

# Supplemental Site Investigation Report

Former Birchmount Orchard Facility 3717 Crestview Road Wenatchee, Washington

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This report presents the results of a supplemental site investigation (SSI) completed by ERM-West, Inc. (ERM), on behalf of Dole Fresh Vegetables, Inc. (Dole), at the former Birchmount Orchard facility (the "Site") at 3717 Crestview Road in Wenatchee, Washington (Figure 1). The SSI was performed to evaluate the nature and extent of petroleum-related contamination in soil and ground water identified at the Site during underground storage tank (UST) removal activities in 1993 (Sage Earth Sciences, Inc. [Sage] 1993).

This report is organized as follows:

- Section 1.0 presents an introduction that includes the project background, site description, a summary of previous investigations and remediation, and the project objectives.
- Section 2.0 summarizes ERM's investigation activities.
- Section 3.0 summarizes the investigation results.
- Section 4.0 presents the conclusions of the SSI.
- Section 5.0 includes references cited in this report.

### 1.1 SITE DESCRIPTION

The Site is located at 3717 Crestview Road in Wenatchee, Washington in the southeast quarter of Section 17, Township 23 North, Range 20 East, Willamette Meridian (Figure 1). The climate in the area is semi-arid. Local topography generally slopes moderately to the south within the Site vicinity with intermittent surface water flow pathways along ditches and gullies. The nearest perennial surface water, the Wenatchee River, is approximately 1 mile to the south.

The ground surface at the Site is generally graveled driveway and barren ground covered with seasonal grasses and forbs and scattered deciduous trees. An office/shop building is present on the Site, as are the foundations of three former storage buildings that were recently demolished. Site features are shown in Figure 2.

Dole sold the Site in approximately 2001, and it is currently owned by Mr. Al Lorenz. The Site and surrounding property is currently awaiting development as a subdivision with single-family residential housing units. The location of the Site relative to the preliminary design for the subdivision is shown on Figure 3.

### 1.2 PREVIOUS INVESTIGATIONS AND REMEDIAL EFFORTS

Sage completed UST decommissioning and remedial excavation of petroleum-contaminated soil in late 1992 through early 1993. In December 1992, two 550-gallon steel gasoline USTs and one 550-gallon steel diesel UST were removed from the Site. Petroleum-contaminated soil was encountered during the UST removal activities and approximately 600 cubic yards of soil were excavated from the UST area. Petroleum hydrocarbon concentrations greater than the Model Toxics Control Act (MTCA) Chapter 173-340 Washington Administrative Code (WAC) Method A Soil Cleanup Levels were detected in soil samples collected at and below the water table in the completed remedial excavation (Sage 1993).

Petroleum-impacted soils were treated on-site by landfarming. ERM constructed and maintained the landfarms and confirmed that the landfarmed soils were compliant with MTCA Method A Soil Cleanup Levels prior to reusing the soil for on-site fill material (ERM 1994a).

In March and April 1994, ERM conducted site characterization activities that evaluated the extent of petroleum hydrocarbons in ground water near the former USTs. Gasoline-range hydrocarbons were detected at concentrations greater than applicable cleanup levels in ground water samples collected from a boring in the backfilled remedial excavation area and at monitoring well MW-3 immediately south of the former USTs (ERM 1994b).

In June and July 1994, a ground water extraction pilot study was completed at monitoring well MW-3 to evaluate the feasibility of ground water extraction for site remediation (ERM 1994c). In August 1994, construction of a ground water extraction system began with the installation of recovery well RW-1. ERM completed a remediation system design document in October 1994 (ERM 1994d). In December 1994, a ground water remediation system was installed consisting of a submersible ground water pump, an air stripper unit, an effluent water infiltration gallery, and controls. Once construction of the remediation system was completed, the system operation was tested. After

wastewater disposal and air emissions permitting requirements were met, the system was started for continuous operation in February 1995 (ERM 1995). During the first year of system operation, a small volume (less than one gallon) of floating product was recovered from extraction well RW-1 along with impacted ground water. Ground water extraction and treatment was terminated in November 1998 because petroleum contaminant concentrations in ground water were near or below remedial goals at the points of compliance and there were also sustained low levels of contaminant mass recovery (ERM 1999).

Ground water monitoring completed by ERM between November 1998 and 2000 indicated that gasoline-related contaminant concentrations in ground water remained above the MTCA Method A cleanup levels. In December 2000, an in situ chemical oxidation program at the Site was completed that consisted of the injection of approximately 1,000 gallons of 2.5-percent potassium permanganate solution into ground water at well RW-1 and at three temporary injection points in the vicinity of the former USTs (ERM 2001). Subsequent ground water monitoring indicated significant contaminant mass reduction in the vicinity of well RW-1; however, contaminant concentrations at well MW-3 remained above MTCA Method A cleanup levels through the ground water sampling event completed in June 2005 (ERM 2005). Contaminant concentrations measured in June 2005 indicated a substantial increase over previous sampling events. Floating petroleum product was detected in monitoring wells RW-1 and MW-3 in May 2006, and in well MW-3 in April 2007 (ERM 2007).

Because of the increase in contaminant concentrations in wells MW-3 and RW-1, ERM completed a geophysical survey at the site in May 2006 to screen for the presence of possible USTs or other fueling infrastructure that may not have been identified and removed as part of the 1992 UST decommissioning effort. Although the geophysical survey identified several possible anomalous subsurface features, test excavations completed by ERM at each geophysical anomaly location in April 2007 showed no additional USTs or fueling infrastructure (ERM 2007).

### 1.3 FIELD INVESTIGATION OBJECTIVES

The objective of the SSI were to evaluate the nature and extent of the contamination in soil and ground water identified during previous investigations, and to evaluate site hydrogeologic conditions affecting contaminant fate and transport.

#### 1.4 REGULATORY FRAMEWORK

The analytical results for soil and ground water samples are compared with the MTCA Method A regulation (Chapter 173-340 WAC), which applies to the discovery, investigation, and remediation of contaminated sites in Washington state. MTCA Method A cleanup levels are conservative compliance standards for common contaminants at sites with relatively few hazardous substances present; these cleanup standards are typically applied to petroleum releases in Washington state.

The applicable MTCA Method A soil and ground water cleanup standards will be used as project screening goals to evaluate regulatory compliance at the Site as part of this SSI. Project screening levels for confirmed or suspected petroleum-related contaminants at the Site are summarized in the table below.

Contaminant	Project Screening Levels: Soil <sup>1</sup>	Project Screening Levels: Ground Water <sup>2</sup>
Gasoline-range Petroleum Hydrocarbons (TPH-G)	30 milligrams per kilogram (mg/kg)	800 micrograms per liter (μg/L)
Diesel-range Petroleum Hydrocarbons (TPH-D)	2,000 mg/kg	500 μg/L
Heavy Oil-range Petroleum Hydrocarbons (TPH-HO)	2,000 mg/kg	500 μg/L
Benzene	0.03 mg/kg	5 μg/L
Toluene	7 mg/kg	1,000 µg/L
Ethylbenzene	6 mg/kg	700 μg/L
Total Xylenes	9 mg/kg	1,000 μg/L

#### **Project Screening Levels**

<sup>1</sup>MTCA Method A Soil Cleanup Level for Unrestricted Land Uses (Chapter 173-340-900 WAC, Table 740-1) <sup>2</sup>MTCA Method A Cleanup Levels for Ground Water (Chapter 173-340-900 WAC, Table 720-1)

#### 2.0 FIELD INVESTIGATION PROGRAM

To meet the project objectives, ERM completed the scope of work provided below between 18 June and 7 July 2007:

- Advanced four soil borings (B-6, B-7, B-8, and B-9) and collected up to two soil samples and one ground water sample from each boring for analysis of gasoline-range petroleum hydrocarbons (TPH-G) by Washington State Department of Ecology (Ecology) Method NWTPH-Gx, benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8021B, and diesel-range petroleum hydrocarbons (TPH-D) by Ecology Method NWTPH-Dx;
- Collected one soil sample from the saturated zone in borings B-6, B-7, and B-8 for analysis of total organic carbon by USEPA Method 415.1;
- Installed four monitoring wells (MW-7, MW-8, MW-9, and MW-10), developed the wells, and collected ground water samples from the new wells and existing wells MW-1, MW-2, MW-3, and RW-1 for analysis of TPH-G by Ecology Method NWTPH-Gx; BTEX by USEPA Method 8021B; and TPH-D by Ecology Method NWTPH-Dx;
- Surveyed the locations and elevations of the soil borings and the new and existing monitoring wells in compliance with Ecology requirements; and
- Completed rising-head slug tests at two monitoring wells.

Prior to beginning drilling operations, ERM identified the location of subsurface utilities in the drilling areas. The public utility notification service was called and marked public utilities in the work area, and the current site owner was consulted regarding his knowledge of underground utilities in the work area. Additionally, ERM contracted a private utility locator, Applied Professional Services of North Bend, Washington, to locate and mark underground utilities near the proposed drilling locations.

The drilling and surveying subcontractors for this project were Cascade Drilling Inc., of Woodinville, Washington, and Northwest Geodimensions of Wenatchee, Washington, respectively. The laboratory subcontractor was CCI Analytical Laboratories of Everett, Washington.

#### 2.1 SOIL AND GROUND WATER SAMPLING

The soil borings and monitoring well borings were completed using a truck-mounted hollow-stem auger rig between 18 and 20 June 2007. Soil samples were collected in 5-foot intervals from ground surface to approximately 20 feet below ground surface (bgs), then in 2.5-foot intervals to the bottom of each borehole for lithologic logging and field screening. Soil samples were collected within the unsaturated soils in borings B-6, B-7, and B-9 to evaluate residual concentrations of petroleum-related contaminants in soils at those locations. Soil samples were collected from soils encountered in borings B-6, B-7, and B-8 for evaluation of total organic carbon content.

Ground water samples were collected from borings B-6, B-7, B-8, and B-9 using a bailer lowered through the hollow center of the augers used to drill the borings. Ground water samples were collected from the upper 5 feet of the first water-bearing interval encountered in each boring and from monitoring wells MW-1, MW-2, MW-3, MW-7, MW-8, MW-10, and RW-1 using a submersible pump. Soil and ground water samples were collected into laboratory supplied containers with appropriate preservative. Soil samples for TPH-G and BTEX analysis were collected using methodology compliant with USEPA Method 5035A.

At each boring, an ERM field geologist completed field screening, collected required samples for laboratory analysis, and recorded the soil description on a boring log. Boring logs for each boring and monitoring well are presented in Appendix A. Field screening of soil samples included visual and olfactory observation for evidence of contamination and organic vapor screening using a photoionization detector (PID). To perform the organic vapor screening, a small amount of soil was placed in a plastic bag that was then sealed, the PID probe was inserted through the side of the bag, and the instrument response was recorded. PID readings are included on the boring logs in Appendix A.

### 2.2 MONITORING WELL INSTALLATION

Four monitoring wells (MW-7 through MW-10) were installed and developed between 19 and 27 June 2007. Well construction details are summarized in Table 1 and included on the boring logs in Appendix A.

After installation, the monitoring wells were developed by purging ground water from the well using a submersible pump. During development, at least ten well casing volumes were removed from wells

MW-7, MW-8, and MW-10. Monitoring well MW-9 was dry during well development activities.

The locations and elevations of the new and existing monitoring wells were surveyed on 21 June and 7 July 2007. The survey results are included in Appendix B.

### 2.3 HYDRAULIC CONDUCTIVITY TESTING

On 26 June 2007, ERM completed two rising-head slug tests at wells MW-8 and MW-10 to collect data to allow for the estimate of the hydraulic conductivity of the aquifer. The hydraulic conductivity tests were completed by inserting a slug of known volume into the well, allowing the water level to equilibrate, and then removing the slug while measuring subsequent ground water response using a pressure transducer.

### 2.4 INVESTIGATION DERIVED WASTE MANAGEMENT

Soil cuttings, purge water, and decontamination water generated during drilling, development, and sampling activities were contained in 55-gallon drums and stored on-site. The drums were marked with a description of the drum contents and the accumulation date. Drums are stored on-site pending characterization for disposal.

#### 3.0 FIELD PROGRAM RESULTS

This section summarizes the results of the soil and ground water sampling activities completed at the Site. Laboratory analytical reports are included in Appendix C.

### 3.1 GEOLOGIC CONDITIONS

Soils at the Site consist of approximately 7 to 15 feet of silt and sandy silt overlying medium to coarse sand that extends to depths ranging from 25 to 38 feet bgs. These unconsolidated sediments lie on top of weathered siltstone with scattered layers of weathered sandstone that extends to at least 80 feet bgs, the maximum depth of site exploration. The location of two geologic cross-sections developed from borehole lithologic data are shown in Figure 4, and the cross sections are included in Figure 5.

Total organic carbon results for soil samples collected from borings B-6, B-7, and B-8 ranged from 0.05 to 0.08 percent. A summary of the results is included in Table 2.

### 3.2 HYDROGEOLOGIC CONDITIONS

Ground water levels at the Site ranged seasonally from approximately 18 to 22 feet bgs until approximately 2001, when irrigation activities ceased at the Site. Since that time, ground water levels have lowered to a maximum observed depth of approximately 37 to 43 feet bgs. Ground water levels measured in June 2007 ranged between 18 and 48 feet bgs. Based on available water level data, the ground water flow direction across the Site is generally toward the south-southeast at a gradient of 0.21. Ground water level measurements since 2001 are included in Table 3, and a potentiometric surface map based on ground water elevations measured in June 2007 is included in Figure 6.

Observations during well drilling activities in June 2007 indicate that ground water in the study area is present in the weathered bedrock under confined or semi-confined conditions. In each boring, unsaturated soils were encountered for several feet below the static water level observed once the monitoring wells were installed in the borings. Across most of the site, this difference in water level observed during drilling and static water levels in monitoring wells was 10 feet or greater. Also, the water

level in monitoring well MW-10, which has a screened interval beginning approximately 7 feet lower than the bottom of the screened interval of well MW-9, is within the screened elevation interval in the adjacent well MW-9, but well MW-9 was dry in June 2007 (Figure 5). The boring for well MW-9 was also advanced to within 3 feet of the maximum depth of the boring for well MW-10, and remained dry during the several hours prior to well installation. These observations suggest that ground water in well MW-10 is present under confined conditions.

The static ground water level at well MW-8 stabilized within a few feet of the depth at which ground water was observed during drilling activities. This observation indicates that ground water may not be present under confined conditions at this location, which suggests that ground water across the site might be better described as semi-confined.

The conditions causing the apparent confined ground water are not clear, since there is no definite stratigraphic expression of an aquitard above the depth at which ground water was encountered in many of the site borings. There is no clear evidence of the presence of an aquitard in the upper portion of the weathered bedrock; however, the degree of weathering decreases with depth into the bedrock. A lesser degree of weathering could allow relict fractures and lithologic features (e.g., sandstone interbeds) to more effectively conduct ground water than the more weathered, clay-rich bedrock above.

The results of the hydraulic conductivity testing completed at wells MW-8 and MW-10 on 26 June 2007 indicate that the hydraulic conductivity of the weathered bedrock aquifer is approximately  $2.1 \times 10^{-6}$  centimeters per second (cm/s) and  $4.4 \times 10^{-6}$  cm/s, respectively. The slug test data and evaluation summary are included in Appendix D.

### 3.3 SOIL CONTAMINATION

Soil sample analytical results, including soil quality data from SSI activities completed in 1994 and 2007, are summarized in Table 4 and illustrated spatially on Figure 7. The 2007 soil sampling results are discussed in this section. Details of the 1994 soil sampling activities are included in the report titled *Birchmount Orchard Facility, Wenatchee, Washington, Interim Supplemental Site Characterization/Cleanup Report* dated July 1994 (ERM 1994a).

Field screening evidence of petroleum contamination was noted in soil samples collected from borings B-6, B-8, MW-9, and MW-10 during the

2007 SSI. Field screening evidence of contamination included visual evidence of staining and elevated PID response during headspace vapor screening.

With the exception of ethylbenzene, petroleum-related contaminants were not detected in the soil samples collected from borings B-6, B-7, and B-9. Ethylbenzene was detected in the soil sample collected from 40.0 feet bgs in boring B-9 at a concentration of 0.06 mg/kg, which is less than the project screening goal of 6 mg/kg.

### 3.4 GROUND WATER CONTAMINATION

The analytical results for ground water samples collected from borings and monitoring wells in June 2007 are summarized in Table 5. The distribution of petroleum-related contaminants in ground water based on June 2007 data is presented on Figure 8.

### 3.4.1 Borings

TPH-G and benzene were detected at concentrations greater than the project screening goals in borings B-6, B-8, and B-9. Toluene, ethylbenzene, and/or xylenes were also detected in the ground water samples from these borings at concentrations less than the respective project screening goals. TPH-G and BTEX were not detected in the ground water sample from boring B-7. TPH-D and TPH-HO were not detected in any of the ground water samples from the borings.

Note that boring B-9 is not included in the inferred limit of ground water contaminant concentrations greater than the project screening goal on Figure 8. Although TPH-G and benzene concentrations in the ground water grab sample collected from boring B-9 were greater than the respective project screening goals, the concentrations of these contaminants in the ground water sample from the well installed adjacent to the boring, MW-10, are less than the project screening levels. Concentrations of organic contaminants in ground water samples from soil borings are commonly elevated as compared to monitoring well data from the same location. In this case, the boring ground water sample data are considered to be screening-level, and the monitoring well ground water sample data are considered confirmatory with regard to evaluating regulatory compliance. This interpretation is consistent with generally-applied Ecology practice and guidelines.

### 3.4.2 Monitoring Wells

In June 2007, TPH-G and benzene were detected at concentrations greater than the project screening goal in wells MW-3, MW-7, and RW-1 (Table 5, Figure 8). TPH-D was also detected at a concentration greater than the project screening goal in the ground water sample from well MW-3. The laboratory noted that the TPH-D was most likely related to accumulation of weathered gasoline rather than from a release of diesel. Remaining analytes at those wells, as well as all analytes at wells MW-1, MW-2, MW-8, and MW-10 were not detected or were detected at concentrations less than the respective project screening goals.

The SSI indicated that site ground water is present under confined or semi-confined conditions in Available data indicate that residual concentrations of petroleum-related contaminants in vadose-zone soils at the Site are less than project screening goals; however, site ground water is impacted by a release of gasoline resulting in TPH-G, TPH-D, and benzene concentrations greater than project screening goals. Maximum concentrations of TPH-G, TPH-D, and benzene detected in ground water are summarized below:

Maximum Contaminant Concentrations in Ground Water – June 2007

Contaminant	Maximum Concentration Detected in $\mu$ g/L	Location Detected
TPH-G	8,100	MW-3
ТРН-D	660	MW-3
Benzene	0150	RW-1

Floating product (light nonaqueous-phase liquid) is also present near the original source of the gasoline release, a former USTs northwest of well RW-1.

The area of ground water with petroleum-related contaminants greater than the project screening goals is approximately 175 feet long and 75 feet wide, and is bounded by well MW-1 (upgradient), wells MW-2 and MW-8 and boring B-7 (sidegradient), and well MW-10 (downgradient). This impacted ground water area is present on Lots 38, 39, and 40 of the planned residential development at the Site.

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Figures















Figure 5 *Cross Sections A-A' and B-B' Former Birchmount Orchard Facility Wenatchee, Washington* <sub>ERM</sub> 08/07







Tables

#### TABLE 1

#### Monitoring Well Construction Summary Former Birchmount Orchard Facility Wenatchee, Washington

Location	Date Installed	Measuring Point Elevation (feet amsl)	Total Borehole Depth (feet bgs)	Depth of Casing (feet btoc)	Casing Diameter/ Material	Wellhead Completion	Screen Slot Size (inches)	Screened Interval (feet bgs)
MW-1	3/2/1994	1,111.93	38.0	40.2	2-inch PVC	Flush	0.010	30.0 - 40.2
MW-2	3/3/1994	1,105.11	48.8	50.0	2-inch PVC	Flush	0.010	35.0 - 50.0
MW-3	3/3/1994	1,105.54	48.5	50.0	2-inch PVC	Flush	0.010	35.0 - 50.0
MW-4 <sup>1</sup>	5/9/1994		55.0	54.4	2-inch PVC	Flush	0.010	34.0 - 54.0
MW-5	5/10/1994	1,099.39	49.0	36.0	2-inch PVC	Flush	0.010	26.0 - 36.0
MW-7	6/19/2007	1,104.96	50.0	45.4	2-inch PVC	Flush	0.010	25.0 - 45.0
MW-8	6/19/2007	1,099.68	61.5	60.4	2-inch PVC	Flush	0.010	40.0 - 60.0
MW-9	6/19/2007	1,102.42	81.5	55.4	2-inch PVC	Flush	0.010	35.0 - 55.0
MW-10	6/20/2007	1,102.65	81.0	80.4	2-inch PVC	Flush	0.010	60.0 - 80.0
RW-1	8/17/1994	1,105.49	51.4	51.3	6-inch SS	Flush	0.010	19.8 - 51.3

Notes:

<sup>1</sup>Well could not be located in June 2007 and may be destroyed.

amsl = Above mean sea level

bgs = Below ground surface

btoc = Below top of casing

PVC = Polyvinyl chloride

# TABLE 2

## Summary of Total Organic Carbon in Soil Samples Former Birchmount Orchard Facility Wenatchee, Washington

Sample Location	Soil Sample Depth (feet bgs)	Date	Percent Total Organic Carbon <sup>1</sup>
B-6	32.5	6/18/2007	0.08
B-7	52.5	6/18/2007	0.08
B-8	36.5	6/19/2007	0.05

Notes: <sup>1</sup>By Method Plumb 1981. bgs = Below ground surface

#### TABLE 3

#### Summary of Fluid Level Data Former Birchmount Orchard Facility Wenatchee, Washington

Well	Top of Casing	Date	Depth to	Depth to	Product	Groundwater
Number	Elevation	Measured	Product <sup>2</sup>	Groundwater	Thickness	Elevation <sup>1</sup>
ivanier	(feet amsl)	Wiedbured	(feet btoc)	(feet btoc)	(feet)	(feet amsl)
		5/3/2001		20.30		1,091.63
		5/8/2003		30.30		1,081.63
		3/30/2004		28.12		1,083.81
MW-1	1,111.93	6/30/2005		36.22		1,075.71
		5/10/2006		30.20		1,081.73
		4/9/2007		18.50		1,093.43
		6/26/2007		18.31		1,093.62
		5/3/2001		25.10		1,080.01
		5/8/2003		35.13		1,069.98
		3/30/2004		36.27		1,068.84
MW-2	1,105.11	6/30/2005		41.93		1,063.18
		5/10/2006		43.42		1,061.69
		4/9/2007		23.19		1,081.92
		6/26/2007		23.18		1,081.93
		5/3/2001		25.20		1,080.34
		5/8/2003		33.50		1,072.04
		3/30/2004		34.22		1,071.32
MW-3	1,105.54	6/30/2005		42.65		1,062.89
		5/10/2006	NM <sup>2</sup>	40.86	$0.5^{2}$	1,064.26
		4/9/2007	21.78	22.21	0.43	1,082.96
		6/26/2007	22.89	22.90	0.01	1,082.63
MW-7	1,104.96	6/26/2007		25.49		1,079.47
MW-8	1,099.68	6/26/2007		39.82		1,059.86
MW-5	1,099.39	6/26/2007		DRY		DRY
MW-10	1,102.65	6/26/2007		48.16		1,054.49
		5/3/2001		25.25		1,080.24
		5/8/2003		33.33		1,072.16
		3/30/2004		34.12		1,071.37
RW-1	1,105.49	6/30/2005		41.10		1,064.39
		5/10/2006	NM <sup>2</sup>	40.10	$0.5^{2}$	1,064.97
		4/9/2007		21.86		1,083.63
		6/26/2007		22.85		1,082.64

#### Notes:

<sup>1</sup>Ground water elevation corrected for product. Estimated product density = 0.85.

<sup>2</sup>Thickness is estimated based on product in bailer lowered into well.

amsl = above mean sea level

btoc = below top of casing

NA = Not available

NM = Not measured

-- = Not detected/not applicable

#### TABLE 4

Summary of Petroleum-Related Contaminants in Soil Former Birchmount Orchard Facility Wenatchee, Washington

	Sampla Donth		Total	l Petroleum Hydrocart	oons		]	BTEX <sup>3</sup>	
Sample Name	Sample Depth (feet bgs)	Date	Gasoline-Range Hydrocarbons <sup>1</sup>	Diesel-Range Hydrocarbons <sup>2</sup>	Heavy Oil-Range Hydrocarbons <sup>2</sup>	Benzene	Toluene	Ethylbenzene	Total Xylenes
B-6-061807-23.5	23.5	6/18/2007	<3	<25	<50	< 0.03	< 0.05	< 0.05	< 0.2
B-6-061807-28.5	28.5	6/18/2007	<3	<25	<50	< 0.03	< 0.05	< 0.05	< 0.2
B-7-061807-52.5	52.5	6/18/2007	<3	<25	<50	< 0.03	< 0.05	< 0.05	< 0.2
B-9-062007-40	40.0	6/20/2007	<3	<25	<50	< 0.03	< 0.05	0.06	< 0.2
MTCA Method A Clear	up Level		30	2,000	2,000	0.03	7	6	9

#### Notes:

Concentrations in milligrams per kilogram.

<sup>1</sup>By Ecology Method NWTPH-Gx

<sup>2</sup>By Ecology Method NWTPH-Dx

<sup>3</sup>By USEPA Method 8021.

bgs = Below ground surface

MTCA = Model Toxics Control Act (Washington Administrative Code 173-340, February 2001)

#### Summary of Petroleum-Related Contaminants in Ground Water Former Birchmount Orchard Facility Wenatchee, Washington

		Gasoline-range	Diesel-range	Heavy Oil-range			EX <sup>3</sup>	
Sample	Date	Hydrocarbons <sup>1</sup>	$Hydrocarbons^2$	Hydrocarbons <sup>2</sup>	P	<u></u> μ) Τ	g/l)	Х
Location Soil Borings	Sampled	(µg/1)	(µg/1)	(µg/1)	В	1	E	X
B-6	6/18/2007	3,000	<250	<250	19	<2	19	<6
B-7	6/18/2007	<50	<130	<250	<1	<1	<1	<3
B-8	6/20/2007	4,100	<250	<250	50	3	55	68
B-9	6/20/2007	1,100	<250	<250	11	1	9	4
Monitoring Wells		-					•	
MW-1	6/30/2005	<50.0			<1	<1	<1	<3
	6/26/2007	<50	<130	<250	<1	<1	<1	<3
MW-2	6/30/2005	64 <50	<130	<250	<1 <1	<1 <1	<1 <1	<3 <3
	6/26/2007 7/8/1994	30,000	~130	~230				
	12/29/1994	74,000			<1	<20	52	130
	5/19/1995	21,000			<5	100	36	160
	8/23/1995	37,000			<1	44	26	115
	11/20/1995	3,300			9.3	6.2	5.6	26
	3/18/1996	1,900			25	20	7.4	35
	5/24/1996	2,700			< 0.50	4.5	9.0	22
	8/19/1996	4,500			24	19	18	37
	3/7/1997	11,000			<5.0	14	19	65
	5/30/1997	2,700			16	12	5.3	18
	8/13/1997 11/20/1997	4,200 5,600			<0.50 <0.50	7.7	6.2 6.9	27 28
	3/17/1998	2,100			1.2	4.1	3.2	14
	6/17/1998	6,100			21	7.8	13	28
MW-3	9/8/1998	1,600			14	7.2	2.7	14
10100-3	11/23/1998	3,400			<1	<1	8.6	24
	2/25/1999	990			<1	4.0	6.0	6.0
	5/6/1999	963			<13.4 <sup>4</sup>	<2.40	<2.20	13.7
	8/10/1999	1,030			< 5.22 <sup>4,5</sup>	<1.20	<1.12	7.60
	11/18/1999	1,980			<16.6 <sup>4,5</sup>	<2.90	<3.40	14.8
	7/18/2000	1,500			2.02	<1.84	<1.73	<12.4
	12/21/2000	1,430			<2.00	<0.722	<2.16	13.8
	4/10/2001	2,230			$4.69^{6}$	3.22 <sup>6</sup>	2.486	$22.0^{6}$
	5/3/2001	1,820			2.84	5.39	2.30	3.66
	3/5/2002	3,100			111	6.62	12.2	57.4
	5/8/2003	5,700			44	11	38	57
	3/30/2004	11,000			170	<20	140	220
	6/30/2005	160,000			<100	<100	180	530
1.64.5	6/26/2007	8,100	660	<250	110	7	50	79
MW-7	6/26/2007	1,200	<130 <130	<250 <250	8 <1	3 <1	10	9 <3
MW-8 MW-10	6/25/2007 6/25/2007	<50 61	<130	<250	<1	<1	<1	<3
10100-10	12/29/1994	3,000		~250	14	19	9	151
	2/27/1995	2,100			16	15	13	73
	2/27/1995	3,800			36	14	28	164
	2/27/1995	4,000			49	35	32	185
	3/6/1995	2,800			16	22	4	110
	3/6/1995	<b>2,</b> 800			16	23	4	109
	3/6/1995	4,500			15	26	7	120
	5/19/1995	2,200			<1	14	5.3	57
	8/23/1995	1,600			11	5.9	2.7	56.5
	11/20/1995 3/18/1996	2,000 17,000			14 72	7.7 43	3.9 77	74 100
	5/24/1996	1,500			2.5	43	3.1	100
	8/19/1996	1,500			2.5	3.8	8.8	31
	3/7/1997	2,500			20	22	17	70
RW-1	5/30/1997	1,900			32	2.2	5.1	43
	8/13/1997	880			5.0	1.9	1.1	19
	11/20/1997	360			0.6	< 0.50	< 0.50	4.5
	3/17/1998	1,300			16.0	4.8	3.6	32
	6/17/1998	410			7.9	3.4	1.4	14
	9/8/1998	1,900			12	1.5	3.2	19
	11/23/1998	170			2.3	<1	<1	6.1
	12/21/2000	1,090			59.7	2.28	7.97	28.5
	4/10/2001	733 698			177	<2.50	<2.50	16.4
	5/3/2001 3/5/2002	<50.0			<u>161</u> 1.09	<2.50 <0.500	<2.50 <0.500	15.8 <1.00
	5/8/2002	< <u>50.0</u> 100			1.09 9	<0.500	<0.500	<1.00
	3/30/2003	110			6	<1	<1	<3
	6/30/2005	18,000			290	<10	130	320
	6/26/2007	8,700	<250	<250	150	28	88	280
	-,,,	0,	500	500	5	1,000	700	1,000

TABLE 5

#### Notes:

Shaded areas indicate detections greater than applicable MTCA Method A Cleanup Level.

 $^1\mathrm{By}$  Washington State Department of Ecology Method WTPH-G or NWTPH-Gx.

<sup>2</sup>By Washington State Department of Ecology Method NWTPH-Dx.

<sup>3</sup>By USEPA Method 8020 or 8021. B = benzene, T = toluene, E = ethylbenzene, and X = total xylenes.

<sup>4</sup>Detection limit for benzene increased due to coelution interference.

 $^5Benzene$  concentration of <1  $\mu g/l$  confirmed by USEPA Method 8260 analysis.

<sup>6</sup>By USEPA Method 8260B.

MTCA = Model Toxics Control Act (Washington Administrative Code 173-340, February 2001)

 $\mu g/l$  = micrograms per liter

USEPA = United State Environment Protection Agency

-- = Not analyzed

Appendix A Boring Logs

ERN	Suite Bellev	18th Aven 130 ue, Washin 462-8591	ngton S	98005		BOREHOLE	LOG	Site Id: B-6 Page 1 of 1
	-			er: 006 Forme		.01 chmont Orchard	Total Depth: 34.00' Initial Water Level: 30.00	,
	Cont Drilli Logo	ractor ng Me	: CD ethod v: Z.	l : Hollc Cleme	ow St	nington em Auger	Borehole Dia.: 8.00in	
Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Blow Count	(mqq) Old	Soil Description and Observations		
5-		SM/ML SW SM/ML		9 10 11 1168	0.0	SILTY SAND/SANDY SILT (SM/ML): tan/brown, silt with some fine sand, stiff, dry. SAND (SW): brown, fine to coarse grained, ma SANDY SILT/SILTY SAND (ML/SM): brown, fine	oist.	
15-		SP SM/ML		555 555	0.0	SANDY SILT/SILTY SAND (ML/SM): as above. SAND (SP): brown, fine to medium grained, m SILTY SAND/SANDY SILT (SM/ML): brown, fine		tiff, moist.
20-		SP WBR		38 45 45 8 12 15 380 6	0.0 0.0 0.4	<ul> <li>SAND (SP): gray with white, coarse grained, s</li> <li>SAND (SP): as above.</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: brown with semi-consolidated, moist.</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: brown with semi-consolidated, moist.</li> </ul>	h orange, weathered bedrock,	-
30 - 1: 				$38 \\ 50 - 6$ 36 - 6 50 - 6 42 - 6	0.4 2.1 55.4	<ul> <li>SILTY SANDSTONE/SANDY SILTSTONE: or above,</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: as above,</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: brown with</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: brown with</li> <li>bedrock, friable to semi-consolidated, moist.</li> <li>SILTY SANDSTONE/SANDY SILTSTONE: as above,</li> <li>Total Depth - 34.0' bgs</li> </ul>	, consolidated. hered bedrock, fine grained, fr h orange, weathered bedrock, h orange, weathered bedrock,	iable to semi-consolidated, fine grained, consolidated, wet.
35-								

ERM	Suite Bellev	18th Aven 130 ue, Washin 462-8591	ngton (	98005		BOREHOLE	LOG	Site Id: B-7 Page 1 of 2
	Proj Locc Cont Drilli Logo	ect No ation: N tractor ng Me	ome: Wena : CD thod : Z.	tchee, I : Hollc Cleme	er Bird Wash ow Sta	.01 chmont Orchard nington em Auger	Total Depth: 54.00' Initial Water Level: 39.2 Borehole Dia.: 8.00in	0'
Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations		
5-		SM/ML SP		10 12 12 12 12		SILTY SAND/SANDY SILT (SM/ML): brown/tan, SAND (SP): brown/tan, fine to medium graine		odor, dry to moist.
15-				16 22 25		Slough, 2.0". SAND (SP); gray with white, coarse grained, v	vith some gravel, no odor, dr	у.
20-		SM/ML SP		21 25 28		Slough, 4.0". SANDY SILT/SILTY SAND (ML/SM): tan, fine to SAND (SP): brown, medium to coarse grained	medium grained, no odor, d , no odor, dry.	ry.
25-		WBR		18 22 25		SAND (SP): light brown/tan, coarse grained, r SILTSTONE: brown with orange, weathered bed Driller noted harder drilling.	no odor, dry to moist. rock, some fine sand, consoli	idated, no odor, moist.
30		•		38 50-6		SILTSTONE: as above. SILTSTONE: brown with orange, weathered bed	rock, some fine sand, consoli	idated, no odor, dry.
35		· · · · · ·		50-6		SILTSTONE: as above, no odor.		

ERM	Suite 130	Washingto			BOREHOLE	LOG	Site Id: B-7 Page 2 of 2			
	Project Locatic Contra Drilling	t Nam on: Wer ctor: C Metho I By: Z	natchee, CDI od: Hollc Z. Cleme	er Bird Wash ow St	chmont Orchard	Total Depth: 54.00' Initial Water Level: 39.20 Borehole Dia.: 8.00in	)'			
Depth (ft)	Graphic Log	USCS Code	Blow Count	PID (ppm)	Soil Description and Observations SILTSTONE: tan with orange, weathered bedroc	k, some fine sand, consolidat	ed no odor, drv			
			50-6 50-6	0.6 0.0 0.0	SILTSTONE: tan with orange, weathered bedroc SILTSTONE: tan with orange, weathered bedroc SILTSTONE: brown, weathered bedrock, compet SILTSTONE: as above, wet. Total Depth – 54.0' bgs	k, some fine sand, semi-cons k, some fine sand, semi-cons	solidated, no odor, dry. solidated, no odor, moist.			
70-										
ERM	91 St B4	iite 1 ellevu	3th Avenu 30 e, Washin 162-8591	ngton (	98005			BOREHOLE	LOG	Site Id: B-8 Page 1 of 2
------------	----------------	------------------	--	-------------------	----------------	-----------	--------	--	---	-----------------------------
		-			er: 006				Total Depth: 41.50'	,
		-							Initial Water Level: 36.50	)
					tchee,	Wash	ningto	1	Borehole Dia.: 8.00in	
			ractor							
			-		: Hollo		em A	ıger		
					Cleme	ents				
	D	ate(	(s): 01	6/19	9/07					
	bo		e	ecovery	ut I					
Depth (ft)	Graphic Log		USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil	Description and Observations		
-			SM/ML							
5-					9 11 12	0.2	SILTY	SAND/SANDY SILT (SM/ML): brown to tar	n, fine grained, with gravel, so	oft, no odor, dry.
					12					
-					10	0.3	SILTY	SAND/SANDY SILT (SM/ML): as above.		
			SP		10 15 21	0.5		(SP): tan, fine grained, trace silt, no od	lor, dry.	
-										
15-					15 20 25	0.4		(SP): as above.		
					20		SAND	(SP): gray with white, coarse grained, no	o oaor, ary.	
20-					118	0.0				
					18 23 25	0.0		(SP): brown, fine to medium grained, gr	ading to fine, no odor, damp	
				$\langle \rangle$	21 25 28	0.3		(SP): as above. (SP): gray with white, coarse grained, no	o odor, dry.	
25-					20 23 28	0.2	SAND	(SP): as above.		
					22 28 30	0.4		(SP): as above, for 3.0".		
30-1			a		1			(SP): brown, fine to medium grained, tro		de (
			SM/ML		24 27 30	1,678	Green	SILT/SILTY SAND (ML/SM): brown, fine of and black staining, strong odor.		
1 	·····		WBR	$\geq$	28 30 35	1,450	sta	SILTSTONE/SILTY SANDSTONE: brown with ning to no staining at bottom, odor, dry	n orange, weathered bedrock, v to wet.	fine grained, consolidated,
35					37 50-6	53.7	SANDY	noted water from above. SILTSTONE/SILTY SANDSTONE: brown with r, dry to wet.	n orange, weathered bedrock,	fine grained, consolidated,
  			Ā		35 50-6	1.4	SANDY	SILTSTONE/SILTY SANDSTONE: as above,		ning and odor.
 					00-0	1.9		SILTSTONE/SILTY SANDSTONE: as above,		

ERM	ERM 915 118th Suite 130 Bellevue, (425) 462	Avenue SE Washington -8591	98005		BOREHOLE	LOG	Site Id: B-8 Page 2 of 2
	Project Locatic Contra Drilling Loggec	on: Wend ctor: C[	Forme atchee, )  d: Holld Cleme	er Bir Wasł ow St	chmont Orchard	Total Depth: 41.50' Initial Water Level: 36.50' Borehole Dia.: 8.00in	
Depth (ft)	Graphic Log	USCS Code Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations		
45-			37 50-6	15.8	SANDY SILTSTONE/SILTY SANDSTONE: tan, weat grading down to dry. Total Depth — 41.5'bgs	hered bedrock, fine grained, sen	ni-consolidated, wet
50-							
55- - - 60-							
- - 65- - -							
- 70- - - - - - - - - - - - - -							

ERI	Suite 1 Bellevu	8th Aven 130 1e, Washin 462-8591	ue SE ngton 98005			В	OI	RI	EHOLE LOG		Site Id: M Page 1 c	
F	Project	Numbe	er: 0068105	.01					Total Depth: 50.00'			
	-		Former Bir		nt O	rcharc	ł		Completed Depth: 45.40'			
	•		atchee, Wash						Borehole Dia.: 8.00in			
	Contract			5								
[	Drilling N	vethoo	1: Hollow St	em A	uger			1	Blank Casing:			
L	_ogged	By: Z.	Clements		•				type: PVC dia: 2	2.00in	fm: 0.0'	to: 25.00
		-	8/07-06/19	9/07					type: Well Cap dia: 2 Screens:	2.00in	fm: 45.00'	to: 45.40
		·	evel: 45.00'	,						2.00in	fm: 25.00'	to: 45.00
									Annular Fill:		fra. 7.00'	hay 27 00
									type: Bentonite Chips type: #2/12 Monterey Beach Sand		fm: 3.00' fm: 23.00'	to: 23.00 to: 50.00
Depth (ft)	Graphic Log	MV USCS Code	Well Constru	uction	Sample Recovery	Blow Count	PID (ppm)	So	l Description and Observations			
5- - - 10-		ML		00000000000000000000000000000000000000		67 8 8115	0.0	SILT	' SAND/SANDY SILT (SM/ML): brown, fine to ca (ML): brown, with some sand, stiff. 9 (SP): brown, fine to medium grained, moist.	oarse gra	ained, with grave	el, soft, dry.
5-					N	18 20 25	0.0	SANI	gh, 4.0". (SP): gray white, coarse grained, dry. noe, silty sand, coarse grained, soft, dry.			
20-					$\sim$	18 25 28	0.0	SANI	) (SP): brown and gray with white, fine to me	dium gro	ained, dry.	
						15 21 25	0.0		) (SP): brown, with some silt, fine grained, so ) (SP): gray with white, coarse grained, dry.	ft, dry.		
25-						18 25 30	0.0	SANI	) (SP): gray with white, coarse grained, dry.			
		SM/ML				21 28 30	0.0		) (SP): as above. ' SAND/SANDY SILT (SM/ML): tan, fine grained,	, soft, m	noist.	
50-[   		WBR			$\overline{\ }$	20 15 13	0.0	SILT	' SAND/SANDY SILT (SM/ML): as above. ' SANDSTONE/SANDY SILTSTONE: brown with orc nsolidated, moist.	ange, we	athered bedrock,	, fine grained
		-				8 11 16		SILT SILT	SANDSTONE/SANDY SILTSTONE: as above. SANDSTONE/SANDY SILTSTONE: orange/brown drock, fragmented, strong odor, dry.			
35-					$\nearrow$	25 30 36	1,691	SILT	' SANDSTONE/SANDY SILTSTONE: green/gray mo nsolidated, strong odor, moist.	ottled wit	h orange, weath	nered bedrock
						50-6	115		′ SANDSTONE/SANDY SILTSTONE: brown with ord mi—consolidated, odor, dry.	ange, we	athered bedrock,	, friable to

ERI	Bellevu	ith Aven 30 s, Washin 62–8591	ngton 98005			В	OI	R	EHOLE	LOG		Site Id: M Page 2 d	
F	Project N	lumb	er: 0068105	5.01					Total Depth: 50.0	00'			
F	Project N	lame	: Former Bir	rchmo	nt C	)rcharc	ł		Completed Depth	n: 45.40'			
	ocation: Contracto		atchee, Was )	hingto	'n				Borehole Dia.: 8.	.00in			
	-		d: Hollow St Clements	tem A	uger				Blank Casing: type: PVC type: Well Cap		dia: 2.00in dia: 2.00in	fm: 0.0' fm: 45.00'	to: 25.00' to: 45.40'
			8/07–06/1 .evel: 45.00'						Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 25.00'	to: 45.00'
			I			I			Annular Fill: type: Bentonite C type: #2/12 Mor		nd	fm: 3.00' fm: 23.00'	to: 23.00' to: 50.00'
Depth (ft)	Graphic Log	USCS Code	Well Constru	uction	Sample Recovery	Blow Count	PID (ppm)	Soi	l Description and O	bservations			
	····					23 28 30	73.6		SANDSTONE/SANDY	SILTSTONE: brown v	vith orange, we	athered bedrock	, fine grained
-5		Ā				50-6	8.6 2.0	dr SILTN SILTN SILTN	Y SANDSTONE/SANDY Y. Y SANDSTONE/SANDY Y SANDSTONE/SANDY Y SANDSTONE/SANDY I Depth — 50.0' bgs	SILTSTONE: as abov SILTSTONE: as abov	ve, wet to satu ve, wet.		
;5- ;5-													
- 50- - - -													
65- - - -													
-07 -07 - - -													
75- 75-													

ERN	Bellevu	ith Avenu 30 e, Washin 62-8591	ne SE ngton 98005			В	OI	RI	EHOLE LOG		Site Id: M Page 1 d	
P	roject N	Numbe	er: 00681	05.01					Total Depth: 61.50'			
Ρ	roject N	Name:	Former I	Birchmo	ont C	rcharc	ł		Completed Depth: 60.40'			
Lo	ocation:	Wend	itchee, W	ashingto	on				Borehole Dia.: 8.00in			
С	ontracto	or: CD										
D	rilling M	lethod	I: Hollow	Stem A	Auger	-		[	Blank Casing:			
Lo	ogged E	Зу: Z.	Clements	6					type: PVC type: Well Cap	dia: 2.00in dia: 2.00in	fm: 0.0' fm: 60.00'	to: 40.00' to: 60.40'
D	ate(s):	06/19	9/07						Screens:	dia: 2.00ia	fm: 40.00'	
In	itial Wo	iter Lo	Level: 35.50'						type: Slotted size: 0.010in Annular Fill:	dia: 2.00in	fm: 40.00'	to: 60.00
									type: Bentonite Chips		fm: 2.00'	to: 35.00
		<u>ک</u>							type: #2/12 Monterey Beach Sa	nd	fm: 35.00'	to: 61.50'
Depth (ft)	Graphic Log	NSCS Code	Well Cons	struction	Sample Recovery	Blow Count	PID (ppm)	Soi	I Description and Observations			
		SW				10 15 16 15 18 22			SAND/SANDY SILT (SM/ML): brown, fin (SW): brown to tan, fine grading to r	-	-	
5-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		SP				23 25 25	2.2	SANE	) (SP): tan with white, coarse grained,	some gravel, n	o odor, dry.	
-0 <u>2</u> -0 -						16 20 23			0 (SP): tan, medium to coarse grained, 0 (SP): brown, fine sand, trace silt, no		odor, dry to da	mp.
						21 20 25	1.1	SAN[	) (SP): gray with white, coarse grained,	no odor, mois	t.	
25-			0000			25 28 30	0.9	SANE	) (SP): as above, grading to fine, no c	dor.		
						20 23 28	1.3	SAN	) (SP): brown tan, fine grained, no odc	r, damp.		
50- -						25 28 32	1.4	SAN[	) (SP): brown, fine grained, trace silt,	no odor, damp.		
		WBR				16 25 30	0.9 1.1		SANDSTONE/SANDY SILTSTONE: brown ained, consolidated, no odor.	with orange, we	athered bedrock	, fine
35 -1 -1 - -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -		Ā				12 18 25 50-6	0.7	SILT cc SILT m SILT	SANDSTONE/SANDY SILTSTONE: brown insolidated, no odor, moist to wet at 3 SANDSTONE/SANDY SILTSTONE: brown edium grained, cohesive, moist. SANDSTONE/SANDY SILTSTONE: mottled able, no odor, moist.	5.5'. with white, weat	hered bedrock,	fine to

ER.	Suite 1: Bellevue	th Aven 30 9, Washir 62—8591	ue SE ngton 98005			В	0]	RI	EHOLE LOG Site Id: MW-8 Page 2 of 2
F	Project N	lumbe	er: 0068105	5.01					Total Depth: 61.50'
	-		Former Bir		ont C	rchard	ł		Completed Depth: 60.40'
	-		atchee, Was						Borehole Dia.: 8.00in
	Contracto			5					
[	Drilling M	lethoo	l: Hollow St	tem A	Auger	-			Blank Casing:
l	_ogged E	By: Z.	Clements						type: PVC dia: 2.00in fm: 0.0' to: 40.00'
[	Date(s):	06/19	9/07						type: Well Cap dia: 2.00in fm: 60.00' to: 60.40' Screens:
I	nitial Wa	ter L	evel: 35.50'	,					type: Slotted size: 0.010in dia: 2.00in fm: 40.00' to: 60.00'
									Annular Fill: type: Bentonite Chips fm: 2.00' to: 35.00'
									type: $\frac{42}{12}$ Monterey Beach Sand fm: 35.00' to: 61.50'
Depth (ft)	Graphic Log	USCS Code	Well Constru	uction	Sample Recovery	Blow Count	PID (ppm)		oil Description and Observations
	····					50-6	0.4		TY SANDSTONE/SANDY SILTSTONE: brown with white mottling, weathered bedrock, friable, no odor, slightly moist.
	····					50-6	2.5	SILT	TY SANDSTONE/SANDY SILTSTONE: as above, no odor.
5-	····					50-6	1 1		
	····					50-0	1.1	SILT	TY SANDSTONE/SANDY SILTSTONE: as above. TY SANDSTONE: brown, weathered bedrock, fine grained, cohesive, no odor, slightly moist.
						32 50-6	0.8	SILT	TY SANDSTONE/SANDY SILTSTONE: brown, weathered bedrock, fine grained, friable, no odor, slightly moist.
0-						11 50-6	0.7		TY SANDSTONE/SANDY SILTSTONE: as above.
	····				$\geq$	50-6			
ļ	····					50-6	1.9	SILT	TY SANDSTONE/SANDY SILTSTONE: as above.
5-	····				/	50-6		SILT	TY SANDSTONE/SANDY SILTSTONE: as above.
	·····					50.0			
	····					50-6	0.1	SILT	TY SANDSTONE/SANDY SILTSTONE: as above, no odor, wet. TY SANDSTONE/SANDY SILTSTONE: as above, no odor, moist.
0-	····					50-6	1.6		TY SANDSTONE/SANDY SILTSTONE: as above, no odor, moist.
-	····		<u>                                    </u>	<u> </u>				Iota	al Depth — 61.5' bgs
-									
5-									
_									
0-									

75-

# BOREHOLE LOG

ER	Suite 1 Bellevu	3th Avenu 30 e, Washir 162—8591	ue SE ngton 98005			B	OF	EHOLE LOG si	te ld: MW-9 Page 1 of 3
	Project N	Numbe	er: 0068105.	.01				Total Depth: 81.50'	
1	Project N	Name:	Former Bird	chmor	nt O	rchard		Completed Depth: 55.40'	
1	Location:	Wend	atchee, Wash	ingtor	n			Borehole Dia.: 8.00in	
	Contracto	or: CD	Э					Blank Casing:	
	-		1: Hollow Ste	em Ai	uger			type: PVC dia: 2.00in fm:	0.0' to: 35.00' 60.00' to: 60.40'
		-	Clements					Screens:	
	Date(s): Initial Wc	·						type: Slotted size: 0.010in dia: 2.00in fm: Annular Fill:	35.00' to: 55.00'
								type: Bentonite Chips fm: type: #2/12 Monterey Beach Sand fm:	2.00' to: 33.00' 33.00' to: 58.00' 58.00' to: 81.50'
Depth (ft)	Graphic Log	aboo Sosu	Well Construc	ction	Sample Recovery	Blow Count	(mqq) OI9	Description and Observations	
5- 5- 10- 10-		SM/ML SP		సంసంసంసంసంసంసంసంసంసంసంసంసంసంసంసంసంసంసం		6777 108 21	2.1	SAND/SANDY SILT (SM/ML): brown, fine grained, soft, no o (SP): brown, fine grained, no odor, dry. (SP): tan, fine to medium grained, no odor, dry. (SP): light brown, fine grained, trace silt, no odor, dry.	odor, dry.
15-		ML SP		0,00,00,00,00,00,00,00,00,00,00,00,00,0		20 26 30		Y SILT (ML): brown, fine grained, soft, no odor, dry. (SP): gray, medium to coarse grained, no odor, dry.	
20-					$\geq$	20 26 30	2.0	(SP): gray, coarse grained, no odor, dry.	
						21 25 29	1.2	(SP): as above, grading to fine sand, with trace silt, no o	odor, dry to moist.
25-						16 20 26		h, 2.0". (SP): gray and brown, fine to medium grained, trace silt,	no odor, moist.
						18 25 27	1.4	h, 3.0". (SP): gray, coarse grained, no odor, slightly moist.	
30-						23 25 27	2.1	(SP): brown and gray, medium to coarse grained, no odo	r, slightly moist.
						23 26 28	1.2	(SP): brown, medium grading to fine, no odor, slightly mo	vist.
35-						25 35 38	1.4	(SP): brown/tan, fine grained, trace silt, no odor, moist.	
		SM/ML				25 30 34	1,045	SAND/SANDY SILT (SM/ML): brown, fine grained, soft, gray or at bottom (1.0"), moist.	staining and strong

## BOREHOLE LOG

ER	Suite 1 Bellevu	3th Avenu 30 e, Washir 162-8591	10 SE 1gton 98005		B	OF	REHOLE LOG	Site Id: MW-9 Page 2 of 3						
	Project I	Numbe	er: 0068105.01				Total Depth: 81.50'							
	Project I	Name:	Former Birchmo	ont C	rchard		Completed Depth: 55.40'							
	Location:	Wenc	itchee, Washingto	on			Borehole Dia.: 8.00in							
	Ū	lethoc	)   : Hollow Stem / Clements	Auger			Blank Casing:type: PVCdia: 2.000type: Well Capdia: 2.000							
	Date(s):						Screens: type: Slotted size: 0.010in dia: 2.00i	in fm: 35.00' to: 55.00'						
	Initial Wo	·					Annular Fill:	III III. 55.00 (0. 55.00						
							type: Bentonite Chips type: #2/12 Monterey Beach Sand type: Bentonite Chips	fm: 2.00' to: 33.00' fm: 33.00' to: 58.00' fm: 58.00' to: 81.50'						
Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations							
		WBR		$\searrow$	20 27 30	434	SANDY SILTSTONE: brown with orange, weathered bedroc (especially strong at 40'), moist.	k, fine grained, hard, odor						
				/	50-6	8.2	Y SANDSTONE/SANDY SILTSTONE: brown with orange, weathered bedrock, fine							
45-					28 35 37	13.7	grained, friable, odor, dry. SILTY SANDSTONE/SANDY SILTSTONE: brown with orange,	weathered bedrock, fine						
					37 35 50-6	16.7	grained, friable to semi—consolidated, odor, dry. SANDSTONE: brown/tan, weathered bedrock, medium gro	ined, odor, dry.						
50-					28 37 50	23.8	SANDSTONE: light brown/tan, weathered bedrock, fine g	rained, trace silt, odor, dry.						
55-					28 35 50	:	SANDSTONE: as above. SANDSTONE: brown/tan, weathered bedrock, fine grained moist.	, trace silt, cohesive, no odor,						
					26 35 40	5.4	SANDSTONE: as above, no odor.							
60-					35 50-6	3.2	SANDSTONE: as above, no odor, moist. SILTY SANDSTONE/SANDY SILTSTONE: brown/tan with ora grained, cohesive, no odor, moist. SANDSTONE: brown/tan, weathered bedrock, fine grained	, trace silt, no odor, moist.						
					28 37 40 28	63	SANDSTONE: brown/tan, weathered bedrock, fine to mec moist. SILTY SANDSTONE/SANDY SILTSTONE: brown, weathered b no odor, moist.	edrock, fine grained, cohesive,						
65					28 32 40		SANDSTONE: brown, weathered bedrock, fine to medium moist.	grained, trace silt, slight odor,						
65-					16 25 30	6.4	SANDSTONE: as above, no odor.							
					50-6	14.6	SILTY SANDSTONE/SANDY SILTSTONE: tan/brown, weather	ed bedrock, friable, odor, moist.						
70-					50-6	10.7	SILTY SANDSTONE/SANDY SILTSTONE: as above.							
					50-5	1.9	SILTY SANDSTONE/SANDY SILTSTONE: as above, slight od	lor.						
75-					50-5	3.1	SILTY SANDSTONE: brown, weathered bedrock, fine graine	ed, no odor, dry.						
					50-6	3.7	SILTY SANDSTONE/SANDY SILTSTONE: tan, weathered bed top (slough?), cohesive, friable, no odor, moist.	rock, fine grained, large rock at						

ERM	ERM 915 118t Suite 13 Bellevue (425) 46	0 , Washin	e SE gton 98005			В	01	RI	EHOLE LOG		Site Id: M Page 3	
Pr	oject N	umbe	er: 0068105	5.01					Total Depth: 81.50'			
Pr	oject N	ame:	Former Bir	rchmoi	nt C	rcharc			Completed Depth: 55.40'			
Lo	cation:	Wena	tchee, Was	hingto	n				Borehole Dia.: 8.00in			
Dri	Ū	ethod	l : Hollow S <sup>t</sup> Clements	tem A	uger				Blank Casing: type: PVC type: Well Cap	dia: 2.00ii dia: 2.00ii		to: 35.00' to: 60.40'
	ite(s): (	-							Screens: type: Slotted size: 0.010in	dia: 2.00i	n fm: 35.00 <b>'</b>	to: 55.00'
Ini	itial Wat	ter Lo	evel: NA						Annular Fill: type: Bentonite Chips type: #2/12 Monterey Beach Sa type: Bentonite Chips	nd	fm: 2.00' fm: 33.00' fm: 58.00'	to: 33.00' to: 58.00' to: 81.50'
Depth (ft)	Graphic Log	USCS Code	Well Constr	uction	Sample Recovery	Blow Count	PID (ppm)	So	il Description and Observations			
85- - - - - - - - - - - - - - - - - - -						50-6	3.6		7 SANDSTONE/SANDY SILTSTONE: as abo 1 Depth – 81.5' bgs	ve, no odor.		

-						
- 95- -						
- - 100- - -						
- - 105 - -						
- - 110- - -						
- - 115- -						

ER	Suite 1 Bellevu	Bth Avenu 130 1e, Washin 162-8591	e SE gton 98005			В	OF	SI	EHOLE LOG Site Id: MW-10/B-9 Page 1 of 3	
F	<sup>p</sup> roject I	Numbe	er: 0068 <sup>-</sup>	105.01					Total Depth: 81.50'	
F	Project I	Name:	Former	Birchmo	ont C	)rcharc	ł		Completed Depth: 55.40'	
l	_ocation:	: Wena	tchee, W	/ashingto	on				Borehole Dia.: 8.00in	
(	Contract	or: CD	I							
[	Drilling N	lethod	: Hollow	Stem A	Auger	-			Blank Casing: type: PVC dia: 2.00in fm: 0.0' to: 60.0	
	•••		Clement						type: PVC dia: 2.00in fm: 0.0' to: 60.0   type: Well Cap dia: 2.00in fm: 80.00' to: 80.4	
		·	)/07–06						Screens: type: Slotted size: 0.010in dia: 2.00in fm: 60.00' to: 80.0	)0'
I	nitiai wo	ater Le	evel: 37.0	00					Annular Fill:	
									type: Bentonite Chipsfm: 3.00'to: 58.0type: #2/12 Monterey Beach Sandfm: 58.00'to: 81.5	
Depth (ft)	Graphic Log	USCS Code	Well Con	struction	Sample Recovery	Blow Count	(mqq) Old	Soi	Soil Description and Observations	
		SM/ML								
5-		SP		0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,		4 5 10 17 20	S	SAN[	_TY SAND/SANDY SILT (SM/ML): brown, fine grained, medium stiff, no odor, moist. ND (SP): tan, fine grained, trace silt, soft, slightly moist. ND (SP): gray, fine to medium grained, no odor, dry.	
15-				00000000000000000000000000000000000000		15 20 23	0.3 5	SANI	ND (SP): gray with white, coarse grained, no odor, dry.	
20-						20 23 25	0.7 S	SAN[	ND (SP): as above, no odor.	
						23 28 30			ND (SP): gray, coarse grained, no odor, moist. ND (SP): gray, fine to medium grained, no odor, moist to dry.	
25-					$\sum$	18 21 25			ND (SP): brown, fine grained, trace silt, no odor, slightly moist. ND (SP): gray and light brown, medium grained, no odor, slightly moist.	
- - -						18 20 24	1.4 5	SAN[	ND (SP): as above, grading to coarse in shoe, no odor.	
30-						18 20 20			ND (SP): gray, coarse grained, no odor, moist to dry. ND (SP): tan, trace silt, medium grained, no odor, moist.	
		SM				25 30 38	1.1 5	SILT	.TY SAND (SM): brown to tan, fine grained, no odor, moist.	
35-		SM/ML ♀				25 30 33	<sup>'.+</sup>	SILT	TY SAND (SM): as above, 2.0". TY SAND/SANDY SILT (SM/ML): brown, fine grained, soft, no odor, moist.	
		÷ ₩BR				18 25 30	13	m SILT	TY SAND/SANDY SILT (SM/ML): brown, fine grained, stiff, odor, slight stain (black mottling), wet. TY SANDSTONE/SANDY SILTSTONE: brown with orange, weathered bedrock, fine grain consolidated, odor, wet.	ned,

ER	Suite 1 Bellevu	th Aven 30 5. Washin 62—8591	ue SE ngton 98005			В	OI	REHOLE LOG Site Id: MW-10/B-9 Page 2 of 3
	Project N	lame	er: 006810 Former E atchee, Wo	Birchmo		)rcharc	1	Total Depth: 81.50' Completed Depth: 55.40'
	Contracto	or: CE	DI	J				Borehole Dia.: 8.00in
	Logged E	By: Z.	t: Hollow Clements		5			Blank Casing: dia: 2.00in fm: 0.0' to: 60.00'   type: PVC dia: 2.00in fm: 80.00' to: 80.40'
		•	9/07-06/ evel: 37.0					Screens: type: Slotted size: 0.010in dia: 2.00in fm: 60.00' to: 80.00'
								Annular Fill:type: Bentonite Chipsfm: 3.00'type: #2/12 Monterey Beach Sandfm: 58.00'to: 81.50'
Depth (ft)	Graphic Log	USCS Code	Well Cons	truction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
-	····					17 25 28		SANDY SILTSTONE: brown with orange, weathered bedrock, some fine sand, consolidated, no odor, moist. 1.0" weathered bedrock: SILTY SANDSTONE/SANDY SILTSTONE: as above.
-	·····					36 50-6		Very hard drilling, rock at bottom of sampler like above.
45- -						28 32 40		No recovery.
-						50-6	2.0	SANDSTONE: tan, weathered bedrock, fine to medium, no odor, dry.
50-						50-6		SILTY SANDSTONE: tan, weathered bedrock, fine grained, semi-consolidated, no odor, moist.
-						38 50-6	0.4	SANDSTONE: brown to tan, weathered bedrock, fine to medium grained, no odor, slightly moist.
55-	·····					56 50-6	1 0 7 1	SANDSTONE: as above. SILTY SANDSTONE/SANDY SILTSTONE: brown, weathered bedrock, fine grained, friable, no odor, moist.
-						50–3	0.9	SILTY SANDSTONE/SANDY SILTSTONE: brown, weathered bedrock, fine grained, friable, no odor, dry. 2.0" rock at the top of sample.
60-	····				$\geq$	50-4	1.1	SILTY SANDSTONE/SANDY SILTSTONE: as above, friable to consolidated.
-	· · · · · · · · · · · · · · · · · · ·					50-4		SILTY SANDSTONE/SANDY SILTSTONE: tan, weathered bedrock, fine grained, friable to semi-consolidated, strong odor, some staining, dry.
65-						50-6	1,302	3.0" rock. SILTY SANDSTONE/SANDY SILTSTONE: tan, weathered bedrock, fine grained, friable to semi-consolidated, odor, dry.
-	·····					50-6	15.1	SILTY SANDSTONE/SANDY SILTSTONE: as above, slight odor.
70-						50-4	8.4	SILTY SANDSTONE/SANDY SILTSTONE: tan with red, weathered bedrock, fine grained, friable to consolidated, slight odor, dry.
-						50-6	9.8	SILTY SANDSTONE/SANDY SILTSTONE: tan, weathered bedrock, fine grained, friable, no odor, dry.
75-						50-6	5.7	SILTY SANDSTONE/SANDY SILTSTONE: as above, large rocks present (2.0" diameter).
-						50-6	14	SILTY SANDSTONE/SANDY SILTSTONE: as above.

ER	- Bellevu	ith Avenu 30 8. Washir 62-8591	ue SE agton 98005			В	OI	RI	EHOLE	LOG		Site Id: MW- Page 3 c	•
	Project N	lumbe	er: 006810	5.01					Total Depth: 81.5	0'			
			Former Bi		nt C	rchard	ł		Completed Depth:				
	Location:	Wend	atchee, Was	shingto	on				Borehole Dia.: 8.0				
	Contracto	or: CD	)I										
	Drilling M	lethoo	1: Hollow S	Stem A	uger			[	Blank Casing:				
	Logged [	By: Z.	Clements						type: PVC type: Well Cap		dia: 2.00in dia: 2.00in	fm: 0.0' fm: 80.00'	to: 60.00' to: 80.40'
			9/07–06/2						Screens:		dia: 2.00in	fm: 60.00'	to: 80.00'
	Initial Wo	iter L	evel: 37.00	)'					type: Slotted Annular Fill:	size: 0.010in	ala: 2.00m	tm: 60.00	10: 80.00
									type: Bentonite C type: #2/12 Mont		nd	fm: 3.00' fm: 58.00'	to: 58.00' to: 81.50'
Depth (ft)	Graphic Log	USCS Code	Well Constr	ruction	Sample Recovery	Blow Count	PID (ppm)	Soi	l Description and Ot	oservations			
-	····					50-6	8.7		′SANDSTONE/SANDY S Depth – 81.5'bgs	SILTSTONE: as abo	ve.		
-									, ,				
- 85													
-													
-													
90-													
-													
-													
95- -													
-													
- 100-													
-													
-													
- 105-													
-													
-													
110-													
-													
-													
115-													
-													
-													

Appendix B Location and Elevation Survey Data

B-6	1758361.24	177149.43	1108.35	
B-7	1758403.46	177147.20	1107.92	
B-8	1758402.70	177046.39	1102.17	
B-9	1758475.22	177053.83	1102.64	
MW-1	1758368.30	177213.80	1111.93	TOC
MW-1	1758368.38	177213.81	1112.42	
MW-10	1758475.14	177057.09	1103.23	
MW-10(PIPE)	1758475.08	177057.24	1102.65	TOC
MW-2	1758350.65	177116.34	1105.64	
MW-2	1758350.71	177116.44	1105.11	TOC
MW-3	1758393.66	177112.54	1105.54	TOC
MW-3	1758393.66	177112.46	1105.85	
MW-5	1758409.89	177010.74	1100.15	TOC
MW-5	1758409.92	177010.73	1099.39	
MW-6 (ABAND)	1758367.53	177138.03	1107.18	
MW-7	1758424.13	177096.67	1105.48	
MW-7(PIPE)	1758424.08	177096.75	1104.96	TOC
MW-8	1758396.73	177011.27	1100.08	
MW-8(PIPE)	1758396.84	177011.40	1099.68	TOC
MW-9	1758497.46	177057.28	1107.97	
MW-9 (PIPE NEAR)	1758499.01	177054.41	1102.42	TOC
RW-1	1758399.90	177118.65	1106.13	
RW-1(PIPE)	1758399.82	177118.60	1105.49	TOC

1758403	177046.4	1102.166 BORE HOLE
1758361	177149.4	1108.345 BORE HOLE
1758403	177147.2	1107.921 BORE HOLE
1758475	177053.8	1102.636 BORE HOLE
1758497	177057.3	1107.969 WELL
1758475	177057.1	1103.232 WELL
1758424	177096.7	1105.476 WELL
1758397	177011.3	1100.077 WELL
1758410	177010.7	1100.149 WELL
1758394	177112.5	1105.849 WELL
1758400	177118.6	1106.131 WELL
1758368	177138	1107.182 WELL
1758351	177116.3	1105.636 WELL
1758368	177213.8	1112.419 WELL
1758384	177162.9	1109.941 BLDCOR
1758384	177196.5	1111.093 BLDCOR
1758438	177196.9	1111.158 BLDCOR
1758438	177163.3	1110.467 BLDCOR
1758418	177018.2	1100.578 ROOFCOR
1758418	177056.1	1102.74 ROOFCOR
1758466	177056.7	1102.638 ROOFCOR
1758429	177109.5	1106.184 BLDCOR
1758458	177109.7	1107.272 BLDCOR
1758458	177143.7	1108.347 BLDCOR
1758499	177054.4	1102.416 PIPE
1758475	177057.2	1102.646 PIPE
1758424	177096.8	1104.963 PIPE
1758397	177011.4	1099.682 PIPE
1758400	177118.6	1105.492 PIPE
1758351	177116.4	1105.11 WELL
1758394	177112.5	1105.539 WELL
1758410	177010.7	1099.392 WELL
1758368	177213.8	1111.933 WELL

Appendix C Analytical Laboratory Data Reports



CLIENT: ERM

CERTIFICATE OF ANALYSIS				
: ERM	DATE:	7/3/2007		
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134		
BELLEVUE, WA 98005	DATE RECEIVED:	6/27/2007		
	WDOE ACCREDITATION #:	C142		

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/25/2007 15:00 MW-8-062507CCIL SAMPLE #:-01

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/29/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/29/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<130) ND(<250)	UG/L UG/L	6/27/2007 6/27/2007	DLC DLC

\* "ND" INDICATES ANALYZE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

APPROVED BY:

Por Bagun

Page 1



CLIENT: ERM	DATE:	7/3/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/27/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/25/2007 20:00 MW-10-062507CCIL SAMPLE #:-02

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	61	UG/L	6/29/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/29/2007	DLC
TPH-Diesel Range	NWTPH-DX	ND(<130)	UG/L	6/27/2007	DLC
TPH-Oil Range	NWTPH-DX	ND(<250)	UG/L	6/27/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS UNIDENTIFIED GASOLINE RANGE PRODUCT.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

Per Bagun



CLIENT: ERM	DATE:	7/3/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134
BELLEVUE, WA 98005	DATE RECEIVED:	6/27/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:	ZACHERY CLEMENTS
CLIENT PROJECT ID:	DOLE BIRCHMOUNT #68105.01
CLIENT SAMPLE ID:	6/26/2007 8:33 MW-1-062607
CCIL SAMPLE #:	-03

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/29/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/29/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<130) ND(<250)	UG/L UG/L	6/27/2007 6/27/2007	DLC DLC

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

Part Bagun



CLIENT: ERM	DATE:	7/3/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134
SIS HOTTAVENUE SE SUITE 150	COIL JOD #.	0700134
BELLEVUE, WA 98005	DATE RECEIVED:	6/27/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT: Z	ACHERY CLEMENTS
CLIENT PROJECT ID: D	DOLE BIRCHMOUNT #68105.01
CLIENT SAMPLE ID: 6	6/26/2007 9:30 MW-2-062607
CCIL SAMPLE #: -	-04

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/29/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/29/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/29/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<130) ND(<250)	UG/L UG/L	6/27/2007 6/27/2007	DLC DLC

\* "ND" INDICATES ANALYZE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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Page 4



CLIENT: ERM 915 118TH AVENUE SE SUITE 130	DATE: CCIL JOB #:	7/3/2007 0706134
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/27/2007 C142
		•••=

CLIENT CONTACT:	ZACHERY CLEMENTS
CLIENT PROJECT ID:	DOLE BIRCHMOUNT #68105.01
CLIENT SAMPLE ID:	6/26/2007 11:00 MW-3-062607
CCIL SAMPLE #:	-05

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	8100	UG/L	7/2/2007	DLC
Benzene	EPA-8021	110	UG/L	7/2/2007	DLC
Toluene	EPA-8021	7	UG/L	7/2/2007	DLC
Ethylbenzene	EPA-8021	50	UG/L	7/2/2007	DLC
Xylenes	EPA-8021	79	UG/L	7/2/2007	DLC
TPH-Diesel Range	NWTPH-DX W/CLEANUP	660	UG/L	6/28/2007	DLC
TPH-Oil Range	NWTPH-DX W/CLEANUP	ND(<250)	UG/L	6/28/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCTS WHICH ARE LIKELY HIGHLY WEATHERED GASOLINE AND WEATHERED DIESEL FUEL.

DIESEL RANGE RESULT IS BIASED HIGH DUE TO VOLATILE RANGE PRODUCT OVERLAP.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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Page 5



CLIENT: ERM	DATE:	7/3/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/27/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/26/2007 13:10CCIL SAMPLE #:-06

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	8700	UG/L	7/2/2007	DLC
Benzene	EPA-8021	150	UG/L	7/2/2007	DLC
Toluene	EPA-8021	28	UG/L	7/2/2007	DLC
Ethylbenzene	EPA-8021	88	UG/L	7/2/2007	DLC
Xylenes	EPA-8021	280	UG/L	7/2/2007	DLC
TPH-Diesel Range	NWTPH-DX W/CLEANUP	ND(<250)	UG/L	6/28/2007	DLC
TPH-Oil Range	NWTPH-DX W/CLEANUP	ND(<250)	UG/L	6/28/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY HIGHLY WEATHERED GASOLINE.

DIESEL RANGE REPORTING LIMIT RAISED DUE TO VOLATILE RANGE PRODUCT OVERLAP.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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CLIENT: ERM	DATE:	7/3/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706134
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/27/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/14/2007 14:50 MW-7-062607CCIL SAMPLE #:-07

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	1200	UG/L	7/2/2007	DLC
Benzene	EPA-8021	8	UG/L	7/2/2007	DLC
Toluene	EPA-8021	3	UG/L	7/2/2007	DLC
Ethylbenzene	EPA-8021	10	UG/L	7/2/2007	DLC
Xylenes	EPA-8021	9	UG/L	7/2/2007	DLC
TPH-Diesel Range	NWTPH-DX W/CLEANUP	ND(<130)	UG/L	6/28/2007	DLC
TPH-Oil Range	NWTPH-DX W/CLEANUP	ND(<250)	UG/L	6/28/2007	DLC

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY HIGHLY WEATHERED GASOLINE.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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	CERTIFICATE OF	ANALYSIS	
CLIENT: ERM 915 118TH AVENUE SE SUITE 130		DATE: CCIL JOB #:	7/3/2007 0706134
BELLEVUE, V	/A 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/27/2007 C142
CLIENT CONTACT: CLIENT PROJECT ID: CLIENT SAMPLE ID: CCIL SAMPLE #:	ZACHERY CLEMENTS DOLE BIRCHMOUNT #68105.01 6/14/2007 9:15 TRIP BLANK -08		

RESULTS*	UNITS**	ANALYSIS DATE 6/29/2007	ANALYSIS BY DLC
	RESULTS* ND(<50)		RESULTS* UNITS** DATE

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

APPROVED BY:

Port Bagun

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/3/2007
CCIL JOB #:	0706134
DATE RECEIVED:	6/27/2007
WDOE ACCREDITATION #:	C142

CLIENT CONTACT:	ZACHERY CLEMENTS
CLIENT PROJECT ID:	DOLE BIRCHMOUNT #68105.01

## QUALITY CONTROL RESULTS

#### SURROGATE RECOVERY

CCIL SAMPLE ID	METHOD	SUR ID	% RECV
0706134-01	NWTPH-GX	TFT	96
0706134-01	EPA-8021	TFT	96
0706134-01	NWTPH-DX	C25	106
0706134-02	NWTPH-GX	TFT	100
0706134-02	EPA-8021	TFT	100
0706134-02	NWTPH-DX	C25	105
0706134-03	NWTPH-GX	TFT	93
0706134-03	EPA-8021	TFT	98
0706134-03	NWTPH-DX	C25	105
0706134-04	NWTPH-GX	TFT	92
0706134-04	EPA-8021	TFT	94
0706134-04	NWTPH-DX	C25	110
0706134-05	NWTPH-GX	TFT	105
0706134-05	EPA-8021	TFT	74
0706134-05	NWTPH-DX W/CLEANUP	C25	113
0706134-06	NWTPH-GX	TFT	68
0706134-06	EPA-8021	TFT	75
0706134-06	NWTPH-DX W/CLEANUP	C25	64
0706134-07 0706134-07 0706134-07 0706134-07 0706134-08	NWTPH-GX EPA-8021 NWTPH-DX W/CLEANUP NWTPH-GX	TFT TFT C25 TFT	109 111 109 84
010010-00			04



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/3/2007
CCIL JOB #:	0706134
DATE RECEIVED:	6/27/2007
WDOE ACCREDITATION #:	C142

#### CLIENT CONTACT: ZACHERY CLEMENTS CLIENT PROJECT ID: DOLE BIRCHMOUNT #68105.01

#### QUALITY CONTROL RESULTS

#### BLANK RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	RESULT	UNITS
NWTPH-GX	Water	GW062807	0706134 -01 to -08	TPH-Volatile Range	ND(<50)	UG/L
EPA-8021	Water	GW062807	0706134 -01 to -07	Benzene	ND(<1)	UG/L
EPA-8021	Water	GW062807	0706134 -01 to -07	Toluene	ND(<1)	UG/L
EPA-8021	Water	GW062807	0706134 -01 to -07	Ethylbenzene	ND(<1)	UG/L
EPA-8021	Water	GW062807	0706134 -01 to -07	Xylenes	ND(<3)	UG/L
NWTPH-DX	Water	DW062707	0706134 -01 to -07	TPH-Diesel Range	ND(<130)	UG/L
NWTPH-DX	Water	DW062707	0706134 -01 to -07	TPH-Oil Range	ND(<250)	UG/L



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/3/2007
CCIL JOB #:	0706134
DATE RECEIVED:	6/27/2007
WDOE ACCREDITATION #:	C142

CLIENT CONTACT: ZACHERY CLEMENTS CLIENT PROJECT ID: DOLE BIRCHMOUNT #68105.01

### QUALITY CONTROL RESULTS

#### SPIKE/SPIKE DUPLICATE RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	SPIKE RECOVERY	SPIKE DUP RECOVERY	RPD
NWTPH-GX	Water	GW062807	0706134 -01 to -08	TPH-Volatile Range	114 %	108 %	5
EPA-8021	Water	GW062807	0706134 -01 to -07	Benzene	94 %	98 %	4
EPA-8021	Water	GW062807	0706134 -01 to -07	Toluene	95 %	100 %	5
EPA-8021	Water	GW062807	0706134 -01 to -07	Ethylbenzene	95 %	99 %	4
EPA-8021	Water	GW062807	0706134 -01 to -07	Xylenes	96 %	100 %	4
NWTPH-DX	Water	DW062707	0706134 -01 to -07	TPH-Diesel Range	83 %	85 %	2

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CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED:	6/22/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/18/2007 10:55 B-7-061807-52.5CCIL SAMPLE #:-01

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<3)	MG/KG	6/26/2007	DLC
Benzene	EPA-8021	ND(<0.03)	MG/KG	6/26/2007	DLC
Toluene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Ethylbenzene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Xylenes	EPA-8021	ND(<0.2)	MG/KG	6/26/2007	DLC
TPH-Diesel Range	NWTPH-DX	ND(<25)	MG/KG	6/25/2007	EBS
TPH-Oil Range	NWTPH-DX	ND(<50)	MG/KG	6/25/2007	EBS
Total Organic Carbon (TOC)	PLUMB 1981	0.08	%	6/27/2007	ARI

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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CLIENT: ERM 915 118TH AVENUE SE SUITE 130	DATE: CCIL JOB #:	7/9/2007 0706110
BELLEVUE, WA 98005	DATE RECEIVED:	6/22/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/18/2007 14:00 B-6-061807-23.5CCIL SAMPLE #:-02

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<3)	MG/KG	6/26/2007	DLC
Benzene	EPA-8021	ND(<0.03)	MG/KG	6/26/2007	DLC
Toluene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Ethylbenzene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Xylenes	EPA-8021	ND(<0.2)	MG/KG	6/26/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<25) ND(<50)	MG/KG MG/KG	6/25/2007 6/25/2007	EBS EBS

\* "ND" INDICATES ANALYZE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED:	6/22/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/18/2007 14:15 B-6-061807-28.5CCIL SAMPLE #:-03

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<3)	MG/KG	6/26/2007	DLC
Benzene	EPA-8021	ND(<0.03)	MG/KG	6/26/2007	DLC
Toluene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Ethylbenzene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Xylenes	EPA-8021	ND(<0.2)	MG/KG	6/26/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<25) ND(<50)	MG/KG MG/KG	6/25/2007 6/25/2007	EBS EBS

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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CERTIFICATE OF ANALYSIS				
CLIENT: ERM		DATE:	7/9/2007	
915 118TH AVENUE SE SUITE 130		CCIL JOB #:	0706110	
BELLEVUE, WA 98005		DATE RECEIVED:	6/22/2007	
		WDOE ACCREDITATION #:	C142	
CLIENT CONTACT:	ZACHERY CLEMENTS			
CLIENT PROJECT ID:	DOLE BIRCHMOUNT #68105.01			
CLIENT SAMPLE ID:	6/18/2007 14:25 B-6-061807-32.5			
CCIL SAMPLE #:	-04			

DATA RESULTS					
ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	PLUMB 1981	0.08	%	6/27/2007	ARI

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

APPROVED BY:



8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059



CERTIFICATE OF ANALYSIS				
CLIENT: ERM		DATE:	7/9/2007	
915 118TH AV	ENUE SE SUITE 130	CCIL JOB #:	0706110	
BELLEVUE, W	/A 98005	DATE RECEIVED:	6/22/2007	
		WDOE ACCREDITATION #:	C142	
CLIENT CONTACT: CLIENT PROJECT ID: CLIENT SAMPLE ID: CCIL SAMPLE #:	ZACHERY CLEMENTS DOLE BIRCHMOUNT #68105.01 6/19/2007 10:15 B-8-061907-36.5 -05			

DATA RESULTS					
ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	PLUMB 1981	0.05	%	6/27/2007	ARI

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS





CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED:	6/22/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/20/2007 11:05 B-9-062007-40CCIL SAMPLE #:-06

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<3)	MG/KG	6/26/2007	DLC
Benzene	EPA-8021	ND(<0.03)	MG/KG	6/26/2007	DLC
Toluene	EPA-8021	ND(<0.05)	MG/KG	6/26/2007	DLC
Ethylbenzene	EPA-8021	0.06	MG/KG	6/26/2007	DLC
Xylenes	EPA-8021	ND(<0.2)	MG/KG	6/26/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<25) ND(<50)	MG/KG MG/KG	6/25/2007 6/25/2007	EBS EBS

\* "ND" INDICATES ANALYZE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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Page 6



CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED:	6/22/2007
	WDOE ACCREDITATION #:	C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/18/2007 11:40 B-7-061807CCIL SAMPLE #:-07

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/25/2007	DLC
Benzene	EPA-8021	ND(<1)	UG/L	6/25/2007	DLC
Toluene	EPA-8021	ND(<1)	UG/L	6/25/2007	DLC
Ethylbenzene	EPA-8021	ND(<1)	UG/L	6/25/2007	DLC
Xylenes	EPA-8021	ND(<3)	UG/L	6/25/2007	DLC
TPH-Diesel Range TPH-Oil Range	NWTPH-DX NWTPH-DX	ND(<130) ND(<250)	UG/L UG/L	6/25/2007 6/25/2007	EBS EBS

\* "ND" INDICATES ANALYZE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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Page 7



CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/22/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/18/2007 15:05 B-6-061807CCIL SAMPLE #:-08

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	3000	UG/L	6/28/2007	DLC
Benzene	EPA-8021	19	UG/L	6/28/2007	DLC
Toluene	EPA-8021	ND(<2)	UG/L	6/28/2007	DLC
Ethylbenzene	EPA-8021	19	UG/L	6/28/2007	DLC
Xylenes	EPA-8021	ND(<6)	UG/L	6/28/2007	DLC
TPH-Diesel Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS
TPH-Oil Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY HIGHLY WEATHERED GASOLINE.

REPORTING LIMIT FOR DIESEL RANGE PRODUCT RAISED DUE TO VOLATILE RANGE PRODUCT OVERLAP.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

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CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/22/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/20/2007 5:45 B-8-062007CCIL SAMPLE #:-09

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	4100	UG/L	6/27/2007	DLC
Benzene	EPA-8021	50	UG/L	6/28/2007	DLC
Toluene	EPA-8021	3	UG/L	6/28/2007	DLC
Ethylbenzene	EPA-8021	55	UG/L	6/28/2007	DLC
Xylenes	EPA-8021	68	UG/L	6/28/2007	DLC
TPH-Diesel Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS
TPH-Oil Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY HIGHLY WEATHERED GASOLINE.

REPORTING LIMIT FOR DIESEL RANGE PRODUCT RAISED DUE TO VOLATILE RANGE PRODUCT OVERLAP.

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

Por Bagun



CLIENT: ERM	DATE:	7/9/2007
915 118TH AVENUE SE SUITE 130	CCIL JOB #:	0706110
BELLEVUE, WA 98005	DATE RECEIVED: WDOE ACCREDITATION #:	6/22/2007 C142

CLIENT CONTACT:ZACHERY CLEMENTSCLIENT PROJECT ID:DOLE BIRCHMOUNT #68105.01CLIENT SAMPLE ID:6/20/2007 9:00 B-9-062007CCIL SAMPLE #:-10

#### DATA RESULTS

ANALYTE	METHOD	<b>RESULTS</b> *	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	1100	UG/L	6/27/2007	DLC
Benzene	EPA-8021	11	UG/L	6/27/2007	DLC
Toluene	EPA-8021	1	UG/L	6/27/2007	DLC
Ethylbenzene	EPA-8021	9	UG/L	6/27/2007	DLC
Xylenes	EPA-8021	4	UG/L	6/27/2007	DLC
TPH-Diesel Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS
TPH-Oil Range	NWTPH-DX	ND(<250)	UG/L	6/25/2007	EBS

NOTE: CHROMATOGRAM INDICATES SAMPLE CONTAINS PRODUCT WHICH IS LIKELY HIGHLY WEATHERED GASOLINE.

REPORTING LIMIT FOR DIESEL RANGE PRODUCT RAISED DUE TO VOLATILE RANGE PRODUCT OVERLAP.

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\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

Por Bagun



CERTIFICATE OF ANALYSIS					
CLIENT: ERM 915 118TH AV BELLEVUE, W	/ENUE SE SUITE 130 /A 98005	DATE: CCIL JOB #: DATE RECEIVED:	7/9/2007 0706110 6/22/2007		
		WDOE ACCREDITATION #:	C142		
CLIENT CONTACT: CLIENT PROJECT ID: CLIENT SAMPLE ID: CCIL SAMPLE #:	ZACHERY CLEMENTS DOLE BIRCHMOUNT #68105.01 6/14/2007 9:15 TRIP BLANK -11				
DATA RESULTS					

ANALYTE	METHOD	<b>RESULTS*</b>	UNITS**	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	ND(<50)	UG/L	6/27/2007	DLC

\* "ND" INDICATES ANALYTE ANALYZED FOR BUT NOT DETECTED AT LEVEL ABOVE REPORTING LIMIT. REPORTING LIMIT IS GIVEN IN PARENTHESES.

\*\* UNITS FOR ALL NON LIQUID SAMPLES ARE REPORTED ON A DRY WEIGHT BASIS

APPROVED BY:

Port Bagun

8620 Holly Drive Suite 100 Everett, WA 98208 425 356-2600 FAX 425 356-2626 Seattle 206 292-9059



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/9/2007
CCIL JOB #:	0706110
DATE RECEIVED:	6/22/2007
WDOE ACCREDITATION #:	C142

CLIENT CONTACT:	ZACHERY CLEMENTS
CLIENT PROJECT ID:	DOLE BIRCHMOUNT #68105.01

## QUALITY CONTROL RESULTS

#### SURROGATE RECOVERY

CCIL SAMPLE ID	METHOD	SUR ID	% RECV
0706110-01	NWTPH-GX	TFT	75
0706110-01	EPA-8021	TFT	79
0706110-01	NWTPH-DX	C25	99
0706110-02	NWTPH-GX	TFT	81
0706110-02	EPA-8021	TFT	87
0706110-02	NWTPH-DX	C25	95
0706110-03	NWTPH-GX	TFT	85
0706110-03	EPA-8021	TFT	84
0706110-03	NWTPH-DX	C25	93
0706110-06	NWTPH-GX	TFT	91
0706110-06	EPA-8021	TFT	91
0706110-06	NWTPH-DX	C25	95
0706110-07	NWTPH-GX	TFT	98
0706110-07	EPA-8021	TFT	92
0706110-07	NWTPH-DX	C25	101
0706110-08	NWTPH-GX	TFT	68
0706110-08	EPA-8021	TFT	69
0706110-08	NWTPH-DX	C25	101
0706110-09	NWTPH-GX	TFT	102
0706110-09	EPA-8021	TFT	98
0706110-09	NWTPH-DX	C25	101
0706110-10	NWTPH-GX	TFT	106
0706110-10	EPA-8021	TFT	113
0706110-10	NWTPH-DX	C25	96
0706110-11	NWTPH-GX	TFT	97



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/9/2007
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DATE RECEIVED:	6/22/2007
WDOE ACCREDITATION #:	C142

#### CLIENT CONTACT: ZACHERY CLEMENTS CLIENT PROJECT ID: DOLE BIRCHMOUNT #68105.01

#### QUALITY CONTROL RESULTS

#### BLANK RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	RESULT	UNITS
NWTPH-GX	Soil	GS062607	0706110 -01 to 06	TPH-Volatile Range	ND(<3)	MG/KG
EPA-8021	Soil	GS062607	0706110 -01 to 06	Benzene	ND(<0.03)	MG/KG
EPA-8021	Soil	GS062607	0706110 -01 to 06	Toluene	ND(<0.05)	MG/KG
EPA-8021	Soil	GS062607	0706110 -01 to 06	Ethylbenzene	ND(<0.05)	MG/KG
EPA-8021	Soil	GS062607	0706110 -01 to 06	Xylenes	ND(<0.2)	MG/KG
NWTPH-DX	Soil	DS062507	0706110 -01 to 06	TPH-Diesel Range	ND(<25)	MG/KG
NWTPH-DX	Soil	DS062507	0706110 -01 to 06	TPH-Oil Range	ND(<50)	MG/KG
PLUMB 1981	Soil	TOC062707	0706110 -01 to 06	Total Organic Carbon (TOC)	ND(<0.02)	%
NWTPH-GX	Water	GW062107	0706110 -07 to 11	TPH-Volatile Range	ND(<50)	UG/L
EPA-8021	Water	GW062107	0706110 -07 to 10	Benzene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706110 -07 to 10	Toluene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706110 -07 to 10	Ethylbenzene	ND(<1)	UG/L
EPA-8021	Water	GW062107	0706110 -07 to 10	Xylenes	ND(<3)	UG/L
NWTPH-DX	Water	DW062107	0706110 -07 to 10	TPH-Diesel Range	ND(<130)	UG/L
NWTPH-DX	Water	DW062107	0706110 -07 to 10	TPH-Oil Range	ND(<250)	UG/L



CLIENT: ERM

915 118TH AVENUE SE SUITE 130 BELLEVUE, WA 98005

DATE:	7/9/2007
CCIL JOB #:	0706110
DATE RECEIVED:	6/22/2007
WDOE ACCREDITATION #:	C142

CLIENT CONTACT: ZACHERY CLEMENTS CLIENT PROJECT ID: DOLE BIRCHMOUNT #68105.01

#### QUALITY CONTROL RESULTS

#### SPIKE/SPIKE DUPLICATE RESULTS

METHOD	MATRIX	QC BATCH ID	ASSOCIATED SAMPLES	ANALYTE	SPIKE RECOVERY	SPIKE DUP RECOVERY	RPD
NWTPH-GX	Soil	GS062607	0706110 -01 to 06	TPH-Volatile Range	98 %	99 %	1
EPA-8021	Soil	GS062607	0706110 -01 to 06	Benzene	91 %	94 %	3
EPA-8021	Soil	GS062607	0706110 -01 to 06	Toluene	93 %	96 %	3
EPA-8021	Soil	GS062607	0706110 -01 to 06	Ethylbenzene	92 %	94 %	2
EPA-8021	Soil	GS062607	0706110 -01 to 06	Xylenes	93 %	94 %	1
NWTPH-DX	Soil	DS062507	0706110 -01 to 06	TPH-Diesel Range	84 %	85 %	1
PLUMB 1981	Soil	TOC062707	0706110 -01 to 06	Total Organic Carbon (TOC	95 %	NA	NA
NWTPH-GX	Water	GW062107	0706110 -07 to 11	TPH-Volatile Range	117 %	116 %	1
EPA-8021	Water	GW062107	0706110 -07 to 10	Benzene	97 %	98 %	1
EPA-8021	Water	GW062107	0706110 -07 to 10	Toluene	99 %	102 %	3
EPA-8021	Water	GW062107	0706110 -07 to 10	Ethylbenzene	99 %	100 %	1
EPA-8021	Water	GW062107	0706110 -07 to 10	Xylenes	99 %	100 %	1
NWTPH-DX	Water	DW062107	0706110 -07 to 10	TPH-Diesel Range	72 %	73 %	1

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Appendix D Slug Test Data and Analysis



