REMEDIAL INVESTIGATION WORK PLAN

FORMER PALOUSE PRODUCERS PROPERTY

Prepared for

CITY OF PALOUSE

PALOUSE, WA

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Project No. 0477.01.02

Prepared by

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The material and data in this report were prepared under the supervision and direction of the undersigned.

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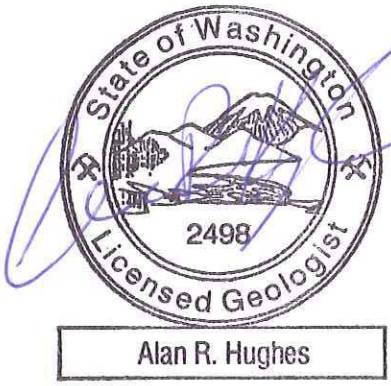

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FOLLOWING REPORT:

TABLES

FIGURES

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AST	aboveground storage tank
BEHP	bis(2-ethylhexyl)phthalate
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
BWUD	beneficial water use determination
City	City of Palouse
CSM	conceptual site model
CUL	cleanup level
DRO	diesel-range organic
Ecology	Washington State Department of Ecology
GRO	gasoline-range organic
IHS	indicator hazardous substance
MFA	Maul Foster & Alongi, Inc.
mg/kg	milligrams per kilogram
MTBE	methyl tert-butyl ether
MTCA	Model Toxics Control Act
µg/L	micrograms per liter
NAPL	nonaqueous-phase liquid
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PNEL	Pacific Northwest Environmental Laboratory, Inc.
Property	335 East Main Street, Palouse, Washington
RA	risk assessment
RI	remedial investigation
Rice	Rice Engineering
SAIC	Science Applications International Corporation
SAP	sampling and analysis plan
Sunrise	Sunrise Technical Services, Inc.
TechLaw	TechLaw, Inc.
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
VPH	volatile petroleum hydrocarbons
WBZ	water-bearing zone

1 INTRODUCTION

Maul Foster & Alongi, Inc. (MFA) has prepared this draft Remedial Investigation (RI) Work Plan for the City of Palouse (the City) to characterize nature and extent of environmental impacts at the property at 335 East Main Street in Palouse, Washington (the Property) (see Figure 1). The Property historically was used by Palouse Producers and Conoco, and it appears that both former petroleum distribution operations resulted in the release of hazardous substances, impacting environmental media at the Property. Previous investigations indicated that volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), metals, and organochlorine pesticides are present in soil and/or groundwater.

This RI work plan describes the approach to characterizing impacts to soil and groundwater on the Property. Submittal of this work plan satisfies a requirement of the Washington State Department of Ecology (Ecology) for a single, stand-alone document summarizing historical operations and compiling data from past investigations at the Property and neighboring properties, and provides a proposed scope of work to fully characterize the nature and extent of contamination from hazardous substances.

1.1 Purpose and Objectives

This work plan is designed to meet the requirements of the Model Toxics Control Act (MTCA; Washington Administrative Code 173-340) for performing a RI and risk assessment (RA) for the site. The purpose of the RI is to generate sufficient data to adequately characterize the nature and extent of contaminants in environmental media in areas of the site to allow for completion of a RA and performance of a feasibility study that will evaluate options for remediation.

1.2 Regulatory Framework

The City received an Integrated Planning Grant from Ecology to develop a community-based plan to transform this historical petroleum distribution site into a revitalized asset for the community. This RI work plan has been developed to allow assessment of the nature and extent of legacy contamination. The RI will be conducted per the requirements of MTCA as referenced above.

1.3 Work Plan Organization

This document is organized as follows:

- ***Section 2*** discusses background information and physical setting of the Property.
- ***Section 3*** summarizes previous investigations at the Property.
- ***Section 4*** describes the conceptual site model (CSM).
- ***Section 5*** discusses the RI scope of work.
- ***Section 6*** describes the project management plan and schedule.

The following appendices are attached:

- Appendix A—a sampling and analysis plan (SAP). The SAP consists of a field sampling plan and a quality assurance project plan.
- Appendix B—a site-specific health and safety plan.
- Appendix C—Ecology 1999 analytical results.
- Appendix D—historical sample locations.

The field sampling plan identifies the proposed number of soil test locations and groundwater monitoring locations and approximate depths of samples and borings (as appropriate). It also addresses practices related to the proper handling and disposal of investigation-derived waste. The quality assurance project plan defines laboratory and field analytical quality procedures, and quality assurance and quality control requirements for analytical sampling and analysis.

Standard field operating procedures for collecting soil and groundwater samples, drilling and installing groundwater monitoring wells, analyzing samples, cleaning equipment, and managing waste are described in the SAP. If procedures for a later stage of work deviate from the plan, Ecology will be notified and the work plan will be amended to reflect the new technique or field method.

2 BACKGROUND AND PHYSICAL SETTING

The background and physical setting summarized below for the Property have been obtained from site visits, interviews with the City, and review of past environmental reports (Rice Engineering [Rice], 1985; Roar Tech, 1992; Science Applications International Corporation [SAIC], 1991; Sunrise Technical Services, Inc. [Sunrise], 1989; and TechLaw, Inc. [TechLaw], 2008).

2.1 Location

The Property is located at 335 East Main Street in downtown Palouse, Washington, and is zoned as High Density. The Property is approximately 150 feet long (north-south) and 200 feet wide (east-west) and is located in section 6 of township 16 north and range 46 east of the Willamette Meridian (see Figure 1).

The Property is bordered by Main Street and commercial development to the north; by the Palouse River to the south, with green space and residential properties located across the river; by commercial property to the west (referred to as the Old Gymnasium); and an alleyway followed by commercial development to the east (Bagott Motors).

The Property has two structures. The structure near the northern property boundary has two bays formerly used to service vehicles, and the structure in the northwest corner of the Property was used as storage. The northern half of the Property is paved and the southern half is covered in vegetation.

2.2 Site History

The Property has been used for over a century for commercial activities serving the agricultural industry (e.g., service station, blacksmith, welding shop). Many of the past uses of the Property could have potentially impacted the Property. Past environmental investigations have shown that metals, pesticides, and petroleum hydrocarbons and associated constituents are present at the Property. Based on past sampling results, the former service station operated by Conoco and later by Palouse Producers is the likely cause of the environmental impacts to soil and groundwater.

The service station (Conoco) operated on the Property from approximately 1955 to 1977. During its operation, five aboveground storage tanks (ASTs) and four underground storage tanks (USTs) were installed. In 1977, Palouse Producers began operations and used the facility to fuel vehicles and store and distribute bulk fuel until approximately 1985.

In 1985, the ASTs and three of the four USTs were removed. In 1985, the remaining 8,000-gallon UST used for gasoline was leak tested and passed inspection. This tank remained on the Property until 1992, when it was removed by Roar Tech (Roar Tech, 1992). Beginning in 1984 and continuing through 1985, several interim actions were performed on the Property, including the following:

- In 1984, an interceptor trench reaching down to the water table was installed approximately 60 feet north of the Palouse River. The trench was designed to remove floating product from groundwater. Approximately 250 cubic yards of impacted soil was removed during the installation. Approximately 4,000 gallons of product was removed. In addition, riprap was installed on the river bank for erosion control.
- In 1985, a second interceptor trench was installed down to the water table. The second trench was installed on the southern bank of the river. Approximately 600 cubic yards of impacted soil was removed during the installation.
- A polymer liner was installed on the riverbank and was covered by felt fabric and riprap to limit contaminant migration to the river.
- The trenches were removed in 1992.

Through review of historical documents it is apparent that the site was poorly constructed to contain spills and drips from historical operations and that spills occurred on the Property. In addition, underground features such as tanks and piping appear to have leaked. There is also evidence that these releases may have reached the river through overland flow or groundwater migration.

2.3 Topography

The Property is generally flat, with a slight slope toward the Palouse River (south). Near the Property's southern boundary is an approximately 18-foot slope down to the river.

2.4 Site Geology and Hydrogeology

The previous investigations indicated that the Property has been filled with some material. Gravelly fill covers most of the Property, ranging in thicknesses from 2 to 5 feet. Some of the previous investigations identified fill material comprised of clayey material mixed with waste adjacent to the river that extends in some places 10 to 18 feet below ground surface (bgs). Examples of some of the waste encountered are: rubber tires, wood, farm machinery and parts, wagon wheels, concrete and asphalt chunks, and organic material. Below the fill material is clay to approximately 14 feet bgs, then sand and silt to 20 feet bgs, which in turn is underlain by basalt. The investigations have not penetrated the basalt, which occurs at approximately 20 feet bgs across the Property.

Groundwater reportedly has been observed in the sand and silty sands at approximately 3 feet to 12 feet bgs on the Property. It is believed that groundwater flows toward the Palouse River. The data available do not include water level elevations, so the direction of flow is assumed.

3 PREVIOUS INVESTIGATIONS

The information summarized below, pertaining to previous investigations, has been obtained from interviews with the City, review of past environmental reports (Rice, 1985; Roar Tech, 1992; SAIC, 1991; Sunrise, 1989; Ecology, 1999; and TechLaw, 2008), and review of past analytical reports (Analytical Resources, 1993).

3.1 Historical Site Activities

Site investigations and interim actions have occurred on the Property since 1984. There are some analytical data available from 1984 to 1993, which was used to evaluate potential sources and the historical extent of impacts; however, these data will not be used to define the nature and extent of contamination. The site is generally impacted with petroleum hydrocarbons, and the degradation of petroleum hydrocarbons in the environment makes the older available data unreliable. Historical site activities include the following:

- In 1984 and 1985, Rice installed interceptor trenches and reviewed site history. There was no evidence of soil or groundwater analytical results from Rice's work (Rice, 1985). Appendix D includes a figure excerpted from the Rice report that shows the historical locations of the ASTs and USTs.
- In 1989, Sunrise completed limited sampling on the Property and identified petroleum hydrocarbons in soil. Sunrise also proposed installation of monitoring wells (Sunrise, 1989).
- In 1991, SAIC completed a site hazard assessment, which included sampling soil, sediment, and groundwater (SAIC, 1991). Four monitoring wells (MW-1 through MW-4) were also installed by SAIC. Appendix D includes a figure showing the locations of the SAIC field investigation. The SAIC investigation detected petroleum hydrocarbons, benzene, ethylbenzene, and lead in soil and groundwater. The highest concentrations occurred on the southern half of the Property. Background soil samples were collected from B07, northeast of the Property, and detected lead at concentrations of 21.3 milligrams per kilogram (mg/kg) and 11 mg/kg at approximately 2.0 feet and 4.0 feet bgs, respectively. A groundwater sample from MW-2 did not have detections of petroleum hydrocarbons or benzene, toluene, ethylbenzene, and xylenes (BTEX); however, the samples from MW-1, MW-3, and MW-4 had concentrations of petroleum hydrocarbons and benzene over Method A cleanup levels (CULs). The sediment samples detected lead at low levels (i.e., up to 13 mg/kg), petroleum hydrocarbons in one sample (RS6) at 34 mg/kg, and benzene in one sample (RS2) at 18 mg/kg.

- It appears that in 1992 Ecology collected groundwater samples from MW-2, MW-3, and MW-4 in March and September (Analytical Resources, 1992; Pacific Northwest Environmental Laboratory, Inc. [PNEL], 1992). Analytical Resources tested the samples in March and PNEL tested the samples in September. The analytical results from March to September show a reduction in concentrations. For example, in MW-3, benzene was detected at 210 micrograms per liter (µg/L) in March, but in September benzene was not detected in the groundwater sample from this well.
- It also appears that Ecology collected soil samples from six hand-auger borings in September 1992 (PNEL, 1992). The locations of the hand-auger borings are unknown. Soil samples from four of the hand-auger borings were analyzed (i.e., HA3, HA4, HA5, and HA6). The soil samples did detect petroleum hydrocarbons or BTEX.
- Ecology sampled monitoring wells MW-2 and MW-3 in 1993, and petroleum hydrocarbons and BTEX were not detected in groundwater samples collected from these wells (Analytical Resources, 1993). In 1992, SAIC monitoring well MW-1 was decommissioned. In 1994, the SAIC monitoring wells MW-2 and MW-3 were decommissioned (Budinger & Associates, 1994). It was unclear when MW-4 was decommissioned, and it has not been identified on site.

3.2 Ecology Analytical Results

In 1999, Ecology completed an investigation on the Property and collected soil and groundwater samples from seven borings. The data will not be used to define current nature and extent, but will be used to inform the investigation and to evaluate changes in chemical concentrations on the site. The data is included in Appendix C and the approximate sample locations are shown on Figure 2. The Ecology data is compared with MTCA Method B CULs, except for petroleum hydrocarbon results which are compared with MTCA Method A CULs.

Soil samples collected and analyzed by Ecology in 1999 appear to be from the vadose zone. The samples were analyzed for BTEX, methyl tert-butyl ether (MTBE), gasoline-range organics (GROs), and volatile petroleum hydrocarbons (VPH). BTEX and MTBE were not detected above MTCA Method B CULs (see Table C1, Appendix C). GROs were analyzed in seven of the samples and exceeded the MTCA Methods A CUL of 30 mg/kg in three samples collected from three different locations PPB4 (2,700 mg/kg), PPB5 (91 mg/kg), and PPB6 (3,100 mg/kg). The three sample locations which detected GROs above CULs were located south of the service station building. The VPH results are similar to the GRO results, with the highest detections at PPB4 and PPB6 (see Appendix C).

Groundwater samples were collected from each of the seven locations and analyzed for BTEX, MTBE, and VPH. Toluene, ethylbenzene, xylenes, and MTBE were not detected above MTCA Method B CULs (see Table C2, Appendix C). Benzene was

detected in five of the seven samples up to a concentration of 28.9 µg/L. The benzene detections exceed the MTCA Method B CUL of 0.8 µg/L. The highest groundwater detections were in the southern half of the property near known locations of releases. VPH results indicate that the highest concentrations of petroleum hydrocarbons were at PPB3 near the former ASTs and 8,000 gallon UST; PPB5 near known surface soil impacts; and PPB6 near the former waste oil UST.

While the VPH data provides concentration of petroleum hydrocarbons constituents, the data is over ten years old. During that time the product on the property has likely continued to degrade and the ration of constituents has likely changed, and therefore the data will not be used to calculate site-specific petroleum hydrocarbon CULs.

3.3 TechLaw Analytical Results

In 2007, TechLaw completed an investigation on the Property for the U.S. Environmental Protection Agency (USEPA) and collected soil, groundwater, and sediment samples. This work plan will use the 2007 TechLaw analytical data to determine the nature and extent of impacts and the indicator hazardous substances (IHSs) on the site. The TechLaw data are presented in Tables 1 through 17 and the approximate sample locations are shown in Figure 2. The TechLaw data will be compared to MTCA Method A and B CULs and Ecology's sediment quality standards and cleanup screening levels.

The TechLaw site investigation in 2007 advanced five soil borings (MW-01 through MW-05) to collect subsurface soil and groundwater from temporary monitoring wells, and collected nine surface soil samples (SS-01 through SS-09) and two sediment samples (SD-01 and SD-02).

3.3.1 Soil

Tables 1 through 6 summarize the 2007 TechLaw soil results and Figure 3 shows the locations of analytes that exceed MTCA CULs. Soil samples have shown elevated levels of GROs, diesel-range organics (DROs), and lead in several locations on site. Elevated levels have generally been in subsurface soil, with the highest petroleum concentrations centered on MW-03 and MW-05 (see Figure 3). MW-03 and MW-05 are near the former AST farm and the 8,000-gallon gasoline UST. GROs were detected in MW-03 at 7.5 feet bgs at a concentration of 900 mg/kg, and at MW-05 at 7.0 feet bgs at a concentration of 820 mg/kg; both are above the MTCA Method A CUL of 30 mg/kg for direct contact. There were also some GRO detections that exceeded the Method A CUL in MW-02 and MW-04 in subsurface soils.

DRO concentrations in MW-05 at depths of 4.0 and 7.0 feet bgs (3,200 mg/kg and 4,500 mg/kg, respectively) exceeded the MTCA Method A CUL of 2,000 mg/kg. Lead detections in a surface soil sample, SS-09 (628 mg/kg), and in soil from MW-02 at 4.0 feet bgs (574 mg/kg) and 5.0 feet bgs (304 mg/kg) exceeded the MTCA Method A CUL of 250 mg/kg. Concentrations of arsenic in soil were above the

MTCA Method B CUL (0.67 mg/kg) in all the soil samples from MW-01 through MW-05 and from SS-01 through SS-09 (see Table 4). However, only two of the detections of arsenic in soil (detected in MW-02 at 4 feet bgs and MW-05 at 11 feet bgs) were above the natural background concentration of 9.34 mg/kg for the Spokane area (Ecology, 1994) (see Figure 3).

In addition to detections of GROs, DROs, and lead, there were limited detections of PCBs, VOCs, PAHs, and pesticides. However, the concentrations of PCBs, VOCs, PAHs, and pesticides in soil were orders of magnitude below Method B CULs for direct contact.

Most of the soil impacts that exceeded CULs were in the subsurface. This may be due to interim actions performed in the past and the fact that some of the sources (i.e., USTs and associated piping) were in the subsurface.

GROs, DROs, and metals exceeded Method B CULs and appear to have been IHSs in soil at the site. Because of the often lighter density of petroleum constituents relative to water, the constituents tend to be most concentrated around the water table and in the smear zone. Depths to groundwater historically have ranged from 3 to 12 feet bgs and change with the stage of the Palouse River and local rainfall. The range of groundwater fluctuation has likely resulted in a relatively thick contaminant smear zone at the site. As discussed further in Section 5, a part of this investigation will focus on the collection of soil samples from near the water table where light non-aqueous petroleum would likely float on the water table. Samples will be collected to assess for the presence of GROs, DROs, associated constituents and potential nonaqueous-phase liquid (NAPL).

3.3.2 Groundwater

Tables 7 through 12 summarize the 2007 TechLaw groundwater results and Figure 4 shows the locations of analytes that exceeded MTCA CULs. Groundwater samples have been collected from the shallow groundwater above the basalt unit. The highest concentrations of petroleum-related constituents in groundwater tended to be detected in MW-05 (see Figure 4), except for benzene, which was detected only in MW-04. Concentrations in groundwater that exceeded MTCA Method A or Method B CULs included GROs, DROs, benzene, heptachlor epoxide, bis(2-ethylhexyl)phthalate (BEHP), arsenic, lead, and manganese (see Figure 4). Concentrations of DROs were 650 µg/L at MW-04 and 520 µg/L at MW-05. GROs were detected in MW-05 at a concentration of 1,100 µg/L. These GRO and DRO detections were above the MTCA Method A CULs of 800 µg/L and 500 µg/L, respectively. One detection of benzene at MW-04 at a concentration of 22 µg/L exceeded the MTCA Method B CUL of 0.8 µg/L.

In 1999 Ecology analyzed and detected benzene in groundwater samples near MW-03 and MW-05 at 28.2 µg/L and 15.8 µg/L, respectively (see Table C2, Appendix C). The 2007 groundwater samples from MW-03 and MW-05 did not detect benzene at or above the method reporting limit of 5.0 µg/L (see Table 8). This may indicate that concentrations in those areas have decreased. Groundwater samples were also

collected in 1999 at two locations (i.e., PPB5 and PPB6) in the assumed upgradient direction of MW-04. In 1999 benzene was detected at 2.66 μg/L (PPB5) and 28.9 μg/L (PPB6) in the two samples (see Table C2, Appendix C). In 2007 benzene was detected at 22 μg/L in MW-04 (See Table 8). The concentration of benzene in the area of MW-04 and PPB6 are fairly similar and may indicate that conditions are stable in that area of the property.

Concentrations of arsenic and manganese in groundwater were above MTCA Method B CULs in all monitoring wells. Lead was detected at 24.1 μg/L in MW-02 and at 78.5 μg/L in MW-04, both above MTCA Method B CULs. In a Palouse Basin Aquifer report for 2000 (Palouse Basin Aquifer Committee, 2001), it indicated that manganese concentrations in groundwater are high due to naturally occurring concentrations in sedimentary interbeds. The turbidity of the groundwater samples collected are unknown and the metal concentrations may be related to solids present in the samples. During the sampling proposed in this work plan, if possible groundwater samples will be collected once the turbidity falls below 10 Nephelometric turbidity units.

Heptachlor epoxide was detected at a concentration of 0.15 μg/L from MW-01; this is above the MTCA Method B CUL. The heptachlor epoxide exceedance was in a sample from the upgradient monitoring well MW-1, indicating a potential off-site source. It should be noted, however, that method reporting limits for some of the pesticides for which analyses were conducted during this 2007 investigation, including heptachlor epoxide, were above MTCA CULs.

BEHP was detected in 3 of 6 groundwater samples at concentrations ranging from 0.46 μg/L (MW-4) to 8.7 μg/L (MW-1). The detections of BEHP did not exceed the Method B CUL of 6.3 μg/L, except for the sample from MW-1. BEHP can be related to laboratory analytical methods or sampling procedures. There is also not a known source of BEHP on the Property. In addition, the BEHP exceedance was from the upgradient location of MW-1, indicating a potential off-site source.

Groundwater data have confirmed that the IHSs in groundwater on the site are GROs; DROs; heptachlor epoxide; BEHP; benzene; and metals, including arsenic, manganese, and lead.

3.3.3 Sediment

Two surface soil samples (SS-06 and SS-07) were collected on the south bank of the Property near the Palouse River where impacts were visually identified in surface soils (Sunrise, 1989). Two sediment samples were collected in the Palouse River near the western and eastern property boundaries. The soil samples on the bank did not detect IHSs above CULs, except for arsenic (see Tables 1 through 6). However, the arsenic concentrations were below the natural background concentration. The sediment samples did not detect any IHSs above sediment quality standards or cleanup screening levels (see Tables 13 through 17).

4 PRELIMINARY CONCEPTUAL SITE MODEL

The CSM describes potential chemical sources, release mechanisms, environmental transport processes, exposure routes, and receptors. The primary purpose of the CSM is to describe pathways by which human and ecological receptors could be exposed to site-related chemicals. A complete exposure pathway consists of four necessary elements: (1) a source and mechanism of chemical release to the environment, (2) an environmental transport medium for a released chemical, (3) a point of potential contact with the impacted medium (referred to as the exposure point), and (4) an exposure route (e.g., soil ingestion) at the exposure point.

The CSM and exposure scenarios for a site play a role in selection of cleanup standards. The preliminary CSM for human health is shown on Figure 5.

4.1 Sources and Release Mechanisms

Based on previous investigations and the evidence of USTs and ASTs on the Property, the sources of the contaminants are most likely from surface releases from former site operations, and spills and releases from leaking USTs, ASTs, and associated piping. The volume of TPH released has not been estimated because of insufficient information.

4.2 Fate and Transport Processes

Past site work and investigations have shown that NAPL was at one time (approximately 1984) discharging to the Palouse River. NAPL would have either infiltrated through soil to the water table or been released directly to the water table from USTs. The NAPL was released as TPH, which are typically lighter than water, and floated on the surface of the water table. Interceptor trenches were installed to remove NAPL.

In 1992, Ecology determined that NAPL was no longer discharging to the river and the trenches were removed. In the 2007 site investigation performed by TechLaw, NAPL was not identified in soil or groundwater. However, contaminants were identified in soil and groundwater above screening levels (TechLaw, 2008). Based on groundwater flow estimates, impacts in groundwater could potentially impact surface water during certain times of the year.

4.3 Potential Exposure Scenarios

The Property is a commercial property that is currently used for storage by the current owner and contains two structures. The Property could be used for

numerous commercial activities, which could potentially include ground floor commercial with upper story living units; retail, restaurants and lodging; and service industries, among other types of commercial use. Therefore, it is possible that commercial workers and residents will occupy the Property at some time in the foreseeable future.

The following pathways are potentially complete exposure pathways at the site:

- Incidental ingestion of and dermal contact with chemicals in subsurface soil, groundwater, surface water, and aquatic organisms for human consumption
- Inhalation of fugitive dusts generated from subsurface soil and inhalation of vapors emanating from subsurface soil
- Inhalation of vapors from soil and groundwater in outdoor air
- Inhalation of indoor air vapors from groundwater and subsurface soil due to vapor intrusion inside the neighboring buildings
- Ingestion, dermal contact, and inhalation of chemicals volatilizing from groundwater as tap water (based on the results of the beneficial water use determination [BWUD])

The evaluation of groundwater ingestion, dermal contact, and inhalation of chemicals volatilizing from groundwater as tap water pathways will be based on the results of the BWUD and completion of site characterization activities.

4.4 Potential Receptors

The following potential human and ecological current and future receptors:

- Occupational workers
- Residents
- Construction and trench workers
- Off-site aquatic biota
- Off-site receptors (fishers)

4.5 Hydrogeologic CSM

The current hydrogeologic CSM identifies one hydrostratigraphic unit present beneath the site, as discussed in Section 2. The data indicate that the water-bearing zone (WBZ) is likely recharged by infiltration from precipitation. The WBZ may also be recharged by the Palouse River when the river levels are high, and groundwater may discharge to the river when the river levels are low.

The previous investigations on and near the Property have been completed to approximately 20 feet bgs. Typically the water level has been found at 3 to 12 feet bgs in the fine sands and silt. Basalt was encountered at approximately 20 feet bgs on the Property and a zone of higher flow just above the basalt.

4.6 Data Gaps

This section provides a preliminary summary of data gaps to be addressed by the RI.

4.6.1 Soil

The soil samples analyzed from the 2007 investigation focused on unsaturated soil near some of the features of interest. The soil exceedances tended to occur at depth, which may be related to the subsurface features of interest or the removal of some impacted surface soils from the Property. The historical use of the Property could have caused impacts throughout the Property.

Additional soil sampling will be necessary to define the extent of impacts on the site and characterize some features of interest.

4.6.2 Groundwater

Impacts to groundwater on the Property were identified in 2007. The extent of the impacts has not been delineated, nor have the sources been identified. In addition to showing the nature and extent of impacts, shallow groundwater samples will provide a preliminary assessment of the potential for contaminant migration off the Property, including migration to the Palouse River.

4.6.3 Air

Impacts to indoor and outdoor air from volatile petroleum constituents have not been characterized. The evaluation of vapor intrusion will be based on a preliminary screening of data collected as part of this RI and will be discussed with Ecology.

4.6.4 Sediment

The sediment investigation conducted in 2007 did not detect chemicals above screening levels. Therefore, this RI work plan does not include assessment of sediments in the Palouse River. However, potential discharge of impacted groundwater to the Palouse River will be discussed with Ecology, based on the groundwater assessment data collected near the river.

4.6.5 Water Use

A BWUD has not been completed for the site. A preliminary BWUD will be conducted as part of the RI.

5 SCOPE OF WORK

This section describes the objectives and scope of work for the RI. The field investigations will be completed consistent with the methods and protocol described in the SAP (see Appendix A).

5.1 RI Objectives

RI objectives as they relate to hazardous substances, including metals and petroleum hydrocarbons and their constituents, include the following:

- Identify and characterize significant hazardous substance source areas at the facility. Source areas shall be characterized through a review of historical information; 2007 investigation results; and the collection of environmental samples for physical observation, field screening, and chemical analyses.
- Evaluate contaminant migration pathways at the facility. Key elements relevant to contaminant migration include, but are not limited to, the rate and direction of groundwater flow, preferential migration pathways, and volatilization of VOCs.
- Determine the nature, extent, and distribution of hazardous substances in environmental media at the facility. This analysis should focus on the vertical and horizontal extent of contamination, groundwater contamination, and surface and subsurface soil contamination.
- Identify all current and reasonably likely future human and ecological receptors at the facility. Receptors shall include human and ecological receptors that may be exposed to hazardous substances at the facility. This analysis should consider all relevant contaminant migration pathways and the nature, extent, and distribution of hazardous substances in affected media.
- Through the performance of human health and ecological RAs, evaluate the risk to human health and the environment from releases of hazardous substances at or from the facility.
- Generate or use data of sufficient quality for site characterization and RA at the facility.
- Develop the information necessary to evaluate and design necessary source control measures to address contaminant releases from the facility, if deemed necessary.

The proposed RI scope of work is designed to meet each of these objectives as they relate to IHSs identified in Section 3.

5.2 Characterization

There are limited current chemical data for the Property, and many of the potential source areas have not been investigated. The Property historically was heavily used and had the potential for spills throughout. Investigation locations proposed in this RI work plan were near potential source of impacts, features of interest, and the property boundaries. The potential sources of impacts and features of interest on the Property are:

- Former gasoline pump island
- Former diesel pump island
- Underground piping for pump islands
- Former UST and AST locations
- Hydraulic lifts
- Possible fill material
- Surface soil impacts near southwest corner of service station

The proposed investigation locations, in conjunction with the 2007 subsurface investigation, provide coverage across the Property, with investigation locations on approximately 25-foot centers. Twenty-one borings are proposed for the RI using direct-push drilling techniques (see Figure 6).

5.2.1 Soil

MFA will complete a limited investigation of the lateral and vertical extent of petroleum-related impacts to soil near the Property. Continuous soil cores will be advanced from ground surface to the top of the water table. Soil samples will be collected from the surface, 2.5 feet bgs, 5.0 feet bgs, 10.0 feet bgs, 15.0 feet bgs, and the top of the water table, if applicable. All soil samples will be screened using a photoionization meter or an organic vapor monitor. Visual and olfactory observations concerning each sample will also be recorded. If there is visual or olfactory evidence of impacts, the sample depths may be altered in order to collect samples within and just beneath the impacted areas. Once the investigation is complete, at least one soil sample will be analyzed from each boring at the depth at which the feature of interest may have impacted soil. For example, the samples collected at the level of the underground piping, if established by the utility clearance contractor, will be analyzed if there is no evidence of soil impacts. If soil impacts are identified, the samples within and just below the impacted areas will also be analyzed.

Soil samples will be analyzed for IHSs identified during the 2007 TechLaw site investigations as follows: petroleum hydrocarbons by NWTPH-Gx and NWTPH-Dx; BTEX by USEPA Method 8260B with 5035A prep Method; and metals (arsenic,

lead, and manganese) by USEPA Method 6010. Manganese is not an IHS for soil; however, the soil results may provide some insight to the concentrations observed in groundwater.

Soil analytical results will be compared to MTCA Method A unrestricted land use soil cleanup levels (CULs). In the case that chemicals detected are not included in the Method A list or the site is determined to be complex (e.g., potential impacts to surface water) then MTCA Method B soil CULs for unrestricted land use will be used.

5.2.2 Groundwater

MFA will collect reconnaissance groundwater samples from the WBZ above the basalt unit to define the lateral extent of IHS impacts to shallow groundwater. Up to 11 groundwater samples will be collected and analyzed (see Figure 6). Groundwater sampling will be conducted using the methods and protocol outlined in the SAP included as Appendix A.

Groundwater samples will be analyzed for IHSs identified during the 2007 TechLaw site investigations as follows: petroleum hydrocarbons by NWTPH-Gx and NWTPH-Dx; BTEX by USEPA Method 8260B; organochlorine pesticides by USEPA Method 8081A; and metals (arsenic, manganese, and lead) by USEPA Method 6010.

Groundwater analytical results will be compared to MTCA Method A groundwater CULs. In the case that chemicals detected are not included in the Method A list or the site is determined to be complex (e.g., potential impacts to surface water) then MTCA Method B groundwater CULs for unrestricted land use will be used.

5.3 Beneficial Water Use

MFA will complete a BWUD consistent with the MTCA guidance. The BWUD will identify potential water users in the area.

5.4 Risk Assessment

MFA will assess the risk (if any) posed by the IHSs to human health and to ecological receptors. The RAs will be completed in accordance with MTCA guidance for the potentially complete pathways identified in the preliminary CSM.

6 PROJECT MANAGEMENT PLAN

The following describes the role of key personnel on the project.

Mr. Michael Echanove will be the project director for the City. Mr. Echanove will be kept informed of the status of the project and of project activities. Mr. Echanove will review all data, reports, and other project-related documents prepared by MFA before their submittal to Ecology. He will be responsible for communicating with Ecology and the Property owner, and will coordinate on-site activities with the Property owner and MFA.

Jim Maul will be the project director for MFA. Mr. Maul will coordinate with project task leaders and will communicate regularly with Mr. Echanove. He will be responsible for allocating the resources necessary to ensure that the objectives of the RI are met. Mr. Maul will review all data, reports, and other project-related documents prepared by MFA before their submittal to the City or Ecology. Mr. Maul will also assist task leaders with technical issues.

Alan Hughes will be the project manager and will be responsible for managing the overall completion of the RI and for regular communication of project status to the project director and the Ecology project manager. Mr. Hughes will provide technical assistance to the assigned staff geologist, data manager, and health and safety officer, as appropriate; assist with resolution of technical or logistical challenges that may be encountered during the investigation; assist with field activities, and write and review reports; and participate in discussions with Ecology at the request of the City.

Justin Pounds will be responsible for assisting in the completion of the RI and for communications of project status with the project manager and the project director. Mr. Pounds will assist with field activities, write and review reports, and participate in discussions with Ecology at the request of the City.

Jeff Peterson will perform the baseline human health and ecological RAs, and will be involved with overall data management. Dr. Peterson will participate in discussions with Ecology at the request of the City.

6.1 Schedule

The estimated RI schedule is as follows:

Task	Start Date	Time Frame (calendar days)
Ecology Review of Draft RI work plan	March 2009	30
Final RI work plan	Receipt of Ecology comments on draft RI work plan	30
RI fieldwork	After submittal of final RI work plan	30
Draft RI report	Completion of fieldwork	90
Final RI report	Receipt of Ecology comments on draft RI report	60

The time frames for the work to be performed may change, based on changes to the scope of work, site access, and subcontractor availability and subject to Ecology approval.

LIMITATIONS

The services undertaken in completing this work plan were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This work plan is solely for the use and information of our client unless otherwise noted. Any reliance on this work plan by a third party is at such party's sole risk.

Opinions and recommendations contained in this work plan apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this work plan.

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Sunrise. 1989. Pre-site investigation, Palouse Producers site. Prepared for Port of Whitman County. Sunrise Technical Services, Inc., Boise, Idaho.

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TABLES

Table Notes
Palouse Producers
Palouse, Washington

BHC = benzenehexachloride.

Bold = Values exceed screening criteria.

cPAH TEC = Carcinogenic polycyclic aromatic hydrocarbon toxicity equivalent concentration calculated per Washington Administrative Code 173-340-708(8)(e).

CSL = cleanup screening level.

CUL = cleanup level.

DDD = dichlorodiphenyldichloroethane.

DDE = dichlorodiphenyldichloroethylene.

DDT = dichlorodiphenyltrichloroethane.

Ecology = Washington State Department of Ecology.

J = estimated concentration.

mg/kg = milligrams per kilogram.

MTCA = Model Toxics Control Act.

µg/L = micrograms per liter.

NA = not available.

ND = no detections.

NV = no value.

R = rejected data.

SQS = sediment quality standard.

U = not detected at or above method reporting limits.

UJ = method reporting limit estimated.

[a]Total 1,3-dichloropropene value.

[b]Endosulfan value.

[c]Hexavalent chromium value.

[d]Method A CUL; no Method B CUL available.

[e]1,1-Biphenyl value.

[f]Total polychlorinated biphenyl value.

Table 1
Total Petroleum Hydrocarbons in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Gasoline-Range Organics	Diesel-Range Organics	Residual-Range Organics
MTCA Method A CUL				30	2000	2000
SS-01	PP-SS-01-SS	08/17/2007	0	5.1 U	94	600 J
SS-02	PP-SS-02-SS	08/17/2007	0	5.1 U	86	460 JU
SS-03	PP-SS-03-SS	08/17/2007	0	5.2 U	26 U	130 J
SS-04	PP-SS-04-SS	08/17/2007	0	5.3 U	26 U	180 J
SS-05	PP-SS-05-SS	08/17/2007	0	5.2 U	26 U	120 J
SS-06	PP-SS-06-SS	08/17/2007	0	5.2 U	26 U	120 JU
SS-07	PP-SS-07-SS	08/17/2007	0	5 U	26 U	110 UJ
SS-08	PP-SS-08-SS	08/17/2007	0	5.3 U	26 U	110 UJ
SS-09	PP-SS-09-SS	08/17/2007	0	5.3 U	27 U	270 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	6 U	31 U	130 UJ
	PP-SB-02-SO	08/14/2007	7.3	17	37 U	150 U
	PP-SB-03-SO	08/14/2007	14.0	5.8 U	29 U	120 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	**170**	33 U	130 UJ
	PP-SB-05-SO	08/14/2007	5.5	**30**	33 U	140 UJ
	PP-SB-06-SO	08/15/2007	17.0	6 U	30 U	120 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	**900**	1700	130 U
	PP-SB-08-SO	08/15/2007	17.0	6.6 U	34 U	140 UJ
MW-04	PP-SB-09-SO	08/15/2007	8.5	7.3	33 U	140 U
	PP-SB-10-SO	08/15/2007	12.0	**77**	82	140 UJ
MW-05	PP-SB-11-SO	08/16/2007	4.0	**370**	**3200**	120 U
	PP-SB-12-SO	08/16/2007	7.0	**820**	**4500**	130 UJ
	PP-SB-13-SO	08/16/2007	11.0	5.9 U	31 U	130 U
	PP-SB-14-SO	08/16/2007	17.0	6.3 UJ	32 U	130 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	1,1,1-Trichloro-ethane	1,1,2,2-Tetra-chloroethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2,3-Trichloro-benzene
MTCA Method B CUL				72000	5.0	18	16000	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 UJ
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 UJ
	PP-SB-12-SO	08/16/2007	7.0	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 UJ
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	1,2,4-Trichloro-benzene	1,2-Dibromo-3-chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane
MTCA Method B CUL				800	0.71	800	7200	11	15
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 UJ	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 UJ	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 UJ	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	0.52 UJ	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,4-Dioxane	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene
MTCA Method B CUL				NV	42	91	NV	NV	8000	18
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.16 U	0.016 U	0.016 U	0.016 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.17 U	0.017 U	0.017 U	0.017 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.11 U	0.011 U	0.011 U	0.011 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.16 U	0.016 U	0.016 U	0.032	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.13 U	0.013 U	0.013 U	0.013 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.29 U	0.029 U	0.029 U	0.029 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.15 U	0.015 U	0.015 U	0.019	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.23 U	0.023 U	0.023 U	0.027	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.14 U	0.014 U	0.014 U	0.024	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.13 U	0.013 U	0.013 U	0.036	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.17 U	0.017 U	0.017 U	0.033	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.2 U	0.02 U	0.02 U	0.02 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 U	0.35 U	7 U	0.7 U	0.7 U	0.7 U	0.45
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.13 U	0.013 U	0.013 U	0.018	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.32 U	0.032 U	0.032 U	0.032 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 U	1.3 U	26 U	2.6 U	2.6 U	2.6 U	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.14 U	0.014 U	0.014 U	0.016	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.14 U	0.014 U	0.014 U	0.023	0.0054 J
	PP-SB-10-SO	08/15/2007	12.0	0.0067 U	0.0067 U	0.13 U	0.013 U	0.11	0.021	0.024
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 U	0.26 U	5.2 U	0.52 U	0.52 U	0.52 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	0.52 U	0.52 U	10 U	1 U	1 U	1 U	0.2 J
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.14 U	0.014 U	0.014 U	0.0086 J	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.11 U	0.011 U	0.011 U	0.0061 J	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chlorobromo-methane	Chloro-ethane
MTCA Method B CUL				16	130	110	8000	7.7	1600	NV	350
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.33 J
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0067 U	0.0067 U	0.0067 U	0.00057 J	0.0067 U	0.0067 U	0.0067 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Chloroform	Chloro-methane	cis-1,2-Dichloroethene	cis-1,3-Dichloro-propene	Cyclo-hexane	Dibromo-chloromethane	Dichloro-difluoromethane
MTCA Method B CUL				160	77	800	5.6[a]	NV	12	16000
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.025	0.0066 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.0086 U	0.0086 U	0.015	0.0086 U	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0031 J	0.0067 U	0.0067 U	0.0067 U	0.045 J	0.0067 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 U	0.26 U	0.26 U	0.26 U	0.47	0.26 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	0.52 U	0.52 U	0.52 U	0.52 U	1.7	0.52 U	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Ethylbenzene	Freon 113	Hexachloro-butadiene	Isopropyl-benzene	m,p-Xylene	Methyl Acetate	Methyl ethyl ketone	Methyl tert-butyl ether
MTCA Method B CUL				8000	NV	13	8000	160000	80000	48000	560
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.17 U	0.0081 U	0.0081 U	0.0081 U	0.016 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.17 U	0.0084 U	0.0084 U	0.0084 U	0.017 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.18 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.2 U	0.0082 U	0.00067 J	0.0082 U	0.016 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.18 U	0.0064 U	0.00048 J	0.0064 U	0.013 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.17 U	0.015 U	0.015 U	0.015 U	0.029 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.17 U	0.0074 U	0.0003 J	0.0074 U	0.015 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.18 U	0.011 U	0.00056 J	0.011 U	0.023 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.18 U	0.0071 U	0.00051 J	0.0071 U	0.014 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.21 U	0.0066 U	0.0066 U	0.0066 U	0.013 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.25 U	0.013	0.0086 U	0.0086 U	0.017 J	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.2 U	0.0098 U	0.0098 U	0.0098 U	0.02 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.11 J	0.35 U	0.22 U	0.13 J	0.44	0.35 U	0.7 U	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.22 U	0.0067 U	0.0067 U	0.0067 U	0.01 J	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.2 U	0.016 U	0.016 U	0.016 U	0.032 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	5.7	1.3 U	0.2 U	1.7	0.56 J	1.3 U	2.6 U	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.23 U	0.0068 U	0.0068 U	0.0068 U	0.0093 J	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.22 U	0.0027 J	0.00055 J	0.007 U	0.0094 J	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0092	0.0067 U	0.23 U	0.1	0.027	0.0067 U	0.013 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.34	0.26 U	0.21 U	0.26 U	1.5	0.26 U	0.52 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	2.4	0.52 U	0.22 U	0.81	0.77	0.52 U	1 U	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.21 U	0.007 U	0.007 U	0.007 U	0.009 J	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.21 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Methylcyclo-hexane	Methylene chloride	o-Xylene	Styrene	Tetra-chloroethene	Toluene	trans-1,2-Dichloroethene
MTCA Method B CUL				NV	130	160000	33	1.9	6400	1600
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.00078 J	0.0081 U	0.0081 U	0.0081 U	0.0081 UJ	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.00086 J	0.0084 U	0.0084 U	0.0084 U	0.0084 UJ	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.00091 J	0.0055 U	0.0055 U	0.0055 U	0.0055 UJ	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0037 J	0.0082 U	0.0082 U	0.0082 U	0.0082 UJ	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0019 J	0.0064 U	0.0064 U	0.0064 U	0.0064 UJ	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 UJ	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0075	0.0074 U	0.0074 U	0.0074 U	0.0074 UJ	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.012	0.011 U	0.011 U	0.011 U	0.011 UJ	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0081	0.0071 U	0.0071 U	0.0071 U	0.0071 UJ	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.054	0.0066 U	0.0066 U	0.0066 U	0.0066 U	0.00051 J	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.037	0.0086 U	0.0014 J	0.0086 U	0.0086 U	0.00037 J	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	1	0.35 U	0.024 J	0.35 U	0.35 U	0.063 J	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0032 J	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	3.8	1.3 U	1.3 U	1.3 U	1.3 U	0.079 J	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.019	0.007 U	0.007 U	0.007 U	0.007 U	0.007 UJ	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.21 J	0.0067 U	0.0035 J	0.0067 U	0.0067 U	0.006 J	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.33	0.26 U	0.41	0.26 U	0.26 U	0.018 J	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	5.4	0.52 U	0.069 J	0.52 U	0.52 U	0.039 J	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 2
Volatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoromethane	Vinyl chloride
MTCA Method B CUL				5.6[a]	11	24000	0.67
SS-01	PP-SS-01-SS	08/17/2007	0	0.0081 U	0.0081 U	0.0081 U	0.0081 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0084 U	0.0084 U	0.0084 U	0.0084 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0055 U	0.0055 U	0.0055 U	0.0055 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.0082 U	0.0082 U	0.0082 U	0.0082 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0064 U	0.0064 U	0.0064 U	0.0064 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.015 U	0.015 U	0.015 U	0.015 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0074 U	0.0074 U	0.0074 U	0.0074 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.011 U	0.011 U	0.011 U	0.011 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0071 U	0.0071 U	0.0071 U	0.0071 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0066 U	0.0066 U	0.0066 U	0.0066 U
	PP-SB-02-SO	08/14/2007	7.3	0.0086 U	0.0086 U	0.0086 U	0.0086 U
	PP-SB-03-SO	08/14/2007	14.0	0.0098 U	0.0098 U	0.0098 U	0.0098 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.35 U	0.35 U	0.35 U	0.35 U
	PP-SB-05-SO	08/14/2007	5.5	0.0067 U	0.0067 U	0.0067 U	0.0067 U
	PP-SB-06-SO	08/15/2007	17.0	0.016 U	0.016 U	0.016 U	0.016 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.3 U	1.3 U	1.3 U	1.3 U
	PP-SB-08-SO	08/15/2007	17.0	0.0068 U	0.0068 U	0.0068 U	0.0068 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-10-SO	08/15/2007	12.0	0.0067 U	0.0067 U	0.0067 U	0.0067 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.26 U	0.26 U	0.26 U	0.26 U
	PP-SB-12-SO	08/16/2007	7.0	0.52 U	0.52 U	0.52 U	0.52 U
	PP-SB-13-SO	08/16/2007	11.0	0.007 U	0.007 U	0.007 U	0.007 U
	PP-SB-14-SO	08/16/2007	17.0	0.0055 U	0.0055 U	0.0055 U	0.0055 U

Table 3
Pesticides in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	Atrazine	beta-BHC
MTCA Method B CUL				4.2	2.9	2.9	0.059	0.16	2.9	4.5	0.56
SS-01	PP-SS-01-SS	08/17/2007	0	0.0034 U	0.024	0.0034 U	0.0017 U	0.0017 U	0.0017 U	0.17 U	0.00076 J
SS-02	PP-SS-02-SS	08/17/2007	0	0.0034 U	0.00078 J	0.0052	0.0017 U	0.0017 U	0.0017 U	0.17 U	0.0017 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0035 U	0.00032 J	0.0035 UJ	0.0018 U	0.0018 U	0.0018 U	0.18 U	0.00006 J
SS-04	PP-SS-04-SS	08/17/2007	0	0.0039 U	0.002 J	0.0085	0.002 U	0.002 U	0.002 U	0.2 U	0.00016 J
SS-05	PP-SS-05-SS	08/17/2007	0	0.0035 U	0.00049 J	0.0035 UJ	0.0018 U	0.0018 U	0.0018 U	0.18 U	0.00005 J
SS-06	PP-SS-06-SS	08/17/2007	0	0.0034 U	0.00056 J	0.0034 UJ	0.0017 U	0.0017 U	0.0017 U	0.17 U	0.0017 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0033 U	0.00067 J	0.0033 UJ	0.0017 U	0.0017 U	0.0017 U	0.17 U	0.0017 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.0035 U	0.00039 J	0.0035 UJ	0.0018 U	0.0018 U	0.0018 U	0.18 U	0.00016 J
SS-09	PP-SS-09-SS	08/17/2007	0	0.0035 U	0.00014 J	0.0074	0.00015 J	0.0018 U	0.0018 U	0.18 U	0.00022 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.00048 J	0.00021 J	0.004 U	0.0021 U	0.0021 U	0.0021 U	0.21 U	0.000092 J
	PP-SB-02-SO	08/14/2007	7.3	0.0049 U	0.0049 U	0.0049 U	0.000076 J	0.0025 U	0.0025 U	0.25 U	0.0025 U
	PP-SB-03-SO	08/14/2007	14.0	0.0038 U	0.0038 U	0.0038 U	0.002 U	0.002 U	0.002 U	0.2 U	0.002 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.0043 U	0.00018 J	0.0043 UJ	0.00048 J	0.00035 J	0.0022 U	0.22 U	0.00036 J
	PP-SB-05-SO	08/14/2007	5.5	0.0043 U	0.0043 U	0.0043 U	0.0022 U	0.00004 J	0.0022 U	0.22 U	0.0022 U
	PP-SB-06-SO	08/15/2007	17.0	0.0039 U	0.0039 U	0.0039 U	0.002 U	0.002 U	0.002 U	0.2 U	0.002 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.00045 J	0.00045 J	0.0039 U	0.00019 J	0.002 U	0.002 U	0.2 U	0.002 U
	PP-SB-08-SO	08/15/2007	17.0	0.0044 U	0.0044 U	0.0044 U	0.0023 U	0.0023 U	0.0023 U	0.23 U	0.0023 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.0044 U	0.0044 U	0.0044 U	0.0022 U	0.0022 U	0.0022 U	0.22 U	0.0022 U
	PP-SB-10-SO	08/15/2007	12.0	0.0044 U	0.0044 U	0.0044 U	0.0023 U	0.0023 U	0.0023 U	0.23 U	0.0023 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.0011 J	0.0041 U	0.0041 U	0.00042 J	0.0021 U	0.0021 U	0.21 U	0.0021 U
	PP-SB-12-SO	08/16/2007	7.0	0.0014 J	0.00021 J	0.0042 U	0.00011 J	0.0022 U	0.0022 U	0.22 U	0.0022 U
	PP-SB-13-SO	08/16/2007	11.0	0.0041 U	0.0041 U	0.0041 U	0.0021 U	0.0021 U	0.0021 U	0.21 U	0.0021 U
	PP-SB-14-SO	08/16/2007	17.0	0.0041 U	0.0041 U	0.0041 U	0.0021 U	0.0021 U	0.0021 U	0.21 U	0.0021 U

Table 3
Pesticides in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone
MTCA Method B CUL				NV	0.063	480[b]	480[b]	NV	24	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.00004 J	0.0034 U	0.0017 U	0.017	0.0034 UJ	0.1	0.016	0.0034 UJ
SS-02	PP-SS-02-SS	08/17/2007	0	0.0017 U	0.0034 U	0.0017 U	0.0034 UJ	0.0034 UJ	0.0047	0.0034 U	0.0034 UJ
SS-03	PP-SS-03-SS	08/17/2007	0	0.0018 U	0.00039 J	0.0018 U	0.0035 UJ	0.0035 UJ	0.00063 J	0.0035 U	0.0035 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.002 U	0.00054 J	0.002 U	0.0039 UJ	0.0039 U	0.00014 J	0.0039 U	0.0039 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0018 U	0.00041 J	0.0018 U	0.0035 UJ	0.0035 U	0.00038 J	0.0035 U	0.0035 UJ
SS-06	PP-SS-06-SS	08/17/2007	0	0.0017 U	0.00084 J	0.0017 U	0.0034 U	0.0034 UJ	0.000032 J	0.0034 U	0.0034 UJ
SS-07	PP-SS-07-SS	08/17/2007	0	0.0017 U	0.0033 U	0.0017 U	0.0033 U	0.0033 UJ	0.00028 J	0.0033 U	0.0033 UJ
SS-08	PP-SS-08-SS	08/17/2007	0	0.000067 J	0.0006 J	0.0018 U	0.0035 UJ	0.0035 UJ	0.00097 J	0.0035 UJ	0.0035 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0018 U	0.00019 J	0.0018 U	0.0035 UJ	0.0035 U	0.0013 J	0.0035 U	0.0035 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0021 U	0.00008 J	0.0021 U	0.00011 J	0.004 U	0.0003 J	0.004 U	0.004 U
	PP-SB-02-SO	08/14/2007	7.3	0.0025 U	0.0049 U	0.0025 U	0.0049 U	0.0049 U	0.0049 U	0.0049 U	0.0049 U
	PP-SB-03-SO	08/14/2007	14.0	0.002 U	0.00005 J	0.002 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.0022 U	0.00026 J	0.0022 U	0.000059 J	0.00017 J	0.00019 J	0.0043 U	0.00071 J
	PP-SB-05-SO	08/14/2007	5.5	0.0022 U	0.000061 J	0.0022 U	0.0001 J	0.0043 U	0.0043 U	0.0043 U	0.0043 U
	PP-SB-06-SO	08/15/2007	17.0	0.002 U	0.0039 U	0.002 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U	0.0039 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.002 U	0.00037 J	0.002 U	0.0039 U	0.00038 J	0.000099 J	0.0039 U	0.00049 J
	PP-SB-08-SO	08/15/2007	17.0	0.0023 U	0.0044 U	0.0023 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.0022 U	0.0044 U	0.0022 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
	PP-SB-10-SO	08/15/2007	12.0	0.0023 U	0.0044 U	0.0023 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.0021 U	0.000098 J	0.0021 U	0.00024 J	0.0041 U	0.00011 J	0.0041 U	0.00012 J
	PP-SB-12-SO	08/16/2007	7.0	0.0022 U	0.00013 J	0.0022 U	0.00034 J	0.00018 J	0.000049 J	0.0042 U	0.0042 U
	PP-SB-13-SO	08/16/2007	11.0	0.0021 U	0.000069 J	0.0021 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U
	PP-SB-14-SO	08/16/2007	17.0	0.0021 U	0.0041 U	0.0021 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U

Table 3
Pesticides in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Lindane	Methoxychlor	Toxaphene
MTCA Method B CUL				2.9	0.22	0.11	0.77	400	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.0017 U	0.00035 J	0.0017 U	0.00063 J	0.017 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.017 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.018 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.002 U	0.002 U	0.002 U	0.002 U	0.0015 J	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.00048 J	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.0017 U	0.0017 U	0.00022 J	0.0017 U	0.000073 J	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0017 U	0.0017 U	0.00029 J	0.0017 U	0.00048 J	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0034 J	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0017 J	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.00041 J	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.0025 U	0.000094 J	0.0025 U	0.0025 U	0.025 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.002 U	0.002 U	0.002 U	0.002 U	0.02 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.0022 U	0.0022 U	0.00009 J	0.0022 U	0.00077 J	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.00034 J	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.002 U	0.002 U	0.002 U	0.002 U	0.02 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.00023 J	0.00011 J	0.00013 J	0.002 U	0.0019 J	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.0023 U	0.0023 U	0.0023 U	0.0023 U	0.023 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.022 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.0023 U	0.0023 U	0.0023 U	0.0023 U	0.023 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.00011 J	0.00012 J	0.0021 U	0.0021 U	0.00035 J	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.000087 J	0.00011 J	0.0022 U	0.000082 J	0.022 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.021 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.021 U	0.21 U

Table 4
Metals in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
MTCA Method B CUL				NV	32	0.67	16000	160	80	NV	240[c]
MTCA Method A CUL				NV	NV	20	NV	NV	2	NV	19
SS-01	PP-SS-01-SS	08/17/2007	0	6170	0.25 J	**3.4**	103	0.37 J	2.3 J	4400	13.1 J
SS-02	PP-SS-02-SS	08/17/2007	0	12600	6.2 UJ	**4.6**	153	0.58	1.6 J	4760	18.2 J
SS-03	PP-SS-03-SS	08/17/2007	0	12300	0.57 J	**4.8**	148	0.56	1.5 J	3990	17.4 J
SS-04	PP-SS-04-SS	08/17/2007	0	15400	0.70 J	**3.6**	188	0.58	1.3 J	4450	15.8 J
SS-05	PP-SS-05-SS	08/17/2007	0	11000	0.28 J	**4.1**	145	0.53	1.6 J	4900	16.0 J
SS-06	PP-SS-06-SS	08/17/2007	0	7930	6.2 UJ	**3.1**	106	0.41 J	1.2 J	3560	11.4 J
SS-07	PP-SS-07-SS	08/17/2007	0	7510	0.30 J	**2.5**	101	0.40 J	0.76 J	2340	10.5 J
SS-08	PP-SS-08-SS	08/17/2007	0	11400	0.29 J	**3.5**	145	0.48 J	1.3 J	4260	14.3 J
SS-09	PP-SS-09-SS	08/17/2007	0	12900	0.67 J	**3.8**	342	0.58	3.5 J	4310	14.6 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	11000	0.30 J	**3.1**	181	0.61 U	1.8 J	5090	14.3 J
	PP-SB-02-SO	08/14/2007	7.3	7610	8.5 U	**1.9**	135	0.71 U	0.61 J	2770	8.9 J
	PP-SB-03-SO	08/14/2007	14.0	4890	6.8 U	**3.5**	59.1	0.57 U	0.89 J	1240	10.3 J
MW-02	PP-SB-04-SO	08/14/2007	4.0	8130	1.6 J	**10.3**	167	0.64 U	2.3 J	4400	11.3 J
	PP-SB-05-SO	08/14/2007	5.5	7100	0.64 J	**2.3**	131	0.65 U	1.1 J	3390	9.5 J
	PP-SB-06-SO	08/15/2007	17.0	5380	7.3 U	**2.1**	71.3	0.61 U	1.4 J	2600	11.3 J
MW-03	PP-SB-07-SO	08/15/2007	7.5	12200	7.5 U	**5**	242	0.63 U	1.9 J	8260	22.4 J
	PP-SB-08-SO	08/15/2007	17.0	5080	0.36 J	**2.1**	50.9	0.66 U	0.48 J	1440	10.4 J
MW-04	PP-SB-09-SO	08/15/2007	8.5	8540	8.0 U	**1.8**	94.8	0.67 U	0.64 J	1620	9.6 J
	PP-SB-10-SO	08/15/2007	12.0	8210	0.82 J	**3.3**	257	0.71 U	0.82 J	8580	10.0 J
MW-05	PP-SB-11-SO	08/16/2007	4.0	9880	7.5 U	**5.4**	142	0.62 U	1.8 J	4900	12.9 J
	PP-SB-12-SO	08/16/2007	7.0	9400	0.33 J	**2.4**	140	0.64 U	0.88 J	2980	10.8 J
	PP-SB-13-SO	08/16/2007	11.0	5490	7.4 U	**10.3**	121	0.62 U	1.2 J	1770	8.5 J
	PP-SB-14-SO	08/16/2007	17.0	2550	7.7 U	**0.99 J**	32.8	0.65 U	0.41 J	1180	5.9 J

Table 4
Metals in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Potassium
MTCA Method B CUL				NV	3000	NV	250[d]	NV	11000	1600	NV
MTCA Method A CUL				NV	NV	NV	250	NV	NV	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	17.5	30.6 J	23500	68.6 J	5460	511	20.6	813
SS-02	PP-SS-02-SS	08/17/2007	0	14.9	30.3 J	22900	109 J	4360	493	17.7	2250
SS-03	PP-SS-03-SS	08/17/2007	0	14.7	28.3 J	23700	33.0 J	4130	515	17.0	1810
SS-04	PP-SS-04-SS	08/17/2007	0	12.4	34.6 J	18900	44.4 J	3420	449	14.6	2650
SS-05	PP-SS-05-SS	08/17/2007	0	15.4	29.2 J	23700	39.9 J	5040	525	19.4	2720
SS-06	PP-SS-06-SS	08/17/2007	0	11.8	19.0 J	19200	10.3 J	3950	401	13.1	1600
SS-07	PP-SS-07-SS	08/17/2007	0	8.9	12.1 J	11600	9.8 J	2820	386	8.8	1600
SS-08	PP-SS-08-SS	08/17/2007	0	14.2	26.7 J	20900	33.3 J	4170	476	15.7	1690
SS-09	PP-SS-09-SS	08/17/2007	0	11.9	29.3 J	16000	**628 J**	3150	439	13.6	2520
MW-01	PP-SB-01-SO	08/14/2007	3.5	16.8 J	33.5	24500	51.3	3970	553	17.5 J	2270
	PP-SB-02-SO	08/14/2007	7.3	5.5 J	14.3	9050	8.1	1980	279	6.2 J	1750
	PP-SB-03-SO	08/14/2007	14.0	10.3 J	12.0	12200	6.4	1840	333	8.5 J	812
MW-02	PP-SB-04-SO	08/14/2007	4.0	13.9 J	53.7	26300	**574**	3090	350	18.7 J	1730
	PP-SB-05-SO	08/14/2007	5.5	7.1 J	25.6	12300	**304**	2350	237	8.0 J	1490
	PP-SB-06-SO	08/15/2007	17.0	15.0 J	18.7	18500	5.3	3840	157	14.1 J	959
MW-03	PP-SB-07-SO	08/15/2007	7.5	15.7 J	29.6	22700	108	4290	914	17.7 J	2070
	PP-SB-08-SO	08/15/2007	17.0	6.9 J	9.0	7020	4.4	1910	42.7	7.3 J	760
MW-04	PP-SB-09-SO	08/15/2007	8.5	8.6 J	10.0	10300	6.4	2500	147	7.7 J	1400
	PP-SB-10-SO	08/15/2007	12.0	8.2 J	30.7	10700	80.4	2660	308	10.3 J	1470
MW-05	PP-SB-11-SO	08/16/2007	4.0	16.1 J	27.8	26200	29.7	4330	529	18.8 J	1100
	PP-SB-12-SO	08/16/2007	7.0	8.5 J	19.3	12700	72.7	2460	369	8.6 J	2150
	PP-SB-13-SO	08/16/2007	11.0	12.1 J	8.6	17800	4.6	1880	646	7.3 J	840
	PP-SB-14-SO	08/16/2007	17.0	4.1 J	6.3	6440	2.2	1030	37.7	4.1 J	322 J

Table 4
Metals in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
MTCA Method B CUL				400	400	NV	6	560	24000
MTCA Method A CUL				NV	NV	NV	NV	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.33 J	2.0	158 J	0.39 J	31.0	170 J
SS-02	PP-SS-02-SS	08/17/2007	0	0.23 J	2.0	172 J	0.29 J	40.2	118 J
SS-03	PP-SS-03-SS	08/17/2007	0	0.52 J	2.2	225 J	0.42 J	44.5	195 J
SS-04	PP-SS-04-SS	08/17/2007	0	0.26 J	1.7	278 J	0.50 J	33.6	131 J
SS-05	PP-SS-05-SS	08/17/2007	0	0.70 J	2.3	171 J	0.27 J	37.8	94.7 J
SS-06	PP-SS-06-SS	08/17/2007	0	0.35 J	1.6	143 J	0.45 J	34.3	53.5 J
SS-07	PP-SS-07-SS	08/17/2007	0	0.35 J	0.92 J	91.3 J	0.38 J	21.1	40.8 J
SS-08	PP-SS-08-SS	08/17/2007	0	0.40 J	1.8	225 J	0.34 J	34.6	218 J
SS-09	PP-SS-09-SS	08/17/2007	0	3.7 U	1.5	211 J	0.51 J	31.2	468 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	1.2 J	2.4 J	165 J	1.0 J	38.9	76.8 J
	PP-SB-02-SO	08/14/2007	7.3	1.2 J	0.69 J	115 J	0.49 J	22.8	31.2 J
	PP-SB-03-SO	08/14/2007	14.0	0.87 J	1.1 J	70.7 J	0.63 J	33.9	18.5 J
MW-02	PP-SB-04-SO	08/14/2007	4.0	1.6 J	2.6 J	221 J	1.1 J	27.6	348 J
	PP-SB-05-SO	08/14/2007	5.5	0.81 J	1.1 J	238 J	0.72 J	20.6	204 J
	PP-SB-06-SO	08/15/2007	17.0	0.98 J	1.6 J	165 J	0.86 J	37.5	39.5 J
MW-03	PP-SB-07-SO	08/15/2007	7.5	1.2 J	2.1 J	150 J	0.94 J	48.7	116 J
	PP-SB-08-SO	08/15/2007	17.0	0.97 J	0.52 J	93.5 J	0.51 J	28.6	23.7 J
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.83 J	0.87 J	128 J	0.81 J	19.0	23.9 J
	PP-SB-10-SO	08/15/2007	12.0	0.85 J	0.95 J	372 J	0.67 J	23.5	68.0 J
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.91 J	2.4 J	175 J	1.0 J	37.9	53.8 J
	PP-SB-12-SO	08/16/2007	7.0	1.1 J	1.1 J	172 J	0.65 J	26.0	53.7 J
	PP-SB-13-SO	08/16/2007	11.0	0.83 J	1.8 J	73.6 J	0.81 J	48.8	19.6 J
	PP-SB-14-SO	08/16/2007	17.0	0.51 J	0.48 J	89.3 J	0.49 J	22.3	17.6 J

Table 5
Polychlorinated Biphenyls in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (feet bgs)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Biphenyl
MTCA Method B CUL				5.6	NV	NV	NV	NV	1.6	NV	NV	NV	4000[e]
SS-01	PP-SS-01-SS	08/17/2007	0	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	1.1	0.034 U	0.034 U	0.034 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.027 J	0.034 U	0.034 U	0.034 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.005 J	0.035 U	0.035 U	0.035 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.016 J	0.039 U	0.039 U	0.039 U	0.016 J
SS-05	PP-SS-05-SS	08/17/2007	0	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.008 J	0.035 U	0.035 U	0.035 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.014 J	0.035 U	0.035 U	0.035 U	0.014 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.038 UR	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.011 J
	PP-SB-05-SO	08/14/2007	5.5	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.043 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.46
	PP-SB-08-SO	08/15/2007	17.0	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.0099 J
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.075 J
	PP-SB-12-SO	08/16/2007	7.0	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.95
	PP-SB-13-SO	08/16/2007	11.0	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	1,2,4,5-Tetra-chlorobenzene	2,3,4,6-Tetra-chlorophenol	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol
MTCA Method B CUL				24.00	2400.00	8000	91	240	1600	160
SS-01	PP-SS-01-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.34 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.34 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.39 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.34 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.33 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.4 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.49 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.38 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.43 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.43 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.39 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.39 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.44 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.44 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.42 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	2,4-Dinitro-toluene	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chlorophenol	2-Methyl-naphthalene	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol
MTCA Method B CUL				160	80	NV	400	320	NV	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.0066 J	0.17 U	0.34 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.012 J	0.17 U	0.34 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.2 U	0.2 U	0.2 U	0.2 U	0.043 J	0.2 U	0.39 U	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.011 J	0.18 U	0.35 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.34 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.33 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.024 J	0.18 U	0.35 U	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.21 U	0.21 U	0.21 U	0.21 U	0.084 J	0.21 U	0.4 U	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.49 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.38 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.22 U	0.22 U	0.22 U	0.22	0.22 U	0.43 U	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.22 U	0.22 U	0.049 J	0.22 U	0.43 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.39 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.2 U	0.2 U	0.2 U	0.2 U	4.9	0.2 U	0.39 U	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.23 U	0.027 J	0.23 U	0.44 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.23 U	0.23 U	0.16 J	0.23 U	0.44 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.21 U	0.21 U	0.9	0.21 U	0.41 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	0.22 U	0.22 U	7.2	0.22 U	0.42 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	3,3-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromofluoro-benzene	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether
MTCA Method B CUL				2.2	NV	NV	NV	NV	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.2 U	0.39 U	0.39 U	0.2 U	0.2 U	0.2 U	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.33 U	0.33 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.18 U	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.21 U	0.4 U	0.4 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.49 U	0.49 U	0.25 U	0.25 U	0.25 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.38 U	0.38 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.43 U	0.43 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.43 U	0.43 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.39 U	0.39 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.2 U	0.39 U	0.39 U	0.2 U	0.2 U	0.2 U	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.44 U	0.44 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.44 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.44 U	0.44 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.42 U	0.42 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.21 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	4-Methyl-phenol	4-Nitro-aniline	4-Nitro-phenol	Acenaph-thene	Acenaph-thylene	Aceto-phenone	Anthracene	Benzal-dehyde	Benzo(a) anthracene
MTCA Method B CUL				NV	NV	NV	4800	NV	NV	24000	NV	NV
SS-01	PP-SS-01-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.015 J	0.0075 J	0.016 J	0.0081 J
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.024 J	0.17 U	0.024 J	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.025 J	0.18 U	0.031 J	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.2 U	0.39 U	0.39 U	0.2 U	0.2 U	0.086 J	0.2 U	0.072 J	0.022 J
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.02 J	0.18 U	0.025 J	0.006 J
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.34 U	0.34 U	0.17 U	0.17 U	0.017 J	0.17 U	0.019 J	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.33 U	0.33 U	0.17 U	0.17 U	0.016 J	0.17 U	0.02 J	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.027 J	0.0082 J	0.027 J	0.022 J
SS-09	PP-SS-09-SS	08/17/2007	0	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.048 J	0.012 J	0.073 J	0.057 J
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.21 U	0.4 U	0.4 U	0.012 J	0.21 U	0.052 J	0.014 J	0.051 J	0.027 J
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.49 U	0.49 U	0.25 U	0.25 U	0.25 U	0.25 U	0.047 J	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.38 U	0.38 U	0.2 U	0.2 U	0.021 J	0.2 U	0.015 J	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.43 U	0.43 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.015 J
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.43 U	0.43 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.39 U	0.39 U	0.2 U	0.2 U	0.024 J	0.2 U	0.015 J	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.2 U	0.39 U	0.39 U	0.088 J	0.2 U	0.2 U	0.2 U	0.2 U	0.015 J
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.44 U	0.44 U	0.23 U	0.23 U	0.042 J	0.23 U	0.034 J	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.44 U	0.44 U	0.22 U	0.22 U	0.027 J	0.22 U	0.02 J	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.44 U	0.44 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.42 U	0.42 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.03 J	0.21 U	0.21 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.41 U	0.41 U	0.21 U	0.21 U	0.024 J	0.21 U	0.018 J	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(ghi) perylene	Benzo(k) fluoranthene	Bis(2-chloro-1-methylethyl)ether	Bis(2-chloro-ethoxy)-methane	Bis(2-chloro-ethyl) ether
MTCA Method B CUL				0.14	NV	NV	NV	14.00	NV	0.91
SS-01	PP-SS-01-SS	08/17/2007	0	0.014 J	0.035 J	0.037 J	0.0078 J	0.17 U	0.17 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.027 J	0.037 J	0.03 J	0.0099 J	0.2 U	0.2 U	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.018 J	0.019 J	0.18 U	0.0062 J	0.18 U	0.18 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.052 J	0.048 J	0.035 J	0.019 J	0.18 U	0.18 U	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.029 J	0.028 J	0.018 J	0.011 J	0.21 U	0.21 U	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.021 J	0.03 J	0.018 J	0.0095 J	0.22 U	0.22 U	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.021 J	0.031 J	0.018 J	0.009 J	0.2 U	0.2 U	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Bis(2-ethylhexyl) phthalate	Butyl Benzyl Phthalate	Caprolactam	Carbazole	Chrysene	Dibenzo(a,h) anthracene	Dibenzo-furan	Diethyl-phthalate
MTCA Method B CUL				71	16000	40000	50	NV	NV	160	64000.00
SS-01	PP-SS-01-SS	08/17/2007	0	0.13 J	0.17 U	0.17 U	0.17 U	0.033 J	0.17 U	0.17 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.053 J	0.2 U	0.2 U	0.2 U	0.032 J	0.2 U	0.0083 J	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.11 J	0.18 U	0.18 U	0.18 U	0.014 J	0.18 U	0.18 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.017 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.03 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.019 J	0.18 U	0.18 U	0.18 U	0.015 J	0.18 U	0.18 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.084 J	0.18 U	0.18 U	0.18 U	0.057 J	0.18 U	0.0073 J	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.02 J	0.21 U	0.21 U	0.21 U	0.03 J	0.21 U	0.027 J	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.025 J	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.22 U	0.22 U	0.22 U	0.026 J	0.22 U	0.01 J	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.023 J	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.038 J	0.2 U	0.2 U	0.2 U	0.028 J	0.2 U	0.13 J	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.013 J	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.29	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Dimethyl Phthalate	Di-n-butyl Phthalate	Di-n-octyl Phthalate	Fluoranthene	Fluorene	Hexachloro-benzene	Hexachlorocyclo-pentadiene	Hexachloro-ethane
MTCA Method B CUL				80000	NV	1600	3200	3200	0.63	480	71
SS-01	PP-SS-01-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.019 J	0.17 U	0.17 U	0.17 U	0.17 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.01 J	0.17 U	0.17 U	0.17 U	0.17 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.024 J	0.2 U	0.2 U	0.024 J	0.2 U	0.2 U	0.2 U	0.2 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.0072 J	0.18 U	0.0095 J	0.18 U	0.18 U	0.18 U	0.18 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.0099 J	0.17 U	0.17 U	0.17 U	0.17 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.011 J	0.17 U	0.17 U	0.17 U	0.17 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.037 J	0.18 U	0.18 U	0.18 U	0.18 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.068 J	0.0074 J	0.18 U	0.18 U	0.18 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.21 U	0.21 U	0.21 U	0.06 J	0.0087 J	0.21 U	0.21 U	0.21 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.22 U	0.22 U	0.22 U	0.025 J	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.2 U	0.2 U	0.2 U	0.043 J	0.27	0.2 U	0.2 U	0.2 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.21 U	0.21 U	0.045 J	0.21 U	0.21 U	0.21 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	0.22 U	0.023 J	0.94	0.22 U	0.22 U	0.22 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Indeno(1,2,3-cd)-pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-diphenylamine	N-Nitrosodipro-pylamine	Pentachloro-phenol
MTCA Method B CUL				NV	1100	1600	40	200	0.14	8.3
SS-01	PP-SS-01-SS	08/17/2007	0	0.031 J	0.17 U	0.0063 J	0.17 U	0.17 U	0.17 U	0.34 U
SS-02	PP-SS-02-SS	08/17/2007	0	0.17 U	0.17 U	0.0078 J	0.17 U	0.17 U	0.17 U	0.34 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.025 J	0.2 U	0.053 J	0.2 U	0.2 U	0.2 U	0.39 U
SS-05	PP-SS-05-SS	08/17/2007	0	0.18 U	0.18 U	0.0085 J	0.18 U	0.18 U	0.18 U	0.35 U
SS-06	PP-SS-06-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.34 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.33 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U
SS-09	PP-SS-09-SS	08/17/2007	0	0.039 J	0.18 U	0.034 J	0.18 U	0.18 U	0.18 U	0.35 U
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.018 J	0.21 U	0.077 J	0.21 U	0.21 U	0.21 U	0.4 U
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.49 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.38 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.018 J	0.22 U	0.18 J	0.22 U	0.22 U	0.22 U	0.43 U
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.044 J	0.22 U	0.22 U	0.22 U	0.43 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.39 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.019 J	0.2 U	2.2 J	0.2 U	0.2 U	0.2 U	0.39 U
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.013 J	0.23 U	0.23 U	0.23 U	0.44 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U
	PP-SB-10-SO	08/15/2007	12.0	0.23 U	0.23 U	0.17 J	0.23 U	0.23 U	0.23 U	0.44 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.21 U	0.21 U	0.35 J	0.21 U	0.21 U	0.21 U	0.41 U
	PP-SB-12-SO	08/16/2007	7.0	0.22 U	0.22 U	3.3 J	0.22 U	0.22 U	0.22 U	0.42 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U

Table 6
Semivolatile Organic Compounds in Soil (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Depth (ft bgs)	Phenanthrene	Phenol	Pyrene	cPAH TEC
MTCA Method B CUL				NV	48000	2400	0.14
SS-01	PP-SS-01-SS	08/17/2007	0	0.012 J	0.17 U	0.021 J	0.023
SS-02	PP-SS-02-SS	08/17/2007	0	0.009 J	0.17 U	0.012 J	0.12 U
SS-03	PP-SS-03-SS	08/17/2007	0	0.18 U	0.18 U	0.18 U	0.13 U
SS-04	PP-SS-04-SS	08/17/2007	0	0.017 J	0.2 U	0.036 J	0.037
SS-05	PP-SS-05-SS	08/17/2007	0	0.0087 J	0.18 U	0.015 J	0.12
SS-06	PP-SS-06-SS	08/17/2007	0	0.007 J	0.17 U	0.0091 J	0.12 U
SS-07	PP-SS-07-SS	08/17/2007	0	0.0086 J	0.17 U	0.011 J	0.12 U
SS-08	PP-SS-08-SS	08/17/2007	0	0.033 J	0.18 U	0.037 J	0.032
SS-09	PP-SS-09-SS	08/17/2007	0	0.086 J	0.18 U	0.15 J	0.069
MW-01	PP-SB-01-SO	08/14/2007	3.5	0.072 J	0.21 U	0.051 J	0.038
	PP-SB-02-SO	08/14/2007	7.3	0.25 U	0.25 U	0.25 U	0.18 U
	PP-SB-03-SO	08/14/2007	14.0	0.2 U	0.2 U	0.2 U	0.14 U
MW-02	PP-SB-04-SO	08/14/2007	4.0	0.038 J	0.029 J	0.024 J	0.029
	PP-SB-05-SO	08/14/2007	5.5	0.22 U	0.22 U	0.22 U	0.16 U
	PP-SB-06-SO	08/15/2007	17.0	0.2 U	0.2 U	0.2 U	0.14 U
MW-03	PP-SB-07-SO	08/15/2007	7.5	0.26	0.2 U	0.051 J	0.029
	PP-SB-08-SO	08/15/2007	17.0	0.23 U	0.23 U	0.23 U	0.16 U
MW-04	PP-SB-09-SO	08/15/2007	8.5	0.22 U	0.22 U	0.22 U	0.16 U
	PP-SB-10-SO	08/15/2007	12.0	0.012 J	0.23 U	0.23 U	0.16 U
MW-05	PP-SB-11-SO	08/16/2007	4.0	0.088 J	0.21 U	0.21 U	0.15 U
	PP-SB-12-SO	08/16/2007	7.0	0.91	0.22 U	0.048 J	0.16 U
	PP-SB-13-SO	08/16/2007	11.0	0.21 U	0.21 U	0.21 U	0.15 U
	PP-SB-14-SO	08/16/2007	17.0	0.21 U	0.21 U	0.21 U	0.15 U

Table 7
Total Petroleum Hydrocarbons in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Diesel-Range Organics	Gasoline-Range Organics	Residual-Range Organics
MTCA Method A CUL			500	800	500
MW-01	PP-MW-01-GW	08/14/2007	350 J	490	480 U
MW-02	PP-MW-02-GW	08/15/2007	240 UJ	250 UJ	480 U
MW-03	PP-MW-03-GW	08/15/2007	240 UJ	250 UJ	480 U
MW-04	PP-MW-04-GW	08/16/2007	**650 J**	570 J	480 U
MW-05	PP-MW-05-GW	08/16/2007	**520 J**	**930 J**	480 U
	PP-MW-06-GW	08/16/2007	480 J	**1100**	480 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,1,1-Trichloro-ethane	1,1,2,2-Tetra-chloroethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2,3-Trichloro-benzene
MTCA Method B CUL			7200	0.22	0.77	1600	NV	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,2,4-Trichloro-benzene	1,2-Dibromo-3-chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3-Dichloro-benzene
MTCA Method B CUL			NV	0.03	80	720	0.48	0.64	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,4-Dichloro-benzene	1,4-Dioxane	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene	Bromo-dichloro-methane
MTCA Method B CUL			1.8	NV	NV	NV	NV	800	0.8	0.71
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	100 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	100 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	100 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	100 U	10 U	10 U	10 U	6.2 J	**22**	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	100 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	100 U	10 U	10 U	10 U	10 U	5.0 U	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-bromo-methane	Chloro-ethane	Chloroform
MTCA Method B CUL			5.5	11	800	0.34	160	NV	15	7.2
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Cyclo-hexane	Dibromo-chloro-methane	Dichloro-difluoro-methane	Ethyl-benzene	Freon 113
MTCA Method B CUL			3.4	80	0.24[a]	NV	0.52	1600	800	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	3.0 J	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.4 J	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.64 J	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.1	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.6	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Hexachloro-butadiene	Isopropyl-benzene	m,p-Xylene	Methyl Acetate	Methyl tert-butyl ether	Methyl-cyclo-hexane	Methylene chloride
MTCA Method B CUL			0.56	800	16000	240	24	NV	5.8
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	3.3 J	5.0 U	5.0 U	5.0 U	3.5 J	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	0.37 J	5.0 U	5.0 U	6.7	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	1.1 J	0.34 J	5.0 U	5.0 U	5.8	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	11	2.7 J	5.0 U	5.0 U	19	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	4.6 J	19	5.0 U	5.0 U	15	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	4.5 J	21	5.0 U	5.0 U	14	5.0 U

Table 8
Volatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	o-Xylene	Styrene	Tetra-chloro-ethene	Toluene	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl chloride
MTCA Method B CUL			16000	1.5	0.081	640	160	0.24[a]	0.49	2400	0.029
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	1.6 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	2.3 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	2.7 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	7.2	0.27 J	5.0 U	3.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	8.5	0.30 J	5.0 U	3.7 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 9
Pesticides in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	Atrazine
MTCA Method B CUL			0.36	0.26	0.26	0.0026	0.014	0.25	0.40
MW-01	PP-MW-01-GW	08/14/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.0034 J	0.050 U	5.0 U
	PP-MW-06-GW	08/16/2007	0.10 U	0.10 U	0.10 U	0.050 U	0.0035 J	0.050 U	5.0 U

Table 9
Pesticides in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	beta-BHC	Capro-lactam	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin
MTCA Method B CUL			0.049	NV	NV	0.0055	96[b]	96[b]	NV	4.8
MW-01	PP-MW-01-GW	08/14/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.050 U	0.10 U	0.10 U	0.10 U
MW-02	PP-MW-02-GW	08/15/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.050 U	0.10 U	0.10 U	0.10 U
MW-03	PP-MW-03-GW	08/15/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.050 U	0.10 U	0.10 U	0.10 U
MW-04	PP-MW-04-GW	08/16/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.050 U	0.10 U	0.10 U	0.10 U
MW-05	PP-MW-05-GW	08/16/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.050 U	0.10 U	0.10 U	0.10 U
	PP-MW-06-GW	08/16/2007	0.050 U	5.0 U	0.050 U	0.10 U	0.0014 J	0.10 U	0.10 U	0.10 U

Table 9
Pesticides in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Endrin aldehyde	Endrin ketone	gamma-Chlordane	Hepta-chlor	Heptachlor epoxide	Lindane	Methoxy-chlor	Toxaphene
MTCA Method B CUL			NV	NV	0.25	0.019	0.0048	0.067	80	NV
MW-01	PP-MW-01-GW	08/14/2007	0.10 U	0.10 U	0.050 U	0.050 U	**0.15**	0.050 U	0.50 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U	0.50 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U	0.50 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.050 U	0.50 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	0.10 U	0.10 U	0.050 U	0.0013 J	0.050 U	0.0020 J	0.50 U	5.0 U
	PP-MW-06-GW	08/16/2007	0.10 U	0.10 U	0.050 U	0.050 U	0.050 U	0.0015 J	0.50 U	5.0 U

Table 10
Total Metals in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium
MTCA Method B CUL			NV	6.4	0.058	3200	32	8	NV	48[c]
MW-01	PP-MW-01-GW	08/14/2007	46.7 J	66.7 U	**11.8**	176 J	5.6 U	0.35 UJ	54600	11.1 U
MW-02	PP-MW-02-GW	08/15/2007	147 J	66.7 U	**2.4 J**	134 J	5.6 U	0.29 UJ	49100	11.1 U
MW-03	PP-MW-03-GW	08/15/2007	818 J	66.7 U	**7.6 J**	135 J	5.6 U	5.6 U	44500	11.1 U
MW-04	PP-MW-04-GW	08/16/2007	2340 J	66.7 U	**4.4 J**	304	0.27 J	0.67 UJ	65100	3.8 J
MW-05	PP-MW-05-GW	08/16/2007	514 J	66.7 U	**9.6 J**	191 J	5.6 U	0.34 UJ	37600	11.1 U
	PP-MW-06-GW	08/16/2007	256 J	66.7 U	**11.4**	182 J	5.6 U	0.35 UJ	37300	11.1 U

Table 10
Total Metals in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel
MTCA Method B CUL			NV	590	NV	15[d]	NV	2200	320
MW-01	PP-MW-01-GW	08/14/2007	5.5 UJ	27.8 U	4370	2.5 J	16600	**6870**	44.4 U
MW-02	PP-MW-02-GW	08/15/2007	3.4 UJ	27.8 U	3560	**24.1 J**	15400	**3310**	44.4 U
MW-03	PP-MW-03-GW	08/15/2007	4.8 UJ	27.8 U	2230	3.6 J	14500	**3490**	44.4 U
MW-04	PP-MW-04-GW	08/16/2007	6.8 UJ	17.4 J	8750	**78.5 J**	17200	**4290**	9.8 J
MW-05	PP-MW-05-GW	08/16/2007	8.0 UJ	27.8 U	6220	5.0 J	12600	**6460**	44.4 U
	PP-MW-06-GW	08/16/2007	8.0 UJ	27.8 U	6080	4.3 J	12600	**6700**	44.4 U

Table 10
Total Metals in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
MTCA Method B CUL			NV	80	80	NV	1.1	110	4800
MW-01	PP-MW-01-GW	08/14/2007	7970	6.7 J	11.1 U	30100	27.8 U	1.2 J	66.7 U
MW-02	PP-MW-02-GW	08/15/2007	7640	5.6 J	11.1 U	27700	27.8 U	1.2 J	18.2 J
MW-03	PP-MW-03-GW	08/15/2007	2440 J	4.7 J	11.1 U	25400	27.8 U	5.1 J	66.7 U
MW-04	PP-MW-04-GW	08/16/2007	7990	5.6 J	11.1 U	22800	27.8 U	13.4 J	57.7 J
MW-05	PP-MW-05-GW	08/16/2007	7070	6.3 J	11.1 U	20500	27.8 U	4.6 J	66.7 U
	PP-MW-06-GW	08/16/2007	6800	4.0 UJ	11.1 U	20400	27.8 U	2.5 J	66.7 U

Table 11
Polychlorinated Biphenyls in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Biphenyl
MTCA Method B CUL			1.1	NV	NV	NV	NV	0.32	NV	NV	NV	400[e]
MW-01	PP-MW-01-GW	08/14/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	0.29 J
	PP-MW-06-GW	08/16/2007	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	0.29 J

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,2,4,5-Tetra-chlorobenzene	2,3,4,6-Tetra-chlorophenol	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol
MTCA Method B CUL			NV	480	800	4.0	24	160	32
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	2,4-Dinitro-toluene	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-naphthalene	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol
MTCA Method B CUL			32	16	NV	40	32	NV	NV	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	1.0 J	5.0 U	10 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	2.2 J	5.0 U	10 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	10	5.0 U	10 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	10	5.0 U	10 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	3,3-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-o-cresol	4-Bromofluoro-benzene	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether
MTCA Method B CUL			0.19	NV	NV	NV	NV	NV	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	4-Methyl-phenol	4-Nitro-aniline	4-Nitro-phenol	Acenaph-thene	Acenaph-thylene	Aceto-phenone	Anthracene	Benz-aldehyde
MTCA Method B CUL			NV	NV	NV	960	NV	NV	4800	NV
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	10 U	10 U	0.22 J	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	10 U	10 U	0.31 J	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	10 U	10 U	0.67 J	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	10 U	10 U	0.43 J	5.0 U	5.0 U	5.0 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(ghi) perylene	Benzo(k) fluoranthene	Bis(2-chloro-1-methylethyl)ether
MTCA Method B CUL			NV	0.012	NV	NV	NV	0.63
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Bis(2-chloroethoxy)-methane	Bis(2-chloroethyl) ether	Bis(2-ethylhexyl) phthalate	Butyl Benzyl Phthalate	Capro-lactam	Carbazole
MTCA Method B CUL			NV	0.040	6.3	3200	8000	4.4
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	**8.7**	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	0.72 J	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	0.46 J	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	0.23 J	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	0.30 J	5.0 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Chrysene	Dibenzo(a,h) anthracene	Dibenzo-furan	Diethyl-phthalate	Dimethyl Phthalate	Di-n-butyl Phthalate	Di-n-octyl Phthalate	Fluor-anthene
MTCA Method B CUL			NV	NV	32	13000	16000	NV	320	640
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	0.22 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	0.20 J	5.0 U	5.0 U	0.21 J	5.0 U	5.0 U

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Fluorene	Hexachloro-benzene	Hexachlorocyclo-pentadiene	Hexachloro-ethane	Indeno(1,2,3-cd)-pyrene	Isophorone	Naphthalene
MTCA Method B CUL			640	0.055	48	3.1	NV	46	160
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.1 J
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3.9 J
MW-05	PP-MW-05-GW	08/16/2007	0.59 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.6
	PP-MW-06-GW	08/16/2007	0.53 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.3

Table 12
Semivolatile Organic Compounds in Groundwater (µg/L)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Nitro-benzene	N-Nitroso-diphenylamine	N-Nitrosodi-propylamine	Pentachloro-phenol	Phenanthrene	Phenol	Pyrene	cPAH TEC
MTCA Method B CUL			4.0	NV	NV	0.73	NV	4800	480	0.012
MW-01	PP-MW-01-GW	08/14/2007	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	ND
MW-02	PP-MW-02-GW	08/15/2007	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	ND
MW-03	PP-MW-03-GW	08/15/2007	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	ND
MW-04	PP-MW-04-GW	08/16/2007	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	ND
MW-05	PP-MW-05-GW	08/16/2007	5.0 U	5.0 U	5.0 U	10 U	0.43 J	5.0 U	0.30 J	ND
	PP-MW-06-GW	08/16/2007	5.0 U	5.0 U	5.0 U	10 U	0.43 J	5.0 U	5.0 U	ND

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,1,1-Trichloro-ethane	1,1,2,2-Tetra-chloroethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2,3-Trichloro-benzene	1,2,4-Trichloro-benzene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,2-Dibromo-3-chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3-Dichloro-benzene	1,4-Dichloro-benzene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,4-Dioxane	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene	Bromodichloro-methane	Bromo-form	Bromo-methane	Carbon Disulfide
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.15 U	0.015 U	0.015 U	0.015 U	0.0071 J	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.11 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Carbon Tetrachloride	Chloro-benzene	Chlorobromo-methane	Chloro-ethane	Chloro-form	Chloro-methane	cis-1,2-Dichloroethene	cis-1,3-Dichloro-propene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Cyclo-hexane	Dibromo-chloromethane	Dichloro-difluoromethane	Ethyl-benzene	Freon 113	Hexachloro-butadiene	Isopropyl-benzene	m,p-Xylene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.24 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.18 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Methyl Acetate	Methyl ethyl ketone	Methyl tert-butyl ether	Methylcyclo-hexane	Methylene chloride	o-Xylene	Styrene	Tetra-chloroethene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0028 J	0.0054 U	0.0054 U	0.0054 U

Table 13
Volatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloro-propene	Trichloro-ethene	Trichloro-fluoromethane	Vinyl chloride
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0076 UJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
SD-02	PP-SD-02	08/17/2007	0.0054 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U

Table 14
Pesticides in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	Atrazine	beta-BHC
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0046 U	0.00015 J	0.0046 U	0.0024 U	0.0024 U	0.0024 U	0.24 U	0.0024 U
SD-02	PP-SD-02	08/17/2007	0.0002 J	0.00087 J	0.0035 UJ	0.0018 U	0.0018 U	0.0018 U	0.18 U	0.0018 U

Table 14
Pesticides in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0024 U	0.0046 U	0.0024 U	0.0046 U	0.0046 U	0.0046 U	0.0046 U
SD-02	PP-SD-02	08/17/2007	0.00012 J	0.00022 J	0.0018 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U

Table 14
Pesticides in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Endrin ketone	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Lindane	Methoxychlor	Toxaphene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.0046 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.024 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.0035 U	0.0018 U	0.00011 J	0.0018 U	0.0018 U	0.018 U	0.18 U

Table 15
Metals in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron
Ecology freshwater sediment SQSs			NV	0.4	20	NA	NV	0.6	NV	95	NV	80	NV
Ecology freshwater sediment CSLs			NV	0.6	51	NA	NV	1.0	NV	100	NV	830	NV
SD-01	PP-SD-01	08/17/2007	6900	8.4 UJ	1.9	74.2	0.32 J	0.52 J	1430	8.0 J	6.3 UJ	7.5 J	9190
SD-02	PP-SD-02	08/17/2007	6330	6.9 UJ	1.8	85.6	0.30 J	0.54 J	2530	7.4 J	5.1 UJ	8.7 J	9410

Table 15
Metals in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
Ecology freshwater sediment SQSs			335	NV	NV	60	NV	NA	2.0	NV	NV	NV	140
Ecology freshwater sediment CSLs			430	NV	NV	70	NV	NA	2.5	NV	NV	NV	160
SD-01	PP-SD-01	08/17/2007	4.8 J	1820	170	6.0	824	0.38 J	0.71 J	142 J	0.33 J	15.7	23.7 J
SD-02	PP-SD-02	08/17/2007	8.7 J	1840	103	6.5	799	0.42 J	0.75 J	249 J	0.32 J	17.2	27.2 J

Table 16
Polychlorinated Biphenyls in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Biphenyl
Ecology freshwater sediment SQSs			0.06[f]	0.06[f]	0.06[f]	0.06[f]	0.06[f]	0.06[f]	0.06[f]	0.06[f]	0.06[f]	NV
Ecology freshwater sediment CSLs			0.12[f]	0.12[f]	0.12[f]	0.12[f]	0.12[f]	0.12[f]	0.12[f]	0.12[f]	0.12[f]	NV
SD-01	PP-SD-01	08/17/2007	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	1,2,4,5-Tetra-chlorobenzene	2,3,4,6-Tetra-chlorophenol	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol	2,4-Dichloro-phenol	2,4-Dimethyl-phenol	2,4-Dinitro-phenol
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.46 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	2,4-Dinitro-toluene	2,6-Dinitro-toluene	2-Chloro-naphthalene	2-Chloro-phenol	2-Methyl-naphthalene	2-Methyl-phenol	2-Nitro-aniline	2-Nitro-phenol
Ecology freshwater sediment SQSs			NV	NV	NV	NV	0.47	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	0.56	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.46 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.35 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	3,3-Dichloro-benzidine	3-Nitro-aniline	4,6-Dinitro-2-methylphenol	4-Bromofluoro-benzene	4-Chloro-3-methylphenol	4-Chloro-aniline	4-Chlorophenyl-phenyl ether
Ecology freshwater sediment SQSs			NV	NV	NV	NV	NV	NV	NV
Ecology freshwater sediment CSLs			NV	NV	NV	NV	NV	NV	NV
SD-01	PP-SD-01	08/17/2007	0.24 U	0.46 U	0.46 U	0.24 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.18 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	4-Methyl-phenol	4-Nitro-aniline	4-Nitro-phenol	Acenaph-thene	Acenaph-thylene	Aceto-phenone	Anthracene
Ecology freshwater sediment SQSs			NV	NV	NV	1.1	0.47	NV	1.2
Ecology freshwater sediment CSLs			NV	NV	NV	1.3	0.64	NV	1.6
SD-01	PP-SD-01	08/17/2007	0.24 U	0.46 U	0.46 U	0.24 U	0.24 U	0.044 J	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.35 U	0.35 U	0.18 U	0.18 U	0.043 J	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Benzal-dehyde	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(ghi) perylene	Benzo(k) fluoranthene	Bis(2-chloro-1-methylethyl)ether
Ecology freshwater sediment SQSs			NV	4.3	3.3	11[a]	4.0	11[a]	NV
Ecology freshwater sediment CSLs			NV	5.8	4.8	14[a]	5.2	14[a]	NV
SD-01	PP-SD-01	08/17/2007	0.053 J	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.12 J	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Bis(2-chloro-ethoxy)-methane	Bis(2-chloro-ethyl) ether	Bis(2-ethylhexyl) phthalate	Butyl Benzyl Phthalate	Capro-lactam	Carbazole	Chrysene
Ecology freshwater sediment SQSs			NV	NV	0.23	0.26	NV	NV	5.9
Ecology freshwater sediment CSLs			NV	NV	0.32	0.37	NV	NV	6.4
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Dibenzo(a,h) anthracene	Dibenzo-furan	Diethyl-phthalate	Dimethyl Phthalate	Di-n-butyl Phthalate	Di-n-octyl Phthalate	Fluoran-thene
Ecology freshwater sediment SQSs			0.80	0.40	NV	0.046	NV	0.026	11
Ecology freshwater sediment CSLs			0.84	0.44	NV	0.44	NV	0.045	15
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

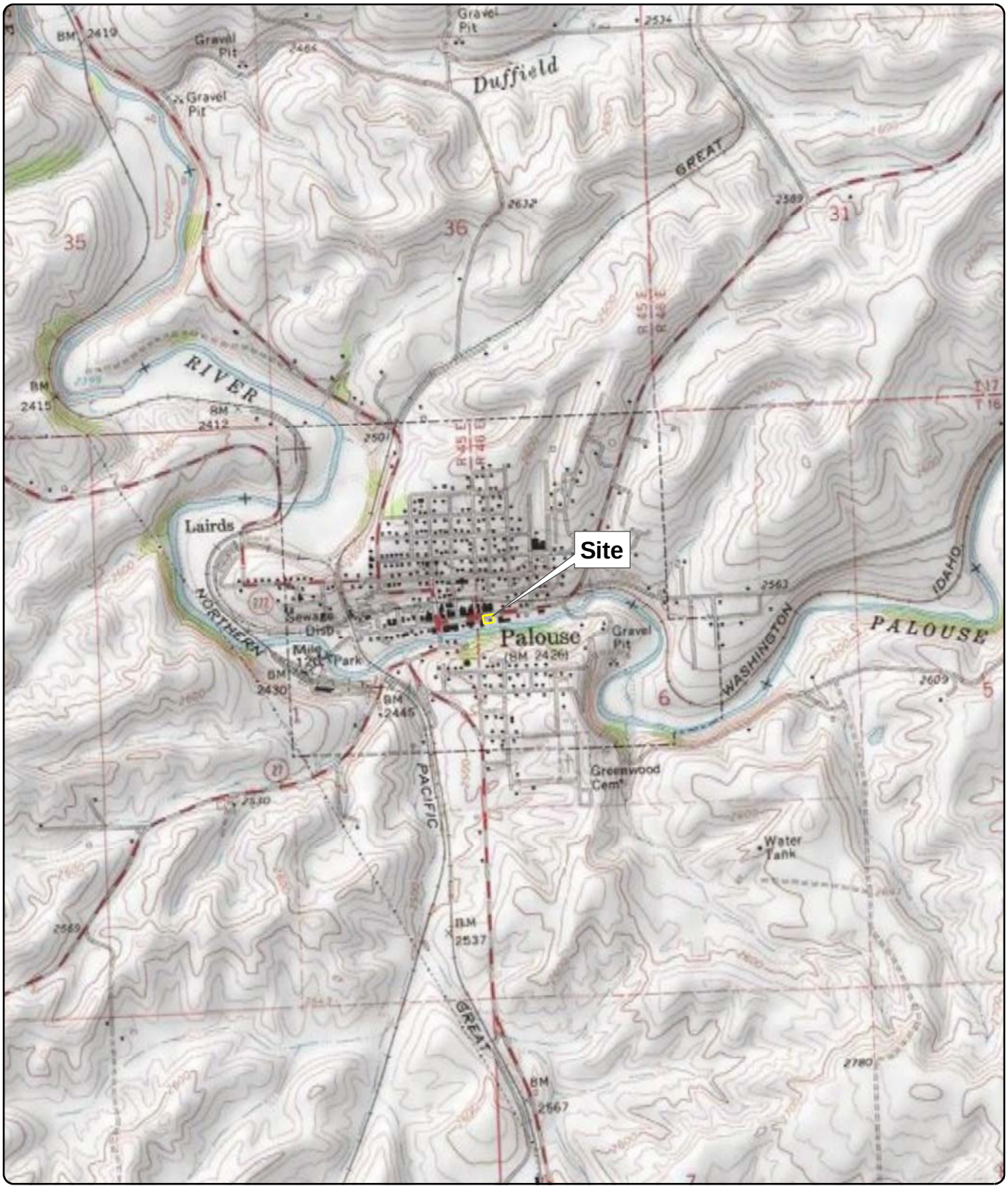
Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Fluorene	Hexachloro-benzene	Hexachlorocyclo-pentadiene	Hexachloro-ethane	Indeno(1,2,3-cd)-pyrene	Isophorone	Naphthalene
Ecology freshwater sediment SQSs			1.0	NV	NV	NV	4.1	NV	0.5
Ecology freshwater sediment CSLs			3.0	NV	NV	NV	5.3	NV	1.3
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

Table 17
Semivolatile Organic Compounds in Sediment (mg/kg)
Palouse Producers
Palouse, Washington

Location	Sample Name	Date	Nitro-benzene	N-Nitroso-diphenylamine	N-Nitrosodipro-pylamine	Pentachloro-phenol	Phenanthrene	Phenol	Pyrene
Ecology freshwater sediment SQSs			NV	NV	NV	NV	6.1	NV	8.8
Ecology freshwater sediment CSLs			NV	NV	NV	NV	7.6	NV	16.0
SD-01	PP-SD-01	08/17/2007	0.24 U	0.24 U	0.24 U	0.46 U	0.24 U	0.24 U	0.24 U
SD-02	PP-SD-02	08/17/2007	0.18 U	0.18 U	0.18 U	0.35 U	0.18 U	0.18 U	0.18 U

FIGURES



Address: 335 East Main Street, Palouse, WA 99161
Source: USGS (1990) 7.5 Minute Topo Quads: Palouse
Section 6, Township 16N, Range 46E of the Willamette Meridian

Legend

Site Boundary

Figure 1
Site Location

City of Palouse
Palouse, Washington

0 990 1,980
Feet

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File: X:\0477.01\Projects\RI Work Plan\Fig1_Site Location.mxd
Print Date: 02-16-10
Approved By: A. Hughes
Produced By: T. Vick
Project: 0477.01.02/02

Figure 2
Previous Sample Locations

City of Palouse
Palouse, Washington

PPB2
MW-01
PPB7
MW-02
PPB1
SS-01
SS-03
SS-02
SS-08
PPB4
PPB5
MW-03
PPB6
MW-05
PPB3
SS-05
SS-04
SS-09
MW-04
SD-02
SS-06
SS-07
SD-01
Palouse River

Legend

Previous Sample Locations

- Temporary Monitoring Well (2001)
- Reconnaissance Boring (1999)
- Sediment Sample (2001)
- Surface Soil Sample (2001)
- Crest of Slope
- Site Boundary (approximate)

Notes:
1. Sample Locations are approximate and not to scale.

0 7.5 15
Feet

Source: Aerial photograph obtained from Washington Department of Transportation (2006)

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File: X:\0477.01\Projects\P1 Work Plan\Fig2_Previous Sample Locations.mxd
Print Date: 02-16-2010
Approved By: A. Hughes
Produced By: W. Coffey
Project: 0477.01

Figure 3
2007 Soil Exceedances

City of Palouse
Palouse, Washington

PPB2
PPB7
MW-01
MW-02

MW-02				
Depth	DRO	GRO	As	Pb
4.0	-	170	10.3	574
5.5	-	30.0	-	304

PPB1

MW-05				
Depth	DRO	GRO	As	Pb
4.0	3200	370	-	-
7.0	4500	820	-	-
11.0	-	-	10.3	-

SS-01
SS-03
SS-08
SS-02
PPB4
PPB5
PPB6
MW-03
MW-05
PPB3

SS-09				
Depth	DRO	GRO	As	Pb
0	-	-	-	628

MW-03				
Depth	DRO	GRO	As	Pb
7.50	-	900	-	-

SS-05
SS-04
SS-09

MW-04				
Depth	DRO	GRO	As	Pb
12.0	-	77.0	-	-

MW-04
SD-02
SS-06
SS-07
SD-01
Palouse River

Legend

Historical Sample Locations
- Monitoring Well
- Sediment Soil Sample
- Surface Soil Sample
- Crest of Slope
- Site Boundary (approximate)

As = Arsenic
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
Pb = Lead

Notes:
1. Sample locations are approximate and not to scale.
2. Concentrations are in micrograms per kilograms (mg/kg). Dashes indicate analytes that were non-detects or that were detected at concentrations below cleanup levels (CULs).
3. All arsenic detections exceeded Method B cleanup level of 0.67 mg/kg, As shown on figure, only two arsenic detections exceeded Natural background concentration for the Spokane area of 9.34 mg/kg.
4. Depth is in feet below surface

0 7.5 15
Feet

Source: Aerial photograph obtained from Washington Department of Transportation (2006)

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Figure 4
2007
Groundwater Exceedances

City of Palouse
Palouse, Washington

Legend

Historical Sample Locations

- Monitoring Well
- Sediment Soil Sample
- Surface Soil Sample
- Crest of Slope
- Site Boundary (approximate)

As = Arsenic
B = Benzene
BEHP = Bis(2-ethylhexyl) phthalate
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
Heptachlor = Heptachlor epoxide
Mn = Manganese
Pb = Lead

Notes:
1. Sample Locations are approximate and not to scale.
2. Concentrations are reported in micrograms per liter (ug/L). Dashes indicate analytes that were non-detects or that were detected at concentrations below cleanup levels (CULs).
3. Arsenic was detected in the samples at concentrations ranging from 2.4 to 11.8 ug/L.
4. Some of the benzene method reporting limits were 5.0 ug/L and the Method B CUL is 0.8 ug/L.
5. Manganese was detected in the samples at concentrations ranging from 3310 to 6870 ug/L and the Method B CUL is 2200 ug/L.

0 7.5 15
Feet

Source: Aerial photograph obtained from Washington Department of Transportation (2006)

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Print Date: 02-16-2010
Approved By: A. Hughes
Produced By: W. Coffey
Project: 0477.01

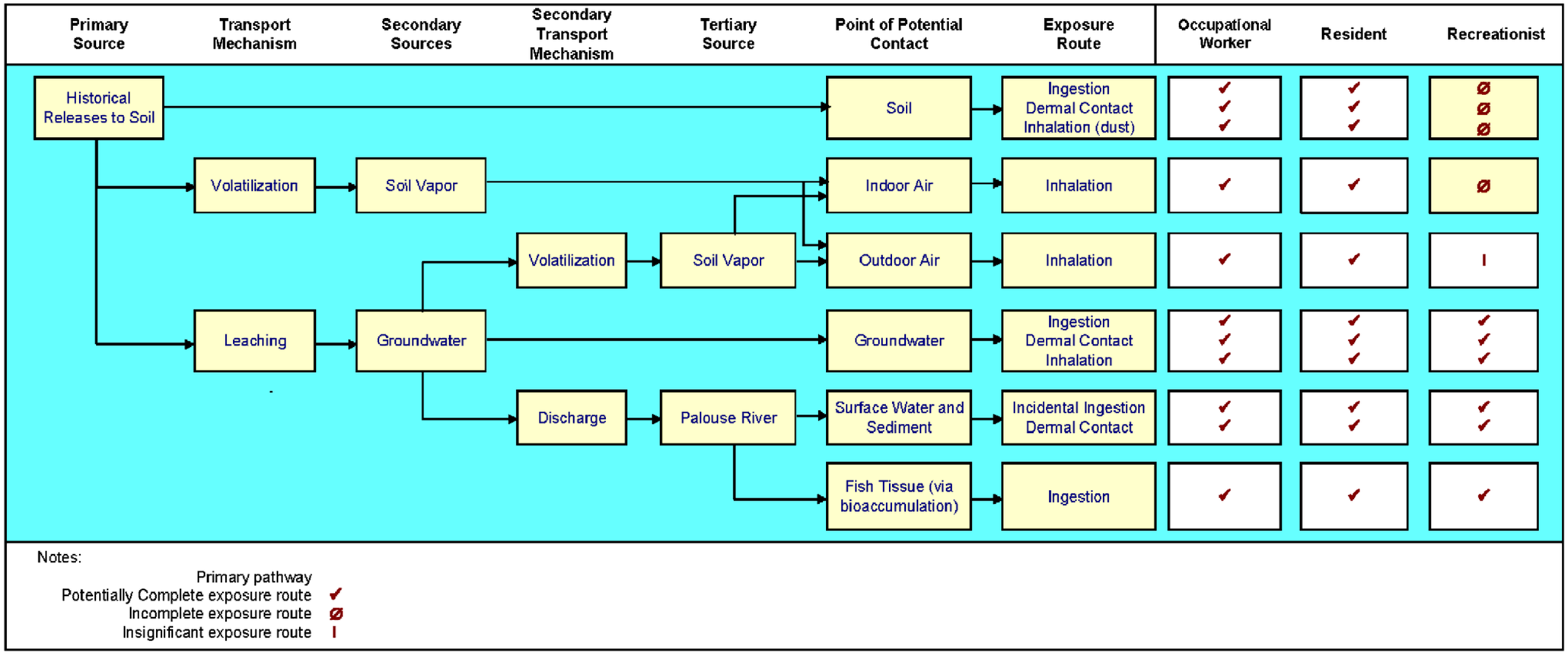

Figure 5
Conceptual Site Model
City of Palouse
Palouse, Washington

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Project: 0477.01.02 Produced By: T. Vick Approved By: A. Hughes Print Date: 02-16-2010

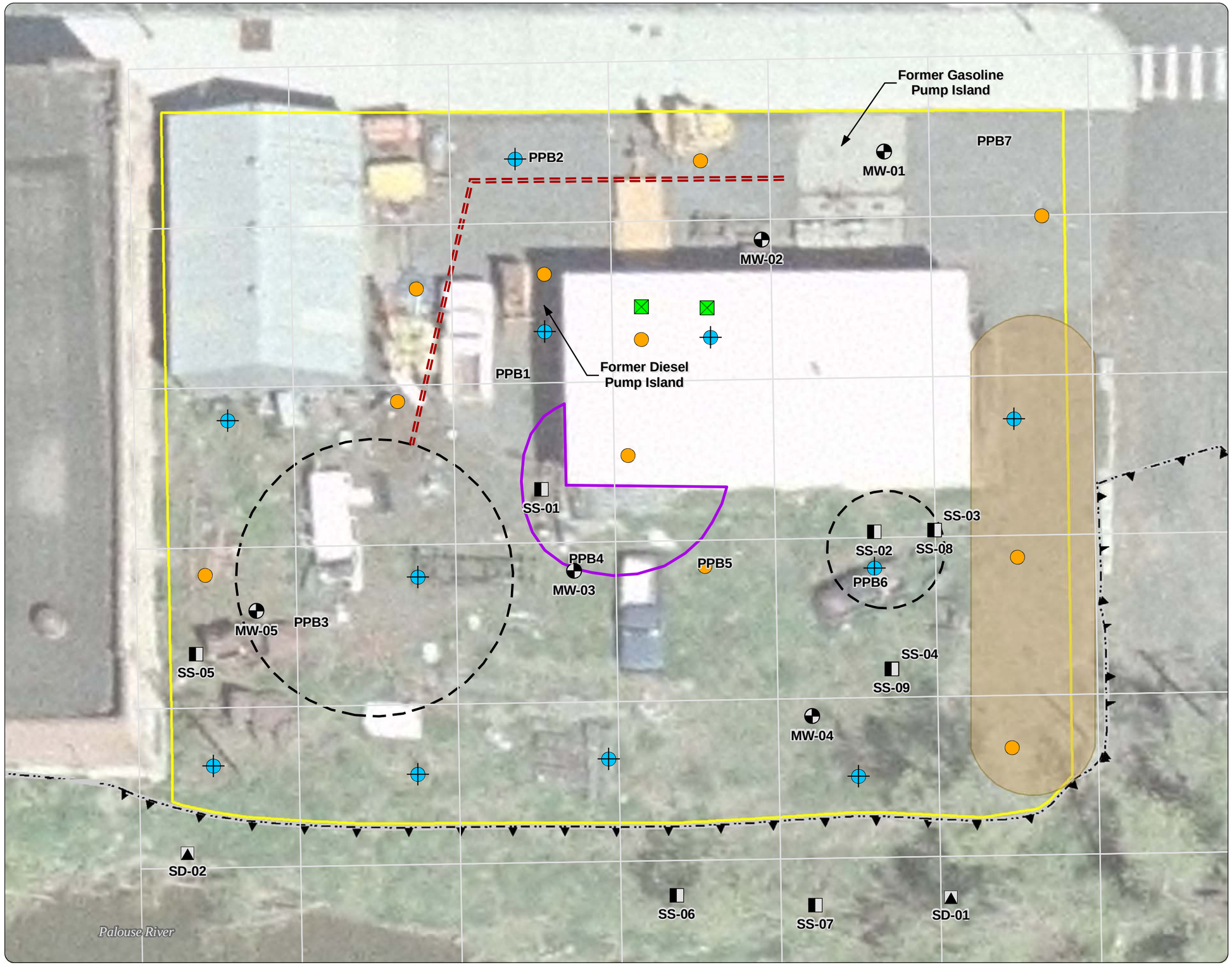

Figure 6
Proposed Sample Locations

City of Palouse
Palouse, Washington

Legend

- Existing Temporary Monitoring Well
- Existing Sediment Soil Sample
- Existing Surface Soil Sample
- Proposed Soil Boring
- Proposed Soil and Groundwater Boring
- Hydraulic Lift
- Crest of Slope
- Former Product Line
- Former USTs and ASTs
- Historical Surface Impacts
- Possible Fill
- Site Boundary
- 25-foot Grid

Notes:
1. Sample locations, site boundary, and site features are approximate.

0 7.5 15
Feet

Source: Aerial photograph (2007) obtained from City of Palouse

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APPENDIX A

SAMPLING AND ANALYSIS PLAN

SAMPLING AND ANALYSIS PLAN

FORMER PALOUSE PRODUCERS PROPERTY

Prepared for

CITY OF PALOUSE

PALOUSE, WA

May 5, 2010

Project No. 0477.01.02

Prepared by

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SAMPLING AND ANALYSIS PLAN

FORMER PALOUSE PRODUCERS PROPERTY

The material and data in this report were prepared under the supervision and direction of the undersigned.

MAUL FOSTER & ALONGI, INC.

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President / Principal Hydrogeologist

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Project Geologist

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CONTENTS

bgs	below ground surface
City	City of Palouse
COC	chain of custody
Ecology	Washington State Department of Ecology
FSDS	field sampling data sheet
IDW	investigation-derived waste
IPG	Integrated Planning Grant
LCS	laboratory control sample
MFA	Maul Foster & Alongi, Inc.
ml	milliliter
MS/MSD	matrix spike and matrix spike duplicate
MTCA	Model Toxics Control Act
PID	photoionization detector
Property	335 East Main Street, Palouse, Washington
QA	quality assurance
QC	quality control
RI	remedial investigation
SAP	sampling and analysis plan
SA	Specialty Analytical
SDG	sample delivery group
USEPA	U.S. Environmental Protection Agency
VOA	volatile organic analysis
VOC	volatile organic compound
WAC	Washington Administrative Code

1 INTRODUCTION

Maul Foster and Alongi, Inc. (MFA) has prepared this Sampling and Analysis Plan (SAP) consistent with the requirements of the Washington Administrative Code (WAC) 173-340-820 for the City of Palouse (the City) to guide the collection of soil and groundwater samples during the remedial investigation (RI) at 335 East Main Street in Palouse, Washington (the Property; see Figure 1 of the RI work plan). The Property historically was used by Palouse Producers.

The work described in this SAP is being conducted under an Integrated Planning Grant (IPG) for the City provided by the Washington State Department of Ecology (Ecology). The IPG will allow the City to assess the environmental condition of the Property. This SAP describes procedures for collection, preservation, and analysis of samples of various environmental media at the site, and will be used for the various phases and tasks of the project. The goal of the sampling is to obtain reliable data about physical, environmental, and chemical conditions at the site that will support the goals and objectives of the RI.

This SAP has been prepared consistent with the requirements of Ecology's Guidance on Sampling and Data Analysis Methods (Ecology, 1995) and Guidance for Preparing Quality Assurance Project Plans for Environmental Studies (Ecology, 2004), and the 1993 Model Toxics Control Act (MTCA) (WAC Chapter 173-340).

1.1 Investigation Objectives

The primary objective of the SAP is to establish procedures for the collection of data of sufficient quality to evaluate the nature and extent of impacted soil and groundwater at the site. The RI work plan references relevant procedures and protocols from this SAP, and identifies specific media to be sampled and the locations, frequency, and types of field or laboratory analyses that will be conducted.

Soil and groundwater monitoring will be investigated on the Property to better define the nature and extent of impacts. Soil borings will be advanced through surface alluvium and historical fill to the underlying basalt unit, approximately 20 feet below ground surface (bgs). Soil samples will be collected from the surface, 2.5 feet bgs, 5.0 feet bgs, 10.0 feet bgs, 15.0 feet bgs, and the top of the water table, if applicable. All soil samples will be screened using a photoionization detector (PID) or an organic vapor monitor. Visual and olfactory observations concerning each sample will also be recorded. If there is visual or olfactory evidence of impacts, the sample depths may be altered in order to collect samples within and just beneath the impacted areas. Once the investigation is complete, at least one soil sample will be analyzed from each boring at the depth at which the feature of interest may have impacted soil. For example, the samples collected at the level of the underground piping, if established by the utility clearance contractor, will be analyzed if there is no evidence of soil impacts. If impacts are identified, the sample within and just below

the impacted areas will be analyzed. Groundwater impacts will be further delineated in the shallow water-bearing zone.

The SAP is meant to ensure that reliable data about physical, environmental, and chemical conditions at the site are obtained in support of the development of remedial actions at the site if these are necessary to protect human health and the environment. It provides a consistent set of procedures that will be used throughout the various work phases identified in the work plan. If a phase of work or otherwise unforeseen change in methodology requires modification to the SAP, an addendum may be prepared that describes the specific revision(s), or the revisions will be documented in the RI report. Procedures are provided that will be used to direct the investigation process so that the following conditions are met:

- Data collected are of high quality, representative, and verifiable.
- Use of resources is cost effective.
- Data can be used by the City and Ecology to support selection and implementation of remedial actions, if necessary.

This SAP describes methods that will be used for sampling environmental media, decontaminating equipment, and managing investigation-derived waste (IDW). It also includes procedures for collecting, analyzing, evaluating, and reporting useful data. The SAP includes all currently foreseen analytical methods that may be used for analyzing environmental samples. The document includes quality assurance (QA) procedures for field activities, sampling QA and quality control (QC) procedures, and data validation.

2 ACCESS AND SITE PREPARATION

2.1 Access

MFA personnel will notify the City, the operator of the Property, and the Ecology project manager before beginning each phase of work at the site. Access to the Property is allowed at all reasonable times for the purpose of overseeing work performed under the IPG.

2.2 Site Preparation and Coordination

Before field sampling programs begin at the site, public and private utility-locating services and other information sources will be used to check for underground utilities or pipelines near each boring or test pit location. MFA will coordinate fieldwork with the City to define the locations of possible on-site utilities and piping, or other subsurface obstructions. Ecology will be notified a minimum of 48 hours before site activities begin.

3 SOIL AND GROUNDWATER EXPLORATION

Exploratory borings will be used to evaluate the nature and extent of potential soil and groundwater impacts at the site. The proposed locations of soil and reconnaissance groundwater borings are shown on Figure 6 of the RI work plan.

Soil and groundwater samples will be collected using a truck-mounted hydraulic direct probe (i.e., Geoprobe™). The Geoprobe will be used to advance all soil borings and collect soil and reconnaissance groundwater samples. Additional details are provided below.

3.1 Geoprobe Borings

Continuous soil samples will be collected with the Geoprobe, using a closed-piston sampling method. Sampling will be completed as follows: coring will start at the surface with a 60-inch-long, 1.5-inch-inside-diameter, stainless steel macrocore sampler equipped with a new acetate liner and a piston tip. The sampler will then be pushed to the top of the desired sample depth. The piston tip will be pulled back to the surface, and the macrocore sampler will then be driven 60 inches to collect the sample. If loose or saturated soils are encountered, a basket retainer will be placed inside the shoe of the macrocore sampler. When the macrocore sampler has been extracted, the acetate liner will be removed and cut open, exposing the soil sample. This procedure will be repeated until the boring is completed.

Soil and groundwater samples will be collected with the Geoprobe, as described in Sections 4 and 5. In the event that refusal is met before the basalt unit is reached (i.e., significant debris is encountered in historical fill material), a hollow-stem auger drilling rig may be used to collect samples (see Section 3.2).

Grab groundwater samples will be collected from the Geoprobe borings as follows:

- The boring will be advanced to just below the water table.
- Groundwater samples will be collected from each boring, using a stainless steel, 2-inch-outer-diameter, 4-foot-long Geoprobe water sampler. The water sampler will be advanced to the desired depth. The casing around the water sampler will be pulled back, exposing 3 to 4 feet of screen. Water will then be allowed to flow into the screen. The water level will be allowed to stabilize for at least 15 minutes. Wherever possible, one casing volume (and a minimum of 1 liter) will be purged before sample collection. Groundwater will be purged using 0.25-inch polyethylene tubing attached to a vacuum pump.
- Some of the water will be decanted into a small beaker, and field parameters (pH, specific conductance, dissolved oxygen, temperature, and oxidation/reduction potential) will be measured.

- Approximately 20 milliliters (ml) of sample will also be placed in an unpreserved volatile organic analysis (VOA) vial. The vial will be covered with aluminum foil and allowed to sit in a warm environment for approximately ten minutes; the foil will be pierced with the tip of a PID, and the headspace will be measured. This information will provide a semiquantitative measurement of the presence of volatile organic compounds (VOCs) in groundwater.
- Samples will be labeled, preserved, and shipped to the analytical laboratory under standard chain-of-custody (COC) procedures.
- Disposable tubing will be used to collect only one groundwater sample and will then be disposed of properly. Other equipment used for water sample collection will be decontaminated both before its use at the facility and after each sample is collected.

3.2 Hollow-Stem Auger

As mentioned above, in the event that soil and groundwater samples cannot be obtained with a Geoprobe unit, a hollow-stem auger drilling rig may be used. A hollow-stem-auger drilling rig equipped with 6.25-inch-inside-diameter (10.25-inch-outside-diameter) augers will be used. Borings will be advanced to the top of the basalt unit, approximately 20 feet bgs.

Continuous soil sampling will be completed in each boring between the ground surface and approximately 20 feet bgs. Soil samples will be collected using a 2.5-inch-inside-diameter split-spoon sampler.

Groundwater samples from the hollow-stem auger borings will be collected by installing a temporary well screen. Temporary monitoring wells will be constructed as described below:

- Temporary monitoring wells will be constructed with threaded, 2-inch-diameter, polyvinyl chloride Schedule 40 riser pipe; and 5-foot-long screens with 0.010-inch machine slots; and a threaded end cap.
- The well will be centered in the borehole.
- The filter pack will consist of 10x20 washed silica sand and will be added to just above the top of the screen interval.

3.3 Boring Decommissioning

After each boring is completed, it will be decommissioned with bentonite chips or with bentonite grout in accordance with the WAC for Minimum Standards for Construction and Maintenance of Wells (WAC 173-160, 1998). If a temporary well was installed, the polyvinyl chloride casing will be removed before decommissioning. The boreholes will be abandoned by filling them with bentonite chips, granules, or grout slurry through the Geoprobe rod or hollow stem auger casing as these implements are removed. When the top of the bentonite chip or granule layer has

been brought above the static water level, water will be added to hydrate the bentonite chips or granules. The volume required to fill the borehole and the actual amount of bentonite chips, granules, or grout added will be recorded on a standard MFA boring log (see Appendix A for a sample boring log form).

3.4 Exploratory Boring Logging and Documentation

A log of soil samples from each boring will be prepared in the field by a geologist or hydrogeologist or engineer licensed in the state of Washington or working under the direct supervision of a geologist or engineer licensed in the state of Washington. Boring logs will include the project name and location, the name of the drilling contractor, the drilling method, the sampling method, soil sample depths, blow counts, and a description of soil encountered. Soil samples will be described using American Society for Testing and Materials designation D2488-00, Standard Practice for Description and Identification of Soils (Visual-Manual Procedures). The standard involves describing color, grain size, moisture content, density, organic matter, and other observed characteristics. The information will be recorded on the MFA boring log form shown in Appendix A.

3.5 Surveying

The horizontal location of all borings will be surveyed using a Trimble™ global positioning unit capable of subfoot accuracy.

3.6 Equipment Cleaning and Decontamination

3.6.1 Drilling Equipment

The working area of the drill rig and all downhole drilling equipment will be steam-cleaned or hot-water pressure-washed both after arrival on site and after use in each borehole or monitoring well. The drilling equipment will be thoroughly cleaned, in designated areas, before it leaves the site. Decontamination fluids will be transferred to 55-gallon drums approved by the Washington State Department of Transportation, and will be managed according to the procedures outlined in Section 3.7.

3.6.2 Sampling Equipment

Sampling equipment and reusable materials that contact the soil will be decontaminated on site and between sampling locations. Decontamination will consist of the following:

- Tap-water rinse (may consist of an equivalent high-pressure, hot-water rinse)
- Nonphosphate detergent wash, consisting of a dilute mixture of Liqui-Nox and tap water (visible soil to be removed by scrubbing)

- Distilled-water rinse
- Methanol solution rinse (1:1 solution with distilled water)
- Final distilled-water rinse

Before the electronic meter used to measure water levels is used at the site, the entire reel of water-level line will be decontaminated as described above. The portion of the water-level detector that enters the water (the tip) and a 5-foot section above it will also be decontaminated after use in each well.

Liquid generated by decontamination will be properly handled, according to procedures specified in Section 3.7.

3.7 Management of Investigation-Derived Waste

IDW will include disposable unsaturated and saturated soil cuttings, purged groundwater, decontamination fluids, and sampling debris. The IDW will be segregated into solids, liquids, and sampling debris (consisting of personal protective equipment, disposable pump discharge tubing, and disposable bailers). IDW will be stored in a designated area on the Property, in 55-gallon drums approved by the Washington Department of Transportation.

Drums (tops and sides) will be labeled with their contents, the volume of material, the date of collection, and the origin of the material. The waste drums will be sealed, secured, and transferred to a designated, secured area on the Property at the end of each workday. The waste will be stored in the designated holding area until it has been characterized. Hazardous-waste and/or risk labels will be placed on the drums after characterization, if necessary.

Analytical data from the soil-sampling and groundwater sampling activities previously described will be used to characterize the soil cuttings, drilling fluids, purge water, and decontamination fluids generated during drilling and monitoring well sampling. After the work is complete and analytical results are received, IDW will be characterized and disposed of appropriately.

4 SOIL SAMPLING

During drilling, soil samples will be collected for lithologic description, field screening, and chemical analyses, as described below. The sampling interval and depth are specified in the work plan.

4.1 Procedure

Before soil samples are collected for chemical analyses, the sample collection device will be decontaminated according to the procedures described in Section 3.7. After the sampling device is retrieved from the borehole, it will be placed on clean plastic sheeting before it is opened. New disposable gloves will be used before the collection of each sample. Samples will be prepared, handled, and documented as follows:

- Soil sampling equipment will be decontaminated before it is used at each sampling location (see Section 3.6).
- Samples will be obtained from intervals specified in the work plan, using a gloved hand or decontaminated stainless-steel spoon, trowel, or knife.
- Soil that will be analyzed for VOCs will be transferred directly from freshly exposed soil into laboratory-supplied containers, using the appropriate 5035A sampling procedures. The samples will be collected with a new 5-milligram sampler and placed in 40-ml VOA vials. Three pre-tarred VOA vials will be collected, two with 5 milligrams of soil and preserved with sodium bisulfate monohydrate and one with 10 milligrams of soil and preserved with methanol. A soil sample in a jar with a minimum 8-ounce capacity will accompany the VOA vials to be analyzed for petroleum hydrocarbons and heavy metals.
- Coarse-grained particles (larger than 0.25 inch) may be removed before the sample is placed in a laboratory-supplied container. The amount of coarse-grained material will be recorded on the soil field sampling data sheet (FSDS; see sample form in Appendix B).
- The percentage of coarse-grained material (larger than 0.25 inch) to fine-grained material (smaller than 0.25 inch) will be estimated.
- Soil samples will be transferred directly from the sampling device or stainless steel bowl into laboratory-supplied glass jars, using a gloved hand or decontaminated stainless steel spoon, trowel, or knife.
- Filled containers will be labeled, packed in iced shipping containers with COC documentation (see Section 6), and delivered to the contract laboratory.

- Sampling information will be recorded in a field notebook, on an FSDS, and on the COC form.
- QC samples will include at least one duplicate sample for every 20 samples collected.

4.2 Nomenclature

Soil samples will be labeled with a prefix to describe the type of sampling, a location identification number, and sample depth. For example, a soil sample collected from a Geoprobe boring at location 12 and at 20 feet bgs will have the sample number GP12-S-20.0.

Duplicate soil samples will replace the location number with "DUP" and the sample will have the same sample time as the primary sample. A duplicate sample of the abovementioned sample would appear as GPDUP-S-20.0.

The depth interval will be specified as the middle of the sampling interval. Samples will be documented on an FSDS (see Appendix B) and the exploratory boring log (see Appendix A). The sample interval and the amount of material recovered will be recorded on the boring log.

4.3 Laboratory Analyses for Soil Samples

Soil samples will be analyzed for the parameters specified in the work plan, using the following methods:

- Gasoline- and diesel-range organics by the Northwest Total Petroleum Hydrocarbon Method; NWTPH-Gx and NWTPH-Dx, respectively
- Metals (arsenic, manganese, and lead), using the U.S. Environmental Protection Agency (USEPA) Method 6010/6020
- VOCs by USEPA Method 8260B

5 RECONNAISSANCE GROUNDWATER SAMPLING

During drilling, reconnaissance groundwater samples will be collected for chemical analyses, as described below. The sampling depth is specified in the work plan.

5.1 Procedure

Groundwater samples will be collected using a 4-foot-long, 1.5-inch-outside-diameter, Geoprobe-type water sampler. The sampler will be pushed to the desired depth and pulled back approximately 4 feet, exposing the internal stainless steel well point screen. Groundwater samples will be collected using conventional methods associated with the direct-push drilling method (e.g., inertia or peristaltic pump). Before groundwater sampling, the borehole will be purged to minimize solids and ensure that a representative sample is collected.

Sampling methods will be designed to collect samples representative of in situ groundwater. Reconnaissance groundwater samples will be extracted using a peristaltic pump and dedicated tubing if head levels allow use of a suction lift pump. Water samples will be collected in 500-ml polyethylene bottles, 1-liter glass amber bottles, and VOA vials.

The inertia pump will be used if the groundwater is too deep to retrieve with a peristaltic pump. Groundwater will be drawn into single-use tubing with a foot-valve using the tubing as an inertia pump. After groundwater is drawn into the tubing, the tubing will be retracted slowly from the rods and coiled. Groundwater collected for VOC analysis will be transferred directly from the tubing into the laboratory-supplied containers during retraction, in a manner that will minimize the loss of VOCs.

Groundwater will be transferred directly into laboratory-supplied containers specific to the analysis required. The following field parameters will be measured: temperature, specific conductance, pH, and turbidity.

5.2 Nomenclature

Reconnaissance groundwater samples will be labeled with a prefix to describe the type of sampling, a location identification number, and the midpoint of the screened or open area sample depth. For example, a reconnaissance groundwater sample collected from a Geoprobe boring at location 4 and with an open screen from 30 feet to 35 feet bgs will have the sample number B4-W-32.5.

Duplicate reconnaissance groundwater samples will replace the location number with "DUP" and the sample will have the same sample time as the primary sample. A duplicate sample of the abovementioned sample would appear as GPDUP-W-32.5.

Samples will be documented on an FSDS (see Appendix B) and the exploratory boring log (see Appendix A); documentation will include the screened interval or open space, equipment used, water parameters (i.e., temperature, specific conductance, pH, and turbidity), and the amount of water purged before sampling. The screened interval or open borehole will be recorded on the boring log.

5.3 Laboratory Analyses for Groundwater Samples

Groundwater samples will be analyzed for the parameters specified in the work plan, using the following methods:

- Gasoline- and diesel-range organics by NWTPH-Gx and NWTPH-Dx, respectively
- Total and dissolved metals (arsenic, manganese, and lead), using the USEPA Method 6010/6020
- VOCs by USEPA Method 8260B
- Organochlorine pesticides by USEPA Method 8081A

6 ANALYTICAL METHODS

6.1 Chemicals of Interest

Petroleum-related chemicals and heavy metals were detected in soil and groundwater at the site during previous investigations.

6.2 Laboratory Test Methods and Reporting Limits

In accordance with the QA/QC requirements set forth in this work plan, Specialty Analytical (SA) of Clackamas, Oregon, will perform the analyses for gasoline and diesel, using NWTPH methods for gasoline- and diesel-range organics (Gx and Dx, respectively); for VOCs, using Methods 8260B and prep method for soil, 5035A; for organochlorine pesticides, using Method 8081A; and for metals, using Method 6010/6020. If only diesel is detected in a sample, then only indicator hazardous substances including benzene, toluene, ethylbenzene, and xylenes will be requested from the VOC list for analysis. However, in the event that gasoline is detected, the entire list of VOCs will be analyzed for that sample.

6.3 QA/QC Samples Generated in Field

To ensure that field samples and quantitative field measurements are representative of the media collected and conditions being measured, sample collection and measurement methods will follow procedures documented in Section 4. QC samples collected in the field include field equipment rinsate blanks, trip blanks, and field duplicates. Duplicate field samples and field blanks will be submitted blind to the laboratory. Field QC samples will be clearly identified on the FSDSs. Field and trip blank results may indicate possible contamination introduced by field or laboratory procedures; field duplicates indicate overall precision in both field and laboratory procedures.

6.4 Laboratory Operations

In the laboratory, QC samples will include matrix spike/matrix spike duplicate (MS/MSD) samples, laboratory control samples (LCSs), surrogate spike samples, and method blanks, as well as other QC samples and procedures as required by the individual methods.

6.5 Sample Containers, Preservation, and Handling

6.5.1 Preservation

Water samples for gasoline and VOC analyses will be collected in hydrochloric-acid-preserved, 40-ml glass VOA vials. Water samples for diesel-range organics and

organochlorine pesticides will be collected in unpreserved, 1-liter, amber glass bottles. Water samples for metals will be collected in sulfuric-acid-preserved, 500-ml polyethylene bottles. Soil samples for VOC analysis will be collected in jars, using the 5035A syringe method. All other soil samples will be collected in glass jars. The samples will be stored in iced coolers at 4° ± 2 Celsius. Sample containers will be supplied by the laboratory.

6.5.2 Sample Packaging and Shipping

Samples will be stored in iced shipping containers or a refrigerator designated for samples, and then transported by courier to SA in iced shipping containers with a custody seal affixed.

6.6 Sample Custody

Sample custody will be tracked from point of origin through final analysis and disposal, using a COC form, which will be filled out with the appropriate sample and analytical information as soon as possible after samples are collected. For purposes of this work, custody will be defined as follows:

- In plain view of MFA field representatives
- Inside a cooler that is in plain view of MFA field representatives
- Inside any locked space such as a cooler, locker, car, or truck to which the MFA field representatives have the only available key(s)

The following items will be recorded on the COC form:

- Project name
- Project number
- MFA project manager
- Sampler name(s)
- Sample number, date and time collected, media, number of bottles submitted
- Requested analyses for each sample
- Type of data package required
- Turnaround requirements
- Signature, printed name, organization name, date, and time of transfer of all persons having custody of samples
- Additional instructions or considerations that would affect analysis (nonaqueous layers, archiving, etc.)

Persons in possession of the samples will be required to sign and date the COC form whenever samples are transferred between individuals or organizations. The COC will be included in the shipping containers with the samples, and the containers will be sealed with a laboratory custody seal. The laboratory will implement its in-house custody procedures, which begin when sample custody is transferred to laboratory personnel.

If samples are shipped via air or ground transportation (by a third party), the following custody procedures will be followed. The COC will be signed and custody will be relinquished. The signed COC(s) will be packed in shipping containers with the samples, and a custody seal will be placed on the container to reduce the potential for tampering. The samples will be shipped with proper shipping insurance. Signed documentation will be obtained from the shipper, acknowledging receipt of the samples. The shipping document will be used to track the samples while they are in transit to the laboratory.

At the analytical laboratory, a designated sample custodian will accept custody of the received samples and will verify that the COC form matches the samples received. The shipping container or set of containers is given a laboratory identification number, and each sample is assigned a unique sequential identification number that includes the original shipping container identification number.

6.7 Field Instrumentation

Field instruments will be used during the investigations. The following field equipment will require calibration before use and periodically during sampling activities:

- pH meter
- Conductivity meter
- Dissolved oxygen
- Oxygen/reduction potential meter
- Turbidity meter
- Thermometer
- PID
- Electronic water-level probe

Field-instrument calibration and preventive maintenance will follow the manufacturers' guidelines, and any deviation from the established guidelines will be documented. Generally, field instruments will be calibrated daily before work begins. Field personnel may decide to calibrate more than once a day if inconsistent or unusual readings occur, or if conditions warrant more frequent calibration. Calibration activities will be recorded in instrument-specific logbooks or field notebooks.

6.7.1 Field Calibration

Calibration procedures, calibration frequency, and standards for measurement will be conducted according to manufacturers' guidelines. To ensure that field instruments are properly calibrated and remain operable, the following procedures will be used, at a minimum:

- Operation, maintenance, and calibration will be performed in accordance with the instrument manufacturers' specifications.
- All standards used to calibrate field instruments will meet the minimum requirements for source and purity recommended in the equipment operation manual. Standards will be used before any expiration dates that may be printed on the bottle.
- Acceptable criteria for calibration will be based on the limits set in the operations manual.
- All users of the equipment will be trained in the proper calibration and operation of the instrument.
- Operation and maintenance manuals for each field instrument will be brought to the site.
- Field instruments will be inspected before they are taken to the site.
- Field instruments will be calibrated at the start and end of each work period. Meters will be recalibrated, as necessary, during the work period.
- Calibration procedures (including time, standards used, and calibration results) will be recorded in a field notebook. Although not reviewed during routine QA/QC checks, the data will be available if problems are encountered.

6.7.2 Preventive Maintenance

Preventive maintenance of field instruments and equipment will follow the operations manuals. A schedule of preventive-maintenance activities will be followed to minimize downtime and ensure the accuracy of measurement systems. Maintenance will be documented in the field notebook.

6.8 Laboratory Instrumentation

Specific laboratory instrument calibration procedures, frequency of calibration, and preparation of calibration standards will be according to the method requirements as developed by the USEPA, following procedures presented in SW-846 (USEPA, 1986).

6.9 Laboratory Calibration and Preventive Maintenance

The laboratory calibration ranges specified in SW-846 (USEPA, 1986) will be followed.

Preventive maintenance of laboratory equipment will be the responsibility of the laboratory personnel and analysts. This maintenance includes routine care and cleaning of instruments and inspection and monitoring of carrier gases, solvents, and glassware used in analyses. The preventive-maintenance approach for specific equipment will follow the manufacturers' specifications and good laboratory practices.

Precision and accuracy data will be examined for trends and excursions beyond control limits to determine evidence of instrument malfunction. Maintenance will be performed when an instrument begins to change, as indicated by the degradation of peak resolution, shift in calibration curves, decrease in sensitivity, or failure to meet any of the QC criteria.

6.10 Laboratory QA/QC Checks

USEPA Method 8260 includes specific instructions for the analysis of QC samples and the completion of QC procedures during sample analysis. These QC samples and procedures verify that the instrument is calibrated properly and remains in calibration throughout the analytical sequence, and that the sample preparation procedures have been effective and have not introduced contaminants into the samples. Additional QC samples are used to identify and quantify positive or negative interference caused by the sample matrix. The following laboratory QC procedures are required for most analytical procedures:

- **Calibration Verification—**Initial calibration of instruments will be performed at the start of the project or sample run, as required, and when any ongoing calibration does not meet control criteria. The number of points used in the initial calibration is defined in the analytical method. Continuing calibration will be performed as specified in the analytical method to track instrument performance. If a continuing calibration does not meet control limits, analysis of project samples will be suspended until the source of the control failure is either eliminated or reduced to within control specifications. Any project samples analyzed while the instrument was outside of control limits will be reanalyzed.
- **Method Blanks—**Method blanks are used to assess possible laboratory contamination of samples associated with all stages of preparation and analysis of samples and extracts. The laboratory will not apply blank corrections to the original data. A minimum of one method blank will be analyzed for every sample extraction group, or one for every 20 samples, whichever is more frequent.
- **MS/MSD Samples—**MS samples are analyzed to assess the matrix effects on the accuracy of analytical measurements. A minimum of one MS will be analyzed for each sample delivery group (SDG), or one for every 20 samples, whichever is more frequent. For VOAs, MSD samples will be analyzed for each SDG, or one for every 20 samples, whichever is more frequent. Because the spike is a duplicate sample, it

measures the quality of laboratory preparatory techniques and the heterogeneity of the sample.

- **Surrogate Spike Compounds—**Surrogate spikes are used to evaluate the recovery of an analyte from individual samples. All project samples to be analyzed for organic compounds will be spiked with appropriate surrogate compounds as defined in the analysis method. Recoveries determined using these surrogate compounds will be reported by the laboratory; however, the laboratory will not correct sample results using these recoveries.

- **LCSs—**Although not required by the referenced methods, the laboratory will analyze LCSs for VOCs by USEPA Method 8260B. One LCS will be analyzed for every SDG, or one for every 20 samples, whichever is more frequent. The source of the LCS must be included in the data package.

6.11 Field QC

The following samples will be prepared by the sampling personnel in the field and submitted to the laboratory:

- **Equipment Rinsate Blanks—**To ensure that decontamination procedures are sufficient, an equipment rinsate blank will be collected when nondedicated equipment is used. At least one equipment rinsate blank will be collected for each sampling event or for every 20 samples collected. If more than 20 samples are collected with the same equipment, or if high concentrations of contaminants are encountered, additional equipment rinsate blanks will be collected, as warranted. Equipment rinsate blanks will be collected by passing deionized/distilled water through or over sampling equipment.

- **Trip Blanks—**A trip blank monitors the potential of sample-to-sample cross-contamination during sample collection and transport. A trip blank consists of reagent-grade water in a new sample container, which is prepared at the same time as the sample containers. The trip blank will accompany the samples throughout collection, shipment, and storage. One trip blank will be included with each cooler where samples for VOC analyses are stored.

- **Field Duplicates—**Field duplicates are collected to measure sampling and laboratory precision. For soil samples, when sufficient sample volume is available, an individual sample will be split into two separate sample containers and labeled as two different samples. Care will be taken when collecting duplicate soil samples to ensure that the same ratio of fine to coarse material is included in each sample. For groundwater samples, VOA vials (three vials per sample) will be collected. At least one duplicate sample will be collected during each sampling event, or one for every 20 samples of each matrix type.

6.12 Data Reduction, Validation, and Reporting

The analytical laboratory will submit analytical data packages that include laboratory QA/QC results to permit independent and conclusive determination of data quality. Data quality will be determined by MFA, using the data evaluation procedures described in this section. The results of the MFA evaluation will be used to determine if the project data quality objectives are met.

6.12.1 Field Data Reduction

Daily internal QC checks will be performed for field activities. Checks will consist of reviewing field notes and field activity memoranda to confirm that the specified measurements, calibrations, and procedures are being followed. The need for corrective action will be assessed on an ongoing basis, in consultation with the project manager.

6.12.2 Laboratory Evaluation

Initial data reduction, evaluation, and reporting at the analytical laboratory will be carried out as described in USEPA SW-846 manuals for organic analyses (USEPA, 1986), as appropriate. Additional laboratory data qualifiers may be defined and reported to further explain the laboratory's QC concerns about a particular sample result. All additional data qualifiers will be defined in the laboratory's case narrative reports associated with each case.

6.12.3 Data Deliverables

Laboratory data deliverables are listed below. Electronic deliverables will contain the same data that are presented in the hard-copy report.

- Transmittal cover letter
- Case narrative
- Analytical results
- COC
- Surrogate recoveries
- Method blank results
- MS/MSD results
- Laboratory duplicate results

6.12.4 MFA Evaluation

6.12.4.1 Data QA/QC Review

MFA will evaluate the laboratory data for precision, completeness, accuracy, and compliance with the analytical method. MFA will review data and assign data qualifiers to sample results, following applicable sections of the USEPA procedures for organics data review (USEPA, 1986, 1994).

Data qualifiers, as defined by the USEPA, are used to classify sample data according to their conformance to QC requirements. The most common qualifiers are listed below:

- J—Estimate, qualitatively correct but quantitatively suspect.
- R—Reject, data not suitable for any purpose.
- U—Not detected at a specified reporting limit.

Poor surrogate recovery, blank contamination, or calibration problems, among other things, can cause the sample data to be qualified. Whenever sample data are qualified, the reasons for the qualification will be stated in the data evaluation report.

QC criteria not defined in the guidelines for evaluating analytical data are adopted, where appropriate, from the analytical method.

The following information will be reviewed during data evaluation, as applicable:

- Sampling locations and blind sample numbers
- Sampling dates
- Requested analysis
- COC documentation
- Sample preservation
- Holding times
- Method blanks
- Surrogate recoveries
- MS/MSD results
- Laboratory duplicates (if analyzed)
- Field duplicates
- Field blanks
- LCSs
- Method reporting limits above requested levels
- Any additional comments or difficulties reported by the laboratory
- Overall assessment

The results of the data evaluation review will be summarized for each data package. Data qualifiers will be assigned to sample results on the basis of USEPA guidelines, as applicable.

6.12.4.2 Data Management and Reduction

MFA uses GISKey to manage all laboratory data. The laboratory will provide the analytical results in electronic GISKey-deliverable format. Following data evaluation, data qualifiers will be entered into the GISKey database.

Data may be reduced to summarize particular data sets and to aid interpretation of the results. Statistical analyses may also be applied to results. Data reduction QC

checks will be performed on all hand-entered data, any calculations, and any data graphically displayed. Data may be further reduced and managed using one or more of the following computer software applications:

- Microsoft Excel (spreadsheet)
- GIS-Key (database)
- AutoCad and/or Arc GIS (graphics)
- USEPA ProUCL (statistical software)

6.12.4.3 Reporting

After completion of data collection, evaluation, and reduction, the data will be incorporated into reports. Copies of the reports will be kept in MFA's main project files, submitted to the client for review, and then submitted to Ecology.

7 REPORTING

After the data are received, MFA will generate a data report, which will summarize and screen the data against the MTCA cleanup levels. Estimates of the nature and extent of soil and groundwater contamination will be provided, as well as work-product documentation (e.g., data validation reports).

LIMITATIONS

The services undertaken in completing this plan were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This plan is solely for the use and information of our client unless otherwise noted. Any reliance on this plan by a third party is at such party's sole risk.

Opinions and recommendations contained in this plan apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this plan.

Ecology. 1995. Guidance on sampling and data analysis methods. Publication No. 94-49. Washington State Department of Ecology Toxics Cleanup Program. January.

Ecology. 2004. Guidance for preparing quality assurance project plans for environmental studies. Publication No. 04-03-030. Washington State Department of Ecology. July.

USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA 530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (update 1, July 1992; update 2a, August 1993; update 2, September 1994; update 2b, January 1995).

USEPA. 1994. USEPA contract laboratory program, national functional guidelines for inorganics data review. EPA 540/R-94/013. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. February.

APPENDIX A

BORING LOG FORM

MAUL FOSTER ALONGI

Boring Log Form

Boring/Well No.: ____________

Site: ____________

Location: ____________

Project #: ____________

Drill Rig		MFA Staff:		Hole Dia:		Total Depth:	
Drilling Co.:				Water Level:		WLE Note:	
Start Date:		End Date:		Water Level:		WLE Note:	
Notes:							

Completion	Sample									
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
	Top:		Time:	Depth:	Soil Type:			Color:		
	Length:				Top:		Fines:		Moisture:	
	Type:		Sample ID		Bottom:		Sand:		PID:	
	% Recov:				Soil Class:		Gravel:		Line Type:	
					Trace:			Impacts:		
					Notes:					
Borehole Notes:										

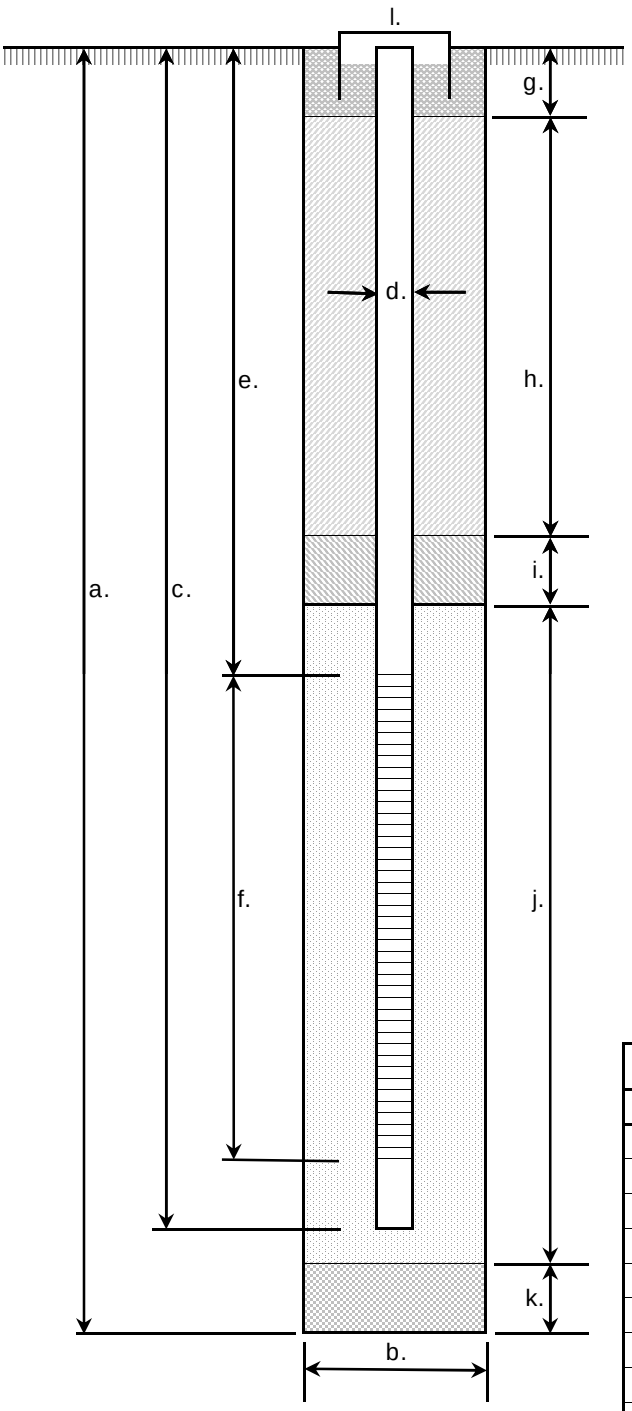
U:\Alan Hughes\Boring Log\Test lithology Log

MAUL FOSTER ALONGI

Boring/Well Completion Form

Boring/Well No.: _____
Site: _____
Location: _____
Project #: _____

Drilling Co.:		MFA Staff:		Start Date:		End Date:	
Drill Rig/ Method:				Well ID No.:		Start Card No.:	



Completion Details

a. Total Depth: _____ ft. bgs
b. Borehole diameter: _____ in.
c. Total Casing Length: _____ ft.
Material: _____
d. Well diameter: _____ in.
e. Depth to top of screen: _____ ft. bgs
f Screen length: _____ ft.
screened interval: _____ ft. to _____ ft. bgs
Perforation type: _____
Perforation size: _____
g. Surface completion: _____ ft. bgs
completion material: _____
Amount: _____
h. Surface Seal: _____ ft. to _____ ft. bgs
Seal material: _____
Amount: _____
i. Secondary seal/pack: _____ ft. to _____ ft. bgs
Material: _____
Amount: _____
j. Filter Pack: _____ ft. to _____ ft. bgs
Material: _____
Amount: _____
Prepacked screen used: _____ (Yes/No)
k. Seal or Slough: _____ ft. to _____ ft. bgs
Material: _____
Amount: _____
l. Type of well monument: _____
Well height above/below ground surface: _____ ft. bgs

gINT Data		
Top	Bottom	gINT Graphic

gINT Graphic Options*

Surface Completion
- CMNT11

Borehole Seal
- BENT11

Filter Pack
- FILT11, FILT11-A

Screen
- SLOT11

Sump
- PCAP11, PCAPBENT11

Backfill
- BENTBOTT, FILTBOTT, SLUFFBOTT

*more graphics available

Note:

APPENDIX B

FIELD SAMPLING DATA SHEET FORMS

Maul Foster & Alongi, Inc.

7223 NE Hazel Dell Avenue, Suite B, Vancouver, WA 98665 (360) 694-2691 Fax. (360) 906-1958

Soil Field Sampling Data Sheet

Client Name		**Sample Location**					
Project Number		**Sampler**					
Project Name		**Sampling Date**					
Sampling Event		**Sample Name**					
Sub Area		**Sample Depth**					
FSDS QA:		**Easting**		**Northing**		**TOC**	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
(1) Backhoe	Liquid	Composite			2 oz. soil	
					4 oz. soil	
					8 oz. soil	
					Other	
					Total Containers	0

Sample Description:

General Sampling Comments

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelbey Tube, (7) Grab, (8) Other (Specify)

Signature _____

Maul Foster & Alongi, Inc.

7223 NE Hazel Dell Avenue, Suite B, Vancouver, WA 98665 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name		**Sample Location**			
Project #		**Sampler**			
Project Name		**Sampling Date**			
Sampling Event		**Sample Name**			
Sub Area		**Sample Depth**			
FSDS QA:		**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**EH**	**Turbidity**
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
	Groundwater		VOA-Glass		
			Amber Glass		
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	0	

General Sampling Comments

Signature _____

APPENDIX B

SITE-SPECIFIC HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

CITY OF PALOUSE
335 EAST MAIN STREET
PALOUSE, WASHINGTON

Prepared for
CITY OF PALOUSE
May 5, 2010
Project No. 0477.01.01

MAUL FOSTER ALONGI

Prepared by
Maul Foster & Alongi, Inc.
7223 NE Hazel Dell Avenue, Suite B
Vancouver, WA 98665

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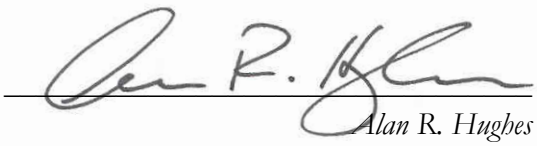
HEALTH AND SAFETY PLAN

CITY OF PALOUSE
335 EAST MAIN STREET
PALOUSE, WASHINGTON

The material and data in this health and safety plan were prepared under the supervision and direction of the undersigned.

MAUL FOSTER & ALONGI, INC.



Alan R. Hughes
Project Manager

Merideth Gibson
Health and Safety Committee

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CONTENTS

1 NEAREST HOSPITAL/EMERGENCY MEDICAL CENTER

1.1 Nearest Hospital

Potlach Clinic
225 6th Street
Potlach, Idaho 83855

Phone: (208) 875-2380

Distance: 10 miles

Travel Time: 15 minutes

1.2 Emergency Route to Hospital

See first page of document.

1.2.1 Driving Directions

1. Head east on East Main St.
2. Continue onto N E St/WA-272 E
3. Continue onto ID-6
4. Turn left at ID-6/US-96 N

1.3 Emergency Phone Numbers

Ambulance, Police, Fire	**Dial 911**
Alan Hughes Project Manager	Phone: (360) 433-0217 Cell: (360) 772-6801
Jim Maul Project Director	Phone: (360) 433-0224 Cell: (360) 903-8633
Scout Mauldin Health and Safety Coordinator	Phone: (503) 477-9807 Cell: (503) 209-0537

2 PROJECT INFORMATION

Date: February 2010

Project: Remedial Investigation

Site: Palouse Producers site (the Site)

Location: 335 East Main St, Palouse, WA 99161

Project Manager: Alan Hughes

Prepared By: Justin Pounds

3 KEY PROJECT PERSONNEL

3.1 Site Work Team

Name	Responsibility
Jim Maul	Project Director
Alan Hughes	Project Manager
Justin Pounds	Field Personnel
Mike Murray	Field Personnel
Scout Mauldin	Health and Safety Coordinator

3.2 Entry Briefing Date

First day of on-site work.

3.3 Special Conditions (e.g., work schedule or limitations)

Any work performed at night must be performed with lights mounted on stands (or equivalent) and using the "buddy system."

Maul Foster & Alongi, Inc. (MFA) personnel are not allowed to perform site activities alone after dark.

3.4 Required Training

MFA employees as well as contractor employees assigned to perform field activities covered by this plan must be currently approved for hazardous-waste fieldwork, including:

- Current medical clearance to conduct hazardous-waste fieldwork and to wear a respirator
- Successful completion of a respirator fit test within the last 12 months for the make and model of the respirator assigned to that individual
- Completion of training as required by Title 29 Code of Federal Regulations (CFR) 1910.120(e), including:
  - Forty hours of hazardous-waste worker basic instruction within the last 12 months, or

- Eight hours of hazardous-waste worker refresher training within the last 12 months, subsequent to completion of 40 hours of basic hazardous-waste worker training

3.5 Special Training

Copies of all required training certificates, current medical surveillance certificates, and respirator fit test records must be compiled before site entry. This information must also be provided to MFA by all subcontractors for their on-site personnel.

4 PROJECT DESCRIPTION

MFA has prepared this Health and Safety Plan (HSP) for the Site. The physical address of the Site is 335 East Main Street, Palouse, Washington. This HSP has been prepared to instruct MFA personnel working on site. Any contractors or subcontractors involved in the scope of work for this HSP are responsible for developing their own HSPs to ensure that proper health and safety procedures are followed by their personnel.

The Site is located in section 6 of township 16 north and range 46 east of the Willamette Meridian.

MFA will be conducting remedial investigation activities on the Site, including reconnaissance soil and groundwater sampling using drilling rigs and monitoring wells.

The purpose of this plan is to provide information to minimize the potential for adverse exposures or injuries while work is being conducted on the Site. A combination of personal protective equipment (PPE), engineering controls, and safe work practices will be used to minimize the risk of physical injuries and chemical exposures. All personnel are advised that this field project may result in exposure to chemical and physical hazards, and that this plan must be followed to minimize or eliminate these risks.

The procedures and requirements contained in this plan are intended for MFA personnel performing field activities. All MFA field personnel are responsible for understanding and adhering to this HSP, and should also be alert to any unsafe conditions or practices that may affect their safety. Each day before beginning fieldwork, a site safety officer (SSO) who is familiar with health and safety procedures and the Site will be designated by the on-site MFA personnel. All subcontractors have the primary responsibility for the safety of their own personnel on the Site. Any safety deficiencies should be immediately communicated to the SSO and to the health and safety coordinator (HSC). If personnel safety is threatened, the SSO, project manager, or MFA HSC must be contacted immediately.

All personnel who will be working on site are required to read and understand this HSP. All personnel entering the work area must sign the Personnel Acknowledgment Sheet (Section 12), certifying that they have read and understand this HSP and agree to abide by it.

4.1 Scope of Work

The MFA scope of work for this project includes the following activities:

- Soil and groundwater sampling to fill data gaps from previous investigations and complete site characterization.

NOTE: This HSP must be reevaluated and updated annually or when there are changes in site conditions or scope of work.

5 FACILITY DESCRIPTION AND BACKGROUND

5.1 Type of Facility

The Site was formerly occupied by a blacksmith, a welding shop, and a service station. Currently, the Site is a vacant lot.

5.2 Building/Structures

The Property has two structures. The structure near the northern property boundary has two bays formerly used to service vehicles, and the structure on the western property boundary was used as storage.

5.3 Access

The Site is accessible.

5.4 Topography

The Property is generally flat, with a slight slope toward the Palouse River (south).

5.5 General Geologic/Hydrologic Setting

Previous investigations indicate that the property has been filled with varying kinds of material. Gravelly fill covers most of the Property, ranging in thicknesses from 2 to 5 feet. Some of the previous investigations have also identified fill material in the southern half of the property, extending in some places 10 to 18 feet below ground surface (bgs), that is clayey material mixed with waste. Examples of some of the waste encountered are: rubber tires, wood, farm machinery and parts, wagon wheels, concrete and asphalt chunks, and leaves and other yard debris. Below the fill material is clay to approximately 14 feet bgs, then sand and silt to 20 feet bgs, and then the top of basalt. The investigations have not penetrated the basalt, which occurs at approximately 20 feet bgs across the Property.

Groundwater reportedly has been observed in the sand and silty sands at approximately 3 feet to 12 feet bgs on the Property. The reports indicate that there is a strong flow just above the basalt. Excavations into the zone of strong flow have filled with "mud." All indications are that groundwater flows toward the Palouse River, although the river level may alter flow direction at certain times of year. The data available do not include water level elevations, so the direction of flow is speculative.

5.6 Site Status

The Site is vacant.

5.7 Site History

The Site has been used for over a century for commercial activities serving the agricultural industry (e.g., service station, blacksmith, welding shop, ag-chemical supply). Many of the past uses of the property could have potentially impacted the property. Past environmental investigations have shown that the property is impacted with metals, pesticides, and petroleum hydrocarbons and associated constituents. Based on past sampling results, the former service station operated by Conoco and later by Palouse Producers is the likely cause of the environmental impacts to soil and groundwater.

The service station (Conoco) operated on the Property from approximately 1955 to 1977. During its operation, five aboveground storage tanks (ASTs) and four underground storage tanks (USTs) were installed on the Property. In 1977, Palouse Producers began operations and used the facility to fuel vehicles and store and distribute bulk fuel until approximately 1985.

In 1985, the ASTs and three of the four USTs were removed. In 1985, the remaining 8,000-gallon UST used for gasoline was leak tested and passed inspection. This tank remained on the Property until 1992, when it was removed by Roar Tech (Roar Tech, 1992). Beginning in 1984 and continuing through 1985, several interim actions were performed on the Property, including the following:

- Two hundred to 250 cubic yards of impacted soil was removed from the Property.
- An interceptor trench was constructed to stop oil from seeping into the river.
- A second interceptor trench was installed and the first was abandoned.
- A polymer liner was installed on the riverbank and was covered by felt fabric and riprap.

5.8 Special Conditions/Comments

Vehicular traffic poses a potential safety hazard. If the work area is located in a travel corridor, use triangle reflectors, traffic cones, and/or traffic barriers immediately upon beginning work at a sampling location.

6 WASTE TYPE(S)/CHARACTERISTICS

6.1 Hazardous Substances

Are hazardous substances known to have been stored/spilled on site?

__X__ YES _____ NO

6.2 Special Considerations/Comments

Before any site work, a copy of this HSP must be read and the Acknowledgment page signed. Before any underground exploration begins, make sure the following calls are made: One Call Utility Check, (800) 424-5555; on site—contact a private utility-locating company.

7 HAZARD EVALUATION

The following subsections describe the potential physical and chemical hazards associated with implementing this project. The control measures that field personnel must use to eliminate or minimize these hazards, such as air monitoring (forms in Appendix A), PPE, and decontamination procedures, are detailed in subsequent sections of this plan.

7.1 Physical Hazards

Potential physical hazards in site operations include:

- Vehicular traffic
- Equipment and machinery
- Fire/explosion
- Falling objects/loads
- Uneven walking surfaces
- Noise

7.2 Electrical/Mechanical/Vapor Systems

MFA employees will not be working on electrical or mechanical systems. The contractor will be responsible for administering lockout/tagout procedures, as applicable.

7.3 Activity/Traffic/Pedestrian Control

Immediately upon moving to a new location, restrict access to the work area with vehicles, traffic cones or barriers, and barrier tape. Be alert for inattentive drivers at or near the job site. Wear high-visibility orange safety vests when near traffic areas. Keep all nonessential personnel out of the sampling areas.

7.4 Fires and Explosions

In the case of an emergency, fire safety is the responsibility of all persons on site. The following general precautions address site-wide operations:

- A fire extinguisher will be kept in the MFA field vehicle.
- Smoking is not allowed on site.
- Leaks and spills of flammable or combustible fluids must be cleaned up immediately.

See the air monitoring section for potential explosive-atmosphere precautions.

7.5 Uneven Walking Surfaces

Care should be used when walking in or out of large areas of excavations. A combination of steep grades and loose material can make walking or standing on these surfaces difficult and potentially hazardous.

7.6 Noise

The effects of noise on humans include physiological effects (e.g., interference with communication by speech, job performance, safety, temporary and permanent hearing loss). The factors that affect the degree and extent of hearing loss are intensity or loudness of the noise, type of noise, period of exposure, and distance from the noise source. When working in close proximity to operating equipment or other loud noise sources, all MFA personnel will be required to use hearing protection.

7.7 MFA Vehicle Use

When operating vehicles on the Site, employees will adhere to the requirements in the MFA standard operating procedure (SOP) for vehicle safety operations (Appendix B). Any traffic incidents must be reported as indicated in the MFA incident report SOP (Appendix C).

7.8 Chemical Hazard Evaluation

The following potentially hazardous chemicals are known to be or suspected to be on site.

Chemical of Concern	OSHA PEL	OSHA STEL	OSHA IDLH	Odor Threshold	LEL (%)	IP(eV)	Other Hazard
Ethylbenzene	100 ppm	125 ppm	800 ppm	NA	0.8	8.76	F
Toluene	100 ppm	150 ppm	500 ppm	0.17–2.9 ppm	1.1	8.82	E, F, P, R
Arsenic	0.01 mg/m^3	NA	5 mg/m^3	NA	NA	NA	P
Benzene	1 ppm	5 ppm	500 ppm	12 ppm	1.2	9.24	F, C, P, R
Naphthalene	100 ppm	150 ppm	900 ppm	0.62–5.4 ppm	0.9	8.44–8.56	F, P
Xylenes	100 ppm	150 ppm	900 ppm	NA	1.1	8.56	F

NOTES:

C — carcinogen.
E — explosivity.
F — flammable.
IDLH — immediately dangerous to life and health.
IP (eV) — ionization potential.
LEL — lower explosive limit.
mg/m^3 = milligrams per cubic meter
NA — not available.
OSHA — Occupational Safety and Health Administration.
P — poison.
PEL — permissible exposure level.
ppm — parts per million.
R — reactive.
STEL — short-term exposure level.

8 SAFETY EQUIPMENT AND PROCEDURES

8.1 Safety Equipment

The following safety equipment will be used as needed on the Site:

- Photoionization detector (PID), organic vapor monitor (OVM), and/or Dräger tubes.
- Combustible gas indicator (CGI) capable of measuring oxygen, methane, and hydrogen sulfide.
- Respirator—Half-face respirator with high-efficiency purified air (HEPA) and organic vapor (OV) cartridges. The selection, use, and maintenance of respiratory protective equipment shall meet the requirements of established MFA procedures, recognized consensus standards (i.e., American Industrial Hygiene Association [AIHA], American National Standards Institute [ANSI], and National Institute for Occupational Safety and Health [NIOSH]), and shall comply with the requirements set forth in 29 CFR 1910.134.
- Protective clothing—Tyvek or equivalent.
- Chemical protective gloves—nitrile.
- Decontamination equipment—soap and water.
- Steel-toed boots.
- Hearing protection.
- Safety glasses—Safety glasses with side shields are required at all times during active site work. Use splash shields if performing activities where the potential exists for liquids to contact face or eyes.
- Hard hat.
- Caution tape, traffic cones, or barriers.
- High-visibility vest or clothing for working in or adjacent to any roadway.
- First-aid kit—located in the MFA field vehicle.
- Fire extinguisher—located in the MFA field vehicle.

- Drinking water and Gatorade or equivalent.

Each level of protection will incorporate the following equipment:

Level D: Workers performing general site activities where skin contact with contaminated materials is not likely will wear steel-toed leather or chemical-resistant work boots, work clothes or coveralls, hard hat, safety glasses, nitrile gloves, and hearing protection, as needed.

Modified D: Same as Level D (when performing activities in which inhalation of dust or volatile organic compounds [VOCs] is not of concern), plus chemical-resistant, steel-toed boots and Tyvek coveralls (if contaminated soil is encountered); and coated Tyvek or rain gear (if liquid contaminants are encountered).

Level C: Same as Modified Level D, plus half- or full-face air-purifying respirator with combination OV/HEPA filters (when performing activities in which inhalation of dust or VOCs is of concern).

Note: Project personnel are not permitted to deviate from the specified levels of protection without the prior approval of the SSO or the HSC.

8.2 Air Monitoring Equipment

OV analyzer (PID or OVM), and Dräger tubes (if necessary; see Section 9.1, toxicity action levels) and CGI (if necessary, based on presence of organic or flammable vapors.)

8.3 Communications

A mobile phone will be available to MFA personnel. Field personnel are not permitted to carry mobile phones or pagers into a potentially flammable environment, as such instruments are not intrinsically safe.

8.4 Decontamination Procedures

Decontamination procedures are outlined below.

8.4.1 Partial Decontamination Procedure

Partial decontamination procedures will be followed when exiting the exclusion zone and will apply to items used in the exclusion zone.

- Wash and rinse boots and outer gloves in buckets in the contamination-reduction zone.
- Inspect Tyvek suit for stains, rips, or tears. If suit is contaminated or damaged, full decontamination will be performed as described in Section 8.4.2.
- Remove outer gloves. Inspect and discard in a container labeled for disposable clothing if ripped or damaged.
- Remove respirator, if worn, and clean with premoistened alcohol wipes. Deposit used cartridges in a plastic bag at the frequency directed by the SSO.
- Wash hands and face with soap and water.

8.4.2 Full Decontamination Procedures

Full decontamination procedures will be followed at the end of each work shift and will apply to items used.

- Wash and rinse boots and outer gloves in buckets in the contamination-reduction zone.
- Remove outer gloves and Tyvek suit and deposit in a container labeled for disposable clothing.
- Remove respirator and place used cartridges in a plastic bag at the frequency directed by the SSO.
- If end of day, wash and rinse respirator in a special "respirators only" decon bucket.
- Remove inner gloves and deposit in a container labeled for disposable clothing.
- Remove work boots without touching exposed surfaces, and put on street shoes. Place work boots in a plastic bag for later reuse.
- Wash hands and face with soap and water.
- Shower as soon after the work shift as practicable.

8.5 Emergency Equipment

A fire extinguisher will be kept in the MFA field vehicle. The extinguisher will be Type ABC, approved by the National Fire Prevention Association. The extinguisher will be inspected monthly and serviced yearly. A first-aid kit will be available in the MFA field vehicle.

9 AIR MONITORING

Personnel exposure monitoring should be performed as specified in this section to protect field personnel from hazardous concentrations of vapors. Monitoring must be performed by individuals familiar with the calibration, use, and care of the required instruments.

During site activities, air monitoring shall be conducted at least every half hour in the worker's breathing zone, which is the area within a 1-foot-diameter radius of the worker's head. Respirators must be worn when meter readings in the breathing zone (sustained for two minutes) equal or exceed the action levels described below for upgrade to Level C PPE.

9.1 Toxicity Action Levels

The toxicity action levels given below are set to comply with OSHA PELs, American Conference of Governmental Industrial Hygienists Threshold Limit Values, and NIOSH recommendations for the chemicals that may be encountered on the Site. These action levels are also adjusted for the relative response of common PID or flame ionization detector instruments to motor-fuel vapors.

The alarm on this instrument should be set to sound at the action level. If the instrument must be unattended, the detector inlet should be located as close to the worker's breathing zone as practicable.

Workers must be evacuated from the area when vapor concentrations exceeding respiratory equipment protection factors are encountered.

During site activities that generate airborne dust, MFA employees will remain upwind and outside of residual dust plumes. Dust monitoring will be undertaken at the discretion of the SSO. Engineering controls will be required of the contractor if the action level shown on the table below is exceeded. MFA workers must be evacuated until dust levels fall below the action level.

Air Monitoring Procedures and Toxicity Action Levels

Instrument	Action Level	Initial Action	Followup Action
OVM or PID[a]	Detection of **1 ppm** (above ambient) or greater in breathing zone **sustained for two minutes**	Dräger tube test for **vinyl chloride**. If **1 ppm vinyl chloride** is detected with Dräger tube, upgrade to level C.	Ventilate area, always work upwind.
Dräger tube test (vinyl chloride)	Over **1 ppm vinyl chloride sustained** in breathing zone	After upgrade to Level C, continue to monitor breathing zone with Dräger tube. If **10 ppm or greater vinyl chloride**, leave exclusion zone. Return only if levels decrease to below 10 ppm.	Ventilate area, always work upwind.
OVM or PID[a]	Detection of 10 ppm (above ambient) in breathing zone **and determined not to be benzene**	Upgrade to Level C and continue to monitor breathing zone with Dräger tube. **If 50 ppm, leave exclusion zone.** Return only if levels decrease to below 50 ppm.	Ventilate area, always work upwind.
CGI[b]	At or above 10 percent of LEL	Cease activities, turn off all potential sources of ignition. Evacuate.	Determine source of flammable vapors.
Dust meter	5 mg/m^3	Dust suppression, e.g., misting.	Adjust operations.

[a]Some PIDs do not work in high (>90%) humidity or rainy weather. Under these atmospheric conditions, only PIDs certified for use in high humidity will be used.

[b]See Section 9.2 for complete explosion hazard action levels.

Respirator/Respirator Cartridge Information

Respirator Manufacturer	**North (or equivalent)**
Respirator Cartridge Selected for Use	HEPA/OV
Respirator Cartridge Change Schedule	**Determine using contaminant types and levels, per North Web site http://www.northsafety.com**

Note: Project personnel are not permitted to deviate from the specified levels of protection without the prior approval of the SSO or MFA HSC.

9.2 Explosion Hazard Action Levels

A CGI should be used when working in a potentially explosive atmosphere, based on the presence of flammable vapors. The explosivity action levels in the table above (> 10% LEL) are set to minimize risk due to flammable or explosive atmospheres. Measurements should be taken at all locations where flammable vapors may cause an explosive condition. American Petroleum Institute procedures shall be followed for measurements in tanks or piping.

The CGI alarm must be set to sound at the action level and calibrated to a methane standard. When measurements with a CGI indicate the presence of combustible gas levels equal to or exceeding the explosivity action level in the work area, the following action must be taken:

1. Extinguish all possible ignition sources in the work area and shut down all powered equipment.
2. Move personnel at least 100 feet away from the work area.
3. Contact the MFA HSC.
4. At the instruction of the MFA HSC and after waiting 15 minutes for OVs to dissipate, the SSO may use the CGI to, cautiously and with prudence, approach the worksite to determine the extent and concentration of organic emissions. The SSO shall not enter (or allow any personnel to enter) any area where CGI readings exceed the explosivity action level, nor shall the SSO make any approach if there is a possibility of fire or explosion.
5. Personnel may reenter the work area only by clearance from the SSO after the cause of the emission has been determined and the source abated.

9.3 Instrument Calibrations

All instruments shall be calibrated both immediately before the day's fieldwork begins and after work ceases for the day. Calibration and monitoring records shall be kept in the project file and provided to the HSC. Records shall include:

- Worker's name
- Date
- Time
- Location
- Temperature and humidity
- Calibration gas identity and concentration
- Exposure data (time, location, and concentration)

10 HEALTH AND SAFETY EQUIPMENT CHECKLIST

REQUIRED SAFETY EQUIPMENT:

Equipment	Requirements
Hard Hat	Required on all job sites.
Steel-Toed Boots	Required on all job sites.
Safety Glasses w/side shields	Required on all job sites.
Hearing Protection	Use when appropriate.
PID or OVM	PID calibrated to 100 ppm isobutylene.
CGI	To be used when working in a potentially explosive atmosphere, based on the presence of high concentrations of vapors. Methane standard to be used for calibration.
Respirator	Half-face respirator with cartridges appropriate for contaminants of concern.
Protective Clothing	Tyvek suit when appropriate.
Chemical-Protective Gloves	Scorpio or Solvex gloves.
Decontamination Equipment	Bring soap and water to wash hands and face if no facilities are available.
Caution Tape, Traffic Cones, or Barriers	Use when working near traffic.
Emergency Eyewash	Located in the MFA field vehicle.
First-Aid Kit	Located in the MFA field vehicle.
Fire Extinguisher	Located in the MFA field vehicle.
Drinking Water	Located in the MFA field vehicle.

11 GENERAL SAFE WORK PRACTICES

Field operations for this project shall be conducted in accordance with the minimum safety practices described below, which are required for MFA employees.

11.1 Safety Practices for Field Personnel

1. Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited in any area where the possibility of contamination exists.
2. Field personnel must thoroughly wash hands when leaving a contaminated or suspected contaminated area before eating, drinking, or any other activities.
3. Contaminated protective equipment shall not be removed from the work area until it has been properly decontaminated or containerized on site.
4. Avoid activities that may cause dust. Removal of materials from protective clothing or equipment by blowing, shaking, or any means that may disperse materials into the air is prohibited.
5. Field personnel must use the "buddy system" when wearing any respiratory protective devices. Communications between members must be maintained at all times. Emergency communications shall be prearranged in case unexpected situations arise. Visual contact must be maintained between pairs on site, and team members should stay close enough to assist one another in the event of an emergency.
6. Personnel should be cautioned to inform one another of subjective symptoms of chemical exposure such as headache, dizziness, nausea, and irritation of the respiratory tract.
7. No excessive facial hair that interferes with the seal of the respirator to the face will be allowed on personnel required to wear respiratory protective equipment.
8. The selection, use, and maintenance of respiratory protective equipment shall meet the requirements of established MFA procedures and recognized consensus standards (AIHA, ANSI, NIOSH), and shall comply with the requirements set forth in 29 CFR 1910.134.
9. At sites with known or suspected contamination, appropriate work areas for field personnel support, contaminant reduction, and exclusion will be designated and maintained.

10. MFA field personnel are to be briefed thoroughly on the anticipated hazards, equipment requirements, safety practices, emergency procedures, and communications methods, both initially and in daily briefings.
11. All MFA field vehicles shall contain a first-aid kit and a multipurpose, portable fire extinguisher.
12. All field personnel will, whenever practicable, remain upwind of drilling rigs, open excavations, boreholes, etc.
13. Subsurface work shall not be performed at any location until the area has been confirmed by a utility-locator firm to be free of underground utilities or other obstructions.
14. Field personnel are specifically prohibited from entering excavations, trenches, or other confined spaces deeper than 4 feet. Unattended boreholes must be properly covered or otherwise protected.

12 ACKNOWLEDGMENT

MFA cannot guarantee the health or safety of any person entering this Site. Because of the potentially hazardous nature of visits to active sites, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury and illness at this Site. The health and safety guidelines in this plan were prepared specifically for this Site and should not be used on any other site without prior evaluation by trained health and safety personnel.

All MFA personnel are to read, understand, and agree to comply with the specific practices and guidelines as described in this HSP (including attachments for specific activities and the General Work Practices described below) regarding field safety and health hazards.

This HSP has been developed for the exclusive use of MFA personnel. MFA makes this plan available for review by contracted or subcontracted personnel for information only. This plan does not cover the activities performed by employees of any other employer on the Site. All contract or subcontracted personnel are responsible for generating and using their own plan, which must have requirements at least as stringent as those listed in this HSP.

I have read and I understand this HSP and all attachments, and agree to comply with the requirements described herein:

Name	Title	Date

APPENDIX A

REQUIRED FORMS

Maul Foster & Alongi, Inc.
AIR MONITORING RECORD

Project Title _____ Project No. _____

Site-Specific Name/Location _____ Date _____ Day _____

Weather: Temp _____ Wind Direction/Speed _____/_____ Humidity _____

	Instrument	S/N	Calibration date	Calibration gas/method	Calibration by
Organic vapors					
Particulates					
O_2					
Radiation					
Combustible gas					

Time	Location/Description	Organic vapor ppm	Particulates mg/m^3	O_2 %	H_2S ppm	CG % LEL

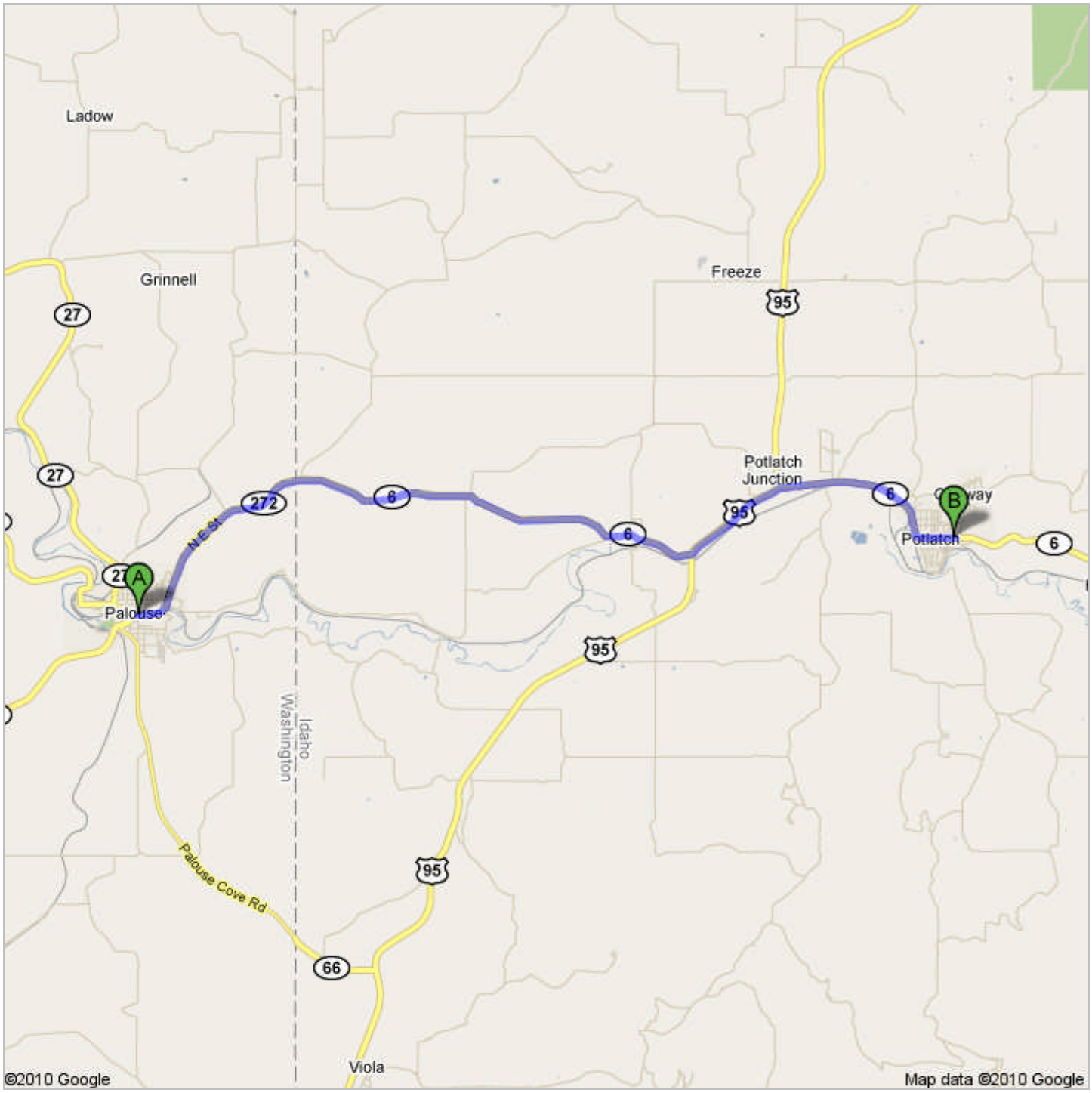
Notes: _____

_____

Data collected by _____
Print Name Signature

Google maps

Directions to 2258 6th St, Potlatch, ID 83855
10.1 mi – about **16 mins**



[redacted] 335 E Main St, Palouse, WA 99161

[redacted]	1. Head **east** on **E Main St** toward **N Hall St**	go 0.2 mi total 0.2 mi
272	2. Continue onto **N E St/WA-272 E** Continue to follow WA-272 E Entering Idaho About 3 mins	go 2.1 mi total 2.4 mi
6	3. Continue onto **ID-6** About 7 mins	go 4.4 mi total 6.8 mi
6	4. Turn **left** at **ID-6/US-95 N** Continue to follow ID-6 Destination will be on the right About 6 mins	go 3.3 mi total 10.1 mi

[redacted] 2258 6th St, Potlatch, ID 83855

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

APPENDIX B

VEHICLE SAFETY STANDARD OPERATING PROCEDURE

VEHICLE SAFETY

This standard operating procedure applies to Maul Foster & Alongi, Inc. (MFA)-owned vehicles, vehicles leased or rented for MFA business, and personal vehicles when used on MFA business. In order to drive a vehicle on behalf of the company, you must have a valid driver's license as well as a driving record that is satisfactory to MFA and its insurance carriers.

Additional policies relating to vehicle use are provided in Part 2, Section 3 of the MFA Policies and Procedures Manual.

COMPANY-OWNED AND COMPANY-RENTED VEHICLES

Company vehicles are to be driven by authorized employees only, except in case of testing by a mechanic. An employee must be familiarized with the vehicle before it is driven. To avoid accidents because an accessory cannot be located during operation (e.g., windshield wipers), it is recommended that the driver locate the horn, windshield-wiper switch, lights, defroster, gauges, hood and gas fill door releases, and seat and mirror adjustments before the vehicle is started. Once the vehicle is started, fluid levels, wiper blades, and lights should be checked. The spare tire should be located, along with instructions and tools for changing a flat tire.

HAZARDOUS SUBSTANCES

Hazardous substances or potentially hazardous substances may not be transported in privately-owned vehicles. Hazardous substances include, but are not limited to, environmental-media samples, air-monitoring meters (photoionization detectors, four-gas meters) and associated calibration gases, investigation-derived waste, decontamination chemicals, fuel, and fuel products.

DRIVER SAFETY GUIDELINES

The use of a vehicle for company business while under the influence of intoxicants or other drugs that could impair driving ability is forbidden and is sufficient cause for disciplinary action, up to and including termination of employment.

Cell-phone use while driving is a major cause of accidents. Drivers should complete calls while the vehicle is parked and/or use the phone in a "hands free" mode via a headset or speaker. While driving, attention to the road and safety must always take precedence over conducting business over the phone.

No driver shall operate a vehicle on company business when his/her ability to do so safely has been impaired by illness, fatigue, injury, or prescription medication.

All drivers and passengers operating or riding in a company vehicle must wear seat belts, even if air bags are available.

No unauthorized personnel are allowed to ride in company vehicles.

Headlights shall be used starting two hours before sunset until two hours after sunrise, during inclement weather, and at any time when the area 500 feet ahead of the vehicle cannot be clearly seen.

Allot enough time for travel to avoid the need to hurry.

Be well rested and alert.

Notify someone of your destination and anticipated time of arrival.

DEFENSIVE-DRIVING GUIDELINES

Drivers are required to maintain a safe following distance at all times. Drivers should keep at least a two-second interval between their vehicle and the vehicle immediately ahead. During slippery road conditions, the following distance should be increased to at least four seconds.

Drivers must yield the right of way at all traffic control signals and signs requiring them to do so. Drivers should also be prepared to yield for safety's sake at any time. Pedestrians and bicycles in the roadway always have the right of way.

Drivers must honor posted speed limits. In adverse driving conditions, reduce speed to a safe operating speed that is consistent with the conditions of the road, weather, lighting, and volume of traffic.

Radar detectors are strictly prohibited in company vehicles. Drivers are to drive at the speed of traffic but are never to exceed the posted speed limit.

Turn signals must be used before every turn or lane change.

When passing or changing lanes, view the entire vehicle in your rearview mirror before pulling into that lane.

Be alert to other vehicles, pedestrians, and bicyclists when approaching intersections. Never speed through an intersection on a caution light. When the traffic light turns green, look both ways for oncoming traffic before proceeding.

When waiting to make left turns, keep your wheels facing straight ahead. If rear-ended, you will not be pushed into the path of oncoming traffic.

When stopping behind another vehicle, leave enough space so you can see the rear wheels of the car in front. This allows room to go around the vehicle, if necessary, and may prevent you from being pushed into the car in front of you if you are rear-ended.

Avoid backing where possible, but when necessary, keep the distance traveled to a minimum and be particularly careful. Check behind your vehicle before backing. Back the vehicle toward the driver's side. Do not back around a corner or into an area of no visibility.

ACCIDENT PROCEDURES

All accidents, in either company vehicles, rented vehicles, or personal vehicles (while on company business), must follow these same accident procedures.

In an attempt to minimize the results of an accident, the driver involved in the accident must prevent further damages or injuries and obtain all pertinent information and report it accurately. Call for medical aid, if necessary.

Record names and addresses of driver, witnesses, and occupants of the other vehicles and any medical personnel who may arrive at the scene. Complete the form located in the Vehicle Accident Packet. An employee who is involved in an accident when on MFA business must report it by completing an MFA Accident/Loss Report and submit it to the health and safety coordinator as soon as possible.

Pertinent information to obtain includes: license number of other drivers; insurance company names and policy numbers of other vehicles; make, model, and year of other vehicles; date and time of accident; and overall road and weather conditions. Provide the other party with your name, address, driver's license number, and insurance information. Do not discuss the accident with anyone at the scene except the police. Do not accept any responsibility for the accident. Do not argue with anyone.

All accidents, regardless of severity, must be reported to the police and also to the managing director or your group manager. Accidents are to be reported immediately (from the scene, during the same day, or as soon as practicable if immediate or same-day reporting is not possible). If the driver cannot get to a phone, he/she should write a note giving the location to a reliable-appearing motorist and ask him or her to notify the police. MFA may conduct a review of each accident to determine its cause and how it could have been prevented.

Accidents involving personal injury to an MFA employee must be reported to the Managing Director or your Group Manager so that a workers' compensation claim can be promptly filed and MFA's short-term-disability carrier can be notified, if applicable. Failing to stop after an accident and/or failure to report an accident may result in disciplinary action, up to and including termination of employment.

TRAFFIC VIOLATIONS

Driving motor vehicles is a serious responsibility and must be done safely and in accordance with all traffic laws. Vehicle accidents are costly to our company, but more importantly, they may result in injury to you or others. It is the driver's responsibility to operate the vehicle in a safe manner and to drive defensively to prevent injuries and property damage. MFA endorses all applicable state motor-vehicle regulations relating to driver responsibility and expects each driver to drive in a safe and courteous manner pursuant to the preceding safety rules. The attitude you take when behind the wheel is the single most important factor in driving safely. Please note that traffic or parking citations will not be reimbursed by MFA.

APPENDIX C

MFA INCIDENT REPORT

ACCIDENT/LOSS REPORT

******THIS REPORT MUST BE COMPLETED IN FULL AND SUBMITTED TO THE MFA MANAGING DIRECTOR******

Date of Accident:_____ Company:_____

Time Occurred:_____ Project Number:_____

Where Occurred:_____ Name and Location of Project:_____

PART I—PROPERTY DAMAGE/LOSS

Equipment Involved:_____

Names of Persons Involved:_____

Describe Incident/Damage:_____

_____

Estimated Cost of Damage:_____

***Copy of Police Report, if filed, must also be submitted.**

DRAW A DIAGRAM OF INCIDENT ON THE BACK OF THIS REPORT

PART II—PERSONAL INJURY *(fill out only if personal injury occurred)*

Name of employee injured:_____ Age:_____

Address:_____ Occupation:_____

What was employee doing when injured:_____

Exact location where injury occurred (station number or prominent landmark):_____

_____

Was place of accident or exposure on job site?:_____

Describe injury:_____

_____

How did injury occur?:_____

_____

Did employee see a doctor or go to the hospital?_____ If yes, give name, address, and phone number of Doctor and/or hospital:_____

_____

Employee Name (print):_____

Employee Signature: _____

Date of this report: _____

APPENDIX C

ECOLOGY 1999 ANALYTICAL RESULTS

Table C1
Ecology 1999 Soil Analytical Results (mg/kg)
Palouse Producers Site
Palouse, Washington

Location	Sample	Depth (ft bgs)	TPH-G	Benzene	Ethylbenzene	Toluene	Xylene	Methyl Tert-Butyl Ether
PPB1	PPB1-4	4	--	0.05>	0.05>	0.05>	0.1>	0.1>
	PPB1-8	8	--	0.05>	0.05>	0.05>	0.1>	0.1>
PPB2	*PPB2-8	8	5.2>	0.17>	0.17>	0.17>	0.35>	--
	PPB2-8	8	--	0.05>	0.05>	0.05>	0.1>	0.1>
PPB3	*PPB3-6	6	27>	0.25>	0.25>	0.25>	0.5>	--
	PPB3-8	8	--	0.25>	0.25>	0.25>	0.25>	0.5>
PPB4	*PPB4-8	8	**2700**	2.6>	10.4	2.6>	5.2>	--
	PPB4-8	8	--	3.82	11.8	4.35	4.47	1.67
PPB5	*PPB5-8	8	**91**	0.22>	0.22>	0.22>	0.43>	--
	PPB5-8	8	--	0.0664	0.05>	0.05>	0.124	0.1>
PPB6	*PPB6-7	7	**3100**	2.3>	6.5	2.3>	6.2	--
	PPB6-7	7	--	3.6	5.46	3.5	11.5	0.614
PPB7	*PPB7-8	8	4.2>	0.14>	0.14>	0.14>	0.28>	--
	PPB7-8	8	--	0.05>	0.05>	0.106	0.17	0.1>
	*PPB7-10	10	20>	0.12>	0.12>	0.12>	0.25.	--
Model Toxics Control Act cleanup levels			30	18	8000	6400	16000	560

Notes:
Data provided by Ecology. The astric note (*) indicates samples analyzed by different methods.
Bold concentrations exceed cleanup levels.
Benzene, ethylbenzene, toluene, xylene, and methyl-tert-butyl ether are compare to MTCA Method B cleanup levels.
> = not detected at or above the method reporting limit.
ft bgs = feet below ground surface.
mg/kg = milligram per kilogram.
TPH-G = gasoline-range organics compared to MTCA Method A cleanup level with benzene present.

Table C2
Ecology 1999 Groundwater Analytical Results (µg/l)
Palouse Producers Site
Palouse, Washington

Location	Benzene	Ethylbenzene	Toluene	Xylene	Methyl Tert-Butyl Ether
PPB1	0.5>	0.5>	0.5>	0.1>	1>
PPB2	**1.63**	0.5>	0.5>	0.1>	1>
PPB3	**15.8**	10.8	0.899	1.77	4.55
PPB4	**28.2**	1.32	1.26	7.08	1>
PPB5	**2.66**	0.5>	1.29	1.11	1>
PPB6	**28.9**	8.59	3.1	10.8	8.88
PPB7	0.5>	0.622	0.539	2.59	2.9
MTCA CULs	0.8	800	640	16000	24

Notes:
Data provided by Ecology.
Bold concentrations exceed Model Toxics Cleanup Act (MTCA) Method B cleanup levels (CULs).
> = not detected at or above the method reporting limit.
µg/l = microgram per liter.

nca™
www.ncalabs.com

Seattle 18939 120th Avenue NE, Suite 101, Bothell, WA 98011-9508
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588

Washington Department of Ecology	Project: Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number: J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager: Bill Fees	Reported: 11/1/99 12:11

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
PPB1	S910052-01	Water	10/18/99
PPB2	S910052-02	Water	10/18/99
PPB3	S910052-03	Water	10/18/99
PPB4	S910052-04	Water	10/18/99
PPB5	S910052-05	Water	10/18/99
PPB6	S910052-06	Water	10/18/99
PPB7	S910052-07	Water	10/18/99
PPB1-8	S910052-08	Soil	10/18/99
PPB1-4	S910052-09	Soil	10/18/99
PPB2-8	S910052-10	Soil	10/18/99
PPB3-8	S910052-11	Soil	10/18/99
PPB4-8	S910052-12	Soil	10/18/99
PPB5-8	S910052-13	Soil	10/18/99
PPB6-7	S910052-14	Soil	10/18/99
PPB7-8	S910052-15	Soil	10/18/99

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541.383.9310 fax 541.382.7588
www.ncalabs.com

Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

BTEX and MTBE by EPA 8021
North Creek Analytical - Spokane

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
PPB1			S910052-01				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	ND	ug/l	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Methyl tert-butyl ether	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*141*	%	*1*
PPB2			S910052-02				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	**1.63**	ug/l	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Methyl tert-butyl ether	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*136*	%	
PPB3			S910052-03				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	**15.8**	ug/l	
Toluene	"	"	"		0.500	**0.899**	"	
Ethylbenzene	"	"	"		0.500	**10.8**	"	
Xylenes (total)	"	"	"		1.00	**1.77**	"	
Methyl tert-butyl ether	"	"	"		1.00	**4.55**	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*165*	%	*2*
PPB4			S910052-04				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	**28.2**	ug/l	
Toluene	"	"	"		0.500	**1.26**	"	
Ethylbenzene	"	"	"		0.500	**1.32**	"	
Xylenes (total)	"	"	"		1.00	**7.08**	"	
Methyl tert-butyl ether	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*136*	%	
PPB5			S910052-05				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	**2.66**	ug/l	
Toluene	"	"	"		0.500	**1.29**	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	**1.11**	"	
Methyl tert-butyl ether	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*156*	%	*2*

North Creek Analytical - Spokane

**Refer to end of report for text of notes and definitions.*

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

BTEX and MTBE by EPA 8021
North Creek Analytical - Spokane

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
PPB6			S910052-06				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	**28.9**	ug/l	
Toluene	"	"	"		0.500	**3.10**	"	
Ethylbenzene	"	"	"		0.500	**8.59**	"	
Xylenes (total)	"	"	"		1.00	**10.8**	"	
Methyl tert-butyl ether	"	"	"		1.00	**8.88**	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*NR*	%	*2*
PPB7			S910052-07				Water	
Benzene	1090080	10/21/99	10/21/99		0.500	ND	ug/l	
Toluene	"	"	"		0.500	**0.539**	"	
Ethylbenzene	"	"	"		0.500	**0.622**	"	
Xylenes (total)	"	"	"		1.00	**2.59**	"	
Methyl tert-butyl ether	"	"	"		1.00	**2.90**	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*153*	%	*2*
PPB1-8			S910052-08				Soil	
Benzene	1090071	10/20/99	10/20/99		0.0500	ND	mg/kg dry	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*101*	%	
PPB1-4			S910052-09				Soil	
Benzene	1090071	10/20/99	10/20/99		0.0500	ND	mg/kg dry	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*106*	%	
PPB2-8			S910052-10				Soil	
Benzene	1090071	10/20/99	10/20/99		0.0500	ND	mg/kg dry	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*91.5*	%	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

BTEX and MTBE by EPA 8021
North Creek Analytical - Spokane

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
PPB3-8			S910052-11				Soil	
Benzene	1090071	10/20/99	10/20/99		0.250	ND	mg/kg dry	
Toluene	"	"	"		0.250	ND	"	
Ethylbenzene	"	"	"		0.250	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		0.500	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*93.4*	%	
PPB4-8			S910052-12				Soil	
Benzene	1090071	10/20/99	10/20/99		0.250	**3.82**	mg/kg dry	
Toluene	"	"	"		0.250	**4.35**	"	
Ethylbenzene	"	"	"		0.250	**11.8**	"	
Xylenes (total)	"	"	"		0.500	**4.47**	"	
Methyl tert-butyl ether	"	"	"		0.500	**1.67**	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*151*	%	*2*
PPB5-8			S910052-13				Soil	
Benzene	1090071	10/20/99	10/20/99		0.0500	**0.0664**	mg/kg dry	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	**0.124**	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*95.6*	%	
PPB6-7			S910052-14				Soil	
Benzene	1090071	10/20/99	10/20/99		0.100	**3.60**	mg/kg dry	
Toluene	"	"	"		0.100	**3.50**	"	
Ethylbenzene	"	"	"		0.100	**5.46**	"	
Xylenes (total)	"	"	"		0.200	**11.5**	"	
Methyl tert-butyl ether	"	"	"		0.200	**0.614**	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*NR*	%	*2*
PPB7-8			S910052-15				Soil	
Benzene	1090071	10/20/99	10/20/99		0.0500	ND	mg/kg dry	
Toluene	"	"	"		0.0500	**0.106**	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	**0.170**	"	
Methyl tert-butyl ether	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (PID)	"	"	"	*53.0-136*		*68.0*	%	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB1			**S910052-01**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	ND	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*81.9*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*89.4*	"	
PPB2			**S910052-02**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	ND	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*84.4*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*86.5*	"	
PPB3			**S910052-03**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	25000	ND	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	25000	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	25000	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	25000	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	25000	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	25000	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	25000	**106000**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*82.7*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*91.9*	"	
PPB4			**S910052-04**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	**63.7**	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**70.3**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB4 (continued)			**S910052-04**				**Water**	
C10-C12 Aromatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	ND	ug/l	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*89.0*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*90.6*	"	
PPB5			**S910052-05**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	**53.1**	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**97.1**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**62.0**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	**91.0**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	**141**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*105*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*96.9*	"	
PPB6			**S910052-06**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	**75.0**	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**322**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**237**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	**75.3**	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	**348**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	**223**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*165*	*%*	*2*
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*115*	"	
PPB7			**S910052-07**				**Water**	
C5-C6 Aliphatics	9J22025	10/22/99	10/23/99	WA MTCA-VPH	50.0	ND	ug/l	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**55.7**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**160**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	**225**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	**295**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*121*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*105*	"	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB1-8			S910052-08				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/22/99	WA MTCA-VPH	5.00	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	5.00	**6.26**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*80.7*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*84.7*	"	
PPB1-4			S910052-09				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/21/99	WA MTCA-VPH	5.00	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*76.3*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*84.4*	"	
PPB2-8			S910052-10				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/21/99	WA MTCA-VPH	5.00	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*73.6*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*82.5*	"	
PPB3-8			S910052-11				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/23/99	WA MTCA-VPH	20.0	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	20.0	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	20.0	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	20.0	**29.9**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	20.0	ND	"	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB3-8 (continued)			S910052-11				Soil	
C10-C12 Aromatics	9J21020	10/21/99	10/23/99	WA MTCA-VPH	20.0	**28.4**	mg/kg dry	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	20.0	**81.2**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*127*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*100*	"	
PPB4-8			S910052-12				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/22/99	WA MTCA-VPH	100	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	100	**138**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	100	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	100	**210**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	100	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	100	**207**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	100	**414**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*NR*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*NR*	"	
PPB5-8			S910052-13				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/23/99	WA MTCA-VPH	5.00	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	5.00	**6.47**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	5.00	**5.85**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	5.00	**14.2**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*74.4*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*74.1*	"	
PPB6-7			S910052-14				Soil	
C5-C6 Aliphatics	9J21020	10/21/99	10/23/99	WA MTCA-VPH	50.0	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**120**	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**135**	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	50.0	**162**	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	50.0	**93.1**	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	50.0	**143**	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	50.0	**108**	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*NR*	*%*	*2*
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*NR*	"	*2*

North Creek Analytical - Spokane

**Refer to end of report for text of notes and definitions.*

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB7-8			**S910052-15**				**Soil**	
C5-C6 Aliphatics	9J21020	10/21/99	10/22/99	WA MTCA-VPH	5.00	ND	mg/kg dry	
C6-C8 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aliphatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C8-C10 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C10-C12 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
C12-C13 Aromatics	"	"	"	WA MTCA-VPH	5.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	*60-140*		*65.6*	*%*	
Surrogate: 4-BFB (PID)	"	"	"	*60-140*		*77.5*	"	

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
PPB1-8			S910052-08				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**77.3**	%	
PPB1-4			S910052-09				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**83.0**	%	
PPB2-8			S910052-10				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**77.1**	%	
PPB3-8			S910052-11				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**75.1**	%	
PPB4-8			S910052-12				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**77.0**	%	
PPB5-8			S910052-13				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**55.7**	%	
PPB6-7			S910052-14				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**75.9**	%	
PPB7-8			S910052-15				Soil	
Dry Weight	9J25020	10/25/99	10/26/99	BSOPSPL003R07	1.00	**71.0**	%	

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Washington Department of Ecology	Project:	Palouse Producers	Sampled:	10/18/99
4601 N. Monroe	Project Number:	J5A47	Received:	10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported:	11/1/99 12:11

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
PPB1-8	S910052-08	Soil	77.34	%
PPB1-4	S910052-09	Soil	83.02	%
PPB2-8	S910052-10	Soil	77.07	%
PPB3-8	S910052-11	Soil	75.13	%
PPB4-8	S910052-12	Soil	76.98	%
PPB5-8	S910052-13	Soil	55.73	%
PPB6-7	S910052-14	Soil	75.91	%
PPB7-8	S910052-15	Soil	70.98	%

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Washington Department of Ecology	Project:	Palouse Producers	Sampled:	10/18/99
4601 N. Monroe	Project Number:	J5A47	Received:	10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported:	11/1/99 12:11

Dry Weight Determination
North Creek Analytical - Spokane

Sample Name	Lab ID	Matrix	Result	Units
PPB1	S910052-01	Water	0	%
PPB2	S910052-02	Water	0	%
PPB3	S910052-03	Water	0	%
PPB4	S910052-04	Water	0	%
PPB5	S910052-05	Water	0	%
PPB6	S910052-06	Water	0	%
PPB7	S910052-07	Water	0	%
PPB1-8	S910052-08	Soil	77.4	%
PPB1-4	S910052-09	Soil	80.6	%
PPB2-8	S910052-10	Soil	75.6	%
PPB3-8	S910052-11	Soil	75.3	%
PPB4-8	S910052-12	Soil	76.6	%
PPB5-8	S910052-13	Soil	69.0	%
PPB6-7	S910052-14	Soil	74.2	%
PPB7-8	S910052-15	Soil	71.3	%

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

BTEX and MTBE by EPA 8021/Quality Control
North Creek Analytical - Spokane

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1090071	**Date Prepared: 10/20/99**					**Extraction Method: GC Volatiles**				
Blank	**1090071-BLK1**									
Benzene	10/20/99			**ND**	mg/kg dry	**0.0500**				
Toluene	"			**ND**	"	**0.0500**				
Ethylbenzene	"			**ND**	"	**0.0500**				
Xylenes (total)	"			**ND**	"	**0.100**				
Methyl tert-butyl ether	"			**ND**	"	**0.100**				
Surrogate: 4-BFB (PID)	"	*1.25*		*1.35*	"	*53.0-136*	*108*			
LCS	**1090071-BS2**									
Benzene	10/20/99	0.500		0.502	mg/kg dry	70.0-120	100			
Toluene	"	0.500		0.525	"	70.0-120	105			
Ethylbenzene	"	0.500		0.569	"	70.0-120	114			
Xylenes (total)	"	1.50		1.71	"	70.0-120	114			
Methyl tert-butyl ether	"	0.500		0.421	"	70.0-120	84.2			
Surrogate: 4-BFB (PID)	"	*1.25*		*1.50*	"	*53.0-136*	*120*			
Duplicate	**1090071-DUP1**		**S910055-01**							
Benzene	10/20/99		ND	ND	mg/kg dry			50.0		
Toluene	"		ND	ND	"			50.0		
Ethylbenzene	"		ND	ND	"			50.0		
Xylenes (total)	"		ND	ND	"			50.0		
Methyl tert-butyl ether	"		ND	ND	"			50.0		
Surrogate: 4-BFB (PID)	"	*1.38*		*1.30*	"	*53.0-136*	*94.2*			
Duplicate	**1090071-DUP2**		**S910056-01**							
Benzene	10/20/99		ND	ND	mg/kg dry			50.0		
Toluene	"		ND	ND	"			50.0		
Ethylbenzene	"		ND	ND	"			50.0		
Xylenes (total)	"		ND	ND	"			50.0		
Methyl tert-butyl ether	"		ND	ND	"			50.0		
Surrogate: 4-BFB (PID)	"	*1.53*		*1.52*	"	*53.0-136*	*99.3*			
Matrix Spike	**1090071-MS2**		**S910055-01**							
Benzene	10/20/99	0.553	ND	0.481	mg/kg dry	51.0-138	**87.0**			
Toluene	"	0.553	ND	0.483	"	47.0-147	**87.3**			
Ethylbenzene	"	0.553	ND	0.488	"	49.0-151	**88.2**			
Xylenes (total)	"	1.66	ND	1.43	"	50.0-145	**86.1**			
Methyl tert-butyl ether	"	0.553	ND	0.502	"	51.0-135	**90.8**			

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

BTEX and MTBE by EPA 8021/Quality Control
North Creek Analytical - Spokane

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike (continued)	**1090071-MS2**		**S910055-01**							
Surrogate: 4-BFB (PID)	*10/20/99*	*1.38*		*1.35*	*mg/kg dry*	*53.0-136*	*97.8*			
Batch: 1090080	**Date Prepared: 10/21/99**					**Extraction Method: GC Volatiles**				
Blank	**1090080-BLK1**									
Benzene	10/21/99			**ND**	ug/l	**0.500**				
Toluene	"			**ND**	"	**0.500**				
Ethylbenzene	"			**ND**	"	**0.500**				
Xylenes (total)	"			**ND**	"	**1.00**				
Methyl tert-butyl ether	"			**ND**	"	**1.00**				
Surrogate: 4-BFB (PID)	*"*	*25.0*		*19.5*	*"*	*53.0-136*	*78.0*			
LCS	**1090080-BS2**									
Benzene	10/21/99	10.0		10.8	ug/l	85.0-115	108			
Toluene	"	10.0		10.5	"	85.0-115	105			
Ethylbenzene	"	10.0		10.9	"	85.0-115	109			
Xylenes (total)	"	30.0		31.9	"	85.0-115	106			
Methyl tert-butyl ether	"	10.0		11.1	"	85.0-115	111			
Surrogate: 4-BFB (PID)	*"*	*25.0*		*29.4*	*"*	*53.0-136*	*118*			
Duplicate	**1090080-DUP1**		**S910052-01**							
Benzene	10/21/99		ND	ND	ug/l			50.0		
Toluene	"		ND	ND	"			50.0		
Ethylbenzene	"		ND	ND	"			50.0		
Xylenes (total)	"		ND	ND	"			50.0		
Methyl tert-butyl ether	"		ND	ND	"			50.0		
Surrogate: 4-BFB (PID)	*"*	*25.0*		*29.0*	*"*	*53.0-136*	*116*			
Matrix Spike	**1090080-MS2**		**S910052-01**							
Benzene	10/21/99	10.0	ND	8.48	ug/l	54.0-143	**84.8**			
Toluene	"	10.0	ND	8.47	"	48.0-145	**84.7**			
Ethylbenzene	"	10.0	ND	8.92	"	49.0-142	**89.2**			
Xylenes (total)	"	30.0	ND	17.9	"	55.0-140	**59.7**			
Methyl tert-butyl ether	"	10.0	ND	8.97	"	51.0-135	**89.7**			
Surrogate: 4-BFB (PID)	*"*	*25.0*		*25.2*	*"*	*53.0-136*	*101*			

North Creek Analytical - Spokane

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9J21020	**Date Prepared: 10/21/99**					**Extraction Method: EPA 5030B (MeOH)**				
Blank	**9J21020-BLK1**									
C5-C6 Aliphatics	10/22/99			**ND**	mg/kg dry	**5.00**				
C6-C8 Aliphatics	"			**ND**	"	**5.00**				
C8-C10 Aliphatics	"			**ND**	"	**5.00**				
C10-C12 Aliphatics	"			**ND**	"	**5.00**				
C8-C10 Aromatics	"			**ND**	"	**5.00**				
C10-C12 Aromatics	"			**ND**	"	**5.00**				
C12-C13 Aromatics	"			**ND**	"	**5.00**				
Surrogate: 4-BFB (FID)	"	*4.00*		*3.00*	"	*60-140*	*75.0*			
Surrogate: 4-BFB (PID)	"	*4.00*		*3.40*	"	*60-140*	*85.0*			
LCS	**9J21020-BS1**									
C5-C6 Aliphatics	10/22/99	2.00		2.03	mg/kg dry	70-130	101			
C6-C8 Aliphatics	"	1.00		1.08	"	70-130	108			
C8-C10 Aliphatics	"	1.00		1.16	"	70-130	116			
C10-C12 Aliphatics	"	1.00		1.20	"	70-130	120			
C8-C10 Aromatics	"	4.00		3.98	"	70-130	99.5			
C10-C12 Aromatics	"	1.00		1.03	"	70-130	103			
C12-C13 Aromatics	"	2.00		1.61	"	70-130	80.5			
Surrogate: 4-BFB (FID)	"	*4.00*		*3.62*	"	*60-140*	*90.5*			
Surrogate: 4-BFB (PID)	"	*4.00*		*3.58*	"	*60-140*	*89.5*			
Duplicate	**9J21020-DUP1**		**B9J0175-01**							
C5-C6 Aliphatics	10/22/99		0.387	ND	mg/kg dry			25	**12.1**	
C6-C8 Aliphatics	"		0.224	ND	"			25	**19.1**	
C8-C10 Aliphatics	"		ND	ND	"			25		
C10-C12 Aliphatics	"		ND	ND	"			25		
C8-C10 Aromatics	"		0.177	ND	"			25	**82.5**	
C10-C12 Aromatics	"		0.0874	ND	"			25		
C12-C13 Aromatics	"		1.31	ND	"			25	**10.4**	
Surrogate: 4-BFB (FID)	"	*4.15*		*3.32*	"	*60-140*	*80.0*			
Surrogate: 4-BFB (PID)	"	*4.15*		*3.51*	"	*60-140*	*84.6*			
Duplicate	**9J21020-DUP2**		**B9J0177-01**							
C5-C6 Aliphatics	10/23/99		1.48	ND	mg/kg dry			25		
C6-C8 Aliphatics	"		19.4	ND	"			25	**21.1**	
C8-C10 Aliphatics	"		82.4	68.9	"			25	**17.8**	
C10-C12 Aliphatics	"		119	113	"			25	**5.17**	

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Duplicate (continued)	**9J21020-DUP2**		**B9J0177-01**							
C8-C10 Aromatics	10/23/99		88.3	71.4	mg/kg dry			25	**21.2**	
C10-C12 Aromatics	"		135	124	"			25	**8.49**	
C12-C13 Aromatics	"		138	149	"			25	**7.67**	
Surrogate: 4-BFB (FID)	"	*4.51*		*13.5*	"	*60-140*	*NR*			*2*
Surrogate: 4-BFB (PID)	"	*4.51*		*8.27*	"	*60-140*	*183*			*2*
Batch: 9J22025	**Date Prepared: 10/22/99**					**Extraction Method: EPA 5030B (P/T)**				
Blank	**9J22025-BLK1**									
C5-C6 Aliphatics	10/23/99			**ND**	ug/l	**50.0**				
C6-C8 Aliphatics	"			**ND**	"	**50.0**				
C8-C10 Aliphatics	"			**ND**	"	**50.0**				
C10-C12 Aliphatics	"			**ND**	"	**50.0**				
C8-C10 Aromatics	"			**ND**	"	**50.0**				
C10-C12 Aromatics	"			**ND**	"	**50.0**				
C12-C13 Aromatics	"			**ND**	"	**50.0**				
Surrogate: 4-BFB (FID)	"	*48.0*		*39.3*	"	*60-140*	*81.9*			
Surrogate: 4-BFB (PID)	"	*48.0*		*42.4*	"	*60-140*	*88.3*			
LCS	**9J22025-BS1**									
C5-C6 Aliphatics	10/23/99	40.0		33.0	ug/l	70-130	82.5			
C6-C8 Aliphatics	"	20.0		16.2	"	70-130	81.0			
C8-C10 Aliphatics	"	20.0		18.8	"	70-130	94.0			
C10-C12 Aliphatics	"	20.0		19.9	"	70-130	99.5			
C8-C10 Aromatics	"	80.0		69.9	"	70-130	87.4			
C10-C12 Aromatics	"	20.0		17.7	"	70-130	88.5			
C12-C13 Aromatics	"	40.0		35.3	"	70-130	88.2			
Surrogate: 4-BFB (FID)	"	*48.0*		*44.6*	"	*60-140*	*92.9*			
Surrogate: 4-BFB (PID)	"	*48.0*		*47.7*	"	*60-140*	*99.4*			
Duplicate	**9J22025-DUP1**		**S910052-02**							
C5-C6 Aliphatics	10/23/99		ND	ND	ug/l			25		
C6-C8 Aliphatics	"		ND	ND	"			25		
C8-C10 Aliphatics	"		ND	ND	"			25		
C10-C12 Aliphatics	"		ND	ND	"			25		
C8-C10 Aromatics	"		3.47	ND	"			25	**79.8**	
C10-C12 Aromatics	"		1.81	ND	"			25	**35.8**	
C12-C13 Aromatics	"		10.1	ND	"			25	**45.8**	
Surrogate: 4-BFB (FID)	"	*48.0*		*38.5*	"	*60-140*	*80.2*			

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**Refer to end of report for text of notes and definitions.*

Dennis Wells, Lab Director

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
4601 N. Monroe	Project Number:	J5A47	Received: 10/19/99
Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Volatile Petroleum Hydrocarbons by modified WDOE Interim TPH Policy Method/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Duplicate (continued)	**9J22025-DUP1**		**S910052-02**							
Surrogate: 4-BFB (PID)	*10/23/99*	*48.0*		*40.6*	*ug/l*	*60-140*	*84.6*			

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Washington Department of Ecology	Project:	Palouse Producers	Sampled: 10/18/99
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Spokane, WA 99205	Project Manager:	Bill Fees	Reported: 11/1/99 12:11

Physical Parameters by APHA/ASTM/EPA Methods/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9J25020	**Date Prepared: 10/25/99**					**Extraction Method: Dry Weight**				
Blank	**9J25020-BLK1**									
Dry Weight	10/26/99			**99.8**	%	**1.00**				
Blank	**9J25020-BLK2**									
Dry Weight	10/26/99			**100**	%	**1.00**				
Blank	**9J25020-BLK3**									
Dry Weight	10/26/99			**99.8**	%	**1.00**				

North Creek Analytical - Spokane

**Refer to end of report for text of notes and definitions.*

Dennis Wells, Lab Director

APPENDIX D

HISTORICAL FIGURES

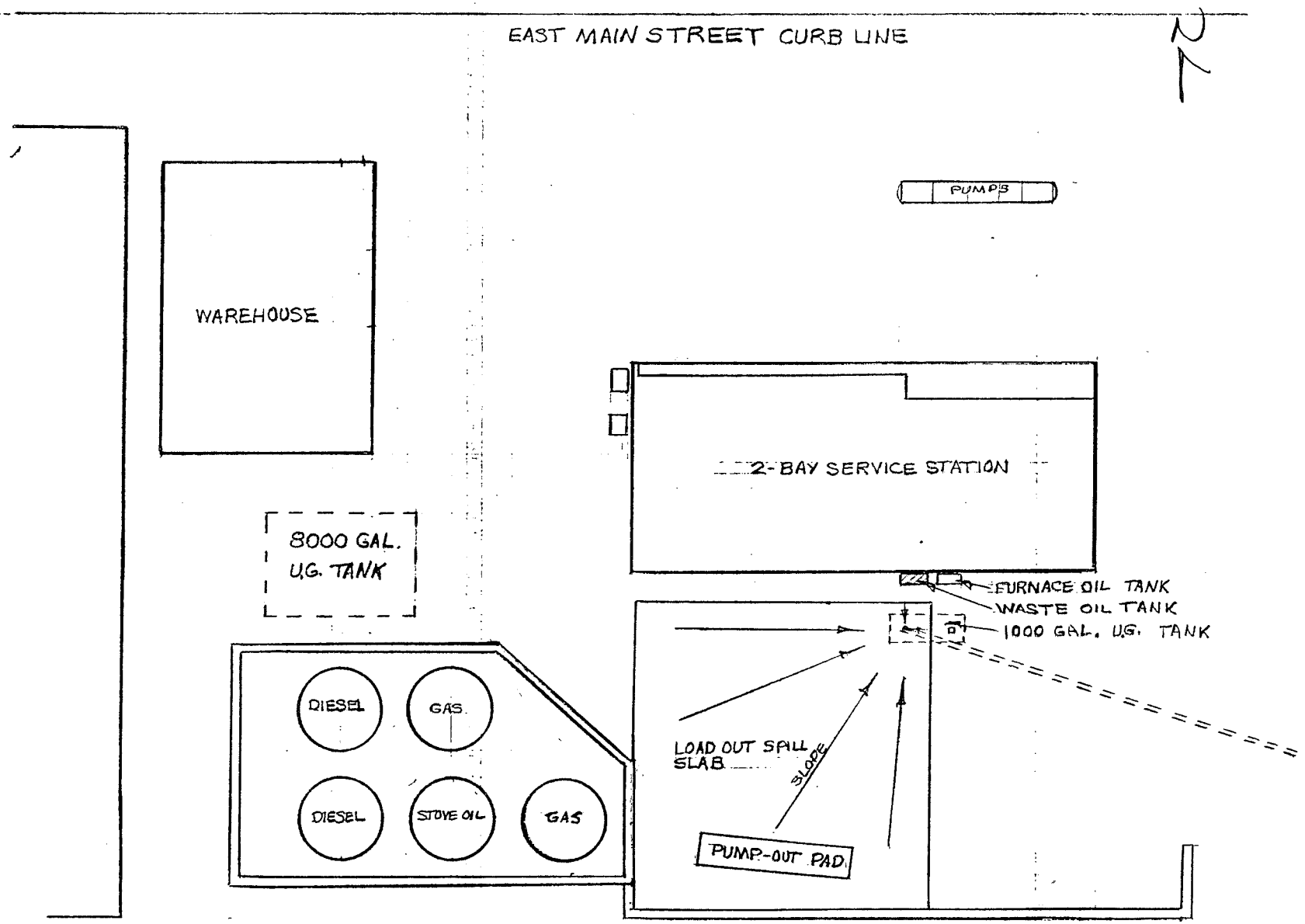

Figure 2, SITE PLAN

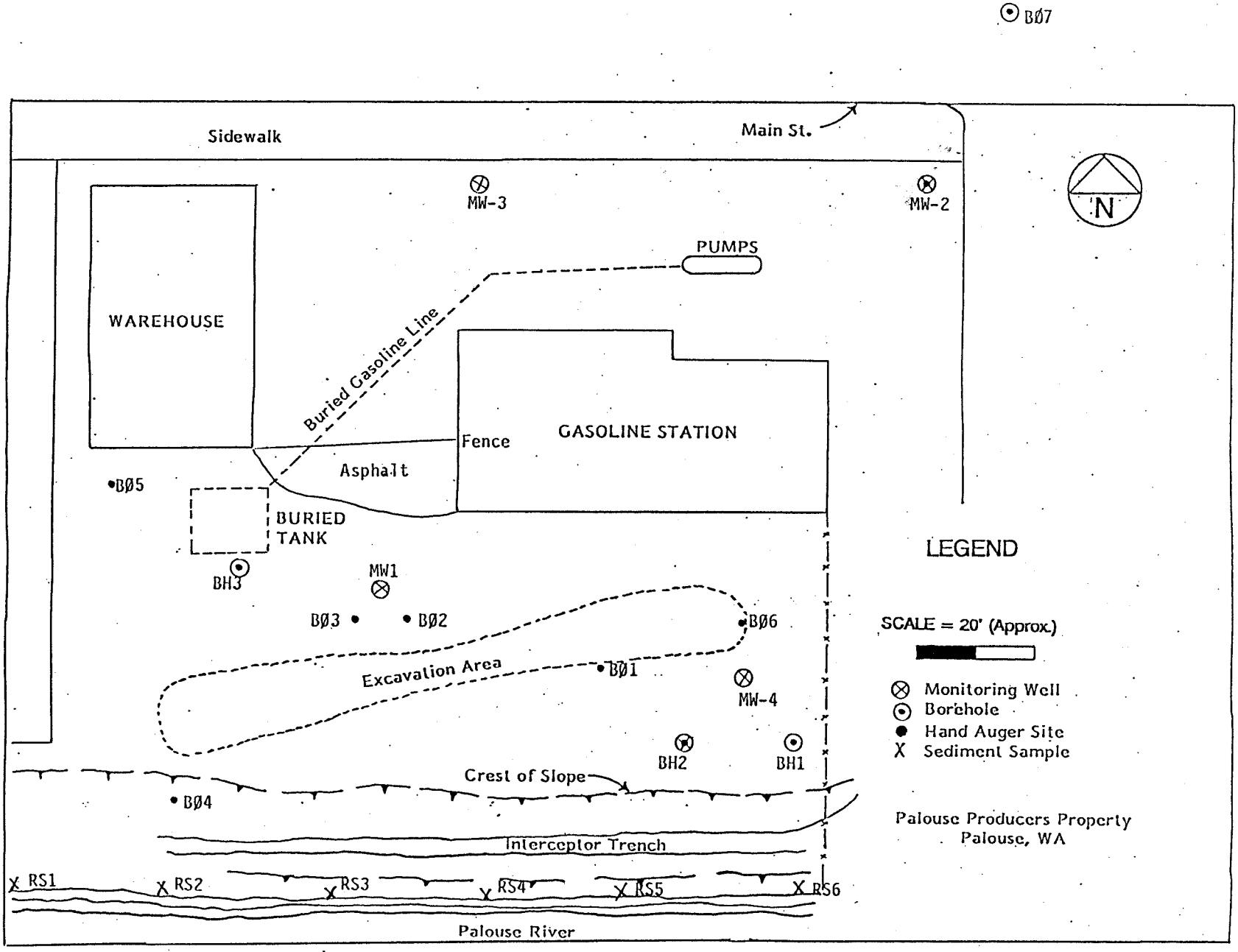

Figure 3

SAMPLING LOCATIONS, PALOUSE PRODUCERS SITE