

ENVIRONMENTAL SITE INVESTIGATION

SADRI PROPERTY AND EAST PARCELS
TAX LOTS 190, 200 AND LOT 4, MAP 1S1025
TILLAMOOK, OREGON
DEQ ECSI #5899

Prepared for

TILLAMOOK COUNTY, OREGON

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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 lots 190, 200 and Lot 4 Map 1S1025, Tillamook, Oregon (Subject Property). Tillamook County is in the process of acquiring tax lot 200 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 around the rivers and sloughs north and west of the town of Tillamook.

The focus of this investigation consists of a portion of a larger piece of private, undeveloped land, referred to as the Sadri property (tax lot 200), and three narrow parcels to the east of the Sadri property, referred to in this report as the East Parcels, that are currently owned by the City of Tillamook, including a narrow strip of land that consists of the northern extension of Douglas Avenue. The parcel on the east side of the Douglas Avenue extension is known as the Schmidt Property and was the subject of an environmental investigation in 2009-2011 prior to the acquisition of the property by the City of Tillamook. All three properties that make up the East Parcels consist of unimproved land. The East Parcels together with a portion of the southeast corner of the Sadri Property, comprise the area referred to in this report as the Subject Property (Figure 3).

Previous sampling on the Subject Property identified areas with elevated concentrations of petroleum hydrocarbons (heavy oil), polynuclear aromatic hydrocarbons (PAHs) and metals (primarily cadmium and lead) in the soil. This Site Investigation is intended to further identify the nature and extent of the contaminated soils, to identify areas where contaminated soil may pose a risk to present and future human and ecological receptors, and to characterize the materials that are to be removed from the Subject Property during the SFC project for options regarding disposal and re-use.

1.1 Site Location and Setting

The Subject Property consists of the southeast portion of tax lot 200 (Sadri Property) and the East Parcels, consisting of the northern extension of Douglas Avenue (north of Front Street), Tax Lot 190 (formerly known as the Schmidt Property) and a portion of Lot 4 located on the east side of the Schmidt Property. Tax lot 200 is owned by Mr. Asghar Sadri; the remaining three parcels, referred to as the East parcels, are owned by the City of Tillamook. The total area covered by the Subject Property is approximately seven acres, which is mostly covered with a forested wetland located along Hoquarten Slough (Fig. 3).

Two separate mills previously 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 3 through 7.

The Subject Property is currently vacant and consists of woodland and marshes. Levees and dikes around the perimeter of the property protect the site from minor flooding events. 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.

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 western margin 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. Many areas around the former mills are 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

2.1 Sadri Property

The history of the Sadri 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.

The following two *recognized environmental conditions* were identified in connection with the Subject Property:

- 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.

Phase II Environmental Site Assessment

Sadri Property

Tax Lot 200, Map 1S1025

February 14, 2014

In January and May 2014, AGI collected samples of soil, sediment and groundwater from locations around the subject property for the purpose of identifying areas which may have been impacted by releases of hazardous substances from the former mill activities.

The initial sampling identified contamination by heavy oil, polynuclear aromatic hydrocarbons and metals 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. Elevated lead was detected in a sediment sample from one of the log ponds. The source of the contamination is assumed to be from releases of lubricating oils and waste products from former operations at the mills.

Evidence of a garbage dump was observed in a test pit completed on the former Schmidt Property. The refuse consisted of ash and scraps of plastic and metal, fabric and shoes. A soil sample collected from this layer contained heavy oil and elevated concentrations of cadmium and lead. Most or all of the East Parcels believed to underlain by fill material, including large pieces of concrete. The lateral extent of the refuse dump was not determined.

The soil around a former sawdust burner, identified on a Sanborn Fire Insurance map, was not investigated.

2.2 East Parcels

Site Investigation Report

Schmidt Property

Tax Lot 100, Map 1S1025

June 29, 2011

Soil and groundwater sampling was completed by Hart Crowser on the East Parcels. The purpose of the sampling was to assess the potential nature, extent and magnitude of contamination resulting from illegal dumping activities on the property. The site is built up with fill consisting largely of pieces of broken concrete and rough-poured concrete from truck batch excesses. Other historic dumping reportedly consisted of scrap lumber, automobile parts, and scrap plastic.

Seven exploratory borings were completed on the East Parcels using sonic drilling methods. Soil and groundwater was found to be impacted with diesel- and oil-range hydrocarbons and metals, including arsenic, copper, lead and zinc. Low levels of volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) were also detected in the soil at depths of 5-8 feet below ground surface (bgs). Shallower samples were not collected.

Comparison of the concentrations to Oregon DEQ risk-based concentrations (RBCs) indicated no unacceptable risk to future construction or excavation workers. It was concluded that aquatic ecological receptors may be at risk from arsenic, chromium, copper, lead mercury and zinc.

3.0 FUTURE PLANNED ACTIVITIES ON THE SUBJECT PROPERTY

The future activities on the Subject Property will include the reduction of the elevation of the ground surface north of the "dig line" (Figure 2) to a finished elevation of approximately 8 feet above mean sea level (msl). Based on the current ground elevations, this will involve the removal of approximately 3-4 feet of earthen and woody fill from the Sadri Property and 5-8 feet of earthen, woody and construction fill from the East Parcels.

The removal of the potentially contaminated soils and the resulting exposure of a new ground surface to aquatic ecological receptors presents the following concerns that are addressed in this report:

- Potential exposure of excavation workers to unacceptable levels of contaminants through dermal exposure and inhalation of contaminants during the soil removal. Potential worker exposure to contaminants will be evaluated by comparing contaminant concentrations in the shallow soils with DEQ risk-based concentrations (RBCs) for construction and excavation workers.

- Potential ecological and human health risk posed by contaminants in the existing soils on the Subject Property under the scenario that no excavation is done for the SFC project and the property is eventually used for its current zoned purpose.
- Some of the soil that is to be removed as part of the SFC project is contaminated with varying degrees of environmental contaminants and will require landfilling or special conditions for re-use on site. The soils that are removed as part of the elevation reduction activities and any over-excavation are hereafter referred to as *take* soils. The exposed, residual soils left on the finished ground surface (generally at an elevation of approximately 8 feet above mean sea level) are hereafter referred to as the *leave* soils. The *leave* surface is expected to be wet or under water for significant portions of the year.
- The concentrations of contaminants in the resulting *leave* surface must not exceed screening levels for ecological receptors. Some areas may require some over-excavation to meet this requirement.

The removal of the *take* soils is expected to result in a finished *leave* surface in many areas consisting of sawdust, wood chips and larger woody material such as logs and smaller branches. The reduction in the elevation of the East Parcels may result in a *leave* surface in some areas consisting of anthropogenic fill material and construction fill.

4.0 PURPOSE AND SCOPE

The purpose of the current investigation was to collect additional data to 1) Evaluate the risk to human receptors under current conditions and during the soil removal associated with the SFC project; 2) Evaluate risk to terrestrial and aquatic ecological receptors under current conditions and after the soil removal from the SFC project; and 3) Identify the lateral and vertical extent of soils impacted by contaminants to determine proper handling and disposal or re-use of the impacted soils.

The scope of work included the following tasks:

- In each sampling location, calculated the depth to the proposed *leave* surface (approximately 8 feet above msl). This information will be used during the field sampling to guide in the collection of soil samples.
- Completed twenty test pits in selected areas for the purpose of collecting soil samples from both the *take* zone and the "leave" surface and documented the thickness of the soil veneer overlying the sawdust and wood chips.
- Collected two sediment samples from the Inlet Pond to identify the lateral extent of the sediments with elevated lead concentrations.
- Analyzed the *take* soils for contaminants of concern based on evaluating worker exposure, soil

disposal and current ecological risk. Analyzed the *leave* soils for contaminants of concern based on evaluating future ecological risk.

- Prepared a report that discusses the analytical results and evaluates the potential risks to human and ecological receptors, makes recommendations for possible over-excavation of additional soil and fill material, and offers recommendations with the respect to appropriate handling and disposal of the *take* soils. Included estimated costs for any necessary site remediation based on current site conditions, to assist in the appraisal of the property prior to the sale of the property to Tillamook County.

5.0 FIELD METHODS

The test pits were excavated by Aufdermauer Trucking and Excavation LLC using a track-mounted excavator. The explorations were completed in the areas referred to as the East Mill, the West Mill, the Sawdust Burner, and the East Parcels. The locations of the test pits are shown on Figures 3 through 7. All sample locations were field-marked with wooden lathe stakes labeled with the test pit number.

Preliminary sampling was completed in test pits TP-27 through TP-30 on May 29, 2014 during the excavation of exploratory test pits by Shannon & Wilson, Inc. Soil samples were collected generally from shallower depths, without distinguishing between *take* and *leave* samples. The results from the sampling helped guide the later sampling from test pits TP-1 through TP-20. The sampling was completed in general accordance with the Site Investigation Work Plan completed by AGI (August 13, 2014).

The sediment samples in the Inlet Pond were collected from hand-augered borings using a mud auger head equipped with a butterfly valve.

5.1 Soil Sampling (Test Pits TP-1 through TP-20)

All soil samples were collected directly from the walls of the test pit except where the sampling depth would present a safety issue to persons entering the pit. For deeper locations, the samples were collected from the undisturbed soils in the bucket of the excavator. The soil samples collected from the *take* soils consisted of a composite of the depths of the soils between the ground surface and the *leave* surface.

The soil samples collected from the *leave* surface were collected from the upper 6 inches of the presumed "leave" surface. If the *leave* surface in any individual test pit, defined as the soils located at 8 feet above mean sea level, was composed mostly of sawdust or other woody material, then no *leave* sample was collected from that pit.

Given the high concentrations of woody organic matter on the site, the analysis for diesel and heavy oil (Northwest Method NWTPH-Dx) include silica gel cleanup to remove effects from biogenic organic material.

Some of the soil samples were archived for possible later laboratory analysis. Archived samples were analyzed if one or more screening samples from the same sample group showed an exceedance of the most conservative risk-based value (human or ecological). The archived sample was analyzed only for those analyte groups that exceeded the risk-based criteria.

The soil samples were analyzed for one or more of the following: Total Petroleum Hydrocarbons - Diesel extended (Northwest Method NWTPH-Dx), polynuclear aromatic hydrocarbons (EPA Method 8270-SIM, low-level detection), total metals (EPA Method 6020) and dioxins/furans (EPA Method 8290A). The details of the sampling rationale and the proposed chemical analyses for each sampling area are shown on Tables 1-4 located in Appendix A of this report.

5.2 Sediment Sampling

Two sediment samples were collected from the Inlet log pond (samples IP-3 and IP-4). The sampling was completed by AGI using a hand-operated AMS hand auger with a 3½-inch mud auger bit equipped with a butterfly valve. The locations of the sediment samples are shown on Figure 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.

Both of the sediment samples were analyzed for total lead.

6.0 INVESTIGATION RESULTS

6.1 General Subsurface Conditions

Throughout the site, the test pits encountered topsoil and silty mud mixed with varying amounts of sawdust, wood chips and larger woody material (tree trunks and branches). Groundwater was encountered at depths ranging from 2 feet bgs around the west mill to more than 8 feet bgs on the east parcels. None of the recovered soils or groundwater displayed any field evidence of environmental contamination (i.e. sheen, odor) except in test pits TP-5 and TP-6, both of which contained soil and groundwater that displayed significant evidence of contamination by heavy oil (see section 5.3).

The soil and sediment analytical results are summarized in Tables 1 through 5. The laboratory reports are included in Appendix C. Copies of the test pit logs describing the soil types field observations are included in Appendix B.

6.2 Observations and Lab Analytical Results

6.2.1 Former West Mill

The *leave* surface around the West Mill area ranges from approximately 3-5 feet bgs. The soil and woody fill material on the north and east sides of the concrete structure (test pits TP-5 and TP-6) displayed a dark, oily appearance below the water table (2 feet below ground surface - bgs). Numerous (15-20) used oil filters approximately 15 inches long and 4 inches in diameter were recovered from test pit TP-6 between depths of 2-6 feet bgs.

The soil in the remaining test pits (TP-1 through TP-4 and TP-27) consisted of loose, fine-grained fill consisting of clay, silt, and sand. This fill was relatively thin (1-2 feet) and underlain by wood chips and sawdust mixed with minor soil to depths of 6-7 feet bgs.

Based on the current and previous sampling, the *take* soils around the concrete structure and the area immediately south of the structure (TP-27) contained heavy oil between 59.1 and 15,500 milligrams per kilogram (mg/kg), elevated PAHs and elevated cadmium and lead. The *leave* soils around the West Mill contained relatively low concentrations of heavy oil, PAHs and metals except at TP-5 and TP-6, which contained 4,180 to 13,000 mg/kg heavy oil, elevated PAHs and 75.8 mg/kg total lead in TP-6 at a depth of 5 feet bgs.

6.2.2 Former East Mill

The *leave* surface around the East Mill area ranges from approximately 2-3 feet bgs. The *take* soils consist of medium to dark gray silty fill with variable amounts of sawdust and other woody matter. The *take* soils in TP-15 and TP-16 contained minor amounts of anthropogenic material including brick fragments and metal building hardware (angle iron, nails, etc.). Native clayey silt was encountered at depths of 2½ to 3 feet bgs.

Based on the current and previous sampling, the *take* soils around the concrete structure contained heavy oil between 203 and 317 milligrams per kilogram (mg/kg), elevated PAHs and elevated cadmium (up to 1.01 mg/kg) and lead (up to 124 mg/kg).

The *leave* soils around the East Mill contained relatively low concentrations of heavy oil, elevated concentrations of indeno(1,2,3-cd) pyrene (up to 0.0254 mg/kg) in TP-14, TP-15 and TP-16), and elevated cadmium (up to 0.770 mg/kg) in TP-16 and TP-17.

6.2.3 Former Sawdust Burner

The *leave* surface around the East Mill area ranges from approximately 2½ to 4½ feet bgs. The *take* soils consist of a variety of materials, including sawdust with a silty matrix to sand and gravel with 0% to 20% sawdust and tree roots. No ashes or charred wood from the former sawdust burner

were encountered in the pits. Native clayey silt was encountered at two of the pits at depths of 5 to 6 feet bgs.

Based on the current and previous sampling, the *take* soils around the sawdust burner contained heavy oil up to 106 mg/kg, elevated concentrations of benzo (b+k)fluoranthene (0.0273 mg/kg) and naphthalene (0.121 mg/kg) in TP-7 and no metals in excess of background concentrations. Low concentrations of dioxins/furans were detected in the soil samples collected from the source area (TP-11 and TP-12). Given the low concentrations of dioxins/furans in the samples, none of the other soil samples in the sawdust burner area were analyzed for dioxins/furans.

The *leave* soils around the former sawdust burner contained no elevated concentrations of heavy oil, PAHs or metals.

6.2.4 East Parcels

The *leave* surface on the East Parcels ranges from approximately 6 feet bgs on the north end to 10 feet bgs on the south end. The *take* soils on the north end (TP-18) consist of uniform silty fine sand overlying native clay silt. Further south (TP-30), the *take* soils include more anthropogenic materials including a dumpsite with household waste (plastic, metal scraps, fabric). The lateral extent of the dumpsite was not identified. Further south (TP-19, TP-20) the *take* soils included construction waste (bricks, lumber, pieces of concrete). Native clayey silt was encountered in two of the pits at depths of 5 to 6 feet bgs.

Based on the current and previous sampling, the *take* soils on the east parcels contained low concentrations of heavy oil except in TP-30, where the concentration was 2,190 mg/kg, elevated concentrations of cadmium in TP-19 (0.0273 mg/kg), lead (78.1 and 159 mg/kg) in TP-19 and TP-20 and mercury (0.227 mg/kg) in TP-20. No PAHs were detected in any of the samples.

The *leave* soils on the east parcels contained no detected PAHs. Cadmium was detected above background concentrations in the *leave* soils from TP-19. No *leave* samples were collected from TP-20 due to equipment refusal in hard concrete at 8 feet bgs.

6.2.5 Inlet Log Pond

The two sediment samples collected from the inlet log pond contained 13.6 and 29.5 mg/kg total lead.

7.0 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.

7.1 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 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.

The contaminants on the Sadri property are generally limited to the immediate areas around the two concrete structures associated with the two former mill buildings and the former sawdust burner. Contaminants on the East Parcels are generally located in areas that had a history of placement of construction fill and fill from undocumented sources, which consists of most of the East Parcels. Elevated concentrations of the contaminants extend below the *take* soils and into the *leave* soils in all of the source areas except the sawdust burner.

A minimum of 15,200 square feet of the soils on the *leave* surface (approximately 5% of the Subject Property) exceed ecological screening level values (SLVs). An additional 24,000 square feet of soils on the East Parcels (approximately 8% of the Subject Property) may exceed SLVs, based on the contaminants detected in the overlying *take* soils. The *leave* soils in this area were not sampled. These figures were estimated by measuring the approximate areas of the leave soils within the dig area as shown on Figure 7.

7.2 Current and Future Land Use

The Subject Property is currently vacant land consisting of woodland and marshes which is bordered to the north and east by Hoquarten Slough, to the west by a former log pond and vacant spruce woodland, and to the south by commercial and residential properties across Front Street.

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 the removal of soil on the Subject Property above an elevation of 8 feet above mean sea level, except for a wedge of land on the south side of the property, referred to as the "no-dig" area. The "no-dig" area is being considered for placement of contaminated fill material removed from the subject property. The area elevated by the fill may be used as a parking lot with a hiking trail and/or a public day-use area (Figure 3).

The north portions of the Subject Property are located within unincorporated Tillamook County and are zoned Open Space which includes open spaces, parks and urban farming. The south portions of the Sadri Property and the East Parcels are located within the City of Tillamook and are zoned Light Industrial.

The proposed future use of the property does not include any industrial uses, however the risk-based assessment of the Sadri Property will include an assessment for occupational exposure on the portions of the property that are zoned for industrial use for the purpose of determining whether any remediation would be warranted based on its current zoning. The cost of any such remediation may be used to adjust the market value of the Sadri Property prior to its purchase by Tillamook County.

7.3 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. Heavy oil detected in the soils near the West Mill appears to have been the result of poor waste disposal practices, including the burial of used oil filters that were presumably associated with the mill's power-generating equipment.

The contaminants on the East Parcels appears to be related to contaminants that were present in the fill material that was placed in the area over the last 40 years.

7.4 Human Receptors

The subject property currently consists of undeveloped woodland and wetland with no dwellings or other habitable structures.

No recreational uses such as hiking trails are planned for areas of the Subject Property north of the dig line. A hiking trail (extension of the Hoquarten Trail) may be constructed on the south end of the Subject Property, across the proposed no-dig area where excavated material will be placed and capped. Construction of the cap will take into account potential exposure to persons using the trail.

A kayak launch is also planned for somewhere on the East Parcels. The launch, consisting of a ramp or dock, would provide boat access to Hoquarten Slough at the boundary of the no-dig area. As with the hiking trail, construction of the kayak launch area will take into account potential exposure to persons using the boat launch.

Under the current plans, potential human receptors consist of construction workers and excavation workers associated with the removal of the levees and fill material associated with the SFC project and the later restoration of the site.

The development of the industrial-zoned portion of the Sadri Property would potentially expose construction workers and excavation workers involved in site preparation and building construction as well as persons working in the industrial businesses (occupational receptors).

7.5 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), birds and mammals. 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. Aquatic-dependent birds and mammals are likely present and are also considered potential aquatic ecological receptors. Given the potential for soil erosion into sensitive wetland environments, contaminant concentrations in soil are also screened against sediment screening levels.

7.6 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.

All other exposure pathways are considered to be complete. 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 site-related contaminants at levels represented in the "construction worker" scenario in DEQ's Risk-Based Decision Making Guidance.
- **Construction Worker**
Although construction of buildings is unlikely on the Subject Property, the construction of the flood-enhancement area may still expose workers to site-related contaminants at levels represented in the "construction worker" scenario in DEQ's Risk-Based Decision Making Guidance.
- **Volatilization to Outdoor Air**
Persons performing underground work and excavating soil on the Subject Property, and persons occupying areas of the Subject Property developed for industrial use can be exposed to site-related contaminants at levels represented in the "construction worker" scenario in DEQ's Risk-Based Decision Making Guidance.
- **Vapor Intrusion into Buildings (for property appraisal purposes only)**
Persons occupying areas of the Subject Property developed for industrial use can be exposed to site-related contaminants at levels represented in the "occupational" scenario in DEQ's Risk-Based Decision Making Guidance. This would apply only to the portion of the Sadri Property that is located within the Tillamook city limits and zoned for light industrial use.
- **Ingestion/Dermal Contact/Inhalation - Occupational Receptors (for property appraisal purposes only)**
Persons occupying areas of the Subject Property developed for industrial use can be exposed to site-related contaminants at levels represented in the "occupational" scenario in DEQ's Risk-Based Decision Making Guidance. This would apply only to the portion of the Sadri Property that is located within the Tillamook city limits and zoned for light industrial use.

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 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.

Figure A - Conceptual Site Model
 Sadri Property and East Parcels
 Tillamook, Oregon

Date	Pathway	Receptor	Table #1			
			Is Pathway Complete?	Is GRBC Exceeded?	Comments	
10/28/2014	Ingestion, Dermal Contact and Inhalation	Residential and/or Urban Residential	No	Yes	No residential or occupational receptors. Soil contaminants exceed GRBCs for Construction Worker and Excavation Worker.	
		Occupational	No*	Yes		
		Construction Worker	Yes	Yes		
		Excavation Worker	Yes	Yes		
	Soil	Volatilization to Outdoor Air	Residential and/or Urban Residential	No	No	No soil contaminants exceed GRBCs.
			Occupational	No*	No	
	Vapor Intrusion Into Buildings	Residential and/or Urban Residential	No	No	No soil contaminants exceed GRBCs.	
		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.	
		Occupational	No*	No		
Groundwater in Excavation		Construction and Excavation Workers	No*	No	No groundwater contaminants exceed GRBCs.	
Ecological			Terrestrial, Surface Water, Sediment	Yes	Yes	Concentrations in soil exceed Eco SSLs and SLVs for soil and sediment.
Notes: GRBC - Generic Risk Based Concentration * Pathway is complete only for the industrial-use scenario on the Sadri Property and will be evaluated separately from the actual proposed-use scenario.						

8.0 RISK-BASED ANALYSIS

Human risk is being evaluated for the *take* soils for three separate pathways:

- 1) Risk associated with the exposure of construction workers and excavation workers to contaminated soils during the SFC project. (*Construction worker, Excavation worker pathways*)
- 2) Risk associated with the re-use of the *take* soils as fill material. The risk determination is used to classify the material for suitability for use off-site, on-site, and whether special controls will be required to control human exposure to the contaminants. (*All residential and occupational pathways*).
- 3) Risk associated with hypothetical occupational exposure on the portion of the Sadri property that is zoned for light industrial use. (*Construction worker, Excavation worker, Occupational Ingestion/Dermal contact, Inhalation pathways*).

The proposed *leave* surfaces will be located in floodways and marshes where human exposure is not anticipated, therefore human risk will not be evaluated for these soils, except where the hypothetical occupational exposure is evaluated on the Sadri Property.

The soil analytical results are screened for human exposure using the DEQ's guidance document *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, Sept., 2003 (revised June 7, 2012)*.

8.1 Take Soils

8.1.1 Construction and Excavation Workers - SFC Project

Contaminants were detected in the *take* soils above risk-based concentrations (RBCs) for exposure to construction workers around the West Mill (test pit TP-27), the East Mill (boring EM-1/test pit TP-15) and the East Parcels (test pit TP-30). The RBCs for the excavation worker pathway was exceeded for lead in test pit TP-30. These findings are shown graphically on Figure 4.

8.1.2 Re-Use of *Take* Soils as Fill Material

The results of the risk analysis of the *take* soils discussed in section 8.1.1 were used, together with the ecological risk analysis of the *take* soils, to classify the soils into one of three soil types that determines how that material is re-used or disposed of. This analysis is presented in section 10.2 of this report.

8.1.3 Occupational Exposure on Sadri Property

Contaminants were detected above risk-based concentrations (RBCs) in soil for occupational exposure around the West Mill (test pit TP-27 and boring WM-3/test pit TP-5), the East Mill (boring EM-1) and the East Parcels (test pit TP-30). The RBCs for the construction worker pathway were also exceeded in test pit TP-27. These findings are shown graphically on Figure 4.

Both locations on the West Mill where RBCs were exceeded for occupational exposure are located where the property is zoned for light industrial use. All other locations where occupational RBCs were exceeded are located on properties zoned for open space.

8.2 Leave Soils

The only location where the proposed *leave* soils exceed RBCs is test pit TP-6 (West Mill) where heavy oil exceeds the RBC for the construction worker pathway at a depth of 6 feet below ground surface.

None of the soils in the *leave* surfaces exceed any occupational RBCs.

Table A - Contaminants of Potential Concern (Soil)

Contaminants of Potential Concern	Maximum Concentration (mg/kg)	Constituent of Concern?	Exposure Pathway Exceeded and Corresponding RBC in mg/kg (Occupational Use)
Diesel	38,400	Yes	Construction Worker (4,600) Dermal Contact/Ingest./Inhalation (14,000)
Heavy oil	15,500	Yes	Construction Worker (4,600) Dermal Contact/Ingest./Inhalation (14,000)
Acenaphthylene	3.97	No	None
Anthracene	5.05	No	None
Benzo(a)anthracene	29.2	Yes	Construction Worker (21) Dermal Contact/Ingest./Inhalation (2.7)
Benzo(b)fluoranthene	56.7	Yes	Construction Worker (21) Dermal Contact/Ingest./Inhalation (2.7)
Benzo(k)fluoranthene	56.7	Yes	Dermal Contact/Ingest./Inhalation (27)
Benzo(a)pyrene	37.4	Yes	Construction Worker (2.1) Dermal Contact/Ingest./Inhalation (0.27)
Benzo(g,h,i)perylene	16.0	No	None
Chrysene	32.3	No	None
Dibenz(a,h)anthracene	5.26	Yes	Construction Worker (2.1) Dermal Contact/Ingest./Inhalation (0.27)
Flouranthene	36.8	No	None
Fluorene	0.58	No	None
Indeno(1,2,3)pyrene	19.8	Yes	Dermal Contact/Ingest./Inhalation (2.7)
Naphthalene	3.31	No	None
Phenanthrene	5.59	No	None
Pyrene	45.3	No	None
Cadmium	5.55	No	None
Lead	1,160	Yes	Construction Worker (800) Excavation Worker (800) Dermal Contact/Ingest./Inhalation (800)
Mercury	0.24	No	None
Dioxin - HpCDD)	79.4	No	None
Dioxin (OCDD)	606	No	None
Dioxin (TCDF)	2.84	No	None
Dioxin (HpCDF)	15.2	No	None
Dioxin (OCDF)	65.0	No	None

9.0 ECOLOGICAL RISK ANALYSIS

Ecological risk is being evaluated for two separate pathways: 1) risk associated with the re-use of the *take* soils as fill material, either on the Subject Property or at off-site locations, and 2) risk associated with the soils on the *leave* surface that will remain after the removal of the *take* soils.

9.1 Terrestrial Receptors

Potential terrestrial ecological receptors at the site consist of plants, invertebrates, birds and mammals. The analytical results for inorganic compounds are initially screened against Coast Range background concentrations published in the DEQ document *Development of Oregon Background Metals Concentrations in Soil, March 2013*. Any results that exceed background concentrations are further evaluated by DEQ and EPA screening levels.

The soil analytical results are also screened for current and future terrestrial ecological exposures using EPA Ecological Screening Levels (Eco-SSLs). When the Eco-SSLs are not available, the lowest soil SLV for each chemical are used from Table 1 of DEQ's Guidance for Ecological Risk Assessment.

For terrestrial ecological screening of petroleum hydrocarbons, the Washington State Total Petroleum Hydrocarbon Screening Level Values are used.

9.2 Aquatic Receptors

Potential aquatic receptors consist of fish, aquatic-dependent birds, mammals, and invertebrates and plants. For invertebrate receptors, the soil analytical results are screened against screening Table 2 of the DEQ Level II SLVs. Given the potential for soil erosion into sensitive wetland environments, the soil concentrations in both the *take* and *leave* soils will be screened in this manner.

For aquatic-dependent birds, mammals and fish, the bioaccumulative compounds are screened against Table A-1 of the DEQ document *Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment (January 31, 2007, updated April 3, 2007)*.

9.3 Take Soils

Contaminants were detected in the *take* soils above one or more ecological screening level around the West Mill (test pits TP-3, TP-5, TP-6, TP-27), the East Mill (boring EM-1, test pit TP-16, TP-17), the sawdust burner (TP-7) and the East Parcels (test pit TP-19, TP-30). Ecological screening levels were also exceeded in the samples collected on the Schmidt Property by Hart

Crowser in 2011. These findings are shown graphically on Figure 5.

The soils in these areas will be removed as part of the larger SFC project. Based on the re-use classification of these soils (section 10.2 of this report), some of these soils are expected to be suitable for use as fill on upland areas of the finished site.

9.4 Leave Soils

Contaminants were detected in the *leave* soils above one or more ecological screening level around the West Mill (test pits TP-5 and TP-6), the East Mill (test pit TP-14, TP-15 and TP-16), and the East Parcels (TP-19).

Soil samples collected from above the *leave* surface on the East Parcels by Hart Crowser in 2011 exceeded ecological screening levels. Deeper samples below the *leave* surface were not collected, therefore the potential impact to the *leave* surface on the south portion of the East Parcels is not known. These findings are shown graphically on Figure 7.

9.5 Sediment Screening

The two sediment samples from the Inlet Pond (samples IP-3 and IP-4) contained lead between 13.6 and 29.5 milligrams per kilogram. These concentrations are below the EPA Eco SSLs, DEQ Soil SLVs and DEQ Sediment SLVs. Based on this information, the elevated concentration of lead in the previously-collected sediment sample (sample IP1-1) appears to be an isolated condition.

10.0 DISPOSAL AND RE-USE OF EXCAVATED MATERIALS

The approximate volume of material that is proposed to be removed from the Subject Property during the SFC project (*take soil*) was calculated by measuring the approximate area covered by soil and fill at one-foot elevation increments and adding the volume of each "layer" to develop the total estimated volume. Based on this method, it is estimated that approximately 34,500 cubic yards of soil, wood waste and other fill material will be removed from the Subject Property north of the dig line.

The approximate volume of contaminated *take soil* was estimated using the same method using the boundaries of the contaminated *take soils* shown on Figure 6. Based on the sampling completed to date, it's estimated that 20,000 cubic yards of the *take soil* (58% of the Subject Property) have been impacted by contaminants to some degree. This estimate is based on a limited number of sampling points, particularly on the East Parcels, which are spaced as much as 75 to 150 feet apart. Assumptions were made that the soils between the sample points were also impacted to the same degree, resulting in a conservative estimate that should be considered to be a maximum volume of impacted soils.

The goal is to re-use as much of this material as fill, either on-site or off-site, minimizing the need for costly trucking and disposal of the material to a Subtitle D landfill. The closest such landfill is Waste Management's facility in Hillsboro, Oregon, located 65 miles east of Tillamook.

10.1 Regulatory Framework for Re-Use of Fill Material

In July 2014, Oregon DEQ released an Internal Management Directive (IMD) entitled *Clean Fill Determinations*. The purpose of the document was to address the need for determining whether waste generated during construction projects or by dredging projects qualifies as clean fill. The rules define clean fill and allow DEQ to exempt clean fill from regulations, avoiding the need to regulate certain fill material as solid waste.

To qualify as clean fill under the IMD, the material must:

- 1) consist of soil, rock, concrete, brick, building block, tile, or asphalt paving (large pieces, not ground up) which do not contain contaminants that could adversely impact the waters of the state or public health,
- 2) must not appear to be chemically stained or have a chemical odor,
- 3) must not contain a listed or characteristic hazardous waste, and
- 4) must not contain a chemical or metal that exceeds the clean fill table values in the IMD.

The screening levels in the clean fill tables use natural background concentrations as the criteria

for metals as published in the DEQ Cleanup Program Technical Report: *Development of Oregon Background Metals Concentrations in Soil (March, 2013)*. The screening levels for organic compounds are based primarily on the lowest risk-based concentration for soil on DEQ's Risk-Based Decision Making table, the EPA's Regional Screening Level table, or DEQ's Ecological Screening Level Values, whichever is lowest. For some metals and PAHs, EPA Ecological Soil Screening Levels (SSLs) were available and were used.

These screening levels are hereafter referred to as the *Clean Fill Criteria*.

10.2 Classification and Options for Re-Use of Excavated Materials

10.2.1 Classification Based on Contaminant Concentrations

Three re-use options were developed for clean and contaminated fill material excavated from the Subject Property. The resulting soil type classifications are described in the following table. The classification for each soil sample is given in Tables 1 and 2. Figure 6 shows the general distribution of these soil classification types.

These criteria may be refined in the future as part of the SFC project or during the development of the Sadri Property/East Parcel Contaminated Media Management Plan (CMMP).

Fill Type	Classification Criteria	Re-Use and Disposal Options
Type 1	Clean fill in which no contaminants have been detected or are present below ecological screening levels and Clean Fill Criteria. Metals are present at or below natural background concentrations.	Material can be used as fill throughout the larger SFC project site or other areas around Tillamook.
Type 2	Fill material in which organic contaminants have been detected above ecological screening levels but below Clean Fill Criteria. Metals are present at or below natural background concentrations.	Material may be suitable for re-use as fill within upland areas off-site or on site but with controls such as clean fill cover or cap. Re-use off site may require meeting Solid Waste requirements.
		Disposal at Subtitle D landfill (Hillsboro)
Type 3	Fill material in which organic contaminants have been detected above ecological screening levels and Clean Fill Criteria. Metals are present above natural background concentrations.	Material may be suitable for re-use as fill within upland areas on site only. Same controls as Type 2 soils except may require an impermeable liner or cap to further prevent migration of contaminants. Material containing free product will require landfilling.
		Disposal at Subtitle D landfill (Hillsboro)

10.2.2 Buried Concrete Waste and Above-Ground Concrete Structures

A significant volume of large concrete pieces and slabs poured in place from truck and batch excesses are buried on the East Parcels. Much of this material is expected to be mixed with Types 2 and 3 contaminated fill. This material can be separated from the surrounding soil and may be suitable for disposal or re-use as Type 1 fill assuming it meets the DEQ clean fill criteria.

Large, above-ground concrete structures are located near the East and West Mills. The material making up these structures may also be suitable for disposal or re-use as Type 1 fill assuming it meets clean fill criteria.

10.2.3 Buried Woody Debris

A significant volume of woody debris consisting of wood chips, sawdust, tree branches and logs are buried throughout the Subject Property. These materials located within the zones of soil type 1 should be suitable for use as fill or compost, assuming the materials do not display any staining, odors or other evidence of contamination. Woody material within the zones of soil types 2 and 3 should be treated in the same manner as the soil from these zones.

10.3 Estimated Volumes of Fill Types

Estimated volumes of fill types were calculated by measuring the estimated areal extent of the fill types and the estimated thickness of the *take* soils. An extra 10% should be added to these values to account for any necessary over-excavation, including soil removal below the *leave* surface.

Estimated Volumes of Fill Types (cubic yards)				
	Type 1	Type 2	Type 3	Total Estimated Volume of Fill to be Removed
West Mill	13,700	700	1,600*	
East Mill		1,900	1,400	
Sawdust Burner		700	0	
East Parcels		6,300	8,200	
TOTAL	13,700	9,600	11,200	34,500

* Up to 300 cubic yards of this material will require landfilling due to the presence of free product (heavy oil) in the area.

10.4 Estimated Cost for Removal of Soil Exceeding RBCs (Sadri Property)

The total volume of soil that exceeds RBCs for occupational exposure, construction workers and excavation workers on the portion of the Sadri Property that is zoned for industrial use is estimated to be 576 cubic yards. All of these soils are located around the West Mill. This figure includes 140 cubic yards of soil around TP-27 (1,250 square feet, 3 feet deep) and 436 cubic yards of soil around TP-5 and TP-6 (1,960 square feet, 6 feet deep). The other areas of the Sadri property where the contaminants exceed risk-based concentrations (TP-15, near the East Mill) are in areas that are zoned for Open Space and have limited potential for occupational exposure, based on the current zoning.

The approximate cost to excavate, transport and dispose of the material at Hillsboro Landfill and to backfill and compact the area with clean, engineered fill is estimated to be \$62,960. The

11.0 SUMMARY AND CONCLUSIONS

Twenty-four test pits were completed on the Subject Property in areas known as the Sadri Property and the East Parcels. The purpose of the investigation was to assess the contaminant concentrations in the soil prior to the removal of soils from the area as part of the Southern Flow Corridor (SFC) project. The concentrations were compared to human health risk-based concentrations and ecological screening levels to evaluate current human and ecological risk and also to determine the disposal and re-use options for the material, both on-site and off-site.

AGI has estimated that 34,500 cubic yards of material will be removed from the Subject Property as part of the SFC project. These soils were classified into three types for the purpose of disposal and re-use. The goal is to maximize the volume of material that can be re-used as clean fill, either on-site or on other properties in the Tillamook area.

Approximately 13,700 cubic yards of the material should qualify as clean fill (Type 1) which can be used throughout the SFC project or in other areas around Tillamook without special environmental restrictions.

Approximately 9,600 cubic yards of the material contains organic compounds above ecological screening levels but below the DEQ clean fill screening levels (Type 2). This material should be suitable for re-use as fill in upland areas both on site and off site but with controls such as clean fill cover to limit erosion and migration of contaminants into sensitive ecological environments.

Approximately 11,200 cubic yards of the material contains organic compounds above ecological screening levels and DEQ clean fill screening levels (Type 3). Most of this material should be suitable for re-use as fill in upland areas on site only with additional controls such as an impermeable liner or cap to further limit erosion and migration of contaminants into sensitive ecological environments and to limit human exposure to the contaminated material. Material

containing free product, including some of the soil near the West Mill, is unsuitable for re-use and will require disposal at a Subtitle D landfill.

It has been proposed that the area between the no-dig line and Front Street be used as a permanent containment cell for the placement of Type 3 and possibly Type 2 soils. This area is approximately 90,000 square feet in area and would be raised approximately 3.4 feet in elevation with the placement of all of the Type 3 soils. This area may be eventually used as a parking lot and a day-use visitor area.

A significant amount of the fill within the Type 2 and Type soils on the East Parcels consists of large pieces and slabs of concrete which may be classified as Type 1 material if it meets DEQ's criteria for clean fill, allowing the material to be disposed of or re-used off-site as clean fill.

A Contaminated Media Management Plan (CMMP) should be developed for the Subject Property that describes the proposed measures for protection of human health and the environment during soil excavation and placement for disposal. In addition, the site preparation, construction and capping for the containment cell will need to be engineered such that the mobility of contaminants in the fill material is controlled.

12.0 LIMITATIONS

This report was prepared for Tillamook County, 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

Erik Anderson, R.G.
Hydrogeologist

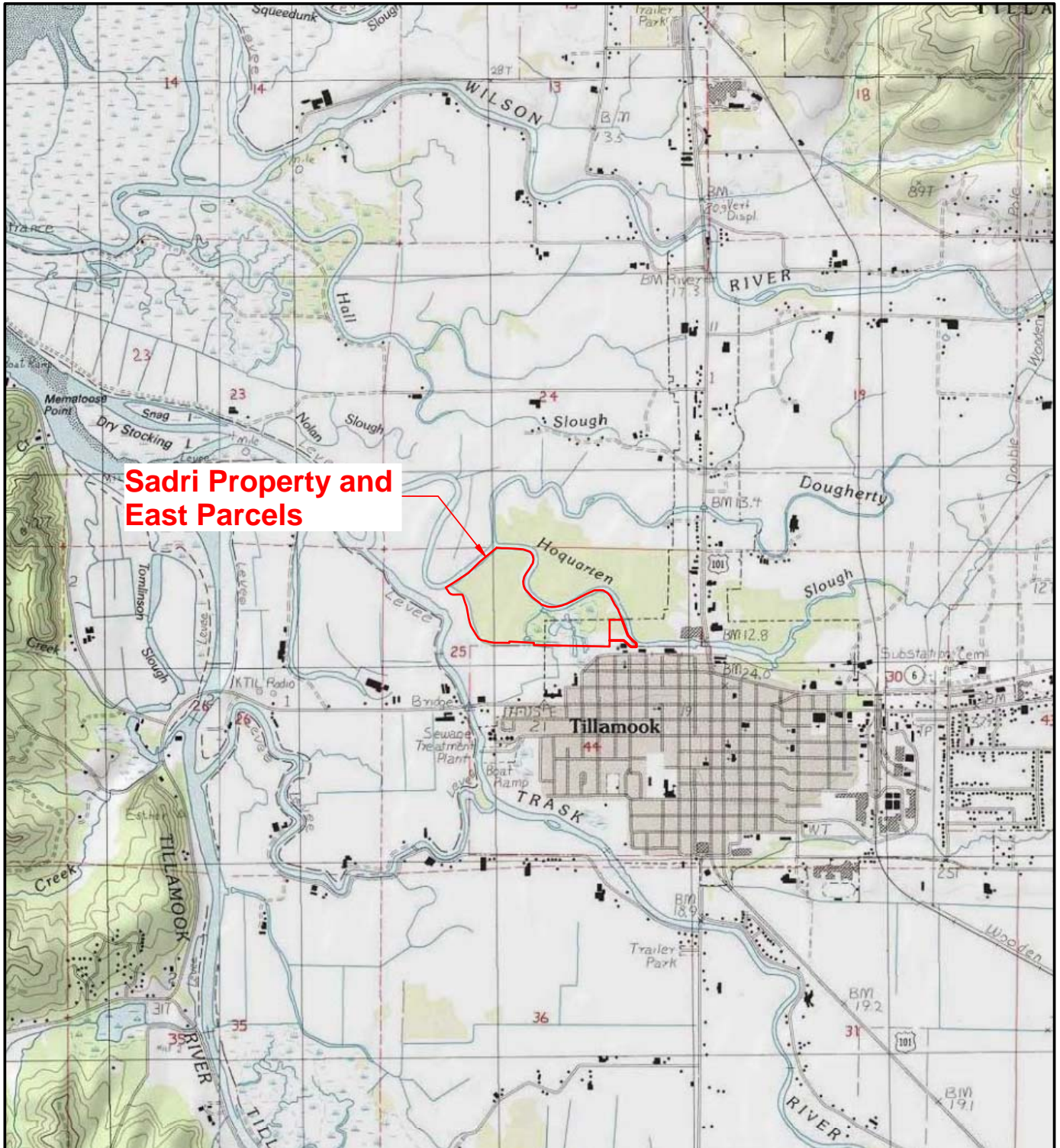
References

Anderson Geological, Inc., 2013. *Phase I Environmental Site Assessment*, November 22, 2013.


DEQ, 1998, *Guidance for Ecological Risk Assessment: Levels I, II, III and IV*. April 1998. Level II Screening Values (Tables 1 and 2) updated December 2001.

DEQ, 2003, *Risk-Based Cleanup Rules for the Remediation of Petroleum-Contaminated Sites* (September 22, 2003). Revised June 7, 2012.

FIGURES



Sadri Property and East Parcels

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

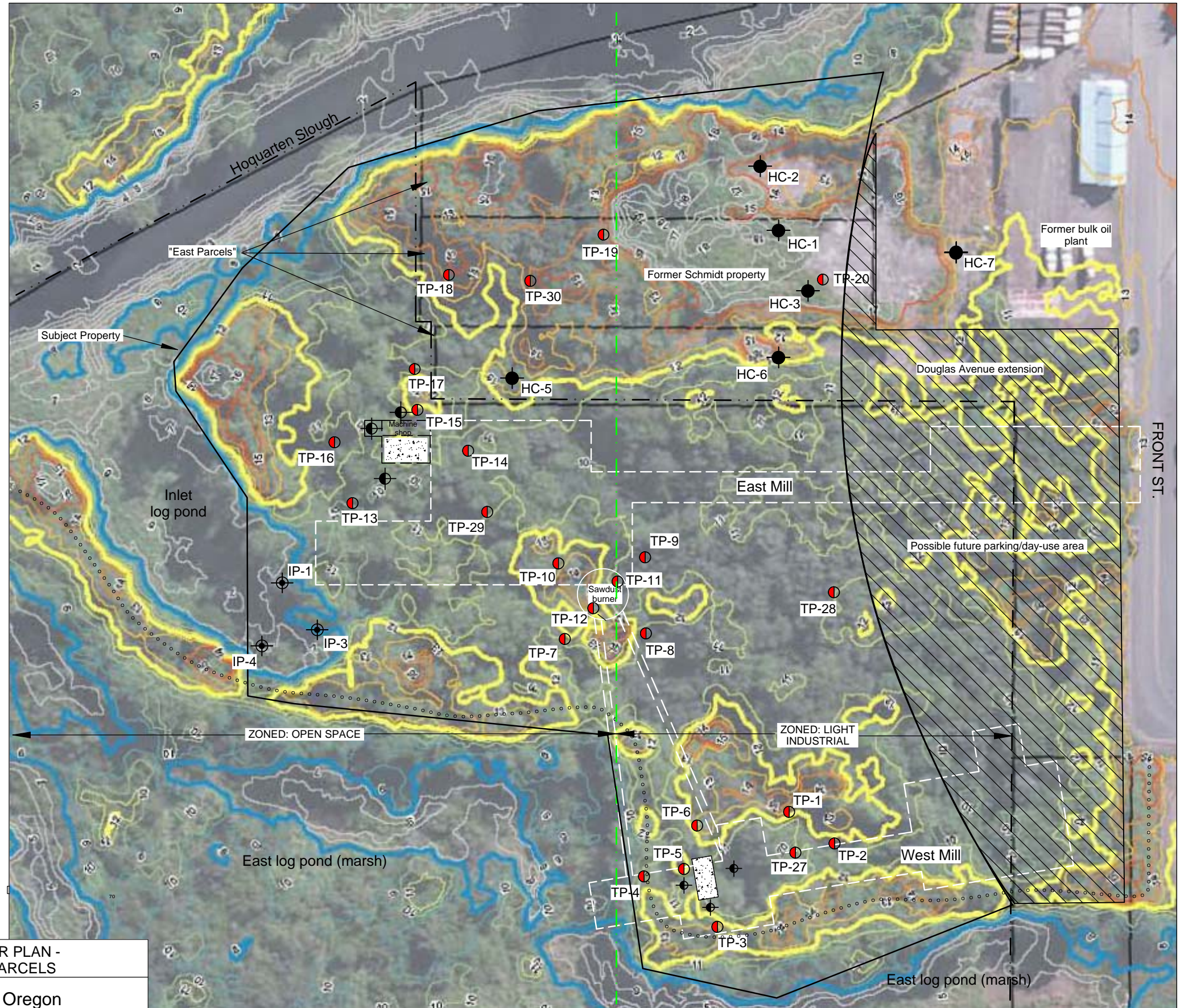
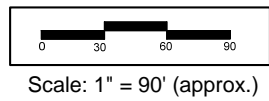


AG		ANDERSON GEOLOGICAL	
SITE AND VICINITY PLAN			
Sadri Property and East Parcels Tillamook, Oregon			
SIZE A	PROJECT NO. 1420.01	REV 1	FIGURE 2
		October 2014	

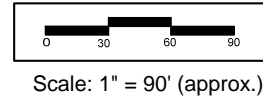
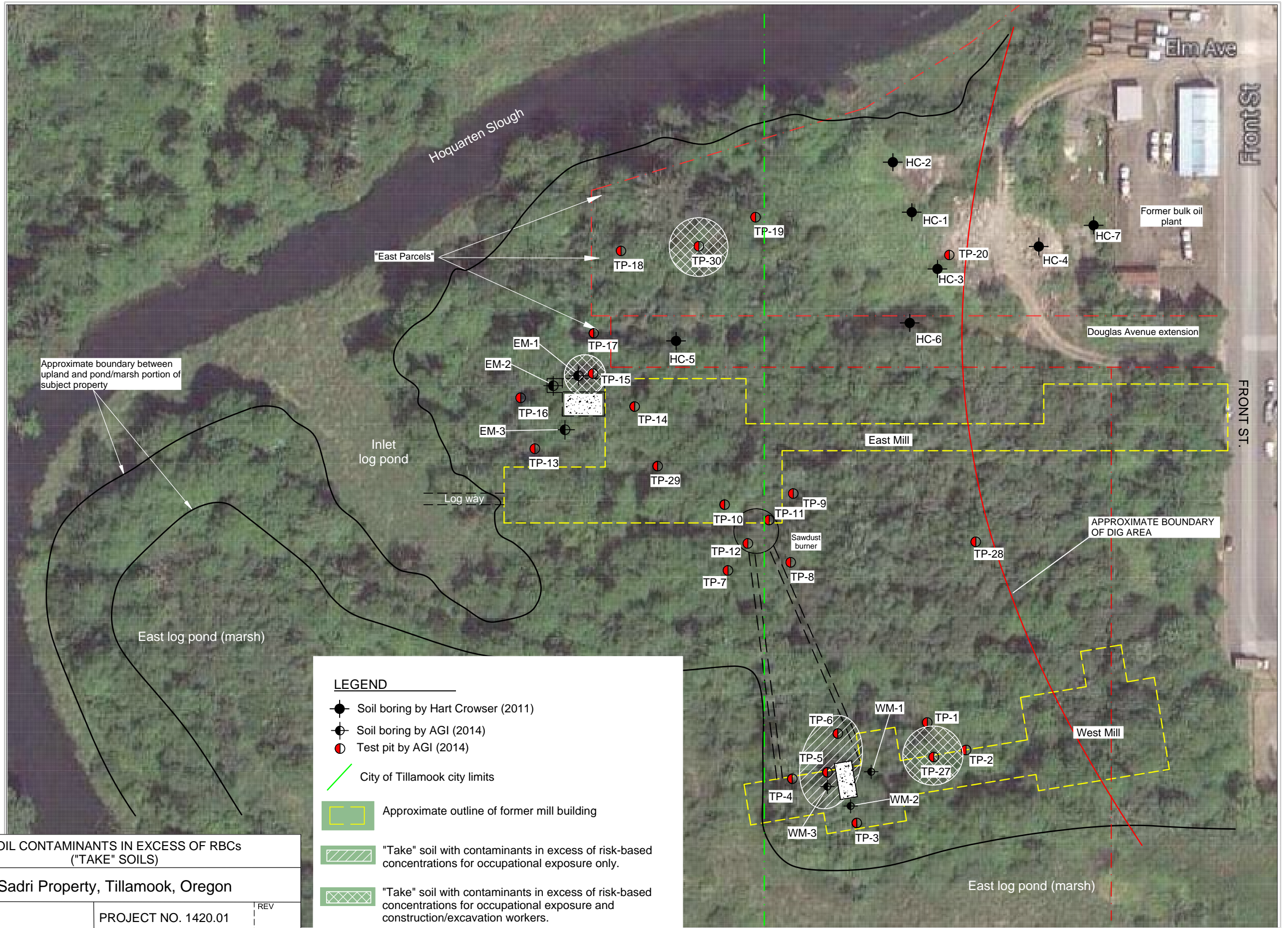


LEGEND

- Soil boring by Hart Crowser (2011)
 - ⊕ Soil boring by AGI (2014)
 - Test pit by AGI (2014)
 - ⊕ Sediment sample
 - ▣ Above-ground concrete structure
 - ▨ Proposed "no-dig" area and possible location for on-site placement of excavated soil from SFC project. This is also a potential location for a parking/day-use area.
 - ⋯ Hiking trail along top of levee
 - City of Tillamook city limits
 - Boundary of Sadri Property
- Approximate elevation contours
- 15'
 - 14'
 - 12'
 - 8'

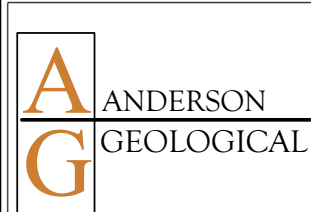


TOPOGRAPHIC CONTOUR PLAN - MILL AREAS and EAST PARCELS			
Sadri Property, Tillamook, Oregon			
SIZE A		PROJECT NO. 1420.01	REV
	OCT. 2014	FIGURE 3	

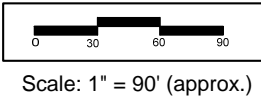
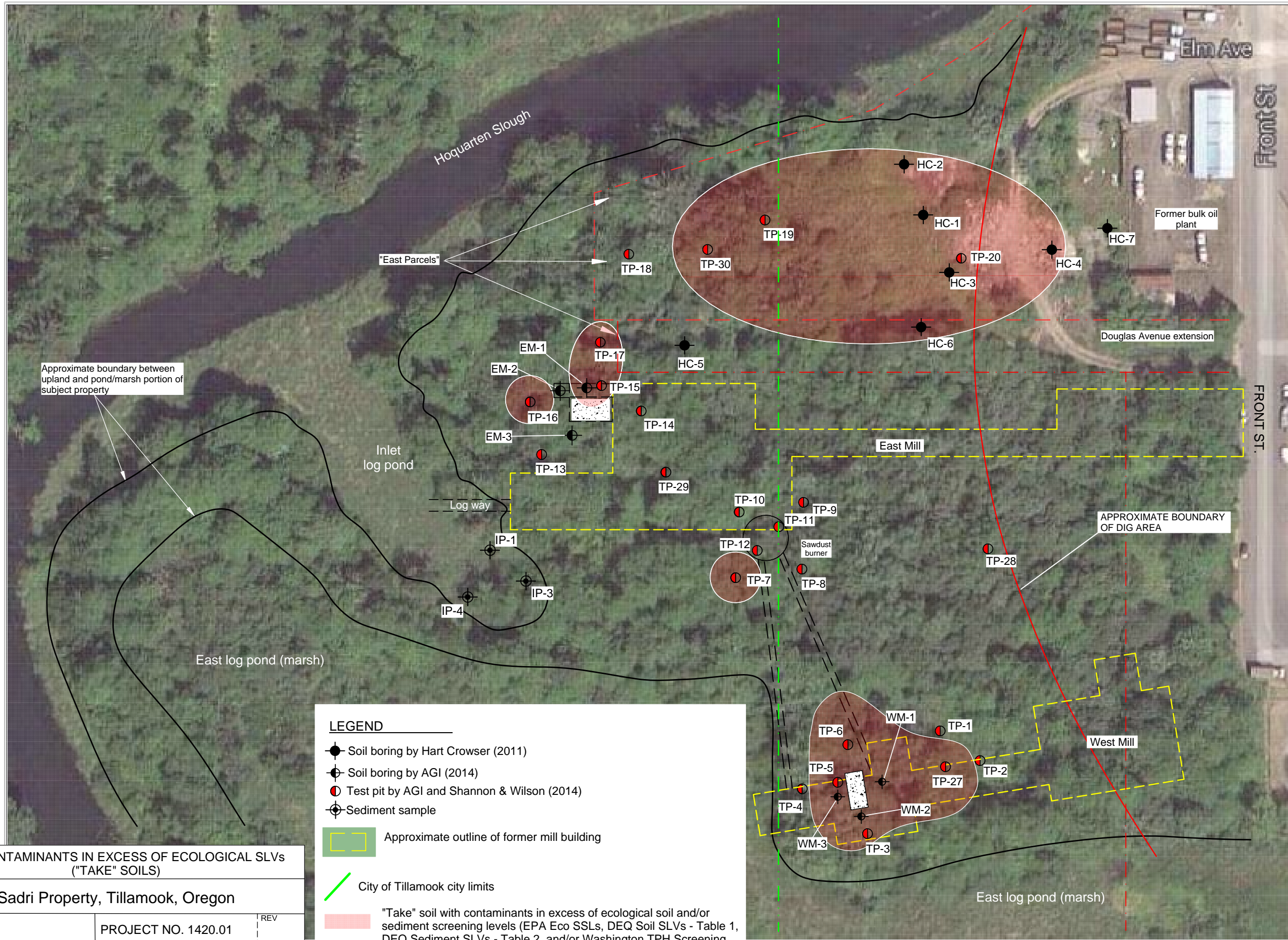


LEGEND

- Soil boring by Hart Crowser (2011)
- ⊕ Soil boring by AGI (2014)
- ⊕ Test pit by AGI (2014)
- City of Tillamook city limits
- Approximate outline of former mill building
- ▨ "Take" soil with contaminants in excess of risk-based concentrations for occupational exposure only.
- ▩ "Take" soil with contaminants in excess of risk-based concentrations for occupational exposure and construction/excavation workers.

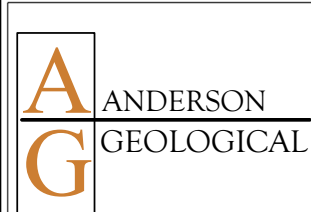


SOIL CONTAMINANTS IN EXCESS OF RBCs ("TAKE" SOILS)			
Sadri Property, Tillamook, Oregon			
SIZE		PROJECT NO. 1420.01	REV
A		OCT. 2014	FIGURE 4

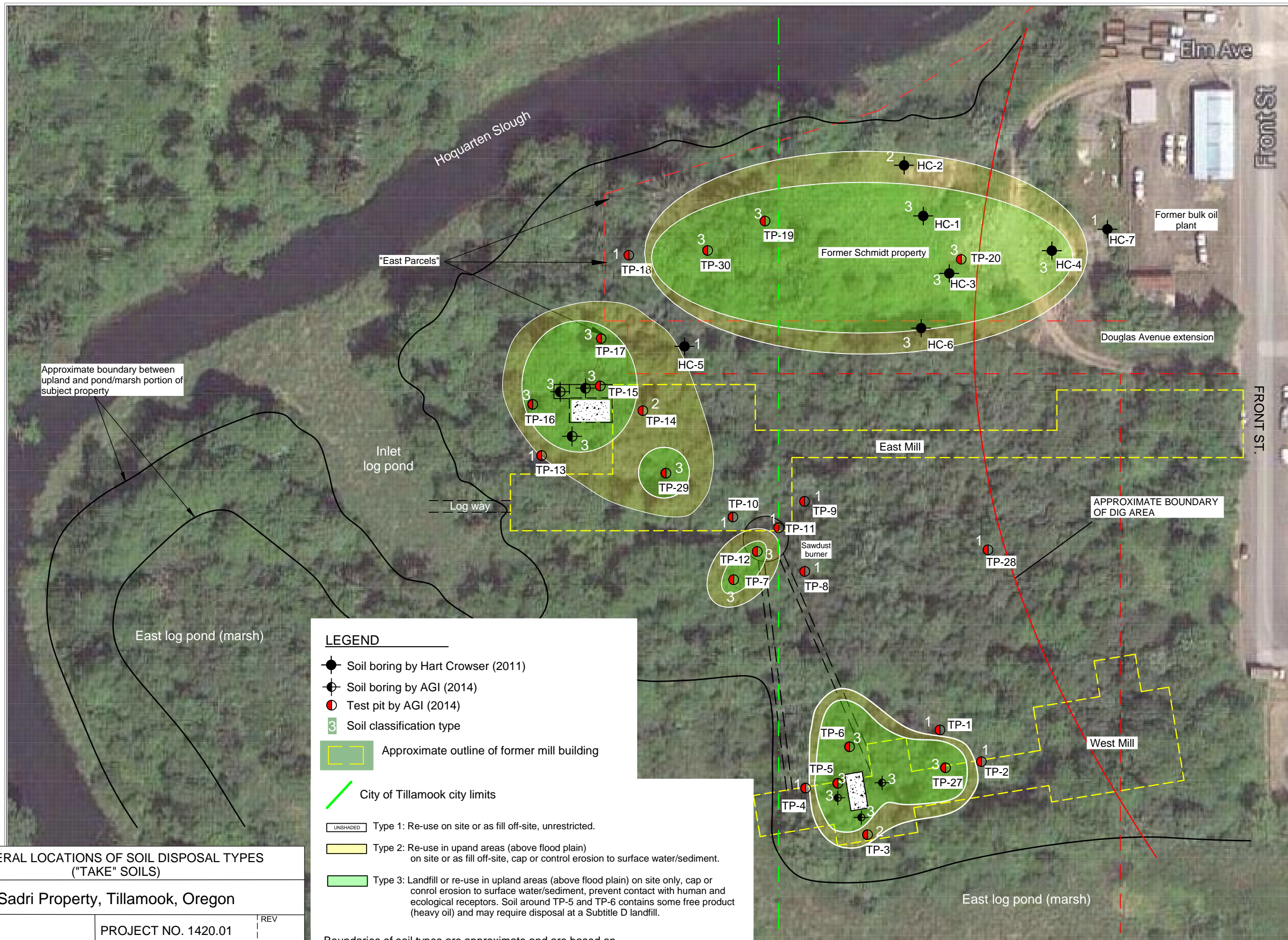


LEGEND

- Soil boring by Hart Crowser (2011)
- Soil boring by AGI (2014)
- Test pit by AGI and Shannon & Wilson (2014)
- Sediment sample
- Approximate outline of former mill building
- City of Tillamook city limits
- "Take" soil with contaminants in excess of ecological soil and/or sediment screening levels (EPA Eco SSLs, DEQ Soil SLVs - Table 1, DEQ Sediment SLVs - Table 2, and/or Washington TPH Screening Levels).



SOIL CONTAMINANTS IN EXCESS OF ECOLOGICAL SLVs ("TAKE" SOILS)			
Sadri Property, Tillamook, Oregon			
SIZE		PROJECT NO. 1420.01	REV
A		OCT. 2014	FIGURE 5



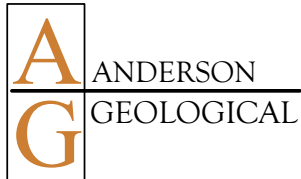
LEGEND

- Soil boring by Hart Crowser (2011)
- ⊙ Soil boring by AGI (2014)
- Test pit by AGI (2014)
- 3 Soil classification type
- Approximate outline of former mill building
- City of Tillamook city limits
- UNSHADED Type 1: Re-use on site or as fill off-site, unrestricted.
- Yellow Type 2: Re-use in upland areas (above flood plain) on site or as fill off-site, cap or control erosion to surface water/sediment.
- Green Type 3: Landfill or re-use in upland areas (above flood plain) on site only, cap or control erosion to surface water/sediment, prevent contact with human and ecological receptors. Soil around TP-5 and TP-6 contains some free product (heavy oil) and may require disposal at a Subtitle D landfill.

Boundaries of soil types are approximate and are based on a limited number of samples.

GENERAL LOCATIONS OF SOIL DISPOSAL TYPES ("TAKE" SOILS)

Sadri Property, Tillamook, Oregon



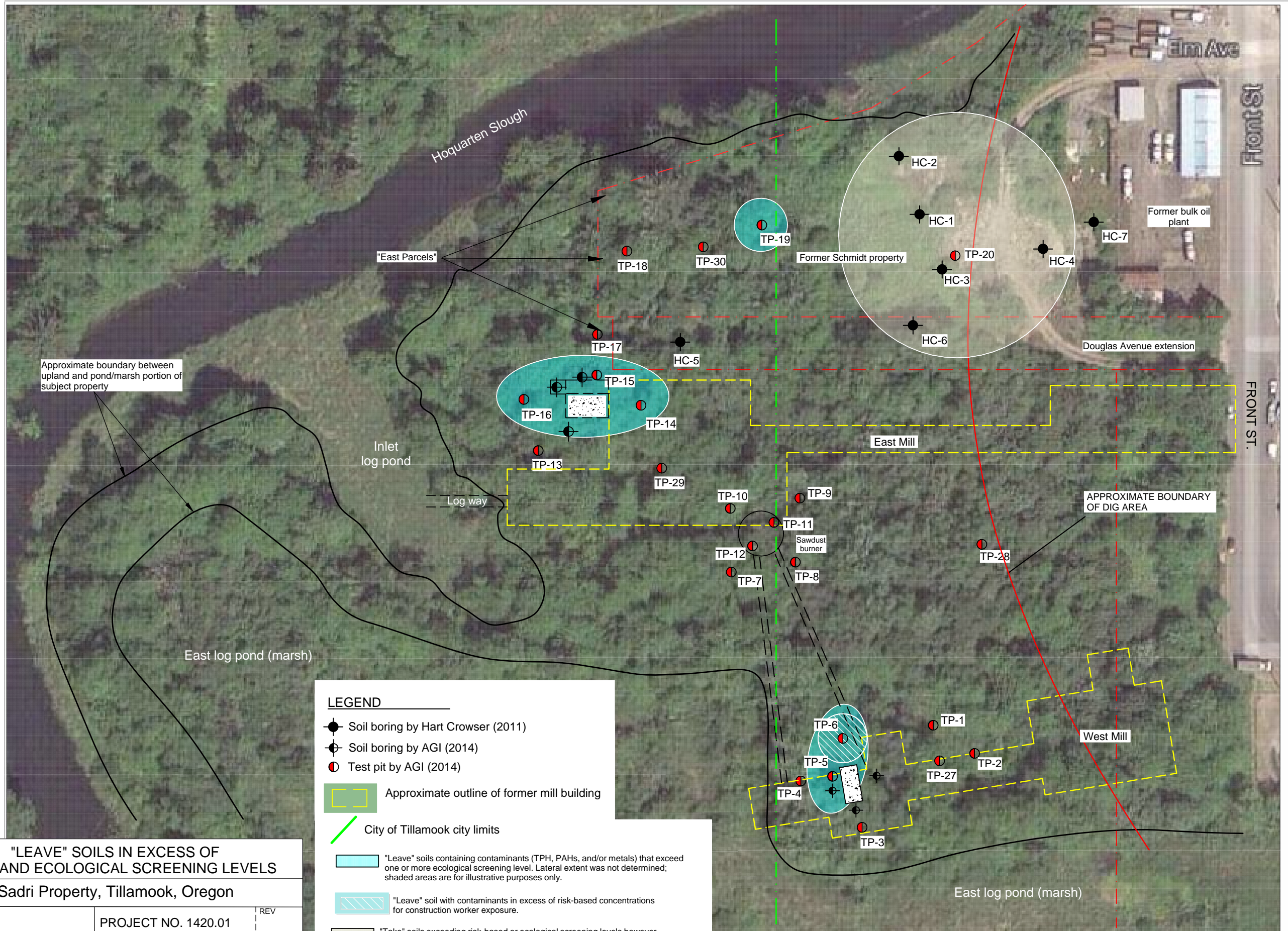
SIZE
A

PROJECT NO. 1420.01

REV

OCT. 2014

FIGURE 6



Approximate boundary between upland and pond/marsh portion of subject property

"East Parcels"

Inlet log pond

Log way

East log pond (marsh)

Log way

East Mill

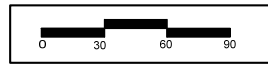
APPROXIMATE BOUNDARY OF DIG AREA

West Mill

East log pond (marsh)

LEGEND

- Soil boring by Hart Crowser (2011)
- ⊕ Soil boring by AGI (2014)
- ⊙ Test pit by AGI (2014)
- ▭ Approximate outline of former mill building
- City of Tillamook city limits
- "Leave" soils containing contaminants (TPH, PAHs, and/or metals) that exceed one or more ecological screening level. Lateral extent was not determined; shaded areas are for illustrative purposes only.
- ▨ "Leave" soil with contaminants in excess of risk-based concentrations for construction worker exposure.
- "Take" soils exceeding risk-based or ecological screening levels however no soil samples were collected from "Leave" surface or below. Possible impact to "Leave" soils is not known.



Scale: 1" = 90' (approx.)



"LEAVE" SOILS IN EXCESS OF RBCs AND ECOLOGICAL SCREENING LEVELS			
Sadri Property, Tillamook, Oregon			
SIZE		PROJECT NO. 1420.01	REV
A		OCT. 2014	FIGURE 7

TABLES

Table 1
Soil Analysis Summary - Take Soils (TPH, PAHs)
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Soil Type (1)	Date Collected	Petroleum Hydrocarbons		PAHs															
					Diesel	Heavy oil	Acenaphthene	Acenaphthylene	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
TP1-0-1T	West Mill	0-1	1	9/3/2014	20.7J	38.3J	<0.00316	<0.00316	<0.00316	0.0041J	0.00875J	0.00421J	0.00494J	0.00548J	<0.00316	0.00926	<0.00316	0.00449J	0.0098J	0.00931	0.00814	
TP2-0-4T		0-4	1	9/3/2014	<16.6	63.9J	<0.00352	0.00567J	<0.00352	0.00743	0.0209	0.0144	0.0113	0.0122	<0.00352	0.0226	0.00460J	0.0106	0.0204	0.0234	0.021	
TP3-0-5T		0-5	2	9/3/2014	540	284	<0.00376	0.00599J	0.00385J	0.0108	0.0257	0.0103	0.0128	0.0132	<0.00376	0.0236	<0.00376	0.0130	0.0158	0.0187	0.021	
TP4-0-3T		0-3	1	9/3/2014	<31.6	135	<0.00334	0.00484J	<0.00334	0.00603J	0.0226	0.00825	0.0146	0.0136	<0.00334	0.0353	<0.00334	0.0115	0.0561	0.0369	0.0242	
TP6-0-2T		0-2	1	9/3/2014	<25.0	59.1	<0.00212	<0.00212	<0.00212	0.00270J	0.00750J	0.00342J	0.00313J	0.00315J	<0.00212	0.00514	<0.00212	0.00301	<0.00425	0.00366J	0.0048	
TP7-0-3T	0-3	3	9/3/2014	42.1J	<66.9	0.00538J	0.0215	0.00823J	0.0135	0.0273	0.0166	0.0161	0.0153	<0.0051	0.0466	0.0116	0.0134	0.121	0.0550	0.0459		
TP8-0-2.5T	0-2.5	1	9/3/2014	-	-	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<0.00807	<0.00202	<0.00202		
TP9-0-2.5T	0-2.5	1	9/3/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TP11-0-3T	0-3	1	9/3/2014	<11.6	<23.2	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00213	<0.00427	<0.00213	<0.00213		
TP12-0-2T	0-2	3	9/3/2014	<19.4	106	<0.00388	0.00892	0.00427J	0.00810	0.0194	0.00858	0.00928	0.0109	<0.00388	0.0276	0.00414J	0.00881	0.102	0.0478	0.0257		
TP13-0-2T	0-2	1	9/4/2014	<16.5	144	<0.00359	<0.00359	<0.00359	0.00454J	0.0140J	0.00374J	0.0163	0.00763	<0.00359	0.0127	<0.00359	0.0139	0.0202	0.0163	0.00989		
TP14-0-2.5T	0-2	2	9/4/2014	<19.2	203	0.00367	0.00550J	<0.00367	0.00532J	0.0118J	0.00593J	0.00771	0.00734	<0.00367	0.0193	0.00372J	0.00704J	0.0615	0.0269	0.0180		
TP16-0-2.5T	0-2.5	3	9/4/2014	<42.3	373	<0.0205	0.0210J	0.0255J	0.116	0.252	0.155	0.319	0.150	0.0249J	0.279	<0.205	0.235	0.135	0.144	0.224		
TP17-0-3T	0-3	3	9/4/2014	<25.3	317	<0.0249	0.0537	0.0326J	0.0874	0.264	0.125	0.323	0.144	<0.0249	0.361	<0.0249	0.240	0.395	0.343	0.332		
TP18-0-6T	0-6	1	9/4/2014	<16.4	38.3J	<0.0302	0.00302	0.00302	0.00378J	<0.00858J	0.00387J	0.00937	0.00320J	0.00308J	0.00785	<0.00302	0.00657	0.0200	0.0101	0.00514J		
TP19-0-7T	0-7	3	9/4/2014	<11.4	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TP20-4-8T	0-8	3	9/4/2014	<10.5	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Oregon Generic Risk-Based Levels (Occupational)																						
Soil Ingestion, Dermal Contact, Inhalation					14,000	14,000	61,000	ne	>Csat	2.7	2.7	27	0.27	ne	250	0.27	29,000	41,000	2.7	23	ne	21,000
Volatilization To Outdoor Air					>Max	>Max	>Max	ne	>Max	NV	NV	NV	ne	>Csat	NV	NV	NV	NV	99	ne	>Csat	
Construction Worker					4,600	4,600	19,000	ne	93,000	21	21	210	2.1	ne	2,100	2.1	8,900	12,000	21	580	ne	6,700
Excavation Worker					>Max	>Max	>Csat	ne	>Max	590	590	5,900	59	ne	57,000	59	>Csat	>Max	590	16,000	ne	>Csat
EPA Eco-SSLs																						
Soil Invertebrates					ne	ne	29	29	29	18	18	18	18	18	18	18	18	29	18	29	18	18
Wildlife - Avian					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Wildlife - Mammalian					ne	ne	100	100	100	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	100	1.1	100	1.1	1.1
Oregon DEQ Soil SLVs (Table 1)																						
Plants					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	10	ne	ne
Invertebrates					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	30	ne	ne	ne	ne
Birds					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Mammals					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	3,900	ne	ne
Oregon DEQ Sediment SLVs (Table 2)																						
Freshwater					ne	ne	0.29	160	0.057	0.032	ne	0.027	0.032	0.30	0.057	0.033	0.111	0.077	0.017	0.176	42	0.053
Bioaccumulation					ne	ne	ne	ne	ne	ne	ne	ne	0.10	ne	ne	ne	ne	ne	ne	ne	ne	ne
Oregon DEQ - Clean Fill Criteria					ne	ne	29	ne	29	0.15	0.15	1.1	0.015	-	14	0.015	29	29	0.15	0.087	ne	1,700
Washington State TPH Screening Level Values																						
Soil biota					200	200	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	30	ne	ne	ne	ne	ne
Wildlife					6,000	6,000	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

All values in milligrams per kilogram (mg/kg)
 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
 J: This is an estimated value. The value is below the method reporting limit but above the limit of detection.
 >Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.
 ne - Not established
 NV: This chemical is considered "non-volatile" for purposes of the exposure calculations
 - Sample not analyzed
 (1) "Take" soils were classified for options regarding disposal and re-use during the SFC project based on contaminant concentrations. See report for definitions of soil types.
 Concentration exceeds one or more risk-based concentration, ecological screening level or Clean Fill Criteria.
 Value that is exceeded by one or more of the values shaded in yellow.

Table 2
Soil Analysis Summary - Take Soils (Metals)
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Soil Type (1)	Date Collected	Metals							
					Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
TP1-0-1T	West Mill	0-1	1	9/3/2014	-	-	0.366	-	10.5	-	-	-
TP2-0-4T		0-4	1	9/3/2014	-	-	0.364J	-	9.18	-	-	-
TP3-0-5T		0-5	2	9/3/2014	-	-	0.495	-	20.2	-	-	-
TP4-0-3T		0-3	1	9/3/2014	-	-	0.448	-	14.8	-	-	-
TP6-0-2T		0-2	1	9/3/2014	-	-	0.227	-	2.80	-	-	-
TP7-0-3T	Sawdust Burner	0-3	3	9/3/2014	-	-	-	-	-	-	-	-
TP8-0-2.5T		0-2.5	1	9/3/2014	-	-	-	-	-	-	-	-
TP9-0-2.5T		0-2.5	1	9/3/2014	-	-	-	-	-	-	-	-
TP11-0-3T		0-3	1	9/3/2014	0.418J	116	0.246	28.0	1.84	<0.0492	0.713J	<0.123
TP12-0-2T	East Mill	0-2	3	9/3/2014	2.90	216	0.283J	40.0	25.3	<0.0872	1.09J	<0.218
TP13-0-2T		0-2	1	9/4/2014	-	97.1	<0.201	-	15.9	-	-	-
TP14-0-2.5T		0-2	2	9/4/2014	-	147	0.343J	-	22.0	-	-	-
TP16-0-2.5T		0-2.5	3	9/4/2014	-	659	1.01	-	124	-	-	-
TP17-0-3T		0-3	3	9/4/2014	-	153	0.589	-	48.3	-	-	-
TP18-0-6T	East Parcels	0-6	1	9/4/2014	5.29	57.4	<0.201	46.4	7.50	<0.0802	<1.00	<0.201
TP19-0-7T		0-7	3	9/4/2014	3.00	93.2	0.621	24.5	78.1	<0.0675J	<0.647	<0.129
TP20-4-8T		0-8	3	9/4/2014	3.96	135	0.362	56.4	159	0.227	<0.127J	<0.139
Oregon Generic Risk-Based Levels (Occupational)												
Soil Ingestion, Dermal Contact, Inhalation					1.7	>Max	510	>Max	800	310	ne	5,100
Volatilization To Outdoor Air					NV	NV	NV	NV	NV	NV	ne	NV
Vapor Intrusion into Building					NV	NV	NV	NV	NV	NV	ne	NV
Construction Worker					13	60,000	150	>Max	800	93	ne	1,500
Excavation Worker					370	>Max	4,300	>Max	800	2,600	ne	4,300
EPA Eco SSLs												
Soil Invertebrates					NA	330	140	NA	1,700	NA	4.1	NA
Wildlife - Avian					43	na	0.77	26	11	NA	1.2	4.2
Wildlife - Mammalian					46	2,000	0.36	34	56	NA	0.63	14
Oregon DEQ Soil SLVs (Table 1)												
Plants					10	500	4	1	50	0.3	1	2
Invertebrates					60	3,000	20	0.4	500	0.1	70	50
Birds					10	85	6	4	16	1.5	2	ne
Mammals					29	638	125	340,000	4,000	73	25	ne
Oregon DEQ Sediment SLVs (Table 2)												
Freshwater					6	ne	0.6	37	35	0.2	ne	4.5
Bioaccumulation					4	ne	0.003	4,200	128	ne	0.1	ne
Oregon DEQ - Clean Fill Criteria												
Soil					12	840	0.54	240	34	0.11	1.5	0.41
Default background concentrations (a)												
Soil					12	840	0.54	240	34	0.11	1.5	0.41

All values in milligrams per kilogram (mg/kg)

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)

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ne - Not established

NV: This chemical is considered "non-volatile" for purposes of the exposure calculations

- Sample not analyzed

Highlighted cells exceed the indicated screening values and background concentrations.

(1) "Take" soils were classified for options regarding disposal and re-use during the SFC project based on contaminat concentrations.

See report for definitions of soil types.

Concentration exceeds one or more risk-based concentration, ecological screening level or Clean Fill Criteria.

Value that is exceeded by one or more of the values shaded in yellow.

Table 2 (cont.)
Soil Analysis Summary - Take Soils (Metals)
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Soil Type (1)	Date Collected	Metals							
					Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
WM1-2	West Mill	2	2	1/21/2014	5.26	53.5	0.638	52.0	25.6	<0.176	<2.20	<0.440
WM2-1		1	1	1/21/2014	3.90	112	0.692	34.5	62.2	<0.252	<3.14	<0.629
WM3-1		1	1	1/21/2014	3.48	93.9	0.599	30.1	98.4	<0.184	<2.30	<0.461
EM1-2	East Mill	2	2	1/21/2014	10.3	1,290	5.12	41.2	108	<0.167	<2.09	1.04
EM2-3		3	3	1/21/2014	5.57	261	0.606	53.2	14.3	<0.156	<1.96	<0.391
EM3-2		2	2	1/21/2014	5.98	239	<0.683	38.3	39.0	<0.273	<3.42	<0.683
EM4-1		1	1	1/21/2014	-	-	-	-	-	-	-	-
EM5-1		1	1	1/21/2014	-	-	-	-	-	-	-	-
FILL1-1	Fill Area	1	1	1/21/2014	<3.12	67.6	<0.624	29.4	9.65	<0.250	<3.12	<0.624
FILL2-1		1	1	1/21/2014	3.58	78.2	<0.512	40.4	20.3	<0.205	<2.56	<0.512
TP27-1	Test pit TP-27	1	3	5/29/2014	7.61	-	2.39	-	355	-	-	-
TP27-2.5	Test pit TP-27	2.5	3	5/29/2014	<4.50	-	<0.90	-	19.4	-	-	-
TP27-6	Test pit TP-27	6	3	5/29/2014	4.61	-	<0.504	-	5.82	-	-	-
TP29-1	Test pit TP-29	1	1	5/29/2014	6.25	-	<0.510	-	30.4	-	-	-
TP29-2.5	Test pit TP-29	2.5	3	5/29/2014	<3.33	-	<0.665	-	15.0	-	-	-
TP30-1	Test pit TP-30	1	3	5/29/2014	4.09	-	0.603	-	168	-	-	-
TP30-3	Test pit TP-30	3	3	5/29/2014	6.35	-	5.55	-	1,160	-	-	-
TP30-4	Test pit TP-30	4	3	5/29/2014	9.06	-	2.59	-	281	-	-	-
HC-1	Sonic boring HC-1	5-6	3	5/9/2011	6.7	130	<0.39	36	59	0.12	-	-
HC-2	Sonic boring HC-2	6.5	2	5/9/2011	7.9	43	<0.47	53	10	0.034	-	-
HC-3	Sonic boring HC-3	8	3	5/9/2011	9.8	240	<0.33	29	130	0.091	-	-
HC-4	Sonic boring HC-4	4.5	3	5/9/2011	4.2	210	0.14	27	100	0.24	-	-
HC-5	Sonic boring HC-5	5-6	1	5/9/2011	7.2	47	<0.31	8.6	15	0.0037	-	-
HC-6	Sonic boring HC-6	5-6	3	5/9/2011	4.4	94	<0.46	31	30	0.072	-	-
HC-7	Sonic boring HC-7	0-1	1	5/9/2011	<1.3	130	<0.32	38	18	0.015	-	-
Oregon Generic Risk-Based Levels (Occupational)												
Soil Ingestion, Dermal Contact, Inhalation					1.7	>Max	510	>Max	800	310	ne	5,100
Volatilization To Outdoor Air					NV	NV	NV	NV	NV	NV	ne	NV
Vapor Intrusion into Building					NV	NV	NV	NV	NV	NV	ne	NV
Construction Worker					13	60,000	150	>Max	800	93	ne	1,500
Excavation Worker					370	>Max	4,300	>Max	800	2,600	ne	4,300
EPA Eco SSLs												
Soil Invertebrates					NA	330	140	NA	1,700	NA	4.1	NA
Wildlife - Avian					43	na	0.77	26	11	NA	1.2	4.2
Wildlife - Mammalian					46	2,000	0.36	34	56	NA	0.63	14
Oregon DEQ Soil SLVs (Table 1)												
Plants					10	500	4	1	50	0.3	1	2
Invertebrates					60	3,000	20	0.4	500	0.1	70	50
Birds					10	85	6	4	16	1.5	2	ne
Mammals					29	638	125	340,000	4,000	73	25	ne
Oregon DEQ Sediment SLVs (Table 2)												
Freshwater					6	ne	0.6	37	35	0.2	ne	4.5
Bioaccumulation					4	ne	0.003	4,200	128	ne	0.1	ne
Oregon DEQ - Clean Fill Criteria					12	840	0.54	240	34	0.11	1.5	0.41
Default background concentrations (a)												
Soil					12	840	0.54	240	34	0.11	1.5	0.41

All values in milligrams per kilogram (mg/kg)

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)*

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>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.

ne - Not established

NV: This chemical is considered "non-volatile" for purposes of the exposure calculations

- Sample not analyzed

Highlighted cells exceed the indicated screening values and background concentrations.

(1) "Take" soils were classified for options regarding disposal and re-use during the SFC project based on contaminat concentrations.

See report for definitions of soil types.

Concentration exceeds one or more risk-based concentration, ecological screening level or Clean Fill Criteria.

Value that is exceeded by one or more of the values shaded in yellow.

Table 3
Soil Analysis Summary - Take Soils (Dioxins/Furans)
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Dioxins/Furans																
				2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin (OCDD)	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1,2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1,2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1,2,3,4,5,6,7,8-Octachlorodibenzofuran (OCDF)
TP11-0-3T	Sawdust Burner	0-3	9/4/2014	<0.162	0.213J	0.280J	0.815J	0.745J	16.2	138	0.238J	0.162J	<0.122	0.386J	0.193J	<0.116	<0.102	3.40J	<0.268	16.1
TP12-0-2T		0-2	9/4/2014	0.769J	1.33J	1.66J	4.15J	4.33J	79.4	606	2.84	0.758J	0.712J	1.77J	0.736J	0.116J	0.487J	15.2	0.950J	65.0
Oregon Generic Risk-Based Levels (Occupational)																				
Soil Ingestion, Dermal Contact, Inhalation				15	15	150	150	150	1,500	50,000	150	500	50	150	150	150	150	1,500	1,500	50,000
Volatilization To Outdoor Air				>Csat	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Vapor Intrusion into Building				>Csat	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Construction Worker				150	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Excavation Worker				4,200	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EPA Eco SSLs																				
Soil Invertebrates				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Wildlife - Avian				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Wildlife - Mammalian				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Oregon DEQ Soil SLVs (Table 1)																				
Plants				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Invertebrates				ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Birds				55	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Mammals				120	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Oregon DEQ Sediment SLVs (Table 2)																				
Freshwater				9	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Bioaccumulation				0.85	0.85	8.5	8.5	8.5	85	2,833	8.5	28.3	2.83	8.5	8.5	8.5	8.5	85	85	2,833

All values in nanograms per kilogram (ng/kg)

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

J: This is an estimated value. The value is below the method reporting limit but above the limit of detection.

>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.

ne - Not established

NV: This chemical is considered "non-volatile" for purposes of the exposure calculations

- Sample not analyzed

Table 5
Soil Analysis Summary - Leave Soils (Metals)
Sadri Property, Tillamook, Oregon

Sample Number	Sample Location	Sample Depth (ft)	Date Collected	Metals							
				Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
TP1-6L	West Mill	6	9/3/2014	-	-	-	-	-	-	-	-
TP3-5L		5	9/3/2014	-	-	-	-	-	-	-	-
TP4-3L		3	9/3/2014	-	-	-	-	-	-	-	-
TP5-3.5L		3.5	9/4/2014	3.49	67.8	<0.276	38.3	14.8	<0.110	<01.37	<0.275
TP5-5V		5	9/4/2014	-	-	-	-	-	-	-	-
TP6-5V		5	9/3/2014	-	-	0.431J	-	75.8	-	-	-
TP27-5	Sawdust Burner	5	9/3/2014	4.03	-	<0.548	-	5.12	-	-	-
TP7-3L		3	9/3/2014	-	-	-	-	-	-	-	-
TP8-2.5L		2.5	9/3/2014	-	-	-	-	-	-	-	-
TP9-2.5L		2.5	9/3/2014	-	-	-	-	-	-	-	-
TP10-6L		6	9/3/2014	-	-	-	-	-	-	-	-
TP11-3L		3	9/3/2014	-	-	-	-	-	-	-	-
TP12-4L	East Mill	4	9/3/2014	-	-	-	-	-	-	-	-
TP13-2L		2	9/4/2014	-	-	-	-	-	-	-	-
TP14-2.5L		2.5	9/4/2014	-	-	-	-	-	-	-	-
TP15-3.5L		3.5	9/4/2014	-	65.8	0.387J	-	14.0	-	-	-
TP15-5V		5	9/4/2014	-	-	-	-	-	-	-	-
TP16-2.5L		2-Jan	9/4/2014	4.13	164	0.569	44.9	21.2	0.109J	<4.22	<0.422
TP17-3L	3	9/4/2014	4.57	138	0.770	49.3	6.29	<0.103	<1.28	<0.257	
TP18-6L	East Parcels	6	9/4/2014	-	-	-	-	-	-	-	-
TP19-7L		7	9/4/2014	2.60	65.4	0.603	56.4	5.41	<0.0635	<0.794	<0.159
TP30-6		6	5/29/2014	5.11	80.6	<0.379	50.2	6.84	<0.152	<1.89	<0.379
IP-3	Inlet pond sediment	0-1	9/3/2014	-	-	-	-	29.5	-	-	-
IP-4		0-1	9/3/2014	-	-	-	-	13.6	-	-	-
Oregon Generic Risk-Based Levels (Occupational)											
Soil Ingestion, Dermal Contact, Inhalation				1.7	>Max	510	>Max	800	310	ne	5,100
Volatilization To Outdoor Air				NV	NV	NV	NV	NV	NV	ne	NV
Vapor Intrusion into Building (incomplete pathway)				NV	NV	NV	NV	NV	NV	ne	NV
Construction Worker				13	60,000	150	>Max	800	93	ne	1,500
Excavation Worker				370	>Max	4,300	>Max	800	2,600	ne	4,300
EPA Eco SSLs											
Soil Invertebrates				NA	330	140	NA	1,700	NA	4.1	NA
Wildlife - Avian				43	na	0.77	26	11	NA	1.2	4.2
Wildlife - Mammalian				46	2,000	0.36	34	56	NA	0.63	14
Oregon DEQ Soil SLVs (Table 1)											
Plants				10	500	4	1	50	0.3	1	2
Invertebrates				60	3,000	20	0.4	500	0.1	70	50
Birds				10	85	6	4	16	1.5	2	ne
Mammals				29	638	125	340,000	4,000	73	25	ne
Oregon DEQ Sediment SLVs (Table 2)											
Freshwater				6	ne	0.6	37	35	0.2	ne	4.5
Bioaccumulation				4	ne	0.003	4,200	128	ne	0.1	ne
Oregon DEQ - Clean Fill Criteria											
				12	840	0.54	240	34	0.11	1.5	0.41
Default background concentrations (a)											
Soil				12	840	0.54	240	34	0.11	1.5	0.41

All values in milligrams per kilogram (mg/kg)

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

J: This is an estimated value. The value is below the method reporting limit but above the limit of detection.

>Max: The constituent RBC for this pathway is greater than 100,000 mg/kg.

ne - Not established

NV: This chemical is considered "non-volatile" for purposes of the exposure calculations

- Sample not analyzed

Highlighted cells exceed the indicated screening values and background concentrations.

(1) "Take" soils were classified for options regarding disposal and re-use during the SFC project based on contaminant concentrations.

See report for definitions of soil types.

Concentration exceeds one or more risk-based concentration, ecological screening level or Clean Fill Criteria.

Value that is exceeded by one or more of the values shaded in yellow.

APPENDIX A

Proposed Sample Analysis Tables (from project work plan)

Table 1 - East Mill													
	Purpose of Sample	Number of Samples	Diesel/ Heavy oil	PAHs	Metals								Dioxins
					Ag	As	Ba	Cd	Cr	Hg	Pb	Se	
"Take" soils (approx. 0-3' bgs)	Human exposure	4 lateral	X	X	-	-	X	X	-	-	X	-	-
	Lateral delineation and characterization for soil disposal												
	Eco risk (current)												
"Leave" surface (approx. >3' bgs)	Eco risk (future)	1 source + 4 lateral (archived*)	X	X	-	-	X	X	-	-	X	-	-
Vertical delineation near source (EM-1)	Eco risk (future)	1 (archived*)	Dependent on "leave" surface screening results										

* The archived samples will be analyzed for all analytes in the lateral "take" samples that exceed the most conservative human health risk-based value or ecological screening value

Table 2 - West Mill														
	Sample Purpose	Number of Samples	Diesel/ Heavy oil	PAHs	Metals								Dioxins	
					Ag	As	Ba	Cd	Cr	Hg	Pb	Se		
"Take" soils (approx. 0-3' bgs)	Human exposure	5 lateral	X	X	-	-	-	X	-	-	X	-	-	
	Lateral delineation and characterization for soil disposal													
	Eco risk (current)													
"Leave" surface (approx. >3' bgs)	Eco risk (future)	1 source + 4 lateral (archived*)	X	-	X	X	X	X	X	X	X	X	X	-
Vertical delineation near source	Eco risk (future)	1 (archived*)	Dependent on "leave" surface screening results											

* The archived samples will be analyzed for all analytes in the lateral "take" samples that exceed the most conservative human health risk-based value or ecological screening value

Table 3 - Sawdust Burner													
	Sample Purpose	Number of Samples	Diesel/ Heavy oil	PAHs	Metals								Dioxins
					Ag	As	Ba	Cd	Cr	Hg	Pb	Se	
"Take" soils (approx. 0-3' bgs)	General screening for worker exposure, eco risk and soil disposal	2 (source)	X	X	X	X	X	X	X	X	X	X	X
	Background determination for dioxins	2 (archived*)	-	-	-	-	-	-	-	-	-	-	X
	Human Exposure	4 lateral (archived*)	Dependent on "take" soils screening results										
	Lateral delineation and characterization for soil disposal		Dependent on "take" soils screening results										
Eco risk (current)	Dependent on "take" soils screening results												
"Leave" surface (approx. >3' bgs)	Eco risk (future)	2 source (archived*) 4 lateral (archived*)	Dependent on source and lateral "take" soils screening results										
Vertical delineation near source	Eco risk (future)	2 (archived*)	Dependent on source "leave" soils screening results										

* The archived samples will be analyzed for all analytes in screening samples that exceed the most conservative human health risk-based value or ecological screening value

Table 4 - East Parcels													
	Sample Purpose	Number of Samples	Diesel/ Heavy oil	PAHs	Metals								Dioxins
					Ag	As	Ba	Cd	Cr	Hg	Pb	Se	
"Take" soils (approx. 0-3' bgs)	General screening for worker exposure, eco risk and soil disposal	3	X	-	X	X	X	X	X	X	X	X	-
	Human exposure												
	Lateral delineation and characterization for soil disposal												
"Leave" surface (approx. >3' bgs)	Eco risk	3 (archived*)	Dependent on "take" soils screening results										

* The archived samples will be analyzed for all analytes in screening samples that exceed the most conservative human health risk-based value or ecological screening value

Table 5 - Inlet Pond Sediment													
	Sample Purpose	Number of Samples	Diesel/ Heavy oil	PAHs	Metals								Dioxins
					Ag	As	Ba	Cd	Cr	Hg	Pb	Se	
Lateral delineation	Eco risk	2 lateral	-	X	-	-	-	-	-	-	X	-	-

APPENDIX B

Exploratory Test Pit Logs



EXPLORATORY TEST PIT LOG








PIT TP-1

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 7'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP1-0-1T		0'-1': Med.- dark brown clayey silt FILL, damp, abundant root matter, minor wood chips. 1'-6': Wood chips 1"-4" long. Water seeps below 3'. 6'-7': Med. gray SILT (bay mud), wet. Static water level: 2' bgs.	1
2					2
3					3
4					4
5					5
6					6
7		TP1-6L			7
8				8	
9				9	
10				10	
11				11	
12				12	
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-2

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 5.5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-2': Med. brown clayey silt FILL, loose, damp, abundant root matter.</p> <p>2'-4': Med. gray silty sandy FILL w/ approx. 50% Wood chips and sawdust. Water seeps at 4'.</p> <p>4'-5': Wood chips, wet. Top of steel 55-gallon drum.</p> <p>5'-5.5': Matted grasses and roots.</p>	1
2		TP2-0-4T			2
3					3
4					4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-3

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 7'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-2.5': Med. - light brown silt sandy FILL, loose, dry, abundant tree roots.</p> <p>2.5'-7': Med. gray clayey silt FILL, damp, minor wood chips. Coiled wire at 6.5'.</p>	1
2					2
3		TP3-0-5T			3
4					4
5					5
6		TP3-5L			6
7					7
8				8	
9				9	
10				10	
11				11	
12				12	
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-4

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)	
1				0'-2.5': Med. brown silty sandy FILL, loose, damp.	1	
2		TP4-0-3T			2	
3				LEAVE surface (approx.)	2.5'-5': Med. - dark clayey silty FILL, damp. Roots and minor sawdust from 3'-5'.	3
4		TP4-3L				4
5					5	
6					6	
7					7	
8					8	
9					9	
10					10	
11					11	
12					12	
13					13	
14					14	
15					15	
16					16	
17					17	
18					18	
19					19	
20					20	
21					21	
22					22	
23					23	
24					24	
25					25	



EXPLORATORY TEST PIT LOG

PIT TP-5

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-2.5': Timbers and lumber in silty sandy matrix, loose.</p> <p>2.5'- 3.5': Dark gray/black wood chips(toothpick size), wet at 3.5'. Dark oily appearance and odor.</p> <p>3.5' - 5': Dark gray clayey silt, damp, soft, abundant fine roots.</p>	1
2		2			
3		3			
4		4			
5		5			
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-6

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 6'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP6-0-2T		0'-0.5': Med. brown silty sandy FILL.	1
2					2
3				0.5'-2': Med. brown sandy gravel FILL. Gravel is rounded, 10-30 mm. Sand is fine-coarse, poorly sorted. No oily odor or film.	3
4		4			
5		TP6-5V		2'- 6': Dark gray/black wood chips(veneer chips) and sawdust. Some silty sand at 5' (sample #TP6-5V). Numerous (15-20) used oil filters.	5
6					6
7				Light oily film on standing water and soils below water table (2 feet bgs).	7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-7

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 6'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1			LITH. LOG	<p style="text-align: center;">0'-6': Sawdust w/ clay and silt with minor gravel and some large logs.</p> <p style="text-align: center;">LEAVE surface (approx.)</p>	1
2		TP7-0-3T			2
3					3
4		TP7-3L			4
5					5
6					6
7				7	
8				8	
9				9	
10				10	
11				11	
12				12	
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	



EXPLORATORY TEST PIT LOG

PIT TP-8

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 3.5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-2': Sandy gravelly FILL with 30% sawdust, damp, loose.</p> <p>2'-3'.5: Med. gray sandy gravelly FILL. Sand is med-coarse (poorly sorted), gravel is rounded (10-30 mm). Wet at 3' bgs.</p> <p>Static water level: 3' bgs.</p>	1
2		TP8-0-2.5T ←			2
3		TP8-2.5L ←			3
4					4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-9

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 3'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-0.3: Med. brown silty sandy FILL (topsoil).</p> <p>0.3'-1.0': Med. brown silty sandy gravelly FILL w/ 10% sawdust, Abundant plant roots.</p> <p>1.0'-3.0': Med. brown sandy gravel FILL. Sand med-coarse, poorly sorted. Gravel rounded, 10-50 mm. Wet.</p> <p>Static water level: 2.5' bgs.</p>	1
2		TP9-0-2.5T ←			2
3		TP9-2.5L ←			3
4					4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-10

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 7'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				0'-6: Sawdust and wood chips w/ minor silty soil, dry, loose. 6'-7': Med. brown silty sandy gravelly FILL w/ 10% sawdust, Abundant plant roots.	1
2					2
3					3
4					4
5					5
6					6
7		TP10-6L			
8				8	
9				9	
10				10	
11				11	
12				12	
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-11

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 7'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-0.5': Med. brown silty sandy FILL (topsoil)</p> <p>0.5'-4': Med. gray-brown sandy gravel FILL, Gravel is rounded, 10-50 mm., loose, wet at 3'.</p>	1
2		TP11-0-3T			2
3					3
4		TP11-3L			4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface
(approx.)



EXPLORATORY TEST PIT LOG

PIT TP-12

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 3, 2014
 Pit Depth: 6'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP12-0-2T			1
2					2
3				0'-2': Med. brown silty sandy FILL w/ 20% sawdust	3
4		4			
5		5			
6		TP12-5L		2'-5': Med. gray sawdust/wood chip FILL.	6
7		7			
8				5'-6': Med. gray clay SILT, moist/wet with minor flecks of charcoal.	8
9		9			
10		10			
11		11			
12		12			
13		13			
14		14			
15		15			
16		16			
17		17			
18		18			
19		19			
20		20			
21		21			
22		22			
23		23			
24		24			
25		25			

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-13

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 4'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP13-0-2T		<p>0'-1': Med. - dark gray silty FILL, dry, loose, crumbly w/ abundant tree roots.</p> <p>1'-2.5': Med. - dark gray clayey silty FILL w/ abundant sawdust, damp, loose w/ some wood fragments (50-100mm long).</p> <p>2.5'-3.5': Dark gray sandy gravelly FILL w/ abundant charred wood.</p> <p>3.5'-4': Med. - dark gray silt (bay mud) w/ abundant wood fragments (tree limbs).</p>	1
2					2
3		TP13-2L			3
4		4			
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-14

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 4'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-1.5': Med. gray silty FILL, dry, loose, crumbly w/ abundant tree roots.</p> <p>1.5'-3': Dark gray clayey silty FILL w/ abundant sawdust (50%), w/ some larger branches with blue coloration. Damp.</p> <p>3'-4': Med.- dark gray clayey SILT (bay mud), damp, stiff.</p>	1
2		TP14-0-2.5T			2
3		TP14-2.5L			3
4					4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-15

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 5.5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				LEAVE surface (approx.)	1
2					2
3					3
4		TP15-3.5L		0'-1': Dark gray/black FILL, dry, loose, with abundant tree roots and brick fragments.	4
5					5
6		TP15-5V		1'-2.5': Dark gray/black sandy FILL w/ minor bricks and wood fragments.	6
7					7
8				2.5'-5.5': Med.gray clayey SILT (bay mud), damp, soft with minor small roots. Larger roots at 5'.	8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25			25		



EXPLORATORY TEST PIT LOG

PIT TP-16

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 3'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP16-0-2.5T		0'-1': Med. - dark gray silty FILL, dry, loose, crumbly w/ abundant tree roots.	1
2					2
3		TP16-2.5L		1'-2.5': Med. - dark gray clayey silty FILL w/ abundant sawdust and wood fragments. Large piece of sheet metal at 2'. Angle iron and nails at 1.5'-2'.	3
4				2.5'-3': Med.- dark gray SILT (bay mud), damp, soft with wood fragments.	4
5					5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-17

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 4'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP17-0-3T		0'-1': Dark gray/black silty FILL, dry, loose, crumbly w/ tree roots and thin layers of hard plaster-like material (approx. 1" thick).	1
2					2
3					3
4		TP17-3L		1'-2': Dark gray/black silty FILL w/ sawdust and tree branches (1" to 1.5" dia.).	4
5				2'-3': Dark gray/black clayey silty fill w/ sawdust	5
6				3'-4': Med. gray clay SILT (bay mud), damp, with wood fragments and branches.	6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface (approx.)



EXPLORATORY TEST PIT LOG

PIT TP-18

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 6.5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-5': Med. brown, soft silty fine SAND. 5'-6.5': Med. gray clay SILT (bay mud), soft.</p>	1
2					2
3		TP18-0-6T			3
4					4
5					5
6					6
7		TP18-6L			7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-19

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 7.5'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1				<p>0'-3.5': Med. brown, silty fine sandy FILL w/ abundant roots and minor construction debris (bricks, concrete pieces).</p> <p>3.5'-6': Med. gray med.-coarse sand and gravel FILL, loose, wet. Minor concrete pieces.</p> <p>6'-7.5': Med. gray silty clay (bay mud), stiff, damp. No water seeps or standing water.</p>	1
2					2
3					3
4		TP19-0-7T			4
5					5
6					6
7					7
8		TP19-7L		8	
9				9	
10				10	
11				11	
12				12	
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	



EXPLORATORY TEST PIT LOG

PIT TP-20

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: Sept. 4, 2014
 Pit Depth: 8'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1			X	0'-4': Pre-existing hole.	1
2					2
3					3
4					4
5		TP20-4-8T	█	4'-8': Dark gray/black silty sandy FILL w/ cobbles and wood fragments, concrete pieces.	5
6					6
7					7
8					8
9				<hr/> LEAVE surface (approx.)	9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-27

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: May 29, 2014
 Pit Depth: 6.2'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP27-1			1
2		TP27-2.5		0'-20": Med. brown silty topsoil with fine roots.	2
3				20"-3': Mixed silty FILL and woody debris (wood chips)	3
4					4
5		TP27-5		3'-5': Wood chips (no soil), Water seeps.	5
6		TP27-6		5'-6': Wed. gray silty FILL w/ abundant fine woody debris (sawdust). Water seeps.	6
7				6'-6.2': Med. gray SILT (bay mud?) with sparse fine roots.	7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

LEAVE surface
(approx.)



EXPLORATORY TEST PIT LOG

PIT TP-28

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: May 29, 2014
 Pit Depth: 6'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1					1
2					2
3				<u>LEAVE surface</u> (approx.)	3
4				0'-6': Coarse wood chips and short pieces of lumber. Minor anthropogenic material (glass jar, light bulbs). Water seeps from 1.5'-6'.	4
5				No samples collected.	5
6					6
7					7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-29

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: May 29, 2014
 Pit Depth: 9'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP29-1			1
2		TP29-2.5			2
3				LEAVE surface (approx.)	3
4					4
5				0'-1': Med. brown silty topsoil with minor fine sawdust and roots.	5
6				1'-2.5': Mixed brown silty FILL with wood chips and sawdust, becoming more abundant with depth.	6
7				2.5'-7': Wood chips, sawdust and long fibrous pieces of wood.	7
8				7'-8.5': Med. - lt. gray clay SILT with woody debris and spruce needles.	8
9				8.5'-9": Med. - lt. gray clay SILT (bay mud).	9
10				No water seeps or standing water in pit. (sawdust).	10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



EXPLORATORY TEST PIT LOG

PIT TP-30

PROJECT #1420.01

SHEET 1 OF 1

Project Name: Sadri Property, Tillamook, OR
 Geologist: Erik Anderson
 Excavation Method: Track Hoe

Start/End Date: May 29, 2014
 Pit Depth: 7'

DEPTH (FT.)	PID	SAMPLE#	LITH. LOG	SOIL DESCRIPTION	DEPTH (FT.)
1		TP30-1	●		1
2			●	0'-1.5': Med. brown clayey silty topsoil, loose, damp.	2
3		TP30-3	▽▽▽	1.5'-2.5': Light orange-brown loose, crumbly clayey FILL.	3
4		TP30-4	▽▽▽		4
5			▽▽▽	2.5'-5': Dark gray/black silty FILL w/ abundant fine woody material and possible fine ash. Abundant anthropogenic material (plastic, metal scraps, fabric, shoes).	5
6		TP30-6	●	LEAVE surface (approx.)	6
7			---	5'-6.5': Med. brown clayey FILL, loose w/ sparse siltstone fragments.	7
8					8
9				6.5'-7': Med. - lt. gray clay SILT (bay mud). Minor water seeps at 6.5'.	9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

APPENDIX C

Laboratory Reports and Sample Chain of Custody

Apex Labs

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

Friday, October 17, 2014

Erik Anderson
Anderson Geological
PO Box 649
Wilsonville, OR 97070

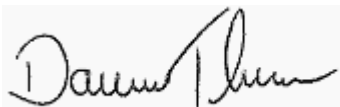
RE: Sadri Property / 1420.01

Enclosed are the results of analyses for work order A410129, which was received by the laboratory on 9/5/2014 at 9:48:00AM.

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



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.

Darwin Thomas, Business Development Director

Anderson Geological
 PO Box 649
 Wilsonville, OR 97070

Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

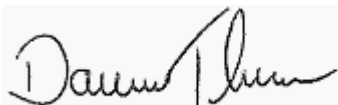
Reported:
 10/17/14 10:55

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP1-0-1T	A4I0129-01	Soil	09/03/14 08:55	09/05/14 09:48
TP2-0-4T	A4I0129-03	Soil	09/03/14 09:38	09/05/14 09:48
TP3-0-5T	A4I0129-04	Soil	09/03/14 10:06	09/05/14 09:48
TP3-5L	A4I0129-05	Soil	09/03/14 10:21	09/05/14 09:48
TP4-0-3T	A4I0129-06	Soil	09/03/14 10:40	09/05/14 09:48
TP4-3L	A4I0129-07	Soil	09/03/14 10:44	09/05/14 09:48
TP6-0-2T	A4I0129-08	Soil	09/03/14 11:40	09/05/14 09:48
TP6-5V	A4I0129-09	Soil	09/03/14 11:50	09/05/14 09:48
TP7-0-3T	A4I0129-10	Soil	09/03/14 14:37	09/05/14 09:48
TP7-3L	A4I0129-11	Soil	09/03/14 14:59	09/05/14 09:48
TP8-0-2.5T	A4I0129-12	Soil	09/03/14 15:38	09/05/14 09:48
TP8-2.5L	A4I0129-13	Soil	09/03/14 15:42	09/05/14 09:48
TP10-6L	A4I0129-16	Soil	09/03/14 15:24	09/05/14 09:48
TP11-0-3T	A4I0129-17	Soil	09/03/14 14:06	09/05/14 09:48
TP12-0-2T	A4I0129-19	Soil	09/03/14 14:27	09/05/14 09:48
TP12-4L	A4I0129-20	Soil	09/03/14 14:36	09/05/14 09:48
TP5-3.5L	A4I0129-21	Soil	09/04/14 15:00	09/05/14 09:48
TP13-0-2T	A4I0129-23	Soil	09/04/14 08:53	09/05/14 09:48
TP14-0-2.5T	A4I0129-25	Soil	09/04/14 14:13	09/05/14 09:48
TP14-2.5L	A4I0129-26	Soil	09/04/14 14:20	09/05/14 09:48
TP15-3.5L	A4I0129-27	Soil	09/04/14 11:33	09/05/14 09:48
TP15-5V	A4I0129-28	Soil	09/04/14 11:46	09/05/14 09:48
TP16-0-2.5T	A4I0129-29	Soil	09/04/14 09:36	09/05/14 09:48
TP16-2.5L	A4I0129-30	Soil	09/04/14 09:44	09/05/14 09:48
TP17-0-3T	A4I0129-31	Soil	09/04/14 12:35	09/05/14 09:48
TP17-3L	A4I0129-32	Soil	09/04/14 12:41	09/05/14 09:48
TP18-0-6T	A4I0129-33	Soil	09/04/14 15:46	09/05/14 09:48
TP18-6L	A4I0129-34	Soil	09/04/14 15:50	09/05/14 09:48
TP19-0-7T	A4I0129-35	Soil	09/04/14 16:35	09/05/14 09:48
TP19-7L	A4I0129-36	Soil	09/04/14 16:27	09/05/14 09:48
TP20-4-8T	A4I0129-37	Soil	09/04/14 17:20	09/05/14 09:48
IP-3	A4I0129-40	Soil	09/04/14 10:36	09/05/14 09:48
IP-4	A4I0129-41	Soil	09/04/14 10:47	09/05/14 09:48

Apex Laboratories



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.

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

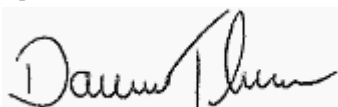
Reported:
10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP1-0-1T (A4I0129-01)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	29.6	mg/kg dry	1	09/12/14 02:58	NWTPH-Dx/SG	
Oil	ND	---	59.2	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>			
TP2-0-4T (A4I0129-03)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	33.2	mg/kg dry	1	09/12/14 03:46	NWTPH-Dx/SG	
Oil	ND	---	66.4	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>			
TP3-0-5T (A4I0129-04)			Matrix: Soil		Batch: 4090299			
Diesel	540	---	35.5	mg/kg dry	1	09/12/14 04:10	NWTPH-Dx/SG	F-11, F-15
Oil	284	---	70.9	"	"	"	"	F-16
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 89 %</i>		<i>Limits: 50-150 %</i>			
TP3-5L (A4I0129-05)			Matrix: Soil		Batch: 4090403			
Diesel	ND	---	45.6	mg/kg dry	1	09/16/14 21:00	NWTPH-Dx/SG	
Oil	ND	---	91.3	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>			
TP4-0-3T (A4I0129-06)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	31.6	mg/kg dry	1	09/12/14 04:35	NWTPH-Dx/SG	
Oil	135	---	63.2	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 77 %</i>		<i>Limits: 50-150 %</i>			
TP6-0-2T (A4I0129-08)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	25.0	mg/kg dry	1	09/12/14 04:59	NWTPH-Dx/SG	
Oil	59.1	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>			
TP6-5V (A4I0129-09)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	3250	mg/kg dry	50	09/12/14 13:59	NWTPH-Dx/SG	
Oil	13000	---	6490	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>		<i>Limits: 50-150 %</i>		<i>S-01</i>	
TP7-0-3T (A4I0129-10)			Matrix: Soil		Batch: 4090403			
Diesel	ND	---	66.9	mg/kg dry	1	09/16/14 21:48	NWTPH-Dx/SG	
Oil	ND	---	134	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>			

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Project Number: 1420.01
Project Manager: Erik Anderson

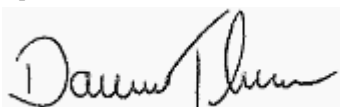
Reported:
10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP11-0-3T (A4I0129-17)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	25.0	mg/kg dry	1	09/12/14 12:14	NWTPH-Dx/SG	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>			
TP12-0-2T (A4I0129-19)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	38.8	mg/kg dry	1	09/12/14 12:35	NWTPH-Dx/SG	
Oil	106	---	77.6	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>			
TP5-3.5L (A4I0129-21)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	505	mg/kg dry	10	09/12/14 14:20	NWTPH-Dx/SG	
Oil	4180	---	1010	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>S-05</i>	
TP13-0-2T (A4I0129-23)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	33.0	mg/kg dry	1	09/13/14 18:44	NWTPH-Dx/SG	
Oil	144	---	65.9	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>			
TP14-0-2.5T (A4I0129-25)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	38.4	mg/kg dry	1	09/13/14 19:08	NWTPH-Dx/SG	
Oil	203	---	76.9	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>			
TP14-2.5L (A4I0129-26)			Matrix: Soil		Batch: 4090403			
Diesel	ND	---	77.6	mg/kg dry	1	09/16/14 22:37	NWTPH-Dx/SG	
Oil	ND	---	155	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>			
TP15-3.5L (A4I0129-27)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	44.3	mg/kg dry	1	09/12/14 13:17	NWTPH-Dx/SG	
Oil	ND	---	88.6	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>			
TP16-0-2.5T (A4I0129-29RE2)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	84.6	mg/kg dry	2	09/15/14 12:09	NWTPH-Dx/SG	
Oil	373	---	169	"	"	"	"	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>			

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Project Manager: Erik Anderson

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ANALYTICAL SAMPLE RESULTS

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

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP17-0-3T (A410129-31)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	50.7	mg/kg dry	1	09/12/14 13:26	NWTPH-Dx/SG	
Oil	317	---	101	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP17-3L (A410129-32)			Matrix: Soil		Batch: 4090403			
Diesel	ND	---	56.4	mg/kg dry	1	09/16/14 23:01	NWTPH-Dx/SG	
Oil	ND	---	113	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP18-0-6T (A410129-33)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	32.8	mg/kg dry	1	09/12/14 11:03	NWTPH-Dx/SG	
Oil	ND	---	65.5	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP19-0-7T (A410129-35)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	25.0	mg/kg dry	1	09/12/14 11:24	NWTPH-Dx/SG	
Oil	113	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
TP20-4-8T (A410129-37)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	25.0	mg/kg dry	1	09/12/14 14:07	NWTPH-Dx/SG	
Oil	117	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
IP-3 (A410129-40)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	61.3	mg/kg dry	1	09/12/14 12:04	NWTPH-Dx/SG	
Oil	ND	---	123	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
IP-4 (A410129-41)			Matrix: Soil		Batch: 4090299			
Diesel	ND	---	59.7	mg/kg dry	1	09/12/14 12:25	NWTPH-Dx/SG	
Oil	140	---	119	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP1-0-1T (A4I0129-01)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00632	mg/kg dry	1	09/10/14 13:18	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00632	"	"	"	"	
Anthracene	ND	---	0.00632	"	"	"	"	
Benz(a)anthracene	ND	---	0.00632	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00632	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0126	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.00632	"	"	"	"	
Chrysene	ND	---	0.00632	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00632	"	"	"	"	
Dibenzofuran	ND	---	0.00632	"	"	"	"	
Fluoranthene	0.00926	---	0.00632	"	"	"	"	
Fluorene	ND	---	0.00632	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00632	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0126	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0126	"	"	"	"	
Naphthalene	ND	---	0.0126	"	"	"	"	
Phenanthrene	0.00931	---	0.00632	"	"	"	"	
Pyrene	0.00814	---	0.00632	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>83 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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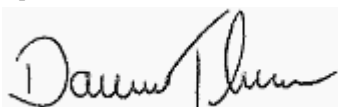
Reported:
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP2-0-4T (A4I0129-03RE1)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00703	mg/kg dry	1	09/11/14 10:51	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00703	"	"	"	"	
Anthracene	ND	---	0.00703	"	"	"	"	
Benz(a)anthracene	0.00743	---	0.00703	"	"	"	"	
Benzo(a)pyrene	0.0144	---	0.00703	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0209	---	0.0141	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0113	---	0.00703	"	"	"	"	
Chrysene	0.0122	---	0.00703	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00703	"	"	"	"	
Dibenzofuran	ND	---	0.00703	"	"	"	"	
Fluoranthene	0.0226	---	0.00703	"	"	"	"	
Fluorene	ND	---	0.00703	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0106	---	0.00703	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0141	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0141	"	"	"	"	
Naphthalene	0.0204	---	0.0141	"	"	"	"	
Phenanthrene	0.0234	---	0.00703	"	"	"	"	
Pyrene	0.0210	---	0.00703	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>115 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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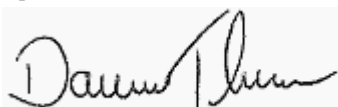
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP3-0-5T (A410129-04)			Matrix: Soil		Batch: 4090185			
Acenaphthene	ND	---	0.00752	mg/kg dry	1	09/10/14 14:36	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00752	"	"	"	"	
Anthracene	ND	---	0.00752	"	"	"	"	
Benz(a)anthracene	0.0108	---	0.00752	"	"	"	"	
Benzo(a)pyrene	0.0103	---	0.00752	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0257	---	0.0150	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0128	---	0.00752	"	"	"	"	
Chrysene	0.0132	---	0.00752	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00752	"	"	"	"	
Dibenzofuran	ND	---	0.00752	"	"	"	"	
Fluoranthene	0.0236	---	0.00752	"	"	"	"	
Fluorene	ND	---	0.00752	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0130	---	0.00752	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0150	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0150	"	"	"	"	
Naphthalene	0.0158	---	0.0150	"	"	"	"	
Phenanthrene	0.0187	---	0.00752	"	"	"	"	
Pyrene	0.0210	---	0.00752	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 68 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>74 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP4-0-3T (A410129-06)			Matrix: Soil		Batch: 4090185			
Acenaphthene	ND	---	0.00667	mg/kg dry	1	09/10/14 15:02	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00667	"	"	"	"	
Anthracene	ND	---	0.00667	"	"	"	"	
Benz(a)anthracene	ND	---	0.00667	"	"	"	"	
Benzo(a)pyrene	0.00825	---	0.00667	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0226	---	0.0133	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0146	---	0.00667	"	"	"	"	
Chrysene	0.0136	---	0.00667	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00667	"	"	"	"	
Dibenzofuran	0.00687	---	0.00667	"	"	"	"	
Fluoranthene	0.0353	---	0.00667	"	"	"	"	
Fluorene	ND	---	0.00667	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0115	---	0.00667	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0133	"	"	"	"	
2-Methylnaphthalene	0.0135	---	0.0133	"	"	"	"	
Naphthalene	0.0561	---	0.0133	"	"	"	"	
Phenanthrene	0.0369	---	0.00667	"	"	"	"	
Pyrene	0.0242	---	0.00667	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>78 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP4-3L (A4I0129-07)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00962	mg/kg dry	1	09/17/14 20:02	EPA 8270D (SIM)	
Acenaphthylene	0.0151	---	0.00962	"	"	"	"	
Anthracene	ND	---	0.00962	"	"	"	"	
Benz(a)anthracene	ND	---	0.00962	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00962	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00962	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00962	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00962	"	"	"	"	
Chrysene	ND	---	0.00962	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00962	"	"	"	"	
Dibenzofuran	ND	---	0.00962	"	"	"	"	
Fluoranthene	ND	---	0.00962	"	"	"	"	
Fluorene	ND	---	0.00962	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00962	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0192	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0192	"	"	"	"	
Naphthalene	ND	---	0.0192	"	"	"	"	
Phenanthrene	0.0144	---	0.00962	"	"	"	"	
Pyrene	ND	---	0.00962	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 82 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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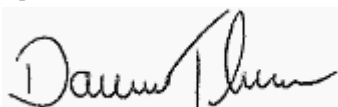
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP6-0-2T (A410129-08)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00425	mg/kg dry	1	09/10/14 15:28	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00425	"	"	"	"	
Anthracene	ND	---	0.00425	"	"	"	"	
Benz(a)anthracene	ND	---	0.00425	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00425	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.00849	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.00425	"	"	"	"	
Chrysene	ND	---	0.00425	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00425	"	"	"	"	
Dibenzofuran	ND	---	0.00425	"	"	"	"	
Fluoranthene	0.00514	---	0.00425	"	"	"	"	
Fluorene	ND	---	0.00425	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00425	"	"	"	"	
1-Methylnaphthalene	ND	---	0.00849	"	"	"	"	
2-Methylnaphthalene	ND	---	0.00849	"	"	"	"	
Naphthalene	ND	---	0.00849	"	"	"	"	
Phenanthrene	ND	---	0.00425	"	"	"	"	
Pyrene	0.00480	---	0.00425	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>82 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP6-5V (A410129-09)			Matrix: Soil		Batch: 4090185			
Acenaphthene	0.0998	---	0.0639	mg/kg dry	5	09/10/14 15:54	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0639	"	"	"	"	
Anthracene	ND	---	0.0959	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.0639	"	"	"	"	
Benzo(a)pyrene	0.0812	---	0.0639	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.128	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.0639	"	"	"	"	
Chrysene	ND	---	0.0799	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	0.0639	"	"	"	"	
Dibenzofuran	0.0682	---	0.0639	"	"	"	"	
Fluoranthene	0.170	---	0.0639	"	"	"	"	
Fluorene	0.134	---	0.0639	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0639	"	"	"	"	
1-Methylnaphthalene	ND	---	0.128	"	"	"	"	
2-Methylnaphthalene	ND	---	0.128	"	"	"	"	
Naphthalene	0.226	---	0.128	"	"	"	"	
Phenanthrene	0.327	---	0.0639	"	"	"	"	
Pyrene	0.188	---	0.0639	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 68 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>80 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Anderson Geological
 PO Box 649
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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP7-0-3T (A410129-10)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.0102	mg/kg dry	1	09/17/14 20:55	EPA 8270D (SIM)	
Acenaphthylene	0.0215	---	0.0102	"	"	"	"	
Anthracene	ND	---	0.0102	"	"	"	"	
Benz(a)anthracene	0.0135	---	0.0102	"	"	"	"	
Benzo(a)pyrene	0.0166	---	0.0102	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0273	---	0.0204	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0161	---	0.0102	"	"	"	"	
Chrysene	0.0153	---	0.0102	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0102	"	"	"	"	
Dibenzofuran	0.0111	---	0.0102	"	"	"	"	
Fluoranthene	0.0466	---	0.0102	"	"	"	"	
Fluorene	0.0116	---	0.0102	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0134	---	0.0102	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0204	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0204	"	"	"	"	
Naphthalene	0.121	---	0.0204	"	"	"	"	
Phenanthrene	0.0550	---	0.0102	"	"	"	"	
Pyrene	0.0459	---	0.0102	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 81 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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 Project Manager: Erik Anderson

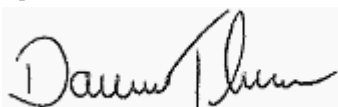
Reported:
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP7-3L (A410129-11)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00837	mg/kg dry	1	09/17/14 21:22	EPA 8270D (SIM)	
Acenaphthylene	0.0373	---	0.00837	"	"	"	"	
Anthracene	ND	---	0.00837	"	"	"	"	
Benz(a)anthracene	ND	---	0.00837	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00837	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0210	---	0.0167	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.00933	---	0.00837	"	"	"	"	
Chrysene	ND	---	0.00837	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00837	"	"	"	"	
Dibenzofuran	0.00975	---	0.00837	"	"	"	"	
Fluoranthene	0.0410	---	0.00837	"	"	"	"	
Fluorene	0.0118	---	0.00837	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00837	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0167	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0167	"	"	"	"	
Naphthalene	0.120	---	0.0167	"	"	"	"	
Phenanthrene	0.0610	---	0.00837	"	"	"	"	
Pyrene	0.0435	---	0.00837	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 79 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP8-0-2.5T (A410129-12)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00403	mg/kg dry	1	09/17/14 21:48	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00403	"	"	"	"	
Anthracene	ND	---	0.00403	"	"	"	"	
Benz(a)anthracene	ND	---	0.00403	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00403	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00403	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00403	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00403	"	"	"	"	
Chrysene	ND	---	0.00403	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00403	"	"	"	"	
Dibenzofuran	ND	---	0.00403	"	"	"	"	
Fluoranthene	ND	---	0.00403	"	"	"	"	
Fluorene	ND	---	0.00403	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00403	"	"	"	"	
1-Methylnaphthalene	ND	---	0.00807	"	"	"	"	
2-Methylnaphthalene	ND	---	0.00807	"	"	"	"	
Naphthalene	ND	---	0.00807	"	"	"	"	
Phenanthrene	ND	---	0.00403	"	"	"	"	
Pyrene	ND	---	0.00403	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>88 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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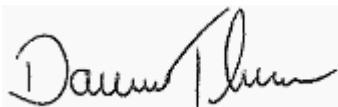
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP8-2.5L (A410129-13)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00367	mg/kg dry	1	09/17/14 22:15	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00367	"	"	"	"	
Anthracene	ND	---	0.00367	"	"	"	"	
Benz(a)anthracene	ND	---	0.00367	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00367	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00367	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00367	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00367	"	"	"	"	
Chrysene	ND	---	0.00367	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00367	"	"	"	"	
Dibenzofuran	ND	---	0.00367	"	"	"	"	
Fluoranthene	ND	---	0.00367	"	"	"	"	
Fluorene	ND	---	0.00367	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00367	"	"	"	"	
1-Methylnaphthalene	ND	---	0.00734	"	"	"	"	
2-Methylnaphthalene	ND	---	0.00734	"	"	"	"	
Naphthalene	ND	---	0.00734	"	"	"	"	
Phenanthrene	ND	---	0.00367	"	"	"	"	
Pyrene	ND	---	0.00367	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 77 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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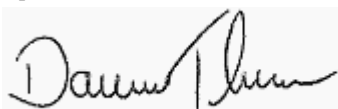
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP10-6L (A410129-16)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.0101	mg/kg dry	1	09/17/14 22:41	EPA 8270D (SIM)	
Acenaphthylene	0.0214	---	0.0101	"	"	"	"	
Anthracene	ND	---	0.0101	"	"	"	"	
Benz(a)anthracene	0.0153	---	0.0101	"	"	"	"	
Benzo(a)pyrene	0.0134	---	0.0101	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0252	---	0.0203	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0206	---	0.0101	"	"	"	"	
Chrysene	0.0133	---	0.0101	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0101	"	"	"	"	
Dibenzofuran	ND	---	0.0101	"	"	"	"	
Fluoranthene	0.0444	---	0.0101	"	"	"	"	
Fluorene	0.0118	---	0.0101	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0154	---	0.0101	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0203	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0203	"	"	"	"	
Naphthalene	0.139	---	0.0203	"	"	"	"	
Phenanthrene	0.0533	---	0.0101	"	"	"	"	
Pyrene	0.0464	---	0.0101	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 82 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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 Project Manager: Erik Anderson

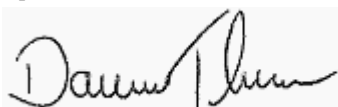
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP11-0-3T (A410129-17)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00427	mg/kg dry	1	09/10/14 16:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00427	"	"	"	"	
Anthracene	ND	---	0.00427	"	"	"	"	
Benz(a)anthracene	ND	---	0.00427	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00427	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00427	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00427	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00427	"	"	"	"	
Chrysene	ND	---	0.00427	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00427	"	"	"	"	
Dibenzofuran	ND	---	0.00427	"	"	"	"	
Fluoranthene	ND	---	0.00427	"	"	"	"	
Fluorene	ND	---	0.00427	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00427	"	"	"	"	
1-Methylnaphthalene	ND	---	0.00854	"	"	"	"	
2-Methylnaphthalene	ND	---	0.00854	"	"	"	"	
Naphthalene	ND	---	0.00854	"	"	"	"	
Phenanthrene	ND	---	0.00427	"	"	"	"	
Pyrene	ND	---	0.00427	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 68 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>82 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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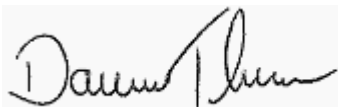
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP12-0-2T (A410129-19)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00776	mg/kg dry	1	09/10/14 16:45	EPA 8270D (SIM)	
Acenaphthylene	0.00892	---	0.00776	"	"	"	"	
Anthracene	ND	---	0.00776	"	"	"	"	
Benz(a)anthracene	0.00810	---	0.00776	"	"	"	"	
Benzo(a)pyrene	0.00858	---	0.00776	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0194	---	0.0155	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.00928	---	0.00776	"	"	"	"	
Chrysene	0.0109	---	0.00776	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00776	"	"	"	"	
Dibenzofuran	0.0216	---	0.00776	"	"	"	"	
Fluoranthene	0.0276	---	0.00776	"	"	"	"	
Fluorene	ND	---	0.00776	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.00881	---	0.00776	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0155	"	"	"	"	
2-Methylnaphthalene	0.0231	---	0.0155	"	"	"	"	
Naphthalene	0.102	---	0.0155	"	"	"	"	
Phenanthrene	0.0478	---	0.00776	"	"	"	"	
Pyrene	0.0257	---	0.00776	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>75 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP12-4L (A410129-20)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.00771	mg/kg dry	1	09/17/14 23:07	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00771	"	"	"	"	
Anthracene	ND	---	0.00771	"	"	"	"	
Benz(a)anthracene	ND	---	0.00771	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00771	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0154	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	0.00771	"	"	"	"	
Chrysene	ND	---	0.00771	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00771	"	"	"	"	
Dibenzofuran	ND	---	0.00771	"	"	"	"	
Fluoranthene	0.00885	---	0.00771	"	"	"	"	
Fluorene	ND	---	0.00771	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00771	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0154	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0154	"	"	"	"	
Naphthalene	0.0200	---	0.0154	"	"	"	"	
Phenanthrene	0.0141	---	0.00771	"	"	"	"	
Pyrene	0.00960	---	0.00771	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>80 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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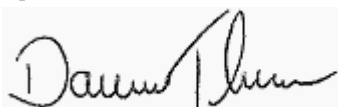
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP13-0-2T (A410129-23RE1)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00718	mg/kg dry	1	09/11/14 11:17	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00718	"	"	"	"	
Anthracene	ND	---	0.00718	"	"	"	"	
Benz(a)anthracene	ND	---	0.00718	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00718	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0144	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0163	---	0.00718	"	"	"	"	
Chrysene	0.00763	---	0.00718	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00718	"	"	"	"	
Dibenzofuran	ND	---	0.00718	"	"	"	"	
Fluoranthene	0.0127	---	0.00718	"	"	"	"	
Fluorene	ND	---	0.00718	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0139	---	0.00718	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0144	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0144	"	"	"	"	
Naphthalene	0.0202	---	0.0144	"	"	"	"	
Phenanthrene	0.0163	---	0.00718	"	"	"	"	
Pyrene	0.00989	---	0.00718	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>108 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Anderson Geological
 PO Box 649
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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP14-0-2.5T (A4I0129-25)			Matrix: Soil		Batch: 4090185			
Acenaphthene	ND	---	0.00733	mg/kg dry	1	09/10/14 17:37	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00733	"	"	"	"	
Anthracene	ND	---	0.00733	"	"	"	"	
Benz(a)anthracene	ND	---	0.00733	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00733	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0147	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.00771	---	0.00733	"	"	"	"	
Chrysene	0.00734	---	0.00733	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00733	"	"	"	"	
Dibenzofuran	0.00797	---	0.00733	"	"	"	"	
Fluoranthene	0.0193	---	0.00733	"	"	"	"	
Fluorene	ND	---	0.00733	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00733	"	"	"	"	
1-Methylnaphthalene	0.0202	---	0.0147	"	"	"	"	
2-Methylnaphthalene	0.0453	---	0.0147	"	"	"	"	
Naphthalene	0.0615	---	0.0147	"	"	"	"	
Phenanthrene	0.0269	---	0.00733	"	"	"	"	
Pyrene	0.0180	---	0.00733	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 65 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>73 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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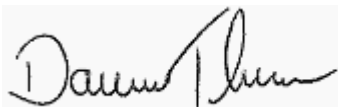
Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP14-2.5L (A410129-26)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.0123	mg/kg dry	1	09/17/14 23:34	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0123	"	"	"	"	
Anthracene	ND	---	0.0123	"	"	"	"	
Benz(a)anthracene	ND	---	0.0123	"	"	"	"	
Benzo(a)pyrene	0.0155	---	0.0123	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0248	---	0.0246	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0226	---	0.0123	"	"	"	"	
Chrysene	0.0160	---	0.0123	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0123	"	"	"	"	
Dibenzofuran	ND	---	0.0123	"	"	"	"	
Fluoranthene	0.0288	---	0.0123	"	"	"	"	
Fluorene	ND	---	0.0123	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0174	---	0.0123	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0246	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0246	"	"	"	"	
Naphthalene	0.0388	---	0.0246	"	"	"	"	
Phenanthrene	0.0239	---	0.0123	"	"	"	"	
Pyrene	0.0371	---	0.0123	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 77 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>72 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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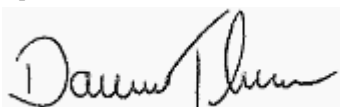
Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP15-3.5L (A4I0129-27RE1)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.00861	mg/kg dry	1	09/11/14 11:44	EPA 8270D (SIM)	
Acenaphthylene	0.0141	---	0.00861	"	"	"	"	
Anthracene	ND	---	0.00861	"	"	"	"	
Benz(a)anthracene	ND	---	0.00861	"	"	"	"	
Benzo(a)pyrene	0.0108	---	0.00861	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0193	---	0.0172	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0391	---	0.00861	"	"	"	"	
Chrysene	ND	---	0.00861	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00861	"	"	"	"	
Dibenzofuran	0.00863	---	0.00861	"	"	"	"	
Fluoranthene	0.0339	---	0.00861	"	"	"	"	
Fluorene	ND	---	0.00861	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0254	---	0.00861	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0172	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0172	"	"	"	"	
Naphthalene	0.0738	---	0.0172	"	"	"	"	
Phenanthrene	0.0427	---	0.00861	"	"	"	"	
Pyrene	0.0335	---	0.00861	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 79 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>100 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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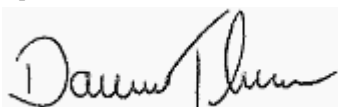
Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP15-5V (A410129-28)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00913	mg/kg dry	1	09/18/14 00:00	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00913	"	"	"	"	
Anthracene	ND	---	0.00913	"	"	"	"	
Benz(a)anthracene	ND	---	0.00913	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00913	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00913	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00913	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00913	"	"	"	"	
Chrysene	ND	---	0.00913	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00913	"	"	"	"	
Dibenzofuran	ND	---	0.00913	"	"	"	"	
Fluoranthene	ND	---	0.00913	"	"	"	"	
Fluorene	ND	---	0.00913	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00913	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0183	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0183	"	"	"	"	
Naphthalene	ND	---	0.0183	"	"	"	"	
Phenanthrene	ND	---	0.00913	"	"	"	"	
Pyrene	ND	---	0.00913	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP16-0-2.5T (A4I0129-29RE1)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.0409	mg/kg dry	5	09/11/14 12:10	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0409	"	"	"	"	
Anthracene	ND	---	0.0409	"	"	"	"	
Benz(a)anthracene	0.116	---	0.0409	"	"	"	"	
Benzo(a)pyrene	0.155	---	0.0409	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.252	---	0.0818	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.319	---	0.0409	"	"	"	"	
Chrysene	0.150	---	0.0409	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0409	"	"	"	"	
Dibenzofuran	ND	---	0.0409	"	"	"	"	
Fluoranthene	0.279	---	0.0409	"	"	"	"	
Fluorene	ND	---	0.0409	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.235	---	0.0409	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0818	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0818	"	"	"	"	
Naphthalene	0.135	---	0.0818	"	"	"	"	
Phenanthrene	0.144	---	0.0409	"	"	"	"	
Pyrene	0.224	---	0.0409	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>92 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP16-2.5L (A410129-30)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.00761	mg/kg dry	1	09/18/14 00:27	EPA 8270D (SIM)	
Acenaphthylene	0.0114	---	0.00761	"	"	"	"	
Anthracene	ND	---	0.00761	"	"	"	"	
Benz(a)anthracene	0.0128	---	0.00761	"	"	"	"	
Benzo(a)pyrene	0.0161	---	0.00761	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.0298	---	0.0152	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.0219	---	0.00761	"	"	"	"	
Chrysene	0.0160	---	0.00761	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00761	"	"	"	"	
Dibenzofuran	0.0115	---	0.00761	"	"	"	"	
Fluoranthene	0.0444	---	0.00761	"	"	"	"	
Fluorene	ND	---	0.00761	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.0174	---	0.00761	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0152	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0152	"	"	"	"	
Naphthalene	0.115	---	0.0152	"	"	"	"	
Phenanthrene	0.0534	---	0.00761	"	"	"	"	
Pyrene	0.0412	---	0.00761	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 83 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>84 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Project: **Sadri Property**
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Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP17-0-3T (A410129-31)			Matrix: Soil	Batch: 4090185				
Acenaphthene	ND	---	0.0497	mg/kg dry	5	09/10/14 18:54	EPA 8270D (SIM)	
Acenaphthylene	0.0537	---	0.0497	"	"	"	"	
Anthracene	ND	---	0.0497	"	"	"	"	
Benz(a)anthracene	0.0874	---	0.0497	"	"	"	"	
Benzo(a)pyrene	0.125	---	0.0497	"	"	"	"	
Benzo(b+k)fluoranthene(s)	0.264	---	0.0994	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.323	---	0.0497	"	"	"	"	
Chrysene	0.144	---	0.0497	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0497	"	"	"	"	
Dibenzofuran	ND	---	0.0497	"	"	"	"	
Fluoranthene	0.361	---	0.0497	"	"	"	"	
Fluorene	ND	---	0.0497	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.240	---	0.0497	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0994	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0994	"	"	"	"	
Naphthalene	0.395	---	0.0994	"	"	"	"	
Phenanthrene	0.343	---	0.0497	"	"	"	"	
Pyrene	0.332	---	0.0497	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>84 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP17-3L (A410129-32)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.00914	mg/kg dry	1	09/18/14 00:53	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00914	"	"	"	"	
Anthracene	ND	---	0.00914	"	"	"	"	
Benz(a)anthracene	ND	---	0.00914	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00914	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00914	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00914	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00914	"	"	"	"	
Chrysene	ND	---	0.00914	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00914	"	"	"	"	
Dibenzofuran	ND	---	0.00914	"	"	"	"	
Fluoranthene	ND	---	0.00914	"	"	"	"	
Fluorene	ND	---	0.00914	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00914	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0183	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0183	"	"	"	"	
Naphthalene	ND	---	0.0183	"	"	"	"	
Phenanthrene	ND	---	0.00914	"	"	"	"	
Pyrene	ND	---	0.00914	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 82 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP18-0-6T (A410129-33)			Matrix: Soil		Batch: 4090378			
Acenaphthene	ND	---	0.00603	mg/kg dry	1	09/18/14 01:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00603	"	"	"	"	
Anthracene	ND	---	0.00603	"	"	"	"	
Benz(a)anthracene	ND	---	0.00603	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00603	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	0.0121	"	"	"	"	Q-26
Benzo(g,h,i)perylene	0.00937	---	0.00603	"	"	"	"	
Chrysene	ND	---	0.00603	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00603	"	"	"	"	
Dibenzofuran	ND	---	0.00603	"	"	"	"	
Fluoranthene	0.00785	---	0.00603	"	"	"	"	
Fluorene	ND	---	0.00603	"	"	"	"	
Indeno(1,2,3-cd)pyrene	0.00657	---	0.00603	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0121	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0121	"	"	"	"	
Naphthalene	0.0200	---	0.0121	"	"	"	"	
Phenanthrene	0.0101	---	0.00603	"	"	"	"	
Pyrene	ND	---	0.00603	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>75 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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 Project Number: 1420.01
 Project Manager: Erik Anderson

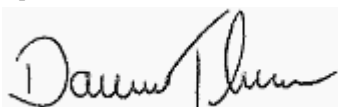
Reported:
 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP18-6L (A410129-34)			Matrix: Soil	Batch: 4090378				
Acenaphthene	ND	---	0.00796	mg/kg dry	1	09/18/14 01:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.00796	"	"	"	"	
Anthracene	ND	---	0.00796	"	"	"	"	
Benz(a)anthracene	ND	---	0.00796	"	"	"	"	
Benzo(a)pyrene	ND	---	0.00796	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.00796	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.00796	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.00796	"	"	"	"	
Chrysene	ND	---	0.00796	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.00796	"	"	"	"	
Dibenzofuran	ND	---	0.00796	"	"	"	"	
Fluoranthene	ND	---	0.00796	"	"	"	"	
Fluorene	ND	---	0.00796	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.00796	"	"	"	"	
1-Methylnaphthalene	ND	---	0.0159	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0159	"	"	"	"	
Naphthalene	ND	---	0.0159	"	"	"	"	
Phenanthrene	ND	---	0.00796	"	"	"	"	
Pyrene	ND	---	0.00796	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 44-115 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>86 %</i>	<i>Limits: 54-127 %</i>	"	"	"	

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Project: **Sadri Property**
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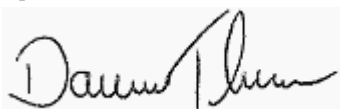
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP1-0-1T (A410129-01) Matrix: Soil								
Batch: 4090329								
Cadmium	0.366	---	0.349	mg/kg dry	10	09/13/14 14:59	EPA 6020A	
Lead	10.5	---	0.349	"	"	"	"	
TP2-0-4T (A410129-03) Matrix: Soil								
Batch: 4090329								
Cadmium	ND	---	0.383	mg/kg dry	10	09/13/14 15:03	EPA 6020A	
Lead	9.18	---	0.383	"	"	"	"	
TP3-0-5T (A410129-04) Matrix: Soil								
Batch: 4090329								
Cadmium	0.495	---	0.413	mg/kg dry	10	09/13/14 15:08	EPA 6020A	
Lead	20.2	---	0.413	"	"	"	"	
TP4-0-3T (A410129-06) Matrix: Soil								
Batch: 4090329								
Cadmium	0.448	---	0.332	mg/kg dry	10	09/13/14 15:12	EPA 6020A	
Lead	14.8	---	0.332	"	"	"	"	
TP6-0-2T (A410129-08) Matrix: Soil								
Batch: 4090329								
Cadmium	0.227	---	0.227	mg/kg dry	10	09/13/14 15:17	EPA 6020A	
Lead	2.80	---	0.227	"	"	"	"	
TP6-5V (A410129-09) Matrix: Soil								
Batch: 4090308								
Cadmium	ND	---	0.719	mg/kg dry	10	09/12/14 19:33	EPA 6020A	
Lead	75.8	---	0.719	"	"	"	"	
TP11-0-3T (A410129-17) Matrix: Soil								
Batch: 4090308								
Arsenic	ND	---	1.23	mg/kg dry	10	09/12/14 19:38	EPA 6020A	
Barium	116	---	1.23	"	"	"	"	
Cadmium	0.246	---	0.246	"	"	"	"	
Chromium	28.0	---	1.23	"	"	"	"	
Lead	1.84	---	0.246	"	"	"	"	
Mercury	ND	---	0.0984	"	"	"	"	
Selenium	ND	---	2.46	"	"	"	"	
Silver	ND	---	0.246	"	"	"	"	
TP12-0-2T (A410129-19) Matrix: Soil								

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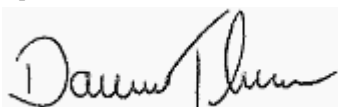
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP12-0-2T (A4I0129-19) Matrix: Soil								
Batch: 4090308								
Arsenic	2.90	---	2.18	mg/kg dry	10	09/12/14 19:42	EPA 6020A	
Barium	216	---	2.18	"	"	"	"	
Cadmium	ND	---	0.436	"	"	"	"	
Chromium	40.0	---	2.18	"	"	"	"	
Lead	25.3	---	0.436	"	"	"	"	
Mercury	ND	---	0.174	"	"	"	"	
Selenium	ND	---	4.36	"	"	"	"	
Silver	ND	---	0.436	"	"	"	"	
TP5-3.5L (A4I0129-21) Matrix: Soil								
Batch: 4090308								
Arsenic	3.49	---	2.75	mg/kg dry	10	09/12/14 19:47	EPA 6020A	
Barium	67.8	---	2.75	"	"	"	"	
Cadmium	ND	---	0.550	"	"	"	"	
Chromium	38.3	---	2.75	"	"	"	"	
Lead	14.8	---	0.550	"	"	"	"	
Mercury	ND	---	0.220	"	"	"	"	
Selenium	ND	---	5.50	"	"	"	"	
Silver	ND	---	0.550	"	"	"	"	
TP13-0-2T (A4I0129-23) Matrix: Soil								
Batch: 4090308								
Barium	97.1	---	2.01	mg/kg dry	10	09/12/14 20:10	EPA 6020A	
Cadmium	ND	---	0.402	"	"	"	"	
Lead	15.9	---	0.402	"	"	"	"	
TP14-0-2.5T (A4I0129-25) Matrix: Soil								
Batch: 4090308								
Barium	147	---	2.01	mg/kg dry	10	09/12/14 20:15	EPA 6020A	
Cadmium	ND	---	0.403	"	"	"	"	
Lead	22.0	---	0.403	"	"	"	"	
TP15-3.5L (A4I0129-27) Matrix: Soil								
Batch: 4090308								
Barium	65.8	---	2.27	mg/kg dry	10	09/12/14 20:19	EPA 6020A	
Cadmium	ND	---	0.455	"	"	"	"	
Lead	14.0	---	0.455	"	"	"	"	
TP16-0-2.5T (A4I0129-29) Matrix: Soil								

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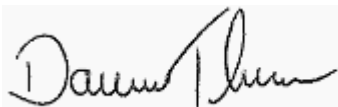
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP16-0-2.5T (A4I0129-29)			Matrix: Soil					
Batch: 4090308								
Barium	659	---	2.25	mg/kg dry	10	09/12/14 20:24	EPA 6020A	
Cadmium	1.01	---	0.450	"	"	"	"	
Lead	124	---	0.450	"	"	"	"	
TP16-2.5L (A4I0129-30)			Matrix: Soil					
Batch: 4090393								
Arsenic	4.13	---	2.11	mg/kg dry	10	09/17/14 16:24	EPA 6020A	
Barium	164	---	2.11	"	"	"	"	
Cadmium	0.569	---	0.422	"	"	"	"	
Chromium	44.9	---	2.11	"	"	"	"	
Lead	21.2	---	0.422	"	"	"	"	
Mercury	ND	---	0.169	"	"	"	"	Q-41
Selenium	ND	---	4.22	"	"	"	"	
Silver	ND	---	0.422	"	"	"	"	
TP17-0-3T (A4I0129-31)			Matrix: Soil					
Batch: 4090308								
Barium	153	---	2.45	mg/kg dry	10	09/12/14 20:29	EPA 6020A	
Cadmium	0.589	---	0.491	"	"	"	"	
Lead	48.3	---	0.491	"	"	"	"	
TP17-3L (A4I0129-32)			Matrix: Soil					
Batch: 4090393								
Arsenic	4.57	---	2.57	mg/kg dry	10	09/17/14 17:06	EPA 6020A	
Barium	138	---	2.57	"	"	"	"	
Cadmium	0.770	---	0.514	"	"	"	"	
Chromium	49.3	---	2.57	"	"	"	"	
Lead	6.29	---	0.514	"	"	"	"	
Mercury	ND	---	0.205	"	"	"	"	
Selenium	ND	---	5.14	"	"	"	"	
Silver	ND	---	0.514	"	"	"	"	
TP18-0-6T (A4I0129-33)			Matrix: Soil					
Batch: 4090308								
Arsenic	5.29	---	2.01	mg/kg dry	10	09/12/14 20:33	EPA 6020A	
Barium	57.4	---	2.01	"	"	"	"	
Cadmium	ND	---	0.401	"	"	"	"	
Chromium	46.4	---	2.01	"	"	"	"	

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 Project Manager: Erik Anderson

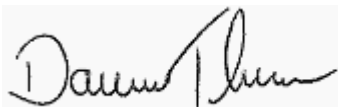
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
TP18-0-6T (A410129-33)			Matrix: Soil					
Lead	7.50	---	0.401	mg/kg dry	10	"	EPA 6020A	
Mercury	ND	---	0.160	"	"	"	"	
Selenium	ND	---	4.01	"	"	"	"	
Silver	ND	---	0.401	"	"	"	"	
TP19-0-7T (A410129-35)			Matrix: Soil					
Batch: 4090308								
Arsenic	3.00	---	1.29	mg/kg dry	10	09/12/14 20:38	EPA 6020A	
Barium	93.2	---	1.29	"	"	"	"	
Cadmium	0.621	---	0.259	"	"	"	"	
Chromium	24.5	---	1.29	"	"	"	"	
Lead	78.1	---	0.259	"	"	"	"	
Mercury	ND	---	0.103	"	"	"	"	
Selenium	ND	---	2.59	"	"	"	"	
Silver	ND	---	0.259	"	"	"	"	
TP19-7L (A410129-36)			Matrix: Soil					
Batch: 4090393								
Arsenic	2.60	---	1.59	mg/kg dry	10	09/17/14 17:10	EPA 6020A	
Barium	65.4	---	1.59	"	"	"	"	
Cadmium	0.603	---	0.317	"	"	"	"	
Chromium	54.8	---	1.59	"	"	"	"	
Lead	5.41	---	0.317	"	"	"	"	
Mercury	ND	---	0.127	"	"	"	"	
Selenium	ND	---	3.17	"	"	"	"	
Silver	ND	---	0.317	"	"	"	"	
TP20-4-8T (A410129-37)			Matrix: Soil					
Batch: 4090308								
Arsenic	3.96	---	1.39	mg/kg dry	10	09/12/14 20:42	EPA 6020A	
Barium	135	---	1.39	"	"	"	"	
Cadmium	0.362	---	0.279	"	"	"	"	
Chromium	56.4	---	1.39	"	"	"	"	
Lead	159	---	0.279	"	"	"	"	
Mercury	0.227	---	0.112	"	"	"	"	Q-41
Selenium	ND	---	2.79	"	"	"	"	
Silver	ND	---	0.279	"	"	"	"	
IP-3 (A410129-40)			Matrix: Soil					

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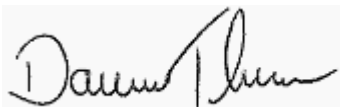
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
IP-3 (A410129-40)			Matrix: Soil					
Batch: 4090308								
Lead	29.5	---	0.657	mg/kg dry	10	09/12/14 20:56	EPA 6020A	
IP-4 (A410129-41)			Matrix: Soil					
Batch: 4090308								
Lead	13.6	---	0.673	mg/kg dry	10	09/12/14 21:01	EPA 6020A	

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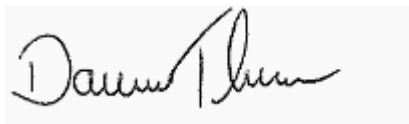
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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP1-0-1T (A4I0129-01)			Matrix: Soil		Batch: 4090174			
% Solids	61.4	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP2-0-4T (A4I0129-03)			Matrix: Soil		Batch: 4090174			
% Solids	53.6	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP3-0-5T (A4I0129-04)			Matrix: Soil		Batch: 4090174			
% Solids	52.1	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP3-5L (A4I0129-05)			Matrix: Soil		Batch: 4090395			
% Solids	49.9	---	1.00	% by Weight	1	09/17/14 10:15	EPA 8000C	
TP4-0-3T (A4I0129-06)			Matrix: Soil		Batch: 4090174			
% Solids	58.5	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP4-3L (A4I0129-07)			Matrix: Soil		Batch: 4090366			
% Solids	35.9	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP6-0-2T (A4I0129-08)			Matrix: Soil		Batch: 4090174			
% Solids	85.0	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP6-5V (A4I0129-09)			Matrix: Soil		Batch: 4090174			
% Solids	29.4	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP7-0-3T (A4I0129-10)			Matrix: Soil		Batch: 4090366			
% Solids	36.4	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP7-3L (A4I0129-11)			Matrix: Soil		Batch: 4090366			
% Solids	45.7	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP8-0-2.5T (A4I0129-12)			Matrix: Soil		Batch: 4090366			
% Solids	80.5	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP8-2.5L (A4I0129-13)			Matrix: Soil		Batch: 4090366			
% Solids	84.9	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP10-6L (A4I0129-16)			Matrix: Soil		Batch: 4090366			
% Solids	39.5	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP11-0-3T (A4I0129-17)			Matrix: Soil		Batch: 4090174			
% Solids	84.9	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP12-0-2T (A4I0129-19)			Matrix: Soil		Batch: 4090174			
% Solids	50.1	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP12-4L (A4I0129-20)			Matrix: Soil		Batch: 4090366			
% Solids	46.6	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	

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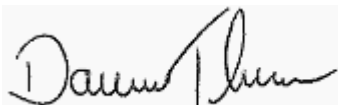
Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

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 10/17/14 10:55

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TP5-3.5L (A4I0129-21)			Matrix: Soil	Batch: 4090174				
% Solids	39.3	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP13-0-2T (A4I0129-23)			Matrix: Soil	Batch: 4090174				
% Solids	54.3	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP14-0-2.5T (A4I0129-25)			Matrix: Soil	Batch: 4090174				
% Solids	52.8	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP14-2.5L (A4I0129-26)			Matrix: Soil	Batch: 4090366				
% Solids	31.3	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP15-3.5L (A4I0129-27)			Matrix: Soil	Batch: 4090174				
% Solids	45.8	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP15-5V (A4I0129-28)			Matrix: Soil	Batch: 4090366				
% Solids	42.4	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP16-0-2.5T (A4I0129-29)			Matrix: Soil	Batch: 4090174				
% Solids	46.0	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP16-2.5L (A4I0129-30)			Matrix: Soil	Batch: 4090366				
% Solids	49.1	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP17-0-3T (A4I0129-31)			Matrix: Soil	Batch: 4090174				
% Solids	39.4	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP17-3L (A4I0129-32)			Matrix: Soil	Batch: 4090366				
% Solids	41.6	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP18-0-6T (A4I0129-33)			Matrix: Soil	Batch: 4090174				
% Solids	55.4	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP18-6L (A4I0129-34)			Matrix: Soil	Batch: 4090366				
% Solids	48.3	---	1.00	% by Weight	1	09/16/14 10:01	EPA 8000C	
TP19-0-7T (A4I0129-35)			Matrix: Soil	Batch: 4090174				
% Solids	79.2	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
TP19-7L (A4I0129-36)			Matrix: Soil	Batch: 4090395				
% Solids	61.4	---	1.00	% by Weight	1	09/17/14 10:15	EPA 8000C	
TP20-4-8T (A4I0129-37)			Matrix: Soil	Batch: 4090174				
% Solids	79.7	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
IP-3 (A4I0129-40)			Matrix: Soil	Batch: 4090174				

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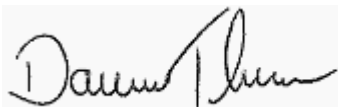
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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
IP-3 (A410129-40)			Matrix: Soil		Batch: 4090174			
% Solids	30.7	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	
IP-4 (A410129-41)			Matrix: Soil		Batch: 4090174			
% Solids	32.3	---	1.00	% by Weight	1	09/09/14 09:52	EPA 8000C	

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Darwin Thomas, Business Development Director

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

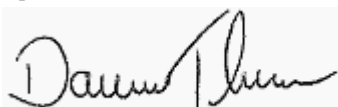
Reported:
10/17/14 10:55

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 4090299 - EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)						Soil						
Blank (4090299-BLK1)						Prepared: 09/11/14 14:26 Analyzed: 09/12/14 02:10						
NWTPH-Dx/SG												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 91 %		Limits: 50-150 %		Dilution: 1x						
LCS (4090299-BS1)						Prepared: 09/11/14 14:26 Analyzed: 09/12/14 02:34						
NWTPH-Dx/SG												
Diesel	102	---	25.0	mg/kg wet	1	125	---	82	76-115%	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 93 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (4090299-DUP1)						Prepared: 09/11/14 14:26 Analyzed: 09/12/14 03:22						
QC Source Sample: TP1-0-1T (A410129-01)												
NWTPH-Dx/SG												
Diesel	ND	---	29.3	mg/kg dry	1	---	20.7	---	---	---	30%	
Oil	ND	---	58.6	"	"	---	38.3	---	---	---	30%	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (4090299-DUP2)						Prepared: 09/11/14 14:26 Analyzed: 09/12/14 12:45						
QC Source Sample: IP-4 (A410129-41)												
NWTPH-Dx/SG												
Diesel	ND	---	60.6	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	137	---	121	"	"	---	140	---	---	2	30%	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 102 %		Limits: 50-150 %		Dilution: 1x						
Batch 4090403 - EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)						Soil						
Blank (4090403-BLK1)						Prepared: 09/16/14 15:06 Analyzed: 09/16/14 20:13						
NWTPH-Dx/SG												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
LCS (4090403-BS1)						Prepared: 09/16/14 15:06 Analyzed: 09/16/14 20:36						
NWTPH-Dx/SG												

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 Project Manager: Erik Anderson

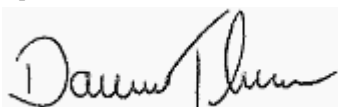
Reported:
 10/17/14 10:55

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 4090403 - EPA 3546 (Fuels) w/Silica Gel+Acid (NWTPH)						Soil						
LCS (4090403-BS1)						Prepared: 09/16/14 15:06 Analyzed: 09/16/14 20:36						
Diesel	115	---	25.0	mg/kg wet	1	125	---	92	76-115%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (4090403-DUP1)						Prepared: 09/16/14 15:06 Analyzed: 09/16/14 23:25						
QC Source Sample: TP17-3L (A4I0129-32)												
NWTPH-Dx/SG												
Diesel	ND	---	56.0	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	---	112	"	"	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

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 4090185 - EPA 3546						Soil						
Blank (4090185-BLK1)						Prepared: 09/09/14 08:34 Analyzed: 09/10/14 12:25						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00333	mg/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	0.00667	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Fluorene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00667	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00667	"	"	---	---	---	---	---	---	---
Naphthalene	ND	---	0.00667	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	---	0.00333	"	"	---	---	---	---	---	---	---
Pyrene	ND	---	0.00333	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr)
p-Terphenyl-d14 (Surr)

Recovery: 67 % Limits: 44-115 % Dilution: 1x
93 % 54-127 % "

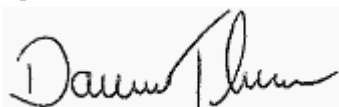
LCS (4090185-BS1)

Prepared: 09/09/14 08:34 Analyzed: 09/10/14 12:52

EPA 8270D (SIM)												
Acenaphthene	0.626	---	0.00400	mg/kg wet	1	0.800	---	78	40-122%	---	---	---
Acenaphthylene	0.631	---	0.00400	"	"	"	---	79	32-132%	---	---	---
Anthracene	0.648	---	0.00400	"	"	"	---	81	47-123%	---	---	---
Benz(a)anthracene	0.631	---	0.00400	"	"	"	---	79	49-126%	---	---	---
Benzo(a)pyrene	0.662	---	0.00400	"	"	"	---	83	45-129%	---	---	---
Benzo(b)fluoranthene	0.694	---	0.00400	"	"	"	---	87	45-132%	---	---	---

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Darwin Thomas, Business Development Director

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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

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 4090185 - EPA 3546						Soil						
LCS (4090185-BS1)						Prepared: 09/09/14 08:34 Analyzed: 09/10/14 12:52						
Benzo(k)fluoranthene	0.652	---	0.00400	"	"	"	---	81	47-132%	---	---	
Benzo(b+k)fluoranthene(s)	1.35	---	0.00800	"	"	1.60	---	84	45-132%	---	---	
Benzo(g,h,i)perylene	0.639	---	0.00400	"	"	0.800	---	80	43-134%	---	---	
Chrysene	0.642	---	0.00400	"	"	"	---	80	50-124%	---	---	
Dibenz(a,h)anthracene	0.661	---	0.00400	"	"	"	---	83	45-134%	---	---	
Dibenzofuran	0.610	---	0.00400	"	"	"	---	76	44-120%	---	---	
Fluoranthene	0.686	---	0.00400	"	"	"	---	86	50-127%	---	---	
Fluorene	0.620	---	0.00400	"	"	"	---	77	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.614	---	0.00400	"	"	"	---	77	45-133%	---	---	
1-Methylnaphthalene	0.604	---	0.00800	"	"	"	---	75	40-120%	---	---	
2-Methylnaphthalene	0.609	---	0.00800	"	"	"	---	76	38-122%	---	---	
Naphthalene	0.574	---	0.00800	"	"	"	---	72	35-123%	---	---	
Phenanthrene	0.623	---	0.00400	"	"	"	---	78	50-121%	---	---	
Pyrene	0.685	---	0.00400	"	"	"	---	86	47-127%	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 71 % Limits: 44-115 % Dilution: 1x
 p-Terphenyl-d14 (Surr) 83 % 54-127 % "

Duplicate (4090185-DUP1) Prepared: 09/09/14 08:34 Analyzed: 09/10/14 13:44

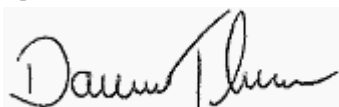
QC Source Sample: TP1-0-1T (A410129-01)

EPA 8270D (SIM)

Acenaphthene	ND	---	0.00550	mg/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	0.00550	"	"	---	ND	---	---	---	30%	
Anthracene	ND	---	0.00550	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	0.00645	---	0.00550	"	"	---	0.00441	---	---	37	30%	Q-05
Benzo(a)pyrene	0.00779	---	0.00550	"	"	---	0.00421	---	---	60	30%	Q-05
Benzo(b+k)fluoranthene(s)	0.0140	---	0.0110	"	"	---	0.00875	---	---	46	30%	Q-05, Q-26
Benzo(g,h,i)perylene	0.00807	---	0.00550	"	"	---	0.00494	---	---	48	30%	Q-05
Chrysene	0.00926	---	0.00550	"	"	---	0.00548	---	---	51	30%	Q-05
Dibenz(a,h)anthracene	ND	---	0.00550	"	"	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	0.00550	"	"	---	ND	---	---	---	30%	
Fluoranthene	0.0318	---	0.00550	"	"	---	0.00926	---	---	110	30%	
Fluorene	ND	---	0.00550	"	"	---	ND	---	---	---	30%	

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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

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 4090185 - EPA 3546												
Soil												
Duplicate (4090185-DUP1)						Prepared: 09/09/14 08:34 Analyzed: 09/10/14 13:44						
QC Source Sample: TP1-0-1T (A410129-01)												
Indeno(1,2,3-cd)pyrene	0.00740	---	0.00550	"	"	---	0.00449	---	---	49	30%	Q-05
1-Methylnaphthalene	ND	---	0.0110	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	0.0110	"	"	---	ND	---	---	---	30%	
Naphthalene	0.0405	---	0.0110	"	"	---	0.00988	---	---	122	30%	
Phenanthrene	0.0401	---	0.00550	"	"	---	0.00931	---	---	125	30%	
Pyrene	0.0361	---	0.00550	"	"	---	0.00814	---	---	126	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 44-115 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>79 %</i>		<i>54-127 %</i>		<i>"</i>						

Matrix Spike (4090185-MS1)

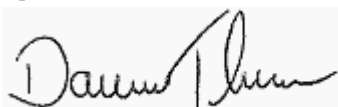
Prepared: 09/09/14 08:34 Analyzed: 09/10/14 19:20

QC Source Sample: TP17-0-3T (A410129-31)

EPA 8270D (SIM)

Acenaphthene	1.60	---	0.0490	mg/kg dry	5	1.96	ND	82	40-122%	---	---
Acenaphthylene	1.64	---	0.0490	"	"	"	0.0537	81	32-132%	---	---
Anthracene	1.62	---	0.0490	"	"	"	0.0326	81	47-123%	---	---
Benz(a)anthracene	1.57	---	0.0490	"	"	"	0.0874	75	49-126%	---	---
Benzo(a)pyrene	1.70	---	0.0490	"	"	"	0.125	80	45-129%	---	---
Benzo(b)fluoranthene	1.69	---	0.0490	"	"	"	0.262	73	45-132%	---	---
Benzo(k)fluoranthene	1.77	---	0.0490	"	"	"	0.264	77	47-132%	---	---
Benzo(b+k)fluoranthene(s)	3.49	---	0.0979	"	"	3.92	0.264	82	45-132%	---	---
Benzo(g,h,i)perylene	1.64	---	0.0490	"	"	1.96	0.323	67	43-134%	---	---
Chrysene	1.69	---	0.0490	"	"	"	0.144	79	50-124%	---	---
Dibenz(a,h)anthracene	1.58	---	0.0490	"	"	"	ND	81	45-134%	---	---
Dibenzofuran	1.57	---	0.0490	"	"	"	0.0383	78	44-120%	---	---
Fluoranthene	1.84	---	0.0490	"	"	"	0.361	75	50-127%	---	---
Fluorene	1.57	---	0.0490	"	"	"	ND	80	43-125%	---	---
Indeno(1,2,3-cd)pyrene	1.60	---	0.0490	"	"	"	0.240	70	45-133%	---	---
1-Methylnaphthalene	1.52	---	0.0979	"	"	"	ND	77	40-120%	---	---
2-Methylnaphthalene	1.51	---	0.0979	"	"	"	ND	77	38-122%	---	---
Naphthalene	1.91	---	0.0979	"	"	"	0.395	77	35-123%	---	---

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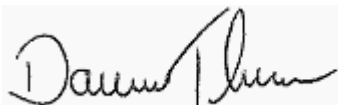
Reported:
 10/17/14 10:55

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 4090185 - EPA 3546						Soil						
Matrix Spike (4090185-MS1)						Prepared: 09/09/14 08:34 Analyzed: 09/10/14 19:20						
QC Source Sample: TP17-0-3T (A4I0129-31)												
Phenanthrene	1.74	---	0.0490	mg/kg dry	"	"	0.343	71	50-121%	---	---	
Pyrene	1.83	---	0.0490	"	"	"	0.332	76	47-127%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 75 %</i>		<i>Limits: 44-115 %</i>		<i>Dilution: 5x</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>86 %</i>		<i>54-127 %</i>		<i>"</i>					

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Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

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 4090378 - EPA 3546						Soil						
Blank (4090378-BLK1)						Prepared: 09/16/14 07:52 Analyzed: 09/17/14 19:09						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.00308	mg/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	0.00615	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Fluorene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00615	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00615	"	"	---	---	---	---	---	---	---
Naphthalene	ND	---	0.00615	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	---	0.00308	"	"	---	---	---	---	---	---	---
Pyrene	ND	---	0.00308	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr)
p-Terphenyl-d14 (Surr)

Recovery: 86 % Limits: 44-115 % Dilution: 1x
97 % 54-127 % "

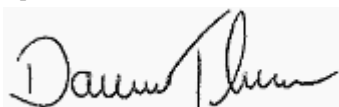
LCS (4090378-BS1)

Prepared: 09/16/14 07:52 Analyzed: 09/17/14 19:36

EPA 8270D (SIM)												
Acenaphthene	0.781	---	0.00400	mg/kg wet	1	0.800	---	98	40-122%	---	---	---
Acenaphthylene	0.782	---	0.00400	"	"	"	---	98	32-132%	---	---	---
Anthracene	0.837	---	0.00400	"	"	"	---	105	47-123%	---	---	---
Benz(a)anthracene	0.783	---	0.00400	"	"	"	---	98	49-126%	---	---	---
Benzo(a)pyrene	0.884	---	0.00400	"	"	"	---	110	45-129%	---	---	---
Benzo(b)fluoranthene	0.804	---	0.00400	"	"	"	---	100	45-132%	---	---	---

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Darwin Thomas, Business Development Director

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PO Box 649
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Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

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 4090378 - EPA 3546						Soil						
LCS (4090378-BS1)						Prepared: 09/16/14 07:52 Analyzed: 09/17/14 19:36						
Benzo(k)fluoranthene	0.831	---	0.00400	"	"	"	---	104	47-132%	---	---	
Benzo(b+k)fluoranthene(s)	1.62	---	0.00800	"	"	1.60	---	101	45-132%	---	---	
Benzo(g,h,i)perylene	0.740	---	0.00400	"	"	0.800	---	93	43-134%	---	---	
Chrysene	0.783	---	0.00400	"	"	"	---	98	50-124%	---	---	
Dibenz(a,h)anthracene	0.818	---	0.00400	"	"	"	---	102	45-134%	---	---	
Dibenzofuran	0.808	---	0.00400	"	"	"	---	101	44-120%	---	---	
Fluoranthene	0.818	---	0.00400	"	"	"	---	102	50-127%	---	---	
Fluorene	0.851	---	0.00400	"	"	"	---	106	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	0.757	---	0.00400	"	"	"	---	95	45-133%	---	---	
1-Methylnaphthalene	0.767	---	0.00800	"	"	"	---	96	40-120%	---	---	
2-Methylnaphthalene	0.808	---	0.00800	"	"	"	---	101	38-122%	---	---	
Naphthalene	0.754	---	0.00800	"	"	"	---	94	35-123%	---	---	
Phenanthrene	0.807	---	0.00400	"	"	"	---	101	50-121%	---	---	
Pyrene	0.810	---	0.00400	"	"	"	---	101	47-127%	---	---	

Surr: 2-Fluorobiphenyl (Surr)
p-Terphenyl-d14 (Surr)

Recovery: 87 %
90 %

Limits: 44-115 %
54-127 %

Dilution: 1x
"

Duplicate (4090378-DUP1)

Prepared: 09/16/14 07:52 Analyzed: 09/17/14 20:29

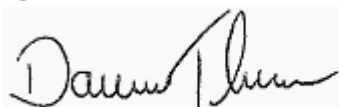
QC Source Sample: TP4-3L (A410129-07)

EPA 8270D (SIM)

Acenaphthene	ND	---	0.0109	mg/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	0.0109	"	"	---	0.0151	---	---	---	30%	
Anthracene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Benzo(b+k)fluoranthene(s)	ND	---	0.0219	"	"	---	ND	---	---	---	30%	Q-26
Benzo(g,h,i)perylene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Chrysene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
Fluoranthene	0.0170	---	0.0109	"	"	---	0.00637	---	---	91	30%	Q-05
Fluorene	0.0180	---	0.0109	"	"	---	0.00712	---	---	86	30%	Q-05

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Anderson Geological
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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

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 4090378 - EPA 3546												
Soil												
Duplicate (4090378-DUP1)			Prepared: 09/16/14 07:52 Analyzed: 09/17/14 20:29									
QC Source Sample: TP4-3L (A410129-07)												
Indeno(1,2,3-cd)pyrene	ND	---	0.0109	"	"	---	ND	---	---	---	30%	
1-Methylnaphthalene	ND	---	0.0219	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	0.0219	"	"	---	ND	---	---	---	30%	
Naphthalene	0.0259	---	0.0219	"	"	---	0.0109	---	---	---	30%	
Phenanthrene	0.0326	---	0.0109	"	"	---	0.0144	---	---	78	30%	Q-05
Pyrene	0.0157	---	0.0109	"	"	---	0.00687	---	---	78	30%	Q-05
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 81 %</i>		<i>Limits: 44-115 %</i>		<i>Dilution: 1x</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>		<i>54-127 %</i>		<i>"</i>					

Matrix Spike (4090378-MS1)

Prepared: 09/16/14 07:52 Analyzed: 09/18/14 02:12

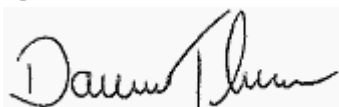
QC Source Sample: TP18-6L (A410129-34)

EPA 8270D (SIM)

Acenaphthene	1.33	---	0.00709	mg/kg dry	1	1.42	ND	93	40-122%	---	---	
Acenaphthylene	1.32	---	0.00709	"	"	"	ND	93	32-132%	---	---	
Anthracene	1.41	---	0.00709	"	"	"	ND	100	47-123%	---	---	
Benz(a)anthracene	1.35	---	0.00709	"	"	"	ND	95	49-126%	---	---	
Benzo(a)pyrene	1.51	---	0.00709	"	"	"	ND	106	45-129%	---	---	
Benzo(b)fluoranthene	1.43	---	0.00709	"	"	"	ND	101	45-132%	---	---	
Benzo(k)fluoranthene	1.39	---	0.00709	"	"	"	ND	98	47-132%	---	---	
Benzo(b+k)fluoranthene(s)	2.78	---	0.0142	"	"	2.84	ND	98	45-132%	---	---	
Benzo(g,h,i)perylene	1.12	---	0.00709	"	"	1.42	ND	79	43-134%	---	---	
Chrysene	1.31	---	0.00709	"	"	"	ND	93	50-124%	---	---	
Dibenz(a,h)anthracene	1.38	---	0.00709	"	"	"	ND	97	45-134%	---	---	
Dibenzofuran	1.40	---	0.00709	"	"	"	ND	99	44-120%	---	---	
Fluoranthene	1.38	---	0.00709	"	"	"	ND	97	50-127%	---	---	
Fluorene	1.47	---	0.00709	"	"	"	ND	104	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	1.24	---	0.00709	"	"	"	ND	88	45-133%	---	---	
1-Methylnaphthalene	1.29	---	0.0142	"	"	"	ND	91	40-120%	---	---	
2-Methylnaphthalene	1.34	---	0.0142	"	"	"	ND	95	38-122%	---	---	
Naphthalene	1.25	---	0.0142	"	"	"	ND	88	35-123%	---	---	

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Darwin Thomas, Business Development Director

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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

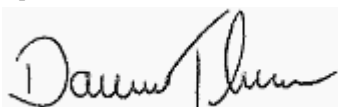
Reported:
 10/17/14 10:55

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 4090378 - EPA 3546						Soil						
Matrix Spike (4090378-MS1)						Prepared: 09/16/14 07:52 Analyzed: 09/18/14 02:12						
QC Source Sample: TP18-6L (A4I0129-34)												
Phenanthrene	1.36	---	0.00709	mg/kg dry	"	"	ND	96	50-121%	---	---	
Pyrene	1.37	---	0.00709	"	"	"	ND	97	47-127%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 78 %</i>		<i>Limits: 44-115 %</i>		<i>Dilution: 1x</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>82 %</i>		<i>54-127 %</i>		<i>"</i>					

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Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

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 4090308 - EPA 3051A						Soil						
Blank (4090308-BLK1)						Prepared: 09/12/14 08:21 Analyzed: 09/12/14 19:24						
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	---	2.00	"	"	---	---	---	---	---	---	B-02
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
LCS (4090308-BS1)						Prepared: 09/12/14 08:21 Analyzed: 09/12/14 19:29						
EPA 6020A												
Arsenic	51.6	---	1.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Barium	50.7	---	1.00	"	"	"	---	101	"	---	---	
Cadmium	51.7	---	0.200	"	"	"	---	103	"	---	---	
Chromium	51.5	---	1.00	"	"	"	---	103	"	---	---	
Lead	53.5	---	0.200	"	"	"	---	107	"	---	---	
Mercury	0.981	---	0.0800	"	"	1.00	---	98	"	---	---	Q-41
Selenium	26.5	---	2.00	"	"	25.0	---	106	"	---	---	B-02
Silver	26.0	---	0.200	"	"	"	---	104	"	---	---	
Duplicate (4090308-DUP1)						Prepared: 09/12/14 08:21 Analyzed: 09/12/14 20:01						
QC Source Sample: TP5-3.5L (A410129-21)												
EPA 6020A												
Arsenic	3.08	---	2.57	mg/kg dry	10	---	3.49	---	---	12	40%	
Barium	67.9	---	2.57	"	"	---	67.8	---	---	0.2	40%	
Cadmium	ND	---	0.514	"	"	---	ND	---	---	---	40%	
Chromium	38.1	---	2.57	"	"	---	38.3	---	---	0.5	40%	
Lead	15.2	---	0.514	"	"	---	14.8	---	---	3	40%	
Mercury	ND	---	0.206	"	"	---	ND	---	---	---	40%	
Selenium	ND	---	5.14	"	"	---	ND	---	---	---	40%	B-02
Silver	ND	---	0.514	"	"	---	ND	---	---	---	40%	

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 Project Number: 1420.01
 Project Manager: Erik Anderson

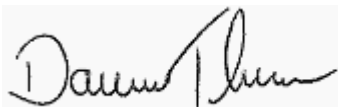
Reported:
 10/17/14 10:55

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 4090308 - EPA 3051A						Soil						
Matrix Spike (4090308-MS1)						Prepared: 09/12/14 08:21 Analyzed: 09/12/14 20:06						
QC Source Sample: TP5-3.5L (A410129-21)												
EPA 6020A												
Arsenic	135	---	2.63	mg/kg dry	10	132	3.49	100	75-125%	---	---	
Barium	195	---	2.63	"	"	"	67.8	97	"	---	---	
Cadmium	137	---	0.527	"	"	"	ND	104	"	---	---	
Chromium	172	---	2.63	"	"	"	38.3	102	"	---	---	
Lead	152	---	0.527	"	"	"	14.8	104	"	---	---	
Mercury	2.55	---	0.211	"	"	2.63	ND	97	"	---	---	Q-41
Selenium	67.7	---	5.27	"	"	65.8	ND	103	"	---	---	B-02
Silver	67.7	---	0.527	"	"	"	ND	103	"	---	---	

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Project: **Sadri Property**
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 Project Manager: Erik Anderson

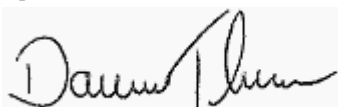
Reported:
 10/17/14 10:55

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 4090329 - EPA 3051A						Soil						
Blank (4090329-BLK1)						Prepared: 09/12/14 12:28 Analyzed: 09/13/14 13:45						
EPA 6020A												
Cadmium	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	---
Lead	ND	---	0.200	"	"	---	---	---	---	---	---	---
LCS (4090329-BS1)						Prepared: 09/12/14 12:28 Analyzed: 09/13/14 13:59						
EPA 6020A												
Cadmium	50.4	---	0.200	mg/kg wet	10	50.0	---	101	80-120%	---	---	---
Lead	51.5	---	0.200	"	"	"	---	103	"	---	---	---
Matrix Spike (4090329-MS2)						Prepared: 09/12/14 12:28 Analyzed: 09/13/14 15:22						
QC Source Sample: TP6-0-2T (A410129-08)												
EPA 6020A												
Cadmium	62.3	---	0.257	mg/kg dry	10	64.4	0.227	97	75-125%	---	---	---
Lead	64.2	---	0.257	"	"	"	2.80	95	"	---	---	---

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Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

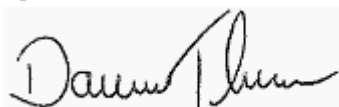
QUALITY CONTROL (QC) SAMPLE RESULTS

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 4090393 - EPA 3051A						Soil						
Blank (4090393-BLK1)						Prepared: 09/16/14 10:57 Analyzed: 09/17/14 15:02						
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	---	2.00	"	"	---	---	---	---	---	---	
Silver	ND	---	0.200	"	"	---	---	---	---	---	---	
LCS (4090393-BS1)						Prepared: 09/16/14 10:57 Analyzed: 09/17/14 15:07						
EPA 6020A												
Arsenic	52.9	---	1.00	mg/kg wet	10	50.0	---	106	80-120%	---	---	
Barium	52.5	---	1.00	"	"	"	---	105	"	---	---	
Cadmium	53.3	---	0.200	"	"	"	---	107	"	---	---	
Chromium	52.5	---	1.00	"	"	"	---	105	"	---	---	
Lead	53.1	---	0.200	"	"	"	---	106	"	---	---	
Mercury	1.01	---	0.0800	"	"	1.00	---	101	"	---	---	
Selenium	27.6	---	2.00	"	"	25.0	---	111	"	---	---	
Silver	26.6	---	0.200	"	"	"	---	107	"	---	---	
Duplicate (4090393-DUP1)						Prepared: 09/16/14 10:57 Analyzed: 09/17/14 16:29						
QC Source Sample: TP16-2.5L (A4I0129-30)												
EPA 6020A												
Arsenic	4.87	---	2.25	mg/kg dry	10	---	4.13	---	---	16	40%	
Barium	147	---	2.25	"	"	---	164	---	---	11	40%	
Cadmium	0.991	---	0.451	"	"	---	0.569	---	---	54	40%	Q-17
Chromium	43.5	---	2.25	"	"	---	44.9	---	---	3	40%	
Lead	21.3	---	0.451	"	"	---	21.2	---	---	0.5	40%	
Mercury	ND	---	0.180	"	"	---	0.109	---	---	***	40%	Q-41
Selenium	ND	---	4.51	"	"	---	ND	---	---	---	40%	
Silver	ND	---	0.451	"	"	---	ND	---	---	---	40%	

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 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

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 4090393 - EPA 3051A						Soil						
Matrix Spike (4090393-MS1)						Prepared: 09/16/14 10:57 Analyzed: 09/17/14 16:34						
QC Source Sample: TP16-2.5L (A410129-30)												
EPA 6020A												
Arsenic	123	---	2.24	mg/kg dry	10	112	4.13	106	75-125%	---	---	
Barium	300	---	2.24	"	"	"	164	122	"	---	---	
Cadmium	125	---	0.449	"	"	"	0.569	111	"	---	---	
Chromium	165	---	2.24	"	"	"	44.9	107	"	---	---	
Lead	149	---	0.449	"	"	"	21.2	114	"	---	---	
Mercury	2.36	---	0.179	"	"	2.24	0.109	100	"	---	---	Q-41
Selenium	62.2	---	4.49	"	"	56.0	ND	111	"	---	---	
Silver	61.4	---	0.449	"	"	"	ND	110	"	---	---	

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Project: **Sadri Property**
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Reported:
 10/17/14 10:55

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 4090174 - Total Solids (Dry Weight)

Soil

Duplicate (4090174-DUP1)

Prepared: 09/08/14 16:15 Analyzed: 09/09/14 09:52

QC Source Sample: TP6-5V (A4I0129-09)

EPA 8000C

% Solids	32.6	---	1.00	% by Weight	1	---	29.4	---	---	10	20%	
----------	------	-----	------	-------------	---	-----	------	-----	-----	----	-----	--

Duplicate (4090174-DUP2)

Prepared: 09/08/14 16:15 Analyzed: 09/09/14 09:52

QC Source Sample: TP16-0-2.5T (A4I0129-29)

EPA 8000C

% Solids	45.4	---	1.00	% by Weight	1	---	46.0	---	---	1	20%	
----------	------	-----	------	-------------	---	-----	------	-----	-----	---	-----	--

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

Batch 4090366 - Total Solids (Dry Weight)

Soil

Duplicate (4090366-DUP1)

Prepared: 09/15/14 14:50 Analyzed: 09/16/14 10:01

QC Source Sample: TP10-6L (A4I0129-16)

EPA 8000C

% Solids	36.8	---	1.00	% by Weight	1	---	39.5	---	---	7	20%	
----------	------	-----	------	-------------	---	-----	------	-----	-----	---	-----	--

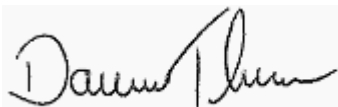
No Client related Batch QC samples analyzed for this batch. See notes page for more information.

Batch 4090395 - Total Solids (Dry Weight)

Soil

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

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Darwin Thomas, Business Development Director

Anderson Geological
 PO Box 649
 Wilsonville, OR 97070

Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

SAMPLE PREPARATION INFORMATION

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: 4090299							
A4I0129-01	Soil	NWTPH-Dx/SG	09/03/14 08:55	09/11/14 14:26	13.76g/5mL	10g/5mL	0.73
A4I0129-03	Soil	NWTPH-Dx/SG	09/03/14 09:38	09/11/14 14:26	14.05g/5mL	10g/5mL	0.71
A4I0129-04	Soil	NWTPH-Dx/SG	09/03/14 10:06	09/11/14 14:26	13.53g/5mL	10g/5mL	0.74
A4I0129-06	Soil	NWTPH-Dx/SG	09/03/14 10:40	09/11/14 14:26	13.53g/5mL	10g/5mL	0.74
A4I0129-08	Soil	NWTPH-Dx/SG	09/03/14 11:40	09/11/14 14:26	12.95g/5mL	10g/5mL	0.77
A4I0129-09	Soil	NWTPH-Dx/SG	09/03/14 11:50	09/11/14 14:26	13.1g/5mL	10g/5mL	0.76
A4I0129-17	Soil	NWTPH-Dx/SG	09/03/14 14:06	09/11/14 14:26	12.7g/5mL	10g/5mL	0.79
A4I0129-19	Soil	NWTPH-Dx/SG	09/03/14 14:27	09/11/14 14:26	12.86g/5mL	10g/5mL	0.78
A4I0129-21	Soil	NWTPH-Dx/SG	09/04/14 15:00	09/11/14 14:26	12.6g/5mL	10g/5mL	0.79
A4I0129-23	Soil	NWTPH-Dx/SG	09/04/14 08:53	09/11/14 14:26	13.97g/5mL	10g/5mL	0.72
A4I0129-25	Soil	NWTPH-Dx/SG	09/04/14 14:13	09/11/14 14:26	12.32g/5mL	10g/5mL	0.81
A4I0129-27	Soil	NWTPH-Dx/SG	09/04/14 11:33	09/11/14 14:26	12.32g/5mL	10g/5mL	0.81
A4I0129-29RE2	Soil	NWTPH-Dx/SG	09/04/14 09:36	09/11/14 14:26	12.85g/5mL	10g/5mL	0.78
A4I0129-31	Soil	NWTPH-Dx/SG	09/04/14 12:35	09/11/14 14:26	12.52g/5mL	10g/5mL	0.80
A4I0129-33	Soil	NWTPH-Dx/SG	09/04/14 15:46	09/11/14 14:26	13.77g/5mL	10g/5mL	0.73
A4I0129-35	Soil	NWTPH-Dx/SG	09/04/14 16:35	09/11/14 14:26	13.8g/5mL	10g/5mL	0.73
A4I0129-37	Soil	NWTPH-Dx/SG	09/04/14 17:20	09/11/14 14:26	14.9g/5mL	10g/5mL	0.67
A4I0129-40	Soil	NWTPH-Dx/SG	09/04/14 10:36	09/11/14 14:26	13.28g/5mL	10g/5mL	0.75
A4I0129-41	Soil	NWTPH-Dx/SG	09/04/14 10:47	09/11/14 14:26	12.97g/5mL	10g/5mL	0.77
Batch: 4090403							
A4I0129-05	Soil	NWTPH-Dx/SG	09/03/14 10:21	09/16/14 15:06	10.98g/5mL	10g/5mL	0.91
A4I0129-10	Soil	NWTPH-Dx/SG	09/03/14 14:37	09/16/14 15:06	10.26g/5mL	10g/5mL	0.98
A4I0129-26	Soil	NWTPH-Dx/SG	09/04/14 14:20	09/16/14 15:06	10.29g/5mL	10g/5mL	0.97
A4I0129-32	Soil	NWTPH-Dx/SG	09/04/14 12:41	09/16/14 15:06	10.66g/5mL	10g/5mL	0.94

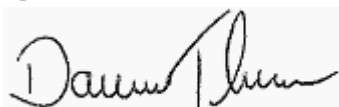
Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 4090185							
A4I0129-01	Soil	EPA 8270D (SIM)	09/03/14 08:55	09/09/14 08:34	10.31g/2mL	10g/2mL	0.97
A4I0129-03RE1	Soil	EPA 8270D (SIM)	09/03/14 09:38	09/09/14 08:34	10.61g/2mL	10g/2mL	0.94
A4I0129-04	Soil	EPA 8270D (SIM)	09/03/14 10:06	09/09/14 08:34	10.21g/2mL	10g/2mL	0.98
A4I0129-06	Soil	EPA 8270D (SIM)	09/03/14 10:40	09/09/14 08:34	10.25g/2mL	10g/2mL	0.98

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Darwin Thomas, Business Development Director

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

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
A4I0129-08	Soil	EPA 8270D (SIM)	09/03/14 11:40	09/09/14 08:34	11.08g/2mL	10g/2mL	0.90
A4I0129-09	Soil	EPA 8270D (SIM)	09/03/14 11:50	09/09/14 08:34	10.64g/2mL	10g/2mL	0.94
A4I0129-17	Soil	EPA 8270D (SIM)	09/03/14 14:06	09/09/14 08:34	11.04g/2mL	10g/2mL	0.91
A4I0129-19	Soil	EPA 8270D (SIM)	09/03/14 14:27	09/09/14 08:34	10.29g/2mL	10g/2mL	0.97
A4I0129-23RE1	Soil	EPA 8270D (SIM)	09/04/14 08:53	09/09/14 08:34	10.26g/2mL	10g/2mL	0.98
A4I0129-25	Soil	EPA 8270D (SIM)	09/04/14 14:13	09/09/14 08:34	10.33g/2mL	10g/2mL	0.97
A4I0129-27RE1	Soil	EPA 8270D (SIM)	09/04/14 11:33	09/09/14 08:34	10.14g/2mL	10g/2mL	0.99
A4I0129-29RE1	Soil	EPA 8270D (SIM)	09/04/14 09:36	09/09/14 08:34	10.63g/2mL	10g/2mL	0.94
A4I0129-31	Soil	EPA 8270D (SIM)	09/04/14 12:35	09/09/14 08:34	10.21g/2mL	10g/2mL	0.98

Batch: 4090378

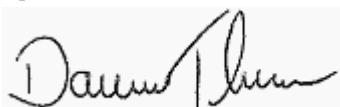
A4I0129-07	Soil	EPA 8270D (SIM)	09/03/14 10:44	09/16/14 07:52	11.58g/2mL	10g/2mL	0.86
A4I0129-10	Soil	EPA 8270D (SIM)	09/03/14 14:37	09/16/14 07:52	10.78g/2mL	10g/2mL	0.93
A4I0129-11	Soil	EPA 8270D (SIM)	09/03/14 14:59	09/16/14 07:52	10.46g/2mL	10g/2mL	0.96
A4I0129-12	Soil	EPA 8270D (SIM)	09/03/14 15:38	09/16/14 07:52	12.32g/2mL	10g/2mL	0.81
A4I0129-13	Soil	EPA 8270D (SIM)	09/03/14 15:42	09/16/14 07:52	12.83g/2mL	10g/2mL	0.78
A4I0129-16	Soil	EPA 8270D (SIM)	09/03/14 15:24	09/16/14 07:52	10g/2mL	10g/2mL	1.00
A4I0129-20	Soil	EPA 8270D (SIM)	09/03/14 14:36	09/16/14 07:52	11.14g/2mL	10g/2mL	0.90
A4I0129-26	Soil	EPA 8270D (SIM)	09/04/14 14:20	09/16/14 07:52	10.37g/2mL	10g/2mL	0.96
A4I0129-28	Soil	EPA 8270D (SIM)	09/04/14 11:46	09/16/14 07:52	10.33g/2mL	10g/2mL	0.97
A4I0129-30	Soil	EPA 8270D (SIM)	09/04/14 09:44	09/16/14 07:52	10.71g/2mL	10g/2mL	0.93
A4I0129-32	Soil	EPA 8270D (SIM)	09/04/14 12:41	09/16/14 07:52	10.52g/2mL	10g/2mL	0.95
A4I0129-33	Soil	EPA 8270D (SIM)	09/04/14 15:46	09/16/14 07:52	11.97g/2mL	10g/2mL	0.84
A4I0129-34	Soil	EPA 8270D (SIM)	09/04/14 15:50	09/16/14 07:52	10.41g/2mL	10g/2mL	0.96

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4I0129-09	Soil	EPA 6020A	09/03/14 11:50	09/12/14 08:21	0.473g/50mL	0.5g/50mL	1.06
A4I0129-17	Soil	EPA 6020A	09/03/14 14:06	09/12/14 08:21	0.479g/50mL	0.5g/50mL	1.04
A4I0129-19	Soil	EPA 6020A	09/03/14 14:27	09/12/14 08:21	0.458g/50mL	0.5g/50mL	1.09
A4I0129-21	Soil	EPA 6020A	09/04/14 15:00	09/12/14 08:21	0.463g/50mL	0.5g/50mL	1.08
A4I0129-23	Soil	EPA 6020A	09/04/14 08:53	09/12/14 08:21	0.458g/50mL	0.5g/50mL	1.09
A4I0129-25	Soil	EPA 6020A	09/04/14 14:13	09/12/14 08:21	0.47g/50mL	0.5g/50mL	1.06

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Anderson Geological
 PO Box 649
 Wilsonville, OR 97070

Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4I0129-27	Soil	EPA 6020A	09/04/14 11:33	09/12/14 08:21	0.48g/50mL	0.5g/50mL	1.04
A4I0129-29	Soil	EPA 6020A	09/04/14 09:36	09/12/14 08:21	0.483g/50mL	0.5g/50mL	1.04
A4I0129-31	Soil	EPA 6020A	09/04/14 12:35	09/12/14 08:21	0.517g/50mL	0.5g/50mL	0.97
A4I0129-33	Soil	EPA 6020A	09/04/14 15:46	09/12/14 08:21	0.45g/50mL	0.5g/50mL	1.11
A4I0129-35	Soil	EPA 6020A	09/04/14 16:35	09/12/14 08:21	0.488g/50mL	0.5g/50mL	1.02
A4I0129-37	Soil	EPA 6020A	09/04/14 17:20	09/12/14 08:21	0.45g/50mL	0.5g/50mL	1.11
A4I0129-40	Soil	EPA 6020A	09/04/14 10:36	09/12/14 08:21	0.496g/50mL	0.5g/50mL	1.01
A4I0129-41	Soil	EPA 6020A	09/04/14 10:47	09/12/14 08:21	0.46g/50mL	0.5g/50mL	1.09

Batch: 4090329

A4I0129-01	Soil	EPA 6020A	09/03/14 08:55	09/12/14 12:28	0.467g/50mL	0.5g/50mL	1.07
A4I0129-03	Soil	EPA 6020A	09/03/14 09:38	09/12/14 12:28	0.487g/50mL	0.5g/50mL	1.03
A4I0129-04	Soil	EPA 6020A	09/03/14 10:06	09/12/14 12:28	0.465g/50mL	0.5g/50mL	1.08
A4I0129-06	Soil	EPA 6020A	09/03/14 10:40	09/12/14 12:28	0.515g/50mL	0.5g/50mL	0.97
A4I0129-08	Soil	EPA 6020A	09/03/14 11:40	09/12/14 12:28	0.518g/50mL	0.5g/50mL	0.97

Batch: 4090393

A4I0129-30	Soil	EPA 6020A	09/04/14 09:44	09/16/14 10:57	0.483g/50mL	0.5g/50mL	1.04
A4I0129-32	Soil	EPA 6020A	09/04/14 12:41	09/16/14 10:57	0.468g/50mL	0.5g/50mL	1.07
A4I0129-36	Soil	EPA 6020A	09/04/14 16:27	09/16/14 10:57	0.513g/50mL	0.5g/50mL	0.98

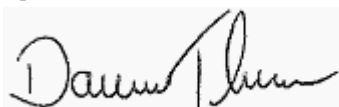
Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4I0129-01	Soil	EPA 8000C	09/03/14 08:55	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-03	Soil	EPA 8000C	09/03/14 09:38	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-04	Soil	EPA 8000C	09/03/14 10:06	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-06	Soil	EPA 8000C	09/03/14 10:40	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-08	Soil	EPA 8000C	09/03/14 11:40	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-09	Soil	EPA 8000C	09/03/14 11:50	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-17	Soil	EPA 8000C	09/03/14 14:06	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-19	Soil	EPA 8000C	09/03/14 14:27	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-21	Soil	EPA 8000C	09/04/14 15:00	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-23	Soil	EPA 8000C	09/04/14 08:53	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-25	Soil	EPA 8000C	09/04/14 14:13	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA

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Darwin Thomas, Business Development Director

Anderson Geological
 PO Box 649
 Wilsonville, OR 97070

Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

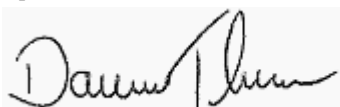
SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4I0129-27	Soil	EPA 8000C	09/04/14 11:33	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-29	Soil	EPA 8000C	09/04/14 09:36	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-31	Soil	EPA 8000C	09/04/14 12:35	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-33	Soil	EPA 8000C	09/04/14 15:46	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-35	Soil	EPA 8000C	09/04/14 16:35	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-37	Soil	EPA 8000C	09/04/14 17:20	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-40	Soil	EPA 8000C	09/04/14 10:36	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-41	Soil	EPA 8000C	09/04/14 10:47	09/08/14 16:15	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4090366							
A4I0129-07	Soil	EPA 8000C	09/03/14 10:44	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-10	Soil	EPA 8000C	09/03/14 14:37	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-11	Soil	EPA 8000C	09/03/14 14:59	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-12	Soil	EPA 8000C	09/03/14 15:38	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-13	Soil	EPA 8000C	09/03/14 15:42	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-16	Soil	EPA 8000C	09/03/14 15:24	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-20	Soil	EPA 8000C	09/03/14 14:36	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-26	Soil	EPA 8000C	09/04/14 14:20	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-28	Soil	EPA 8000C	09/04/14 11:46	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-30	Soil	EPA 8000C	09/04/14 09:44	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-32	Soil	EPA 8000C	09/04/14 12:41	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-34	Soil	EPA 8000C	09/04/14 15:50	09/15/14 14:51	1N/A/1N/A	1N/A/1N/A	NA
Batch: 4090395							
A4I0129-05	Soil	EPA 8000C	09/03/14 10:21	09/16/14 11:12	1N/A/1N/A	1N/A/1N/A	NA
A4I0129-36	Soil	EPA 8000C	09/04/14 16:27	09/16/14 11:12	1N/A/1N/A	1N/A/1N/A	NA

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Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

Notes and Definitions

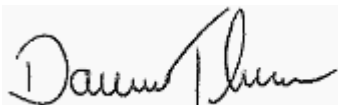
Qualifiers:

- B-02 Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- 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.
- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-15 Results for diesel are estimated due to overlap from the reported oil result.
- F-16 Results for oil are estimated due to overlap from the reported diesel result.
- Q-05 Analyses are not controlled on RPD values from sample or duplicate concentrations below 5 times the reporting level.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- 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-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

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.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 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.

Apex Laboratories



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Darwin Thomas, Business Development Director

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

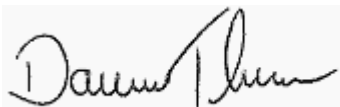
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

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 discrepancy 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).

Apex Laboratories



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Darwin Thomas, Business Development Director

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: Sadri Property
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

CHAIN OF CUSTODY


Lab # A410129 coc L of 45

Company: <u>Anderson Geological</u>			Project Name: <u>Sadri Property</u>			Project # <u>1420.01</u>		
Address:			Phone:			Email: <u>Erik@andersongeo.com</u>		
Sampled by: <u>E. Anderson</u>			Project Mgr: <u>Erik Anderson</u>					
Site Location: <u>WA</u>	Other: _____		ANALYSIS REQUEST					
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTRH-CID	NWTRH-D	NWTRH-G
TP1-0-1T		10/14	08:55	S	2	X		
TP1-6L		"	09:06	S	2			
TP2-0-4T		"	09:39	S	2	X		
TP3-0-5T		"	10:06	S	2	X		
TP3-5L		"	10:31	S	2			
TP4-0-3T		"	10:40	S	2	X		
TP4-3L		"	10:44	S	2			
TP6-0-2T		"	11:40	S	2	X		
TP6-5V		"	11:50	S	2			
TP7-0-3T		"	14:37	S	2			

RELINQUISHED BY: Signature: <u>EAL</u> Date: <u>9/15/14</u>	RECEIVED BY: Signature: <u>Von</u> Date: <u>9/15/14</u>
Printed Name: <u>Erik Anderson</u> Title: <u>Analyst</u>	Printed Name: <u>V. Austy</u> Title: <u>Analyst</u>
Company: <u>AG-1</u>	Company: <u>Apex</u>

SPECIAL INSTRUCTIONS:
*Run SI gel cleanup on all DX
Report MDL and MRL for all analytes*

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.

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

APEX LABS CHAIN OF CUSTODY Lab # A410129 COC 2 of 5

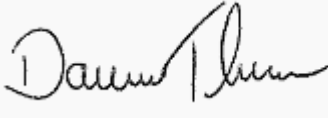
12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Anderson Geological Project Mgr: Erik Anderson Project Name: Sadri Property Project # 1420.01
Address: _____ Project Mgr: Erik Anderson Project Name: Sadri Property Project # 1420.01
Site Location: WA (circle)
Other: _____
Site Location: _____
Other: _____

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NW17TH-CD	NW17TH-DB	NW17TH-DC	R268 VOC	R268 RBDN VOCs	R268 BTEX	R270 SVOC	R270 SIM PAHs	8082 PCBs	600 TTO	R2CA Metals (9)	TCLP Metals (9)	M, Sb, As, Ba, Be, Bi, Br, Ca, Cd, Cr, Cu, Fe, Pb, Hg, Mn, Ni, Na, Ni, Ni, P, Pt, Se, Ag, Na, K, V, Y, Zn	1300-COLS	1300-Z	Diagnosis (EPA 8160)	Hold
TP7-3L	9/14/14	14:59	S	2																Hold	
TP8-0-2-5L	"	15:38	S	2																Hold	
TP8-2-5L	"	15:42	S	2																Hold	
TP9-0-2-5T	"	16:07	S	2																Hold	
TP9-2-5L	"	16:15	S	2																Hold	
TP10-6L	"	15:44	S	2																Hold	
TP11-0-3T	"	14:06	S	3		X														Hold	
TP11-3L	"	14:13	S	3			X													Hold	
TP12-0-2T	"	14:27	S	3																Hold	
TP12-4L	"	14:36	S	3																Hold	

SPECIAL INSTRUCTIONS:
Run Si gel on all dx
Report MET, MDL and MEL

RELINQUISHED BY: [Signature] Date: 9/15/14 Signature: [Signature] Date: _____
Printed Name: Erik Anderson Time: 9:48 Printed Name: Wendy Ann Smith Time: 10:40
Company: A41 Company: Apex

Apex Laboratories


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.

Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

Reported:
10/17/14 10:55

CHAIN OF CUSTODY

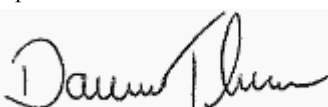
Lab # Aut 6129 coc 2 of 25

APEX LABS

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

Company: <u>Anderson Geological</u>		Project Mgr: <u>Erik Anderson</u>		Project Name: <u>Sadri Property</u>		Project # <u>1420.01</u>	
Address:		Phone:		Fax:		Email:	
Sampled by: <u>E. Anderson</u>							
Site Location: <u>WA</u>							
Other:							
SAMPLE ID		DATE		TIME		# OF CONTAINERS	
1 TP5-3.5L		9/4/14		3:00		2	
2 TP5- 5V 5V		"		3:06		2	
3 TP13-0-2T		"		8:53		2	
4 TP13-2L		"		8:54		2	
5 TP14-0-2.5T		"		14:13		2	
6 TP14-2.5L		"		14:20		2	
7 TP15-3.5L		"		11:33		2	
8 TP15-5V		"		11:46		2	
9 TP16-0-2.5T		"		9:36		2	
10 TP16-2.5L		"		9:44		2	
Normal Turn-Around Time (TAT) = 7-10 Business Days		YES		NO			
TAT Requested (circle)		1 Day		2 Day		3 Day	
		4 DAY		5 DAY		Other: _____	
SPECIAL INSTRUCTIONS: <u>Site on all OK</u> <u>Report MBL and MRL</u>							
RECEIVED BY: <u>[Signature]</u>		DATE: <u>9/15/14</u>		SIGNATURE: <u>[Signature]</u>		DATE: _____	
PRINTED NAME: <u>Erik Anderson</u>		TITLE: <u>Project Mgr</u>		PRINTED NAME: _____		TITLE: _____	
COMPANY: <u>AGI</u>		COMPANY: _____		COMPANY: _____		COMPANY: _____	

Apex Laboratories



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Anderson Geological
PO Box 649
Wilsonville, OR 97070

Project: **Sadri Property**
Project Number: 1420.01
Project Manager: Erik Anderson

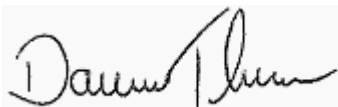
Reported:
10/17/14 10:55

APEX LABS **CHAIN OF CUSTODY** Lab # A410129 coc 4 of 85

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

Company: Anderson Geological		Project Mgr: Erik Anderson		Project Name: Sadri Property		Project # 1420.01	
Address:		Phone:		Fax:		Email:	
ANALYSIS REQUEST							
Sampled by: Erik Anderson							
Site Location: WA							
Other:							
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTR-HClD	NWTR-DX
TP17-0-3T		9/14/14	12:35	S	2	X	
TP17-3L		"	12:41	S	2		
TP18-0-6T		"	15:46	S	2	X	
TP18-6L		"	15:50	S	2		
TP19-0-7T		"	16:35	S	2	X	
TP19-7L		"	16:27	S	2		
TP20-4-8T		"	17:20	S	2	X	
B4-1		"	17:58	S	1		
B4-2		"	18:10	S	1		
IP-3		"	16:36	S	1	X	
Normal Turn Around Time (TAT) = 7-10 Business Days YES NO							
TAT Requested (circle)		1 Day		2 Day		3 Day	
		4 DAY		5 DAY		Other: _____	
SPECIAL INSTRUCTIONS: <i>Sig on all DX</i> <i>Report all ADL and MEL</i>							
RELINQUISHED BY:				RECEIVED BY:			
Signature: <i>Erik Anderson</i>		Date: <u>9/15/14</u>		Signature: _____		Date: _____	
Printed Name: Erik Anderson				Printed Name: _____			
Time: 9:48				Time: 0948			
Company: AGI		Company: APLX		Company: _____		Company: _____	

Apex Laboratories



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Anderson Geological
 PO Box 649
 Wilsonville, OR 97070

Project: **Sadri Property**
 Project Number: 1420.01
 Project Manager: Erik Anderson

Reported:
 10/17/14 10:55

APEX LABS **CHAIN OF CUSTODY** Lab # AU10129 Coc # 5 of 5

12232 S.W. Garden Place, Tigard, OR 97223 PH: 503-718-2323 Fax: 503-718-0333
 Company: Anderson Geological Project Mgr: Erik Anderson Project Name: Sadri Property Project #: 1420.01
 Address: _____ Phone: _____ Fax: _____ Email: _____

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST		
					YES	NO	
<u>IP-4</u>	<u>9/15/14</u>	<u>10:47</u>	<u>S</u>	<u>1</u>	<u>X</u>	ANALYSIS REQUEST METALS: AL, AS, AR, BA, BE, BI, BOM, BR, CA, CB, CR, CU, CY, FE, FB, FL, FRA, GA, GB, GL, GM, GR, GU, HAN, HE, HFR, HFC, HLM, HM, HNA, HP, HPT, HR, HSB, HSC, HS, HVA, IN, IR, IO, IS, IT, LEAD, LI, LN, LU, MA, MB, MC, MD, ME, MG, MH, MI, MN, MO, MP, MS, NA, NB, NI, NH, NN, NO, NR, NY, P, PA, PB, PC, PE, PF, PH, PI, PK, PL, PM, PO, PR, PS, PT, PU, PY, R, RA, RB, RC, RE, RF, RH, RI, RO, RS, RU, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SR, SS, ST, SU, SV, SW, SZ, T, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TR, TS, TT, TV, TW, TX, TY, U, UB, UC, UD, UE, UF, UH, UI, UJ, UK, UL, UM, UN, UO, UR, US, UT, UV, UW, UX, V, VA, VB, VC, VD, VE, VF, VH, VI, VJ, VK, VL, VM, VN, VO, VR, VS, VT, VV, W, WA, WB, WC, WD, WE, WF, WH, WI, WJ, WK, WL, WM, WN, WO, WR, WS, WT, WU, WV, WW, X, Y, ZA, ZB, ZC, ZD, ZE, ZF, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZR, ZS, ZT, ZV, ZW, ZX, ZY, ZZZ	<u>X</u>

Normal Turn Around Time (TAT) = 7-10 Business Days SPECIAL INSTRUCTIONS: Si gel on DX

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

RELINQUISHED BY: RECEIVED BY:
 Signature: E.A. Date: 9/15/14 Signature: _____ Date: _____
 Printed Name: Erik Anderson Title: T-48 Printed Name: Nick Austin Title: TD-998
 Company: AGI Company: Apex

Apex Laboratories



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.



Your Project #: A4I0129
Your C.O.C. #: NA

Attention: Darwin Thomas

Apex Laboratories
12232 SW Garden Place
Tigard, OR
USA 97223

Report Date: 2014/09/30

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4G6283

Received: 2014/09/10, 14:45

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Dioxins/Furans in Soil (1613B) (1)	2	2014/09/23	2014/09/29	BRL SOP-00410	EPA 1613B m
2378TCDF Confirmation in Soil	2	N/A	2014/09/30	BRL SOP-00406	EPA 8290A m
Moisture	2	N/A	2014/09/13	CAM SOP-00445	R.Carter,1993

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

U = Undetected at the limit of quantitation.

J = Estimated concentration between the EDL & RDL.

B = Blank Contamination.

Q = One or more quality control criteria failed.

E = Analyte concentration exceeds the maximum concentration level.

K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ivana Vukovic, Env Project Manager

Email: IVukovic@maxxam.ca

Phone# (905) 817-5700

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B4G6283
Report Date: 2014/09/30

Apex Laboratories
Client Project #: A4I0129

RESULTS OF ANALYSES OF SOIL

Maxxam ID		XM7024	XM7025			
Sampling Date		2014/09/03 14:06	2014/09/03 14:27			
COC Number		NA	NA			
	Units	TP11-0-3T	TP12-0-2T	RDL	MDL	QC Batch
Moisture	%	24	48	1.0	0.040	3747300
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						

Maxxam Job #: B4G6283
Report Date: 2014/09/30

Apex Laboratories
Client Project #: A410129

DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		XM7024							
Sampling Date		2014/09/03 14:06							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	Units	TP11-0-3T	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/g	0.162 U	0.162	0.999	0.0400	1.00	0.162		3763476
1,2,3,7,8-Penta CDD *	pg/g	0.213 J	0.131	4.99	0.0400	1.00	0.213		3763476
1,2,3,4,7,8-Hexa CDD *	pg/g	0.280 J	0.103	4.99	0.0400	0.100	0.0280		3763476
1,2,3,6,7,8-Hexa CDD *	pg/g	0.815 J	0.114	4.99	0.0400	0.100	0.0815		3763476
1,2,3,7,8,9-Hexa CDD *	pg/g	0.745 J	0.106	4.99	0.0400	0.100	0.0745		3763476
1,2,3,4,6,7,8-Hepta CDD *	pg/g	16.2	0.0761	4.99	0.0400	0.0100	0.162		3763476
Octa CDD *	pg/g	138	0.135	9.99	0.0799	0.000300	0.0414		3763476
Total Tetra CDD *	pg/g	2.65	0.162	0.999	0.0400				3763476
Total Penta CDD *	pg/g	1.57 J	0.131	4.99	0.0400				3763476
Total Hexa CDD *	pg/g	4.41 J	0.109	4.99	0.0400				3763476
Total Hepta CDD *	pg/g	26.3	0.0761	4.99	0.0400				3763476
2,3,7,8-Tetra CDF **	pg/g	0.268 J	0.0992	0.999	0.0400	0.100	0.0268		3763476
1,2,3,7,8-Penta CDF **	pg/g	0.162 J	0.125	4.99	0.0400	0.0300	0.00486		3763476
2,3,4,7,8-Penta CDF **	pg/g	0.122 U	0.122	4.99	0.0400	0.300	0.0366		3763476
1,2,3,4,7,8-Hexa CDF **	pg/g	0.386 J	0.108	4.99	0.0400	0.100	0.0386		3763476
1,2,3,6,7,8-Hexa CDF **	pg/g	0.193 J	0.108	4.99	0.0400	0.100	0.0193		3763476
2,3,4,6,7,8-Hexa CDF **	pg/g	0.102 U	0.102	4.99	0.0400	0.100	0.0102		3763476
1,2,3,7,8,9-Hexa CDF **	pg/g	0.116 U	0.116	4.99	0.0400	0.100	0.0116		3763476
1,2,3,4,6,7,8-Hepta CDF **	pg/g	3.40 J	0.0766	4.99	0.0400	0.0100	0.0340		3763476
1,2,3,4,7,8,9-Hepta CDF **	pg/g	0.268 U (1)	0.268	4.99	0.0400	0.0100	0.00268		3763476
Octa CDF **	pg/g	16.1	0.109	9.99	0.0799	0.000300	0.00483		3763476
Total Tetra CDF **	pg/g	1.18	0.0992	0.999	0.0400				3763476
Total Penta CDF **	pg/g	0.697 J	0.124	4.99	0.0400				3763476
Total Hexa CDF **	pg/g	3.13 J	0.108	4.99	0.0400				3763476
Total Hepta CDF **	pg/g	10.7	0.0762	4.99	0.0400				3763476
Confirmation 2,3,7,8-Tetra CDF **	pg/g	0.11 J	0.10	1.0	0.90	0.100	0.0110		3767982
TOTAL TOXIC EQUIVALENCY	pg/g						0.936		
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	88							3763476
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds QC Batch = Quality Control Batch * CDD = Chloro Dibenzo-p-Dioxin ** CDF = Chloro Dibenzo-p-Furan (1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.									

Maxxam Job #: B4G6283
Report Date: 2014/09/30

Apex Laboratories
Client Project #: A4I0129

DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		XM7024							
Sampling Date		2014/09/03 14:06							
COC Number		NA		TOXIC EQUIVALENCY				# of	
	Units	TP11-0-3T	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDF **	%	98							3763476
C13-123478 HexaCDD *	%	93							3763476
C13-123478 HexaCDF **	%	100							3763476
C13-1234789 HeptaCDF **	%	82							3763476
C13-123678 HexaCDD *	%	84							3763476
C13-123678 HexaCDF **	%	107							3763476
C13-12378 PentaCDD *	%	89							3763476
C13-12378 PentaCDF **	%	88							3763476
C13-123789 HexaCDF **	%	85							3763476
C13-234678 HexaCDF **	%	117							3763476
C13-23478 PentaCDF **	%	91							3763476
C13-2378 TetraCDD *	%	72							3763476
C13-2378 TetraCDF **	%	84							3763476
C13-OCDD *	%	68							3763476
Confirmation C13-2378 TetraCDF **	%	67							3767982

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
** CDF = Chloro Dibenzo-p-Furan
* CDD = Chloro Dibenzo-p-Dioxin

Maxxam Job #: B4G6283
Report Date: 2014/09/30

Apex Laboratories
Client Project #: A410129

DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		XM7025							
Sampling Date		2014/09/03 14:27							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	Units	TP12-0-2T	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/g	0.769 J	0.172	0.998	0.0399	1.00	0.769		3763476
1,2,3,7,8-Penta CDD *	pg/g	1.33 J	0.165	4.99	0.0399	1.00	1.33		3763476
1,2,3,4,7,8-Hexa CDD *	pg/g	1.66 J	0.122	4.99	0.0399	0.100	0.166		3763476
1,2,3,6,7,8-Hexa CDD *	pg/g	4.15 J	0.135	4.99	0.0399	0.100	0.415		3763476
1,2,3,7,8,9-Hexa CDD *	pg/g	4.33 J	0.125	4.99	0.0399	0.100	0.433		3763476
1,2,3,4,6,7,8-Hepta CDD *	pg/g	79.4	0.120	4.99	0.0399	0.0100	0.794		3763476
Octa CDD *	pg/g	606	0.253	9.98	0.0798	0.000300	0.182		3763476
Total Tetra CDD *	pg/g	13.5	0.172	0.998	0.0399				3763476
Total Penta CDD *	pg/g	16.5	0.165	4.99	0.0399				3763476
Total Hexa CDD *	pg/g	30.4	0.129	4.99	0.0399				3763476
Total Hepta CDD *	pg/g	144	0.120	4.99	0.0399				3763476
2,3,7,8-Tetra CDF **	pg/g	2.84	0.196	0.998	0.0399	0.100	0.284		3763476
1,2,3,7,8-Penta CDF **	pg/g	0.758 J	0.122	4.99	0.0399	0.0300	0.0227		3763476
2,3,4,7,8-Penta CDF **	pg/g	0.712 J	0.120	4.99	0.0399	0.300	0.214		3763476
1,2,3,4,7,8-Hexa CDF **	pg/g	1.77 J	0.108	4.99	0.0399	0.100	0.177		3763476
1,2,3,6,7,8-Hexa CDF **	pg/g	0.736 J	0.108	4.99	0.0399	0.100	0.0736		3763476
2,3,4,6,7,8-Hexa CDF **	pg/g	0.487 J	0.102	4.99	0.0399	0.100	0.0487		3763476
1,2,3,7,8,9-Hexa CDF **	pg/g	0.116 U	0.116	4.99	0.0399	0.100	0.0116		3763476
1,2,3,4,6,7,8-Hepta CDF **	pg/g	15.2	0.107	4.99	0.0399	0.0100	0.152		3763476
1,2,3,4,7,8,9-Hepta CDF **	pg/g	0.950 J	0.106	4.99	0.0399	0.0100	0.00950		3763476
Octa CDF **	pg/g	65.0	0.167	9.98	0.0798	0.000300	0.0195		3763476
Total Tetra CDF **	pg/g	18.7	0.196	0.998	0.0399				3763476
Total Penta CDF **	pg/g	8.29	0.121	4.99	0.0399				3763476
Total Hexa CDF **	pg/g	17.4	0.108	4.99	0.0399				3763476
Total Hepta CDF **	pg/g	48.7	0.106	4.99	0.0399				3763476
Confirmation 2,3,7,8-Tetra CDF **	pg/g	1.23	0.15	1.0	0.90	0.100	0.123		3767982
TOTAL TOXIC EQUIVALENCY	pg/g						4.94		
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	74							3763476
EDL = Estimated Detection Limit RDL = Reportable Detection Limit TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient, The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested. WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds QC Batch = Quality Control Batch * CDD = Chloro Dibenzo-p-Dioxin ** CDF = Chloro Dibenzo-p-Furan									

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Apex Laboratories
Client Project #: A410129

DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		XM7025							
Sampling Date		2014/09/03 14:27							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	Units	TP12-0-2T	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDF **	%	89							3763476
C13-123478 HexaCDD *	%	78							3763476
C13-123478 HexaCDF **	%	91							3763476
C13-1234789 HeptaCDF **	%	71							3763476
C13-123678 HexaCDD *	%	74							3763476
C13-123678 HexaCDF **	%	93							3763476
C13-12378 PentaCDD *	%	67							3763476
C13-12378 PentaCDF **	%	68							3763476
C13-123789 HexaCDF **	%	72							3763476
C13-234678 HexaCDF **	%	96							3763476
C13-23478 PentaCDF **	%	67							3763476
C13-2378 TetraCDD *	%	59							3763476
C13-2378 TetraCDF **	%	65							3763476
C13-OCDD *	%	59							3763476
Confirmation C13-2378 TetraCDF **	%	57							3767982

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
** CDF = Chloro Dibenzo-p-Furan
* CDD = Chloro Dibenzo-p-Dioxin

Maxxam Job #: B4G6283
Report Date: 2014/09/30

Apex Laboratories
Client Project #: A410129

TEST SUMMARY

Maxxam ID: XM7024
Sample ID: TP11-0-3T
Matrix: Soil

Collected: 2014/09/03
Shipped:
Received: 2014/09/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Soil (1613B)	HRMS/MS	3763476	2014/09/23	2014/09/29	Owen Cosby
2378TCDF Confirmation in Soil	HRMS/MS	3767982	N/A	2014/09/30	Vica Cioranic
Moisture	BAL	3747300	N/A	2014/09/13	Valentina Kaftani

Maxxam ID: XM7025
Sample ID: TP12-0-2T
Matrix: Soil

Collected: 2014/09/03
Shipped:
Received: 2014/09/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Soil (1613B)	HRMS/MS	3763476	2014/09/23	2014/09/29	Owen Cosby
2378TCDF Confirmation in Soil	HRMS/MS	3767982	N/A	2014/09/30	Vica Cioranic
Moisture	BAL	3747300	N/A	2014/09/13	Valentina Kaftani

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C
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Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
3747300	JV1	RPD - Sample/Sample Dup	Moisture	2014/09/13	0.91		%	20
3763476	OBC	Spiked Blank	C13-1234678 HeptaCDD	2014/09/29		83	%	23 - 140
			C13-1234678 HeptaCDF	2014/09/29		91	%	28 - 143
			C13-123478 HexaCDD	2014/09/29		85	%	32 - 141
			C13-123478 HexaCDF	2014/09/29		91	%	26 - 152
			C13-1234789 HeptaCDF	2014/09/29		81	%	26 - 138
			C13-123678 HexaCDD	2014/09/29		80	%	28 - 130
			C13-123678 HexaCDF	2014/09/29		97	%	26 - 123
			C13-12378 PentaCDD	2014/09/29		78	%	25 - 181
			C13-12378 PentaCDF	2014/09/29		76	%	24 - 185
			C13-123789 HexaCDF	2014/09/29		83	%	29 - 147
			C13-234678 HexaCDF	2014/09/29		112	%	28 - 136
			C13-23478 PentaCDF	2014/09/29		80	%	21 - 178
			C13-2378 TetraCDD	2014/09/29		59	%	25 - 164
			C13-2378 TetraCDF	2014/09/29		73	%	24 - 169
			C13-OCDD	2014/09/29		72	%	17 - 157
			2,3,7,8-Tetra CDD	2014/09/29		117	%	67 - 158
			1,2,3,7,8-Penta CDD	2014/09/29		94	%	25 - 181
			1,2,3,4,7,8-Hexa CDD	2014/09/29		106	%	70 - 164
			1,2,3,6,7,8-Hexa CDD	2014/09/29		116	%	76 - 134
			1,2,3,7,8,9-Hexa CDD	2014/09/29		117	%	64 - 162
			1,2,3,4,6,7,8-Hepta CDD	2014/09/29		101	%	70 - 140
			Octa CDD	2014/09/29		104	%	78 - 144
			2,3,7,8-Tetra CDF	2014/09/29		106	%	75 - 158
			1,2,3,7,8-Penta CDF	2014/09/29		106	%	80 - 134
			2,3,4,7,8-Penta CDF	2014/09/29		102	%	68 - 160
			1,2,3,4,7,8-Hexa CDF	2014/09/29		108	%	72 - 134
			1,2,3,6,7,8-Hexa CDF	2014/09/29		102	%	84 - 130
			2,3,4,6,7,8-Hexa CDF	2014/09/29		85	%	70 - 156
			1,2,3,7,8,9-Hexa CDF	2014/09/29		115	%	78 - 130
			1,2,3,4,6,7,8-Hepta CDF	2014/09/29		109	%	82 - 122
			1,2,3,4,7,8,9-Hepta CDF	2014/09/29		112	%	78 - 138
			Octa CDF	2014/09/29		119	%	63 - 170
3763476	OBC	RPD	2,3,7,8-Tetra CDD	2014/09/29	0.86		%	25
			1,2,3,7,8-Penta CDD	2014/09/29	0		%	25
			1,2,3,4,7,8-Hexa CDD	2014/09/29	0		%	25
			1,2,3,6,7,8-Hexa CDD	2014/09/29	7.5		%	25
			1,2,3,7,8,9-Hexa CDD	2014/09/29	3.4		%	25
			1,2,3,4,6,7,8-Hepta CDD	2014/09/29	6.1		%	25
			Octa CDD	2014/09/29	4.7		%	25
			2,3,7,8-Tetra CDF	2014/09/29	0.94		%	25
			1,2,3,7,8-Penta CDF	2014/09/29	0.94		%	25
			2,3,4,7,8-Penta CDF	2014/09/29	0		%	25
			1,2,3,4,7,8-Hexa CDF	2014/09/29	0.92		%	25
			1,2,3,6,7,8-Hexa CDF	2014/09/29	0.99		%	25
			2,3,4,6,7,8-Hexa CDF	2014/09/29	1.2		%	25
			1,2,3,7,8,9-Hexa CDF	2014/09/29	1.8		%	25
			1,2,3,4,6,7,8-Hepta CDF	2014/09/29	2.8		%	25
			1,2,3,4,7,8,9-Hepta CDF	2014/09/29	0		%	25
			Octa CDF	2014/09/29	0.84		%	25
3763476	OBC	Method Blank	C13-1234678 HeptaCDD	2014/09/29		90	%	23 - 140
			C13-1234678 HeptaCDF	2014/09/29		96	%	28 - 143
			C13-123478 HexaCDD	2014/09/29		92	%	32 - 141
			C13-123478 HexaCDF	2014/09/29		101	%	26 - 152

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
			C13-1234789 HeptaCDF	2014/09/29		85	%	26 - 138
			C13-123678 HexaCDD	2014/09/29		88	%	28 - 130
			C13-123678 HexaCDF	2014/09/29		109	%	26 - 123
			C13-12378 PentaCDD	2014/09/29		97	%	25 - 181
			C13-12378 PentaCDF	2014/09/29		87	%	24 - 185
			C13-123789 HexaCDF	2014/09/29		91	%	29 - 147
			C13-234678 HexaCDF	2014/09/29		119	%	28 - 136
			C13-23478 PentaCDF	2014/09/29		93	%	21 - 178
			C13-2378 TetraCDD	2014/09/29		69	%	25 - 164
			C13-2378 TetraCDF	2014/09/29		79	%	24 - 169
			C13-OCDD	2014/09/29		71	%	17 - 157
			2,3,7,8-Tetra CDD	2014/09/29	0.120 U, EDL=0.120		pg/g	
			1,2,3,7,8-Penta CDD	2014/09/29	0.0788 U, EDL=0.0788		pg/g	
			1,2,3,4,7,8-Hexa CDD	2014/09/29	0.0676 U, EDL=0.0676		pg/g	
			1,2,3,6,7,8-Hexa CDD	2014/09/29	0.0747 U, EDL=0.0747		pg/g	
			1,2,3,7,8,9-Hexa CDD	2014/09/29	0.0692 U, EDL=0.0692		pg/g	
			1,2,3,4,6,7,8-Hepta CDD	2014/09/29	0.116 U, EDL=0.116		pg/g	
			Octa CDD	2014/09/29	0.126 U, EDL=0.126		pg/g	
			Total Tetra CDD	2014/09/29	0.568 U, EDL=0.568 (1)		pg/g	
			Total Penta CDD	2014/09/29	0.168 U, EDL=0.168 (1)		pg/g	
			Total Hexa CDD	2014/09/29	0.608 U, EDL=0.608 (1)		pg/g	
			Total Hepta CDD	2014/09/29	0.116 U, EDL=0.116		pg/g	
			2,3,7,8-Tetra CDF	2014/09/29	0.0699 U, EDL=0.0699		pg/g	
			1,2,3,7,8-Penta CDF	2014/09/29	0.0749 U, EDL=0.0749		pg/g	
			2,3,4,7,8-Penta CDF	2014/09/29	0.0735 U, EDL=0.0735		pg/g	
			1,2,3,4,7,8-Hexa CDF	2014/09/29	0.130 U, EDL=0.130		pg/g	
			1,2,3,6,7,8-Hexa CDF	2014/09/29	0.130 U, EDL=0.130		pg/g	
			2,3,4,6,7,8-Hexa CDF	2014/09/29	0.122 U, EDL=0.122		pg/g	
			1,2,3,7,8,9-Hexa CDF	2014/09/29	0.139 U, EDL=0.139		pg/g	
			1,2,3,4,6,7,8-Hepta CDF	2014/09/29	0.0632 U, EDL=0.0632		pg/g	
			1,2,3,4,7,8,9-Hepta CDF	2014/09/29	0.0625 U, EDL=0.0625		pg/g	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	Units	QC Limits
			Octa CDF	2014/09/29	0.106 U, EDL=0.106		pg/g	
			Total Tetra CDF	2014/09/29	0.0911 U, EDL=0.0911 (1)		pg/g	
			Total Penta CDF	2014/09/29	0.0742 U, EDL=0.0742		pg/g	
			Total Hexa CDF	2014/09/29	0.130 U, EDL=0.130		pg/g	
			Total Hepta CDF	2014/09/29	0.0628 U, EDL=0.0628		pg/g	
3767982	VCI	Method Blank	Confirmation 2,3,7,8-Tetra CDF	2014/09/30	0.10 U, EDL=0.10		pg/g	
			Confirmation C13-2378 TetraCDF	2014/09/30		66	%	40 - 135

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Cristina Carriere, Scientific Services



Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX D

Cost Estimate for the Remediation of the Sadri Property

Cost Estimate for Remediation of Sadri Property
 October, 2014

Activity	Qty	Rate	Total
Trackhoe excavator	2 days	1,400.00	\$2,800.00
Trucking (25-yd truck & trailer)	120 hrs	125.00	15,000.00
Laborer	16 hrs	45.00	720.00
Soil disposal - Hillsboro Landfill	576 tons*	50.00	28,800.00
Backfill and compact	576 yards	15.00	8,640.00
		SUBTOTAL	\$55,960.00
Laboratory (confirmation soil sampling)			2,000.00
Consulting			5,000.00
		SUBTOTAL	\$7,000.00
		GRAND TOTAL	62,960.00

Based on estimated conversion factor of 1 ton/cubic yard