"	"	
Mercury	ND	---	0.308	"	"	"	"	
Selenium	ND	---	3.85	"	"	"	"	
Silver	ND	---	0.770	"	"	"	"	
EM1-2 (A4A0483-07)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**10.3**	---	2.09	mg/kg dry	10	01/28/14 16:59	EPA 6020A	
Barium	**1290**	---	2.09	"	"	"	"	
Cadmium	**5.12**	---	0.418	"	"	"	"	
Chromium	**41.2**	---	2.09	"	"	"	"	
Lead	**108**	---	0.418	"	"	"	"	
Mercury	ND	---	0.167	"	"	"	"	
Selenium	ND	---	2.09	"	"	"	"	
Silver	**1.04**	---	0.418	"	"	"	"	
EM2-3 (A4A0483-08)			**Matrix: Soil**					

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
EM2-3 (A4A0483-08)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**5.57**	---	1.96	mg/kg dry	10	01/28/14 17:02	EPA 6020A	
Barium	**261**	---	1.96	"	"	"	"	
Cadmium	**0.606**	---	0.391	"	"	"	"	
Chromium	**53.2**	---	1.96	"	"	"	"	
Lead	**14.3**	---	0.391	"	"	"	"	
Mercury	ND	---	0.156	"	"	"	"	
Selenium	ND	---	1.96	"	"	"	"	
Silver	ND	---	0.391	"	"	"	"	
EM3-2 (A4A0483-09)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**5.98**	---	3.42	mg/kg dry	10	01/28/14 17:05	EPA 6020A	
Barium	**239**	---	3.42	"	"	"	"	
Cadmium	ND	---	0.683	"	"	"	"	
Chromium	**38.3**	---	3.42	"	"	"	"	
Lead	**39.0**	---	0.683	"	"	"	"	
Mercury	ND	---	0.273	"	"	"	"	
Selenium	ND	---	3.42	"	"	"	"	
Silver	ND	---	0.683	"	"	"	"	
IP1-1 (A4A0483-10)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**3.19**	---	3.19	mg/kg dry	10	01/28/14 17:07	EPA 6020A	
Barium	**76.2**	---	3.19	"	"	"	"	
Cadmium	ND	---	0.639	"	"	"	"	
Chromium	**34.5**	---	3.19	"	"	"	"	
Lead	**12.9**	---	0.639	"	"	"	"	
Mercury	ND	---	0.255	"	"	"	"	
Selenium	ND	---	3.19	"	"	"	"	
Silver	ND	---	0.639	"	"	"	"	
IP2-1 (A4A0483-11)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**4.43**	---	3.28	mg/kg dry	10	01/28/14 17:10	EPA 6020A	
Barium	**101**	---	3.28	"	"	"	"	
Cadmium	ND	---	0.657	"	"	"	"	
Chromium	**44.8**	---	3.28	"	"	"	"	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
IP2-1 (A4A0483-11)			**Matrix: Soil**					
Lead	**17.7**	---	0.657	mg/kg dry	10	"	EPA 6020A	
Mercury	ND	---	0.263	"	"	"	"	
Selenium	ND	---	3.28	"	"	"	"	
Silver	ND	---	0.657	"	"	"	"	
FILL1-1 (A4A0483-14)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	ND	---	3.12	mg/kg dry	10	01/28/14 17:13	EPA 6020A	
Barium	**67.6**	---	3.12	"	"	"	"	
Cadmium	ND	---	0.624	"	"	"	"	
Chromium	**29.4**	---	3.12	"	"	"	"	
Lead	**9.65**	---	0.624	"	"	"	"	
Mercury	ND	---	0.250	"	"	"	"	
Selenium	ND	---	3.12	"	"	"	"	
Silver	ND	---	0.624	"	"	"	"	
FILL2-1 (A4A0483-15)			**Matrix: Soil**					
Batch: 4010580								
Arsenic	**3.58**	---	2.56	mg/kg dry	10	01/28/14 17:22	EPA 6020A	
Barium	**78.2**	---	2.56	"	"	"	"	
Cadmium	ND	---	0.512	"	"	"	"	
Chromium	**40.4**	---	2.56	"	"	"	"	
Lead	**20.3**	---	0.512	"	"	"	"	
Mercury	ND	---	0.205	"	"	"	"	
Selenium	ND	---	2.56	"	"	"	"	
Silver	ND	---	0.512	"	"	"	"	

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12232 S.W. Garden Place
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503-718-2323 Phone
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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WM1-W (A4A0483-16)			**Matrix: Water**					
Batch: 4010602								
Arsenic	ND	---	1.00	ug/L	1	01/29/14 13:16	EPA 6020A (Diss)	
Barium	**7.20**	---	1.00	"	"	"	"	
Cadmium	ND	---	0.200	"	"	"	"	
Chromium	**3.40**	---	1.00	"	"	"	"	
Lead	**0.933**	---	0.200	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Selenium	ND	---	1.00	"	"	"	"	
Silver	ND	---	0.200	"	"	"	"	
EM2-W (A4A0483-17)			**Matrix: Water**					
Batch: 4010602								
Arsenic	ND	---	1.00	ug/L	1	01/29/14 13:19	EPA 6020A (Diss)	
Barium	**27.3**	---	1.00	"	"	"	"	
Cadmium	ND	---	0.200	"	"	"	"	
Chromium	ND	---	1.00	"	"	"	"	
Lead	ND	---	0.200	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Selenium	ND	---	1.00	"	"	"	"	
Silver	ND	---	0.200	"	"	"	"	

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
WMI-2 (A4A0483-01)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**48.9**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
WM2-1 (A4A0483-02)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**31.8**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
WM3-1 (A4A0483-03)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**47.4**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EP1-1 (A4A0483-04)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**25.8**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EP2-1 (A4A0483-05)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**32.4**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EP3-1 (A4A0483-06)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**26.2**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EM1-2 (A4A0483-07)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**50.2**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EM2-3 (A4A0483-08)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**52.4**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EM3-2 (A4A0483-09)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**32.1**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
IP1-1 (A4A0483-10)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**33.6**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
IP2-1 (A4A0483-11)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**29.8**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EM4-1 (A4A0483-12)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**48.6**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
EM5-1 (A4A0483-13)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**47.5**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
FILL1-1 (A4A0483-14)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**35.2**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	
FILL2-1 (A4A0483-15)			**Matrix: Soil**		**Batch: 4010513**			
% Solids	**40.9**	---	1.00	% by Weight	1	01/27/14 10:00	EPA 8000C	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010516 - NWTPH-HCID (Soil)							**Soil**					
Blank (4010516-BLK1)					Prepared: 01/24/14 14:56 Analyzed: 01/24/14 21:37							
NWTPH-HCID												
Gasoline Range Organics	ND	---	18.2	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	45.5	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	90.9	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*97 %*	*50-150 %*			*"*					
Duplicate (4010516-DUP1)					Prepared: 01/24/14 14:56 Analyzed: 01/24/14 23:11							
QC Source Sample: FILL2-1 (A4A0483-15)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	57.0	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	142	"	"	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	285	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*96 %*	*50-150 %*			*"*					

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010586 - EPA 3510C (Acid Extraction)									**Water**			
Blank (4010586-BLK3)					Prepared: 01/28/14 13:45 Analyzed: 01/29/14 12:39							
NWTPH-Dx												
Diesel	ND	---	182	ug/L	2.5	---	---	---	---	---	---	
Oil	ND	---	364	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS (4010586-BS2)					Prepared: 01/28/14 13:46 Analyzed: 01/28/14 22:54							
NWTPH-Dx												
Diesel	1080	---	200	ug/L	2.5	1250	---	86	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					
LCS Dup (4010586-BSD2)					Prepared: 01/28/14 13:46 Analyzed: 01/28/14 23:17							**Q-19**
NWTPH-Dx												
Diesel	1090	---	200	ug/L	2.5	1250	---	87	58-115%	1	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 90 %*	*Limits: 50-150 %*			*Dilution: 2.5x*					

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010589 - EPA 3546 (Fuels)							**Soil**					
Blank (4010589-BLK1)					Prepared: 01/28/14 14:50 Analyzed: 01/28/14 19:15							
NWTPH-Dx												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4010589-BS1)					Prepared: 01/28/14 14:50 Analyzed: 01/28/14 19:48							
NWTPH-Dx												
Diesel	125	---	25.0	mg/kg wet	1	125	---	100	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4010589-DUP1)					Prepared: 01/28/14 14:50 Analyzed: 01/28/14 22:30							
QC Source Sample: IP2-1 (A4A0483-11)												
NWTPH-Dx												
Diesel	ND	---	107	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	**401**	---	214	"	"	---	374	---	---	7	30%	F-03
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010581 - EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)							**Soil**					
Blank (4010581-BLK1)					Prepared: 01/28/14 12:16 Analyzed: 01/28/14 19:11							
NWTPH-Dx/SG												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (4010581-BS1)					Prepared: 01/28/14 12:16 Analyzed: 01/28/14 19:28							
NWTPH-Dx/SG												
Diesel	120	---	25.0	mg/kg wet	1	125	---	96	77-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (4010581-DUP2)					Prepared: 01/28/14 12:16 Analyzed: 01/28/14 23:34							
QC Source Sample: EM5-1 (A4A0483-13)												
NWTPH-Dx/SG												
Diesel	ND	---	46.2	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	**180**	---	92.4	"	"	---	140	---	---	25	30%	F-03
Surr: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010459 - EPA 5030B							**Water**					
Blank (4010459-BLK1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 14:40							
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010459 - EPA 5030B							**Water**					
Blank (4010459-BLK1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 14:40							
cis-1,2-Dichloroethene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010459 - EPA 5030B								**Water**				
Blank (4010459-BLK1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 14:40							
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 114 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*102 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*113 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*104 %*		*80-120 %*			*"*				
LCS (4010459-BS1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 13:51							
EPA 8260B												
Acetone	35.5	---	20.0	ug/L	1	40.0	---	89	70-130%	---	---	
Benzene	16.7	---	0.250	"	"	20.0	---	84	"	---	---	
Bromobenzene	18.2	---	0.500	"	"	"	---	91	"	---	---	
Bromochloromethane	20.8	---	1.00	"	"	"	---	104	"	---	---	
Bromodichloromethane	19.4	---	1.00	"	"	"	---	97	"	---	---	
Bromoform	20.8	---	1.00	"	"	"	---	104	"	---	---	
Bromomethane	22.5	---	5.00	"	"	"	---	112	"	---	---	
2-Butanone (MEK)	41.5	---	10.0	"	"	40.0	---	104	"	---	---	
n-Butylbenzene	20.2	---	1.00	"	"	20.0	---	101	"	---	---	
sec-Butylbenzene	20.6	---	1.00	"	"	"	---	103	"	---	---	
tert-Butylbenzene	20.4	---	1.00	"	"	"	---	102	"	---	---	
Carbon tetrachloride	20.6	---	0.500	"	"	"	---	103	"	---	---	
Chlorobenzene	18.4	---	0.500	"	"	"	---	92	"	---	---	
Chloroethane	44.6	---	5.00	"	"	"	---	223	"	---	---	EST
Chloroform	16.5	---	1.00	"	"	"	---	82	"	---	---	
Chloromethane	17.5	---	5.00	"	"	"	---	88	"	---	---	
2-Chlorotoluene	18.9	---	1.00	"	"	"	---	95	"	---	---	
4-Chlorotoluene	19.9	---	1.00	"	"	"	---	100	"	---	---	
1,2-Dibromo-3-chloropropane	18.6	---	5.00	"	"	"	---	93	"	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010459 - EPA 5030B							**Water**					
LCS (4010459-BS1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 13:51							
Dibromochloromethane	19.9	---	1.00	ug/L	"	"	---	99	"	---	---	
1,2-Dibromoethane (EDB)	20.0	---	0.500	"	"	"	---	100	"	---	---	
Dibromomethane	18.4	---	1.00	"	"	"	---	92	"	---	---	
1,2-Dichlorobenzene	18.7	---	0.500	"	"	"	---	93	"	---	---	
1,3-Dichlorobenzene	19.1	---	0.500	"	"	"	---	95	"	---	---	
1,4-Dichlorobenzene	18.5	---	0.500	"	"	"	---	93	"	---	---	
Dichlorodifluoromethane	15.8	---	1.00	"	"	"	---	79	"	---	---	
1,1-Dichloroethane	18.0	---	0.500	"	"	"	---	90	"	---	---	
1,2-Dichloroethane (EDC)	19.0	---	0.500	"	"	"	---	95	"	---	---	
1,1-Dichloroethene	18.8	---	0.500	"	"	"	---	94	"	---	---	
cis-1,2-Dichloroethene	18.0	---	0.500	"	"	"	---	90	"	---	---	
trans-1,2-Dichloroethene	18.5	---	0.500	"	"	"	---	93	"	---	---	
1,2-Dichloropropane	18.4	---	0.500	"	"	"	---	92	"	---	---	
1,3-Dichloropropane	19.3	---	1.00	"	"	"	---	97	"	---	---	
2,2-Dichloropropane	15.4	---	1.00	"	"	"	---	77	"	---	---	
1,1-Dichloropropene	17.8	---	1.00	"	"	"	---	89	"	---	---	
cis-1,3-Dichloropropene	18.9	---	1.00	"	"	"	---	95	"	---	---	
trans-1,3-Dichloropropene	18.9	---	1.00	"	"	"	---	94	"	---	---	
Ethylbenzene	18.9	---	0.500	"	"	"	---	94	"	---	---	
Hexachlorobutadiene	18.3	---	5.00	"	"	"	---	92	"	---	---	
2-Hexanone	43.0	---	10.0	"	"	40.0	---	108	"	---	---	
Isopropylbenzene	19.3	---	1.00	"	"	20.0	---	96	"	---	---	
4-Isopropyltoluene	20.0	---	1.00	"	"	"	---	100	"	---	---	
4-Methyl-2-pentanone (MiBK)	46.6	---	10.0	"	"	40.0	---	117	"	---	---	
Methyl tert-butyl ether (MTBE)	18.5	---	1.00	"	"	20.0	---	92	"	---	---	
Methylene chloride	16.1	---	5.00	"	"	"	---	81	"	---	---	
Naphthalene	15.5	---	2.00	"	"	"	---	77	"	---	---	
n-Propylbenzene	20.1	---	0.500	"	"	"	---	100	"	---	---	
Styrene	17.3	---	1.00	"	"	"	---	87	"	---	---	
1,1,1,2-Tetrachloroethane	20.6	---	0.500	"	"	"	---	103	"	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010459 - EPA 5030B							**Water**					
LCS (4010459-BS1)					Prepared: 01/22/14 12:00 Analyzed: 01/22/14 13:51							
1,1,2,2-Tetrachloroethane	21.0	---	0.500	"	"	"	---	105	"	---	---	
Tetrachloroethene (PCE)	18.5	---	0.500	"	"	"	---	93	"	---	---	
Toluene	18.4	---	1.00	"	"	"	---	92	"	---	---	
1,2,3-Trichlorobenzene	18.7	---	2.00	"	"	"	---	93	"	---	---	
1,2,4-Trichlorobenzene	17.6	---	2.00	"	"	"	---	88	"	---	---	
1,1,1-Trichloroethane	18.8	---	0.500	"	"	"	---	94	"	---	---	
1,1,2-Trichloroethane	20.1	---	0.500	"	"	"	---	101	"	---	---	
Trichloroethene (TCE)	17.1	---	0.500	"	"	"	---	86	"	---	---	
Trichlorofluoromethane	96.4	---	2.00	"	"	"	---	482	"	---	---	EST
1,2,3-Trichloropropane	20.2	---	1.00	"	"	"	---	101	"	---	---	
1,2,4-Trimethylbenzene	20.2	---	1.00	"	"	"	---	101	"	---	---	
1,3,5-Trimethylbenzene	20.2	---	1.00	"	"	"	---	101	"	---	---	
Vinyl chloride	18.8	---	0.500	"	"	"	---	94	"	---	---	
m,p-Xylene	39.2	---	1.00	"	"	40.0	---	98	"	---	---	
o-Xylene	18.7	---	0.500	"	"	20.0	---	94	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 109 %*	*Limits: 80-120 %*	*Dilution: 1x*	
1,4-Difluorobenzene (Surr)	*98 %*	*80-120 %*	*"*	
Toluene-d8 (Surr)	*110 %*	*80-120 %*	*"*	
4-Bromofluorobenzene (Surr)	*100 %*	*80-120 %*	*"*	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010643 - EPA 5035A							**Soil**					
Blank (4010643-BLK1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 11:33							
5035/8260B												
Acetone	ND	---	0.667	mg/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	0.00833	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
Bromoform	ND	---	0.0333	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	0.333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	0.333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.0167	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	0.333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	0.0333	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	0.167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	0.167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010643 - EPA 5035A							**Soil**					
Blank (4010643-BLK1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 11:33							
cis-1,2-Dichloroethene	ND	---	0.0167	mg/kg wet	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	0.0167	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	0.0667	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	0.333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	0.333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	0.0333	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	0.167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0667	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Styrene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	0.167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.0167	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	0.0667	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	0.0333	"	"	---	---	---	---	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010643 - EPA 5035A							**Soil**					
Blank (4010643-BLK1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 11:33							
1,2,4-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	0.0333	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.0167	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	0.0333	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.0167	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 106 %*		*Limits: 70-130 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Surr)			*101 %*		*70-130 %*				*"*			
Toluene-d8 (Surr)			*99 %*		*70-130 %*				*"*			
4-Bromofluorobenzene (Surr)			*104 %*		*70-130 %*				*"*			
LCS (4010643-BS1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 10:45							
5035/8260B												
Acetone	2.08	---	1.00	mg/kg wet	50	2.00	---	104	65-135%	---	---	Q-41
Benzene	0.996	---	0.0125	"	"	1.00	---	100	"	---	---	
Bromobenzene	0.944	---	0.0250	"	"	"	---	94	"	---	---	
Bromochloromethane	1.09	---	0.0500	"	"	"	---	109	"	---	---	
Bromodichloromethane	1.12	---	0.0500	"	"	"	---	112	"	---	---	
Bromoform	1.08	---	0.0500	"	"	"	---	108	"	---	---	
Bromomethane	0.983	---	0.500	"	"	"	---	98	"	---	---	
2-Butanone (MEK)	2.38	---	0.500	"	"	2.00	---	119	"	---	---	
n-Butylbenzene	0.952	---	0.0500	"	"	1.00	---	95	"	---	---	
sec-Butylbenzene	0.962	---	0.0500	"	"	"	---	96	"	---	---	
tert-Butylbenzene	0.986	---	0.0500	"	"	"	---	99	"	---	---	
Carbon tetrachloride	1.18	---	0.0250	"	"	"	---	118	"	---	---	
Chlorobenzene	0.953	---	0.0250	"	"	"	---	95	"	---	---	
Chloroethane	1.11	---	0.500	"	"	"	---	111	"	---	---	
Chloroform	1.00	---	0.0500	"	"	"	---	100	"	---	---	
Chloromethane	0.878	---	0.250	"	"	"	---	88	"	---	---	
2-Chlorotoluene	0.928	---	0.0500	"	"	"	---	93	"	---	---	
4-Chlorotoluene	0.962	---	0.0500	"	"	"	---	96	"	---	---	
1,2-Dibromo-3-chloropropane	0.918	---	0.250	"	"	"	---	92	"	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010643 - EPA 5035A							**Soil**					
LCS (4010643-BS1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 10:45							
Dibromochloromethane	1.01	---	0.100	mg/kg wet	"	"	---	101	"	---	---	
1,2-Dibromoethane (EDB)	1.06	---	0.0250	"	"	"	---	106	"	---	---	
Dibromomethane	1.14	---	0.0500	"	"	"	---	114	"	---	---	
1,2-Dichlorobenzene	0.958	---	0.0250	"	"	"	---	96	"	---	---	
1,3-Dichlorobenzene	0.964	---	0.0250	"	"	"	---	96	"	---	---	
1,4-Dichlorobenzene	0.933	---	0.0250	"	"	"	---	93	"	---	---	
Dichlorodifluoromethane	0.855	---	0.100	"	"	"	---	86	"	---	---	
1,1-Dichloroethane	1.07	---	0.0250	"	"	"	---	107	"	---	---	
1,2-Dichloroethane (EDC)	1.16	---	0.0250	"	"	"	---	116	"	---	---	
1,1-Dichloroethene	1.09	---	0.0250	"	"	"	---	109	"	---	---	
cis-1,2-Dichloroethene	1.06	---	0.0250	"	"	"	---	106	"	---	---	
trans-1,2-Dichloroethene	1.07	---	0.0250	"	"	"	---	107	"	---	---	
1,2-Dichloropropane	1.06	---	0.0250	"	"	"	---	106	"	---	---	
1,3-Dichloropropane	0.989	---	0.0250	"	"	"	---	99	"	---	---	
2,2-Dichloropropane	1.18	---	0.0500	"	"	"	---	118	"	---	---	
1,1-Dichloropropene	1.04	---	0.0500	"	"	"	---	104	"	---	---	
cis-1,3-Dichloropropene	0.899	---	0.0500	"	"	"	---	90	"	---	---	
trans-1,3-Dichloropropene	0.963	---	0.0500	"	"	"	---	96	"	---	---	
Ethylbenzene	0.962	---	0.0250	"	"	"	---	96	"	---	---	
Hexachlorobutadiene	0.912	---	0.100	"	"	"	---	91	"	---	---	
2-Hexanone	2.09	---	0.500	"	"	2.00	---	104	"	---	---	
Isopropylbenzene	1.04	---	0.0500	"	"	1.00	---	104	"	---	---	
4-Isopropyltoluene	0.976	---	0.0500	"	"	"	---	98	"	---	---	
4-Methyl-2-pentanone (MiBK)	2.22	---	0.500	"	"	2.00	---	111	"	---	---	
Methyl tert-butyl ether (MTBE)	1.19	---	0.0500	"	"	1.00	---	119	"	---	---	
Methylene chloride	0.998	---	0.250	"	"	"	---	100	"	---	---	
Naphthalene	0.885	---	0.100	"	"	"	---	89	"	---	---	
n-Propylbenzene	0.917	---	0.0250	"	"	"	---	92	"	---	---	
Styrene	0.918	---	0.0500	"	"	"	---	92	"	---	---	
1,1,1,2-Tetrachloroethane	1.07	---	0.0250	"	"	"	---	107	"	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010643 - EPA 5035A							**Soil**					
LCS (4010643-BS1)					Prepared: 01/30/14 09:00 Analyzed: 01/30/14 10:45							
1,1,2,2-Tetrachloroethane	0.935	---	0.0250	"	"	"	---	94	"	---	---	
Tetrachloroethene (PCE)	0.976	---	0.0250	"	"	"	---	98	"	---	---	
Toluene	0.906	---	0.0500	"	"	"	---	91	"	---	---	
1,2,3-Trichlorobenzene	0.992	---	0.250	"	"	"	---	99	"	---	---	
1,2,4-Trichlorobenzene	0.970	---	0.250	"	"	"	---	97	"	---	---	
1,1,1-Trichloroethane	1.12	---	0.0250	"	"	"	---	112	"	---	---	
1,1,2-Trichloroethane	1.02	---	0.0250	"	"	"	---	102	"	---	---	
Trichloroethene (TCE)	1.08	---	0.0250	"	"	"	---	108	"	---	---	
Trichlorofluoromethane	1.30	---	0.100	"	"	"	---	130	"	---	---	
1,2,3-Trichloropropane	0.959	---	0.0500	"	"	"	---	96	"	---	---	
1,2,4-Trimethylbenzene	0.982	---	0.0500	"	"	"	---	98	"	---	---	
1,3,5-Trimethylbenzene	0.986	---	0.0500	"	"	"	---	99	"	---	---	
Vinyl chloride	0.965	---	0.0250	"	"	"	---	96	"	---	---	
m,p-Xylene	2.02	---	0.0500	"	"	2.00	---	101	"	---	---	
o-Xylene	1.02	---	0.0250	"	"	1.00	---	102	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 108 %*	*Limits: 70-130 %*	*Dilution: 1x*	
1,4-Difluorobenzene (Surr)	*101 %*	*70-130 %*	*"*	
Toluene-d8 (Surr)	*98 %*	*70-130 %*	*"*	
4-Bromofluorobenzene (Surr)	*102 %*	*70-130 %*	*"*	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010576 - EPA 3546							**Soil**					
Blank (4010576-BLK1)					Prepared: 01/28/14 10:02 Analyzed: 01/29/14 08:59							**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.00909	mg/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.00909	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.00909	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 90 %*	*Limits: 60-125 %*			*Dilution: 1x*					
LCS (4010576-BS1)					Prepared: 01/28/14 10:02 Analyzed: 01/29/14 09:17							**C-07**
EPA 8082A												
Aroclor 1016	0.207	---	0.0100	mg/kg wet	1	0.250	---	83	40-140%	---	---	
Aroclor 1260	0.266	---	0.0100	"	"	"	---	106	60-130%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 97 %*	*Limits: 60-125 %*			*Dilution: 1x*					
Matrix Spike (4010576-MS1)					Prepared: 01/28/14 10:02 Analyzed: 01/29/14 09:55							**C-07**
QC Source Sample: FILL2-1 (A4A0483-15)												
EPA 8082A												
Aroclor 1016	0.426	---	0.0240	mg/kg dry	1	0.601	ND	71	40-140%	---	---	
Aroclor 1260	0.479	---	0.0240	"	"	"	ND	80	60-130%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 84 %*	*Limits: 60-125 %*			*Dilution: 1x*					

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020003 - EPA 3546							**Soil**					
Blank (4020003-BLK1)					Prepared: 02/03/14 07:36 Analyzed: 02/03/14 15:08							**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.00833	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 86 %*	*Limits: 60-125 %*			*Dilution: 1x*					
LCS (4020003-BS1)					Prepared: 02/03/14 07:36 Analyzed: 02/03/14 15:27							**C-07**
EPA 8082A												
Aroclor 1016	0.203	---	0.0100	mg/kg wet	1	0.250	---	81	40-140%	---	---	
Aroclor 1260	0.233	---	0.0100	"	"	"	---	93	60-130%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 91 %*	*Limits: 60-125 %*			*Dilution: 1x*					
Duplicate (4020003-DUP1)					Prepared: 02/03/14 07:36 Analyzed: 02/03/14 16:03							**C-07**
QC Source Sample: WM3-1 (A4A0483-03)												
EPA 8082A												
Aroclor 1016	ND	---	0.0181	mg/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	0.0181	"	"	---	ND	---	---	---	30%	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 50 %*	*Limits: 60-125 %*			*Dilution: 1x*					*S-06*

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4020035 - EPA 3546							**Soil**					
Blank (4020035-BLK1)				Prepared: 02/04/14 07:07 Analyzed: 02/04/14 11:05								**C-07**
EPA 8082A												
Aroclor 1016	ND	---	0.00833	mg/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.00833	"	"	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.00833	"	"	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 78 %*	*Limits: 60-125 %*			*Dilution: 1x*					
LCS (4020035-BS1)				Prepared: 02/04/14 07:07 Analyzed: 02/04/14 11:23								**C-07**
EPA 8082A												
Aroclor 1016	0.216	---	0.0100	mg/kg wet	1	0.250	---	86	40-140%	---	---	
Aroclor 1260	0.237	---	0.0100	"	"	"	---	95	60-130%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 97 %*	*Limits: 60-125 %*			*Dilution: 1x*					

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010665 - EPA 3546							**Soil**					
Blank (4010665-BLK1)					Prepared: 01/30/14 13:00 Analyzed: 01/30/14 15:37							
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00769	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	0.0154	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.00769	"	"	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 93 %*	*Limits: 45-120 %*			*Dilution: 1x*					
p-Terphenyl-d14 (Surr)			*103 %*	*30-120 %*			*"*					
LCS (4010665-BS1)					Prepared: 01/30/14 13:00 Analyzed: 01/30/14 16:03							
EPA 8270D (SIM)												
Acenaphthene	0.790	---	0.0100	mg/kg wet	1	0.800	---	99	45-125%	---	---	
Acenaphthylene	0.783	---	0.0100	"	"	"	---	98	"	---	---	
Anthracene	0.806	---	0.0100	"	"	"	---	101	55-125%	---	---	
Benz(a)anthracene	0.746	---	0.0100	"	"	"	---	93	50-125%	---	---	
Benzo(a)pyrene	0.778	---	0.0100	"	"	"	---	97	"	---	---	
Benzo(b)fluoranthene	0.788	---	0.0100	"	"	"	---	98	45-125%	---	---	
Benzo(k)fluoranthene	0.796	---	0.0100	"	"	"	---	100	"	---	---	
Benzo(b+k)fluoranthene(s)	1.58	---	0.0200	"	"	1.60	---	98	"	---	---	
Benzo(g,h,i)perylene	0.748	---	0.0100	"	"	0.800	---	94	40-125%	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010665 - EPA 3546							**Soil**					
LCS (4010665-BS1)					Prepared: 01/30/14 13:00		Analyzed: 01/30/14 16:03					
Chrysene	0.791	---	0.0100	"	"	"	---	99	55-125%	---	---	
Dibenz(a,h)anthracene	0.800	---	0.0100	"	"	"	---	100	40-125%	---	---	
Fluoranthene	0.790	---	0.0100	"	"	"	---	99	55-125%	---	---	
Fluorene	0.789	---	0.0100	"	"	"	---	99	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.758	---	0.0100	"	"	"	---	95	40-125%	---	---	
Naphthalene	0.743	---	0.0100	"	"	"	---	93	"	---	---	
Phenanthrene	0.784	---	0.0100	"	"	"	---	98	50-125%	---	---	
Pyrene	0.802	---	0.0100	"	"	"	---	100	45-125%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 91 %*	*Limits: 45-120 %*			*Dilution: 1x*					
p-Terphenyl-d14 (Surr)			*99 %*	*30-120 %*			*"*					
Duplicate (4010665-DUP1)					Prepared: 01/30/14 13:00		Analyzed: 01/30/14 16:55					**Q-17**
QC Source Sample: WM3-1 (A4A0483-03)												
EPA 8270D (SIM)												
Acenaphthene	**0.496**	---	0.103	mg/kg dry	5	---	0.0508	---	---		30%	
Acenaphthylene	**3.32**	---	0.103	"	"	---	0.547	---	---	143	30%	
Anthracene	**1.80**	---	0.103	"	"	---	0.242	---	---	153	30%	
Benz(a)anthracene	**5.30**	---	0.103	"	"	---	0.763	---	---	150	30%	
Benzo(a)pyrene	**8.14**	---	0.103	"	"	---	1.23	---	---	148	30%	
Benzo(b+k)fluoranthene(s)	**15.6**	---	0.205	"	"	---	2.74	---	---	140	30%	Q-26
Benzo(g,h,i)perylene	**5.50**	---	0.103	"	"	---	0.930	---	---	142	30%	
Chrysene	**8.07**	---	0.103	"	"	---	1.34	---	---	143	30%	
Dibenz(a,h)anthracene	**1.37**	---	0.103	"	"	---	0.235	---	---	142	30%	
Fluoranthene	**14.8**	---	0.103	"	"	---	1.92	---	---	154	30%	
Fluorene	**1.37**	---	0.103	"	"	---	0.134	---	---	164	30%	
Indeno(1,2,3-cd)pyrene	**6.10**	---	0.103	"	"	---	1.05	---	---	141	30%	
Naphthalene	**1.72**	---	0.103	"	"	---	0.117	---	---	175	30%	
Phenanthrene	**14.4**	---	0.103	"	"	---	1.62	---	---	160	30%	
Pyrene	**13.4**	---	0.103	"	"	---	1.79	---	---	153	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 91 %*	*Limits: 45-120 %*			*Dilution: 5x*					
p-Terphenyl-d14 (Surr)			*101 %*	*30-120 %*			*"*					

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010580 - EPA 3051A							Soil					
Blank (4010580-BLK1)					Prepared: 01/28/14 12:07 Analyzed: 01/28/14 16:23							
EPA 6020A												
Arsenic	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
LCS (4010580-BS1)					Prepared: 01/28/14 12:07 Analyzed: 01/28/14 16:26							
EPA 6020A												
Arsenic	50.1	---	1.00	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Barium	47.3	---	1.00	"	"	"	---	95	"	---	---	
Cadmium	49.4	---	0.200	"	"	"	---	99	"	---	---	
Chromium	49.7	---	1.00	"	"	"	---	99	"	---	---	
Lead	49.9	---	0.200	"	"	"	---	100	"	---	---	
Mercury	0.937	---	0.0800	"	"	1.00	---	94	"	---	---	
Selenium	25.8	---	1.00	"	"	25.0	---	103	"	---	---	
Silver	22.9	---	0.200	"	"	"	---	92	"	---	---	
Duplicate (4010580-DUP1)					Prepared: 01/28/14 12:07 Analyzed: 01/28/14 16:47							
QC Source Sample: EP1-1 (A4A0483-04)												
EPA 6020A												
Arsenic	ND	---	4.21	mg/kg dry	10	---	2.77	---	---	***	40%	
Barium	**74.1**	---	4.21	"	"	---	69.3	---	---	7	40%	
Cadmium	ND	---	0.843	"	"	---	0.501	---	---	***	40%	
Chromium	**44.7**	---	4.21	"	"	---	41.9	---	---	7	40%	
Lead	**13.1**	---	0.843	"	"	---	12.8	---	---	3	40%	
Mercury	ND	---	0.337	"	"	---	ND	---	---	---	40%	
Selenium	ND	---	4.21	"	"	---	ND	---	---	---	40%	
Silver	ND	---	0.843	"	"	---	ND	---	---	---	40%	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010580 - EPA 3051A							**Soil**					
Matrix Spike (4010580-MS1)					Prepared: 01/28/14 12:07 Analyzed: 01/28/14 16:50							
QC Source Sample: EP1-1 (A4A0483-04)												
EPA 6020A												
Arsenic	191	---	3.75	mg/kg dry	10	188	2.77	100	75-125%	---	---	
Barium	249	---	3.75	"	"	"	69.3	96	"	---	---	
Cadmium	189	---	0.750	"	"	"	0.501	100	"	---	---	
Chromium	233	---	3.75	"	"	"	41.9	102	"	---	---	
Lead	199	---	0.750	"	"	"	12.8	100	"	---	---	
Mercury	3.70	---	0.300	"	"	3.75	ND	99	"	---	---	
Selenium	99.7	---	3.75	"	"	93.6	ND	107	"	---	---	
Silver	88.1	---	0.750	"	"	"	ND	94	"	---	---	
Post Spike (4010580-PS1)					Prepared: 01/29/14 12:23 Analyzed: 01/29/14 14:18							
Barium	1180	---		ug/L	10	566	553	110	80-120%		---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010602 - EPA 3015A - Dissolved									Water			
Blank (4010602-BLK1)					Prepared: 01/29/14 08:43		Analyzed: 01/29/14 13:10					
EPA 6020A (Diss)												
Arsenic	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	0.200	"	"	---	---	---	---	---	---	
Chromium	ND	---	1.00	"	"	---	---	---	---	---	---	
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Selenium	ND	---	1.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
LCS (4010602-BS1)					Prepared: 01/29/14 08:43		Analyzed: 01/29/14 13:13					
EPA 6020A (Diss)												
Arsenic	53.5	---	1.00	ug/L	1	55.6	---	96	80-120%	---	---	
Barium	55.0	---	1.00	"	"	"	---	99	"	---	---	
Cadmium	52.6	---	0.200	"	"	"	---	95	"	---	---	
Chromium	55.6	---	1.00	"	"	"	---	100	"	---	---	
Lead	56.2	---	0.200	"	"	"	---	101	"	---	---	
Mercury	1.00	---	0.0800	"	"	1.11	---	90	"	---	---	
Selenium	26.4	---	1.00	"	"	27.8	---	95	"	---	---	
Silver	27.1	---	0.200	"	"	"	---	97	"	---	---	
Duplicate (4010602-DUP1)					Prepared: 01/29/14 08:43		Analyzed: 01/29/14 13:22					
QC Source Sample: EM2-W (A4A0483-17)												
EPA 6020A (Diss)												
Arsenic	ND	---	1.00	ug/L	1	---	ND	---	---	---	20%	
Barium	**28.5**	---	1.00	"	"	---	27.3	---	---	4	20%	
Cadmium	ND	---	0.200	"	"	---	ND	---	---	---	20%	
Chromium	ND	---	1.00	"	"	---	0.678	---	---	***	20%	
Lead	ND	---	0.200	"	"	---	ND	---	---	---	20%	
Mercury	ND	---	0.0800	"	"	---	ND	---	---	---	20%	
Selenium	ND	---	1.00	"	"	---	0.633	---	---	***	20%	
Silver	ND	---	0.200	"	"	---	ND	---	---	---	20%	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010602 - EPA 3015A - Dissolved							**Water**					
Matrix Spike (4010602-MS1)					Prepared: 01/29/14 08:43 Analyzed: 01/29/14 13:25							
QC Source Sample: EM2-W (A4A0483-17)												
EPA 6020A (Diss)												
Arsenic	54.0	---	1.00	ug/L	1	55.6	ND	97	75-125%	---	---	
Barium	83.0	---	1.00	"	"	"	27.3	100	"	---	---	
Cadmium	52.6	---	0.200	"	"	"	ND	95	"	---	---	
Chromium	57.1	---	1.00	"	"	"	0.678	102	"	---	---	
Lead	55.5	---	0.200	"	"	"	ND	100	"	---	---	
Mercury	1.06	---	0.0800	"	"	1.11	ND	95	"	---	---	
Selenium	27.2	---	1.00	"	"	27.8	0.633	96	"	---	---	
Silver	27.2	---	0.200	"	"	"	ND	98	"	---	---	

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4010513 - Total Solids (Dry Weight)									**Soil**			
Duplicate (4010513-DUP2)					Prepared: 01/24/14 14:06		Analyzed: 01/27/14 10:00					
QC Source Sample: EP2-1 (A4A0483-05)												
EPA 8000C												
% Solids	**32.8**	---	1.00	% by Weight	1	---	32.4	---	---	1	20%	
Duplicate (4010513-DUP3)					Prepared: 01/24/14 14:06		Analyzed: 01/27/14 10:00					
QC Source Sample: IP1-1 (A4A0483-10)												
EPA 8000C												
% Solids	**33.7**	---	1.00	% by Weight	1	---	33.6	---	---	0.3	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: NWTPH-HCID (Soil)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010516							
A4A0483-14	Soil	NWTPH-HCID	01/22/14 11:44	01/24/14 14:56	8.85g/10mL	10g/10mL	1.13
A4A0483-15	Soil	NWTPH-HCID	01/22/14 11:58	01/24/14 14:56	8.81g/10mL	10g/10mL	1.14

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010586							
A4A0483-16	Water	NWTPH-Dx	01/21/14 12:20	01/28/14 13:45	1020mL/5mL	1000mL/5mL	0.98
A4A0483-17	Water	NWTPH-Dx	01/21/14 15:40	01/28/14 13:45	1060mL/5mL	1000mL/5mL	0.94

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010589							
A4A0483-04	Soil	NWTPH-Dx	01/21/14 13:06	01/28/14 14:50	8.58g/5mL	10g/5mL	1.17
A4A0483-05	Soil	NWTPH-Dx	01/21/14 13:20	01/28/14 14:50	10.09g/5mL	10g/5mL	0.99
A4A0483-06	Soil	NWTPH-Dx	01/21/14 13:46	01/28/14 14:50	8.14g/5mL	10g/5mL	1.23
A4A0483-10	Soil	NWTPH-Dx	01/22/14 09:42	01/28/14 14:50	6.96g/5mL	10g/5mL	1.44
A4A0483-11	Soil	NWTPH-Dx	01/22/14 09:56	01/28/14 14:50	6.37g/5mL	10g/5mL	1.57

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Prep: EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010581							
A4A0483-01	Soil	NWTPH-Dx/SG	01/21/14 10:38	01/28/14 12:16	11.27g/5mL	10g/5mL	0.89
A4A0483-02	Soil	NWTPH-Dx/SG	01/21/14 11:20	01/28/14 12:16	11.59g/5mL	10g/5mL	0.86
A4A0483-03	Soil	NWTPH-Dx/SG	01/21/14 11:45	01/28/14 12:16	11.03g/5mL	10g/5mL	0.91
A4A0483-07RE1	Soil	NWTPH-Dx/SG	01/21/14 14:38	01/28/14 12:16	12.04g/5mL	10g/5mL	0.83
A4A0483-08	Soil	NWTPH-Dx/SG	01/21/14 14:56	01/28/14 12:16	11.62g/5mL	10g/5mL	0.86
A4A0483-09	Soil	NWTPH-Dx/SG	01/21/14 15:10	01/28/14 12:16	11.44g/5mL	10g/5mL	0.87
A4A0483-12	Soil	NWTPH-Dx/SG	01/22/14 11:00	01/28/14 12:16	12.03g/5mL	10g/5mL	0.83
A4A0483-13	Soil	NWTPH-Dx/SG	01/22/14 11:14	01/28/14 12:16	12.74g/5mL	10g/5mL	0.79

Volatile Organic Compounds by EPA 8260B

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010459							
A4A0483-16RE1	Water	EPA 8260B	01/21/14 12:20	01/22/14 14:51	5mL/5mL	5mL/5mL	1.00
A4A0483-17RE1	Water	EPA 8260B	01/21/14 15:40	01/22/14 14:51	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010643							
A4A0483-03	Soil	5035/8260B	01/21/14 11:45	01/30/14 12:19	11.856g/10mL	10g/10mL	0.84
A4A0483-07	Soil	5035/8260B	01/21/14 14:38	01/30/14 12:19	12.776g/10mL	10g/10mL	0.78
A4A0483-12	Soil	5035/8260B	01/22/14 11:00	01/30/14 12:19	11.469g/10mL	10g/10mL	0.87

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010576							
A4A0483-04RE1	Soil	EPA 8082A	01/21/14 13:06	01/28/14 10:02	10.61g/5mL	10g/5mL	0.94
A4A0483-05	Soil	EPA 8082A	01/21/14 13:20	01/28/14 10:02	10.54g/5mL	10g/5mL	0.95
A4A0483-06	Soil	EPA 8082A	01/21/14 13:46	01/28/14 10:02	10.39g/5mL	10g/5mL	0.96
A4A0483-10	Soil	EPA 8082A	01/22/14 09:42	01/28/14 10:02	10.26g/5mL	10g/5mL	0.98
A4A0483-11	Soil	EPA 8082A	01/22/14 09:56	01/28/14 10:02	9.84g/5mL	10g/5mL	1.02
A4A0483-14	Soil	EPA 8082A	01/22/14 11:44	01/28/14 10:02	10.2g/5mL	10g/5mL	0.98
A4A0483-15	Soil	EPA 8082A	01/22/14 11:58	01/28/14 10:02	10.59g/5mL	10g/5mL	0.94
Batch: 4020003							
A4A0483-03	Soil	EPA 8082A	01/21/14 11:45	02/03/14 07:36	10.52g/5mL	10g/5mL	0.95
Batch: 4020035							
A4A0483-07RE1	Soil	EPA 8082A	01/21/14 14:38	02/04/14 07:07	10.32g/5mL	10g/5mL	0.97
A4A0483-12RE1	Soil	EPA 8082A	01/22/14 11:00	02/04/14 07:07	10.84g/5mL	10g/5mL	0.92

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010665							
A4A0483-03	Soil	EPA 8270D (SIM)	01/21/14 11:45	01/30/14 13:00	10.55g/5mL	10g/5mL	0.95
A4A0483-07	Soil	EPA 8270D (SIM)	01/21/14 14:38	01/30/14 13:00	10.43g/5mL	10g/5mL	0.96

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4A0483-07RE1	Soil	EPA 8270D (SIM)	01/21/14 14:38	01/30/14 13:00	10.43g/5mL	10g/5mL	0.96
A4A0483-10	Soil	EPA 8270D (SIM)	01/22/14 09:42	01/30/14 13:00	10.78g/5mL	10g/5mL	0.93
A4A0483-12	Soil	EPA 8270D (SIM)	01/22/14 11:00	01/30/14 13:00	10.62g/5mL	10g/5mL	0.94

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010580							
A4A0483-01	Soil	EPA 6020A	01/21/14 10:38	01/28/14 12:07	0.465g/50mL	0.5g/50mL	1.08
A4A0483-02	Soil	EPA 6020A	01/21/14 11:20	01/28/14 12:07	0.5g/50mL	0.5g/50mL	1.00
A4A0483-03	Soil	EPA 6020A	01/21/14 11:45	01/28/14 12:07	0.458g/50mL	0.5g/50mL	1.09
A4A0483-04	Soil	EPA 6020A	01/21/14 13:06	01/28/14 12:07	0.503g/50mL	0.5g/50mL	0.99
A4A0483-05	Soil	EPA 6020A	01/21/14 13:20	01/28/14 12:07	0.481g/50mL	0.5g/50mL	1.04
A4A0483-06	Soil	EPA 6020A	01/21/14 13:46	01/28/14 12:07	0.496g/50mL	0.5g/50mL	1.01
A4A0483-07	Soil	EPA 6020A	01/21/14 14:38	01/28/14 12:07	0.477g/50mL	0.5g/50mL	1.05
A4A0483-08	Soil	EPA 6020A	01/21/14 14:56	01/28/14 12:07	0.488g/50mL	0.5g/50mL	1.02
A4A0483-09	Soil	EPA 6020A	01/21/14 15:10	01/28/14 12:07	0.456g/50mL	0.5g/50mL	1.10
A4A0483-10	Soil	EPA 6020A	01/22/14 09:42	01/28/14 12:07	0.466g/50mL	0.5g/50mL	1.07
A4A0483-11	Soil	EPA 6020A	01/22/14 09:56	01/28/14 12:07	0.511g/50mL	0.5g/50mL	0.98
A4A0483-14	Soil	EPA 6020A	01/22/14 11:44	01/28/14 12:07	0.455g/50mL	0.5g/50mL	1.10
A4A0483-15	Soil	EPA 6020A	01/22/14 11:58	01/28/14 12:07	0.478g/50mL	0.5g/50mL	1.05

Dissolved Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A - Dissolved

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010602							
A4A0483-16	Water	EPA 6020A (Diss)	01/21/14 12:20	01/29/14 08:43	45mL/50mL	45mL/50mL	1.00
A4A0483-17	Water	EPA 6020A (Diss)	01/21/14 15:40	01/29/14 08:43	45mL/50mL	45mL/50mL	1.00

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4010513							

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4A0483-01	Soil	EPA 8000C	01/21/14 10:38	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-02	Soil	EPA 8000C	01/21/14 11:20	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-03	Soil	EPA 8000C	01/21/14 11:45	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-04	Soil	EPA 8000C	01/21/14 13:06	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-05	Soil	EPA 8000C	01/21/14 13:20	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-06	Soil	EPA 8000C	01/21/14 13:46	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-07	Soil	EPA 8000C	01/21/14 14:38	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-08	Soil	EPA 8000C	01/21/14 14:56	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-09	Soil	EPA 8000C	01/21/14 15:10	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-10	Soil	EPA 8000C	01/22/14 09:42	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-11	Soil	EPA 8000C	01/22/14 09:56	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-12	Soil	EPA 8000C	01/22/14 11:00	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-13	Soil	EPA 8000C	01/22/14 11:14	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-14	Soil	EPA 8000C	01/22/14 11:44	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA
A4A0483-15	Soil	EPA 8000C	01/22/14 11:58	01/24/14 14:06	1N/A/1N/A	1N/A/1N/A	NA

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Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

Notes and Definitions

Qualifiers:

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
EST	Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-26	Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.
Q-39	Results for sample duplicate are significantly higher than the sample results. See duplicate results in QC section of the report.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
S-01	Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
S-03	Reextraction and analysis, or analysis of laboratory duplicate, confirms surrogate failure due to sample matrix effect.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
S-06	Surrogate recovery is outside of established control limits.
V-16	Sample aliquot was subsampled from the sample container in the laboratory . The subsampled aliquot was not preserved within 48 hours of sampling.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Labs

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503-718-2323 Phone
503-718-0333 Fax

Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53

Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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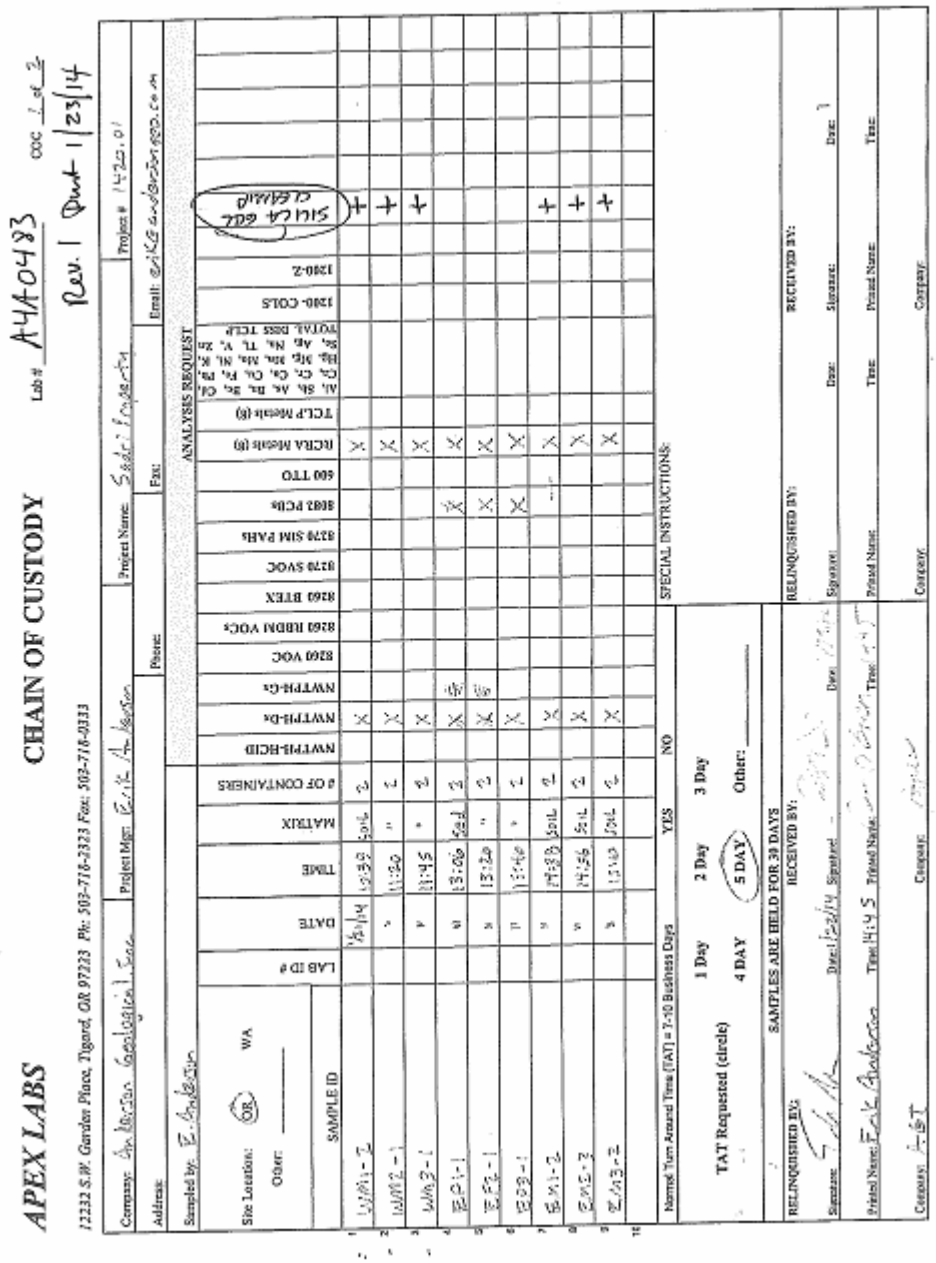

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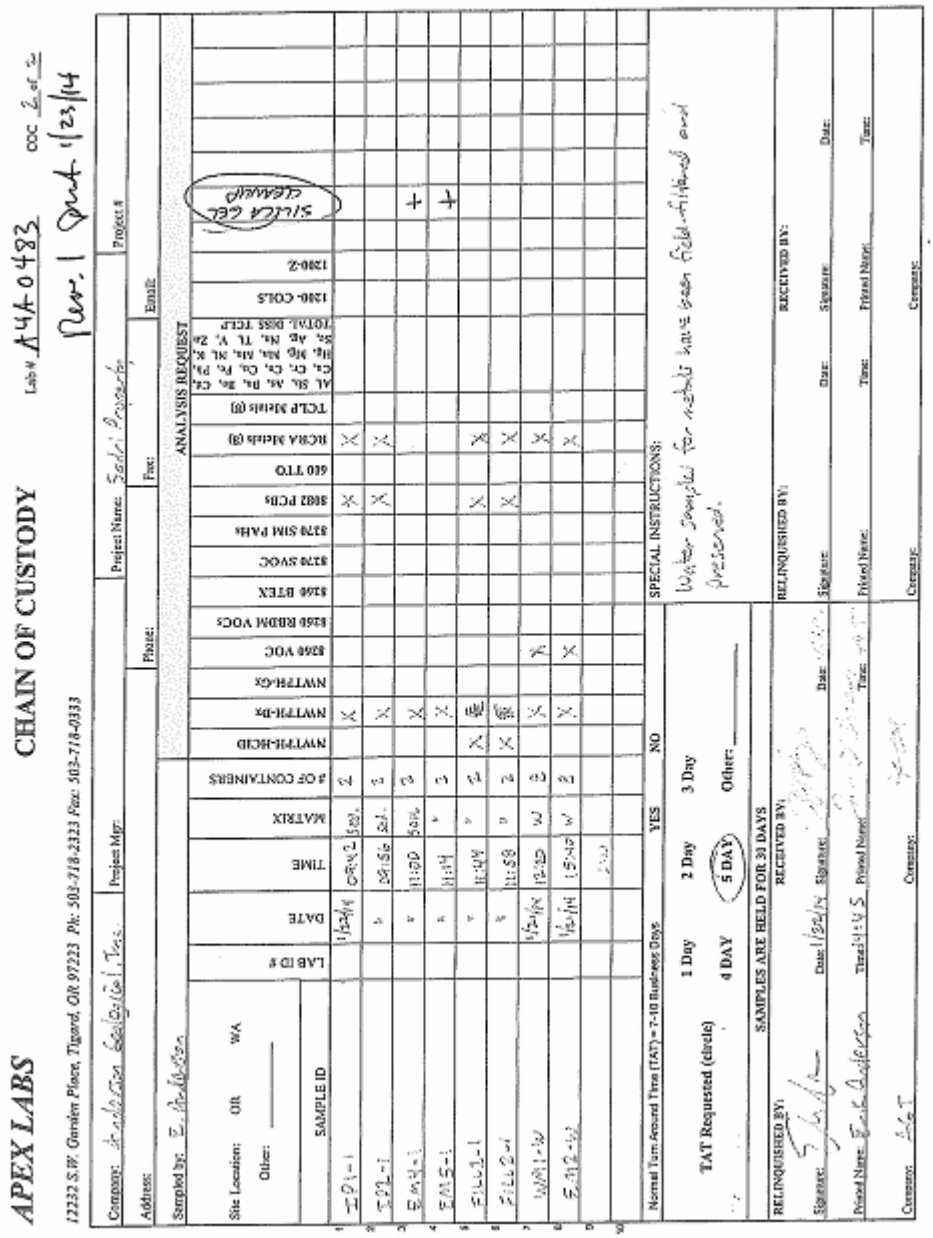

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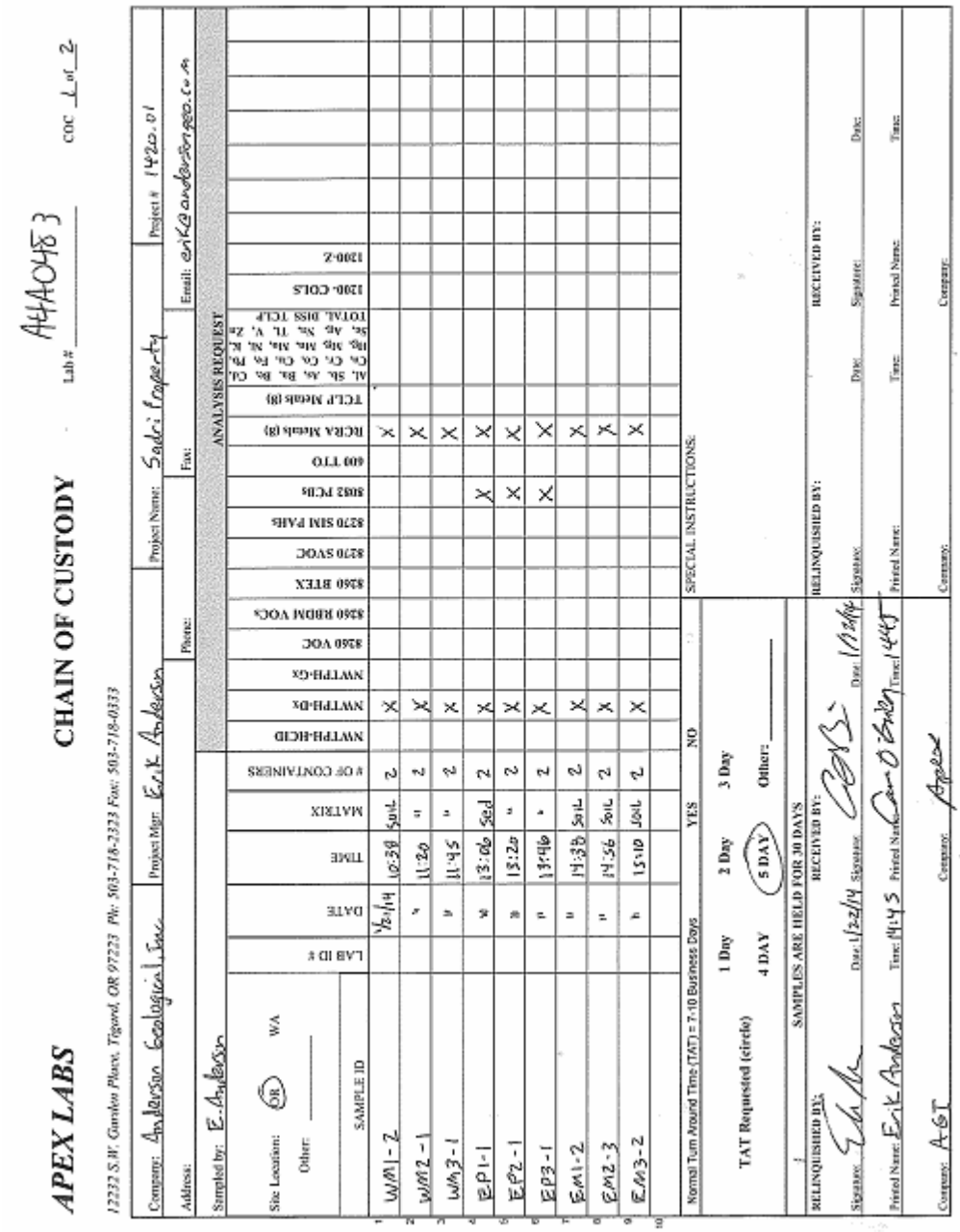

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab# A14A0483

COC 1 of 2

Company: Anderson Geological | Project Mgr: Erik Anderson | Phone: | Project Name: Sadri Property | Project #: 1420.01

Address: | Fax: | Email: erik@andersongeo.com

Sampled by: E. Anderson

Site Locations: OR WA Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTFH-HCID	NWTFH-Dx	NWTFH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200- COLS	1200-Z
1	WM1-Z		1/8/14	10:30	Soil	2		X									X				
2	WM2-1		"	11:20	"	2		X									X				
3	WM3-1		"	11:45	"	2		X									X				
4	EP1-1		"	13:00	Sed	2		X							X		X				
5	EP2-1		"	13:20	"	2		X							X		X				
6	EP3-1		"	13:40	"	2		X							X		X				
7	EM1-2		"	14:30	Soil	2		X									X				
8	EM2-3		"	14:56	Soil	2		X									X				
9	EM3-2		"	15:10	Soil	2		X									X				
10																					

Normal Turn Around Time (TAT) = 7-10 Business Days | SPECIAL INSTRUCTIONS:

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Date: 1/22/14 Signature:	Date: 1/23/14	Date: Signature: Date:
Printed Name: Erik Anderson	Time: 14:45 Printed Name:	Time: 1447	Printed Name: Time:
Company: AGT	Company: Apex	Company:	Company:

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Darwin Thomas, Business Development Director

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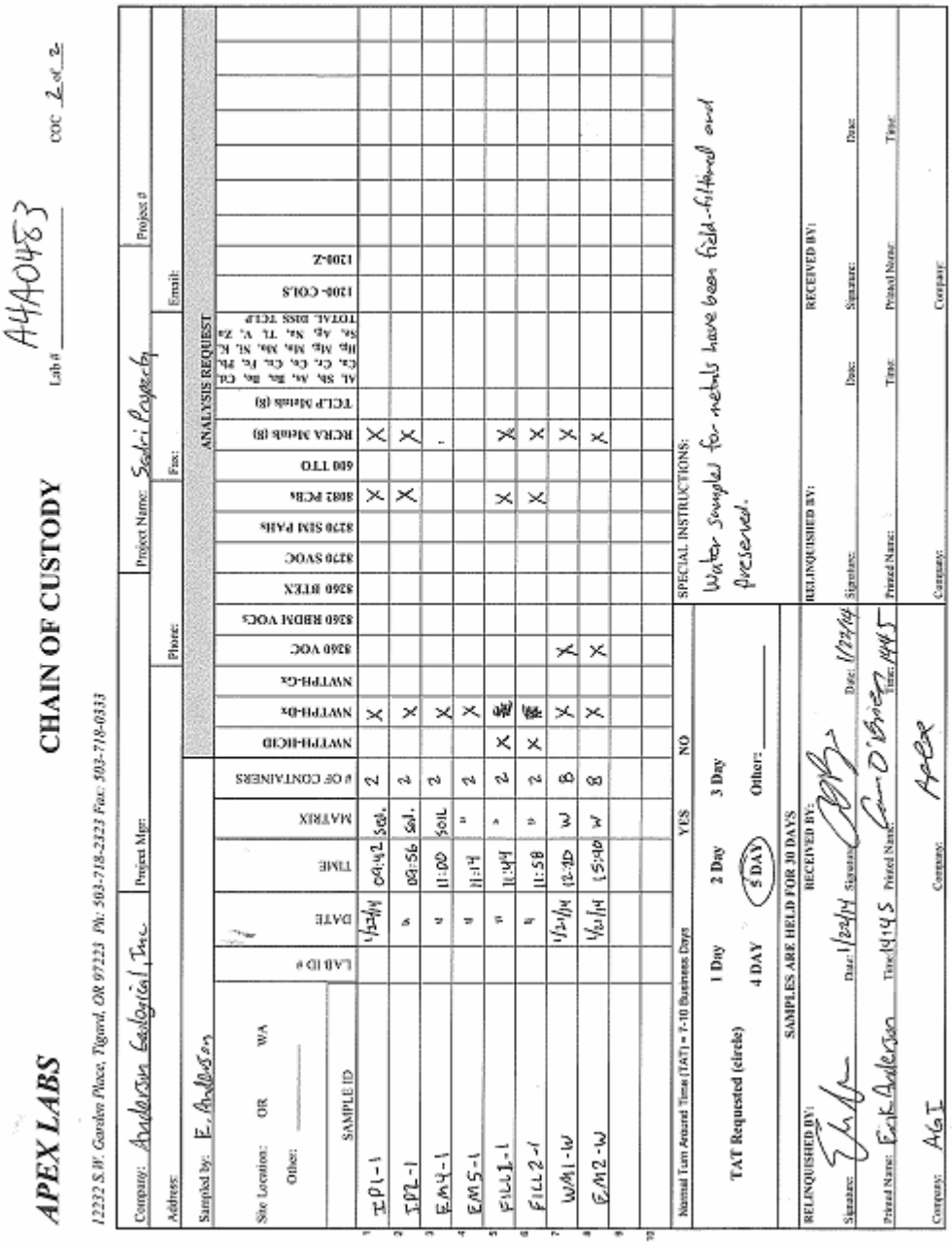
Anderson Geological	Project: **Sadri Property**	
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53



APEX LABS — **CHAIN OF CUSTODY** — Lab # 44A0483 — COC 2 of 2

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Anderson Geological Inc. | Project Mgr: | Project Name: Sadri Property | Project #
Address: | Phone: | Fax: | Email:
Sampled by: E. Anderson

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 HBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA 3dctds (B)	TCLP 3dctds (B)	AL, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL RISS TCLP	1200- COLS	1200-Z
1	TP1-1		1/9/14	09:42	Soil	2		X							X		X				
2	TP2-1		"	09:56	Soil	2		X							X		X				
3	EM4-1		"	11:00	Soil	2		X													
4	EM5-1		"	11:14	"	2		X													
5	FILL-1		"	11:44	"	2	X	X							X		X				
6	FILL 2-1		"	11:58	"	2	X								X		X				
7	WM1-W		1/9/14	12:30	W	6		X		X							X				
8	EM2-W		1/9/14	15:40	W	8		X		X							X				
9																					
10																					

Normal Turn Around Time (TAT) = 7-10 Business Days — YES / NO

SPECIAL INSTRUCTIONS:
Water sampled for metals have been field-filtered and preserved.

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Company:	Company:	Company:	Company:
Date:	Date: 1/10/14	Date:	Date:
Time:	Time: 9:45	Time:	Time:

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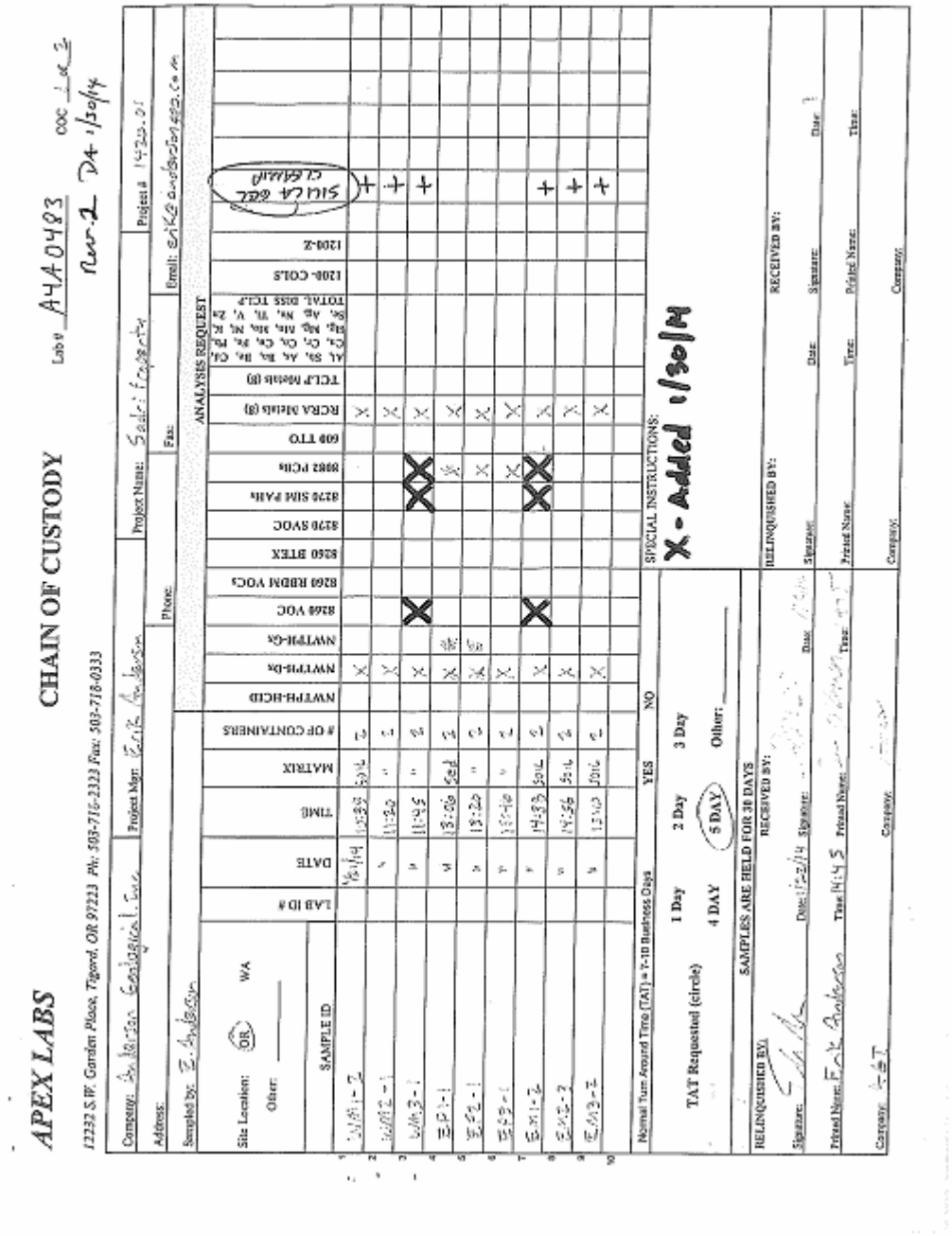
PO Box 649	Project Number: 1420.01	**Reported:**
Wilsonville, OR 97070	Project Manager: Erik Anderson	02/10/14 10:53



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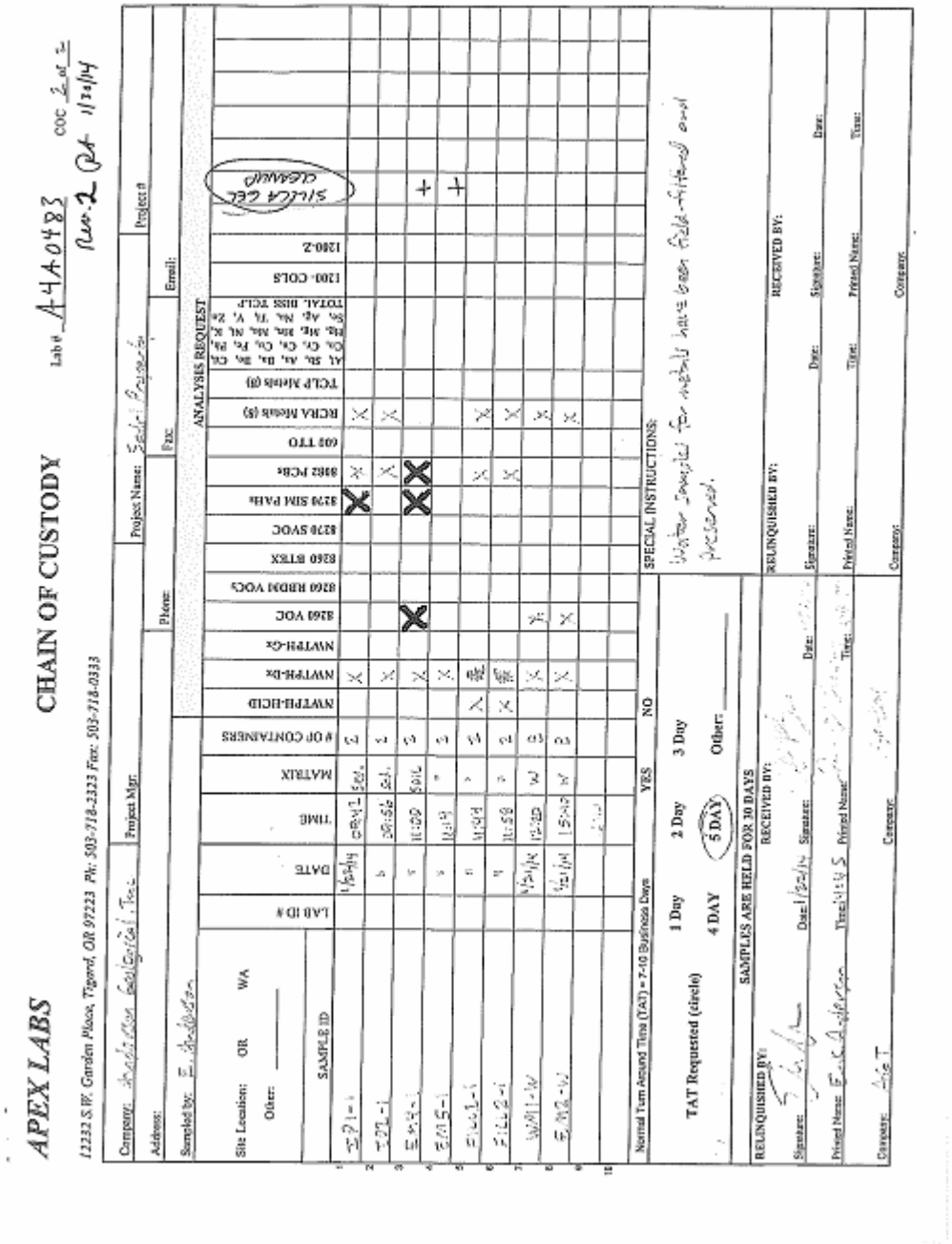

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