OTIS Overview Report

Log Number	**26-05-0199**	Site Name	**CONOCOPHILLIPS SITE 4745 II**
City	**GRESHAM**	Address	**1545 NE 181ST AVENUE**
Zip	**97230**	Common Name	
Phone		See Also	Q# me# 39301

Received Date	**07 FEB 2005**	Lips Score		Cost Recovery Agreement Date	
Facility Id		Property Trans Pending?		Release Stopped Date	
Project Mgr		Regulated Tank?	**Y**	Cleanup Start Date	**09 FEB 2005**
PM Assign Date		Swla Permit?		Final Invoice Request Date	
File Status		WQ Permit?			
Site Type		Public Notice?		Closed Date	
Status					
Site Comment					

Site Inspections

Total Number of Inspections at site

Contamination

Contaminant	Media
Misc. Gasoline	**Groundwater**
Misc. Gasoline	**Soil**

Reports Received

Number of Reports Received for Site

Most Recent Report Received for Site

Contacts

Responible Party

Martin Cramer
Conoco Phillips
5528 NW Doane Ave
Portland OR 97210-36
503-248-1517

Reported By

Invoice Contact

Martin Cramer
Conoco Phillips
5528 NW Doane Ave
Portland OR 97210-360
503-248-1517

Fin Inv Req. 12/12/07

NFA 3/6/08 LK

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JUN 1 2006
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

COST RECOVERY AGREEMENT

This document serves as an agreement between the undersigned (hereinafter "you") and the Department of Environmental Quality (DEQ) regarding DEQ review and oversight of the investigation and/or cleanup of petroleum (hazardous substances) at the property located at:

Facility Name: ConocoPhillips SS # 4745
Address: 1545 NE 181st Ave.
City, Zip: Gresham, OR 97230
File/Log #: 26 - 05 - 0199

SEQUENT matches 6-8-

DEQ agrees to review environmental documents submitted by you or on your behalf regarding the investigation and/or cleanup of the above-referenced site. Additional details regarding DEQ oversight will be established upon review of the initial site data.

DEQ requires that persons requesting DEQ review and oversight of investigation and cleanup activities agree to the terms of this cost recovery agreement and pay project oversight costs.

DEQ project oversight costs will include direct costs and indirect costs. Direct costs include site-specific expenses and legal costs. Indirect costs are those general management and support costs of the DEQ, including the Waste Management and Cleanup Division (WMCD), allocable to DEQ oversight of this agreement and not charged as direct, site-specific costs. Indirect charges are based on a percentage of direct personal services costs. Review and oversight costs shall not include any unreasonable costs or costs not otherwise recoverable by DEQ under ORS 465.255.

DEQ costs are due within thirty (30) days of issuance of the monthly statement, by a check made payable to the "Department of Environmental Quality".

Electing not to enter into this agreement does not release you from any responsibility that you might have for any reporting requirements, investigation and/or cleanup of petroleum (hazardous substances) at the above referenced facility. This does not preclude the DEQ from conducting audits or inspections of all or portions of the investigation and cleanup activities associated with this facility. Enforcement action may be initiated if any violation of DEQ requirements is found.

Either DEQ or you may terminate this agreement by giving 15 days advance written notice to the other. Only those costs incurred or obligated by DEQ prior to the effective date of any termination of the agreement shall be recoverable under this Agreement. Termination of this agreement will not affect any other right DEQ may have for recovery of costs under any applicable law.

You will hold DEQ harmless for any claims (including but not limited to claims of property damage or personal injury) arising from DEQ review and/or oversight activities under this agreement.

Lauren- 6/8/06

Here's the CRA we discussed via email. Please make sure the invoice contact is current on the Release Sheet. File this behind the release sheet. Thanks!

Julie

This agreement is not and shall not be construed to be an admission by you of any liability under ORS 465.255 or any other law or as a waiver by you of any defense to such liability. This agreement is not and shall not be construed to be a waiver, release, or settlement of claims that DEQ may have against you or any other responsible person nor is this agreement a waiver of any enforcement authority that DEQ may have.

The DEQ Northwest Region UST Cleanup and Compliance Section will be responsible for the review and oversight of the investigation and cleanup activities associated with the property. Please refer all site-specific inquiries to them at (503) 229-5263.

All inquiries regarding cost recovery and/or invoices should be directed to (503) 229-5812.

If the terms of this agreement are acceptable, please have it executed by an authorized officer in the space provided below. In order to more effectively schedule your project, please return this agreement within 30 days of receipt to: DEQ Northwest Region Office, UST Cleanup and Compliance Section, 2020 SW Fourth Avenue, Suite 400, Portland, Oregon 97201.

Accepted and agreed to this 30 day of MAY, 2006

By: _____
(Sign Here)

MARTY CRAMER, SITE MANAGER
(Please Print Name and Title Here)

Please provide the following information as to where the invoices should be sent (Please print or type.)

SEQUENT MATCHES (MC) 6/8/06

Individual Name: MARTY CRAMER
Title: SITE MANAGER
Company Name: CONOCO PHILLIPS
Mail Address: 5528 NW DOANE AVE.
City, State, Zip: PORTLAND, OR 97210
Phone Number: 503-248-1517

Oregon
Theodore R. Kulongoski, Governor

Department Of Environmental Quality
Northwest Region - East Side Office
1550 NW Eastman Parkway, Suite 290
Gresham, Oregon 97030
(503) 667-8414
Fax: (503) 674-5148

RECEIVED
JUN 1 2006
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

May 24, 2006

MARTIN CRAMER
CONOCOPHILLIPS CORPORATION
5528 SW DOANE AVENUE
PORTLAND, OREGON 97210

Re: ConocoPhillips 4745
UST Cleanup File No. 26-05-0199
UST Facility ID No. 1010

Dear Mr.Cramer:

The purpose of this letter is to inform you that I have been assigned as project manager and have begun a file review of your underground storage tank (UST) cleanup site located at 1545 NE 181st Avenue, in Gresham, Oregon. This included a review of the *Subsurface Investigation Report* dated February 21, 2005, and subsequent monitoring well installation and quarterly monitoring reports.

On February 10, 2005, the Department of Environmental Quality (DEQ) sent you a letter with an attached Cost Recovery Agreement (CRA) form. I am sending you another copy of the CRA form, and encourage you to complete the form. By law DEQ is required to recover project oversight costs. To maintain oversight, the DEQ requests that you complete the enclosed form.

Thank you for your work at the site. If there are any questions, please feel free to call me in the Northwest Region Eastside office in Gresham at 503-667-8414 extension 55007

Sincerely,

Laurey Cook

Laurey Cook, Natural Resource Specialist
UST Cleanup and Compliance Section
NWR Tank Program

llc:LLC

cc: Brian Pletcher
Senior Project Geologist
Delta Environmental Consultants, Inc.
7150 SW Hampton, Suite 220
Tigard, Oregon 97223

Oregon
Theodore R. Kulongoski, Governor

Department Of Environmental Quality
Northwest Region - East Side Office
1550 NW Eastman Parkway, Suite 290
Gresham, Oregon 97030
(503) 667-8414
Fax: (503) 674-5148

February 29, 2008

MR MIKE NOLL
CONOCOPHILLIPS COMPANY
11821 185th AVENUE SE
SNOHOMISH WASHINGTON 98290

Re: ConocoPhillips No 4745
UST Cleanup File No. 26-05-0199
UST Facility ID. No. 1010

Dear Mr. Noll:

The Department of Environmental Quality (DEQ) has completed its review of the information submitted to date regarding the underground storage tank (UST) investigation and cleanup conducted at 1545 NE 181 Avenue in Portland, Oregon. The DEQ has determined that the cleanup appears to have met the requirements of Oregon Administrative Rules (OAR) 340-122-0205 through 340-122-0360 and that no further action is required at this time subject to any conditions described below.

This determination is a result of our evaluation and judgment based on the regulations and facts as we now understand them:

SITE HISTORY/BACKGROUND

On February 7, 2005, a release at this site was reported to DEQ. Delta Environmental Consultants was performing a baseline environmental investigation at the site and detected gasoline and gasoline constituents in groundwater at the site. The soils at the site consist of brown silty sand with gravels. The depth to groundwater at the site is approximately 10 to 15 feet below ground surface (bgs), with a gradient to the north. The site is zoned community commercial, which allows mixed commercial and residential uses. The surrounding area is primarily commercial usage.

The site is a service station that has two active 12,000-gallon gasoline USTs and a used oil UST. The site had a previous release that was reported to DEQ in 1989, during tank decommissioning activities (26-89-0171). DEQ issued a no further action designation for this release under the soil matrix rules, on January 9, 1990.

UST DECOMMISSIONING

The site contains active USTs that were installed in 1989 to replace the tanks decommissioned at that time. As noted above, a release was reported in 1989. Seventeen cubic yards of soil was

removed in conjunction with that decommissioning and the site was closed under the soil matrix rules in place at the time.

EXTENT OF CONTAMINATION DEFINED

During the initial baseline investigation, the maximum gasoline contamination detected in soils was 7.68 part per million. Methyl Tertiary Butyl Ether (MTBE) was detected at less than one part per million in soils. The highest gasoline concentration in soils detected during 2005 site investigation activities was 61.5 parts per million while installing monitoring well 2. In July 2007 an off-site investigation was performed in the streets north and west of the site. Gasoline was not detected in the soil samples obtained during the off site investigation. Volatile organic compounds detected in the off-site soil samples were limited to low levels of MTBE (detections between 0.001 and .007 ppm) to the north and south of the site.

REMEDIAL ACTIONS AND COMPLIANCE MONITORING/SAMPLING

In December 2005 five monitoring wells were installed on the site. Groundwater monitoring was conducted in 2006 through July 2007. The push point investigation and quarterly groundwater monitoring reports indicate groundwater impacts are limited to the site. Gasoline at a concentration of up to 1,800 micrograms per liter (ug/L) was detected at monitoring well 5, which is just east of the UST cavity for the tanks removed in 1989. Additionally, gasoline at a concentration of up to 1,100 ug/L was detected at monitoring well 3, on the north side of the property near a former dispenser island. The gasoline constituents detected were limited to low levels of MTBE, ethyl benzene, xylene, and naphthalene. No soil removal or remedial activities occurred in conjunction with the release reported in 2005.

CURRENT AND FUTURE GROUNDWATER BENEFICIAL USE DETERMINATION

Delta Consultants prepared a Conceptual Site Model (CSM) in March 2007. The CSM includes a beneficial water use survery. According to the survey, the Rockwood Water People's Utility District supplies potable water to the site and surrounding area. The municipal water is a mixture of groundwater and water purchased from the City of Portland. Delta reviewed well logs for the area, and found the wells that could be located by either address or quarter sections to be over one-quarter mile from the site. Two wells could not be located on a map due to lack of information. However, based on the general commercial and industrial uses of the surrounding properties, it is unlikely that the wells (if in existence) are located in the vicinity of the site. The groundwater ingestion pathway is therefore incomplete in the locality of facility.

CURRENT AND FUTURE LAND USE DETERMINATION

The property is zoned community commercial. This zoning is applied to larger nodes of primarily commercial development. The zoning allows housing as a secondary use, with attached dwellings being developed in conjunction with commercial construction.

CONTAMINANTS OF INTEREST (COIs)

Petroleum constituents are volatile and semi volatile components of total petroleum hydrocarbons that DEQ evaluates to determine any potential risks to human or ecological receptors and to the environment in general. Gasoline was detected at the site, therefore the contaminants of interest include benzene, toluene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, n-propylbenzene, naphthalene, methyl t-butyl ether, ethylene dibromide, and ethylene dichloride.

CONTAMINANANTS OF POTENTIAL CONCERN

The soil sampling in 2005 included analysis for gasoline by Northwest Method NWTPH-Gx, and heavy oil and diesel by NWTPH-Dx. Heavy oil and diesel were not detected. The constituent analysis for VOCs was performed by EPA method 8260B. The initial push point sampling results reported up to 11,400 ug/L gasoline in groundwater with 11.1 ug/L benzene, 3.36 ug/L toluene, 118 ug/L xylene, 49.4 ug/L MTBE, and 124 ug/L naphthalene. The subsequent groundwater monitoring detected lower levels of gasoline, MTBE, and other constituents.

CONCEPTUAL SITE MODEL AND RISK-BASED DETERMINATION

As discussed above, the groundwater ingestion and inhalation pathway are not complete. Additionally, based on the beneficial water use survey the leaching into groundwater pathway is not complete. The receptor scenario for current usage is limited to occupational users. The receptor scenario for the future includes urban residential, occupational, construction and excavation workers users. Completed pathways include direct contact with contaminated soils and groundwater by excavation and construction workers and vapor intrusion into buildings and exterior areas. The residual contaminant concentrations are below the risk-based screening levels for completed pathways as published in Appendix A of the *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (September 22, 2003)

RISK MANAGEMENT

No use shall be made of the shallow groundwater at the property, by extraction through wells or by other means involving consumption or non-consumptive use of the groundwater. This prohibition shall not apply to extraction of groundwater associated with temporary dewatering activities related to the installation of sewers or utilities at the property. A risk assessment must be conducted and submitted to DEQ for review and approval prior to the extraction of any groundwater.

ECOLOGICAL RISK EVALUATION

Based upon the information received the contaminants would not be found in surface soils and it is unlikely that contaminated groundwater or surface runoff would impact surface water bodies.

Therefore the residual contamination at the site does not appear to pose a threat to ecological receptors.

PUBLIC NOTICE

With the exception of low levels of MTBE detected in the roadway, the investigation did not show a potential for off-site impacts to neighboring properties. No public notice was performed, as the site met the generic risk-based standards for completed pathways.

NFA DETERMINATION

Contamination remains on the site. DEQ approves leaving this contamination because the contamination does not present an unacceptable risk to human health, safety, welfare or the environment with the controls described above. DEQ's approval to leave contamination on the site was based upon present conditions, as described in documents in DEQ's files.

Any future work in the contaminated areas of the property, including any sampling, management, and disposal of contaminated soil and groundwater must be performed in accordance with DEQ regulations and policies.

DEQ recommends that monitoring wells be properly decommissioned, since construction deficiencies can develop in monitoring wells, thereby creating a liability and a possible conduit for contaminant migration. Monitoring wells that are not maintained according to Oregon Water Resources Department (OWRD) standards must either be repaired or decommissioned in accordance with OWRD regulations. Please coordinate with an OWRD Regional Well Inspector regarding proper abandonment procedures and submit a copy of any monitoring well decommissioning reports to DEQ.

This determination will not apply if new or undisclosed facts show that the cleanup does not comply with the referenced rules. Specifically, This letter only applies to the UST release discussed above (unless otherwise noted) and does not apply to contamination that may have originated from Underground Injection Control systems (UICs), i.e. motor vehicle drains, septic systems, drain fields, cesspools, seepage pits, drywells, seepage trenches, and abandoned wells. It also does not apply to former pump islands or UST locations, hydraulic hoists, or other sources of contamination not addressed by this letter. If this facility has unregistered UICs you must register them with the DEQ and obtain from DEQ either Rule Authorization or a permit to operate the UIC. Please visit DEQ's website at www.deq.state.or.us/wq/groundwa/uichome.htm or call (503) 229-5945 for more information.

DEQ recommends keeping a copy of all of the documentation associated with this remedial action with the permanent facility records.

Your efforts to comply with the regulations to ensure that your facility has been adequately cleaned up have been appreciated. If you have any questions, please contact me at (503) 667-8414 extension 55007

Respectfully,

Laurey Cook, UST Cleanup Specialist
UST Cleanup and Compliance Section

Michael H. Kortenhof, Manager
UST Section and Hazardous Waste Compliance

(llc:LLC)

cc: NWR Monitoring Well Inspector
Oregon Water Resources Dept.
725 Summer St. NE, Ste. A
Salem, OR 97301-1270

Brian Pletcher
Delta Environmental Consultants, Inc.
4640 SW Macadam Ave
Portland Oregon 9723

Memorandum

To: Bill Robertson

CC: Mike Kortenhof

From: Laurey Cook

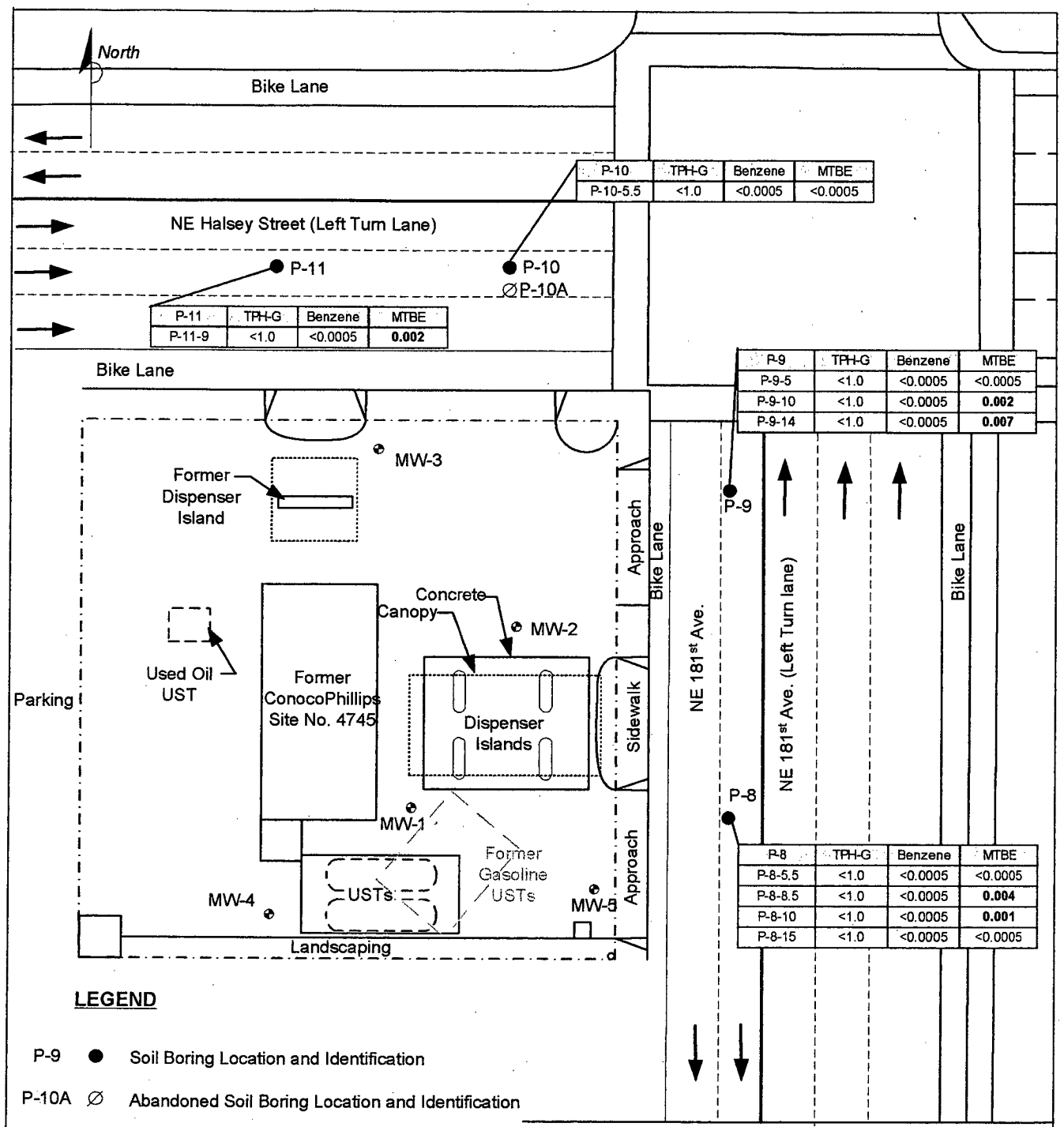
Date: 10/9/2007

Re: NFA recommendation for ConocoPhillips site 26-05-0199

This service station was constructed in 1969; the initial tanks were removed in 1989. During that removal, a petroleum release was reported and the site closed as soil matrix. The decommissioning occurred in August. Groundwater at the site is fairly shallow, but apparently not encountered during the 1989 cleanup. There is also some questionable reporting regarding the samples. The lab data indicates impact at 10 feet, the bottom of the pit. The consultant later reported this as a soil stock pile sample.

In 2005 Delta did a baseline evaluation of contamination at the site. They found groundwater impacts, and put five monitoring wells in. I reviewed the history of the site and found that Greg performed a compliance inspection. Based on the low level of constituents and the current tank compliance, it appears to me the groundwater impacts are likely related to the earlier release closed under the soil matrix rules. This is a currently operating service station that is surrounded by commercial and industrial facilities. The levels of contamination are low. There is no shallow groundwater usage in the area.

I requested that Delta delineate the extent of contamination and evaluate the potential for impacts on utility corridors. They did an additional investigation in July 2007. A small amount of MTBE was detected in soils under the roadway. There is no indication of impacts to utility corridors. Attached is a map and diagram showing impacts. The contamination is apparently stable, and below all applicable RBCs. I am recommending a no further action determination.



P-10	TPH-G	Benzene	MTBE
P-10-5.5	<1.0	<0.0005	<0.0005

P-11	TPH-G	Benzene	MTBE
P-11-9	<1.0	<0.0005	**0.002**

P-9	TPH-G	Benzene	MTBE
P-9-5	<1.0	<0.0005	<0.0005
P-9-10	<1.0	<0.0005	**0.002**
P-9-14	<1.0	<0.0005	**0.007**

P-8	TPH-G	Benzene	MTBE
P-8-5.5	<1.0	<0.0005	<0.0005
P-8-8.5	<1.0	<0.0005	**0.004**
P-8-10	<1.0	<0.0005	**0.001**
P-8-15	<1.0	<0.0005	<0.0005

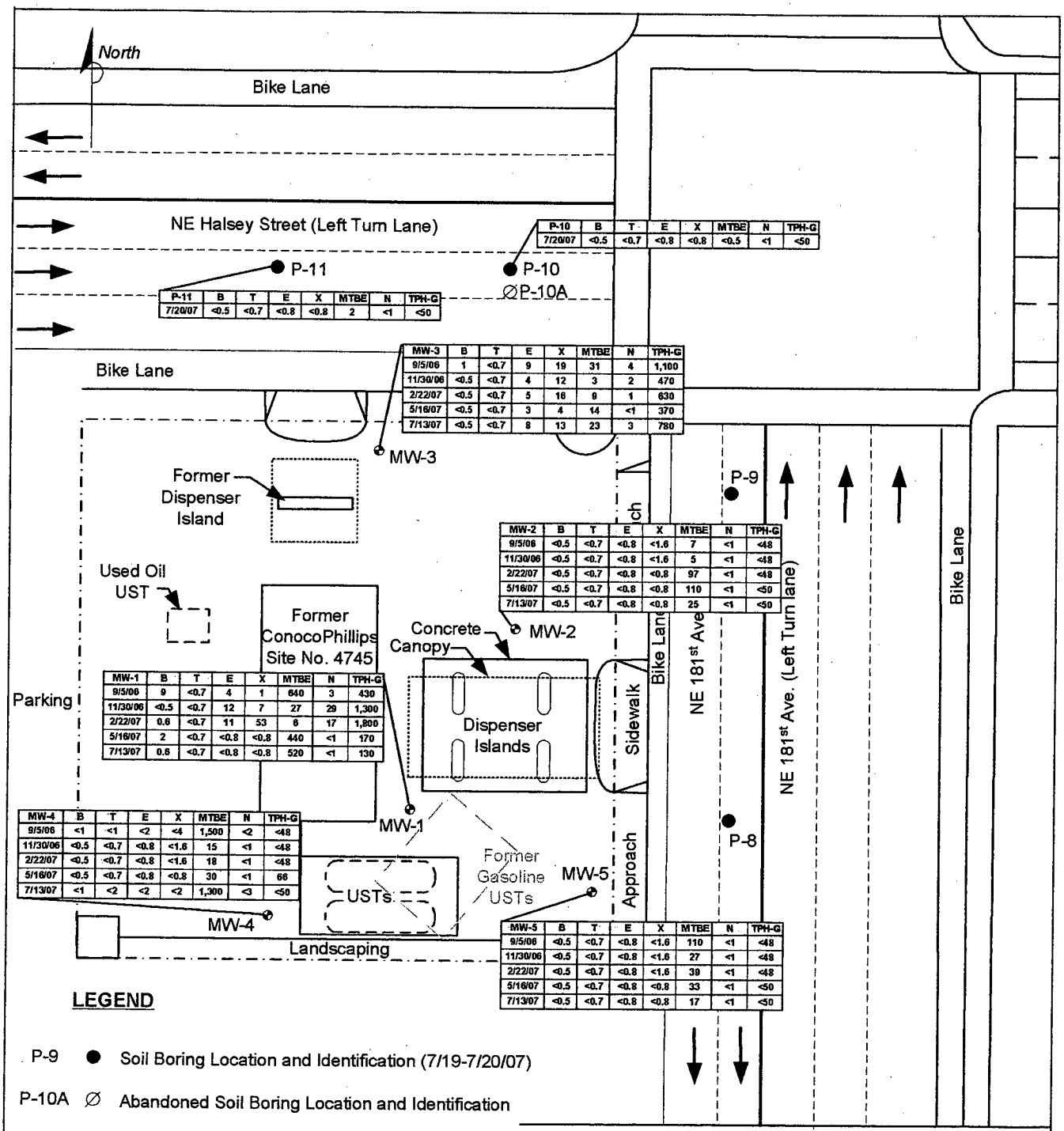
FIGURE 3

TPH-G, BENZENE, AND MTBE RESULTS IN SOIL

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04745	DRAWN BY CRF 8/7/07
FILE NO. 4745	PREPARED BY CRF 8/7/07
REVISION NO.	REVIEWED BY

DELTA



P-10	B	T	E	X	MTBE	N	TPH-G
7/20/07	<0.5	<0.7	<0.8	<0.8	<0.5	<1	<50

P-11	B	T	E	X	MTBE	N	TPH-G
7/20/07	<0.5	<0.7	<0.8	<0.8	2	<1	<50

MW-3	B	T	E	X	MTBE	N	TPH-G
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470
2/22/07	<0.5	<0.7	5	16	9	1	630
5/16/07	<0.5	<0.7	3	4	14	<1	370
7/13/07	<0.5	<0.7	8	13	23	3	780

MW-2	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48
2/22/07	<0.5	<0.7	<0.8	<0.8	97	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	110	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	25	<1	<50

MW-1	B	T	E	X	MTBE	N	TPH-G
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300
2/22/07	0.6	<0.7	11	53	6	17	1,800
5/16/07	2	<0.7	<0.8	<0.8	440	<1	170
7/13/07	0.6	<0.7	<0.8	<0.8	520	<1	130

MW-4	B	T	E	X	MTBE	N	TPH-G
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	18	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	30	<1	66
7/13/07	<1	<2	<2	<2	1,300	<3	<50

MW-5	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	39	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	33	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	17	<1	<50

LEGEND

P-9 ● Soil Boring Location and Identification (7/19-7/20/07)

P-10A Ø Abandoned Soil Boring Location and Identification

MW-1 ⊕ Monitoring Well Location and Identification

B	Benzene Concentration, micrograms per liter (µg/L)
T	Toluene Concentration, µg/L
E	Ethylbenzene Concentration, µg/L
X	Total Xylenes, µg/L
MTBE	Methyl tert-Butyl Ether, µg/L
N	Naphthalene, µg/L
TPH-G	TPH as Gasoline, µg/L

0 40 FT

APPROX. SCALE

FIGURE 4

TPH-G, BTEX, N, AND MTBE RESULTS IN GROUNDWATER - JULY 2007

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. QR04745	DRAWN BY CRF 8/7/07
FILE NO. 4745	PREPARED BY CRF 8/7/07
REVISION NO.	REVIEWED BY

DELTA

August 24, 2007

Ms. Laurey Cook
Oregon Department of Environmental Quality – Northwest Region
1550 NW Eastman Pkwy, Ste.290
Gresham, OR 97030

RECEIVED
AUG 28 2007
DEPT OF ENVIRONMENTAL QUALITY
GRESHAM OFFICE

DELTA

RE: **Offsite Environmental Assessment Report**
ConocoPhillips Site No. 4745
RM&R No. 4702
1545 NE 181st Avenue
Gresham, Oregon
DEQ File No. 26-05-0199
Delta Project No. OR04-745-07

Dear Ms. Cook:

Delta Consultants (Delta) has prepared this report summarizing the environmental assessment for the former ConocoPhillips Site No. 4745 located at 1545 NE 181st Avenue in Gresham, Oregon. The scope of work was performed to evaluate potential petroleum hydrocarbon impact to offsite underground utility corridors downgradient of the site.

SITE DESCRIPTION

The site is located on the southwest corner of the intersection of NE 181st Avenue and NE Halsey Street in Gresham, Oregon. The site is geographically located in Multnomah County in Township 1 North, Range 3 East, at the SE quarter of the SE quarter of Section 30 of the Willamette Meridian. The site is at an elevation of approximately 200 feet above mean sea level.

Site topography slopes gently to the north towards the Columbia River, which is located approximately 1.5 miles to the north of the site. A site location map is presented as Figure 1.

Current site features include a station building, two 12,000-gallon gasoline underground storage tanks (USTs), one used-oil UST, one former dispenser island and two currently inactive dispenser islands. The site is primarily covered with concrete and asphalt pavement and is presently fenced and not operating. Figure 2 shows the approximate locations of former and current site features.

Five monitoring wells (MW- 1 through MW-5) were installed in 2006 and are sampled on a quarterly basis. Monitoring well locations are shown on Figure 2.

7150 SW Hampton Suite 220 Tigard, Oregon 97223 USA
Phone 503.639.8098 / 800.477.7411 Fax 503.639.7619 www.deltaenv.com

Soils encountered during previous investigations generally consisted of brown silty sand with gravel to approximately 6 feet below ground surface (bgs), brown silty sand with cobbles and boulders from approximately 6 feet bgs to approximately 15 feet bgs, followed by brown silty sand with gravel to 22 feet bgs, the total depth explored.

SITE VICINITY

The immediately adjacent properties are used primarily for commercial purposes. The site is bordered to the north by NE Halsey Street, beyond which is an ARCO branded retail fuel service station (DEQ LUST No. 26-99-0363), to the east by NE 181st Avenue, beyond which is a restaurant (Jung's Dynasty), to the south by a restaurant (Wendy's); and to the west by a Safeway grocery store.

UNDERGROUND UTILITIES

Utility maps for the site and adjacent areas were obtained from the Oregon Utility Notification Center and applicable utility agencies to assess the potential for preferential pathways produced by utility corridors. The approximate locations of the subsurface utilities for the site are presented in Figure 3.

The deepest utility in the vicinity of the site is the 30" outside diameter (O.D) storm sewer line which runs beneath the east portion of 181st Avenue. The bottom of the storm sewer line lies at a depth of approximately 8.5 feet bgs, which is deeper than the highest recorded depth to groundwater measurement (approximately 6.93 feet below the top of well casing) recorded in monitoring well MW-5.

The sanitary sewer line runs in a north-south direction below 181st Avenue and is located at a depth between 5 feet bgs and 6 feet bgs, as determined from the depth of the manhole north of the site (5 feet bgs) and south of the site (6 feet bgs). The natural gas line, which runs in a north-south direction below 181st Avenue, is at an estimated 3 feet bgs and 4.3 feet bgs below ground surface. According to Northwest Natural Gas Company, the exact depth can only be determined by potholing the utility.

Two water utilities run beneath NE Hogan in an east-west direction. One is abandoned and the other is active. One of the water lines was encountered during hole clearance of boring P-10 at a depth of 4 feet bgs.

Comparing the depth of the underground utility corridors in the vicinity of the site to the depth to the historical depth to water measurements recorded in the nearest downgradient monitoring wells, it appears the only potential preferential pathway for the offsite migration of petroleum hydrocarbons would be via the storm sewer line, located approximately 70 feet east of the site. Water line, natural gas line, and sanitary sewer line utility corridors are too shallow to become preferential pathways for contaminant migration.

SCOPE OF WORK

On July 19 and 20, 2007, Delta conducted the advancement of four off-site soil borings (P-8 through P-11) to assess the potential for petroleum hydrocarbons to migrate through offsite preferential pathways produced by utility corridors. Two soil borings (P-8 and P-9) were advanced east of the site in NE 181st Avenue, and two soil borings (P-10 and P-11) were advanced north of the site in NE Halsey Street. Soil samples were collected above the saturated zone and groundwater samples were collected where encountered (P-10 and P-11). The soil boring locations are shown in Figure 2.

BORINGS

Prior to drilling, a project-specific health and safety plan (HASP) was prepared in accordance with 29 CFR 1910 120 for field activities at the site. The HASP identified potential physical and chemical hazards associated with the proposed field activities and specified personal protection and safety monitoring requirements. The HASP was reviewed and signed by all Delta and Contractor personnel prior to beginning work at the site each day. The HASP was available on-site at all times during the field activities.

Delta requested a site utility marking by One-Call Utilities Notification and a private utility locator was contracted to assist in locating the subsurface features and the utilities in the area of the proposed drilling. All boring locations were air-knifed to a minimum of five feet bgs for utility clearance.

The soil borings were advanced using a hollow stem auger to depths up to 17 feet bgs. The total depth of the boring was dependent upon the depth at which groundwater was encountered at each boring location. Soil samples were collected at approximate five-foot intervals using a split spoon sampler. The soil borings were backfilled with hydrated bentonite chips upon completion to approximately 3 feet bgs, followed by pea gravel to approximately 1 foot bgs, and completed to grade with an asphalt patch.

SUBSURFACE CONDITIONS

Soils encountered during this investigation generally consisted of silty sand with gravel and cobbles to approximately 17 feet bgs. Groundwater was encountered in borings P-10 and P-11 at depths of approximately 3.5 feet bgs and 11.5 feet bgs, respectively. Wet soil was encountered in soil borings P-8 and P-9 at a depth of 15 feet bgs but groundwater did not enter the borings. The depth to water in onsite monitoring wells MW-1 through MW-5 were measured on July 13, 2007 at depths ranging from 9.2 feet below top of casing (TOC) in well MW-5 to 14.05 feet below TOC in well MW-2. The depth to water was measured in well MW-3 at a depth of 9.73 feet below TOC on July 20, 2007. Groundwater flow direction at the site has been historically to the North-Northeast.

SOIL SAMPLING

Soil samples were collected at approximate five-foot intervals between 5 feet and 14 feet bgs in accordance with OAR 340-122-0218. Soil samples for logging and chemical analysis were collected utilizing an 18" split spoon sampler with a 2-inch inside diameter driven into undisturbed formation materials utilizing a (describe hammer). The soils encountered were logged by a Delta field technician working under the supervision of a state-registered geologist using ASTM D 2488, titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Field observations, including soil color, odor and photoionization detector (PID) readings, were recorded on the boring logs. Field procedures and boring logs are included in Attachment A.

SOIL SAMPLE SELECTION AND ANALYSIS

Soil samples were selected from each boring based on field observations and PID readings and submitted for laboratory analysis. Soil samples were submitted to Lancaster Laboratories (Lancaster) in Lancaster, Pennsylvania for quantitative chemical analysis. A certified laboratory analytical report and chain-of-custody documentation is included in Attachment B. Selected soil samples were submitted for analysis for the following:

- Total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) using Northwest Method NW-TPH-Gx
- Benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B

SOIL ANALYTICAL RESULTS

Benzene was not detected above the laboratory method reporting limit (MRL) (<0.0005 milligrams per kilogram (mg/kg)) in any of the soil samples collected and submitted for analysis.

MTBE was detected above the laboratory MRLs in 5 soil samples (P-8.8.5, P-8-10, P-9-10, P-9-14, and P-11-9). MTBE detections occurred at depths ranging from 8.5 feet bgs to 14 feet bgs. MTBE concentrations were detected at boring location P-8 at concentrations of 0.004 mg/kg at a depth of 8.5 feet bgs and 0.001 mg/kg at a depth of 10 feet bgs. MTBE concentrations were detected at boring location P-9 at concentrations of 0.002 mg/kg at a depth of 10 feet bgs and 0.007 mg/kg at a depth of 14 feet bgs. MTBE was detected at boring location P-11 at a concentration of 0.002 mg/kg at a depth of 9 feet bgs.

Toluene was detected at a concentration of 0.001 mg/kg in soil sample P-11-9, collected at a depth of 9 feet bgs from boring P-11.

Additional petroleum hydrocarbon compounds, including ethylbenzene, total xylenes, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in any of the soil samples submitted for analysis.

Soil analytical results are summarized in Table 1 and Figure 3.

GROUNDWATER ANALYTICAL RESULTS

Petroleum hydrocarbon compounds, consisting of TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in groundwater samples collected from boring locations P-10 and P-11. Groundwater was not encountered at boring locations P-8 and P-9, located in NE 181st Avenue and no groundwater samples were collected.

Groundwater analytical results are summarized in Table 2 and Figure 4. Quarterly groundwater monitoring results from monitoring wells MW-1 through MW-5 from the past five monitoring events are also included on Figure 4.

WASTE HANDLING

Soil cuttings generated by field activities were placed in 55-gallon steel drums and will be transported to the Waste Management Hillsboro Landfill in Hillsboro, Oregon by Stratus Corporation of Gaston, Oregon for disposal. Decontamination water was contained within a partially filled soil drum and solidified using diatomaceous earth.

SUMMARY

This site investigation was performed to assess current offsite soil and groundwater conditions with respect to petroleum hydrocarbons at the site and to assess the potential for offsite migration of petroleum hydrocarbons along utility corridors in NE 181st Avenue and NE Halsey Street.

The depth of the deepest utility corridor (storm sewer) is estimated at approximately 8.5 feet bgs. The highest historical depth to groundwater measurement recorded in downgradient wells MW-1 and MW-3 were measured at approximately 7.5 feet bgs, indicating the potential for offsite migration of petroleum hydrocarbons via the storm sewer utility corridor, generally only during the wet season when the water table rises. The storm sewer is located approximately 70 feet east of the site in NE 181st Avenue.

Off site soil borings P-8 and P-9, located east of the site in NE 181st Avenue, were advanced to depths of 17 feet bgs. Soil samples were collected up to depths of 15 feet bgs. MTBE was the only compound detected in soil samples P-8-8.5, P-8-10, P-9-10, and P-9-14, with concentrations ranging from 0.001 mg/kg to 0.007 mg/kg. Groundwater was not encountered at either soil boring location.

Off site soil borings P-10 and P-11, located north of the site in NE Halsey Street were advanced to depths of 5.5 feet bgs and 14 feet bgs, respectively. Soil samples were collected at depths of 5.5 feet bgs at P-10 and 9 feet bgs at P-11. MTBE and toluene were the only compounds detected in soil sample P-11-9, collected at a depth of 9 feet bgs, at concentrations of 0.002 mg/kg and 0.001 mg/kg, respectively at boring P-11. According to Appendix A of the Oregon Department of Environmental Quality's (DEQs) *Risk Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, dated September 2003, the most stringent generic risk-based concentration (RBC) determined for the applicable site exposure pathway and receptor scenarios is 35 mg/kg for MTBE (soil vapor intrusion into buildings for the occupational worker) and 39,000 mg/kg for toluene (soil ingestion, dermal contact, and inhalation for the construction worker).

MTBE was analyzed for groundwater samples collected from borings P-10 and P-11. MTBE was the only compound detected in groundwater in boring P-11. MTBE was detected at boring location P-11 at a concentration of 2 µg/L. Boring P-11 is located north of the site in Halsey Street. The most stringent generic RBC for MTBE in groundwater applicable to the site is 31,000 µg/L (groundwater in excavation exposure pathway for the excavation and construction worker receptor scenario). Concentrations of petroleum hydrocarbons in groundwater did not exceed any RBCs applicable to the site.

Results from this investigation indicate petroleum hydrocarbon compounds detected in offsite soil and groundwater in close proximity to utility corridors do not exceed the DEQ generic RBCs for the applicable exposure pathway and receptor scenarios. Based on this investigation, petroleum hydrocarbons detected in soil and groundwater off site do not exceed the generic RBC for the excavation worker receptor scenario.

If you have any questions or comments regarding this report, please contact Brian Pletcher at (503) 639-8098.

Sincerely,
Delta Consultants,



Brian J. Pletcher, R.G.
Senior Project Geologist

cc: Mr. Mike Noll, ConocoPhillips Company, 11921 185th Avenue SE, Snohomish, WA 98290
Mr. Chris Pecoraro, SunCor, 11601 Wilshire Boulevard, Suite700, Los Angeles, CA 90025

Attachments: Table 1 –Soil Analytical Results – TPH-G and VOCs
Table 2 – Groundwater Analytical Results – TPH-G and VOCs
Figure 1 – Site Location Map
Figure 2 – Site Map with Soil Boring Locations and Underground Utilities
Figure 3 - TPH-G, Benzene, and MTBE Results in Soil
Figure 4 - TPH-G, BTEX, N, and MTBE Results in Groundwater
Attachment A - Field Procedures and Boring Logs
Attachment B – Laboratory Analytical Report and Chain-of-Custody Documentation

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS - TPH-G AND VOCs
ConocoPhillips Site No. 4745
RM&R No.4702
1545 NE 181st Avenue
Gresham, Oregon

Sample Identification	Sample Date	Sample Depth	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	Isopropyl-benzene (mg/kg)	n-Propyl-benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)
P-8-5.5	07/19/07	5.5	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-8-8.5	07/19/07	8.5	<1.0	<0.0005	<0.001	<0.001	<0.001	**0.004**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-8-10	07/19/07	10	<1.0	<0.0005	<0.001	<0.001	<0.001	**0.001**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-8-15	07/19/07	15	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-9-5	07/19/07	5	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-9-10	07/19/07	10	<1.0	<0.0005	<0.001	<0.001	<0.001	**0.002**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-9-14	07/19/07	14	<1.0	<0.0005	<0.001	<0.001	<0.001	**0.007**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-10-5.5	07/20/07	5.5	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
P-11-9	07/20/07	9	<1.0	<0.0005	**0.001**	<0.001	<0.001	**0.002**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Generic Remedy RBC Comparison:															
RBCss (Construction Worker)			13,000	340	39,000	28,000	19,000	9,000	710	0.25	180	24,000	9,300	1,400	1,400
RBCss (Occupational Worker)			22,000	34	68,000	74,000	24,000	760	770	0.033	15	51,000	19,000	1,500	1,500
RBCss (Excavation Worker)			-	9,400	-	-	-	-	20,000	7.1	5,000	-	-	40,000	40,000
RBCso (Occupational Worker)			80,000	48	-	-	-	720	-	1.7	14	-	-	-	790
RBCsi (Occupational Worker)			-	1.2	-	-	-	35	-	0.37	0.56	-	-	140	840

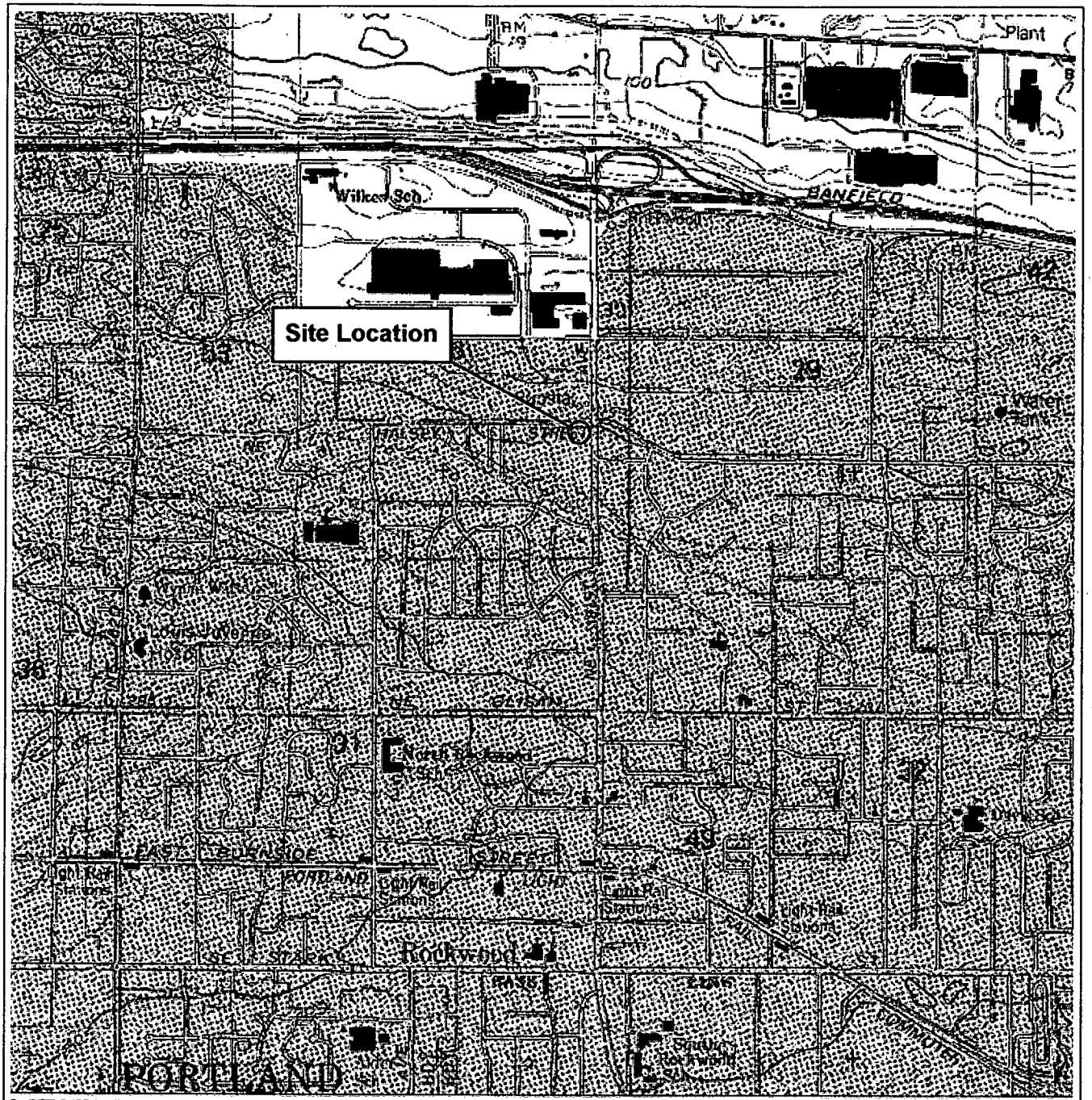
Notes:
mg/kg = milligrams per kilogram - dry
<1.0 = not detected above the laboratory method reporting limit (MRL) of 1.0 mg/kg
BOLD = Analyte detected above the laboratory method reporting limit (MRL)
TPH-G = Total Petroleum Hydrocarbon in the gasoline range
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
TPH-G analysis by NWTPH-Gx Method
Volatile organic compound (VOC) analysis by EPA Method 8260B
RBCss = Risk Based Concentration (RBC) for soil ingestion, dermal contact, and inhalation exposure pathway
RBCsi = RBC for soil vapor intrusion into buildings exposure pathway
RBCso = RBC for soil volatilization to outdoor air exposure pathway
RBCs determined from Appendix A of Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, Oregon DEQ, September 22, 2003

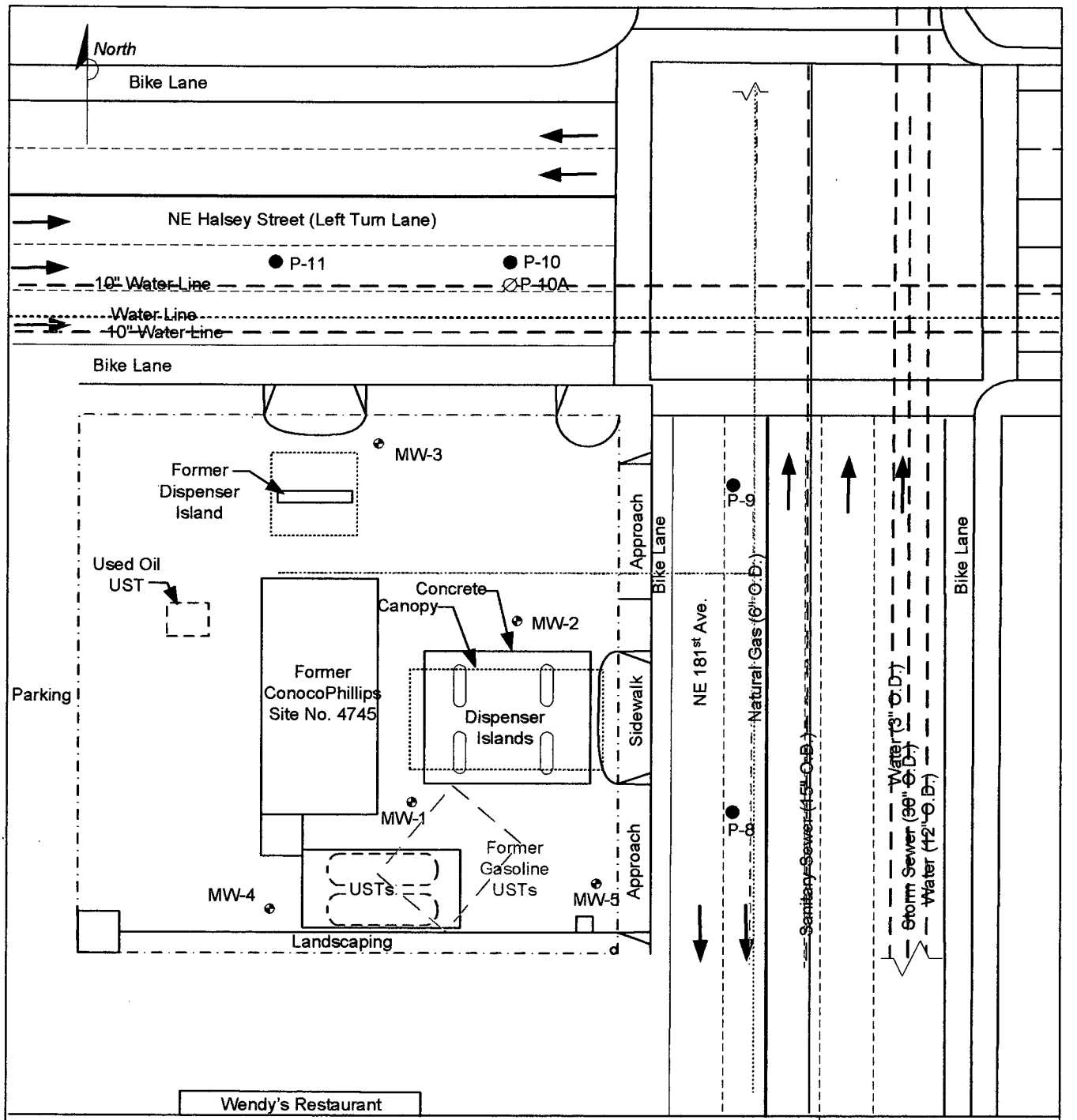
TABLE 2
GROUNDWATER ANALYTICAL RESULTS -
TPH-G AND VOCs
ConocoPhillips Site No. 4745
RM&R No.4702
1545 NE 181st Avenue
Gresham, Oregon

Sample Identification	Sample Date	TPH-G (µg/L)	Benzene (µg/L))	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	EDC (µg/L)	Isopropyl Benzene (µg/L)	n-Propyl Benzene (µg/L)	1,3,5-Trimethyl Benzene (µg/L)	1,2,4-Trimethyl Benzene (µg/L)
P-10	07/20/07	<50	<0.5	<0.7	<0.8	<0.8	<0.5	<1	<1	<1	<1	<1	<1	<1
P-11	07/20/07	<50	<0.5	<0.7	<0.8	<0.8	**2**	<1	<1	<1	<1	<1	<1	<1
Generic Remedy RBC Comparison:														
RBCwo (Occupational Worker)		-	13,000	-	-	-	550,000	-	2,500	9,000	-	-	-	-
RBCwi (Occupational Worker)		-	2,700	-	-	-	280,000	-	1,800	3,600	-	-	38,000	51,000
RBCwe (Excavation & Construction Worker)		12,000	1,700	78,000	110,000	22,000	31,000	680	20	600	-	-	1,400	1,300

Notes:
µg/L = micrograms per liter
-- = Not sampled, not analyzed or not applicable.
BOLD = Analyte detected above the laboratory method reporting limit (MRL)
TPH-G = Total petroleum hydrocarbon in the gasoline range
MTBE = Methyl tert-butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
TPH-G analysis using Northwest Method NWTPH-Gx
Volatile organic compound (VOC) analysis by EPA Method 8260B
-- = Not sampled, not analyzed or not applicable.
RBCwo = Risk Based Concentration (RBC) for groundwater volatilization to outdoor air exposure pathway
RBCwi = RBC for groundwater vapor intrusion into buildings exposure pathway
RBCwe = RBC for groundwater in excavation exposure pathway
RBCs determined from Appendix A of *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, Oregon DEQ, September 22, 2003

FIGURES


Site Location
Wilkes Sch.
BANFIELD
Plant
HALSEY
STATE
LOVEJOY
GLISAN
NORTHEAST
EAST
PORTLAND
STARK
Rockwood
PORTLAND
Light Rail Stations
Light Rail
Dark Sch.
Water Park
Norfolk Island
Sch.
Sch.
Sch.



LEGEND

P-9	●	Soil Boring Location and Identification
P-10A	∅	Abandoned Soil Boring Location and Identification
MW-1	⊕	Monitoring Well Location and Identification

0 40 FT

APPROX. SCALE

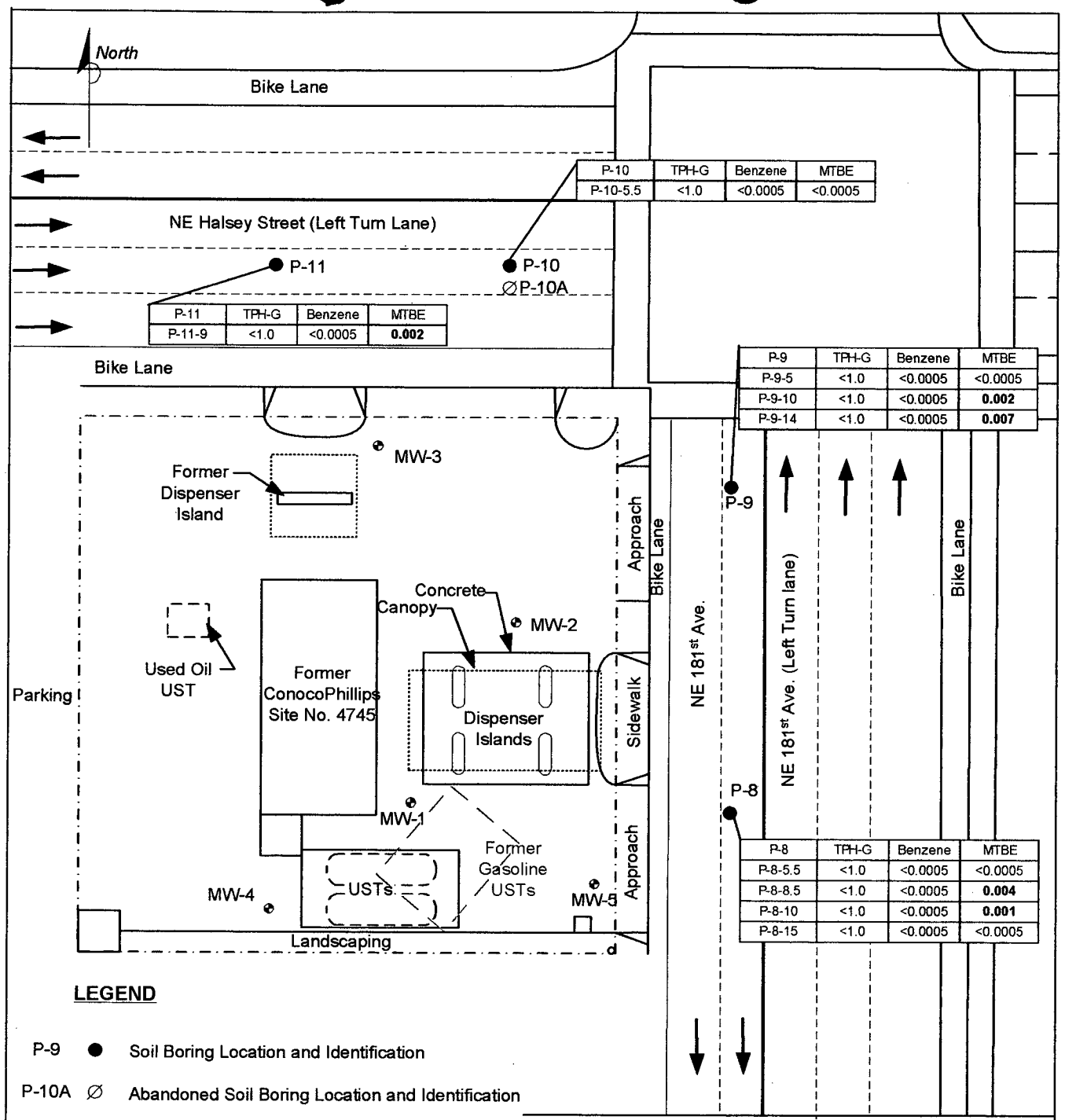
FIGURE 2

SITE MAP WITH SOIL BORING LOCATIONS AND UNDERGROUND UTILITY LOCATIONS

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04745	DRAWN BY CRF 8/7/07
FILE NO. 4745	PREPARED BY CRF 8/7/07
REVISION NO. 1	REVIEWED BY

DELTA



P-10	TPH-G	Benzene	MTBE
P-10-5.5	<1.0	<0.0005	<0.0005

P-11	TPH-G	Benzene	MTBE
P-11-9	<1.0	<0.0005	**0.002**

P-9	TPH-G	Benzene	MTBE
P-9-5	<1.0	<0.0005	<0.0005
P-9-10	<1.0	<0.0005	**0.002**
P-9-14	<1.0	<0.0005	**0.007**

P-8	TPH-G	Benzene	MTBE
P-8-5.5	<1.0	<0.0005	<0.0005
P-8-8.5	<1.0	<0.0005	**0.004**
P-8-10	<1.0	<0.0005	**0.001**
P-8-15	<1.0	<0.0005	<0.0005

LEGEND

P-9	●	Soil Boring Location and Identification
P-10A	∅	Abandoned Soil Boring Location and Identification
MW-1	⊕	Monitoring Well Location and Identification
TPH-G		Total Petroleum Hydrocarbon as Gasoline
MTBE		Methyl tert-Butyl Ether
		All results in milligrams per kilogram (mg/kg)

0 40 FT

APPROX. SCALE

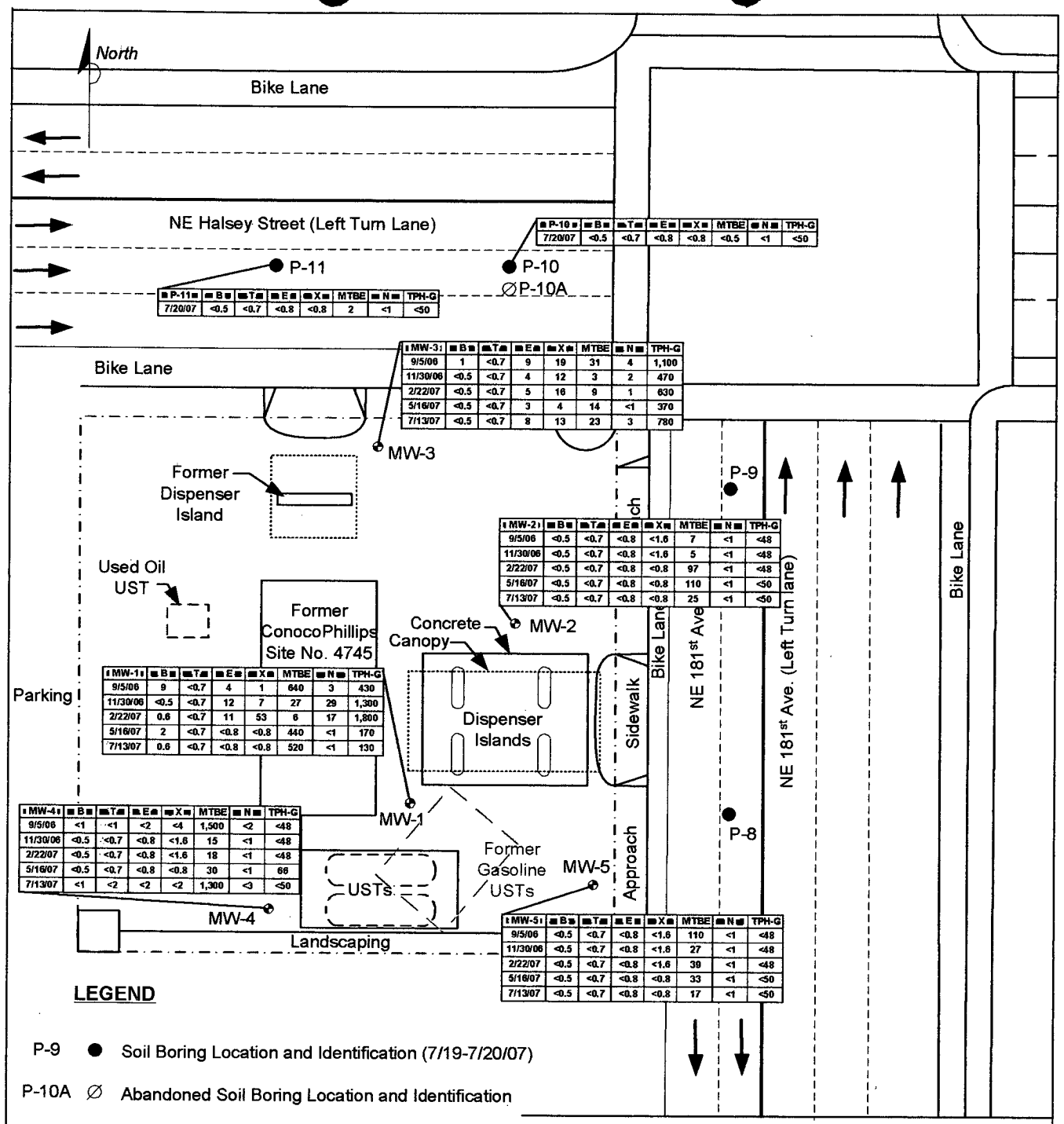
FIGURE 3

TPH-G, BENZENE, AND MTBE RESULTS IN SOIL

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04745	DRAWN BY CRF 8/7/07
FILE NO. 4745	PREPARED BY CRF 8/7/07
REVISION NO.	REVIEWED BY

DELTA



P-10	B	T	E	X	MTBE	N	TPH-G
7/20/07	<0.5	<0.7	<0.8	<0.8	<0.5	<1	<50

P-11	B	T	E	X	MTBE	N	TPH-G
7/20/07	<0.5	<0.7	<0.8	<0.8	2	<1	<50

MW-3	B	T	E	X	MTBE	N	TPH-G
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470
2/22/07	<0.5	<0.7	5	16	9	1	630
5/16/07	<0.5	<0.7	3	4	14	<1	370
7/13/07	<0.5	<0.7	8	13	23	3	780

MW-2	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48
2/22/07	<0.5	<0.7	<0.8	<0.8	97	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	110	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	25	<1	<50

MW-1	B	T	E	X	MTBE	N	TPH-G
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300
2/22/07	0.6	<0.7	11	53	6	17	1,800
5/16/07	2	<0.7	<0.8	<0.8	440	<1	170
7/13/07	0.6	<0.7	<0.8	<0.8	520	<1	130

MW-4	B	T	E	X	MTBE	N	TPH-G
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	18	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	30	<1	66
7/13/07	<1	<2	<2	<2	1,300	<3	<50

MW-5	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	39	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	33	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	17	<1	<50

LEGEND

P-9 ● Soil Boring Location and Identification (7/19-7/20/07)

P-10A ∅ Abandoned Soil Boring Location and Identification

MW-1 ◉ Monitoring Well Location and Identification

B	Benzene Concentration, micrograms per liter (µg/L)
T	Toluene Concentration, µg/L
E	Ethylbenzene Concentration, µg/L
X	Total Xylenes, µg/L
MTBE	Methyl tert-Butyl Ether, µg/L
N	Naphthalene, µg/L
TPH-G	TPH as Gasoline, µg/L

0 40 FT

APPROX. SCALE

FIGURE 4

TPH-G, BTEX, N, AND MTBE RESULTS IN GROUNDWATER - JULY 2007

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04745	DRAWN BY CRF 8/7/07
FILE NO. 4745	PREPARED BY CRF 8/7/07
REVISION NO.	REVIEWED BY

DELTA

ATTACHMENT A

FIELD PROCEDURES AND BORING LOGS

GEOPROBE INSTALLATION PROCEDURES AND SOIL AND SAMPLING PROTOCOL

UNDERGROUND UTILITY LOCATIONS

Prior to initiating the field investigation, a request was placed with the Utilities Notification Center to conduct an underground utility survey in the vicinity of the proposed Geoprobe borings and groundwater monitoring well. A private utility locator was contracted to clear the proposed Geoprobe borings of private underground utilities. Each boring location was air-knifed to five feet bgs for utility clearance.

DRILLING PROCEDURES

Soil borings were drilled using a truck-mounted hollow-stem-auger rig equipped with 10-1/4 inch outside diameter augers. The auger was decontaminated with a hot water pressure wash before use in the borehole to minimize any cross-contamination. Decontamination water was contained in a trailer during washing and immediately pumped into Oregon Department of Transportation (ODOT) approved 55-gallon open-head drums. Soil cuttings generated during drill activities were collected and stored on site in 55-gallon steel drums.

SOIL SAMPLE COLLECTION

Soil samples were collected at 5-foot intervals using an 18-inch-long split-spoon sampler. The bottom most portion of the sample interval was used for field screening for evidence of volatile organic constituents. Field screening was completed by placing a portion of the collected soil into a sealable plastic bag and then monitoring headspace vapor concentrations using a portable photoionization detector (PID). The middle portion from the sampling interval was prepared for submittal to an off-site laboratory for possible analysis. The uppermost portion of the sample interval was retained for visual inspection and for lithogic descriptions.

A log was compiled for each borehole, including descriptions of the soil types, color, texture, degree of consolidation, and moisture content. Soil types were based on the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).*

FIELD SCREENING OF SOIL SAMPLES

Soil samples were field screened for visual or olfactory indications of petroleum hydrocarbons, tested for sheen by water immersion, and tested for headspace vapor concentrations using a portable PID. Data generated from field screening instruments were considered qualitative in nature. Although semi-quantitative data are generated using a PID, the results cannot be relied upon with the confidence of a laboratory analysis. Data generated from this type of analysis may provide the following:

- Identification of soil, water, air, and waste locations that have a high likelihood of showing contamination through subsequent laboratory analysis.
- Real-time data used for health and safety consideration during site reconnaissance and subsequent intrusive activities.
- Quantitative data, if contaminant is known and the instrument is calibrated to that substance.

FIELD SCREENING USING VAPOR HEADSPACE TESTING

The instrument used for headspace vapor testing was a MiniRae PID. Prior to use, this instrument was calibrated to a known isobutylene calibrant standard (100 parts per million (ppm)), in accordance with the manufacturer's specifications.

The following sequential steps were completed for each sample analyzed:

- A representative portion of the soil sample was collected directly from a brass sample ring or acrylic sleeve into a new, sealable Ziploc-type plastic bag. The bag was immediately sealed.
- The sealed bag with sample was allowed to sit at field ambient temperature for several minutes.
- One end of the bag seal was slightly opened, and the intake port of a PID was carefully inserted through the opening.
- The stabilized numerical value was observed and recorded onto the boring log form.

This number does not represent a concentration of volatiles in ppm; it is a relative measure of the amount of ionized compounds present. As the exact chemical species present is unknown, the units of concentration are referred to as ppm of isobutylene.

Vapor headspace screening is only applicable as a screening method for the presence of ionizable compounds with first ionization potentials of less than 10.6 electron volts. In addition, variables that affect measurable concentrations and are unaccounted for in this procedure include, but are not limited to: temperature, soil moisture content, and soil organic content. Vapor headspace screening is not designed for screening for evidence of contamination by semi-volatile or non-volatile organic compounds or for the presence of elemental metals or compounds.

Soil Descriptions

The Delta system of soil description utilizes the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Generally, soils were described by the following modifiers:

- Density (based on visual observations).
- Moisture.
- Color (including mottling, stringers, color changes).
- Soil classification.
- Stratification.
- Percent varying grain sizes.
- Sphericity, and roundness of grains.
- Major soil constituents were capitalized, and granular soils were given relative size descriptions.

Each sample was described, using the modifiers provided above, on a standardized field log form or project notebook.

Sample Documentation and Custody

Chain-of-custody for a sample was defined by the following criteria:

- The sample was in a Delta staff person's possession or in his or her view after being in his or her possession.

Each time the samples transferred possession, both the sender and receiver signed and dated the chain-of-custody form and specified the item being transferred. After transfer of sample custody from the sampling team to the laboratory sample custodian, one copy of the chain-of-custody record was given to the sampling team for placement into the project files; the original remains with the laboratory. A chain-of-custody record was completed for each shipment of containers.

The following information was included on the chain-of-custody form:

- Sample container type and container number.
- Date and time of collection.
- Sample collection location(s).
- Signatures of sampler, submitter, and receiver of samples.
- Date and time samples were received by laboratory.
- Total number of samples received.
- Laboratory analyses requested for each sample.
- Requested laboratory turn-around time.

Decontamination Procedures

Decontamination procedures were used on all dedicated and non-dedicated sampling equipment that could potentially contact and cross-contaminate other materials. This included personal protective equipment, sampling equipment, and sample containers.

Materials that were used in the decontamination process include:

- Liquinox nonphosphate detergent.
- Deionized water.
- Tap water.
- Teflon squirt bottles.
- Bailer brushes.
- Galvanized cleaning tubs.

Investigation-Derived Wastes

Personal protective clothing, development water, purge water, and decontamination solution/solvents were the types of waste generated during the course of this project.

The water generated from the investigation was transported to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal. Potentially hazardous wastes were contained within DOT approved, 17-H steel drums (55-gallon) and stored on site (with the owner's permission), pending receipt of analytical data and determination of final disposition.

Each drum containing investigation-derived waste was labeled with the following information:

- Site name.
- Sequential drum number.
- Date of collection.
- Source and type of waste.

All such information was recorded in field log books, and a final inventory of all investigation-derived wastes, including quantities, storage methods, disposition, and dates, was compiled at the completion of the project.
Soil containing concentrations of petroleum constituents were disposed of at an off-site site permitted to accept and treat soil containing petroleum constituents. All necessary permits were obtained prior to transporting, treating, or disposal of soil.

Field Notebook

In addition to sample identification numbers and chain-of-custody records, a bound field notebook was maintained by Delta personnel to provide a daily record of significant events, observations, and measurements during field investigations. This record will include a sample collection record, field measurements, personnel, and other pertinent information. All entries in the field notebooks were made in ink, signed, and dated. The field notebook was kept as a permanent record.

Soil samples were placed in appropriate USEPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory. A waterproof label showing project identification, boring designation, approximate depth, date, and the sampler's initials was affixed to each sample. All drilling equipment was cleaned between samples by washing in a detergent solution followed by a clean water rinse and distilled water rinse.

Delta

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Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: P-8	
Logged By:	CR	Location:	1545 NE 181st Aven, Gresham, OR	Page 1 of 1	
Driller:	Boart-Longyear	Date Drilled:	7/19/2007	Location Map	
Drilling Method:	HSA	Hole Diameter:	8"	See Figure 2	
Sampling Method:	SPT	Hole Depth:	17'		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	Casing Stickup:	N/A		
Elevation		Northing		Easting	

Borehole Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Asphalt									Asphalt (8")
Gravel					1				Air-knife to 5' below ground surface (bgs)
					2				
					3				
					4				
		DMP	0	-	5			GW	GRAVEL with sand, well-graded, brown
				(H.A)	6				50% gravel, 40% well-graded sand, 10% cobbles
					7				
					8				
Bentonite				8	9			GW	As above
		MST	0	30				SM	Silty SAND with gravel, brown
				50	10				60% medium-coarse sand, 20% silt, 20% gravel/cobbles
				for 2"					
		MST	-	28	11				
				28					
				40	12				
					13				
					14				
					15				
				35				SM	As above, grades more gravel
		Wet		45	16				Some wetness at 15.5'
		MST		50					
					17				(Augered to 17 feet to attempt groundwater sample)
									Bottom of Boring at 17 feet bgs.
					18				
					19				
					20				
					21				
					22				

Delta
Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: P-9	
Logged By:	CI	Location:	1545 NE 181st Ave, Gresham, OR	Page 1 of 1	
Driller:	Boart-Longyear	Date Drilled:	7/19/2007	Location Map	
Drilling Method:	HSA	Hole Diameter:	8"	See Figure 2	
Sampling Method:	H.A./SPT	Hole Depth:	17'		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	Casing Stickup:	N/A		
Elevation		Northing		Easting	

Borehole Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Asphalt									Asphalt (10")
Gravel					1				Air-knife to 5' below ground surface (bgs)
					2				
					3				(Roots approx 1/2" to 3/4" dia) at approx. 3 ft. bgs)
					4				
		DMP	0	-	5			SW-SM	SAND with silt and gravel/cobbles, well-graded, brown
				(H.A)	6				
					7				
					8				
Bentonite		MST	0	9	9			SW	SAND with silt and gravel, well-graded, brown
				19	10				60% well-graded sand, 30% gravel, 10% silt
				24	11				
					12				
					13				
				35	14			SW	As above, grades less gravel with tan fine sand lenses
		Wet		45	15			CL	CLAY lense, soft, sticky, 1" thickness
				50				SW	SAND with silt and gravel, well-graded, brown
					16				60% well-graded sand, 30% gravel, 10% silt
					17				(Augered to 17 feet to attempt groundwater sample)
									Bottom of Boring at 17 feet bgs.
					18				
					19				
					20				
					21				
					22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: P-10	
Logged By:	C[redacted]	Location:	1545 NE 181st Ave[redacted] Gresham, OR	Page 1 of 1	
Driller:	Boart-Longyear	Date Drilled:	7/20/2007	Location Map	
Drilling Method:	Vac	Hole Diameter:	8"	See Figure 2	
Sampling Method:	SPT	Hole Depth:	5.5'		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	Casing Stickup:	N/A		
Elevation		Northing		Easting	

Borehole Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Asphalt									Asphalt (8")
Gravel					1				Air-knife to 5.5' below ground surface (bgs)
					2				
	▽ 12:00	Wet			3				Groundwater visible entering boring
					4				
					5				
Bentonite		Wet	8.0	10	6			SM	Silty SAND with gravel, brown
				11					60% sand, 20% silt, 20% well-graded gravel, subrounded
		SAT		8	7				
									Bottom of Boring at 5.5 feet bgs.
									Sampling terminated at 7' bgs
					8				
					9				
					10				
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

Delta
Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: P-11	
Logged By:	C[redacted]	Location:	1545 NE 181st Ave[redacted] Gresham, OR	Page 1 of 1	
Driller:	Boart-Longyear	Date Drilled:	7/20/2007	Location Map	
Drilling Method:	H.S.A	Hole Diameter:	8"	See Figure 2	
Sampling Method:	SPT	Hole Depth:	14'		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	Casing Stickup:	N/A		
Elevation		Northing		Easting	

Borehole Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Asphalt									Asphalt (8")
Gravel					1				Air-knife to 6.5' below ground surface (bgs)
					2				
					3				
					4			SP-SM	SAND with silt, gravel, and cobbles, poorly graded, brown
					5				70% medium-coarse sand, 20% subround cobbles
					6				(up to 8"), 10% silt
					7				
Bentonite					8				
					9				
		DMP	31.2	9	10			SP-SM	SAND with silt and gravel, poorly-graded, brown
				14					60% sand, 25% silt, 15% gravel,
				25	11				
	▽				12				
	13:40				13				
					14				
									Bottom of Boring at 14 feet bgs.
					15				Sampling terminated at 11' bgs
					16				
					17				
					18				
					19				
					20				
					21				
					22				

ATTACHMENT B

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1048309. Samples arrived at the laboratory on Tuesday, July 24, 2007. The PO# for this group is 4508509063 and the release number is NOLL.

Client Description	Lancaster Labs Number
P-8-5.5 Grab Soil Sample	5110612
P-8-8.5 Grab Soil Sample	5110613
P-8-15 Grab Soil Sample	5110614
P-9-5 Grab Soil Sample	5110615
P-9-10 Grab Soil Sample	5110616
P-9-14 Grab Soil Sample	5110617
P-10-5.5 Grab Soil Sample	5110618
P-11-9 Grab Soil Sample	5110619
P-10 Grab Water Sample	5110620
P-11 Grab Water Sample	5110621
P-8-10 Grab Soil Sample	5110622

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Martha L. Seidel

Martha L. Seidel
Senior Chemist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5110612

P-8-5.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 11:20 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

85545

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/kg	1
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 12:42	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 07:33	Stephanie A Selis	1
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 07:33	Stephanie A Selis	1
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 02:56	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:33	Eric L Vera	n.a.

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5110612

P-8-5.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 11:20 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

85545

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5110613

P-8-8.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 12:15 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

88545

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.004	0.0005	mg/kg	1.01
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1.01
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1.01
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1.01
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1.01
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1.01
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1.01
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1.01
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1.01
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1.01
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1.01
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1.01
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1.01

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 13:22	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 09:53	Stephanie A Selis	1.01
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 09:53	Stephanie A Selis	1.01
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:07	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:37	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110613

P-8-8.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 12:15 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

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Analysis Report

Lancaster Laboratories Sample No. SW 5110622

P-8-10 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 12:35 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

81045

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.001	0.0005	mg/kg	1.01
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1.01
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1.01
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1.01
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1.01
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1.01
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1.01
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1.01
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1.01
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1.01
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1.01
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1.01
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1.01

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 18:09	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 12:37	Stephanie A Selis	1.01
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 12:37	Stephanie A Selis	1.01
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:21	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:53	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110622

P-8-10 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 12:35 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

81045

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5110614

P-8-15 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 13:30 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

81545

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/kg	1
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 14:05	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 10:17	Stephanie A Selis	1
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 10:17	Stephanie A Selis	1
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:09	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:40	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110614

P-8-15 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 13:30 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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5528 NW Doane Ave.
Portland OR 97210

81545

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Analysis Report

Lancaster Laboratories Sample No. SW 5110615

P-9-5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 13:15 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

95745

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/kg	0.99
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	0.99
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	0.99
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	0.99
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	0.99
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	0.99
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	0.99
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	0.99
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	0.99
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	0.99
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	0.99
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	0.99
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	0.99

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 14:45	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 10:40	Stephanie A Selis	0.99
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 10:40	Stephanie A Selis	0.99
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:10	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:42	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110615

P-9-5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 13:15 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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Analysis Report

Lancaster Laboratories Sample No. SW 5110616

P-9-10 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 15:25 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

91045

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.002	0.0005	mg/kg	1
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 15:26	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 11:04	Stephanie A Selis	1
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 11:04	Stephanie A Selis	1
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:11	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:43	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110616

P-9-10 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 15:25 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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Analysis Report

Lancaster Laboratories Sample No. SW 5110617

P-9-14 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 15:40 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

91445

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.007	0.0005	mg/kg	1
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 16:07	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 11:27	Stephanie A Selis	1
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 11:27	Stephanie A Selis	1
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:13	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:46	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110617

P-9-14 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/19/2007 15:40 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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Analysis Report

Lancaster Laboratories Sample No. SW 5110618

P-10-5.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 12:30 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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5528 NW Doane Ave.
Portland OR 97210

10555

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/kg	0.99
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	0.99
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	0.99
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	0.99
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	0.99
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	0.99
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	0.99
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	0.99
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	0.99
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	0.99
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	0.99
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	0.99
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	0.99

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 16:47	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 11:50	Stephanie A Selis	0.99
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 11:50	Stephanie A Selis	0.99
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:14	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:49	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110618

P-10-5.5 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 12:30 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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Analysis Report

Lancaster Laboratories Sample No. SW 5110619

P-11-9 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 13:35 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

11945

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.002	0.0005	mg/kg	0.99
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	0.99
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	0.99
05466	Toluene	108-88-3	0.001	0.001	mg/kg	0.99
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	0.99
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	0.99
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	0.99
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	0.99
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	0.99
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	0.99
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	0.99
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	0.99
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	0.99

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 17:28	Linda C Pape	25
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	07/26/2007 12:13	Stephanie A Selis	0.99
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	07/26/2007 12:13	Stephanie A Selis	0.99
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	07/26/2007 03:15	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5030A	1	07/24/2007 21:51	Eric L Vera	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5110619

P-11-9 Grab Soil Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 13:35 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

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Analysis Report

Lancaster Laboratories Sample No. WW 5110620

P-10 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 12:10 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

10745

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/26/2007 02:52	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	08/02/2007 11:38	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	08/02/2007 11:38	Holly Berry	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/26/2007 02:52	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/02/2007 11:38	Holly Berry	1

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Analysis Report

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Lancaster Laboratories Sample No. WW 5110620

P-10 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 12:10 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
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10745

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Analysis Report

Lancaster Laboratories Sample No. WW 5110621

P-11 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 13:50 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

11745

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	2.	0.5	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/25/2007 17:26	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	08/02/2007 12:14	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	08/02/2007 12:14	Holly Berry	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/25/2007 17:26	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	08/02/2007 12:14	Holly Berry	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5110621

P-11 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:07/20/2007 13:50 by CF

Account Number: 11856

Submitted: 07/24/2007 09:15
Reported: 08/02/2007 at 17:39
Discard: 09/02/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

11745

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Delta Environmental
Reported: 08/02/07 at 05:39 PM

Group Number: 1048309

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07205A02B	Sample number(s): 5110612-5110619,5110622							
TPH by NWTPH-Gx soils	N.D.	1.0	mg/kg	103	104	67-119	0	30
Batch number: 07206A07A	Sample number(s): 5110620-5110621							
TPH by NWTPH-Gx waters	N.D.	50.	ug/l	93	101	75-135	8	30
Batch number: B072071AA	Sample number(s): 5110612-5110619,5110622							
Methyl Tertiary Butyl Ether	N.D.	0.0005	mg/kg	100		72-117		
Benzene	N.D.	0.0005	mg/kg	96		84-115		
1,2-Dichloroethane	N.D.	0.001	mg/kg	106		76-126		
Toluene	N.D.	0.001	mg/kg	95		81-116		
1,2-Dibromoethane	N.D.	0.001	mg/kg	105		77-114		
Ethylbenzene	N.D.	0.001	mg/kg	94		82-115		
m+p-Xylene	N.D.	0.001	mg/kg	94		82-117		
o-Xylene	N.D.	0.001	mg/kg	93		82-117		
Isopropylbenzene	N.D.	0.001	mg/kg	90		82-110		
n-Propylbenzene	N.D.	0.001	mg/kg	92		76-122		
1,3,5-Trimethylbenzene	N.D.	0.001	mg/kg	89		74-112		
1,2,4-Trimethylbenzene	N.D.	0.001	mg/kg	92		74-117		
Naphthalene	N.D.	0.001	mg/kg	105		52-121		
Batch number: N072141AA	Sample number(s): 5110620-5110621							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	98		73-119		
Benzene	N.D.	0.5	ug/l	98		78-119		
1,2-Dichloroethane	N.D.	1.	ug/l	102		77-132		
Toluene	N.D.	0.7	ug/l	97		85-115		
1,2-Dibromoethane	N.D.	1.	ug/l	98		81-114		
Ethylbenzene	N.D.	0.8	ug/l	97		82-119		
m+p-Xylene	N.D.	0.8	ug/l	96		83-113		
o-Xylene	N.D.	0.8	ug/l	96		83-113		
Isopropylbenzene	N.D.	1.	ug/l	95		80-120		
n-Propylbenzene	N.D.	1.	ug/l	98		78-119		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	96		78-116		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	96		78-117		
Naphthalene	N.D.	1.	ug/l	86		61-116		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07205A02B	Sample number(s): 5110612-5110619,5110622 UNSPK: P102712								
TPH by NWTPH-Gx soils	100	102	39-118	2	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Delta Environmental
Group Number: 1048309
Reported: 08/02/07 at 05:39 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07206A07A	Sample number(s): 5110620-5110621 UNSPK: 5110621								
TPH by NWTPH-Gx waters	124	126	63-154	1	30				
Batch number: B072071AA	Sample number(s): 5110612-5110619,5110622 UNSPK: 5110612								
Methyl Tertiary Butyl Ether	93	96	47-130	4	30				
Benzene	93	91	59-120	1	30				
1,2-Dichloroethane	98	99	62-130	2	30				
Toluene	94	95	38-131	2	30				
1,2-Dibromoethane	96	94	66-108	0	30				
Ethylbenzene	92	89	54-116	1	30				
m+p-Xylene	92	91	44-127	1	30				
o-Xylene	90	89	44-127	0	30				
Isopropylbenzene	89	87	41-120	0	30				
n-Propylbenzene	90	88	46-121	1	30				
1,3,5-Trimethylbenzene	89	87	52-117	1	30				
1,2,4-Trimethylbenzene	90	88	47-122	0	30				
Naphthalene	95	91	10-123	3	30				
Batch number: N072141AA	Sample number(s): 5110620-5110621 UNSPK: P109577								
Methyl Tertiary Butyl Ether	106	105	69-127	0	30				
Benzene	108	107	83-128	1	30				
1,2-Dichloroethane	108	109	70-143	0	30				
Toluene	106	106	83-127	0	30				
1,2-Dibromoethane	103	103	78-120	0	30				
Ethylbenzene	106	106	82-129	0	30				
m+p-Xylene	106	104	82-130	2	30				
o-Xylene	105	105	82-130	0	30				
Isopropylbenzene	106	104	81-130	2	30				
n-Propylbenzene	108	108	74-138	0	30				
1,3,5-Trimethylbenzene	104	106	77-124	1	30				
1,2,4-Trimethylbenzene	105	104	80-125	1	30				
Naphthalene	88	92	50-124	4	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx soils
Batch number: 07205A02B

	Trifluorotoluene-F
5110612	90
5110613	77
5110614	84
5110615	85
5110616	80
5110617	76
5110618	84

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Quality Control Summary

Client Name: Delta Environmental
Group Number: 1048309
Reported: 08/02/07 at 05:39 PM

Surrogate Quality Control

5110619	81
5110622	81
Blank	94
LCS	103
LCSD	105
MS	99
MSD	95
Limits:	61-122

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 07206A07A

	Trifluorotoluene-F
5110620	99
5110621	99
Blank	102
LCS	104
LCSD	109
MS	107
MSD	109
Limits:	63-135

Analysis Name: EPA SW846/8260 (soil)
Batch number: B072071AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5110612	102	97	97	88
5110613	101	93	97	86
5110614	102	92	97	86
5110615	103	92	98	85
5110616	104	99	96	89
5110617	101	89	98	87
5110618	102	92	97	85
5110619	107	103	96	89
5110622	105	97	97	86
Blank	102	96	97	88
LCS	100	95	101	97
MS	100	92	102	98
MSD	100	96	103	98
Limits:	71-114	70-109	70-123	70-111

Analysis Name: EPA SW846/8260 (water)
Batch number: N072141AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5110620	97	98	101	96
5110621	97	96	101	96
Blank	97	99	100	94
LCS	99	98	102	96
MS	99	97	101	96
MSD	100	97	102	96
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Quality Control Summary

Client Name: Delta Environmental
Reported: 08/02/07 at 05:39 PM

Group Number: 1048309

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 11856 Group# 1048309 Sample # 511062-22

COC # 0115400

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: Delta Consultants Acct. #:
Project Name/#: 4745 PWSID #:
Project Manager: B. Pletcher P.O.#:
Sampler: C. Fleming Quote #:
Name of state where samples were collected: Oregon

(3) (4) (5) (6)

For Lab Use Only
FSC:
SCR #:

(2)								TPH-G (NWTPH-Gx)	*RBCA VOCs (8260)	Remarks
P-8-5.5	7/19/07	1120	✓		✓		2	✓	✓	* RBCA VOCs =
P-8-8.5		1215	✓		✓		2	✓	✓	BTEX, MTBE, N,
P-8-15		1330	✓		✓		2	✓	✓	EDB, EDC,
P-9-5		1315	✓		✓		2	✓	✓	1,2,4-trimethylbenzene,
P-9-10		1525	✓		✓		2	✓	✓	1,3,5-trimethylbenzene,
P-9-14		1540	✓		✓		2	✓	✓	isopropylbenzene +
P-10-5.5	7/20/07	1230	✓		✓		2	✓	✓	n-propylbenzene
P-11-9		1335	✓		✓		2	✓	✓	
P-10		1210	✓			✓	6	✓	✓	
P-11		1350	✓			✓	7	✓	✓	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	7/23/07	1500			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Shirley Mayer	7-24-07	0915

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 11856 Group# 1648309 Sample # 311061 2-22

COC # 0115402

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Delta Consultants Acct. #:
Project Name/#: 4745 PWSID #:
Project Manager: B. Pletcher P.O.#:
Sampler: C. Fleming Quote #:
Name of state where samples were collected: Oregon

(2) (3) (4) (5)

| Sample Identification | Date Collected | Time Collected | Matrix | Composite | Grab | # of Containers | TPH-G (NWTPH-Gx) | RBCA VOCs | | |

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

DELTA

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	ConcoPhillips Company	**Date:**	August 6, 2007
	11921 185th Avenue SE		
	Snohomish, WA 98290		
Re:	3Q07 GW Monitoring Report	**Site No.:**	ConocoPhillips 4745
		RM&R No.:	4702
		DEQ File No.	**26-05-0199**

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
AUG 22 2007
NORTHWEST REGION
GRESHAM OFFICE

Inogen Environmental Alliance
7150 SW Hampton, Suite 220, Tigard, OR 97223 USA
Phone 503.639.8098 / 800.477.7411 Fax 503.639.7619 www.deltaenv.com

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

August 6, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [3Q07]

- Groundwater monitoring and sampling on July 13, 2007.
- Offsite soil and groundwater assessment conducted on July 19 and 20, 2007.

WORK PROPOSED FOR NEXT QUARTER [4Q07]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	9.20 to 14.05	(Feet below TOC)
Groundwater Gradient:	North	(Direction)
	0.07	(ft/ft)
Maximum Benzene Concentration:	0.6	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000' Radius and Respective Direction:	Not Applicable	(Distance and Direction)
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/ Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on July 13, 2007 included measuring the water levels in monitoring wells MW-1 through MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using a centrifugal pump with dedicated tubing in each well. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 22 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Emerald Services, Inc. to their facility in Seattle, Washington for treatment and disposal.

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on July 13, 2007. Water samples collected from wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

August 6, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

TPH-G was detected above the laboratory method reporting limits (MRLs) in wells MW-1 and MW-3 at concentrations of 130 micrograms per liter (µg/L) and 780 µg/L, respectively. Benzene was detected above the laboratory MRL in well MW-1 at a concentration of 0.6 µg/L. MTBE was detected above the laboratory MRL in wells MW-1 through MW-5 at concentrations ranging from 17 µg/L in well MW-5 to 1,300 µg/L in well MW-4. Petroleum hydrocarbon concentrations are consistent with concentrations historically observed. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 9.20 feet below the top of casing (TOC) in well MW-5 to 14.05 feet below TOC in well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

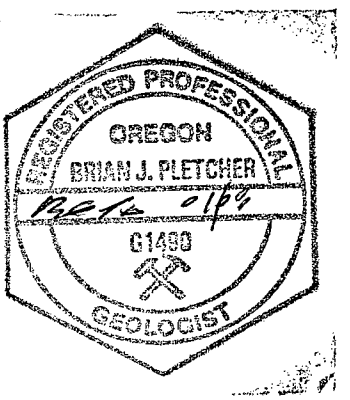
Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for October 2007.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Consultants,

Cale R. Fleming
Staff Scientist



Brian J. Pletcher, R.G.
Senior Project Geologist

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

August 6, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	10.59	0.00	89.41	2	<0.7	2	1	410	-	380
	09/05/06	12.86	0.00	87.14	9	<0.7	4	1	640	3	430
	11/30/06	7.51	0.00	92.49	<0.5	<0.7	12	7	27	29	1,300
	02/22/07	7.62	0.00	92.38	0.6	<0.7	11	53	6	17	1,800
	05/16/07	10.59	0.00	89.41	2	<0.7	<0.8	<0.8	440	<1	170
	07/13/07	**11.93**	**0.00**	**88.07**	**0.6**	**<0.7**	**<0.8**	**<0.8**	**520**	**<1**	**130**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	12.58	0.00	86.69	<0.5	<0.7	<0.8	<0.8	63	-	<48
	09/05/06	14.60	0.00	84.67	<0.5	<0.7	<0.8	<1.6	7	<1	<48
	11/30/06	11.66	0.00	87.61	<0.5	<0.7	<0.8	<1.6	5	<1	<48
	02/22/07	12.30	0.00	86.97	<0.5	<0.7	<0.8	<0.8	97	<1	<48
	05/16/07	12.88	0.00	86.39	<0.5	<0.7	<0.8	<0.8	110	<1	<50
	07/13/07	**14.05**	**0.00**	**85.22**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**25**	**<1**	**<50**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	9.58	0.00	88.95	<0.5	<0.7	0.9	6	17	-	320
	09/05/06	10.03	0.00	88.50	1	<0.7	9	19	31	4	1,100
	11/30/06	7.57	0.00	90.96	<0.5	<0.7	4	12	3	2	470
	02/22/07	8.00	0.00	90.53	<0.5	<0.7	5	16	9	1	630
	05/16/07	9.13	0.00	89.40	<0.5	<0.7	3	4	14	<1	370
	07/13/07	**9.81**	**0.00**	**88.72**	**<0.5**	**<0.7**	**8**	**13**	**23**	**3**	**780**
MW-4	06/28/06	9.78	0.00	90.33	<0.5	<0.7	<0.8	<0.8	460	-	<48
100.11	09/05/06	12.62	0.00	87.49	<1	<1	<2	<4	1,500	<2	<48
	11/30/06	7.52	0.00	92.59	<0.5	<0.7	<0.8	<1.6	15	<1	<48
	02/22/07	7.64	0.00	92.47	<0.5	<0.7	<0.8	<1.6	18	<1	<48
	05/16/07	9.92	0.00	90.19	<0.5	<0.7	<0.8	<0.8	30	<1	66
	07/13/07	**12.33**	**0.00**	**87.78**	**<1**	**<2**	**<2**	**<2**	**1,300**	**<3**	**<50**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	8.72	0.00	90.35	<0.5	<0.7	<0.8	<0.8	82	-	<48
	09/05/06	9.33	0.00	89.74	<0.5	<0.7	<0.8	<1.6	110	<1	<48
	11/30/06	6.93	0.00	92.14	<0.5	<0.7	<0.8	<1.6	27	<1	<48
	02/22/07	7.18	0.00	91.89	<0.5	<0.7	<0.8	<1.6	39	<1	<48
	05/16/07	8.69	0.00	90.38	<0.5	<0.7	<0.8	<0.8	33	<1	<50
	07/13/07	**9.20**	**0.00**	**89.87**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**17**	**<1**	**<50**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed, or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

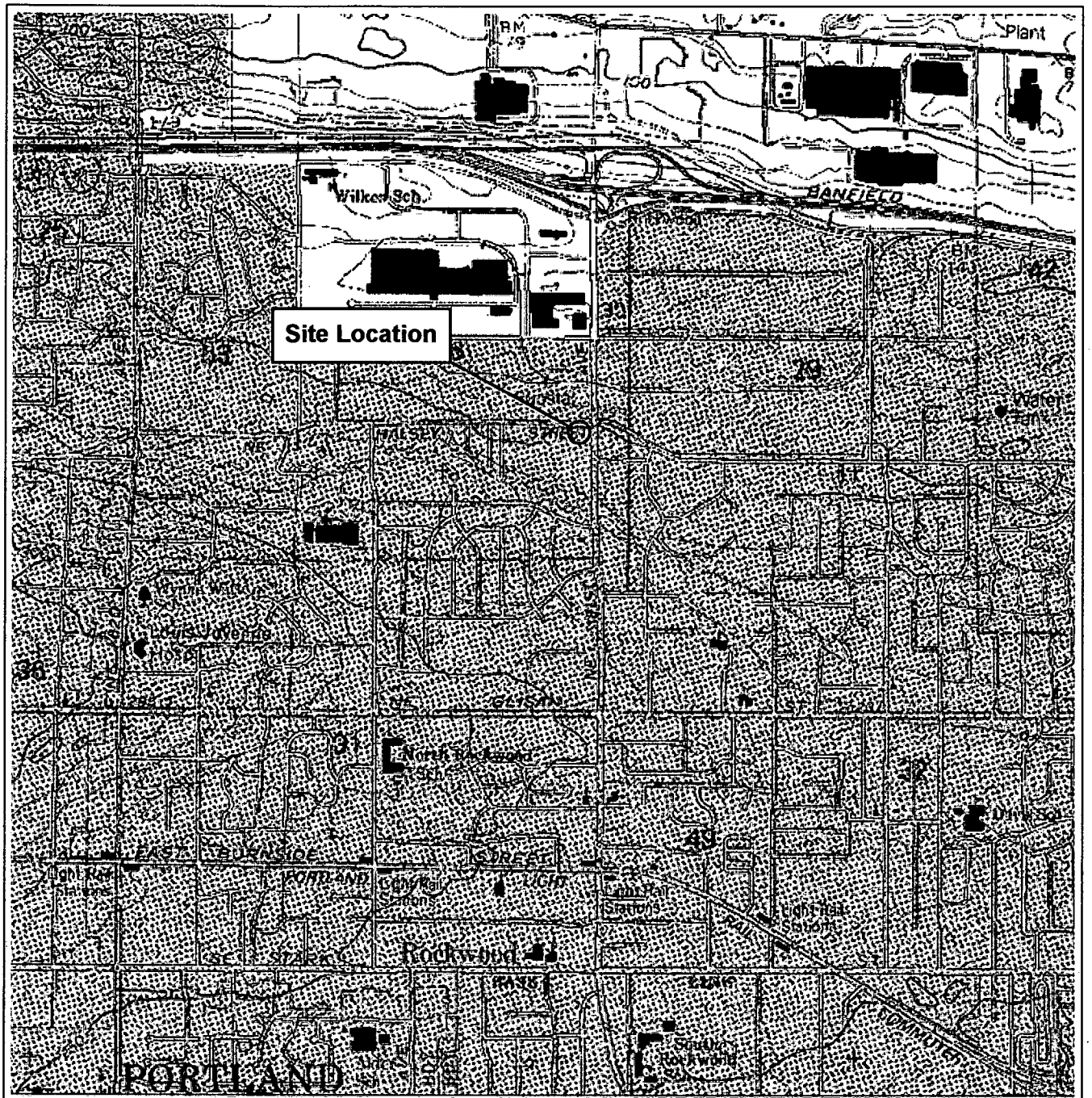
Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	6	11	2	<1
	11/30/06	<1	<1	7	18	65	2
	02/22/07	<1	<1	6	16	140	33
	05/16/07	<1	<1	3	4	<1	<1
	07/13/07	**<1**	**<1**	**2**	**<1**	**<1**	**<1**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	<1	<1	<1	<1	<1	<1
	07/13/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	12	30	24	7
	11/30/06	<1	<1	3	9	10	3
	02/22/07	<1	<1	4	12	11	3
	05/16/07	<1	<1	3	11	5	1
	07/13/07	**<1**	**<1**	**10**	**22**	**13**	**3**
MW-4	06/28/06	-	-	-	-	-	-
	09/05/06	<2	<2	<2	<2	<2	<2
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	<1	<1	<1	<1	<1	<1
	07/13/07	**<3**	**<3**	**<3**	**<3**	**<3**	**<3**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	<1	<1	<1	<1	<1	<1
	07/13/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**

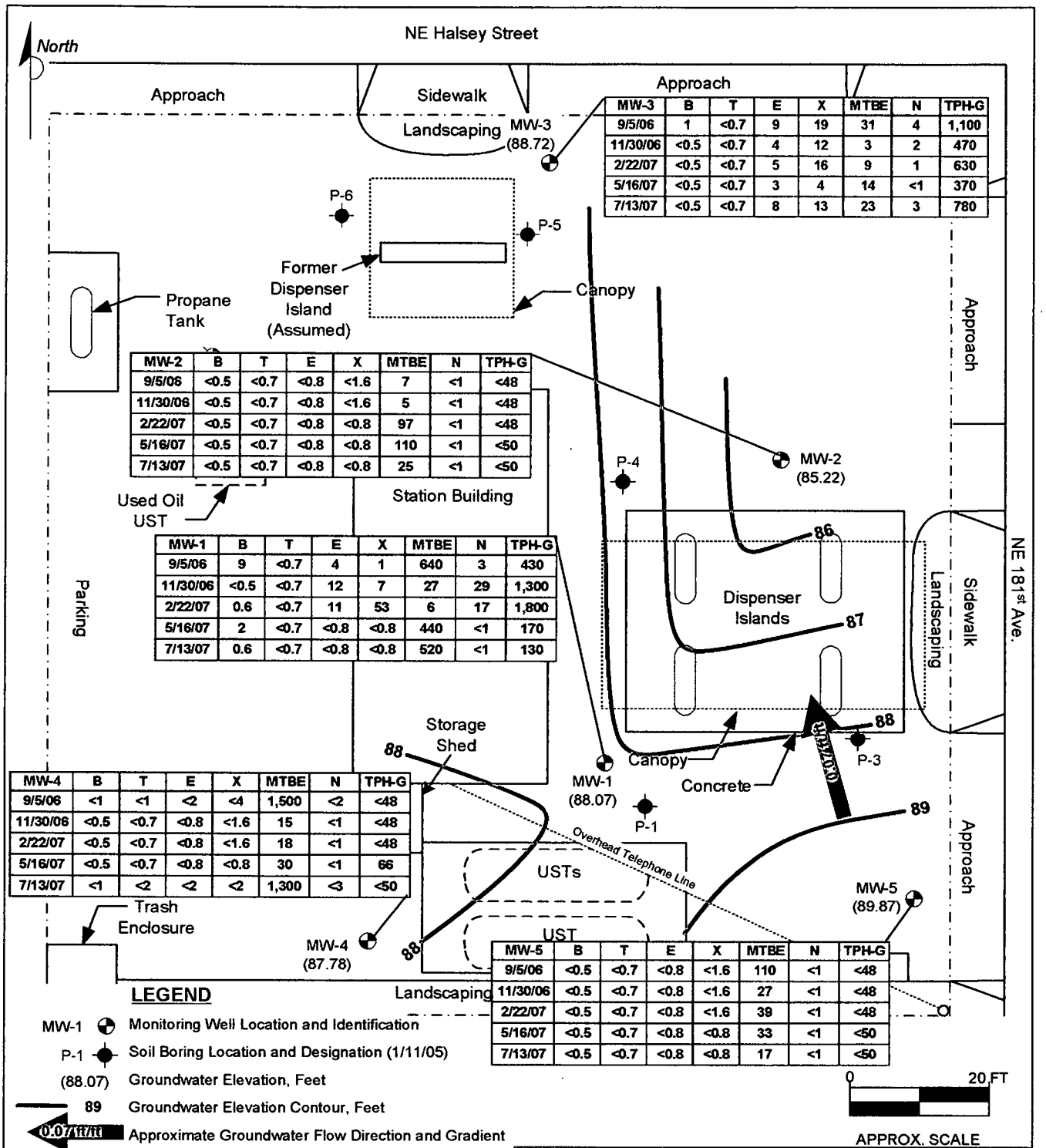
Notes:
- = Not sampled, not analyzed, or not applicable.
µg/L = micrograms per liter
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

TABLE 3
SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	NE	0.04
09/05/06	NE	0.06
11/30/06	NE	0.09
02/22/07	NE	0.11
05/16/07	NE	0.04
07/13/07	**NE**	**0.07**

Notes
ft/ft = feet per foot


Site Location
Plant
BANFIELD
Wilkes Sch
PORTLAND
Rockwood
EAST BURNSIDE
GLISAN
NE
SE
Light Rail Station
Water Tank
North Rockwood Sch
Louis Javorka Park
Dunlap Sch
Rockwood Sch
Rockwood Library
Rockwood Plaza
Rockwood Station
Rockwood Rockwood Sch
Rockwood Water District
Rockwood Water District Office
Rockwood Water District Office
Rockwood Water District Office



MW-3	B	T	E	X	MTBE	N	TPH-G
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470
2/22/07	<0.5	<0.7	5	16	9	1	630
5/16/07	<0.5	<0.7	3	4	14	<1	370
7/13/07	<0.5	<0.7	8	13	23	3	780

MW-2	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48
2/22/07	<0.5	<0.7	<0.8	<0.8	97	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	110	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	25	<1	<50

MW-1	B	T	E	X	MTBE	N	TPH-G
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300
2/22/07	0.6	<0.7	11	53	6	17	1,800
5/16/07	2	<0.7	<0.8	<0.8	440	<1	170
7/13/07	0.6	<0.7	<0.8	<0.8	520	<1	130

MW-4	B	T	E	X	MTBE	N	TPH-G
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	18	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	30	<1	66
7/13/07	<1	<2	<2	<2	1,300	<3	<50

MW-5	B	T	E	X	MTBE	N	TPH-G
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	39	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	33	<1	<50
7/13/07	<0.5	<0.7	<0.8	<0.8	17	<1	<50

LEGEND

- MW-1 — Monitoring Well Location and Identification
- P-1 — Soil Boring Location and Designation (1/11/05)
- (88.07) — Groundwater Elevation, Feet
- 89 — Groundwater Elevation Contour, Feet
- 0.07 ft/ft — Approximate Groundwater Flow Direction and Gradient
- B — Benzene Concentration, micrograms per liter (µg/L)
- T — Toluene Concentration, µg/L
- E — Ethylbenzene Concentration, µg/L
- X — Total Xylenes Concentration, µg/L
- MTBE — Methly tert-Butyl Ether Concentration, µg/L
- N — Naphthalene Concentration, µg/L
- TPH-G — Total Petroleum Hydrocarbon as Gasoline

Groundwater Monitoring and Sampling Performed on July 13, 2007

FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BTEX/MTBE/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 7/30/07
REVISION NO.	REVIEWED BY

DELTA

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1046971. Samples arrived at the laboratory on Saturday, July 14, 2007. The PO# for this group is 4506513514 and the release number is NOLL.

Client Description	Lancaster Labs Number
MW-1 Grab Water Sample	5103778
MW-2 Grab Water Sample	5103779
MW-3 Grab Water Sample	5103780
MW-4 Grab Water Sample	5103781
MW-5 Grab Water Sample	5103782

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Susan M. Goshert
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5103778

MW-1 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 11:05 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47451

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	130.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	0.6	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	2.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	520.	5.	ug/l	10

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/17/2007 10:59	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	07/19/2007 10:01	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	07/19/2007 10:25	Holly Berry	10
01146	GC VOA Water Prep	SW-846 5030B	1	07/17/2007 10:59	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/19/2007 10:01	Holly Berry	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	07/19/2007 10:25	Holly Berry	10

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5103778

MW-1 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 11:05 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47451

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5103779

MW-2 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected: 07/13/2007 10:55 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47452

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	25.	0.5	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/17/2007 06:25	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	07/19/2007 10:49	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	07/19/2007 10:49	Holly Berry	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/17/2007 06:25	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/19/2007 10:49	Holly Berry	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5103779

MW-2 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:55 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47452

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5103780

MW-3 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:45 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	780.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	8.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	11.	0.8	ug/l	1
05417	o-Xylene	95-47-6	2.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	10.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	22.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	3.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	13.	1.	ug/l	1
05439	Naphthalene	91-20-3	3.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	23.	0.5	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/17/2007 06:55	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	07/20/2007 06:48	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	07/20/2007 06:48	Holly Berry	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/17/2007 06:55	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/20/2007 06:48	Holly Berry	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5103780

MW-3 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:45 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

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Analysis Report

Lancaster Laboratories Sample No. WW 5103781

MW-4 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:23 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47454

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	1.	ug/l	2.5
05402	1,2-Dichloroethane	107-06-2	N.D.	3.	ug/l	2.5
05407	Toluene	108-88-3	N.D.	2.	ug/l	2.5
05412	1,2-Dibromoethane	106-93-4	N.D.	3.	ug/l	2.5
05415	Ethylbenzene	100-41-4	N.D.	2.	ug/l	2.5
05416	m+p-Xylene	1330-20-7	N.D.	2.	ug/l	2.5
05417	o-Xylene	95-47-6	N.D.	2.	ug/l	2.5
05420	Isopropylbenzene	98-82-8	N.D.	3.	ug/l	2.5
05424	n-Propylbenzene	103-65-1	N.D.	3.	ug/l	2.5
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	3.	ug/l	2.5
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	3.	ug/l	2.5
05439	Naphthalene	91-20-3	N.D.	3.	ug/l	2.5
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1,300.	13.	ug/l	25

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/17/2007 11:33	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	07/20/2007 07:12	Holly Berry	2.5
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	07/20/2007 07:36	Holly Berry	25
01146	GC VOA Water Prep	SW-846 5030B	1	07/17/2007 11:33	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/20/2007 07:12	Holly Berry	2.5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	07/20/2007 07:36	Holly Berry	25

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Analysis Report

Lancaster Laboratories Sample No. WW 5103781

MW-4 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:23 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

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Analysis Report

Lancaster Laboratories Sample No. WW 5103782

MW-5 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:35 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

Delta Environmental
5528 NW Doane Ave.
Portland OR 97210

47455

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	17.	0.5	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/17/2007 07:25	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	07/19/2007 09:13	Holly Berry	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	07/19/2007 09:13	Holly Berry	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/17/2007 07:25	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/19/2007 09:13	Holly Berry	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5103782

MW-5 Grab Water Sample
Site# 4702 (254745)
1545 NE 181st - Portland, OR
Collected:07/13/2007 10:35 by KM

Account Number: 11856

Submitted: 07/14/2007 10:30
Reported: 07/25/2007 at 17:31
Discard: 08/25/2007

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Analysis Report

Quality Control Summary

Client Name: Delta Environmental
Reported: 07/25/07 at 05:31 PM

Group Number: 1046971

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07198A07A	Sample number(s): 5103778-5103782							
TPH by NWTPH-Gx waters	N.D.	50.	ug/l	94	96	75-135	2	30
Batch number: W071992AB	Sample number(s): 5103778-5103779,5103782							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	96	95	73-119	1	30
Benzene	N.D.	0.5	ug/l	104	100	78-119	3	30
1,2-Dichloroethane	N.D.	1.	ug/l	111	110	77-132	1	30
Toluene	N.D.	0.7	ug/l	103	100	85-115	3	30
1,2-Dibromoethane	N.D.	1.	ug/l	103	100	81-114	3	30
Ethylbenzene	N.D.	0.8	ug/l	102	100	82-119	2	30
m+p-Xylene	N.D.	0.8	ug/l	101	99	83-113	2	30
o-Xylene	N.D.	0.8	ug/l	102	99	83-113	3	30
Isopropylbenzene	N.D.	1.	ug/l	103	100	80-120	3	30
n-Propylbenzene	N.D.	1.	ug/l	108	105	78-119	3	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	105	102	78-116	3	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	105	103	78-117	2	30
Naphthalene	N.D.	1.	ug/l	100	101	61-116	1	30
Batch number: W072011AA	Sample number(s): 5103780-5103781							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	90	92	73-119	2	30
Benzene	N.D.	0.5	ug/l	102	102	78-119	0	30
1,2-Dichloroethane	N.D.	1.	ug/l	110	112	77-132	2	30
Toluene	N.D.	0.7	ug/l	103	104	85-115	1	30
1,2-Dibromoethane	N.D.	1.	ug/l	100	100	81-114	1	30
Ethylbenzene	N.D.	0.8	ug/l	105	105	82-119	0	30
m+p-Xylene	N.D.	0.8	ug/l	101	102	83-113	2	30
o-Xylene	N.D.	0.8	ug/l	102	103	83-113	2	30
Isopropylbenzene	N.D.	1.	ug/l	102	103	80-120	0	30
n-Propylbenzene	N.D.	1.	ug/l	113	114	78-119	1	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	109	110	78-116	2	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	108	109	78-117	1	30
Naphthalene	N.D.	1.	ug/l	97	99	61-116	2	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07198A07A	Sample number(s): 5103778-5103782 UNSPK: P103130								
TPH by NWTPH-Gx waters	102		63-154						
Batch number: W071992AB	Sample number(s): 5103778-5103779,5103782 UNSPK: 5103782								
Methyl Tertiary Butyl Ether	99		69-127						

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Delta Environmental Group Number: 1046971
Reported: 07/25/07 at 05:31 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Benzene	115		83-128						
1,2-Dichloroethane	121		70-143						
Toluene	112		83-127						
1,2-Dibromoethane	106		78-120						
Ethylbenzene	114		82-129						
m+p-Xylene	111		82-130						
o-Xylene	111		82-130						
Isopropylbenzene	115		81-130						
n-Propylbenzene	120		74-138						
1,3,5-Trimethylbenzene	114		77-124						
1,2,4-Trimethylbenzene	115		80-125						
Naphthalene	107		50-124						
Batch number: W072011AA	Sample number(s): 5103780-5103781 UNSPK: P104535								
Methyl Tertiary Butyl Ether	89		69-127						
Benzene	111		83-128						
1,2-Dichloroethane	107		70-143						
Toluene	111		83-127						
1,2-Dibromoethane	100		78-120						
Ethylbenzene	111		82-129						
m+p-Xylene	108		82-130						
o-Xylene	108		82-130						
Isopropylbenzene	110		81-130						
n-Propylbenzene	123		74-138						
1,3,5-Trimethylbenzene	115		77-124						
1,2,4-Trimethylbenzene	118		80-125						
Naphthalene	96		50-124						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 07198A07A

	Trifluorotoluene-F
5103778	89
5103779	81
5103780	86
5103781	85
5103782	83
Blank	79
LCS	82
LCSD	87
MS	89
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Delta Environmental
Group Number: 1046971
Reported: 07/25/07 at 05:31 PM

Surrogate Quality Control

Batch number: W071992AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5103778	99	97	102	100
5103779	98	97	102	100
5103782	98	98	101	99
Blank	97	96	101	98
LCS	99	101	105	104
LCSD	99	101	104	105
MS	101	96	102	103
Limits:	80-116	77-113	80-113	78-113

Analysis Name: EPA SW846/8260 (water)
Batch number: W072011AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5103780	96	97	107	102
5103781	98	96	106	97
Blank	95	94	105	97
LCS	99	98	106	104
LCSD	99	96	106	102
MS	98	97	106	100
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11856 Group# 1046771 Sample # 5103774 -82

COC # 0115389

Please print. Instructions on reverse side correspond with circled numbers.

(1)

Client: Delta / Conoco Phillips Acct. #:

Project Name/#: 4745 (WN04702) PWSID #:

Project Manager: Brian Pletcher WO.#: 45065 13514

Sampler: Katy McQuinn Quote #:

Name of state where samples were collected: OR

For Lab Use Only
FSC:
SCR #:

(6)

(2) Sample Identification	Date Collected	Time Collected	(3) Preservatives	(4) Matrix	# of Containers	(5) Analyses Requested: RSK A Plus (8260B)	NWTPH-Gx	Remarks
MW-1	7/13/07	1105		X	4	X	X	
MW-2		1055		X	4			
MW-3		1045		X	4			
MW-4		1025		X	4			
MW-5	7/13/07	1035		X	4	X	X	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed:

Rush results requested by (please circle): Phone Fax E-mail

Phone #: Fax #:

E-mail address:

(8) **Data Package Options** (please circle if required)

QC Summary Type VI (Raw Data)

Type I (Tier I) GLP

Type II (Tier II) Other

Type III (NJ Red. Del.)

Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
KMcQuinn	7/13	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: KCunningham	7/14/07	10:30

(9)

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Site No. / Job No.: OR 04745

Location: 1545 NE 181st Ave, Portland, OR

Delta Personnel: KCM

Date/Time: 7/13/07 0945 - 1115

Delta Environmental Consultants, Inc.

Well ID	MW1	MW2	MW3	MW4	MW5		
DTW	11.93	14.05	9.81	12.33	9.20		
SPH Thickness	-	-	-	-	-		
Total Depth	19.62	19.98	19.81	19.50	13.94		
Well Diameter	2"				2"		
Purge Volume (3 Casing Volumes)	3.85	2.97	5.01	3.59	2.37		
Actual Purge Volume	5.0	4.0	6.01	4.0	3.0		
Purge Method	H pump	H pump	H-pump	H pump	H-pump		
Sample Time	1105	1055	1045	1025	1035		

Field Measurements: (If Applicable)

pH	pumped dry				pumped dry		
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP							
Alkalinity							
Ferrous Iron							
Comments	OK	OK	ODOR	OK	OK		

Remedial System (Y/N)? _____ Comments: _____

Operational Upon Arrival (Y/N)? _____ Comments: _____

Shut Down System 1 / 24 hours before DTW (Y/N)? _____ Time: _____

Re-Start System (Y/N)? _____

Purge Water Disposal (Y/N)? _____ Date: _____ Location: _____

7/19/07

Brian Pletcher
Delta

Having a hard time getting H_2O
Should they continue?

If they feel they have sufficient info, no they do not need to try & collect more samples to assess utilities.

Low flow H_2O at 14'
On site depth 9'
Difference of 5'
This is a lower flow time

1325 N Holiday

DELTA

RECEIVED
JUN 26 2007
DEPT OF ENVIRONMENTAL QUALITY
GRESHAM OFFICE

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	ConcoPhillips Company 11921 185th Avenue SE Snohomish, WA 98290	**Date:**	June 13, 2007
Re:	2Q07 GW Monitoring Report	**Site No.:** **RM&R No.:** **DEQ File No.**	ConocoPhillips 4745 4702 **26-05-0199**

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

Inogen Environmental Alliance

7150 SW HAMPTON, SUITE 220, TIGARD, OR 97223 USA
PHONE 503.639.8098 / 800.477.7411 FAX 503.639.7619 WWW.DELTAENV.COM

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

June 13, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [2Q07]

- Groundwater monitoring and sampling on May 16, 2007.

WORK PROPOSED FOR NEXT QUARTER [3Q07]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	8.69 to 12.88	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.04	(ft/ft)
Maximum Benzene Concentration:	2	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000'	Not Applicable	(Distance and Direction)
Radius and Respective Direction:		
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/
		Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on May 16, 2007 included measuring the water levels in monitoring wells MW-1 through MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using new disposable bailers. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 21 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Emerald Services, Inc. to their facility in Seattle, Washington for treatment and disposal.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

June 13, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on May 18, 2007. Water samples collected from wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

TPH-G was detected above the laboratory method reporting limits (MRLs) in wells MW-1, MW-3, and MW-4 at concentrations of 170 micrograms per liter (µg/L), 370, and 66 µg/L, respectively. Benzene was detected above the laboratory MRL in well MW-1 at a concentration of 2 µg/L. MTBE was detected above the laboratory MRL in wells MW-1 through MW-5 at concentrations ranging from 14 µg/L in well MW-3 to 440 µg/L in well MW-1. Petroleum hydrocarbon concentrations are consistent with concentrations historically observed. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 8.69 feet below the top of casing (TOC) in well MW-5 to 12.88 feet below TOC in well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

June 13, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for August 2007.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Consultants,

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	10.59	0.00	89.41	2	<0.7	2	1	410	-	380
	09/05/06	12.86	0.00	87.14	9	<0.7	4	1	640	3	430
	11/30/06	7.51	0.00	92.49	<0.5	<0.7	12	7	27	29	1,300
	02/22/07	7.62	0.00	92.38	0.6	<0.7	11	53	6	17	1,800
	05/16/07	**10.59**	**0.00**	**89.41**	**2**	**<0.7**	**<0.8**	**<0.8**	**440**	**<1**	**170**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	12.58	0.00	86.69	<0.5	<0.7	<0.8	<0.8	63	-	<48
	09/05/06	14.60	0.00	84.67	<0.5	<0.7	<0.8	<1.6	7	<1	<48
	11/30/06	11.66	0.00	87.61	<0.5	<0.7	<0.8	<1.6	5	<1	<48
	02/22/07	12.30	0.00	86.97	<0.5	<0.7	<0.8	<0.8	97	<1	<48
	05/16/07	**12.88**	**0.00**	**86.39**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**110**	**<1**	**<50**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	9.58	0.00	88.95	<0.5	<0.7	0.9	6	17	-	320
	09/05/06	10.03	0.00	88.50	1	<0.7	9	19	31	4	1,100
	11/30/06	7.57	0.00	90.96	<0.5	<0.7	4	12	3	2	470
	02/22/07	8.00	0.00	90.53	<0.5	<0.7	5	16	9	1	630
	05/16/07	**9.13**	**0.00**	**89.40**	**<0.5**	**<0.7**	**3**	**4**	**14**	**<1**	**370**
MW-4	06/28/06	9.78	0.00	90.33	<0.5	<0.7	<0.8	<0.8	460	-	<48
100.11	09/05/06	12.62	0.00	87.49	<1	<1	<2	<4	1,500	<2	<48
	11/30/06	7.52	0.00	92.59	<0.5	<0.7	<0.8	<1.6	15	<1	<48
	02/22/07	7.64	0.00	92.47	<0.5	<0.7	<0.8	<1.6	18	<1	<48
	05/16/07	**9.92**	**0.00**	**90.19**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**30**	**<1**	**66**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	8.72	0.00	90.35	<0.5	<0.7	<0.8	<0.8	82	-	<48
	09/05/06	9.33	0.00	89.74	<0.5	<0.7	<0.8	<1.6	110	<1	<48
	11/30/06	6.93	0.00	92.14	<0.5	<0.7	<0.8	<1.6	27	<1	<48
	02/22/07	7.18	0.00	91.89	<0.5	<0.7	<0.8	<1.6	39	<1	<48
	05/16/07	**8.69**	**0.00**	**90.38**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**33**	**<1**	**<50**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

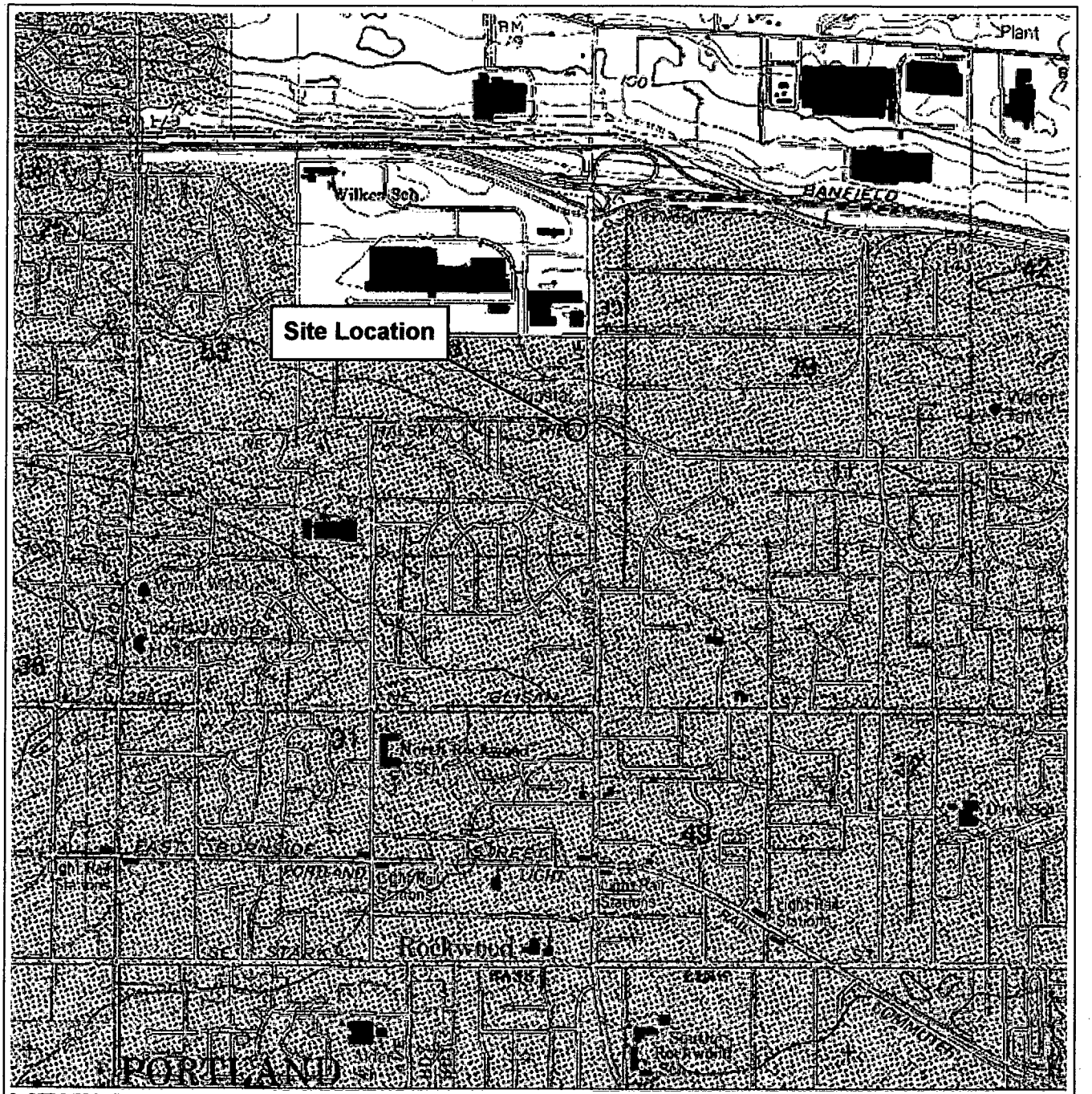
Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	6	11	2	<1
	11/30/06	<1	<1	7	18	65	2
	02/22/07	<1	<1	6	16	140	33
	05/16/07	**<1**	**<1**	**3**	**4**	**<1**	**<1**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	12	30	24	7
	11/30/06	<1	<1	3	9	10	3
	02/22/07	<1	<1	4	12	11	3
	05/16/07	**<1**	**<1**	**3**	**11**	**5**	**1**
MW-4	06/28/06	-	-	-	-	-	-
	09/05/06	<2	<2	<2	<2	<2	<2
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	<1	<1	<1	<1	<1	<1
	05/16/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**

Notes:
- = Not sampled, not analyzed or not applicable.
µg/L = micrograms per liter
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

TABLE 3
SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	NE	0.04
09/05/06	NE	0.06
11/30/06	NE	0.09
02/22/07	NE	0.11
05/16/07	**NE**	**0.04**

Notes
ft/ft = feet per foot

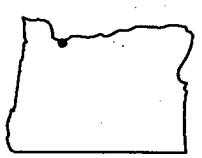


h, ME 04096 Source Data: USGS 750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

North

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

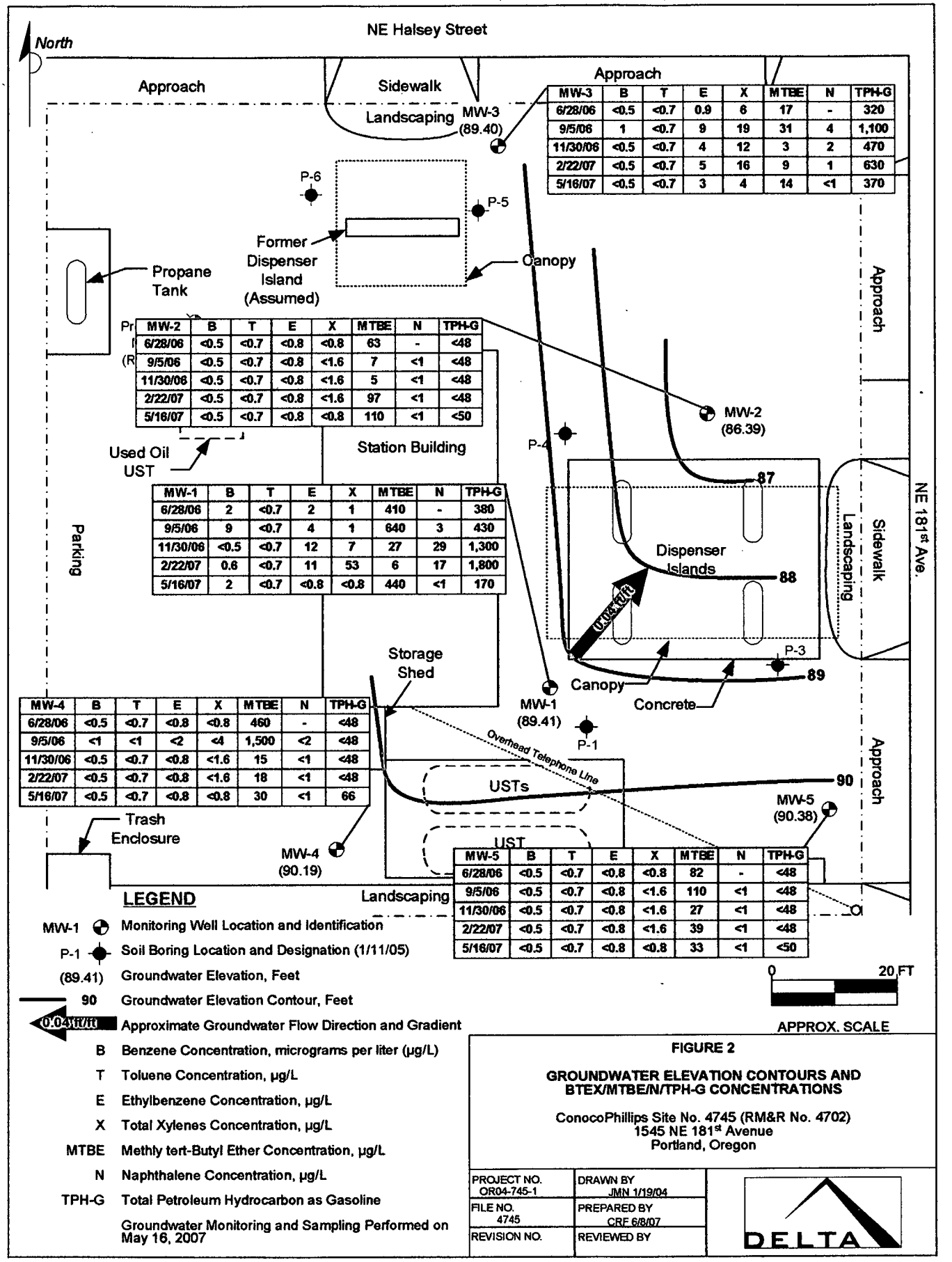
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 6/807
REVISION NO.	REVIEWED BY

DELTA



MW-3	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	0.9	6	17	-	320
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470
2/22/07	<0.5	<0.7	5	16	9	1	630
5/16/07	<0.5	<0.7	3	4	14	<1	370

MW-2	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	63	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	97	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	110	<1	<50

MW-1	B	T	E	X	MTBE	N	TPH-G
6/28/06	2	<0.7	2	1	410	-	380
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300
2/22/07	0.6	<0.7	11	53	6	17	1,800
5/16/07	2	<0.7	<0.8	<0.8	440	<1	170

MW-4	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	460	-	<48
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	18	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	30	<1	66

MW-5	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	82	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	39	<1	<48
5/16/07	<0.5	<0.7	<0.8	<0.8	33	<1	<50

LEGEND

- MW-1 — Monitoring Well Location and Identification
- P-1 — Soil Boring Location and Designation (1/11/05)
- (89.41) — Groundwater Elevation, Feet
- 90 — Groundwater Elevation Contour, Feet
- 0.04 ft/ft — Approximate Groundwater Flow Direction and Gradient
- B — Benzene Concentration, micrograms per liter (µg/L)
- T — Toluene Concentration, µg/L
- E — Ethylbenzene Concentration, µg/L
- X — Total Xylenes Concentration, µg/L
- MTBE — Methly tert-Butyl Ether Concentration, µg/L
- N — Naphthalene Concentration, µg/L
- TPH-G — Total Petroleum Hydrocarbon as Gasoline

Groundwater Monitoring and Sampling Performed on May 16, 2007

0 20 FT

APPROX. SCALE

FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BTEX/MTBE/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 6/8/07
REVISION NO.	REVIEWED BY

DELTA

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1039113. Samples arrived at the laboratory on Saturday, May 19, 2007. The PO# for this group is 4506513508 and the release number is NOLL.

Client Description	Lancaster Labs Number
MW-1 Water Sample	5059964
MW-2 Water Sample	5059965
MW-3 Water Sample	5059966
MW-4 Water Sample	5059967
MW-5 Water Sample	5059968

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Valerie L. Tomayko
Group Leader

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5059964

MW-1 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:45 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

47451

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	170.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	2.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	3.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	4.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	440.	3.	ug/l	5

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	05/23/2007 21:08	Linda C Pape	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	05/29/2007 22:40	Emiley A King	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	05/29/2007 23:03	Emiley A King	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/29/2007 22:40	Emiley A King	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059964

MW-1 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:45 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

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Portland OR 97210

47451

01163	GC/MS VOA Water Prep	SW-846 5030B	2	05/29/2007 23:03	Emiley A King	5
01146	GC VOA Water Prep	SW-846 5030B	1	05/23/2007 21:08	Linda C Pape	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059965

MW-2 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:35 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	110.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	05/23/2007 19:29	Linda C Pape	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	05/23/2007 03:16	Sara E Wolf	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	05/23/2007 03:16	Sara E Wolf	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/23/2007 03:16	Sara E Wolf	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059965

MW-2 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:35 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

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Portland OR 97210

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01146	GC VOA Water Prep	SW-846 5030B	1	05/23/2007 19:29	Linda C Pape	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059966

MW-3 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:25 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

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47453

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	370.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	3.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	4.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	3.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	11.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	1.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	5.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	14.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	05/23/2007 20:02	Linda C Pape	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	05/23/2007 03:39	Sara E Wolf	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	05/23/2007 03:39	Sara E Wolf	1
01146	GC VOA Water Prep	SW-846 5030B	1	05/23/2007 20:02	Linda C Pape	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059966

MW-3 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:25 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

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01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/23/2007 03:39	Sara E Wolf	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059967

MW-4 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 12:05 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

ConocoPhillips
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47454

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	66.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	30.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	05/23/2007 20:35	Linda C Pape	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	05/23/2007 04:02	Sara E Wolf	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	05/23/2007 04:02	Sara E Wolf	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/23/2007 04:02	Sara E Wolf	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059967

MW-4 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 12:05 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

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Portland OR 97210

47454

01146	GC VOA Water Prep	SW-846 5030B	1	05/23/2007 20:35	Linda C Pape	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059968

MW-5 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:55 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

ConocoPhillips
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Portland OR 97210

47455

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	50.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	33.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	05/23/2007 22:47	Linda C Pape	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	05/29/2007 23:26	Emiley A King	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	05/29/2007 23:26	Emiley A King	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	05/29/2007 23:26	Emiley A King	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5059968

MW-5 Water Sample
Site# 4702
1545 NE 181st Ave-Portland, OR
Collected:05/16/2007 11:55 by KM

Account Number: 11856

Submitted: 05/19/2007 10:00
Reported: 05/30/2007 at 18:30
Discard: 06/30/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

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01146	GC VOA Water Prep	SW-846 5030B	1	05/23/2007 22:47	Linda C Pape	1

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips
Reported: 05/30/07 at 06:30 PM

Group Number: 1039113

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07143A51A	Sample number(s): 5059964-5059968							
TPH by NWTPH-Gx waters	N.D.	50.	ug/l	87	88	75-135	1	30
Batch number: N071422AA	Sample number(s): 5059965-5059967							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	112		73-119		
Benzene	N.D.	0.5	ug/l	112		78-119		
1,2-Dichloroethane	N.D.	1.	ug/l	120		77-132		
Toluene	N.D.	0.7	ug/l	106		85-115		
1,2-Dibromoethane	N.D.	1.	ug/l	104		81-114		
Ethylbenzene	N.D.	0.8	ug/l	107		82-119		
m+p-Xylene	N.D.	0.8	ug/l	108		83-113		
o-Xylene	N.D.	0.8	ug/l	107		83-113		
Isopropylbenzene	N.D.	1.	ug/l	109		80-120		
n-Propylbenzene	N.D.	1.	ug/l	112		78-119		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	111		78-116		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	113		78-117		
Naphthalene	N.D.	1.	ug/l	85		61-116		
Batch number: N071491AA	Sample number(s): 5059964,5059968							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	108		73-119		
Benzene	N.D.	0.5	ug/l	100		78-119		
1,2-Dichloroethane	N.D.	1.	ug/l	103		77-132		
Toluene	N.D.	0.7	ug/l	100		85-115		
1,2-Dibromoethane	N.D.	1.	ug/l	98		81-114		
Ethylbenzene	N.D.	0.8	ug/l	101		82-119		
m+p-Xylene	N.D.	0.8	ug/l	102		83-113		
o-Xylene	N.D.	0.8	ug/l	103		83-113		
Isopropylbenzene	N.D.	1.	ug/l	104		80-120		
n-Propylbenzene	N.D.	1.	ug/l	102		78-119		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	104		78-116		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	106		78-117		
Naphthalene	N.D.	1.	ug/l	80		61-116		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07143A51A	Sample number(s): 5059964-5059968 UNSPK: P060901								
TPH by NWTPH-Gx waters	124		63-154						
Batch number: N071422AA	Sample number(s): 5059965-5059967 UNSPK: P057408								
Methyl Tertiary Butyl Ether	109	113	69-127	4	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips
Reported: 05/30/07 at 06:30 PM

Group Number: 1039113

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Benzene	119	119	83-128	1	30				
1,2-Dichloroethane	125	124	70-143	1	30				
Toluene	115	114	83-127	1	30				
1,2-Dibromoethane	103	104	78-120	1	30				
Ethylbenzene	117	117	82-129	0	30				
m+p-Xylene	117	117	82-130	0	30				
o-Xylene	116	118	82-130	2	30				
Isopropylbenzene	121	122	81-130	0	30				
n-Propylbenzene	121	120	74-138	0	30				
1,3,5-Trimethylbenzene	116	117	77-124	1	30				
1,2,4-Trimethylbenzene	119	121	80-125	2	30				
Naphthalene	83	87	50-124	5	30				
Batch number: N071491AA	Sample number(s): 5059964,5059968 UNSPK: P060834								
Methyl Tertiary Butyl Ether	104	104	69-127	0	30				
Benzene	101	101	83-128	0	30				
1,2-Dichloroethane	102	103	70-143	0	30				
Toluene	101	100	83-127	1	30				
1,2-Dibromoethane	95	95	78-120	0	30				
Ethylbenzene	104	103	82-129	1	30				
m+p-Xylene	103	101	82-130	2	30				
o-Xylene	104	104	82-130	0	30				
Isopropylbenzene	108	107	81-130	0	30				
n-Propylbenzene	106	104	74-138	1	30				
1,3,5-Trimethylbenzene	103	102	77-124	1	30				
1,2,4-Trimethylbenzene	106	104	80-125	2	30				
Naphthalene	79	82	50-124	3	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 07143A51A

	Trifluorotoluene-F
5059965	108
LCS	105
MS	104
Blank	106
5059967	106
5059968	106
5059964	107
5059966	104
LCSD	104
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips
Group Number: 1039113
Reported: 05/30/07 at 06:30 PM

Surrogate Quality Control

Batch number: N071422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5059965	106	98	92	82
LCS	98	96	97	96
MSD	99	97	98	97
MS	98	96	98	97
Blank	104	97	92	84
5059967	102	95	95	82
5059966	98	94	96	91
Limits:	80-116	77-113	80-113	78-113

Analysis Name: EPA SW846/8260 (water)
Batch number: N071491AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCS	96	94	97	92
MSD	97	96	97	92
MS	97	95	96	93
Blank	96	95	92	84
5059968	101	98	93	83
5059964	98	93	94	88
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

For Lancaster Labs Use ONLY Acct. #: 11856 Group # 1039113 Sample#: 5039964-6 SCR#:

006740

Site #: 4745 AOC#: 4702

Site City: Portland, OR State: OR

Enfos PO#: 45065 13508

ConocoPhillips PM: Mike Noll

Samplers Name: Katy McQuinn

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Potable / NPDES / Oil / Air	# RBCA-Plus 8260B	# NWTPH-Gx	Remarks
MW-1	5/16/07	1145				X		X	X	4 VOAs
MW-2		1135				X		X	X	
MW-3		1125				X		X	X	
MW-4		1205				X		X	X	
MW-5	5/16/07	1155				X		X	X	

Analyses Requested — List total number of containers in the box under each analysis. Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Consultant Information:
Office City: Tigard State: OR
Project Manager: Brian Pletcher
Phone Number: 503-639-8598 Fax: -7619
Email: BPletcher@DeltaEnv.com

Electronic Data Deliverables (Circle One) Yes / No Format_____

Reporting Requirements (Circle One)
Standard Reports/QC Summary Full Validation (LLI Type I)
NJ Regulatory NJ Reduced NY ASP-A NY ASP-B Other_____

Turnaround Time Requested in Business Days (TAT) (Circle One):
(STD) 5 day 48 hour 24 hour Other_____

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	5/18	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	5/18/07	1000

Relinquished by Commercial Carrier: UPS _____ FedEx [signature] Other_____

Temperature Upon Receipt 1.7 C°

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

4531.02

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Off site 0930 - 1015 to buy twine

Site No. / Job No.: OR #474

Location: 1545 NE 181st Ave, Portland, OR

Delta Personnel: KCM

Date/Time: 5/16/07 0900 - 1200

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5		
DTW	10.59	12.88	9.13	9.92	8.69		
SPH Thickness	—	—	—	—	—		
Total Depth	19.62	19.98	19.81	19.50	13.94		
Well Diameter	2"				2"		
Purge Volume (3 Casing Volumes)	4.52	3.56	5.35	4.80	2.63		
Actual Purge Volume	4.50	3.50	5.50	5.00	2.75		
Purge Method	bailer				bailer		
Sample Time	1145	1135	1125	1205	1155		

Field Measurements: (If Applicable)

pH							
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP							
Alkalinity							
Ferrous Iron							
Comments	OK	OK	ODOR	OK	OK		

Remedial System (Y/N)? N Comments:

Operational Upon Arrival (Y/N)? Comments:

Shut Down System 1 / 24 hours before DTW (Y/N)? Time:

Re-Start System (Y/N)?

Purge Water Disposal (Y/N)? N Date: Location: On-Site

COOK Laurey

From: Jacob Neal [jneal@deltaenv.com]
Sent: Wednesday, May 30, 2007 10:56 AM
To: COOK Laurey
Cc: Brian Pletcher
Subject: drilling ConocoPhillips site# 4745 Gresham, Oregon

Hi Laurey,
We will be drilling four borings in NE 181st, and NE Halsey, on June 18th and 19th.
Brian said you might want to come out and observe.
I will let you know if that schedule changes.

Jacob Neal

E-mail address: jneal@deltaenv.com
Local Number: (503) 639-8098
New 800 number: (800) 477-7411
Cell: (503) 703-4996

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From Jacob Neal
Delta Consultants
Date 3/27/07

Re: ConocoPhillips site

Proposal requested info on storm/sanitary sewer locations on site since Delta excluded this pathway

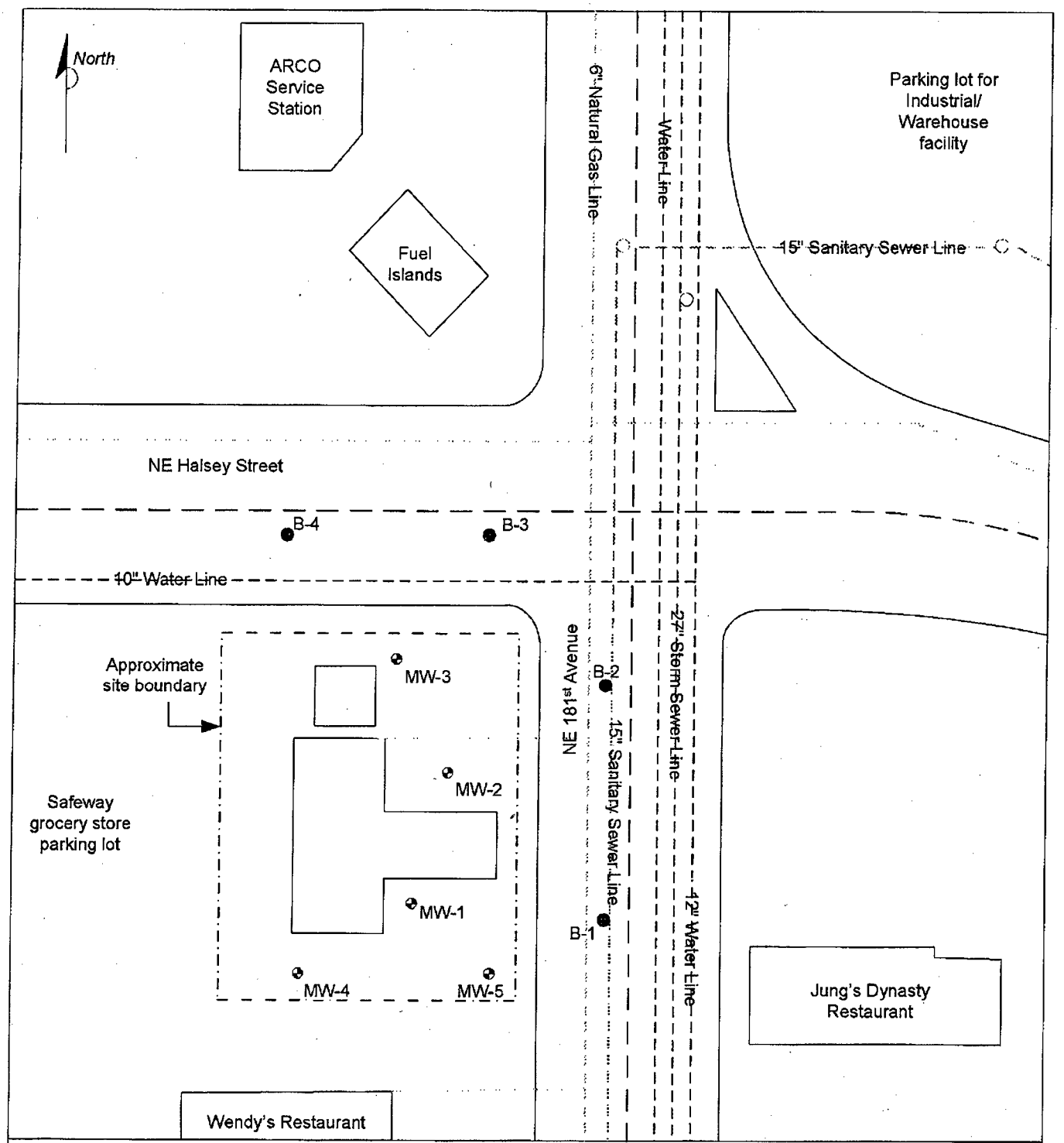
Jacob indicated impact below this depth.

I thought water levels indicated there was potential - but perhaps I need to revisit that

Rather than to measure depths to line, Jacob could review storm sewer depth & H_2O level in wells.

Note - since impact may be in public right of way a public notice would be required.

Lauren Cole



Legend

B-1 ● Proposed Boring Location

MW-1 ⊕ Groundwater Monitoring Well Location

Approximate Location of Natural Gas Line

Approximate Location of Storm Sewer Line

Approximate Location of Water Lines

Approximate location of Sanitary Sewer Line

0 40 FT

APPROX. SCALE

GENERAL NOTES:

BASE MAP FROM GOOGLE MAPS

FIGURE 2

SITE MAP WITH PROPOSED BORING LOCATIONS

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-2	DRAWN BY JMN 3/27/07
FILE NO	PREPARED BY JMN
REVISION NO	REVIEWED BY

DELTA

COOK Laurey

From: COOK Laurey
Sent: Tuesday, March 27, 2007 4:21 PM
To: 'Jacob Neal'
Subject: RE: 1545 NE 181st avenue, Gresham, Oregon DEQ File No. 26-05-0199

Jacob -

Thanks for the review. The workplan looks fine to me.

Laurey

-----Original Message-----
From: Jacob Neal [mailto:jneal@deltaenv.com]
Sent: Tuesday, March 27, 2007 4:14 PM
To: COOK Laurey
Cc: Brian Pletcher
Subject: RE: 1545 NE 181st avenue, Gresham, Oregon DEQ File No. 26-05-0199

Laurey,

Per our phone call today, I reviewed our CSM concerning utility trench and groundwater elevations. It looks like we do have to consider the possibility of preferential pathways after all. (That heavy rain in November got us)

I have attached a figure showing some proposed boring locations for offsite assessment. We would like to propose four borings to collect soil and groundwater samples. We will also collect at least one soil sample from each boring at the capillary fringe.

Soil and groundwater samples will be submitted for laboratory analysis using the following methods:

NWTPH-G
RBDM VOCs

Please let me know what you think.

-----Original Message-----
From: COOK Laurey [mailto:COOK.Laurey@deq.state.or.us]
Sent: Monday, March 12, 2007 2:12 PM
To: Jacob Neal
Subject: RE: 1545 NE 181st avenue, Gresham, Oregon DEQ File No. 26-05-0199

Jacob,

I have reviewed the report. One question that I have is in regard to the stormwater/sewer running from the property to the road. Are there lines, particularly storm that tie in with the major storm line in the street?

Laurey

-----Original Message-----
From: Jacob Neal [mailto:jneal@deltaenv.com]
Sent: Monday, March 12, 2007 10:28 AM
To: COOK Laurey
Subject: RE: 1545 NE 181st avenue, Gresham, Oregon DEQ File No. 26-05-0199

Laurey,

This is Jacob Neal from Delta Consultants.
Concerning ConocoPhillips site number 4745 at the above mentioned address. We would like to move this site to closure. We submitted a CSM to you last week. Upon your review of that CSM, I would like to request that you email me, at your leisure, if you determine offsite assessment to be needed.

Thank you

-----Original Message-----
From: COOK Laurey [mailto:COOK.Laurey@deq.state.or.us]
Sent: Thursday, January 25, 2007 12:57 PM
To: Jacob Neal
Subject: RE: Gresham- 985 E Burnside revised proposed boring locations

Thank you, the work plan is accepted. Please let me know when you are going to do the investigation.

Laurey

-----Original Message-----
From: Jacob Neal [mailto:jneal@deltaenv.com]
Sent: Thursday, January 25, 2007 12:04 PM
To: COOK Laurey
Cc: Brian Pletcher
Subject: Gresham- 985 E Burnside revised proposed boring locations

Laurey,

I have attached a revised figure showing proposed boring locations for additional assessment at the above mentioned site. In your letter dated December 6, 2006, you state the need for several additions to our workplan; 1) Including TPH-Dx analysis in the area of the former waste oil tank, 2) Characterization of impacted soils on the western portion of the site.

-TPH-Dx analysis will be included at boring location CS-7
- Borings CS-8, CS-9, CS-10 have been added to characterize the western portion of the site.

Thank You

-----Original Message-----
From: COOK Laurey [mailto:COOK.Laurey@deq.state.or.us]
Sent: Wednesday, January 17, 2007 3:54 PM
To: Jacob Neal
Subject: RE: Gresham- 985 E Burnside

Jacob -

I will look through the file and pull out the report that I was referring to. I will give you a call regarding this. Currently I am out of the office.

Laurey

> -----Original Message-----
> From: Jacob Neal [mailto:jneal@deltaenv.com]
> Sent: Mon 1/15/2007 11:28 AM
> To: COOK Laurey
> Cc: Brian Pletcher
> Subject: Gresham- 985 E Burnside
>
> Laurey,

My name is Jacob Neal I am with Delta Consultants. I am working with Brian Pletcher on revising a site investigation work plan for the above mentioned site. In a letter dated December 6, 2006, you reference a January 1995 GeoEngineers report titled "Report of Remedial Excavation, Recovery Well Construction and Recovery Trench Excavation Monitoring" concerning contaminated soil encountered during recovery trench excavation. I would like to propose some additional borings in this area based on your comments. We do not have a copy of this GeoEngineers report. Do you have a PDF copy of this? If not, could I drop by and pick up a copy? I would like to see it before proposing boring locations.

Thank you

Jacob Neal

E-mail address: jneal@deltaenv.com
Local Number: (503) 639-8098
New 800 number: (800) 477-7411
Cell: (503) 703-4996

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DELTA

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	ConcoPhillips Company 11921 185th Avenue SE Snohomish, WA 98290	**Date:**	March 16, 2007
Re:	1Q07 GW Monitoring Report	**Site No.:** **RM&R No.:** **DEQ File No.**	ConocoPhillips 4745 4702 **26-05-0199**

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
MAR 23 2007
NORTHWEST REGION
GRESHAM OFFICE

Inogen Environmental Alliance

7150 SW HAMPTON, SUITE 220, TIGARD, OR 97223 USA
PHONE 503.639.8098 / 800.477.7411 FAX 503.639.7619 WWW.DELTAENV.COM

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

March 16, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [1Q07]

- Groundwater monitoring and sampling on February 22, 2007.

WORK PROPOSED FOR NEXT QUARTER [2Q07]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	7.18 to 12.30	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.11	(ft/ft)
Maximum Benzene Concentration:	0.6	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000'	Not Applicable	(Distance and Direction)
Radius and Respective Direction:		
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/
		Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on February 22, 2007 included measuring the water levels in monitoring wells MW-1 through MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using new disposable bailers. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 26 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Emerald Services, Inc. to their facility in Vancouver, Washington for treatment and disposal.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

March 16, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on February 23, 2007. Water samples collected from wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

TPH-G was detected above the laboratory method reporting limits (MRLs) in wells MW-1 and MW-3 at concentrations of 1,800 micrograms per liter (µg/L) and 630 µg/L, respectively. Benzene was detected above the laboratory MRL in well MW-1 at a concentration of 0.6 µg/L. MTBE was detected above the laboratory MRL in wells MW-1 through MW-5 at concentrations ranging from 6 µg/L in well MW-1 to 97 µg/L in well MW-2. Elevated TPH-G concentrations were detected in well MW-1 during the past two monitoring events. Petroleum hydrocarbon concentrations appear to be decreasing in wells MW-2, MW-4, and MW-5 and generally consistent relative to historical results in well MW-3. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 7.18 feet below the top of casing (TOC) in well MW-5 to 12.30 feet below TOC in well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

March 16, 2007

Site No./RM&R No. :	4745/4702
Site Address:	1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager:	Mike Noll
Consultant/Contact Person:	Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.:	Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for May 2007.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Consultants,

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	10.59	0.00	89.41	2	<0.7	2	1	410	-	380
	09/05/06	12.86	0.00	87.14	9	<0.7	4	1	640	3	430
	11/30/06	7.51	0.00	92.49	<0.5	<0.7	12	7	27	29	1,300
	02/22/07	**7.62**	**0.00**	**92.38**	**0.6**	**<0.7**	**11**	**53**	**6**	**17**	**1,800**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	12.58	0.00	86.69	<0.5	<0.7	<0.8	<0.8	63	-	<48
	09/05/06	14.60	0.00	84.67	<0.5	<0.7	<0.8	<1.6	7	<1	<48
	11/30/06	11.66	0.00	87.61	<0.5	<0.7	<0.8	<1.6	5	<1	<48
	02/22/07	**12.30**	**0.00**	**86.97**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**97**	**<1**	**<48**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	9.58	0.00	88.95	<0.5	<0.7	0.9	6	17	-	320
	09/05/06	10.03	0.00	88.50	1	<0.7	9	19	31	4	1,100
	11/30/06	7.57	0.00	90.96	<0.5	<0.7	4	12	3	2	470
	02/22/07	**8.00**	**0.00**	**90.53**	**<0.5**	**<0.7**	**5**	**16**	**9**	**1**	**630**
MW-4	06/28/06	9.78	0.00	90.33	<0.5	<0.7	<0.8	<0.8	460	-	<48
100.11	09/05/06	12.62	0.00	87.49	<1	<1	<2	<4	1,500	<2	<48
	11/30/06	7.52	0.00	92.59	<0.5	<0.7	<0.8	<1.6	15	<1	<48
	02/22/07	**7.64**	**0.00**	**92.47**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**18**	**<1**	**<48**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	8.72	0.00	90.35	<0.5	<0.7	<0.8	<0.8	82	-	<48
	09/05/06	9.33	0.00	89.74	<0.5	<0.7	<0.8	<1.6	110	<1	<48
	11/30/06	6.93	0.00	92.14	<0.5	<0.7	<0.8	<1.6	27	<1	<48
	02/22/07	**7.18**	**0.00**	**91.89**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**39**	**<1**	**<48**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	6	11	2	<1
	11/30/06	<1	<1	7	18	65	2
	02/22/07	**<1**	**<1**	**6**	**16**	**140**	**33**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	12	30	24	7
	11/30/06	<1	<1	3	9	10	3
	02/22/07	**<1**	**<1**	**4**	**12**	**11**	**3**
MW-4	06/28/06	-	-	-	-	-	-
	09/05/06	<2	<2	<2	<2	<2	<2
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	<1	<1	<1	<1	<1	<1
	02/22/07	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**

Notes:
- = Not sampled, not analyzed or not applicable.
µg/L = micrograms per liter
EDB = ethylene dibromide
EDC = ethylene dichloride
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

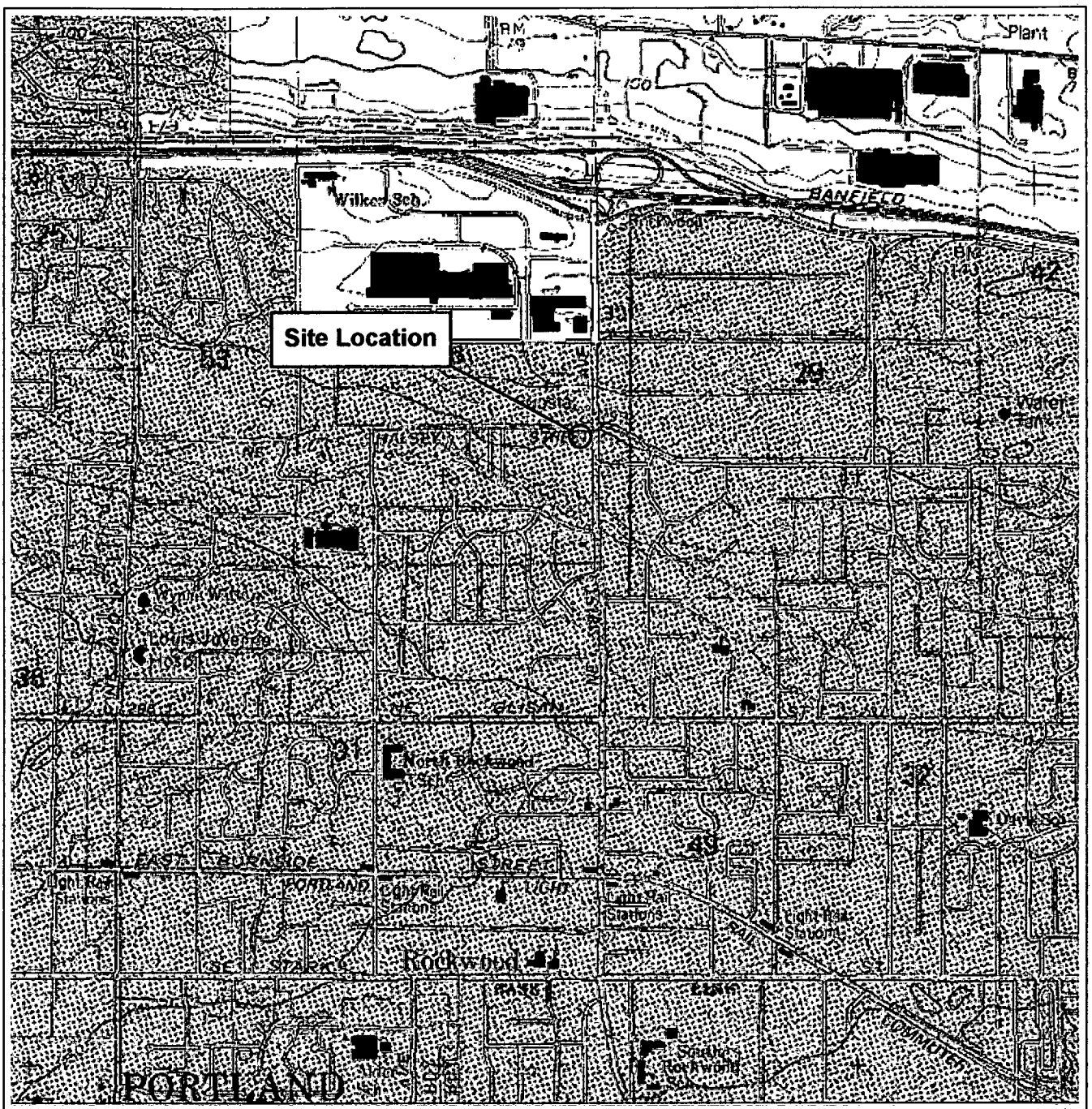
TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	NE	0.04
09/05/06	NE	0.06
11/30/06	NE	0.09
02/22/07	**NE**	**0.11**

Notes
ft/ft = feet per foot



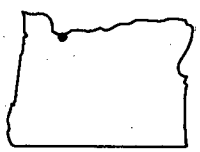
ME 04096 Source Data: USGS

750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

North

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

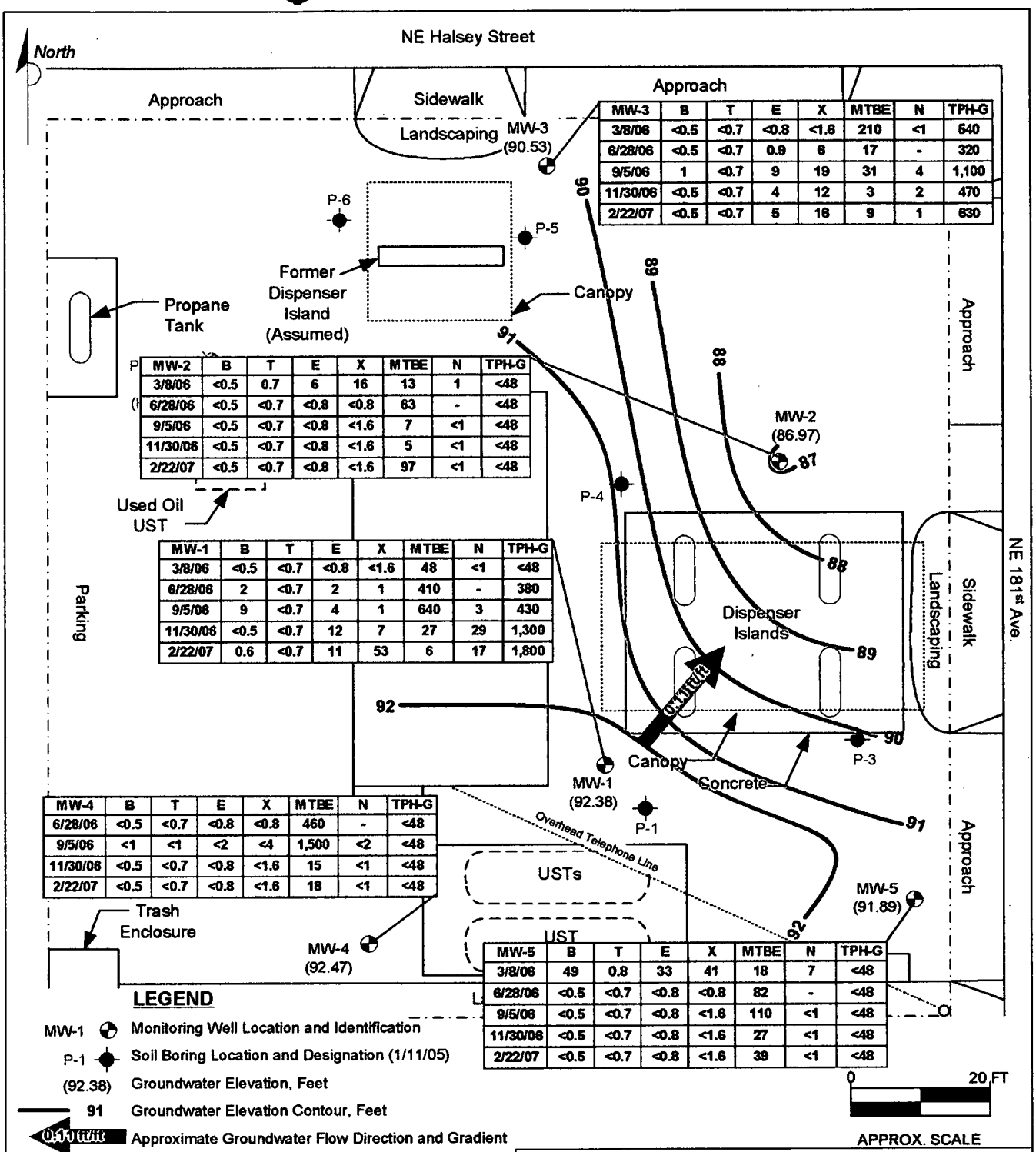
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 3/16/07
REVISION NO.	REVIEWED BY

DELTA



MW-3	B	T	E	X	MTBE	N	TPH-G
3/8/06	<0.5	<0.7	<0.8	<1.6	210	<1	540
6/28/06	<0.5	<0.7	0.9	6	17	-	320
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470
2/22/07	<0.5	<0.7	5	16	9	1	630

MW-2	B	T	E	X	MTBE	N	TPH-G
3/8/06	<0.5	0.7	6	16	13	1	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	63	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	97	<1	<48

MW-1	B	T	E	X	MTBE	N	TPH-G
3/8/06	<0.5	<0.7	<0.8	<1.6	48	<1	<48
6/28/06	2	<0.7	2	1	410	-	380
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300
2/22/07	0.6	<0.7	11	53	6	17	1,800

MW-4	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	460	-	<48
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	18	<1	<48

MW-5	B	T	E	X	MTBE	N	TPH-G
3/8/06	49	0.8	33	41	18	7	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	82	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48
2/22/07	<0.5	<0.7	<0.8	<1.6	39	<1	<48

LEGEND

- MW-1 — Monitoring Well Location and Identification
- P-1 — Soil Boring Location and Designation (1/11/05)
- (92.38) — Groundwater Elevation, Feet
- 91 — Groundwater Elevation Contour, Feet
- 0.1 ft/ft — Approximate Groundwater Flow Direction and Gradient
- B — Benzene Concentration, micrograms per liter (µg/L)
- T — Toluene Concentration, µg/L
- E — Ethylbenzene Concentration, µg/L
- X — Total Xylenes Concentration, µg/L
- MTBE — Methly tert-Butyl Ether Concentration, µg/L
- N — Naphthalene Concentration, µg/L
- TPH-G — Total Petroleum Hydrocarbon as Gasoline

Groundwater Monitoring and Sampling Performed on February 22, 2007

FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 3/16/07
REVISION NO.	REVIEWED BY

DELTA

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1026903. Samples arrived at the laboratory on Saturday, February 24, 2007. The PO# for this group is 4506513508 and the release number is NOLL.

Client Description	Lancaster Labs Number
MW-1 Water Sample	4990803
MW-2 Water Sample	4990804
MW-3 Water Sample	4990805
MW-4 Water Sample	4990806
MW-5 Water Sample	4990807

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Marla S. Lord
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4990803

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:45 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18101

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	1,800.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	0.6	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	11.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	43.	0.8	ug/l	1
05417	o-Xylene	95-47-6	10.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	6.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	16.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	33.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	140.	1.	ug/l	1
05439	Naphthalene	91-20-3	17.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	6.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	02/28/2007 05:22	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	03/01/2007 13:05	Anita M Dale	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	03/01/2007 13:05	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/28/2007 05:22	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990803

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:45 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18101

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 13:05	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990804

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 11:50 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18102

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	97.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	02/28/2007 05:54	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	03/01/2007 13:51	Anita M Dale	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	03/01/2007 13:51	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990804

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 11:50 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18102

01146	GC VOA Water Prep	SW-846 5030B	1	02/28/2007 05:54	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 13:51	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990805

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 11:25 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18103

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	630.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	5.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	13.	0.8	ug/l	1
05417	o-Xylene	95-47-6	3.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	4.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	12.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	3.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	11.	1.	ug/l	1
05439	Naphthalene	91-20-3	1.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	9.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	02/28/2007 06:26	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	03/01/2007 14:15	Anita M Dale	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	03/01/2007 14:15	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/28/2007 06:26	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990805

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 11:25 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18103

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 14:15	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4990806

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:30 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18104

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	18.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	02/28/2007 06:59	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	03/01/2007 11:07	Anita M Dale	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	03/01/2007 11:07	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/28/2007 06:59	Steven A Skiles	1

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4990806

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:30 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

18104

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 11:07	Anita M Dale	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4990807

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:10 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	39.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	02/28/2007 07:31	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	03/01/2007 14:38	Anita M Dale	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	03/01/2007 14:38	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/28/2007 07:31	Steven A Skiles	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4990807

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:02/22/2007 12:10 by KM

Account Number: 11856

Submitted: 02/24/2007 10:25
Reported: 03/05/2007 at 18:05
Discard: 04/05/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-5

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 14:38	Anita M Dale	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 1026903
Reported: 03/05/07 at 06:05 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07058A07A	Sample number(s): 4990803-4990807							
TPH by NWTPH-Gx waters	N.D.	48.	ug/l	106	108	75-135	2	30
Batch number: T070601AA	Sample number(s): 4990803-4990807							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92	91	73-119	0	30
Benzene	N.D.	0.5	ug/l	110	107	78-119	2	30
1,2-Dichloroethane	N.D.	1.	ug/l	106	104	77-132	2	30
Toluene	N.D.	0.7	ug/l	100	100	85-115	0	30
1,2-Dibromoethane	N.D.	1.	ug/l	85	85	81-114	1	30
Ethylbenzene	N.D.	0.8	ug/l	102	100	82-119	2	30
m+p-Xylene	N.D.	0.8	ug/l	101	99	83-113	2	30
o-Xylene	N.D.	0.8	ug/l	102	99	83-113	3	30
Isopropylbenzene	N.D.	1.	ug/l	104	101	80-120	2	30
n-Propylbenzene	N.D.	1.	ug/l	110	108	78-119	2	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	104	104	78-116	0	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	104	103	78-117	1	30
Naphthalene	N.D.	1.	ug/l	64	66	61-116	2	30
Xylene (Total)	N.D.	0.8	ug/l	101	99	83-113	2	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07058A07A	Sample number(s): 4990803-4990807 UNSPK: P989755								
TPH by NWTPH-Gx waters	116		63-154						
Batch number: T070601AA	Sample number(s): 4990803-4990807 UNSPK: 4990806								
Methyl Tertiary Butyl Ether	93		69-127						
Benzene	114		83-128						
1,2-Dichloroethane	107		70-143						
Toluene	108		83-127						
1,2-Dibromoethane	87		78-120						
Ethylbenzene	109		82-129						
m+p-Xylene	108		82-130						
o-Xylene	105		82-130						
Isopropylbenzene	111		81-130						
n-Propylbenzene	115		74-138						
1,3,5-Trimethylbenzene	106		77-124						
1,2,4-Trimethylbenzene	105		80-125						
Naphthalene	68		50-124						
Xylene (Total)	107		82-130						

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips
Group Number: 1026903
Reported: 03/05/07 at 06:05 PM

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 07058A07A

	Trifluorotoluene-F
4990803	102
4990804	99
4990805	101
4990806	98
4990807	101
Blank	95
LCS	104
LCSD	104
MS	109
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)
Batch number: T070601AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4990803	98	92	90	90
4990804	97	91	93	88
4990805	99	89	92	89
4990806	98	93	92	88
4990807	99	92	93	89
Blank	98	91	91	88
LCS	96	95	91	89
LCSD	96	93	92	90
MS	97	89	94	91
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

002186

Acct. #: 11856 For Lancaster Laboratories use only Group # 1026903 Sample #: 4990803-07

SCR#:

Site #: 4745 WNO #: 4702

Site Address: 1545 NE 181st, Portland, OR

ConocoPhillips PM: M. Noll Company Code:

~~Enfos~~ Work Order#: 45065 13508 Total Lab Budget: $2000

Consultant/Office: Delta Tigard

Consultant Prj. Mgr: Brian Pletcher

Consultant Phone #: 503-639-8098 Fax #: -7619

Sampler K. McQuinn

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Oil ☐ Air ☐	Potable ☐ NPDES ☐	RBCA Plus (8260B)	NWTPH-Gx	Remarks
MW-1	2/22/07	1245				X			X	X	4 VOAS
MW-2		1150				X			X	X	
MW-3		1125				X			X	X	
MW-4		1230				X			X	X	
MW-5	2/22/07	1210				X			X	X	

Analyses Requested — List total number of containers in the box under each analysis. Preservation Codes

Preservative Codes

H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Turnaround Time Requested In Business Days (TAT) (please circle):

~~STD. TAT~~ 5 day 48 hour

24 hour other

Reporting Requirements (please circle)

NJ Reduced NY ASP Cat. A Raw Data Diskette

NY ASP Cat. B Full Type I Other

Relinquished by:	Date	Time	Received by:	Date	Time
	2/23	1300			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
				2/23/07	1035

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature Upon Receipt 1.0 C°

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Site No. / Job No.: 4745

Location: 1545 NE 181st Ave, Portland, OR

Delta Personnel: KCM

Date/Time: 2/14/07 1040 - ~~1240~~ 1300

DELTA

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5		
DTW	7.62	12.30	8.00	7.64	7.18		
SPH Thickness	–	–	–	–	–		
Total Depth	19.62	19.98	19.81	19.50	13.94		
Well Diameter	2"				2"		
Purge Volume (3 Casing Volumes)	6.01	3.85	5.92	5.94	3.39		
Actual Purge Volume	6.00	4.00	6.00	6.00	3.50		
Purge Method	bailer				bailer		
Sample Time	1245	1150	1125	1230	1210		

Field Measurements: (If Applicable)

pH	turbid	clear	turbid	turbid	mod.		
Conductivity					turbid		
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP							
Alkalinity							
Ferrous Iron							
Comments	OK	OK	ODOR	OK	OK		

Remedial System (Y/N)? _____ Comments: _____

Operational Upon Arrival (Y/N)? _____ Comments: _____

Shut Down System 1 / 24 hours before DTW (Y/N)? _____ Time: _____

Re-Start System (Y/N)? _____

Purge Water Disposal (Y/N)? _____ Date: _____ Location: _____

March 5, 2007

Ms. Laurey Cook
Oregon Department of Environmental Quality – Northwest Region
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030

Re: Conceptual Site Model
ConocoPhillips Service Station No. 4745
RM&R 4702
1545 NE 181st Avenue
Gresham, Oregon
DEQ File No. 26-05-0199
Delta Project No. OR04-745-2

RECEIVED
MAR 07 2007
DEPT OF ENVIRONMENTAL QUALITY
GRESHAM OFFICE

DELTA

Dear Ms. Rawson:

On behalf of ConocoPhillips Company (ConocoPhillips), Delta Environmental Consultants, Inc. (Delta) has prepared this Conceptual Site Model (CSM) for ConocoPhillips Site No. 4745 with comparison to the corresponding generic remedy risk-based cleanup levels (RBCs) from Appendix A of the Oregon Department of Environmental Quality's (DEQ) *Risk-Based Decision Making for the Remediation of Petroleum Contaminated Sites*, September, 2003. Delta has reviewed reports provided by ConocoPhillips and available in the DEQ files. The CSM is based in part on Delta's review of available utility and zoning information obtained from public agencies in the Portland area.

SITE DESCRIPTION

The site is located on the southwest corner of the intersection of NE 181st Avenue and NE Halsey Street in Gresham, Oregon. The site is geographically located in Multnomah County in Township 1 North, Range 3 East, at the SE quarter of the SE quarter of Section 30 of the Willamette Meridian. The site is at an elevation of approximately 200 feet above mean sea level. Site topography slopes gently to the north towards the Columbia River, which is located approximately 1.5 miles to the north of the site. A site location map is presented as Figure 1.

Current site features include a station building, two 12,000-gallon gasoline underground storage tanks (USTs), one used-oil UST, one former dispenser island canopy and two active dispenser islands. The site is primarily covered with concrete and asphalt pavement. The site is presently fenced and not operating. Figure 2 shows the approximate locations of former and current site features.

Soils encountered during previous investigations generally consisted of brown silty sand with gravel to approximately 6 feet bgs, brown silty sand with cobbles and boulders from approximately 6 feet bgs to approximately 15 feet bgs, followed by brown silty sand with gravel to 22 feet bgs, the total depth explored.

SITE VICINITY

The immediately adjacent properties are used primarily for commercial purposes. The site is bordered to the north by NE Halsey Street, beyond which is a vacant ARCO branded retail fuel service station (DEQ LUST No. 26-99-0363), to the east by NE 181st Avenue, beyond which is a restaurant (Jung's Dynasty), to the south by a restaurant (Wendy's); and to the west by a Safeway grocery store.

Utility maps for the site and adjacent areas were obtained from the Oregon Utility Notification Center and applicable utility agencies to assess the potential for preferential pathways produced by utility corridors. A summary of the adjacent utilities is included in Table 1 and the approximate locations of the subsurface utilities for the site are presented in Figure 3. The deepest utility in the vicinity of the site is the 27" storm sewer line which runs beneath the central portion of 181st Avenue. The bottom of the storm sewer line lies at an elevation of about 192 feet above mean sea level (8 feet bgs); this is shallower than the recorded groundwater elevation at the site (13.44 feet bgs) which was measured in the downgradient monitoring well closest to the storm sewer line (MW-2). According to the maps reviewed, underground utility corridors in the vicinity of the site either do not bisect the source or groundwater plume area or are too shallow to reasonably become preferential pathways for contaminant migration.

LAND USE DETERMINATION

According to the City of Gresham's interactive GIS map, the site and surrounding properties are located in an incorporated area of the City of Gresham, Multnomah County, Oregon. The site and adjoining properties are zoned Community Commercial (CC). Properties located to the northeast of the site are zoned Light Industrial (LI). Copies of the land use zoning map and zoning ordinances are included in Attachment A. According to the zoning ordinance, "the Community Commercial zone is applied to larger nodes of primarily commercial development clustered around the intersections of arterial streets. This district will accommodate a wide range of community-scale commercial uses, including retail, services, and offices. This district also permits housing as a secondary use, with attached dwellings being developed in conjunction with commercial construction. New buildings will be pedestrian oriented with parking placed behind or beside buildings". Light Industrial zoning use, which applies to properties located to the northeast of the site, are "areas deemed appropriate for industrial uses, limited commercial uses, and some related executive office uses. Limited, screened outdoor storage and display areas are permitted."

Since the site is currently developed as a retail service station, and will be developed as such for the foreseeable future, it is reasonably unlikely that any new development will take place at the site, especially residential development, which would require the construction of attached dwellings developed in conjunction with commercial construction. Normal service station operations employ indoor and outdoor occupational workers and standard facility maintenance and/or upgrades would require site construction and excavation activities; therefore, Delta has included the Occupational Worker, Construction Worker and Excavation Worker human receptor scenarios in this CSM.

WATER USE DETERMINATION

The Rockwood Water People's Utility District (RWPUD) supplies potable water to the site and surrounding properties. According to the RWPUD website, the municipal water supply is a blend of district groundwater and water purchased from the City of Portland, which gets its water supply from the

Bull Run reservoir located in the foothills of the Cascade Mountains and from backup water supply wells from the Columbia Southshore Wellfield.

A search of the well logs on file at the Oregon Water Resources Department (OWRD) was completed by Delta on March 6, 2006 to evaluate the potential presence of domestic and municipal water supply wells within a 1/4-mile radius of the Site. The database search is conducted by searching for wells located by USGS Quadrangle Township, Range, and Section Number. Four USGS quadrangle sections encompass the ¼-mile search radius (T1N, R3E Sections 29, 30, 31 and 32). According to the database, 16 wells drilled for domestic, municipal and community purposes were located within the search Sections (nine in Section 29, four in Section 30, none in Section 31, and three in Section 32). Of these wells, fourteen were not located within the ¼ mile search radius, and two (MULT 1393 and MULT 1410) could not be identified further than their respective section numbers. Well MULT 1393 was completed as a municipal well in Section 29 to a depth of 180 feet bgs with perforations from 140 to 180 feet. Well Mult 1410 was completed as a domestic and irrigation well in Section 30 to a depth of 120 feet bgs with the water bearing gravel zone noted at 118 to 120 feet bgs. Copies of these well logs are included as Attachment B.

The availability of water services to the site and the adjoining properties and the lack of well completions in the shallow aquifer in this vicinity indicate that the use of the shallow groundwater in this area is not currently, or reasonably likely to be, used for domestic or municipal purposes. Therefore, the use of the shallow groundwater as a drinking water source at the site or surrounding properties is not considered in this CSM.

PREVIOUS ENVIRONMENTAL ACTIVITIES

Underground Storage Tank Removal and Remedial Actions – 1989

Between August 15 and 22, 1989, GeoEngineers supervised the removal of two 10,000-gallon steel gasoline USTs, one 550-gallon used oil UST, and one 550-gallon heating oil UST from the site. The gasoline USTs were in a common excavation located southeast of the service station building and the used oil and heating oil tanks were in a common excavation located west of the service station building. The USTs were noted as being corroded when removed and impacted soils were present in the excavations. No groundwater was reportedly encountered during the UST removal activities. Approximately 17 cubic yards of impacted soils were excavated, stockpiled on site and, after analytical testing, were disposed of at the St. Johns Landfill. Soil samples were taken from the sidewalls of the excavation limits to confirm that all impacted soils had been removed. All soil samples were analyzed for Total Petroleum Hydrocarbons (TPH), with the highest detection of 76 milligrams per kilogram (mg/kg) collected from the West wall of the gasoline UST excavation. Using the DEQ "Level 2" soil matrix cleanup goals of 80 mg/kg, GeoEngineers concluded that impacted soils in excess of 80 mg/kg did not remain on the site and remedial actions had been successful. The GeoEngineers *Report of Remedial Actions/Underground Storage Tank Removal,* dated December 1, 1989 is included as Attachment C. Soil results are also summarized in Table 3.

In a correspondence letter dated January 9, 1990, the DEQ agreed with GeoEngineers' findings and concluded that no further action associated with the UST decommissioning and contaminated soil cleanup was required.

Delta Investigation - 2005

On January 11, 2005, Delta conducted a baseline soil and groundwater investigation that included the completion of seven on-site soil borings (P-1 through P-7) near the dispenser islands, current USTs, former dispenser island, and used oil UST to assess petroleum hydrocarbons in the site soil and groundwater. TPH-G in soil was detected in soil sample P-7-11 at a concentration of 7.68 mg/kg from soil boring location P-7, located near the present used-oil UST. 1,2,4-trimethylbenzene was detected in soil sample P-5-11 at a concentration of 0.0776 mg/kg from boring location P-5, located near the former dispenser island. Petroleum hydrocarbons were not detected above the laboratory MRLs in all other soil samples submitted for analysis from soil boring locations P-1 through P-7. Soil results are summarized in Table 3.

Groundwater was encountered in three of the seven boring locations (P-1, P-2, and P-6). TPH-G, BTEX, MTBE, naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory method reporting limits (MRLs) in sample P-1, located near the present fuel USTs. TPH-G, ethylbenzene, MTBE, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-2, located immediately east of the present fuel USTs. MTBE was detected above the laboratory MRL in sample P-6, located immediately west of the former dispenser island. EDB and EDC were not detected above the laboratory MRLs in any of the groundwater samples submitted for analysis from boring locations P-1, P-2, and P-7. Groundwater results are presented in Table 2.

On February 7, 2005, evidence of a potential release to the subsurface from an underground storage tank system was reported to the Oregon DEQ. The DEQ assigned the site DEQ File No. 26-05-0199.

Monitoring Well Installation - 2005

On December 6, 2005, Delta supervised the drilling and installation of four onsite groundwater monitoring wells (MW-1 through MW-3, and MW-5). Well MW-4 was not completed at this time due to refusal.

TPH-G was detected above the laboratory MRL at a concentration of 61.5 mg/kg in soil sample MW-2-10, collected at a depth of 10 feet bgs. MTBE was detected above the laboratory MRL at a concentration of 0.148 mg/kg in soil sample MW-1-10, collected at a depth of 10 feet bgs. Lead was detected above the laboratory MRL in all soil samples submitted for analysis, with concentrations ranging from 2.14 mg/kg in soil sample MW-3-10 to 7.95 mg/kg in soil sample MW-2-10. Petroleum hydrocarbons were not detected at or above the laboratory method reporting limits (MRLs) in any other soil samples submitted for analyses.

Following installation of the wells, groundwater samples were collected from Wells MW-1 through MW-3, and MW-5 on December 20, 2005. TPH-G was detected above the laboratory MRL in Well MW-3 at a concentration of 670 micrograms per Liter (µg/L). Benzene was not detected above the laboratory MRL in any of the wells sampled. MTBE was detected above the laboratory MRL in Wells MW-1, MW-2, MW-3, and MW-5 at concentrations ranging from 17 µg/L in Well MW-3 to 1,700 µg/L in Well MW-1. Naphthalene was detected above the laboratory MRL in Well MW-3 at a concentration of 1.7 µg/L. Concentrations of isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were detected in Well MW-3 at concentrations of 3.5 µg/L, 9.4 µg/L, 3.4 µg/L, and 15 µg/L, respectively. BTEX, naphthalene, TPH-G, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in Wells MW-1, MW-2, and MW-5.

Monitoring Well Installation - 2006

On May 19, 2006, Delta supervised the drilling and installation of monitoring well MW-4, located west and adjacent to the fuel USTs, to a depth of 20 feet bgs. TPH-G was detected above the laboratory MRL in the soil sample collected at 10 feet bgs at a concentration of 4.3 mg/kg. MTBE was detected above the laboratory MRL in the soil samples collected at 5 feet and 10 feet bgs at concentrations of 0.005 mg/kg and 0.015 mg/kg, respectively. Groundwater samples were collected in conjunction with the quarterly sampling program conducted on June 28, 2006. MTBE was detected in Well MW-4 at a concentration of 460 µg/L. TPH-G and BTEX were not detected above the laboratory MRLs.

GROUNDWATER MONITORING

Quarterly groundwater monitoring has been conducted at the site since December 20, 2005. Currently, the monitoring well network consists of five wells (MW-1 through MW-5). Groundwater analysis consists of BTEX, MTBE, naphthalene, TPH-G, isopropylbenzene, n-propylbenzene, 1,2,4-timethylbenzene, 1,3,5-trimethylbenzene, naphthalene, ethylene dibromide (EDB) and ethylene dichloride (EDC).

Historically, static groundwater has ranged from 7.74 feet below the top of casing (TOC) to 13.44 feet below TOC depending on the season and the groundwater surface elevation at each monitoring well. The groundwater flow direction is to the north-northeast.

During the past three monitoring events, TPH-G, BTEX, MTBE, naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-timethylbenzene, 1,3,5-trimethylbenzene, and naphthalene were detected above the laboratory MRLs in one or more of the onsite wells. The maximum concentration of TPH-G was detected in Well MW-3 at a concentration of 1,100 µg/L in September 2006. The maximum concentration of benzene was detected in Well MW-5 at a concentration of 49 µg/L in March 2006. The maximum concentration of MTBE was detected in Well MW-1 at a concentration of 1,700 µg/L in December 2005.

A summary of historical groundwater elevations and analytical results is included in Table 2. The most recent groundwater elevation contours and analytical results (4th quarter 2006) are shown on Figure 4.

CONCEPTUAL SITE MODEL

This CSM provides a conceptual understanding of the Site by integrating information concerning the known or suspected sources of petroleum hydrocarbons, transport mechanisms and potential pathways, and potential receptors based on current and reasonable likely future conditions. This CSM was developed to compare the concentrations of petroleum hydrocarbon constituents remaining at the site with applicable generic remedy risk-based concentrations (RBCs) for the applicable pathways. The referenced RBCs are presented in Appendix A of the final *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, September 22, 2003.

Potential Sources

A subsurface investigation performed at the site in January 2005 indicated that petroleum hydrocarbon constituents from the UST system at the site had been released to subsurface soils and groundwater. The release was reported to the DEQ on February 7, 2005, and was assigned DEQ File No. 26-05-0199.

Nature of Contamination

According to the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, September 22, 2003, the constituents of interest (COIs) in petroleum contaminants that pertain to gasoline releases include TPH as gasoline, BTEX, ethylene dibromide (EDB), ethylene dichloride (EDC), polyaromatic hydrocarbons (PAHs) as naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and lead. COIs detected at the site include all constituents listed above with the exception of EDB and EDC. Of these, none of the above constituents exceed the generic RBCs for the applicable exposure pathways and receptor scenarios to be considered a contaminant of potential concern (COPC), which are those constituents that exceed the generic RBCs for the applicable exposure pathway and receptor scenarios.

Potential Receptors

Potential receptors are those individuals who may be exposed to the COIs under current and reasonably likely future land use scenarios for the site and adjacent properties. The site and adjoining properties are zoned Community Commercial, and properties located to the northeast (downgradient) of the site are zoned Light Industrial. According to the zoning ordinance, new residential dwelling units are permitted in the Community Commercial zoning district provided they are attached dwellings being developed in conjunction with commercial construction; however, since the site is currently developed as a retail service station, and will be developed as such for the foreseeable future, and since the site is located on the corner of a major intersection it is reasonably unlikely that any residential development will take place at the site. Therefore, the residential and urban residential human receptor scenarios have not been included in this CSM. Normal service station operations employ indoor and outdoor occupational workers and standard facility maintenance and/or upgrades would require site construction and excavation activities; therefore, the potential receptors included in this evaluation are as follows:

- Occupational Worker
- Excavation Worker
- Construction Worker

The occupational worker scenario includes both indoor and outdoor workers. The excavation worker scenario includes a construction worker who is performing subsurface utility work either on or off-site.

Exposure Pathway

An exposure pathway describes a specific environmental pathway by which a receptor can be exposed to COPCs. The identification of potential exposure pathways must include the following elements: (1) a source; (2) a mechanism of release to the environment; (3) a transport medium; (4) an exposure point where contact between the contaminated medium and the receptor occurs; and (5) an exposure route at the exposure point. Potential exposure pathways and receptors at the Site are as follows:

1. Petroleum-affected surface soil contaminants are ingested, dermal contact or inhaled by an occupational, construction, or excavation worker.
2. COPCs in soil and/or groundwater volatilize and migrate into outdoor air where an occupational worker may inhale them.
3. COPCs in soil and/or groundwater contaminants volatilize and migrate into indoor air where an occupational worker may inhale them.

4. COPCs in groundwater are directly contacted and inhaled by an excavation worker.

Soil RBC Comparison

Historical soil sample analysis at the site is summarized in Table 3. The maximum soil concentrations of COIs found at the site (excluding those soils that were excavated and removed from the site during the gasoline, used oil and heating oil UST removals (1989) are listed and compared to the RBCs for the applicable pathways in Table 4. The concentrations of all constituents in soils remaining at the site are below the soil RBCs for the applicable exposure pathways and receptor scenarios assessed in this CSM.

Groundwater RBC Comparison

The maximum concentrations from the first four sampling events of the groundwater monitoring program (12/20/05 and 9/5/06) are compared to the RBCs for the applicable pathways in Table 5. The concentrations of all petroleum constituents in groundwater at the site are below the groundwater RBCs for the exposure pathways and receptor scenarios assessed in this CSM.

CONCLUSIONS

This CSM has been prepared to assess the potential pathways and the potential receptors associated with the petroleum-affected soil and groundwater present at ConocoPhillips Service Station No. 4745.

Complete soil exposure pathways and receptor scenarios assessed under this CSM consist of exposure to COPCs from soil ingestion, dermal contact and inhalation for the occupational, construction and excavation worker receptor scenarios, and volatilization to outdoor air and vapor intrusion into buildings for the occupational receptor scenario.

No reasonably likely current or future beneficial use of groundwater was identified. Accordingly, the ingestion from groundwater, and ingestion and inhalation from tap water and soil leaching to groundwater pathways are deemed to be incomplete. Complete groundwater exposure pathways assessed under this CSM consist of exposure to COPCs from volatilization to outdoor air and vapor intrusion into buildings for the occupational receptor scenarios, and exposure to groundwater in excavations for the construction and excavation worker receptor scenarios.

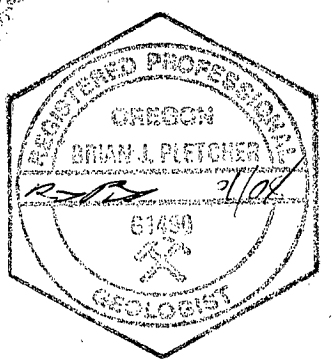
The concentrations of COIs were compared to the DEQ's generic RBCs for the applicable pathways. The concentrations of all constituents in soils remaining at the site are below the soil RBCs for the applicable exposure pathways and receptor scenarios assessed under this CSM.

The concentrations of all petroleum constituents in groundwater at the site are below the groundwater RBCs for the applicable exposure pathways and receptor scenarios assessed under this CSM. Quarterly groundwater monitoring at the site commenced in December 2005. Subsequent quarterly groundwater sampling results indicate COIs in groundwater at the site do not exceed the generic RBCs for the applicable exposure pathways and receptor scenarios at the site; therefore, no COPCs are considered for the site.

This report has been prepared for the exclusive use of ConocoPhillips in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in the same locality under similar conditions. No other representations, expressed or implied, and no warranty or guarantee is included or intended in the agreement, or in any report, opinion, document or otherwise.

Please call if you have any questions regarding the contents of this report.

Sincerely,
Delta Environmental Consultants, Inc.



Brian J. Pletcher, R.G.
Senior Project Geologist

Attachments: Figure 1 – Site Location Map
Figure 2 – Site Map
Figure 3 – Subsurface Utility Map
Figure 4 – Groundwater Elevation Contours and Analytical Results (4th Quarter 2006)
Table 1 – Summary of Subsurface Utilities
Table 2 – Summary of Historical Groundwater Elevations and Analytical Results
Table 3 – Historical Soil Sample Results
Table 4 – Generic Remedy Risk-Based Cleanup Levels in Soil
Table 5 – Generic Remedy Risk-Based Cleanup Levels in Groundwater
Attachment A – City of Gresham Zoning Map and Ordinances
Attachment B – Well Logs
Attachment C – GeoEngineers *Report of Remedial Actions/Underground Storage Tank Removal,* December 1, 1989

cc: Mr. Mike Noll, ConocoPhillips Company, 11921 185th Avenue SE, Snohomish, WA 98290
Mr. Chris Pecoraro, SunCor, 11601 Wilshire Boulevard, Suite 700, Los Angeles, CA 90025

TABLE 1
SUMMARY OF SUBSURFACE UTILITIES
ConocoPhillips Site No. 4745
RM&R No. 4702
1545 NE 181st Avenue
Portland, Oregon

Utility	Location	Depth to Utility	Direction	Diameter (inches)	Notes
Portland General Electric	No response received, but lines not depicted on City utility map. Possibly overhead.	N/A	N/A	N/A	
Rockwood Water PUD	Two lines running parrellel beneath the eastern portion of 181st. Connection with line beneath intersection of 181st and Halsey, then running west beneath southern portion of Halsey	54"	Two Main lines: N to S Connector line: E to W	Two Main Lines: 12", and unmarked Connector line: 10"	Refer to map by Rockwood Water PUD
City of Gresham-Sanitary Sewer and Stormwater	Sanitary Sewer runs north beneath 181st to manhole just north of Halsey, then heads east parelleling Halsey. Storm Sewer runs beneath center of 181st.	Storm: 96" Sanitary: 60"	Both storm and sanitary sewer lines run S to N. Sanitary heads east just north of intersection	Storm: 15" Sanitary: 27"	Refer to maps by City of Gresham
Verizon	No response received	N/A	N/A	N/A	
Quest	No response received	N/A	N/A	N/A	
Comcast Cable	No response received	N/A	N/A	N/A	
Northwest Natural Gas	Gas line runs beneath western portion of 181st to intersection with Halsey, where line intersects with another running beneath northern portion of Halsey. Service to site from line beneath 181st	51"	N to S and E to W	6 5/8"	Refer to map by NWN

TABLE 2
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - TPH-G, BTEX, MTBE, NAPHTHALENE, AND VOCs
ConocoPhillips Site No. 4745
RM&R No. 4702
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPH-G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<2,000	<20	<20	<20	<40	**1,700**[1]	<20	<20	<20	<20	<20	<20	<20
100.00	03/08/06	8.40	0.00	91.60	<48	<0.5	<0.7	<0.8	<1.6	**48**	<1	<1	<1	<1	<1	<1	<1
	06/28/06	10.59	0.00	89.41	**380**	**2**	<0.7	**2**	**1**	**410**	-	-	-	-	-	-	-
	09/05/06	12.86	0.00	87.14	**430**	**9**	<0.7	**4**	**1**	**640**	**3**	<1	<1	**6**	**11**	**2**	<1
	11/30/06	7.51	0.00	92.49	**1,300**	<0.5	<0.7	**12**	**7**	**27**	**29**	<1	<1	**7**	**18**	**65**	**2**
MW-2	12/20/05	13.44	0.00	85.83	<500	<5.0	<5.0	<5.0	<10	**220**[1]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
99.27	03/08/06	12.74	0.00	86.53	<48	<0.5	**0.7**	**6**	**16**	**13**	**1**	<1	<1	**3**	**8**	**14**	**4**
	06/28/06	12.58	0.00	86.69	<48	<0.5	<0.7	<0.8	<0.8	**63**	-	-	-	-	-	-	-
	09/05/06	14.60	0.00	84.67	<48	<0.5	<0.7	<0.8	<1.6	**7**	<1	<1	<1	<1	<1	<1	<1
	11/30/06	11.66	0.00	87.61	<48	<0.5	<0.7	<0.8	<1.6	**5**	<1	<1	<1	<1	<1	<1	<1
MW-3	12/20/05	9.18	0.00	89.35	**670**	<1.0	<1.0	**2.7**	**5.2**	**17**[1]	**1.7**	<1.0	<1.0	**3.5**	**9.4**	**15**	**3.4**
98.53	03/08/06	8.51	0.00	90.02	**540**	<0.5	<0.7	<0.8	<1.6	**210**	<1	<1	<1	<1	<1	<1	<1
	06/28/06	9.58	0.00	88.95	**320**	<0.5	<0.7	**0.9**	**6**	**17**	-	-	-	-	-	-	-
	09/05/06	10.03	0.00	88.50	**1,100**	**1**	<0.7	**9**	**19**	**31**	**4**	<1	<1	**12**	**30**	**24**	**7**
	11/30/06	7.57	0.00	90.96	**470**	<0.5	<0.7	**4**	**12**	**3**	**2**	<1	<1	**3**	**9**	**10**	**3**
MW-4	06/28/06	9.78	0.00	90.33	<48	<0.5	<0.7	<0.8	<0.8	**460**	-	-	-	-	-	-	-
100.11	09/05/06	12.62	0.00	87.49	<48	<1	<1	<2	<4	**1,500**	<2	<2	<2	<2	<2	<2	<2
	11/30/06	7.52	0.00	92.59	<48	<0.5	<0.7	<0.8	<1.6	**15**	<1	<1	<1	<1	<1	<1	<1
MW-5	12/20/05	9.27	0.00	89.80	<2,000	<20	<20	<20	<40	**980**[1]	<20	<20	<20	<20	<20	<20	<20
99.07	03/08/06	7.74	0.00	91.33	<48	**49**	**0.8**	**33**	**41**	**18**	**7**	<1	<1	**52**	**120**	**44**	**8**
	06/28/06	8.72	0.00	90.35	<48	<0.5	<0.7	<0.8	<0.8	**82**	-	-	-	-	-	-	-
	09/05/06	9.33	0.00	89.74	<48	<0.5	<0.7	<0.8	<1.6	**110**	<1	<1	<1	<1	<1	<1	<1
	11/30/06	6.93	0.00	92.14	<48	<0.5	<0.7	<0.8	<1.6	**27**	<1	<1	<1	<1	<1	<1	<1

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
TPH-G analysis by Northwest Method NWTPH-Gx
< = not detected above the laboratory method reporting limits (MRLs)
Bold face font indicates analyte was detected above the laboratory MRL
Volatile organic compound (VOC) analysis by EPA Method 8260B

TABLE 3
HISTORICAL SOIL RESULTS
ConocoPhillips Site No. 4745
RM&R No.4702
1545 NE 181st Avenue
Portland, Oregon

Sample Identification	Sample Date	Sample Depth	TPH (mg/kg)	TPH-G (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	Isopropyl benzene (mg/kg)	n-Propyl benzene (mg/kg)	1,3,5-Trimethyl-benzene (mg/kg)	1,2,4-Trimethyl-benzene (mg/kg)	Lead (mg/kg)
2 (G South Wall)	08/15/89	7	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 (G West Wall)	08/15/89	7	76	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 (G East Wall)	08/15/89	7	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 (G North Wall)	08/15/89	7	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 (O North Wall)	08/22/89	5	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 (O South Wall)	08/22/89	4	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 (O East Wall)	08/22/89	5	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 (O West Wall)	08/22/89	4	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-1-8	01/11/05	8	-	<4.89	-	-	<0.0489	<0.0489	<0.0489	<0.1466	<0.0489	<0/0489	<0.0489	<0.0489	<0.0489	<0.0489	<0.0489	<0.0489	-
P-2-12	01/11/05	12	-	<5.16	-	-	<0.0516	<0.0516	<0.0516	<0.1546	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516	-
P-3-7	01/11/05	7	-	<4.66	-	-	<0.0466	<0.0466	<0.0466	<0.1398	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	-
P-4-12	01/11/05	12	-	<4.86	-	-	<0.0486	<0.0486	<0.0486	<0.1457	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486	-
P-5-11	01/11/05	11	-	<4.49	-	-	<0.0449	<0.0449	<0.0449	<0.1348	<0.0449	<0.0449	<0.0449	<0.0449	<0.0449	<0.0449	<0.0449	**0.0776**	-
P-6-13.5	01/11/05	13.5	-	<5.31	-	-	<0.0531	<0.0531	<0.0531	<0.1591	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531	-
P-7-11	01/11/05	11	-	**7.68**	<28.6	<57.2	<0.0453	<0.0453	<0.0453	<0.136	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453	-
MW-1-5	12/06/05	5	-	<4.39	-	-	<0.0219	<0.0439	<0.0439	<0.1317	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	**4.52**
MW-1-10	12/06/05	10	-	<5.12	-	-	<0.0256	<0.0512	<0.0512	<0.1532	**0.148**	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	**7.15**
MW-2-10	12/06/05	10	-	**61.5**	-	-	<0.0247	<0.0493	<0.0493	<0.148	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	**7.95**
MW-3-10	12/06/05	10	-	<4.18	-	-	<0.0209	<0.0418	<0.0418	<0.1254	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	**2.14**
MW-4-5	05/19/06	5	-	<1.0	<3.0	<10.0	<0.0005	<0.001	<0.001	<0.001	**0.005**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
MW-4-10	05/19/06	10	-	**4.3**	<3.0	<10.0	<0.0005	<0.001	<0.001	<0.001	**0.015**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-
MW-5-5	12/06/05	5	-	<4.46	-	-	<0.0223	<0.0446	<0.0446	<0.1339	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	**6.21**
MW-5-10	12/06/05	10	-	<5.08	-	-	<0.0254	<0.0508	<0.0508	<0.1528	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	**6.12**

Notes:
G = Gasoline Storage Tank Excavation
O = Used Oil and Heating Oil Tank Excavation
mg/kg = milligrams per kilogram - dry
TPH-G = Total Petroleum Hydrocarbon as Gasoline
TPH-D = Total Petroleum Hydrocarbon as Diesel
TPH-O = Total Petroleum Hydrocarbon as Oil
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
TPH-Gasoline (TPH-G) analysis by NWTPH-Gx Method
TPH-Diesel (TPH-D) and TPH-Oil (TPH-O) analysis by Northwest Method NWTPH-Dx with silica gel cleanup
BTEX, MTBE, and naphthalene analysis by EPA Method 8260B
Lead analysis by ICP-EPA Method 6010
< = not detected above the laboratory method reporting limits (MRLs)
Bold face font indicates analyte was detected above the laboratory MRL
- = not analyzed
ND = not detected

TABLE 4
GENERIC REMEDY RISK-BASED CLEANUP LEVELS - SOIL
ConocoPhillips Site No. 4745
RM&R No. 4702
1545 NE 181st Avenue
Portland, Oregon

RISK-BASED CONCENTRATIONS

Site Specific Data				
		Soil		
Contaminant of Concern	Note	Maximum Concentration (mg/kg)	Depth (feet)	Sample Location
Benzene	c, v	<0.0531	13.5	P-6
Toluene	nc, v	<0.0531	13.5	P-6
Ethylbenzene	nc, v	<0.0531	13.5	P-6
Xylenes	nc, v	<0.1591	13.5	P-6
iso-propylbenzene	nc, v	<0.0531	13.5	P-6
n-propylbenzene	nc, v	<0.0531	13.5	P-6
1,2,4-trimethylbenzene	nc, v	0.0776	11	P-5
1,3,5-trimethylbenzene	nc, v	<0.0531	13.5	P-6
Acenaphthene	nc, v	NA	NA	NA
Anthracene	nc, v	NA	NA	NA
Benz[a]anthracene	c, nv	NA	NA	NA
Benzo[b]fluoranthene	c, nv	NA	NA	NA
Benzo[k]fluoranthene	c, nv	NA	NA	NA
Benzo[a]pyrene	c, nv	NA	NA	NA
Chrysene	c, nv	NA	NA	NA
Dibenz[a,h]anthracene	c, nv	NA	NA	NA
Fluoranthene	nc, nv	NA	NA	NA
Fluorene	nc, v	NA	NA	NA
Indeno[1,2,3-cd]pyrene	c, nv	NA	NA	NA
Naphthalene	nc, v	<0.0531	13.5	P-6
Pyrene	nc, nv	NA	NA	NA
MTBE (methyl t-butyl ether)	c, v	0.148	10	MW-1
EDB (1,2-dibromoethane)	c, v	<0.0531	13.5	P-6
EDC (1,2-dichloroethane)	c, v	<0.0531	13.5	P-6
Lead	NA, nv	7.95	10	MW-2
Generic Gasoline	nc, v	61.5	10	MW-2
Generic Diesel / Heating Oil	nc, nv	<28.6	11	P-7
Generic Mineral Insulating Oil	nc, nv	NA	NA	NA

Contaminated Medium	SOIL mg/kg						SOIL mg/kg		SOIL mg/kg	
Exposure Pathway	Soil Ingestion, Dermal Contact, and Inhalation (RBCss)						Volatilization to Outdoor Air RBCso		Vapor Intrusion into Buildings RBC_{si}	
Receptor Scenario	Occupational		Construction Worker		Excavation Worker		Occupational		Occupational	
		Note		Note		Note		Note		Note
Benzene	34		340		9,400	>Csat	48		1.2	
Toluene	68,000	>Csat	39,000	>Csat	-	>MAX	-	>Csat	-	>Csat
Ethylbenzene	74,000	>Csat	28,000	>Csat	-	>MAX	-	>Csat	-	>Csat
Xylenes	24,000	>Csat	19,000	>Csat	-	>MAX	-	>Csat	-	>Csat
iso-propylbenzene	51,000	>Csat	24,000	>Csat	-	>MAX	-	>Csat	-	>Csat
n-propylbenzene	19,000	>Csat	9,300	>Csat	-	>MAX	-	>Csat	-	>Csat
1,2,4-trimethylbenzene	1,500	>Csat	1,400	>Csat	40,000	>Csat	790		840	
1,3,5-trimethylbenzene	1,500	>Csat	1,400	>Csat	40,000	>Csat	-	>Csat	140	
Acenaphthene	41,000	>Csat	16,000	>Csat	-	>MAX	-	>Csat	-	>Csat
Anthracene	-	>MAX	90,000	>Csat	-	>MAX	-	>Csat	-	>Csat
Benz[a]anthracene	2.7		21	>Csat	590	>Csat	-	>Csat	-	>Csat
Benzo[b]fluoranthene	2.7		21	>Csat	590	>Csat	-	>Csat	-	>Csat
Benzo[k]fluoranthene	27	>Csat	210	>Csat	5,900	>Csat	-	>Csat	-	>Csat
Benzo[a]pyrene	0.27		2.1		59	>Csat	-	>Csat	-	>Csat
Chrysene	270	>Csat	2100	>Csat	59,000	>Csat	-	>Csat	-	>Csat
Dibenz[a,h]anthracene	0.27		2.1		59	>Csat	-	>Csat	-	>Csat
Fluoranthene	29,000	>Csat	8,900	>Csat	-	>MAX	-	>Csat	-	>Csat
Fluorene	35,000	>Csat	12,000	>Csat	-	>MAX	-	>Csat	-	>Csat
Indeno[1,2,3-cd]pyrene	2.7	>Csat	21	>Csat	590	>Csat	-	>Csat	-	>Csat
Naphthalene	770	>Csat	710	>Csat	20,000	>Csat	-	>Csat	-	>Csat
Pyrene	21,000	>Csat	6,700	>Csat	-	>MAX	-	>Csat	-	>Csat
MTBE (methyl t-butyl ether)	760		9,000	>Csat	-	>MAX	720		35	
EDB (1,2-dibromoethane)	0.033		0.25		7.1		1.7		0.37	
EDC (1,2-dichloroethane)	15		180		5000	>Csat	14		0.56	
Lead	750	L	750	L	750	L		NA		NA
Generic Gasoline	22,000	>S	13,000		-	>MAX	80,000		-	>MAX
Generic Diesel / Heating Oil	70,000	>S	23,000		-	>MAX	-	>MAX	-	>MAX
Generic Mineral Insulating Oil	-	>MAX	40,000		-	>MAX	-	>MAX	-	>MAX

Notes:
<4.0 - not detected above the analytical method reporting limit of 4.0 mg/kg
mg/kg - milligrams per kilogram, or parts per million (ppm)
c - This chemical is a known or suspected carcinogen. The cleanup levels in this row were calculated using equations for carcinogens described in Appendix B of the Oregon Department of Environmental Quality's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
nc - This chemical is a noncarcinogen. The cleanup levels in this row were calculated using equations for noncarcinogens described in Appendix B.
v - This chemical is classified as "volatile" for the purposes of the exposure calculations in the document referenced above.
nv - This chemical is classified as "nonvolatile" for purposes of the exposure calculations in this document.
NA - Not applicable
L - The values for lead reported in this table are not derived from the equations developed in Appendix B of the document referenced above. See Section B.3.4 for the source of the lead numbers and information on applying them. Note that the values for RBCsw are reported as mg/L rather than mg/kg since they are the results of leaching tests, not soil measurements.
>MAX - The constituent RBC for this pathway is greater than 100,000 mg/kg.
>C_{sat} - This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to 'Chemdata' page of the document referenced above for the corresponding value of C_{sat}. See Section B.2.1.4 of the document referenced above for additional information.

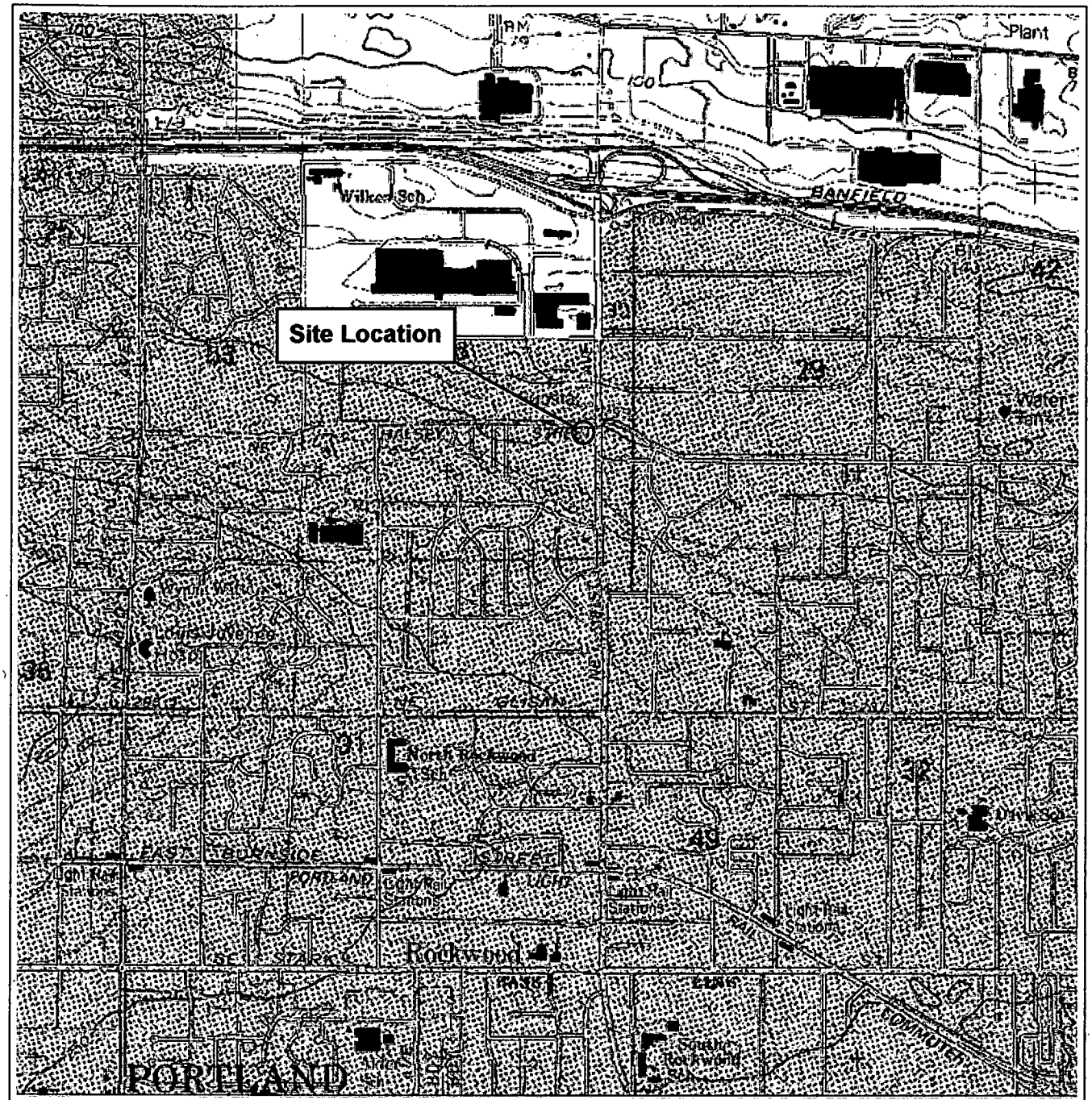
TABLE 5
GENERIC REMEDY RISK-BASED CLEANUP LEVELS - GROUNDWATER
ConocoPhillips Site No. 4745
RM&R No. 470
1545 NE 181st Avenue
Portland, Oregon

RISK-BASED CONCENTRATIONS

Site Specific Data			
		Groundwater	
Contaminant of Concern	Note	Maximum Concentration (µg/L)	Sample Location (µg/L)
Benzene	c, v	49	MW-5
Toluene	nc, v	0.8	MW-5
Ethylbenzene	nc, v	33	MW-5
Xylenes	nc, v	41	MW-5
iso-propylbenzene	nc, v	52	MW-5
n-propylbenzene	nc, v	120	MW-5
1,2,4-trimethylbenzene	nc, v	44	MW-5
1,3,5-trimethylbenzene	nc, v	8	MW-5
Acenaphthene	nc, v	NA	NA
Anthracene	nc, v	NA	NA
Benz[a]anthracene	c, nv	NA	NA
Benzo[b]fluoranthene	c, nv	NA	NA
Benzo[k]fluoranthene	c, nv	NA	NA
Benzo[a]pyrene	c, nv	NA	NA
Chrysene	c, nv	NA	NA
Dibenz[a,h]anthracene	c, nv	NA	NA
Fluoranthene	nc, nv	NA	NA
Fluorene	nc, v	NA	NA
Indeno[1,2,3-cd]pyrene	c, nv	NA	NA
Naphthalene	nc, v	7	MW-5
Pyrene	nc, nv	NA	NA
MTBE (methyl t-butyl ether)	c, v	1,700	MW-1
EDB (1,2-dibromoethane)	c, v	<20	MW-5
EDC (1,2-dichloroethane)	c, v	<20	MW-5
Lead	NA, nv	NA	NA
Generic Gasoline	nc, v	1,100	MW-3
Generic Diesel / Heating Oil	nc, nv	NA	NA
Generic Mineral Insulating Oil	nc, nv	NA	NA

Contaminated Medium	GROUNDWATER (µg/L)		GROUNDWATER (µg/L)		GROUNDWATER (µg/L)	
Exposure Pathway	Volatilization to Outdoor Air RBC_{wo}		Vapor Intrusion into Buildings RBC_{wi}		GW in Excavation RBC_{we}	
Receptor Scenario	Occupational		Occupational		Construction & Excavation Worker	
		Note		Note		Note
Benzene	13,000		2,700		1,700	
Toluene	-	>S	-	>S	78,000	
Ethylbenzene	-	>S	-	>S	110,000	
Xylenes	-	>S	-	>S	22,000	
iso-propylbenzene	-	>S	-	>S	-	>S
n-propylbenzene	-	>S	-	>S	-	>S
1,2,4-trimethylbenzene	-	>S	51,000		1,300	
1,3,5-trimethylbenzene	-	>S	38,000		1,400	
Acenaphthene	-	>S	-	>S	-	>S
Anthracene	-	>S	-	>S	-	>S
Benz[a]anthracene	-	>S	-	>S	9.1	
Benzo[b]fluoranthene	-	>S	-	>S	-	>S
Benzo[k]fluoranthene	-	>S	-	>S	-	>S
Benzo[a]pyrene	-	>S	-	>S	0.53	
Chrysene	-	>S	-	>S	-	>S
Dibenz[a,h]anthracene	-	>S	-	>S	0.21	
Fluoranthene	-	>S	-	>S	-	>S
Fluorene	-	>S	-	>S	-	>S
Indeno[1,2,3-cd]pyrene	-	>S	-	>S	-	>S
Naphthalene	-	>S	-	>S	680	
Pyrene	-	>S	-	>S	-	>S
MTBE (methyl t-butyl ether)	550,000		280,000		31,000	
EDB (1,2-dibromoethane)	2,500		1,800		20	
EDC (1,2-dichloroethane)	9,000		3,600		600	
Lead		NA		NA		NA
Generic Gasoline	-	>S	-	>S	12,000	
Generic Diesel / Heating Oil	-	>S	-	>S	-	>S
Generic Mineral Insulating Oil	-	>S	-	>S	-	>S

Notes:
MTBE - methy tert-butyl ether; **EDB** - ethylene dibromide; **EDC** - ethylbene dichloride
<200 - not detected above the analytical method reporting limit of 200 µg/L
µg/L - micrograms per liter, or parts per billion (ppb)
c - This chemical is a known or suspected carcinogen. The cleanup levels in this row were calculated using equations for carcinogens described in Appendix B of the Oregon Department of Environmental Quality's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003.
nc - This chemical is a noncarcinogen. The cleanup levels in this row were calculated using equations for noncarcinogens described in Appendix B.
v - This chemcial is classified as "volatile" for the purposes of the exposure calculations in the document referenced above.
nv - This chemical is classified as "nonvolatile" for purposes of the exposure calculations in this document.
- not applicable; **NA** - This pathway is not applicable to the chemical of interest.
L - The values for lead reported in this table are not derived from the equations developed in Appendix B of the document referenced above. See Section B.3.4 for the source of the lead numbers and information on applying them. Note that the values for RBCsw are reported as mg/L rather than mg/kg since they are the results of leaching tests, not soil measurements.
>S - This groundwater RBC exceeds the solubility limit. Refer to Appendix D of the document referenced above for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present See Section B.2.1.4 of the document referenced above for additional information.



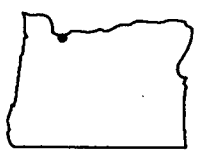
h, ME 04096 Source Data: USGS

750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

North

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

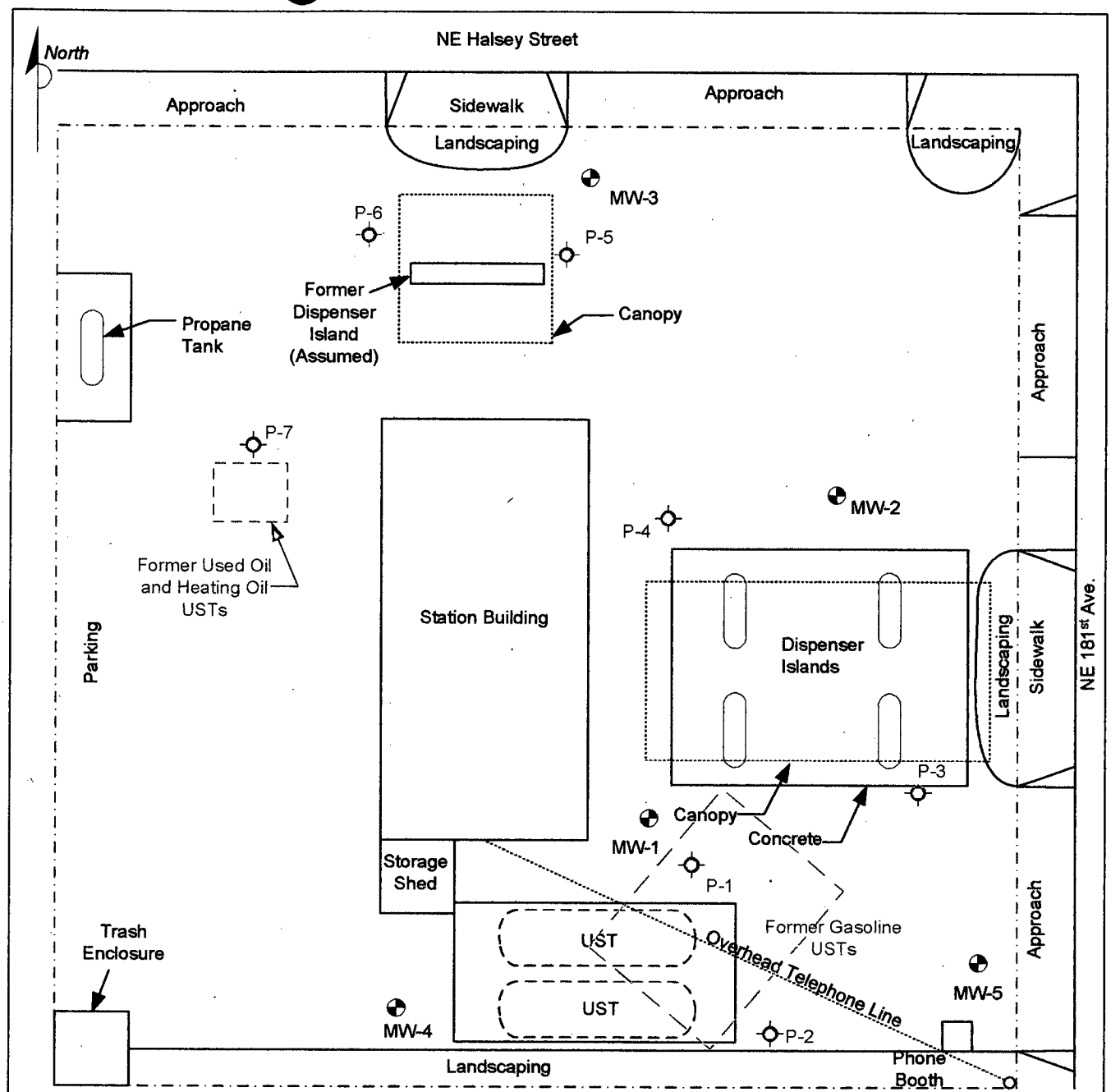
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04-475-2	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 9/7/06
REVISION NO.	REVIEWED BY

DELTA



LEGEND

MW-1 ⊕ Monitoring Well Location and Identification

P-1 ⊙ Soil Boring Location and Designation (1/11/05)

0 20 FT

APPROX. SCALE

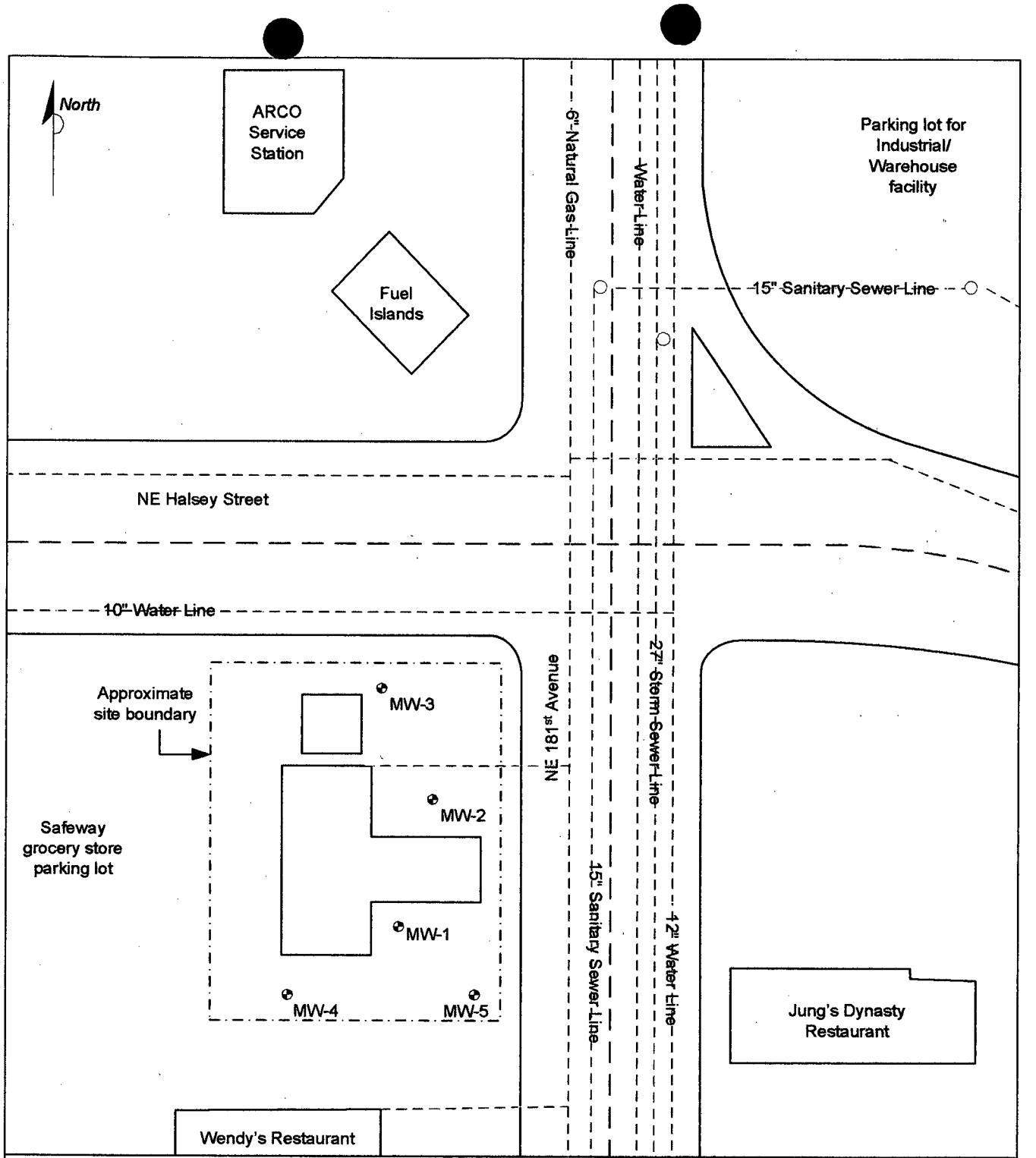
FIGURE 2

SITE FEATURES MAP

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Gresham, Oregon

PROJECT NO. OR04-745-2	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 9/7/06
REVISION NO.	REVIEWED BY

DELTA



Legend

MW-1 ⊕ Groundwater Monitoring Well Location

Approximate Location of Natural Gas Line

— — — Approximate Location of Storm Sewer Line

——— Approximate Location of Water Lines

— — — Approximate location of Sanitary Sewer Line

0 40 FT

APPROX. SCALE

GENERAL NOTES:

BASE MAP FROM GOOGLE MAPS

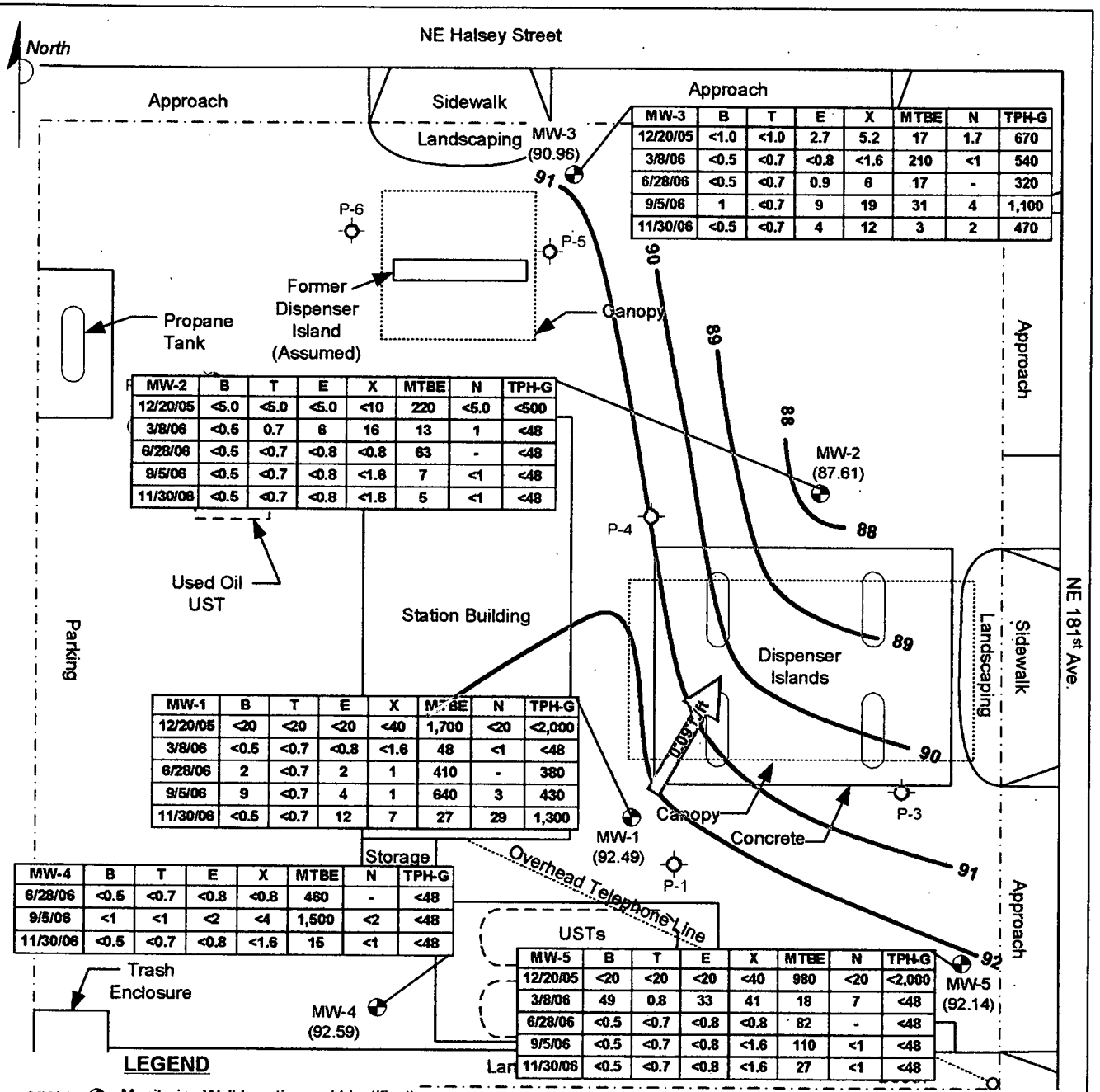
FIGURE 3

SUBSURFACE UTILITY MAP

ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. QR04-745-2	DRAWN BY MPK 3/10/06
FILE NO.	PREPARED BY MPK
REVISION NO.	REVIEWED BY

DELTA



MW-3	B	T	E	X	MTBE	N	TPH-G
12/20/05	<1.0	<1.0	2.7	5.2	17	1.7	670
3/8/06	<0.5	<0.7	<0.8	<1.6	210	<1	540
6/28/06	<0.5	<0.7	0.9	6	17	-	320
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470

MW-2	B	T	E	X	MTBE	N	TPH-G
12/20/05	<5.0	<5.0	<5.0	<10	220	<5.0	<500
3/8/06	<0.5	0.7	6	16	13	1	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	63	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48

MW-1	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	1,700	<20	<2,000
3/8/06	<0.5	<0.7	<0.8	<1.6	48	<1	<48
6/28/06	2	<0.7	2	1	410	-	380
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300

MW-4	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	460	-	<48
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48

MW-5	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	980	<20	<2,000
3/8/06	49	0.8	33	41	18	7	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	82	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48

LEGEND

- MW-1 — Monitoring Well Location and Identification
- P-1 — Soil Boring Location and Designation (1/11/05)
- (92.49) — Groundwater Elevation, Feet
- 92 — Groundwater Elevation Contour, Feet
- 0.09 ft/ft — Approximate Groundwater Flow Direction and Gradient
- B — Benzene Concentration, micrograms per liter (µg/L)
- T — Toluene Concentration, µg/L
- E — Ethylbenzene Concentration, µg/L
- X — Total Xylenes Concentration, µg/L
- MTBE — Methly tert-Butyl Ether Concentration, µg/L
- N — Naphthalene Concentration, µg/L
- TPH-G — Total Petroleum Hydrocarbon as Gasoline

Groundwater Monitoring and Sampling Performed on November 30, 2006

0 20 FT

APPROX. SCALE

FIGURE 4

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

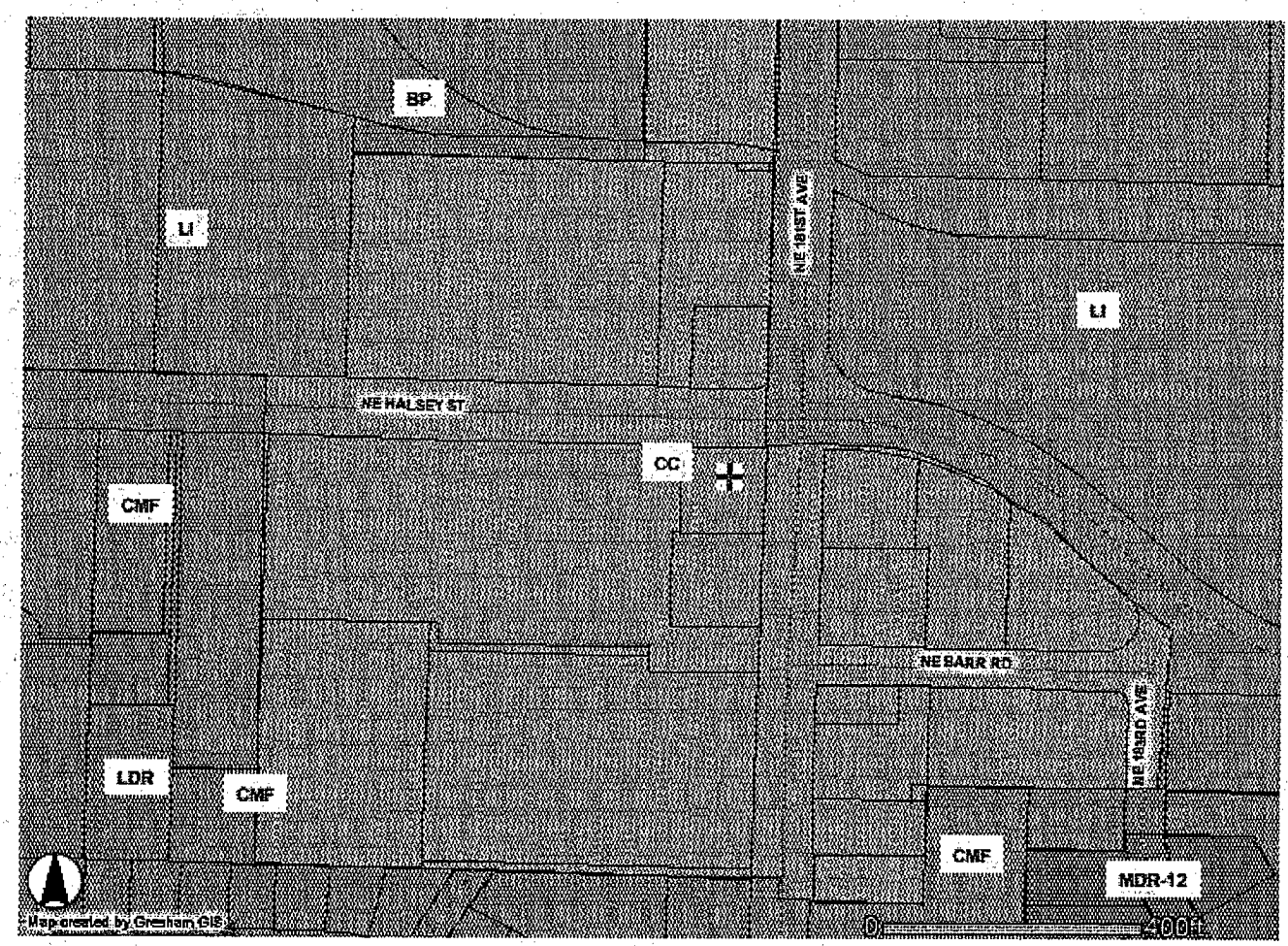
ConocoPhillips Site No. 4745 (RM&R No. 4702)
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 12/16/06
REVISION NO.	REVIEWED BY

DELTA

ATTACHMENT A

CITY OF GRESHAM ZONING MAP AND ORDINANCES


BP
LI
NE 181ST AVE
LI
NE HALSEY ST
CC
CMF
NE BARR RD
NE 162ND AVE
LDR
CMF
CMF
MDR-12
Map created by Gresham GIS
0
200ft

Land Use Zoning designations-City of GreshamLand Use Zoning designations

All land in Gresham has been designated for certain types of uses which are briefly described below. A large City-wide map showing designations is available, $8.00 for black and white and $25.00 for color at the Permit Center and more comprehensive descriptions are available at no cost. **Questions? Call the Community Development Department at 618-2780.**

RESIDENTIAL DEVELOPMENT DISTRICTS

LDR	**LOW DENSITY RESIDENTIAL** Permits single family detached and attached dwellings, manufactured homes and two-unit attached dwellings at a maximum density of 8.71 units per acre and a minimum density of 6 22 units per acre. The maximum density is increased when developed as a Planned Unit Development.
TLDR	**TRANSIT LOW-DENSITY RESIDENTIAL** This district designation is applied primarily to existing low-density residential neighborhoods within close proximity of light rail and/or bus transit service. These districts are intended to continue as lower-density neighborhoods, with detached single-family housing on small lots. Opportunities will also be available for attached single-family dwellings, two-unit attached dwellings, and accessory dwellings.
MDR-12	**MODERATE DENSITY RESIDENTIAL-12** Areas deemed appropriate for multi-family housing at a development density of 8.71 to 12.1 units per acre, or manufactured dwelling parks at a maximum density of up to 8 71 units per acre
MDR-24	**MODERATE DENSITY RESIDENTIAL-24** Areas deemed appropriate for multi-family housing at a development density of 12.1 to 24 2 units per acre.
OFR	**OFFICE/RESIDENTIAL** Areas deemed appropriate for multi-family housing at a development density of 8.71 to 12.1 units per acre or business office or professional clinics Limited retail and commercial services are permitted
Gresham Butte Overlay	Special requirements for this area are provided to preserve the natural beauty of Gresham Butte. In addition, the requirements are needed to provide for the unique development conditions experienced on Gresham Butte including special needs in the areas of storm water management, fire protection and access management

INDUSTRIAL DEVELOPMENT DISTRICTS

BP	**BUSINESS PARK** Areas deemed appropriate for light industrial, limited, related commercial uses, and executive and administrative offices which operate in a park-like atmosphere
LI	**LIGHT INDUSTRIAL** Areas deemed appropriate for industrial uses, limited commercial uses, and some related executive office uses. Limited, screened outdoor storage and display areas are permitted
HI	**HEAVY INDUSTRIAL** Areas deemed appropriate for high intensity industrial uses which are generally not compatible with residential development such as heavy manufacturing, mining, and chemical refining uses.

COMMERCIAL DEVELOPMENT DISTRICTS (see also Corridor Districts)

NC **NEIGHBORHOOD COMMERCIAL** Areas deemed appropriate for commercial activities that serve a local area and has minimal impact on surrounding residential uses; such as small offices, grocery stores, and personal services.

GC **GENERAL COMMERCIAL** Areas deemed appropriate for commercial activities that serve the community including retail trade establishments, offices, clinics, retail and commercial service establishments.

CORRIDOR DEVELOPMENT DISTRICTS

RTC **ROCKWOOD TOWN CENTER** This district encompasses the heart of Central Rockwood. Primary permitted uses are retail commercial, services, office uses and housing. Mixed-use developments and various institutional uses (e.g., library, public meeting halls, government facilities) are also permitted. The scale and character of new development is intended to support and reinforce the image of a town center, with buildings of at least two stories, oriented to streets and pedestrians, and with parking lots behind or to the sides of buildings.

SC **STATION CENTERS** This district takes in properties which are adjacent to, or within easy walking distance, of light rail stations at 162nd Ave , 172nd Ave., and Ruby Junction (197th Ave.) The Station Centers district is intended to accommodate uses which are directly supportive of light rail transit. Development types permitted include retail and service businesses, offices, mixed-use projects, higher-density housing, and attached single family dwellings.

SC-RJ **STATION CENTER RUBY JUNCTION OVERLAY** Acknowledging the different character of existing land uses adjacent to the Ruby Jct. Light rail station, an overlay designation here will also permit auto-dependent uses, and small-scale light industrial uses.

CMF **CORRIDOR MULTI-FAMILY** This district is applied along segments of transit streets and primarily provides opportunities for moderate-density residential development. Standards will require building orientation to public sidewalks and the scale of new housing to diminish as buildings approach abutting residential districts

CMU **CORRIDOR MIXED USE** This district designation is applied to certain clusters of properties along Transit Streets. In addition to moderate-density, multi-family residential uses, this district permits small-scale commercial uses and mixed-use developments. Commercial businesses operating in this district will serve primarily the day-to-day needs of residents in nearby housing developments and neighborhoods. Design standards for new construction will help to ensure that new buildings become attractive additions to existing and developing neighborhoods.

CC **COMMUNITY COMMERCIAL** This district designation is applied to larger nodes of primarily commercial development clustered around the intersections of arterial streets. This district will accommodate a wide range of community-scale commercial uses, including retail, services, and offices. This district also permits housing as a secondary use, with attached dwellings being developed in conjunction with commercial construction. New buildings will be pedestrian-oriented with parking placed behind or beside buildings.

MC	**MODERATE COMMERCIAL** This district is applied to smaller nodes of commercial activity clustered around key intersections These districts are intended to function primarily as locally-oriented centers serving small trade areas. Permitted development types include commercial retail, service, and office uses. New housing at moderate densities may also be permitted, when developed in conjunction with commercial uses. Design standards will ensure a strong pedestrian orientation for new development.
	DOWNTOWN DEVELOPMENT DISTRICTS
CUC	**CENTRAL URBAN CORE** Primary permitted uses are retail, commercial, service, and office uses. Mixed-use developments, dwellings located above or behind commercial uses, single-family attached dwellings, and various institutional uses (e.g., library, public meeting halls, churches, government are also permitted. The scale and character of new development is intended to be similar to the existing, traditional "Main Street" environment
DT	**DOWNTOWN TRANSIT** This designation affects land near existing and future light rail stations in the downtown area. Primary uses permitted include office buildings, retail, and service uses. Also permitted are mixed-use developments and housing at densities of 24-60 units per acre. Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of buildings
DR-12	**DOWNTOWN LOW-DENSITY RESIDENTIAL-12** The existing, small-scale character of lots and buildings is expected to be maintained and strengthened, while permitting new residential and small commercial uses Existing dwellings may be converted to small multi-family dwellings or be renovated as small professional offices or commercial businesses
DR-30	**DOWNTOWN MODERATE DENSITY RESIDENTIAL** Intended to become neighborhoods made up mainly of moderate-density residential uses, ranging from 17 to 30 units per acre. Typical forms of housing would include single-family attached dwellings, garden apartments, condominiums, and podium apartments Mixed-use and neighborhood-scale commercial uses are also permitted
DC-1	**DOWNTOWN GENERAL COMMERCIAL-1** These areas will continue to accommodate primarily auto-oriented commercial business However, very large-scale new commercial uses are not permitted. Mixed-use developments and attached dwellings are also permitted at densities up to 30 units per acre.
DC-2	**DOWNTOWN MODERATE COMMERCIAL-2** Permits commercial, mixed use and residential uses above or behind commercial uses To maintain and enhance the existing character of the area there are limits on the size of new buildings and the extent of outdoor commercial uses New businesses are encouraged to orient themselves not only to abutting arterial, but also to adjacent neighborhoods within the Downtown Plan District
	CIVIC NEIGHBORHOOD DEVELOPMENT DISTRICTS
TDM-C	**TRANSIT DEVELOPMENT DISTRICT: MEDIUM DENSITY - CIVIC** This designation affects land which has good access both to existing and future light rail stations and arterial streets. Primary uses permitted include commercial, retail, and service uses occupying the ground floor area and/or

a portion of the second story. Also permitted are mixed-use and multi-family developments with a minimum density of 24 units per acre.

TDH-C **TRANSIT DEVELOPMENT DISTRICT: HIGH DENSITY - CIVIC** This designation affects land around existing and future light rail stations. Primary uses permitted include office buildings, retail, and service uses. Also permitted are mixed-use developments and multi-family residential developments at a minimum density of 30 units per acre. Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of the building. Free-standing retail uses are allowed up to 10,000 square feet of floor area.

HDR-C **HIGH DENSITY RESIDENTIAL - CIVIC** This designation is intended for high- density neighborhoods with a minimum of 24 units per acres Secondary uses include neighborhood commercial uses, smaller scale offices, and neighborhood parks. Small free-standing office-commercial uses are allowed within mixed-use developments provided they do not occupy more than 50% of the residential floor area and that minimum residential densities are met. Retail uses are only allowed within mixed-use building provided they do not occupy more than 10,000 sq ft. of floor area and that minimum residential densities are met.

MDR-C **MODERATE DENSITY RESIDENTIAL - CIVIC** Permits moderate-density residential uses with a minimum density of 17 units per acre. Typical forms of housing include row houses, garden apartments, condominiums, and podium apartments Mixed-use and neighborhood scale commercial uses are allowed within residential buildings occupying the ground floor area provided that minimum residential densities are met.

All land in Gresham has been designated for certain types of uses which are briefly described below. A large City-wide map showing designations is available, $8.00 for black and white and $25.00 for color at the Permit Center and more comprehensive descriptions are available at no cost. **Questions? Call the Community Development Department at 618-2780.**

RESIDENTIAL DEVELOPMENT DISTRICTS

LDR **LOW DENSITY RESIDENTIAL** Permits single family detached and attached dwellings, manufactured homes and two-unit attached dwellings at a maximum density of 8.71 units per acre and a minimum density of 6 22 units per acre. The maximum density is increased when developed as a Planned Unit Development

TLDR **TRANSIT LOW-DENSITY RESIDENTIAL** This district designation is applied primarily to existing low-density residential neighborhoods within close proximity of light rail and/or bus transit service These districts are intended to continue as lower-density neighborhoods, with detached single-family housing on small lots. Opportunities will also be available for attached single-family dwellings, two-unit attached dwellings, and accessory dwellings.

MDR-12 **MODERATE DENSITY RESIDENTIAL-12** Areas deemed appropriate for multi-family housing at a development density of 8.71 to 12.1 units per acre, or manufactured dwelling parks at a maximum density of up to 8 71 units per acre.

MDR-24	**MODERATE DENSITY RESIDENTIAL-24** Areas deemed appropriate for multi-family housing at a development density of 12 1 to 24.2 units per acre.
OFR	**OFFICE/RESIDENTIAL** Areas deemed appropriate for multi-family housing at a development density of 8.71 to 12.1 units per acre or business office or professional clinics. Limited retail and commercial services are permitted
Gresham Butte Overlay	Special requirements for this area are provided to preserve the natural beauty of Gresham Butte In addition, the requirements are needed to provide for the unique development conditions experienced on Gresham Butte including special needs in the areas of storm water management, fire protection and access management.

INDUSTRIAL DEVELOPMENT DISTRICTS

BP	**BUSINESS PARK** Areas deemed appropriate for light industrial, limited, related commercial uses, and executive and administrative offices which operate in a park-like atmosphere.
LI	**LIGHT INDUSTRIAL** Areas deemed appropriate for industrial uses, limited commercial uses, and some related executive office uses. Limited, screened outdoor storage and display areas are permitted
HI	**HEAVY INDUSTRIAL** Areas deemed appropriate for high intensity industrial uses which are generally not compatible with residential development such as heavy manufacturing, mining, and chemical refining uses.

COMMERCIAL DEVELOPMENT DISTRICTS (see also Corridor Districts)

NC	**NEIGHBORHOOD COMMERCIAL** Areas deemed appropriate for commercial activities that serve a local area and has minimal impact on surrounding residential uses; such as small offices, grocery stores, and personal services.
GC	**GENERAL COMMERCIAL** Areas deemed appropriate for commercial activities that serve the community including retail trade establishments, offices, clinics, retail and commercial service establishments

CORRIDOR DEVELOPMENT DISTRICTS

RTC	**ROCKWOOD TOWN CENTER** This district encompasses the heart of Central Rockwood Primary permitted uses are retail commercial, services, office uses and housing. Mixed-use developments and various institutional uses (e g , library, public meeting halls, government facilities) are also permitted. The scale and character of new development is intended to support and reinforce the image of a town center, with buildings of at least two stories, oriented to streets and pedestrians, and with parking lots behind or to the sides of buildings.
SC	**STATION CENTERS** This district takes in properties which are adjacent to, or within easy walking distance, of light rail stations at 162nd Ave , 172nd Ave , and Ruby Junction (197th Ave.). The Station Centers district is intended to accommodate uses which are directly supportive of light rail transit. Development types permitted include retail and service businesses, offices, mixed-use projects, higher-density housing, and attached single

family dwellings.

SC-RJ **STATION CENTER RUBY JUNCTION OVERLAY** Acknowledging the different character of existing land uses adjacent to the Ruby Jct Light rail station, an overlay designation here will also permit auto-dependent uses, and small-scale light industrial uses.

CMF **CORRIDOR MULTI-FAMILY** This district is applied along segments of transit streets and primarily provides opportunities for moderate-density residential development Standards will require building orientation to public sidewalks and the scale of new housing to diminish as buildings approach abutting residential districts.

CMU **CORRIDOR MIXED USE** This district designation is applied to certain clusters of properties along Transit Streets. In addition to moderate-density, multi-family residential uses, this district permits small-scale commercial uses and mixed-use developments. Commercial businesses operating in this district will serve primarily the day-to-day needs of residents in nearby housing developments and neighborhoods Design standards for new construction will help to ensure that new buildings become attractive additions to existing and developing neighborhoods.

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MC **MODERATE COMMERCIAL** This district is applied to smaller nodes of commercial activity clustered around key intersections These districts are intended to function primarily as locally-oriented centers serving small trade areas. Permitted development types include commercial retail, service, and office uses. New housing at moderate densities may also be permitted, when developed in conjunction with commercial uses. Design standards will ensure a strong pedestrian orientation for new development

DOWNTOWN DEVELOPMENT DISTRICTS

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DT **DOWNTOWN TRANSIT** This designation affects land near existing and future light rail stations in the downtown area Primary uses permitted include office buildings, retail, and service uses. Also permitted are mixed-use developments and housing at densities of 24-60 units per acre Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of buildings

DR-12 **DOWNTOWN LOW-DENSITY RESIDENTIAL-12** The existing, small-scale character of lots and buildings is expected to be maintained and strengthened, while permitting new residential and small commercial uses. Existing dwellings may be converted to small multi-family dwellings or be renovated as small professional offices or commercial businesses

DR-30	**DOWNTOWN MODERATE DENSITY RESIDENTIAL** Intended to become neighborhoods made up mainly of moderate-density residential uses, ranging from 17 to 30 units per acre. Typical forms of housing would include single-family attached dwellings, garden apartments, condominiums, and podium apartments. Mixed-use and neighborhood-scale commercial uses are also permitted.
DC-1	**DOWNTOWN GENERAL COMMERCIAL-1** These areas will continue to accommodate primarily auto-oriented commercial business. However, very large-scale new commercial uses are not permitted. Mixed-use developments and attached dwellings are also permitted at densities up to 30 units per acre.
DC-2	**DOWNTOWN MODERATE COMMERCIAL-2** Permits commercial, mixed use and residential uses above or behind commercial uses. To maintain and enhance the existing character of the area there are limits on the size of new buildings and the extent of outdoor commercial uses New businesses are encouraged to orient themselves not only to abutting arterial, but also to adjacent neighborhoods within the Downtown Plan District

CIVIC NEIGHBORHOOD DEVELOPMENT DISTRICTS

TDM-C	**TRANSIT DEVELOPMENT DISTRICT: MEDIUM DENSITY - CIVIC** This designation affects land which has good access both to existing and future light rail stations and arterial streets. Primary uses permitted include commercial, retail, and service uses occupying the ground floor area and/or a portion of the second story. Also permitted are mixed-use and multi-family developments with a minimum density of 24 units per acre.
TDH-C	**TRANSIT DEVELOPMENT DISTRICT: HIGH DENSITY - CIVIC** This designation affects land around existing and future light rail stations Primary uses permitted include office buildings, retail, and service uses. Also permitted are mixed-use developments and multi-family residential developments at a minimum density of 30 units per acre. Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of the building. Free-standing retail uses are allowed up to 10,000 square feet of floor area.
HDR-C	**HIGH DENSITY RESIDENTIAL - CIVIC** This designation is intended for high- density neighborhoods with a minimum of 24 units per acres Secondary uses include neighborhood commercial uses, smaller scale offices, and neighborhood parks. Small free-standing office-commercial uses are allowed within mixed-use developments provided they do not occupy more than 50% of the residential floor area and that minimum residential densities are met. Retail uses are only allowed within mixed-use building provided they do not occupy more than 10,000 sq. ft. of floor area and that minimum residential densities are met
MDR-C	**MODERATE DENSITY RESIDENTIAL - CIVIC** Permits moderate-density residential uses with a minimum density of 17 units per acre. Typical forms of housing include row houses, garden apartments, condominiums, and podium apartments Mixed-use and neighborhood scale commercial uses are allowed within residential buildings occupying the ground floor area provided that minimum residential densities are met.

ATTACHMENT B

WELL LOGS

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
OCT 28 1971
STATE ENGINEER
SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

MULT 061393

State Well No. 1N/3-29
State Permit No.

(1) OWNER:
Name Howard Angell
Address 6808 S.E. Ash St., Portland, Ore.

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☒
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
8 " Diam. from 0 ft. to 132 ft. Gage .250
7 " Diam. from 132 ft. to 180 ft. Gage .10
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used Cutting torch
Size of perforations 1/4 in. by 12 in.
72 perforations from 140 ft. to 180 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Air rotary 130 Total " 3 "
" " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement grout
Well sealed from land surface to 132 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 8 sacks
Number of sacks of bentonite used in well seal 3 sacks
Brand name of bentonite National
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Multnomah Driller's well number
¼ ¼ Section 29 T. 1N R. 3E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well
Depth at which water was first found 140 ft.
Static level 57 ft. below land surface. Date 9-27-71
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 180 ft. Depth of completed well 180 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Topsoil-Brown	0	2	
Clay-Boulders-Lrg-Sandstone	2	50	
Gravel-Cemented-Clay	50	140	
Sandstone - conglomerate - water	140	180	57

Work started 9-20 19 71 Completed 9-27 19 71
Date well drilling machine moved off of well 9-27 19 71

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Bennett Skinner (Drilling Machine Operator) Date 10-16, 1971
Drilling Machine Operator's License No. 277

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name S & M Drilling & Supply (Person, firm or corporation) (Type or print)
Address Rt. 1 Box 31, Canby, Ore. 97013
[Signed] Bennett Skinner (Water Well Contractor)
Contractor's License No. 520 Date 10-16, 71

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*48556-110

ORIGINAL
File Original and Duplicate with the STATE ENGINEER, SALEM, OREGON

RECEIVED
DEC 14 1959
STATE ENGINEER
SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON

MULT 001410 G 913

State Well No. 1N/3-30A(1)

State Permit No. G884

(1) OWNER:
Name Mr. Leslie Hartley
Address 18028 N.E. SANDY BLVD.
PORTLAND OREGON

(2) LOCATION OF WELL:
County Multnomah Owner's number, if any—
¼ ¼ Section T. R. W.M.
Bearing and distance from section or subdivision corner
see 6-1013

(3) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☒
With drive shoe
6 " Diam. from 0 ft. to 119 ft. Gage 5/16
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed ☐ Yes ☐ No
Manufacturer's Name
Type Model No.
Slot size Set from ft. to ft.
Slot size Set from ft. to ft.

CONSTRUCTION:
Was well gravel packed? ☐ Yes ☐ No Size of gravel:
Gravel placed from ft. to ft.
Was a surface seal provided? ☒ Yes ☐ No To what depth? 30 ft.
Material used in seal—
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 57 ft. below land surface Date 8/8/58
Artesian pressure lbs. per square inch Date

Log Accepted by:

[Signed] (Owner) Date , 19

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? Bottner Drlg. Co.
Yield: 50 gal./min. with 10 ft. drawdown after 1 hrs.
" 60 " 13 " 2 "
" 95 * " unknown * " 3 "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date Aug. 8-58
Temperature of water 49 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:
Diameter of well 6 inches.
Depth drilled 120 ft. Depth of completed well 120 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Top soil	0	2
Sandy Clay	2	9
Boulders	9	16
Clay & Gravel	16	20
Boulders	20	23
Cemented Gravel	23	34
Boulders	34	35
Clay & Gravel	35	46
Boulders	46	50
Sand & gravel -	50	58
Solid rock	58	78
Blue & gravel	78	92
Boulders	92	101
Cemented	101	114
Fine sand	114	118
Gravel (Water bearing)	118	120
* Note :		
* The 95 G.P.M. pumping draw down undetermend due to the draw down electro rod unable to go pass the bowls, pump setting overall 104 ft. Water crystal clear and sand free. Well drilled to 80 ft. with 8 " bit.		

Work started July 24 19 58 Completed Aug. 8 19 58

(13) PUMP:
Manufacturer's Name
Type: H.P

Well Driller's Statement:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME HAAKON I. BOTTNER DRILLING CO.
(Person, firm, or corporation) (Type or print)
Address 11544 N.E. GILSAN ST
PORTLAND 20, OREGON PH. AL 3-3606
Driller's well number
[Signed] H. Bottner (Well Driller)
License No. 109 Date Sept. 10, 19 58

(USE ADDITIONAL SHEETS IF NECESSARY)

ATTACHMENT C

GEOENGINEERS REPORT OF REMEDIAL ACTIONS/UNDERGROUND STORAGE TANK REMOVAL, DECEMBER 1, 1989

GeoEngineers

December 1, 1989

Consulting Geotechnical Engineers and Geologists

Unocal
P O Box 76
Seattle Washington 98111

Attention Mr Gary Gunderson

Report of Remedial Actions
Underground Storage Tank Removal
Service Station 4745
Gresham, Oregon
File No 0161-196-P04

INTRODUCTION

This summarizes the results of our observations during the removal of the underground fuel storage tanks at the site of Unocal Service Station 4745 in Gresham, Oregon The site is located southwest of the intersection between 181st Avenue and Northeast Halsey Street, as shown on the Vicinity Map, Figure 1 The general layout of the site is shown on the Site Plan, Figure 2

Two 10,000-gallon steel gasoline storage tanks, one 550-gallon waste oil tank and one 550-gallon heating oil tank were removed from the site between August 15 and 22, 1989 The steel gasoline storage tanks were removed from the location shown in Figure 2 The gasoline tanks were replaced by two 12,000-gallon fiberglass storage tanks which were installed directly south of the service station building The steel waste oil tank was replaced with a 550-gallon fiberglass tank The steel heating oil tank was removed but not replaced

The purpose of our services was to observe and evaluate subsurface soil conditions in the underground storage tank excavations and to develop a remediation plan, if necessary GeoEngineers' scope of services completed for this project is listed below

GeoEngineers Inc
2405 140th Ave NE, Suite 105
Bellevue WA 98005
Telephone (206) 746-5200
Fax (206) 746-5068

1 Observe and document the excavation of the four underground storage tanks at the site

2 Obtain soil samples from the limits of the excavation for chemical analysis of petroleum-related contaminants Field screening was conducted on most of the soil samples for evidence of contamination using visual and water immersion screening methods

3 Test one soil sample for flash point

4 Coordinate off-site disposal of contaminated soil with St Johns Landfill

5 Evaluate the field and laboratory data with regard to existing regulatory concerns

SOIL EXCAVATION AND SAMPLING

Petroleum Construction removed the four underground tanks from the locations shown in Figure 2 between August 15 and 22, 1989 A representative of our staff was present to observe tank removal activities and obtain soil samples

Our representative noted evidence of corrosion on both 10,000-gallon gasoline tanks removed from the excavation, the heating and waste oil tanks were in the same condition However, no perforations of the tank walls were observed

The backfill surrounding the steel tanks consisted of coarse-grained sand with gravel Native soils that formed the walls of the excavations consisted of sandy gravel with cobbles Ground water was not encountered in the excavations

Soil Samples 2 through 5 were obtained from the walls of the gasoline tank excavation on August 15, 1989 (Figure 2)

The excavation was then extended westward to accommodate the new gasoline storage tanks The final limits of the excavation are shown in Figure 2 The soil samples collected from the gasoline tank excavation were submitted for chemical analysis of total petroleum hydrocarbons (TPH) by EPA

Method 418 1 and gasoline by EPA Method 8015 (modified) The results of the TPH and gasoline chemical analyses for Samples 2 through 5 are summarized in Table 1 Laboratory reports are given in the attachments

Based on the physical setting and conditions of Service Station 4745, this site would be classified as a "Level 2" site based on the matrix scoring method described in OAR 340-122-330 The applicable soil cleanup goals for this site are 60 ppm TPH (as gasoline) and 500 ppm TPH (as diesel) Analytical results indicated that the concentration of TPH and gasoline detected in Samples 2 through 5 were less than applicable cleanup guidelines

Samples 6 through 9 were obtained from the walls that formed final limits of the waste and heating oil excavation on August 22, 1989 (Figure 2) These samples were submitted for TPH analysis by EPA Method 418 1 Test results for Samples 6 through 9 are summarized in Table 1 The laboratory reports are given in the attachments Test results indicated that concentrations of TPH in Samples 6 through 9 were less than Level 2 cleanup guidelines

Although the final limits of both excavations were "clean" based on analytical testing and field observations, contaminated soil was found in the immediate vicinity of the former underground tanks in each excavation This contaminated soil was removed and stockpiled temporarily on site Noncontaminated soil that was excavated during tank removal operations was returned to the excavations as backfill

Sample 1 was obtained on August 15 from contaminated soil removed from the gasoline tank excavation This sample was tested for TPH (7 ppm) and for flash point (no flash at 200 degrees Fahrenheit) Sample 10 was obtained on August 22 from stockpiled soil removed from the waste and heating oil tank excavation A TPH concentration of 1900 ppm was reported for Sample 10

SOIL DISPOSAL

Approximately 17 cubic yards of petroleum-contaminated soil were removed from the excavations and stockpiled temporarily on site Based on the results of analytical testing of the stockpiled soil, the St Johns Landfill agreed to accept the soil from Service Station 4745

CONCLUSIONS

Based on the results of our observations and testing, petroleum-related contamination in the vicinity of the former underground tanks at Service Station 4745 appears to have been remediated successfully

LIMITATIONS

We have prepared this report for use by Unocal This report may be made available to regulatory agencies and to potential buyers of the property This report is not intended for use by others and the information contained herein is not applicable to other sites

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared No other conditions, express or implied, should be understood

- o O o -

Please contact us if you have any questions regarding this report

Yours very truly,

GeoEngineers Inc

Scott E Widness
Geological Engineer/Hydrogeologist

James A Miller, P E
Principal

SEW JAM cs

Attachments

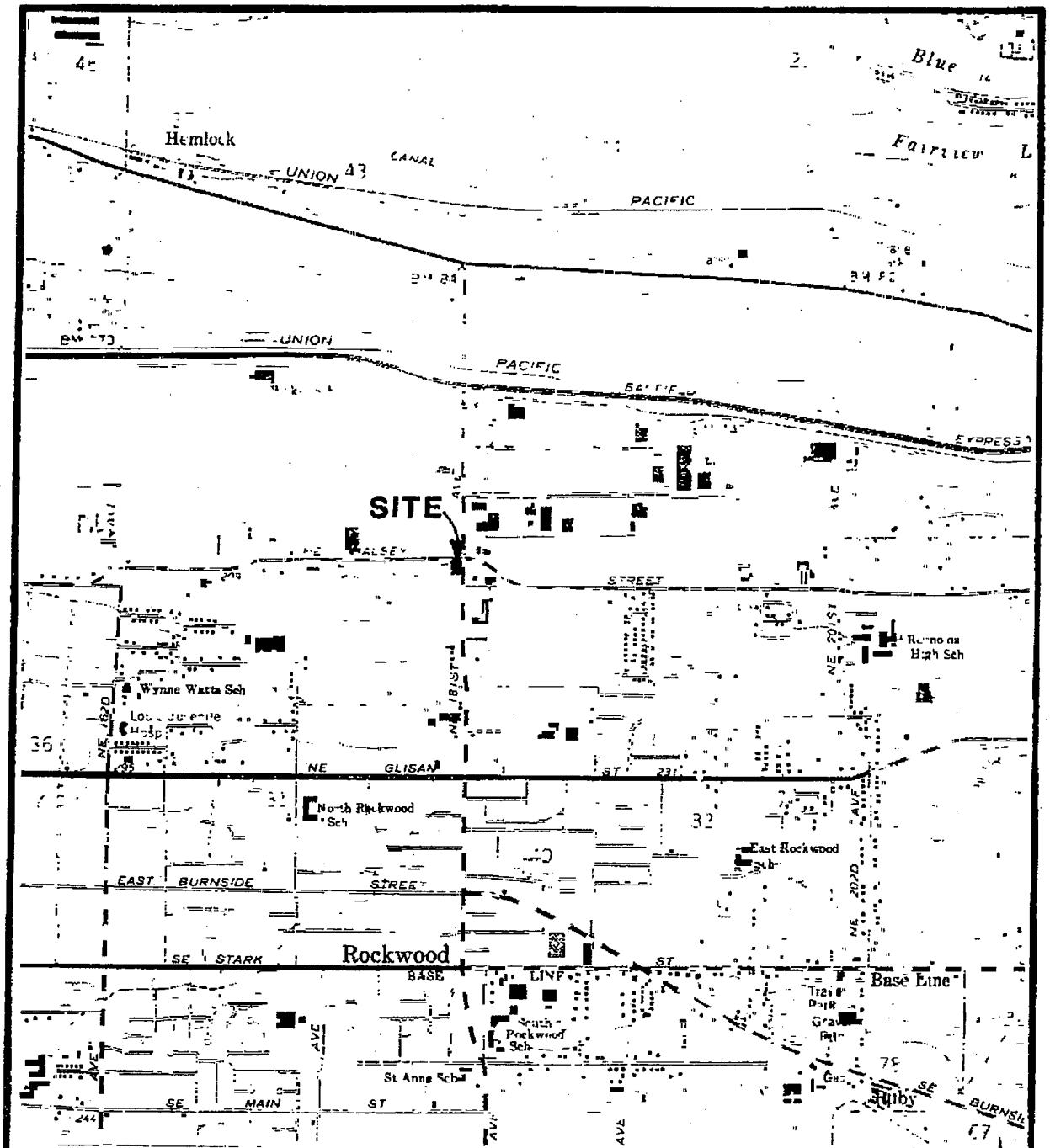
Four copies submitted

cc Mr Andree Pollock
Oregon Dept of Environmental Quality
811 S W 6th Ave
Portland, OR 97204

TABLE 1
SUMMARY OF ANALYTICAL DATA

Sample Number	Date Sampled	Depth (feet)	TPH (ppm) (1)	Gasoline (ppm) (2)	Sheen Response(3)	Excavation(4)	Sample Location
1	08/15/89	stockpile	?	--	--	G	Soil stockpile(5)
2	08/15/89	?	ND	ND	--	G	South wall
3	08/15/89	?	76	ND	--	G	West wall
4	08/15/89	?	ND	ND	--	G	East wall
5	08/15/89	?	ND	ND	--	G	North wall
6	08/22/89	5	12	--	NS	O	North wall
7	08/22/89	4	12	--	NS	O	South wall
8	08/22/89	5	17	--	NS	O	East wall
9	08/22/89	4	19	--	NS	O	West wall
10	08/22/89	stockpile	1900	--	MS	O	Soil stockpile

Notes
"ND" = "not detected"
"--" = "not analyzed"
"ppm" = "parts per million"
(1) Total Petroleum Hydrocarbon (TPH) analysis by EPA Method 418 1
(2) Gasoline analysis by EPA Method 8015 (modified)
(3) Relative sheen response based on water immersion test NS = no sheen MS = moderate sheen
(4) G = gasoline storage tank excavation
O = waste oil and heating oil tank excavation
(5) Sample also tested for flash point by EPA Method 1010 No flash was observed at 200 degrees Fahrenheit



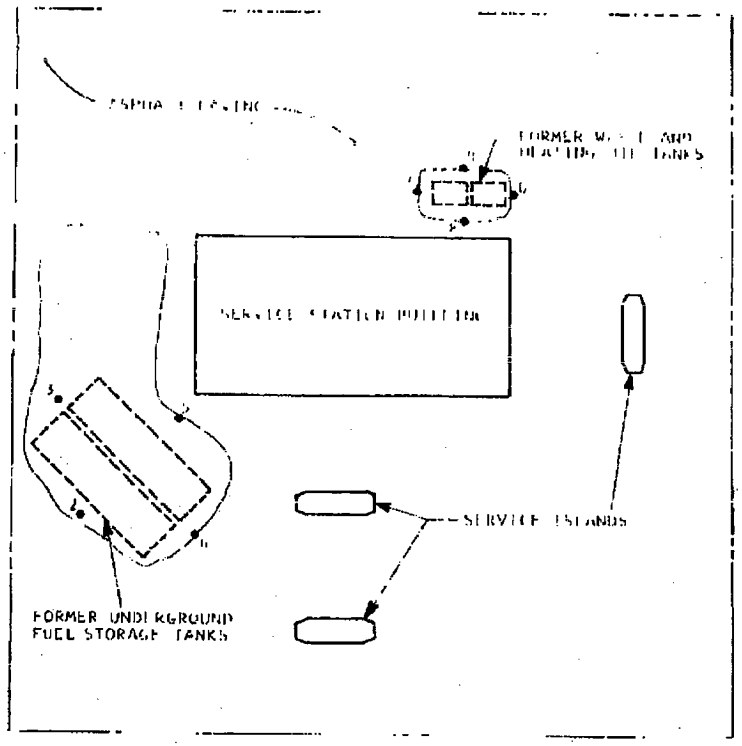
REFERENCE USGS 7.5' TOPOGRAPHIC MAP, "CAMAS, WASH.-OREG."

0 2000 4000
SCALE IN FEET

GeoEngineers

VICINITY MAP

FIGURE 1



NE - NE

EXPLANATION

- AREA EXCAVATED DURING TANK REMOVAL
- DISCRETE SOIL SAMPLE LOCATION AND NUMBER

SCALE IN FEET

REFERENCE: DRAWING ENTITLED "SERVICE STATION #___ NE 181ST AVE. & NE HALSEY ST. MULTNOMAH COUNTY, OR", DATED 2/9/82 BY UNION OIL CO.

GeoEngineers

SITE PLAN

FIGURE 2

pacific environmental laboratory inc.

9405 S.W Nimbus Ave Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

August 23, 1989

GeoEngineers

AUG 24 1989

Routing SEW

File 181-196-4

GeoEngineers
10170 SW Nimbus Ave., H-01
Portland, OR 97223

Attn. Scott Widness

Re: PEL #89-0848

Enclosed is the lab report for your job, Unocal - Gresham, which was received in our lab on August 15, 1989

I. Sample Description

Five Soil Samples

The samples were received under chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis, i.e , no correction is made for moisture content unless otherwise noted.

If you have any questions, please feel free to call.

Sincerely,

Howard Holmes
Lab Manager

Philip Nerenberg
President

Pacific Environmental Laboratory

PEL REPORT NUMBER: 89-0848
CLIENT: GeoEngineers
DATE: August 23, 1989
ITEMS: Five Soil Samples

METHOD: Gasoline per EPA 8015
TPH per EPA 418.1
Results in mg/kg (ppm)

Sample ID	TPH	Gasoline
#1	7	--
#2	ND	ND
#3	76	ND
#4	ND	ND
#5	ND	ND
Lab Blank	5	1

ND = Not Detected

METHOD: Flashpoint (PMCC) per EPA 1010

Sample #1 . . . . . No Flash to 200°F

pacific environmental laboratory inc.

9405 S.W Nimbus Ave Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

September 5, 1989

GeoEngineers
SEP 6 1989
Routing SEW
File 0161-196-P04

GeoEngineers
10170 SW Nimbus Ave., H-01
Portland, OR 97223

Attn: Pam Defreyn

Re: PEL #89-0928

Enclosed is the lab report for your job #181-198-4 which was received in our lab on August 25, 1989.

I. Sample Description

Five Soil Samples

The samples were received under chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis, i.e., no correction is made for moisture content unless otherwise noted.

If you have any questions, please feel free to call.

Sincerely,

Howard Holmes
Lab Manager

Linnet O'Hanlon
Chemist

pacific environmental laboratory inc

PEL REPORT NUMBER: 89-0928
CLIENT: GeoEngineers
JOB REFERENCE: 181-186-4
DATE: September 5, 1989
ITEMS: Five Soil Samples

METHOD TPH per EPA 418 1
Results in mg/kg (ppm)

Sample ID	TPH
North Wall (6)	12
South Wall (7)	12
East Wall (8)	17
West Wall (9)	19
Bottom (10)	1,900
Lab Blank	ND
Detection Limit	5

ND = Not Detected

pacific environmental laboratory inc.

9405 S.W. Nimbus Ave Beaverton, OR 97005 (503) 644-0660
FAX # (503) 644-2202

September 25, 1989

GeoEngineers
10170 SW Nimbus Ave., H-01
Portland, OR 97223

Attn Scott Widness

Re. PEL #89-1127

Enclosed is the lab report for your job #161-186-4 which was received in our lab on September 22, 1989

I. Sample Description

Two Soil Samples

The samples were received under chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis

Compounds not detected are listed under results as ND

Sincerely,

Howard Holmes
Lab Manager

Linnet O'Hanlon
Chemist

GeoEngineers

SEP 27 1989

Routing

File

PEL REPORT NUMBER: 89-1127
CLIENT: GeoEngineers
JOB REFERENCE: 161-196-4
DATE: September 25, 1989
ITEMS: Two Soil Samples

METHOD: TPH per EPA 418 1
Results in mg/kg (ppm)

Sample ID	TPH
A	5,900
B	5,300
Lab Blank	ND
Detection Limit	5

DELTA

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	ConcoPhillips Company	**Date:**	December 19, 2006
	11921 185th Avenue SE		
	Snohomish, WA 98290		
Re:	4Q06 GW Monitoring Report	**Site No.:**	ConocoPhillips 4745
		DEQ File No.	**26-05-0199**

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
DEC 22 2006
NORTHWEST REGION
GRESHAM OFFICE

Inogen Environmental Alliance

7150 SW HAMPTON, SUITE 220, TIGARD, OR 97223 USA
PHONE 503.639.8098 / 800.477.7411 FAX 503.639.7619 WWW.DELTAENV.COM

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

December 19, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [4Q06]

- Groundwater monitoring and sampling on November 30, 2006.

WORK PROPOSED FOR NEXT QUARTER [1Q07]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	6.93 to 11.66	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.09	(ft/ft)
Maximum Benzene Concentration:	Not Detected (<0.5)	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000'	Not Applicable	(Distance and Direction)
Radius and Respective Direction:		
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/
		Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on November 30, 2006 included measuring the water levels in monitoring wells MW-1 through MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using a centrifugal pump with dedicated tubing in each well. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 27 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal.

December 19, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on December 4, 2006. Water samples collected from wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

TPH-G was detected above the laboratory method reporting limits (MRLs) in wells MW-1 and MW-3 at concentrations of 1,300 micrograms per liter (µg/L) and 470 µg/L, respectively. Benzene was not detected above the laboratory MRL in any of the wells sampled. MTBE was detected above the laboratory MRL in wells MW-1 through MW-5 at concentrations ranging from 3 µg/L in well MW-3 to 27 µg/L in wells MW-1 and MW-5. Petroleum hydrocarbon concentrations appear to be decreasing in well MW-5. There is insufficient historical groundwater data to determine a trend in concentrations in wells MW-1 through MW-4. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 6.93 feet below the top of casing (TOC) in well MW-5 to 11.66 feet below TOC in well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

December 19, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

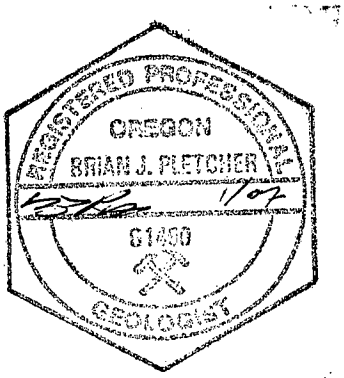
The next groundwater monitoring event is tentatively scheduled for February 2007.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Consultants,

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	10.59	0.00	89.41	2	<0.7	2	1	410	-	380
	09/05/06	12.86	0.00	87.14	9	<0.7	4	1	640	3	430
	11/30/06	**7.51**	**0.00**	**92.49**	**<0.5**	**<0.7**	**12**	**7**	**27**	**29**	**1,300**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	12.58	0.00	86.69	<0.5	<0.7	<0.8	<0.8	63	-	<48
	09/05/06	14.60	0.00	84.67	<0.5	<0.7	<0.8	<1.6	7	<1	<48
	11/30/06	**11.66**	**0.00**	**87.61**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**5**	**<1**	**<48**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	9.58	0.00	88.95	<0.5	<0.7	0.9	6	17	-	320
	09/05/06	10.03	0.00	88.50	1	<0.7	9	19	31	4	1,100
	11/30/06	**7.57**	**0.00**	**90.96**	**<0.5**	**<0.7**	**4**	**12**	**3**	**2**	**470**
MW-4	06/28/06	9.78	0.00	90.33	<0.5	<0.7	<0.8	<0.8	460	-	<48
100.11	09/05/06	12.62	0.00	87.49	<1	<1	<2	<4	1,500	<2	<48
	11/30/06	**7.52**	**0.00**	**92.59**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**15**	**<1**	**<48**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	8.72	0.00	90.35	<0.5	<0.7	<0.8	<0.8	82	-	<48
	09/05/06	9.33	0.00	89.74	<0.5	<0.7	<0.8	<1.6	110	<1	<48
	11/30/06	**6.93**	**0.00**	**92.14**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**27**	**<1**	**<48**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

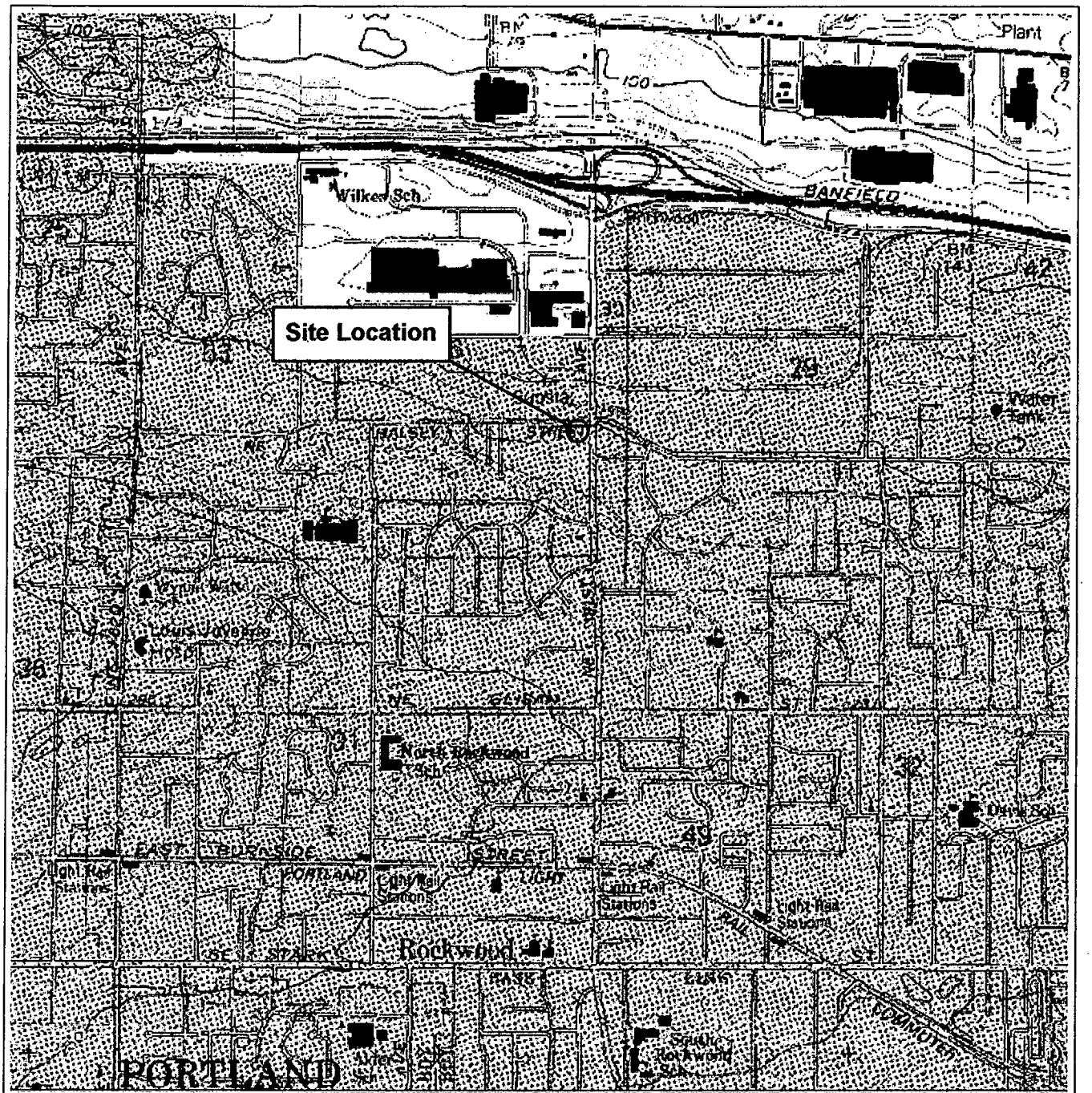
Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	6	11	2	<1
	11/30/06	**<1**	**<1**	**7**	**18**	**65**	**2**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	12	30	24	7
	11/30/06	**<1**	**<1**	**3**	**9**	**10**	**3**
MW-4	06/28/06	-	-	-	-	-	-
	09/05/06	<2	<2	<2	<2	<2	<2
	11/30/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-
	09/05/06	<1	<1	<1	<1	<1	<1
	11/30/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**

Notes:
- = Not sampled, not analyzed or not applicable.
µg/L = micrograms per liter
EDB = ethylene dibromide
EDC = ethylene dichloride
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

TABLE 3
SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	NE	0.04
09/05/06	NE	0.06
11/30/06	NE	0.09

Notes
ft/ft = feet per foot



h, ME 04096 Source Data: USGS

750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

North

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

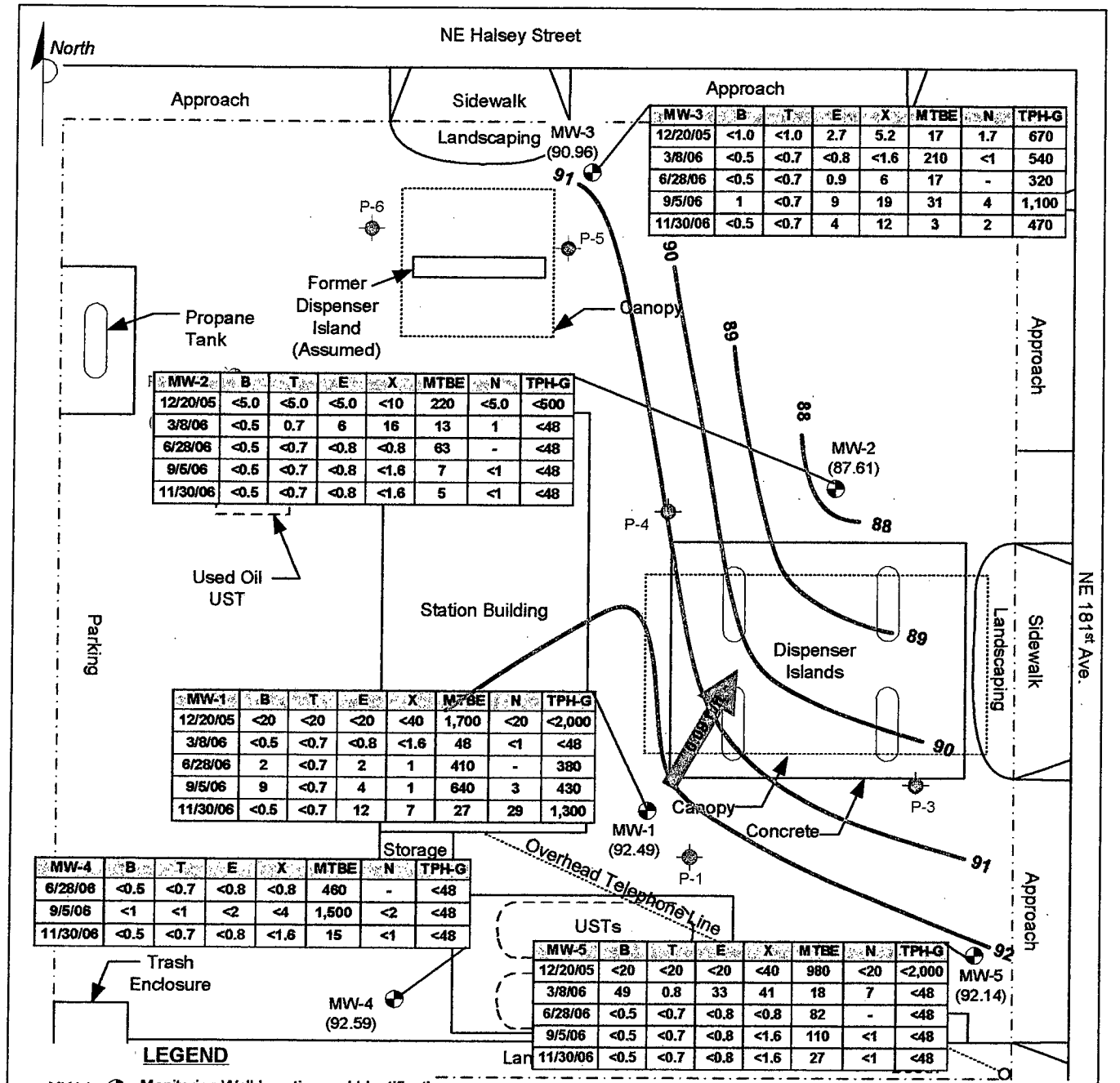
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 12/16/06
REVISION NO.	REVIEWED BY

DELTA



MW-3	B	T	E	X	MTBE	N	TPH-G
12/20/05	<1.0	<1.0	2.7	5.2	17	1.7	670
3/8/06	<0.5	<0.7	<0.8	<1.6	210	<1	540
6/28/06	<0.5	<0.7	0.9	6	17	-	320
9/5/06	1	<0.7	9	19	31	4	1,100
11/30/06	<0.5	<0.7	4	12	3	2	470

MW-2	B	T	E	X	MTBE	N	TPH-G
12/20/05	<5.0	<5.0	<5.0	<10	220	<5.0	<500
3/8/06	<0.5	0.7	6	16	13	1	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	63	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	7	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	5	<1	<48

MW-1	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	1,700	<20	<2,000
3/8/06	<0.5	<0.7	<0.8	<1.6	48	<1	<48
6/28/06	2	<0.7	2	1	410	-	380
9/5/06	9	<0.7	4	1	640	3	430
11/30/06	<0.5	<0.7	12	7	27	29	1,300

MW-4	B	T	E	X	MTBE	N	TPH-G
6/28/06	<0.5	<0.7	<0.8	<0.8	460	-	<48
9/5/06	<1	<1	<2	<4	1,500	<2	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	15	<1	<48

MW-5	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	980	<20	<2,000
3/8/06	49	0.8	33	41	18	7	<48
6/28/06	<0.5	<0.7	<0.8	<0.8	82	-	<48
9/5/06	<0.5	<0.7	<0.8	<1.6	110	<1	<48
11/30/06	<0.5	<0.7	<0.8	<1.6	27	<1	<48

FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 12/16/06
REVISION NO.	REVIEWED BY

DELTA

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1016712. Samples arrived at the laboratory on Tuesday, December 05, 2006. The PO# for this group is 4506513508 and the release number is NOLL.

Client Description	Lancaster Labs Number
MW-1 Water Sample	4930892
MW-2 Water Sample	4930893
MW-3 Water Sample	4930894
MW-4 Water Sample	4930895
MW-5 Water Sample	4930896

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Maria S. Lord
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4930892

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:10 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	1,300.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	12.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	3.	0.8	ug/l	1
05417	o-Xylene	95-47-6	4.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	7.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	18.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	2.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	65.	1.	ug/l	1
05439	Naphthalene	91-20-3	29.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	27.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/06/2006 20:11	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	12/09/2006 14:52	Angela D Sneeringer	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	12/09/2006 14:52	Angela D Sneeringer	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/06/2006 20:11	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930892

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:10 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM1

01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/09/2006 14:52	Angela D Sneeringer	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930893

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:00 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	5.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/06/2006 20:44	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	12/09/2006 15:15	Angela D Sneeringer	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	12/09/2006 15:15	Angela D Sneeringer	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/06/2006 20:44	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930893

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:00 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM2

01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/09/2006 15:15	Angela D Sneeringer	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930894

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 16:50 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	470.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	4.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	10.	0.8	ug/l	1
05417	o-Xylene	95-47-6	2.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	3.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	9.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	3.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	10.	1.	ug/l	1
05439	Naphthalene	91-20-3	2.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	3.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/06/2006 21:17	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	12/09/2006 15:37	Angela D Sneeringer	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	12/09/2006 15:37	Angela D Sneeringer	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/06/2006 21:17	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930894

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 16:50 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM3

01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/09/2006 15:37	Angela D Sneeringer	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930895

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 16:30 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	15.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/06/2006 21:49	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	12/09/2006 16:00	Angela D Sneeringer	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	12/09/2006 16:00	Angela D Sneeringer	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/06/2006 21:49	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930895

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 16:30 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM4

01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/09/2006 16:00	Angela D Sneeringer	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4930896

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:25 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	EPA SW846/8260 (water)					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	EPA SW 846/8260 - Water					
02010	Methyl Tertiary Butyl Ether	1634-04-4	27.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	12/06/2006 22:22	Steven A Skiles	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	12/09/2006 16:23	Angela D Sneeringer	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	12/09/2006 16:23	Angela D Sneeringer	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/06/2006 22:22	Steven A Skiles	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4930896

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:11/30/2006 17:25 by KM

Account Number: 11856

Submitted: 12/05/2006 10:10
Reported: 12/12/2006 at 08:57
Discard: 01/12/2007

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

PRTM5

01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/09/2006 16:23	Angela D Sneeringer	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 1016712
Reported: 12/12/06 at 08:57 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 06340A07A	Sample number(s): 4930892-4930896							
TPH by NWTPH-Gx waters	N.D.	48.	ug/l	100	112	70-130	11	30
Batch number: L063431AA	Sample number(s): 4930892-4930896							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	81	84	73-119	4	30
Benzene	N.D.	0.5	ug/l	96	92	85-117	4	30
1,2-Dichloroethane	N.D.	1.	ug/l	93	90	77-132	3	30
Toluene	N.D.	0.7	ug/l	96	93	85-115	3	30
1,2-Dibromoethane	N.D.	1.	ug/l	92	90	81-114	1	30
Ethylbenzene	N.D.	0.8	ug/l	96	94	82-119	2	30
m+p-Xylene	N.D.	0.8	ug/l	95	92	83-113	3	30
o-Xylene	N.D.	0.8	ug/l	98	96	83-113	3	30
Isopropylbenzene	N.D.	1.	ug/l	97	95	80-120	3	30
n-Propylbenzene	N.D.	1.	ug/l	95	91	78-119	4	30
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	96	93	78-116	3	30
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	95	93	78-117	2	30
Naphthalene	N.D.	1.	ug/l	88	90	61-116	2	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 06340A07A	Sample number(s): 4930892-4930896 UNSPK: P930677								
TPH by NWTPH-Gx waters	119		63-154						
Batch number: L063431AA	Sample number(s): 4930892-4930896 UNSPK: P928837								
Methyl Tertiary Butyl Ether	83		69-127						
Benzene	98		83-128						
1,2-Dichloroethane	95		70-143						
Toluene	100		83-127						
1,2-Dibromoethane	93		78-120						
Ethylbenzene	100		82-129						
m+p-Xylene	100		82-130						
o-Xylene	100		82-130						
Isopropylbenzene	101		81-130						
n-Propylbenzene	100		74-138						
1,3,5-Trimethylbenzene	99		77-124						
1,2,4-Trimethylbenzene	98		80-125						
Naphthalene	90		50-124						

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips
Reported: 12/12/06 at 08:57 AM

Group Number: 1016712

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 06340A07A

	Trifluorotoluene-F
4930892	105
4930893	103
4930894	112
4930895	100
4930896	104
Blank	95
LCS	105
LCSD	113
MS	110
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)
Batch number: L063431AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4930892	94	95	96	86
4930893	95	95	95	86
4930894	95	95	96	87
4930895	94	95	95	86
4930896	95	95	96	86
Blank	93	93	96	86
LCS	94	94	97	88
LCSD	94	96	97	88
MS	94	95	98	88
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

002141

Acct. #: 11856 — For Lancaster Laboratories use only — Group #: 1016712 — Sample #: 4930892-96

SCR#:

Site #: 4745 — WNO #: 4702.01

Site Address: 1545 NE 181st Ave, Portland, OR

ConocoPhillips PM: ~~Core~~ Ensos — Company Code:

Work Order#: 4506513508 — Total Lab Budget: $2000

Consultant/Office: Delta Tigard

Consultant Prj. Mgr: Brian Pletcher

Consultant Phone #: 503-639-8098 — Fax #: -7619

Sampler: K. McQuinn

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Oil	Air	Potable	NPDES	Analyses Requested: (8260B) MTBE + Oxy	Remarks
MW-1	11/30/06	1710				X					X	4 VOAS
MW-2		1700				X					X	3 VOAS
MW-3		1650				X					X	3 VOAS
MW-4		1630				X					X	4 VOAS
MW-5	11/30/06	1725				X					X	4 VOAS

Preservation Codes: H = HCl, N = HNO_3, S = H_2SO_4, T = Thiosulfate, B = NaOH, O = Other

Turnaround Time Requested in Business Days (TAT) (please circle):

STD. TAT — 5 day — 48 hour — 24 hour — other

Reporting Requirements (please circle)

NJ Reduced — NY ASP Cat. A — Raw Data — Diskette — NY ASP Cat. B — Full Type I — Other

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12/4	0900			
			[signature]	12/5/06	1010

Relinquished by Commercial Carrier: UPS ____ FedEx ____ Other ____

Temperature Upon Receipt 3.0 C°

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Site No. / Job No.: 4745

Location: 1945 NE 181st Ave, Portland, OR

Delta Personnel: KCM

Date/Time: 11/30/06 1545 - 1735

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5		
DTW	7.51	11.66	7.57	7.52	6.93		
SPH Thickness	—	—	—	—	—		
Total Depth	19.62	19.98	19.81	19.80	13.94		
Well Diameter	2"	—	—	—	2"		
Purge Volume (3 Casing Volumes)	6.07	4.17	6.13	6.00	3.50		
Actual Purge Volume	6.50	4.5	6.50	6.00	3.50		
Purge Method	H-pump	—	—	—	H-pump		
Sample Time	1710	1700	1650	1630	1725		

Field Measurements: (If Applicable)

pH	4 VOAS	3 VOAS	3 VOAS	4 VOAS	4 VOAS		
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP	sample				purge mod. turbid, yellow		
Alkalinity	yellow, translucent						
Ferrous Iron							
Comments	OK	OK	ODOR	OK	OK		

Remedial System (Y/N)? _____ Comments: _____

Operational Upon Arrival (Y/N)? _____ Comments: _____

Shut Down System 1 / 24 hours before DTW (Y/N)? _____ Time: _____

Re-Start System (Y/N)? _____

Purge Water Disposal (Y/N)? _____ Date: _____ Location: _____

DELTA

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	Noll Environmental, Inc. 11921 185th Avenue SE Snohomish, WA 98290	**Date:**	October 4, 2006
Re:	3Q06 GW Monitoring Report	**Site No.:** **DEQ File No. 26-05-0199**	ConocoPhillips 4745

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
OCT 25 2006
NORTHWEST REGION
GRESHAM OFFICE

Inogen Environmental Alliance

7150 SW HAMPTON, SUITE 220, TIGARD, OR 97223 USA
PHONE 503.639.8098 / 800.477.7411 FAX 503.639.7619 WWW.DELTAENV.COM

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

October 4, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [3Q06]

- Groundwater monitoring and sampling on September 5, 2006.

WORK PROPOSED FOR NEXT QUARTER [4Q06]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	9.33 to 14.60	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.06	(ft/ft)
Maximum Benzene Concentration:	9	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000'	Not Applicable	(Distance and Direction)
Radius and Respective Direction:		
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/
		Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on September 5, 2006 included measuring the water levels in monitoring wells MW-1 through MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using a centrifugal pump with dedicated tubing in each well. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 18 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

October 4, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on September 5, 2006. Water samples collected from Wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene (RBCA List) using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

TPH-G was detected above the laboratory method reporting limits (MRLs) in Wells MW-1 and MW-3 at concentrations of 430 micrograms per liter (µg/L) and 1,100 µg/L, respectively. Benzene was detected above the laboratory MRL in Wells MW-1 and MW-3 at concentration of 9 µg/L and 1 µg/L, respectively. MTBE was detected above the laboratory MRL in Wells MW-1 through MW-5 at concentrations ranging from 7 µg/L in Well MW-2 to 1,500 µg/L in Well MW-4. There is insufficient historical groundwater data to determine a trend in concentrations. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 9.33 feet below the top of casing (TOC) in Well MW-5 to 14.60 feet below TOC in Well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

October 4, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for December 2006.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Consultants,

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1

GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	10.59	0.00	89.41	2	<0.7	2	1	410	-	380
	09/05/06	**12.86**	**0.00**	**87.14**	**9**	**<0.7**	**4**	**1**	**640**	**3**	**430**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	12.58	0.00	86.69	<0.5	<0.7	<0.8	<0.8	63	-	<48
	09/05/06	**14.60**	**0.00**	**84.67**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**7**	**<1**	**<48**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	9.58	0.00	88.95	<0.5	<0.7	0.9	6	17	-	320
	09/05/06	**10.03**	**0.00**	**88.50**	**1**	**<0.7**	**9**	**19**	**31**	**4**	**1,100**
MW-4	06/28/06	9.78	0.00	90.33	<0.5	<0.7	<0.8	<0.8	460	-	<48
100.11	**09/05/06**	**12.62**	**0.00**	**87.49**	**<1**	**<1**	**<2**	**<4**	**1,500**	**<2**	**<48**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	8.72	0.00	90.35	<0.5	<0.7	<0.8	<0.8	82	-	<48
	09/05/06	**9.33**	**0.00**	**89.74**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**110**	**<1**	**<48**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	**<1**	**<1**	**6**	**11**	**2**	**<1**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
	09/05/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
	09/05/06	**<1**	**<1**	**12**	**30**	**24**	**7**
MW-4	06/28/06	-	-	-	-	-	-
	09/05/06	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-
	09/05/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**

Notes:
- = Not sampled, not analyzed or not applicable.
µg/L = micrograms per liter
EDB = ethylene dibromide
EDC = ethylene dichloride
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

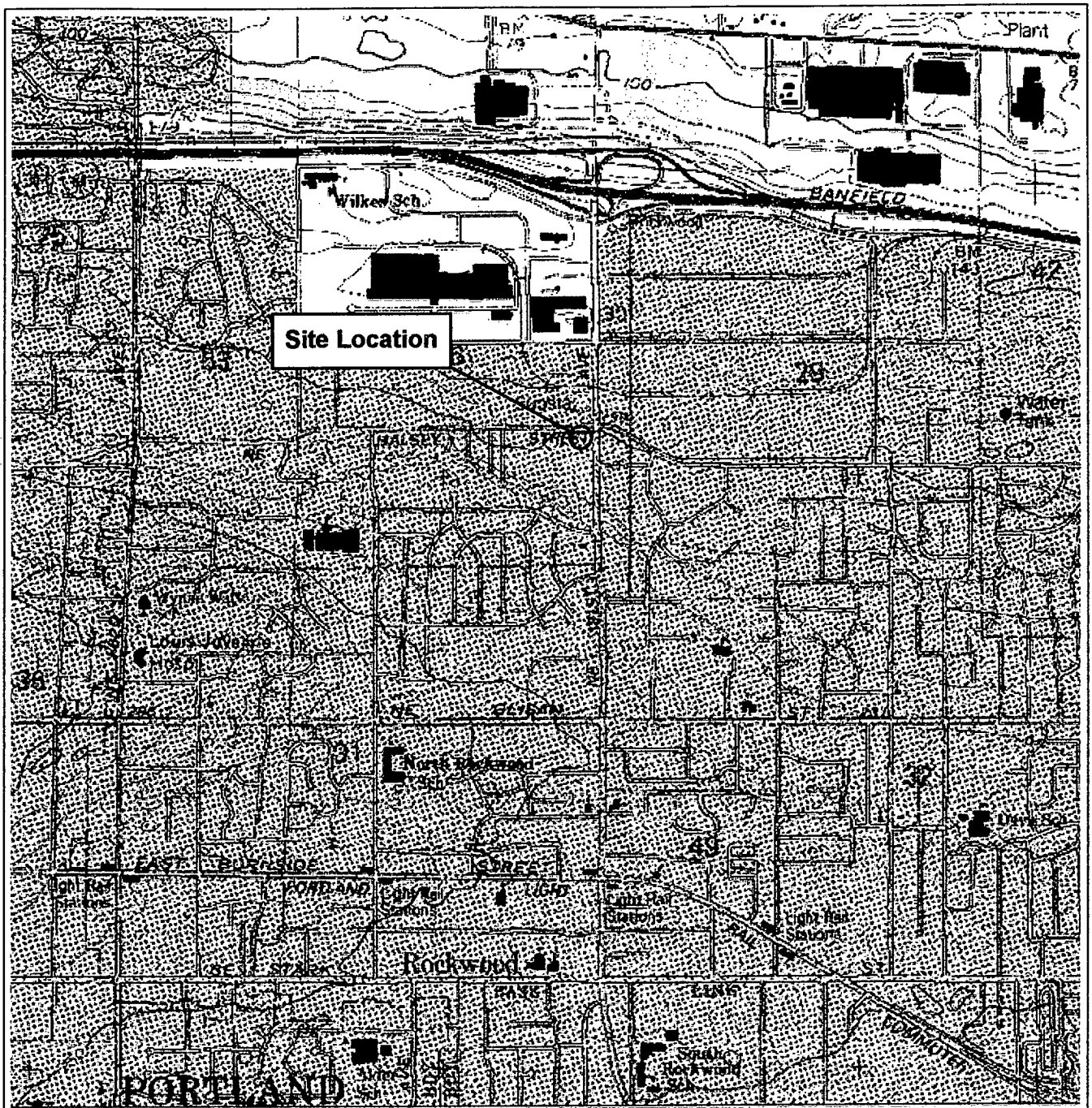
TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	NE	0.04
09/05/06	**NE**	**0.06**

Notes
ft/ft = feet per foot

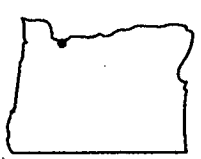


h, ME 04096 Source Data: USGS 750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

North

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 10/3/06
REVISION NO.	REVIEWED BY

DELTA

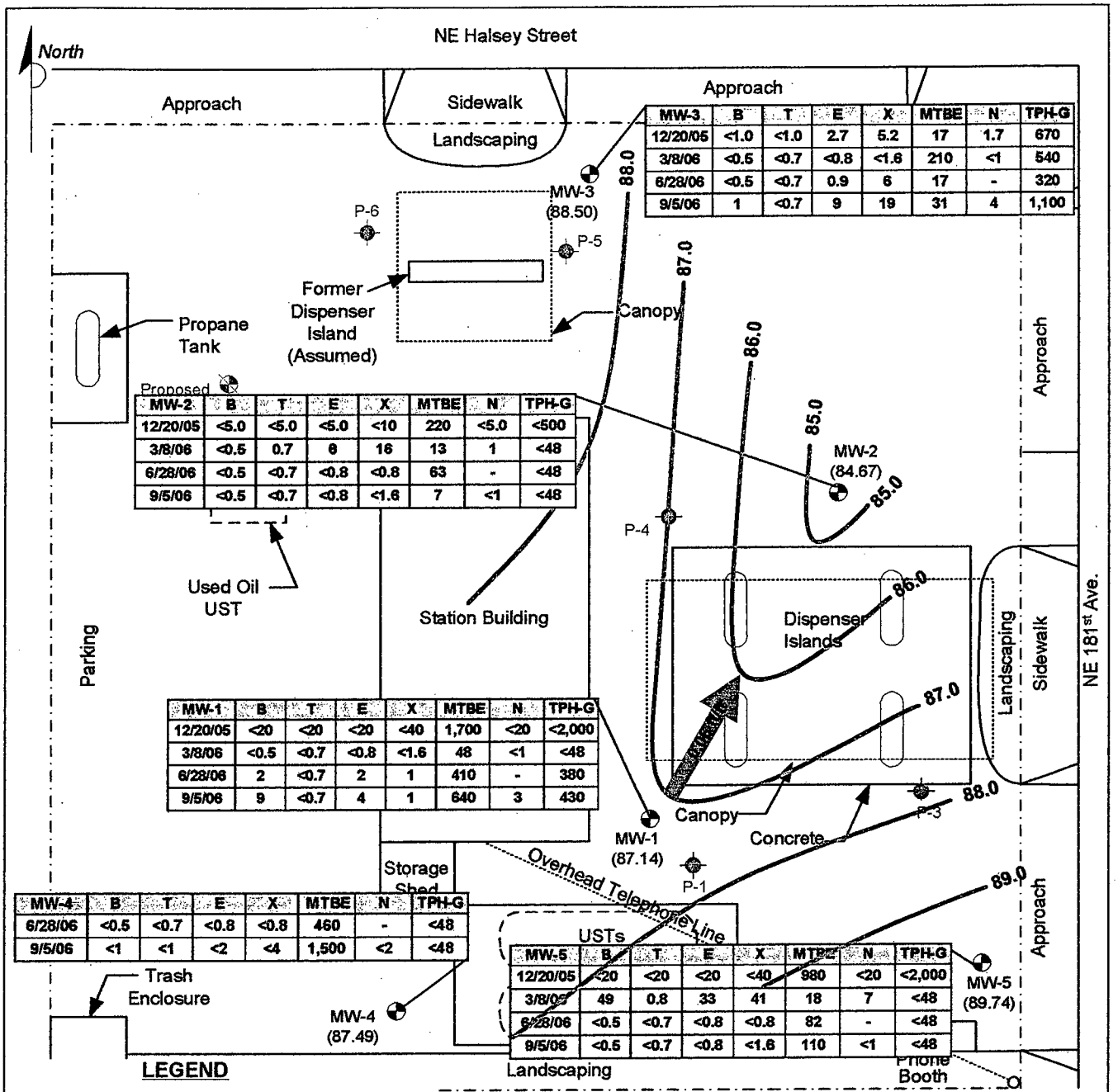


FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 10/3/06
REVISION NO.	REVIEWED BY

DELTA

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1004320. Samples arrived at the laboratory on Wednesday, September 06, 2006. The PO# for this group is 4506513508 and the release number is NOLL.

Client Description	Lancaster Labs Number
MW-1 Water Sample	4857669
MW-2 Water Sample	4857670
MW-3 Water Sample	4857671
MW-4 Water Sample	4857672
MW-5 Water Sample	4857673

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Valerie L. Tomayko
Group Leader

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4857669

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 09:50 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	430.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	9.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	4.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	1.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	6.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	11.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	2.	1.	ug/l	1
05439	Naphthalene	91-20-3	3.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	640.	5.	ug/l	10

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	09/08/2006 19:57	Steven A Skiles	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	09/08/2006 10:49	Michael A Ziegler	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	09/08/2006 11:13	Michael A Ziegler	10

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4857669

MW-1 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 09:50 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-1

01146	GC VOA Water Prep	SW-846 5030B	1	09/08/2006 19:57	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	09/08/2006 10:49	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	09/08/2006 11:13	Michael A Ziegler	10

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4857670

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:10 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	7.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	09/08/2006 22:07	Steven A Skiles	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	09/08/2006 11:37	Michael A Ziegler	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	09/08/2006 11:37	Michael A Ziegler	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4857670

MW-2 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:10 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-2

01146	GC VOA Water Prep	SW-846 5030B	1	09/08/2006 22:07	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	09/08/2006 11:37	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4857671

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:25 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	1,100.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	1.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	9.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	16.	0.8	ug/l	1
05417	o-Xylene	95-47-6	3.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	12.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	30.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	7.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	24.	1.	ug/l	1
05439	Naphthalene	91-20-3	4.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	31.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	09/08/2006 22:40	Steven A Skiles	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	09/08/2006 12:00	Michael A Ziegler	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	09/08/2006 12:00	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4857671

MW-3 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:25 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-3

01146	GC VOA Water Prep	SW-846 5030B	1	09/08/2006 22:40	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	09/08/2006 12:00	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4857672

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:40 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	1.	ug/l	2
05402	1,2-Dichloroethane	107-06-2	N.D.	2.	ug/l	2
05407	Toluene	108-88-3	N.D.	1.	ug/l	2
05412	1,2-Dibromoethane	106-93-4	N.D.	2.	ug/l	2
05415	Ethylbenzene	100-41-4	N.D.	2.	ug/l	2
05416	m+p-Xylene	1330-20-7	N.D.	2.	ug/l	2
05417	o-Xylene	95-47-6	N.D.	2.	ug/l	2
05420	Isopropylbenzene	98-82-8	N.D.	2.	ug/l	2
05424	n-Propylbenzene	103-65-1	N.D.	2.	ug/l	2
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	2.	ug/l	2
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	2.	ug/l	2
05439	Naphthalene	91-20-3	N.D.	2.	ug/l	2
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	1,500.	13.	ug/l	25

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	09/08/2006 23:12	Steven A Skiles	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	09/08/2006 12:23	Michael A Ziegler	2
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	09/08/2006 12:47	Michael A Ziegler	25

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Analysis Report

Lancaster Laboratories Sample No. WW 4857672

MW-4 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:40 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-4

01146	GC VOA Water Prep	SW-846 5030B	1	09/08/2006 23:12	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	09/08/2006 12:23	Michael A Ziegler	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	09/08/2006 12:47	Michael A Ziegler	25

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Analysis Report

Lancaster Laboratories Sample No. WW 4857673

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:55 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	110.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	09/08/2006 23:45	Steven A Skiles	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	09/08/2006 13:10	Michael A Ziegler	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	09/08/2006 13:10	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4857673

MW-5 Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:09/05/2006 10:55 by KM

Account Number: 11856

Submitted: 09/06/2006 09:35
Reported: 09/12/2006 at 11:25
Discard: 10/13/2006

ConocoPhillips
5528 NW Doane Ave.
Portland OR 97210

181-5

01146	GC VOA Water Prep	SW-846 5030B	1	09/08/2006 23:45	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	09/08/2006 13:10	Michael A Ziegler	1

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 1004320
Reported: 09/12/06 at 11:25 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 06251A07A	Sample number(s): 4857669-4857673							
TPH by NWTPH-Gx waters	N.D.	48.	ug/l	87	89	70-130	3	30
Batch number: T062511AA	Sample number(s): 4857669-4857673							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	99		73-119		
Benzene	N.D.	0.5	ug/l	107		85-117		
1,2-Dichloroethane	N.D.	1.	ug/l	120		77-132		
Toluene	N.D.	0.7	ug/l	98		85-115		
1,2-Dibromoethane	N.D.	1.	ug/l	97		81-114		
Ethylbenzene	N.D.	0.8	ug/l	90		82-119		
m+p-Xylene	N.D.	0.8	ug/l	97		83-113		
o-Xylene	N.D.	0.8	ug/l	96		83-113		
Isopropylbenzene	N.D.	1.	ug/l	97		80-120		
n-Propylbenzene	N.D.	1.	ug/l	88		78-119		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	98		78-116		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	97		78-117		
Naphthalene	N.D.	1.	ug/l	92		61-116		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 06251A07A	Sample number(s): 4857669-4857673 UNSPK: P857551								
TPH by NWTPH-Gx waters	99		63-154						
Batch number: T062511AA	Sample number(s): 4857669-4857673 UNSPK: P859173								
Methyl Tertiary Butyl Ether	100	99	69-127	1	30				
Benzene	115	114	83-128	1	30				
1,2-Dichloroethane	121	121	70-143	1	30				
Toluene	104	102	83-127	2	30				
1,2-Dibromoethane	96	98	78-120	1	30				
Ethylbenzene	95	97	82-129	3	30				
m+p-Xylene	99	100	82-130	2	30				
o-Xylene	98	98	82-130	0	30				
Isopropylbenzene	101	101	81-130	0	30				
n-Propylbenzene	96	93	74-138	3	30				
1,3,5-Trimethylbenzene	106	103	77-124	3	30				
1,2,4-Trimethylbenzene	104	103	80-125	2	30				
Naphthalene	94	96	50-124	1	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips
Reported: 09/12/06 at 11:25 AM

Group Number: 1004320

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 06251A07A

	Trifluorotoluene-F
4857669	93
4857670	90
4857671	104
4857672	88
4857673	87
Blank	90
LCS	95
LCSD	97
MS	97
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)
Batch number: T062511AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4857669	90	83	87	95
4857670	92	84	88	93
4857671	90	82	89	94
4857672	91	82	89	93
4857673	92	85	86	92
Blank	93	84	88	91
LCS	91	83	92	96
MS	91	83	89	94
MSD	90	82	89	93
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001597

For Lancaster Laboratories use only
Acct. #: 11856 Group # 1004320 Sample #: 4557669-73

SCR#:

Site #: 4745 WNO #: 4702.01
Site Address: 545 NE 181st, Portland, OR
ConocoPhillips PM: M. Noll Company Code:
Work Order#: 4506513505 Total Lab Budget: $2000
Consultant/Office: Delta Hazard
Consultant Prj. Mgr: Brian Fletcher
Consultant Phone #: 503-639-8098 Fax #: -7619
Sampler: K. McQuinn

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water (Potable / NPDES)	Oil / Air	EBCA Plus (8260B)	NW TPH-Gx	Remarks
MW-1	9/5	0950				X		X	X	4 VOAs
MW-2		1010				X		X	X	
MW-3		1025				X		X	X	
MW-4		1040				X		X	X	
MW-5	9/5	1055				X		X	X	

Analyses Requested — List total number of containers in the box under each analysis.
Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Turnaround Time Requested in Business Days (TAT) (please circle):
STD. TAT 5 day 48 hour
24 hour other

Reporting Requirements (please circle)
NJ Reduced NY ASP Cat. A Raw Data Diskette
NY ASP Cat. B Full Type I Other

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/5	1330			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
			(#9) 1320 (#5)	9/6/06	
Relinquished by:	Date	Time	Received by:	Date	Time
			[signature]	9/6/06	0933

Relinquished by Commercial Carrier:
UPS FedEx Other

Temperature Upon Receipt: 2 coolers range 4.5-5.2 C°

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Delta Environmental Consultants, Inc.

- Site No. / Job No.: OR-04745 Portland
- Location: 1545 NE 181st, ~~Gresham~~, OR
- Delta Personnel: KCM
- Date/Time: 9/5/06 0915

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5		
DTW	12.86	14.60	10.03	12.62	9.33		
SPH Thickness	-	-	-	-	-		
Total Depth	19.62	19.98	19.81	19.50	13.94		
Well Diameter	2"	2"	2"	2"	2"		
Purge Volume (3 Casing Volumes)	3.35	2.66	4.84	3.41	2.28		
Actual Purge Volume	drying @ 3.50	2.75	5.00	3.75	2.50		
Purge Method	H-pump	H-pump	H-pump	H-pump	H-pump		
Sample Time	0950	1010	1025	1040	1055		

Field Measurements: (If Applicable)

pH							
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP							
Alkalinity							
Ferrous Iron							
Comments	OK	OK	ODOR	OK			

Remedial System (Y/N)? _____ Comments: _____

Operational Upon Arrival (Y/N)? _____ Comments: _____

Shut Down System 1 / 24 hours before DTW (Y/N)? _____ Time: _____

Re-Start System (Y/N)? _____

Purge Water Disposal (Y/N)? _____ Date: _____ Location: _____

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

www.deltaenv.com

7150 SW Hampton • Suite 220
Tigard, Oregon 97223 USA

503.639.8098 800.477.7411
Fax 503.639.7619

July 12, 2006

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

SEP 29 2006

NORTHWEST REGION
GRESHAM OFFICE

Ms. Laurey Cook
Oregon Department of Environmental Quality
Northwest Region-Eastside Office
1550 NW Eastman Parkway, Suite 290
Gresham, OR 97030

RE: Monitoring Well Installation Report
ConocoPhillips Service Station No. 4745
1545 NE 181st Ave.
Portland, Oregon
Oregon DEQ File No. .626-05-0199
Project No. OR047-4504-1

Dear Ms. Cook:

Delta Environmental Consultants, Inc. (Delta) has prepared this well installation report on behalf of ConocoPhillips Company (ConocoPhillips). The purpose of this work was to provide further on-site soil and groundwater assessment and delineation with respect to petroleum hydrocarbons near the underground storage tanks (USTs) at ConocoPhillips Service Station No. 4745.

SITE DESCRIPTION

ConocoPhillips Site No. 4745 (Site) is a 76-branded service station located on the southwest corner of the intersection of NE 181st Avenue and NE Halsey Street in Portland, Oregon (Figure 1). The station is fenced and currently closed and it was recently sold to SunCor. Current site features include a station building, two 12,000-gallon gasoline underground storage tanks (USTs), one used oil UST, one former dispenser island canopy, and two dispenser islands. The remainder of the Site is primarily covered with concrete and asphalt pavement.

SITE VICINITY

The Site is bordered to the north by NE Halsey Street, beyond which is a vacant ARCO branded retail fuel service station, to the east by NE 181st Avenue, beyond which is a restaurant (Jung's Dynasty), to the south by a restaurant (Wendy's); and to the west by a Safeway grocery store.

The nearest surface water body is a canal, located approximately 1.0 mile north of the Site, which appears to drain Fairview Lake, located approximately 1.5 miles northeast of the Site.

A member of:
Inogen® Environmental Alliance

RECENT ENVIRONMENTAL INVESTIGATIONS

On January 11, 2005 Delta supervised the completion of seven on-site soil borings (P-1 through P-7) near the dispenser islands, current USTs, former dispenser island, and used oil UST to assess petroleum hydrocarbons in the site soil and groundwater.

TPH-G in soil was detected in soil sample (P-7-11) at a concentration of 7.68 mg/kg from soil boring location P-7, located near the present used-oil UST. 1,2,4-trimethylbenzene was detected in soil sample P-5-11 at a concentration of 0.0776 mg/kg from boring location P-5, located near the former dispenser island. Petroleum hydrocarbons were not detected above the laboratory MRLs in all other soil samples submitted for analysis from soil boring locations P-1 through P-6.

Groundwater was encountered in three of the seven boring locations (P-1, P-2, and P-6). TPH-G, BTEX, MTBE, naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-1, located near the present fuel USTs. TPH-G, ethylbenzene, MTBE, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-2, located immediately east of the present fuel USTs. MTBE was detected above the laboratory MRL in sample P-6, located immediately west of the former dispenser island. EDB and EDC were not detected above the laboratory MRLs in any of the groundwater samples submitted for analysis from boring locations P-1, P-2, and P-7. Results are summarized in the *Subsurface Investigation Report* prepared by Delta in February of 2005.

On February 7, 2005, evidence of a potential release to the subsurface from an underground storage tank system was reported to the Oregon DEQ. The DEQ assigned the site DEQ File No. 626-05-0199.

On December 6, 2005, Delta supervised the drilling and installation of four of five onsite groundwater monitoring wells (MW-1 through MW-3, and MW-5). Delta returned with Cascade on December 12, 2005 to complete boring and well installation activities for Well MW-4. However, refusal was encountered at 5.5 feet below ground surface (bgs) and the boring location was abandoned by backfilling with hydrated bentonite chips to 1.5 feet bgs and completed to surface with concrete. Well MW-4 installation activities were postponed pending soil and groundwater results from Wells MW-1 through MW-3, and MW-5.

SCOPE OF WORK

On May 19, 2006, Delta supervised the drilling and installation of one on-site groundwater monitoring well (MW-4). The purpose of monitoring well MW-4 was to delineate the upgradient soil and groundwater conditions of the fuel USTs.

SITE HEALTH AND SAFETY

Prior to drilling, a project-specific health and safety plan (HASP) was prepared in accordance with 29 CFR 1910.120 for field activities at the site. The HASP identified potential physical and chemical hazards associated with the proposed field activities and specified personal protection and safety monitoring requirements. The HASP was reviewed and signed by all Delta and Contractor personnel prior to beginning work at the site each day. Copies of the HASP and daily safety meeting signature pages are provided in Attachment A. The HASP was available on-site at all times during the field activities.

Delta requested a site utility marking by One-Call Utilities Notification, and a private utility locator was contracted to assist in locating the subsurface features and the utilities in the area of the proposed drilling. The boring location for monitoring well MW-4 was vacuum-cleared (air-knifed) to 4 feet below ground surface (bgs) for utility clearance by the drilling contractor, Cascade Drilling, Inc. (Cascade) of Portland, Oregon.

WELL INSTALLATION

Monitoring well installation was completed by Cascade, using a truck-mounted drill rig with 10-inch nominal outside diameter hollow-stem auger drilling equipment. Monitoring well MW-4 was completed at a depth of 20 feet bgs and was constructed with 2-inch diameter Schedule 40 PVC well casing and 0.010-inch slotted well screen over the interval from 5 feet to 20 feet bgs. Silica sand was used to fill the annular space around the screened interval to one foot above the well screen, and hydrated bentonite chips were used to fill the annular space to within approximately one foot bgs. The well was completed at the surface with a traffic-rated, flush-mounted well monument set in concrete.

Soil samples were collected for field screening and potential laboratory analyses at intervals of 5 feet beginning at a depth of 5 feet bgs. Field screening of soil samples for evidence of volatile organic compounds was completed using a Photoionization Detector (PID). PID readings for soil samples were relatively low or nominal (see boring log, Attachment B). In addition, no SPH was observed during the drilling of monitoring well MW-4 or in the well itself after well completion.

Following well completion, monitoring well MW-4 was developed using a combination of surging and bailing to remove fine-grained material from the annular space to improve groundwater flow into the well. The top of casing elevation at MW-4 was surveyed to the existing top of casing elevations of monitoring wells at the site.

A copy of the Oregon Department of Water Resources start card for monitoring well MW-4 is included as Attachment B.

SUBSURFACE CONDITIONS

Subsurface soil conditions were logged by a Delta field technician working under the supervision of a state-certified geologist using ASTM D 2488, titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Field observations, including soil color, odor, and PID readings were recorded on the boring log. A copy of Delta's field procedures is included in Attachment C. The well log for monitoring well MW-4 is included as Attachment B.

Soils encountered during this investigation generally consisted of rounded cobbles with brown sandy silt to approximately 4 feet bgs, and silty sand to the total depth explored at 20 feet bgs. Saturated soil conditions were encountered at a depth of approximately 10 feet bgs.

SOIL SAMPLE ANALYTICAL PROGRAM

Based on field observations and the results of field screening, soil samples collected from monitoring well MW-4 at depths of 5 feet and 10 feet were submitted to Lancaster Laboratories in Lancaster, Pennsylvania for laboratory analyses. A copy of the analytical laboratory report and chain-of-custody document is included in Attachment D.

The three selected soil samples were submitted for the following analyses:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-G) using Northwest Method NWTPH-Gx, and
- Total Petroleum Hydrocarbons (TPH) as diesel (TPH-D) using Northwest Method NWTPH-DX, and
- Volatile Organic Compounds (VOCs) including benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, ethylene dichloride (EDC), ethylene dibromide (EDB), 1,2,4-trimethylbenzene (1,2,4-TMB), 1,3,5-trimethylbenzene (1,3,5-TMB), iso-propylbenzene (IPB), and n-propylbenzene (NPB) (Oregon Risk-Based Decision Making (RBDM) Compound List) using EPA Method 8260.

Groundwater samples were not collected for laboratory analyses as part of this scope of work. Groundwater samples are collected during regularly scheduled Quarterly Groundwater Monitoring of the site.

SOIL SAMPLE ANALYTICAL RESULTS

TPH-G was detected above the laboratory method reporting limit (MRL) at a concentration of 4.3 milligrams per kilogram (mg/kg) and MTBE was detected above the laboratory MRL at a concentration of 0.015 mg/kg in soil sample MW-4-10, collected at a depth of 10 feet bgs. MTBE was detected above the laboratory MRL at a concentration of 0.0005 mg/kg in soil sample MW-4-5, collected at a depth of 5 feet bgs. Laboratory analytical results are summarized in Table 1 and are presented in Figure 2.

WASTE HANDLING

Soil cuttings, decontamination water, and well development water generated by field activities were temporarily stored in 55-gallon steel drums pending coordination of disposal at an appropriate approved facility. Decontamination and well development water was transported by Delta to ConocoPhillips Site No. 11019 for treatment and disposal.

SUMMARY AND CONCLUSION

This site investigation was performed to assess soil and groundwater conditions at ConocoPhillips Site No. 4745 in Portland, Oregon. Previously, four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-5) were installed on site to assess soil and groundwater conditions in the vicinity of the fuel USTs, current dispenser islands, and former dispenser islands.

Based on current soil conditions, the maximum concentrations of TPH-G (4.3 mg/kg) and MTBE (0.015 mg/kg) present in soil sample MW-4-10 (collected at a depth of 10 feet bgs) do not exceed the risk-based concentrations (RBCs), as presented in Appendix A of DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, dated September 22, 2003, for the vapor intrusion into buildings, volatilization to outdoor air, and soil ingestion, dermal contact, and inhalation exposure pathways for all applicable site receptor scenarios (residential, urban residential, occupational, construction, and excavation worker).

Groundwater analysis and elevations for MW-4, assessed during quarterly monitoring in MW-1 through MW-5, will be described in a forthcoming quarterly groundwater monitoring report.

This report has been prepared for the exclusive use of ConocoPhillips in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in the same locality under similar conditions. No other representations, expressed or implied, and no warranty or guarantee is included or intended in the agreement, or in any report, opinion, document or otherwise. The findings contained herein are relevant to the date of performance of field work for this investigation.

Delta appreciates the opportunity to assist ConocoPhillips with this Environmental Investigation. Please call if you have any questions.

Sincerely,
Delta Environmental Consultants, Inc.

Mr. Brian J. Pletcher, R.G.
Senior Project Geologist

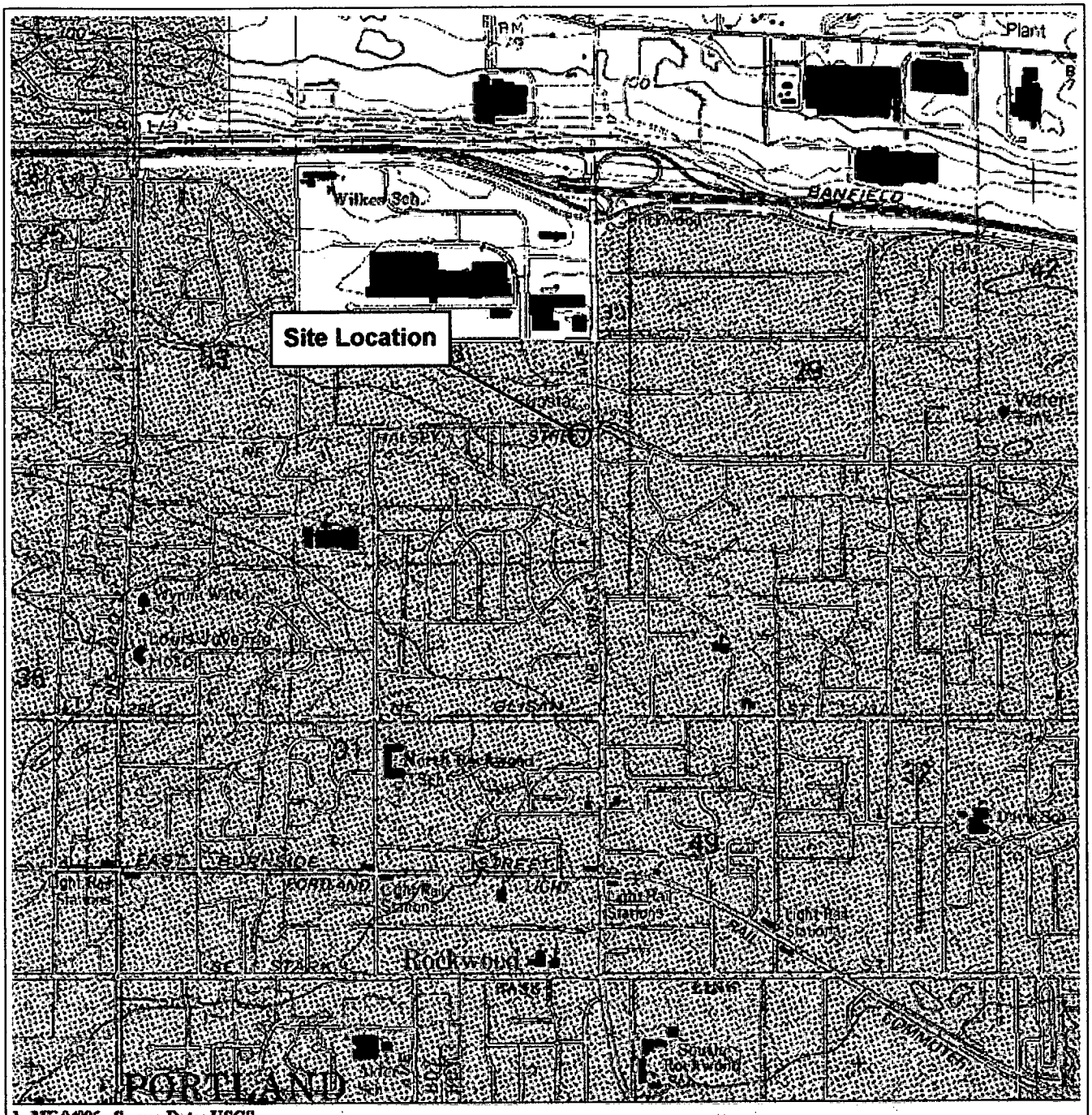
cc: Mr. Mike Noll, ConocoPhillips

Attachments: Table 1 – Soil Analytical Results – TPH-G, TPH-D, BTEX, MTBE, Naphthalene, and Selected VOCs
Figure 1 – Site Location Map
Figure 2 – Site Map with TPH-G and MTBE Concentrations in Soil
Attachment A – HASP Signature Sheets
Attachment B – Well Log and OWRD Start Cart – MW-4
Attachment C – Field Procedures
Attachment D – Analytical Laboratory Report and Chain-of-Custody Documentation

TABLE 1
SOIL ANALYTICAL RESULTS - TPH-G, BTEX, MTBE, NAPHTHALENE, VOCs, AND LEAD
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Sample Identification	Sample Date	Sample Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	Isopropyl benzene (mg/kg)	n-Propyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	Diesel Range Organics (mg/kg)	Heavy Range Organics (mg/kg)
MW-4-5	05/19/06	5	<1.0	<0.0005	<0.001	<0.001	<0.001	**0.005**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<3.0	<10.0
MW-4-10	05/19/06	10	**4.3**	<0.0005	<0.001	<0.001	<0.001	**0.015**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<3.0	<10.0

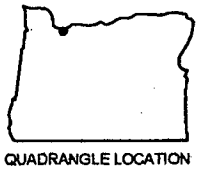
Notes:
mg/kg = milligrams per kilogram - dry
TPH-G = Total Petroleum Hydrocarbon as Gasoline
TPH-D = Total Petroleum Hydrocarbon as Diesel
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
TPH-Gasoline (TPH-G) analysis by NWTPH-Gx Method
Volatile organic compound (VOC) analysis by EPA Method 8260B
<0.001 = not detected above the laboratory method reporting limit (MRL) of 0.001 mg/kg



h, ME 04096 Source Data: USGS

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

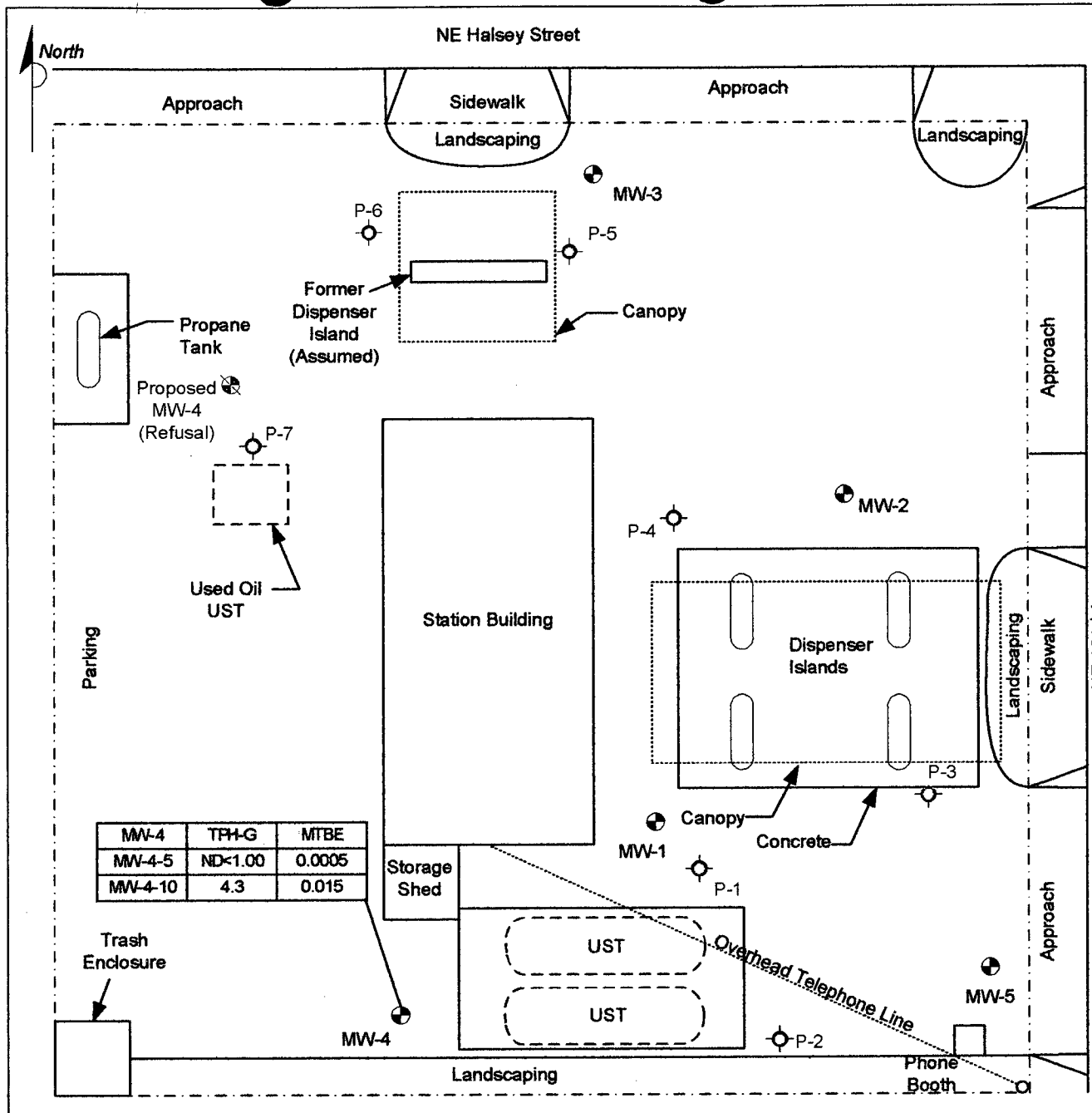
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 1/5/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND

MW-1 ◔ Monitoring Well Location and Identification

MW-4-5 Sample Location and Identification

P-1 ⊙ Soil Boring Location and Designation (1/11/05)

ND <1.00 Not Detected above laboratory reporting limit of 1.00 milligrams per kilogram (mg/kg)

Total Petroleum Hydrocarbon as Gasoline (TPH-G) and MTBE results presented in mg/kg

0 20 FT

APPROX. SCALE

FIGURE 2

SITE MAP WITH BORING LOCATIONS AND TPH-G AND MTBE CONCENTRATIONS IN SOIL

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY KCM 7/13/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

ATTACHMENT A

HASP SIGNATURE PAGES

Tailgate Meeting Outline/Checklist

Site Name: _____ **Date:** 5/16/06

Location: 1545 NE 181st Ave, Portland, OR

COP Project Number: 4745

	YES	NO
Are all field team members in attendance Drillers mobs to site & 1030 / 1120 on site		✓
Are there language barriers or concerns?		✓
Have they been addressed? (If no, worker cannot remain on-site.)		n/a
Is an interpreter needed on-site?		✓
Identified worker with the least years of experience		
name/company: Will - CDI - Dec. '05		
How many years (or months) experience? #: yrs/mo 6 mos		
How many employees with less than 1 year exp.? #: emps 1		
Is each one assigned an on-site mentor?		

Tailgate Discussion Points (see Delta Tailgate guidance for full details)

	Covered	Not
Introduction- background, field team, training documentation- watch the COP safety video	✓	
Site hazards- perform site walk-thru with team, locate utility markings, work locations, etc.	✓	
Work hazards- scope-of-work, etc	✓	
Delta discusses safety of Delta tasks performed- review JSAs	✓	
Contractor(s) discusses safety of contractor work tasks performed- review JSAs	✓	
List JSAs reviewed Loading/unloading / Vehicle Inspection		
Auger Well Installation (COP)		
Heavy machinery inspection- kill switches located, etc.	✓	
Other equipment should be inspected before use	✓	
On-site impacts, other chemical on-site- monitoring procedures, PPE upgrade action levels	✓	
Highlight Specific Concerns- e.g. traffic, excavations, drilling, utilities, power lines, etc.	✓	
PPE Review- review standard PPE, upgrades needed	✓	
Delta or Client Specific Safety Protocols- FOBK practice, utility clearance requirements, etc.	✓	
Emergency Action Plan- emergency #s, evacuation signal & routes (walk them), 1st aid kits, training, etc	✓	
Proactive Safety Actions- report all near misses, stop work authority, use think breaks,		
Feedback- Worker questions, comments, concerns		

Morning tailgate and COP video attendance: (name, company, signature)

Cale Fleming
Eric Jackson
Mike McDonald
David Metzger

Eric Jackson
Mike McDonald
David Metzger

use additional sheets as needed

	YES	NO
Afternoon tailgate held?		
List topics: Drilling / Augers		
Near misses reported today # _____		
Other incidents reported today # _____		

Delta Employee Name/Title: Cale Fleming

Signature: _____

IX. ACKNOWLEDGMENT AGREEMENT

DELTA EMPLOYEE
SITE HEALTH AND SAFETY PLAN REVIEW RECORD

I acknowledge that I have read and understood the contents of this Site Health and Safety Plan and I agree to abide by all provisions as set forth. I have also checked in with the site client contact to alert them of our presence and for any daily safety issues. Please note: "no implements are to be brought on a Delta site, or while performing Delta business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited. By signing below you are certifying, that this policy is upheld. Delta retains the option to audit your personnel and equipment to assure your compliance.

Signature	Date
Jacob Neel	5/17/06
[illegible]	5/19/06

SUBCONTRACTOR & VISITOR
SITE HEALTH AND SAFETY PLAN REVIEW RECORD

SITE: **ConocoPhillips 4745**

I have read the Site Health and Safety Plan for this site and have been briefed on the nature of the contaminants and the level and degree of exposure likely as a result of participation in this project. I agree to conform to all the requirements of this plan. This SHSP does not replace the requirement or liability for your company to have it's own safety program and SHSP. I also acknowledge that this plan is specific for this Delta Environmental Consultants, Inc. site and may not address unforeseen hazards not included in the Site Health and Safety Plan or your specific contracted task. Please note: "no implements are to be brought on a Delta site, or while performing Delta business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited. By signing below you are certifying, that this policy is upheld. Delta retains the option to audit your personnel and equipment to assure your compliance.

Name	Signature	Affiliation	Date
Jacob Stelzenmueller		Locates down under	05-17-06
Eric Wilson		Cascade Drilling	05-19-06
Daryl Metzger		CDI	19 May 06

ATTACHMENT B

WELL LOG – MW-4
OREGON WATER RESOURCES DEPARTMENT START CARD – MW-

FOR WATER RESOURCES DEPARTMENT USE ONLY

Date Postmarked
Date Hand-Delivered
Date Region Office Rec'd

W 184465
OWRD Receipt
Date Fee Received
Check No

START CARD

NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

184465

This form must be completed and the original mailed or delivered to the Water Resources Department, 725 Summer Street NE Suite A, Salem OR 97301-1271 for all new construction, conversion, alteration, deepening and abandonments. This original must be mailed or delivered before work is commenced. A $125 fee shall accompany the original for all new well construction, conversion, and deepenings (make checks payable to the Water Resources Department). In addition, the constructor shall provide a legible copy of this notice to the region office within which the well is being constructed, converted, altered, deepened, or abandoned using one of the following methods: (a) by regular mail no later than three (3) calendar days (72 hours) prior to commencement of work; (b) by hand delivery, during regular office hours before work is commenced; or (c) by FAX before work is commenced. If method (c) is used, a legible copy of the start card shall also be mailed or delivered to the region office no later than the day work is commenced. The Water Resources Commission has authority to impose civil penalties for failure to submit the required $125 fee with the start card, for failure to submit the $125 fee in a timely manner, and for failure to timely submit start cards.

Owner's name and mailing address: TOSCO Corp
Home
Phone: ( ) PO Box 5936
Work
Phone: ( ) Schaumburg IL 60159

Type of work: **Fee Required:** ☒ New Construction ☐ Conversion ☐ Deepening Orig. Start Card No. _____ **No Fee Required:** ☐ Alteration (Repair/Recondition) ☐ Abandonment Orig. Start Card No. _____

Proposed Commencement Date: 5.19.06

Existing or Proposed Well Depth: 20' Diameter: 2" Original Well I.D. Label Number: _____

Use: ☐ Domestic ☐ Thermal ☐ Community (Public System) ☐ Injection ☐ Industrial ☐ Monitoring ☐ Irrigation ☐ Other _____

Proposed Well Location:

County Multnomah Township 1N (North or South) Range 3E (East or West) Section 30 Tax Lot 1500

1/4 SE 1/4 SE Or Latitude _____ Longitude _____

Street Address of well, if not assigned, nearest address:
1545 NE 181st Ave Portland OR 97230

We have read the back of this form and the information provided is accurate to the best of our knowledge.

Owner/Agent Name	Bonded Water Supply/Monitor Well Constructor Name	License No.
Dan Larson	Dan Larson	1132
Date Signed	Company	Date Signed
5.25.06	Cascade Drilling, Inc - OR	5.25.06

OWNER PLEASE NOTE: This is not a water right application. The owner is responsible for obtaining a water right through the Water Resources Department, if required. The Oregon Health Division requires plans to be submitted and approved prior to construction if the well is to be used as a public system.

ADDITIONAL IMPORTANT INFORMATION ON BACK.

****

P06-112.112

THIS COPY FOR YOUR RECORDS.

Revised 06/2005

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhil[illegible]	Boring/Well No:	MW-4
Logged By:	CRF	Location:	1545 NE 181st Avenue, Portland, OR	Page	1 of 1
Driller:	Cascade	Date Drilled:	5/19/2006	Location Map	
Drilling Method:	HSA	Hole Diameter:	10"		See Figure 2
Sampling Method:	SPT	Hole Depth:	20'		
Casing Type:	SCH. 40 PVC	Well Diameter:	2"		
Slot Size:	0.010	Well Depth:	20'		
Gravel Pack:	10X20	Casing Stickup:	Flush		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Bentonite / Sand					1			Asphalt (4") and subbase gravel fill
					2			
		MST			3		ML	Sandy SILT, brown, soft, low plasticity, with trace fine gravel; 60% silt, 30% fine sand, 5% coarse sand, 5% fine gravel (8" cobble at 4' bgs)
					4			(End Vac-Clear at 4 feet bgs - large cobble)
		Dry	0.1	10	5		SM	Silty SAND, brown-orange, non-plastic
				13	6			60% well-graded sand, 30% silt, 5% gravel, 5% wood fragments
				14	7			
					8			
					9			
	▽ 5/19/06 12:50	Wet	101	20	10			
				20	11			Silty SAND with cobbles, brown-orange, medium density
				16	12			50% well-graded sand, 30% silt, 15% cobbles, 5% wood fragments (6" thickness)
					13			*(Cobbles - rough drilling)*
					14			
		MST		24	15			
				50 for 6"	16			As above, grading more consolidated
					17			
					18			*(Cobbles - rough drilling)*
					19			
					20			Bottom of Boring at 20 feet bgs.
		MST		50 for 6"	21			Sampling Terminated at 21.5 feet bgs As above
					22			

ATTACHMENT C

FIELD PROCEDURES
WELL INSTALLATION PROCEDURES AND
SOIL AND GROUNDWATER SAMPLING PROTOCOL

UNDERGROUND UTILITY LOCATIONS

Prior to initiating the field investigation, a request was placed with the Utilities Notification Center to conduct an underground utility survey in the vicinity of the proposed groundwater monitoring well. A private utility locator was contracted to clear the proposed groundwater monitoring well location of private underground utilities.

DRILLING PROCEDURES

Soil borings were drilled using a truck-mounted hollow-stem-auger rig equipped with 10 and 1/4-inch outside diameter, 6 and 1/4-inch inside diameter augers for the groundwater monitoring well. The auger was decontaminated with a hot water pressure wash before use in the borehole to minimize any cross-contamination. Decontamination water was contained in a trailer during washing and immediately pumped into Oregon Department of Transportation (ODOT) approved 55-gallon open-head drums. Soil cuttings generated during drill activities were collected and stored on site in 55-gallon steel drums.

GROUNDWATER MONITORING WELL CONSTRUCTION

The groundwater monitoring well was constructed with a 2-inch inside diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) well casing and a 15-foot screened interval consisting of machine-slotted PVC casing with 0.010-inch-wide slots. Groundwater monitoring well MW-4 was screened from 20 to 35 feet below ground surface (bgs) and has blank PVC casing from 5 feet bgs to approximately 3 inches bgs. The annular space in the well was backfilled with 10/20-grade sand from the base of the boring to one foot above the respective screened interval. Hydrated bentonite chips were used to fill the annular space from 4 feet to one foot bgs. A traffic-rated monument was cemented in the remaining annulus and set to grade.

SOIL SAMPLE COLLECTION

Soil samples were collected at 5-foot intervals using an 18-inch-long split-spoon sampler lined with three 2-inch by 6-inch-long stainless steel tubes. The bottom most portion of the sample interval was used for field screening for evidence of volatile organic constituents. Field screening was completed by placing a portion of the collected soil into a sealable plastic bag and then monitoring headspace vapor concentrations using a portable photoionization detector (PID). The middle portion from the sampling interval was prepared for submittal to an off-site laboratory for possible analysis. The uppermost portion of the sample interval was retained for visual inspection and for lithogic descriptions.

A log was compiled for each borehole, including descriptions of the soil types, color, texture, degree of consolidation, and moisture content. Soil types were based on the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*.

FIELD SCREENING OF SOIL SAMPLES

Soil samples were field screened for visual or olfactory indications of petroleum hydrocarbons, tested for sheen by water immersion, and tested for headspace vapor concentrations using a portable PID. Data generated from field screening instruments were considered qualitative in nature. Although semi-quantitative data are generated using a PID, the results cannot be relied upon with the confidence of a laboratory analysis. Data generated from this type of analysis may provide the following:

- Identification of soil, water, air, and waste locations that have a high likelihood of showing contamination through subsequent laboratory analysis.
- Real-time data used for health and safety consideration during site reconnaissance and subsequent intrusive activities.
- Quantitative data, if contaminant is known and the instrument is calibrated to that substance.

FIELD SCREENING USING VAPOR HEADSPACE TESTING

The instrument used for headspace vapor testing was a MiniRae PID. Prior to use, this instrument was calibrated to a known isobutylene calibrant standard (100 parts per million (mg/kg)), in accordance with the manufacturer's specifications.

The following sequential steps were completed for each sample analyzed:

- A representative portion of the soil sample was collected directly from a brass sample ring or acrylic sleeve into a new, sealable Ziploc-type plastic bag. The bag was immediately sealed.
- The sealed bag with sample was allowed to sit at field ambient temperature for several minutes.
- One end of the bag seal was slightly opened, and the intake port of a PID was carefully inserted through the opening.
- The stabilized numerical value was observed and recorded onto the boring log form.

This number does not represent a concentration of volatiles in mg/kg; it is a relative measure of the amount of ionized compounds present. As the exact chemical species present is unknown, the units of concentration are referred to as mg/kg of isobutylene.
Vapor headspace screening is only applicable as a screening method for the presence of ionizable compounds with first ionization potentials of less than 10.6 electron volts. In addition, variables that affect measurable concentrations and are unaccounted for in this procedure include, but are not limited to: temperature, soil moisture content, and soil organic content. Vapor headspace screening is not designed for screening for evidence of contamination by semi-volatile or non-volatile organic compounds or for the presence of elemental metals or compounds.

Soil Descriptions

The Delta system of soil description utilizes the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Generally, soils were described by the following modifiers:

- Density (based on visual observations).
- Moisture.
- Color (including mottling, stringers, color changes).
- Soil classification.
- Stratification.
- Percent varying grain sizes.
- Sphericity, and roundness of grains.
- Major soil constituents were capitalized, and granular soils were given relative size descriptions.

Each sample was described, using the modifiers provided above, on a standardized field log form or project notebook.

Sample Documentation and Custody

Chain-of-custody for a sample was defined by the following criteria:

- The sample was in a Delta staff person's possession or in his or her view after being in his or her possession.

Each time the samples transferred possession, both the sender and receiver signed and dated the chain-of-custody form and specified the item being transferred. After transfer of sample custody from the sampling team to the laboratory sample custodian, one copy of the chain-of-custody record was given to the sampling team for placement into the project files; the original remains with the laboratory. A chain-of-custody record was completed for each shipment of containers.

The following information was included on the chain-of-custody form:

- Sample container type and container number.
- Date and time of collection.
- Sample collection location(s).
- Signatures of sampler, submitter, and receiver of samples.
- Date and time samples were received by laboratory.
- Total number of samples received.
- Laboratory analyses requested for each sample.
- Requested laboratory turn-around time.

Decontamination Procedures

Decontamination procedures were used on all dedicated and non-dedicated sampling equipment that could potentially contact and cross-contaminate other materials. This included personal protective equipment, sampling equipment, and sample containers.

Materials that were used in the decontamination process include:

- Liquinox nonphosphate detergent.
- Deionized water.
- Tap water.
- Teflon squirt bottles.
- Bailer brushes.
- Galvanized cleaning tubs.

Investigation-Derived Wastes

Personal protective clothing, development water, purge water, and decontamination solution/solvents were the types of waste generated during the course of this project.

The water generated from the investigation was transported to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal. Potentially hazardous wastes were contained within DOT approved, 17-H steel drums (55-gallon) and stored on site (with the owner's permission), pending receipt of analytical data and determination of final disposition.

Each drum containing investigation-derived waste was labeled with the following information:

- Site name.
- Sequential drum number.

- Date of collection.
- Source and type of waste.

All such information was recorded in field log books, and a final inventory of all investigation-derived wastes, including quantities, storage methods, disposition, and dates, was compiled at the completion of the project.
Soil containing concentrations of petroleum constituents were disposed of at an off-site site permitted to accept and treat soil containing petroleum constituents. All necessary permits were obtained prior to transporting, treating, or disposal of soil.

Field Notebook

In addition to sample identification numbers and chain-of-custody records, a bound field notebook was maintained by Delta personnel to provide a daily record of significant events, observations, and measurements during field investigations. This record will include a sample collection record, field measurements, personnel, and other pertinent information. All entries in the field notebooks were made in ink, signed, and dated. The field notebook was kept as a permanent record.

Soil samples were placed in appropriate USEPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory. A waterproof label showing project identification, boring designation, approximate depth, date, and the sampler's initials was affixed to each sample. All drilling equipment was cleaned between samples by washing in a detergent solution followed by a clean water rinse and distilled water rinse.

ATTACHMENT D

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

602-452-2519

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 990796. Samples arrived at the laboratory on Wednesday, May 24, 2006. The PO# for this group is 4506513508 and the release number is CRAMER.

Client Description	Lancaster Labs Number
MW-4-5 Grab Soil Sample	4778768
MW-4-10 Grab Soil Sample	4778769

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Lawrence M. Taylor
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 4778768

MW-4-5 Grab Soil Sample
Site# 4702 (254745)
1545 NE 181st Ave., Portland, OR
Collected:05/19/2006 12:35 by CF

Account Number: 11856

Submitted: 05/24/2006 09:05
Reported: 06/28/2006 at 13:12
Discard: 07/29/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

MW45C

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	N.D.	1.0	mg/kg	25
	The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.					
02214	TPH by NWTPH-Dx(soils) w/SiGel					
02097	Diesel Range Organics	n.a.	N.D.	3.0	mg/kg	1
02098	Heavy Range Organics	n.a.	N.D.	10.	mg/kg	1
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.005	0.0005	mg/kg	0.99
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	0.99
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	0.99
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	0.99
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	0.99
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	0.99
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	0.99
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	0.99
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	0.99
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	0.99
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	0.99
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	0.99
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	0.99

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor

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Analysis Report

Lancaster Laboratories Sample No. SW 4778768

MW-4-5 Grab Soil Sample
Site# 4702 (254745)
1545 NE 181st Ave., Portland, OR
Collected:05/19/2006 12:35 by CF

Account Number: 11856

Submitted: 05/24/2006 09:05
Reported: 06/28/2006 at 13:12
Discard: 07/29/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

MW45C

02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	06/01/2006 13:33	Linda C Pape	25
02214	TPH by NWTPH-Dx(soils) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	05/31/2006 02:23	Matthew E Barton	1
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	05/30/2006 22:00	Emiley A King	0.99
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	05/30/2006 22:00	Emiley A King	0.99
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	05/30/2006 15:38	Nicholas R Rossi	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035	1	05/25/2006 08:46	Larry E Bevins	n.a.
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	05/25/2006 15:45	Jason A Heisey	1

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Analysis Report

Lancaster Laboratories Sample No. SW 4778769

MW-4-10 Grab Soil Sample
Site# 4702 (254745)
1545 NE 181st Ave., Portland, OR
Collected:05/19/2006 12:55 by CF

Account Number: 11856

Submitted: 05/24/2006 09:05
Reported: 06/28/2006 at 13:12
Discard: 07/29/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

MC410

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02005	TPH by NWTPH-Gx soils					
01659	TPH by NWTPH-Gx soils	n.a.	4.3	1.0	mg/kg	25
	The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.					
02214	TPH by NWTPH-Dx(soils) w/SiGel					
02097	Diesel Range Organics	n.a.	N.D.	3.0	mg/kg	1
02098	Heavy Range Organics	n.a.	N.D.	10.	mg/kg	1
03983	EPA SW 846/8260 - Soil					
02016	Methyl Tertiary Butyl Ether	1634-04-4	0.015	0.0005	mg/kg	1
05441	EPA SW846/8260 (soil)					
05460	Benzene	71-43-2	N.D.	0.0005	mg/kg	1
05461	1,2-Dichloroethane	107-06-2	N.D.	0.001	mg/kg	1
05466	Toluene	108-88-3	N.D.	0.001	mg/kg	1
05471	1,2-Dibromoethane	106-93-4	N.D.	0.001	mg/kg	1
05474	Ethylbenzene	100-41-4	N.D.	0.001	mg/kg	1
05475	m+p-Xylene	1330-20-7	N.D.	0.001	mg/kg	1
05476	o-Xylene	95-47-6	N.D.	0.001	mg/kg	1
05479	Isopropylbenzene	98-82-8	N.D.	0.001	mg/kg	1
05483	n-Propylbenzene	103-65-1	N.D.	0.001	mg/kg	1
05485	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/kg	1
05488	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/kg	1
05498	Naphthalene	91-20-3	N.D.	0.001	mg/kg	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 4778769

MW-4-10 Grab Soil Sample
Site# 4702 (254745)
1545 NE 181st Ave., Portland, OR
Collected:05/19/2006 12:55 by CF

Account Number: 11856

Submitted: 05/24/2006 09:05
Reported: 06/28/2006 at 13:12
Discard: 07/29/2006

ConocoPhillips
PO Box 2200
Bartlesville OK 74005

MC410

02005	TPH by NWTPH-Gx soils	ECY 97-602 NWTPH-Gx modified	1	06/01/2006 07:23	Christopher A Guessford	25
02214	TPH by NWTPH-Dx(soils) w/SiGel	ECY 97-602 NWTPH-Dx modified	1	05/31/2006 03:11	Matthew E Barton	1
03983	EPA SW 846/8260 - Soil	SW-846 8260B	1	05/31/2006 07:30	Stephanie A Selis	1
05441	EPA SW846/8260 (soil)	SW-846 8260B	1	05/31/2006 07:30	Stephanie A Selis	1
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	05/31/2006 00:46	Stephanie A Selis	n.a.
01150	GC - Bulk Soil Prep	SW-846 5035	1	05/25/2006 08:52	Larry E Bevins	n.a.
07024	DRO Alternate Soil Extraction	ECY 97-602 NWTPH-Dx 06/97	1	05/25/2006 15:45	Jason A Heisey	1

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 990796
Reported: 06/28/06 at 01:12 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 061450007A	Sample number(s): 4778768-4778769							
Diesel Range Organics	N.D.	3.0	mg/kg	85		60-120		
Heavy Range Organics	N.D.	10.	mg/kg					
Batch number: 06151A31A	Sample number(s): 4778768-4778769							
TPH by NWTPH-Gx soils	N.D.	1.0	mg/kg	76		67-119		
Batch number: A061501AA	Sample number(s): 4778768							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/kg	95		75-125		
Benzene	N.D.	0.5	ug/kg	99		77-119		
1,2-Dichloroethane	N.D.	1.	ug/kg	109		76-126		
Toluene	N.D.	1.	ug/kg	99		81-116		
1,2-Dibromoethane	N.D.	1.	ug/kg	96		77-114		
Ethylbenzene	N.D.	1.	ug/kg	97		82-115		
m+p-Xylene	N.D.	1.	ug/kg	97		82-117		
o-Xylene	N.D.	1.	ug/kg	92		82-117		
Isopropylbenzene	N.D.	1.	ug/kg	95		79-117		
n-Propylbenzene	N.D.	1.	ug/kg	92		76-122		
1,3,5-Trimethylbenzene	N.D.	1.	ug/kg	93		74-112		
1,2,4-Trimethylbenzene	N.D.	1.	ug/kg	91		74-117		
Naphthalene	N.D.	1.	ug/kg	69		52-121		
Batch number: A061511AA	Sample number(s): 4778769							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/kg	85		75-125		
Benzene	N.D.	0.5	ug/kg	92		77-119		
1,2-Dichloroethane	N.D.	1.	ug/kg	101		76-126		
Toluene	N.D.	1.	ug/kg	95		81-116		
1,2-Dibromoethane	N.D.	1.	ug/kg	89		77-114		
Ethylbenzene	N.D.	1.	ug/kg	93		82-115		
m+p-Xylene	N.D.	1.	ug/kg	93		82-117		
o-Xylene	N.D.	1.	ug/kg	88		82-117		
Isopropylbenzene	N.D.	1.	ug/kg	93		79-117		
n-Propylbenzene	N.D.	1.	ug/kg	90		76-122		
1,3,5-Trimethylbenzene	N.D.	1.	ug/kg	89		74-112		
1,2,4-Trimethylbenzene	N.D.	1.	ug/kg	89		74-117		
Naphthalene	N.D.	1.	ug/kg	66		52-121		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 061450007A	Sample number(s): 4778768-4778769 BKG: 4778768								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips Group Number: 990796
Reported: 06/28/06 at 01:12 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Diesel Range Organics						N.D.	N.D.	0 (1)	20
Heavy Range Organics						N.D.	N.D.	0 (1)	20
Batch number: 06151A31A	Sample number(s): 4778768-4778769 UNSPK: P781819								
TPH by NWTPH-Gx soils	71	64	39-118	11	30				
Batch number: A061501AA	Sample number(s): 4778768 UNSPK: P777876								
Methyl Tertiary Butyl Ether	90	87	47-130	3	30				
Benzene	92	88	59-120	3	30				
1,2-Dichloroethane	103	100	62-130	3	30				
Toluene	91	89	49-132	1	30				
1,2-Dibromoethane	90	88	62-116	2	30				
Ethylbenzene	89	86	50-127	3	30				
m+p-Xylene	90	85	44-127	4	30				
o-Xylene	87	84	44-127	3	30				
Isopropylbenzene	88	84	41-120	4	30				
n-Propylbenzene	82	80	44-130	1	30				
1,3,5-Trimethylbenzene	85	84	47-130	0	30				
1,2,4-Trimethylbenzene	83	80	38-133	2	30				
Naphthalene	64	62	10-129	3	30				
Batch number: A061511AA	Sample number(s): 4778769 UNSPK: P779689								
Methyl Tertiary Butyl Ether	79	76	47-130	4	30				
Benzene	91	80	59-120	12	30				
1,2-Dichloroethane	95	89	62-130	7	30				
Toluene	96	84	49-132	13	30				
1,2-Dibromoethane	82	77	62-116	5	30				
Ethylbenzene	92	78	50-127	16	30				
m+p-Xylene	92	79	44-127	16	30				
o-Xylene	88	75	44-127	16	30				
Isopropylbenzene	89	74	41-120	18	30				
n-Propylbenzene	88	73	44-130	19	30				
1,3,5-Trimethylbenzene	89	74	47-130	18	30				
1,2,4-Trimethylbenzene	90	76	38-133	16	30				
Naphthalene	53	53	10-129	1	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Dx(soils) w/SiGel
Batch number: 061450007A

	Orthoterphenyl
4778768	106
4778769	99
Blank	107
DUP	75
LCS	121

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips Group Number: 990796
Reported: 06/28/06 at 01:12 PM

Surrogate Quality Control

Limits: 50-150

Analysis Name: TPH by NWTPH-Gx soils
Batch number: 06151A31A

	Trifluorotoluene-F
4778768	64
4778769	62
Blank	82
LCS	83
MS	87
MSD	62
Limits:	61-122

Analysis Name: EPA SW 846/8260 - Soil
Batch number: A061501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4778768	99	92	90	76
Blank	95	91	90	75
LCS	93	91	93	85
MS	92	89	93	86
MSD	92	87	94	85
Limits:	71-114	70-109	70-123	70-111

Analysis Name: EPA SW 846/8260 - Soil
Batch number: A061511AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4778769	92	86	87	81
Blank	95	91	90	75
LCS	91	88	95	84
MS	91	84	96	84
MSD	91	86	94	85
Limits:	71-114	70-109	70-123	70-111

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

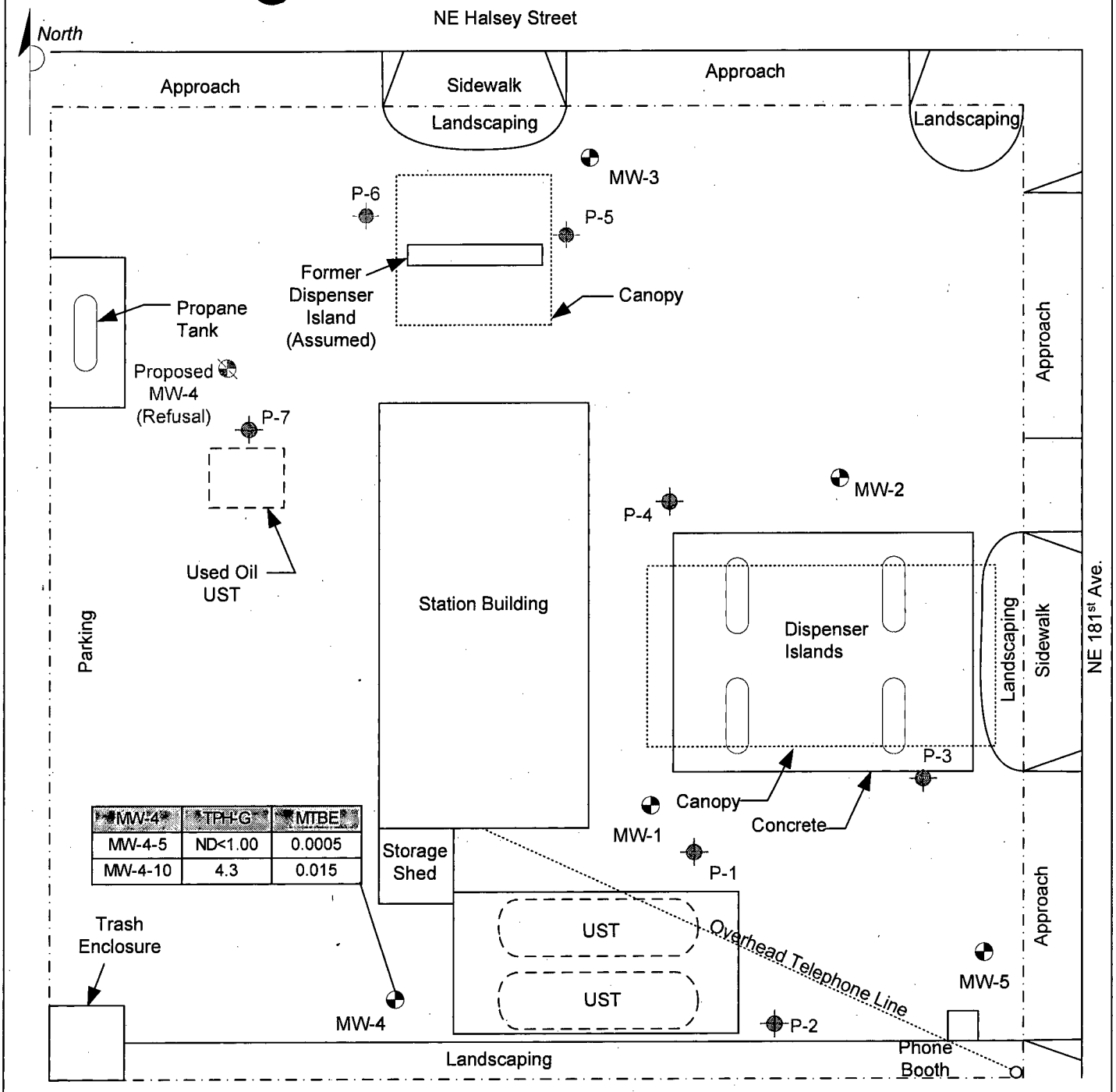
Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.



LEGEND

MW-1 ⊕ Monitoring Well Location and Identification

MW-4-5 Sample Location and Identification

P-1 ⊕ Soil Boring Location and Designation (1/11/05)

ND <1.00 Not Detected above laboratory reporting limit of 1.00 milligrams per kilogram (mg/kg)

Total Petroleum Hydrocarbon as Gasoline (TPH-G) and MTBE results presented in mg/kg

0 20 FT

APPROX. SCALE

FIGURE 2

SITE MAP WITH BORING LOCATIONS AND TPH-G AND MTBE CONCENTRATIONS IN SOIL

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY KCM 7/13/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

FOR WATER RESOURCES DEPARTMENT USE ONLY

Date Postmarked
Date Hand-Delivered
Date Region Office Rec'd

W 184465
OWRD Receipt
Date Fee Received
Check No

START CARD

NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

184465

This form must be completed and the original mailed or delivered to the Water Resources Department, 725 Summer Street NE Suite A, Salem OR 97301-1271 for all new construction, conversion, alteration, deepening and abandonments. This original must be mailed or delivered before work is commenced. A $125 fee shall accompany the original for all new well construction, conversion, and deepenings (make checks payable to the Water Resources Department). In addition, the constructor shall provide a legible copy of this notice to the region office within which the well is being constructed, converted, altered, deepened, or abandoned using one of the following methods: (a) by regular mail no later than three (3) calendar days (72 hours) prior to commencement of work; (b) by hand delivery, during regular office hours before work is commenced; or (c) by FAX before work is commenced. If method (c) is used, a legible copy of the start card shall also be mailed or delivered to the region office no later than the day work is commenced. The Water Resources Commission has authority to impose civil penalties for failure to submit the required $125 fee with the start card, for failure to submit the $125 fee in a timely manner, and for failure to timely submit start cards.

Owner's name and mailing address: TOSCO Corp
Home
Phone: ( ) PO Box 5936
Work
Phone: ( ) Schaumburg IL 60159

Type of work: **Fee Required:** ☒ **New Construction** ☐ **Conversion** ☐ **Deepening** **Orig. Start Card No.** _____ **No Fee Required:** ☐ **Alteration (Repair/Recondition)** ☐ **Abandonment** **Orig. Start Card No.** _____

Proposed Commencement Date: 5.19.06

Existing or Proposed Well Depth: 20' Diameter: 2" Original Well I.D. Label Number: _____

Use: ☐ Domestic ☐ Thermal ☐ Community (Public System) ☐ Injection ☐ Industrial ☐ Monitoring ☐ Irrigation ☐ Other _____

Proposed Well Location:

County Multnomah Township 1N (North or South) Range 3E (East or West) Section 30 Tax Lot 1500

1/4 NE 1/4 SE Or Latitude _____ Longitude _____

Street Address of well, if not assigned, nearest address:
1545 NE 181st Ave Portland OR 97230

We have read the back of this form and the information provided is accurate to the best of our knowledge.

Owner/Agent Name	Bonded Water Supply/Monitor Well Constructor Name	License No.
Dan Larson	Dan Larson	1032
Date Signed	**Company**	**Date Signed**
5.25.06	Cascade Drilling, Inc - OR	5.25.06

OWNER PLEASE NOTE: This is not a water right application. The owner is responsible for obtaining a water right through the Water Resources Department, if required. The Oregon Health Division requires plans to be submitted and approved prior to construction if the well is to be used as a public system.

ADDITIONAL IMPORTANT INFORMATION ON BACK.

****

P06.112.112

THIS COPY FOR YOUR RECORDS.

Revised 06/2005

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: MW-4	
Logged By:	CRF	Location:	1545 NE 81st Avenue, Portland, OR	Page 1 of 1	
Driller:	Cascade	Date Drilled:	5/19/2006	Location Map	
Drilling Method:	HSA	Hole Diameter:	10"	See Figure 2	
Sampling Method:	SPT	Hole Depth:	20'		
Casing Type:	SCH. 40 PVC	Well Diameter:	2"		
Slot Size:	0.010	Well Depth:	20'		
Gravel Pack:	10X20	Casing Stickup:	Flush		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Bentonite / Sand / Casing					0				Asphalt (4") and subbase gravel fill
					1				
					2				
		MST			3			ML	Sandy SILT, brown, soft, low plasticity, with trace fine gravel; 60% silt, 30% fine sand, 5% coarse sand, 5% fine gravel (8" cobble at 4' bgs)
					4				(End Vac-Clear at 4 feet bgs - large cobble)
		Dry	0.1	10	5			SM	Silty SAND, brown-orange, non-plastic
				13	6				60% well-graded sand, 30% silt, 5% gravel, 5% wood fragments
				14	7				
					8				
					9				
	▽ 5/19/06 12:50	Wet	101	20	10				
				20	11				Silty SAND with cobbles, brown-orange, medium density 50% well-graded sand, 30% silt, 15% cobbles, 5% wood fragments (6" thickness)
				16	12				
					13				*(Cobbles - rough drilling)*
					14				
		MST		24	15				
				50 for 6"	16				As above, grading more consolidated
					17				
					18				*(Cobbles - rough drilling)*
					19				
					20				Bottom of Boring at 20 feet bgs.
		MST		50 for 6"	21				Sampling Terminated at 21.5 feet bgs As above
					22				

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001153

For Lancaster Laboratories use only

Acct. #: _____ Group # _____ Sample #: _____

SCR#: _____

Site #: 4745 WNO #: _____

Site Address: 1545 NE 181st Ave, Portland, OR

ConocoPhillips PM: M. Cramer Company Code: _____

Core Work Order#: _____ Total Lab Budget: _____

Consultant/Office: Delta Environmental

Consultant Prj. Mgr: B. Pletcher

Consultant Phone #: 503-639-8078 Fax #: 503-639-7619

Sampler C. Fleming

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Preservative Codes

H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable / NPDES)	Matrix: Oil / Air	TPH-G (NWTPH-Gx)	RBCA (8260B)	TPH-Dx	HOLD	Remarks
MW-4-3	5/19/06	0935	✓								X	RBCA = BTEX, MTBE, N, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene
MW-4-5		1235	✓					X	X	X		
MW-4-10		1255	✓					X	X	X		
MW-4-15		1325	✓								X	
MW-4-20		1355	✓								X	

Turnaround Time Requested in Business Days (TAT) (please circle):

STD. TAT 5 day 48 hour

24 hour other _____

Reporting Requirements (please circle)

NJ Reduced NY ASP Cat. A Raw Data Diskette

NY ASP Cat. B Full Type I Other _____

Relinquished by:	Date	Time	Received by:	Date	Time
	5/20/06	1200			
Relinquished by:	Date	Time	Received by:	Date	Time
	5/23/06	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature Upon Receipt _____ C°

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

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7150 SW Hampton • Suite 220
Tigard, Oregon 97223 USA

503.639.8098 800.477.7411
Fax 503.639.7619

RECEIVED
AUG 09 2006
DEPT OF ENVIRONMENTAL QUALITY
GRESHAM OFFICE

LETTER OF TRANSMITTAL

To:	Mr. Mike Noll	**From:**	Brian Pletcher
Company:	Noll Environmental, Inc.	**Date:**	August 7, 2006
	11921 185th Avenue SE		
	Snohomish, WA 98290		
Re:	2Q06 GW Monitoring Report	**Site No.:**	ConocoPhillips 4745
		DEQ File No.	**26-05-0199**

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

A member of:
Inogen Environmental Alliance

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

August 7, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [2Q06]

- Groundwater monitoring and sampling on June 28, 2006.
- Installed Monitoring Well MW-4 on May 19, 2006.

WORK PROPOSED FOR NEXT QUARTER [3Q06]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	8.72 to 12.58	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.04	(ft/ft)
Maximum Benzene Concentration:	2	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000'	Not Applicable	(Distance and Direction)
Radius and Respective Direction:		
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/
		Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on June 28, 2006 included measuring the water levels in monitoring wells MW-1 through MW-5. Monitoring well MW-4 was installed adjacent to the fuel USTs on May 19, 2006. The top of casing (TOC) elevation of Well MW-4 was measured relative to the existing wells on site. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-5 were purged using a centrifugal pump with dedicated tubing. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 47 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

August 7, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on June 30, 2006. Water samples collected from Wells MW-1 through MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tert-butyl ether (MTBE), using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx. Additional analytes, including naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not analyzyed this quarter as a result of an oversight..

TPH-G was detected above the laboratory method reporting limits (MRLs) in Wells MW-1 and MW-3 at concentrations of 380 micrograms per liter (µg/L) and 320 µg/L, respectively. Benzene was detected above the laboratory MRL in Well MW-2 at a concentration of 2 µg/L. MTBE was detected above the laboratory MRL in Wells MW-1 through MW-5 at concentrations ranging from 17 µg/L in Well MW-3 to 460 µg/L in Well MW-4. There is insufficient historical groundwater data to determine a trend in concentrations. The site will continue to be monitored and sampled on a quarterly basis.

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 8.72 feet below the top of casing (TOC) in Well MW-5 to 12.58 feet below TOC in Well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

August 7, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Mike Noll
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for September 2006.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Environmental Consultants, Inc.

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Laurey Cook, Oregon DEQ-NW Region, 1550 NW Eastman Pkwy, Ste.290, Gresham, OR 97030
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - BTEX, MTBE, NAPHTHALENE, AND TPH-G
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	03/08/06	8.40	0.00	91.60	<0.5	<0.7	<0.8	<1.6	48	<1	<48
	06/28/06	**10.59**	0.00	**89.41**	**2**	**<0.7**	**2**	**1**	**410**	**-**	**380**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	03/08/06	12.74	0.00	86.53	<0.5	0.7	6	16	13	1	<48
	06/28/06	**12.58**	0.00	**86.69**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**63**	**-**	**<48**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	03/08/06	8.51	0.00	90.02	<0.5	<0.7	<0.8	<1.6	210	<1	540
	06/28/06	**9.58**	0.00	**88.95**	**<0.5**	**<0.7**	**0.9**	**6**	**17**	**-**	**320**
MW-4	**06/28/06**	**9.78**	0.00	**90.33**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**460**	**-**	**<48**
100.11											
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	03/08/06	7.74	0.00	91.33	49	0.8	33	41	18	7	<48
	06/28/06	**8.72**	0.00	**90.35**	**<0.5**	**<0.7**	**<0.8**	**<0.8**	**82**	**-**	**<48**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
- = Not sampled, not analyzed or not applicable.
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	<1	<1	3	8	14	4
	06/28/06	-	-	-	-	-	-
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	<1	<1	<1	<1	<1	<1
	06/28/06	-	-	-	-	-	-
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	<1	<1	52	120	44	8
	06/28/06	-	-	-	-	-	-

Notes:
- = Not sampled, not analyzed or not applicable.
µg/L = micrograms per liter
EDB = ethylene dibromide
EDC = ethylene dichloride
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

TABLE 3

SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT

ConocoPhillips Site No. 4745

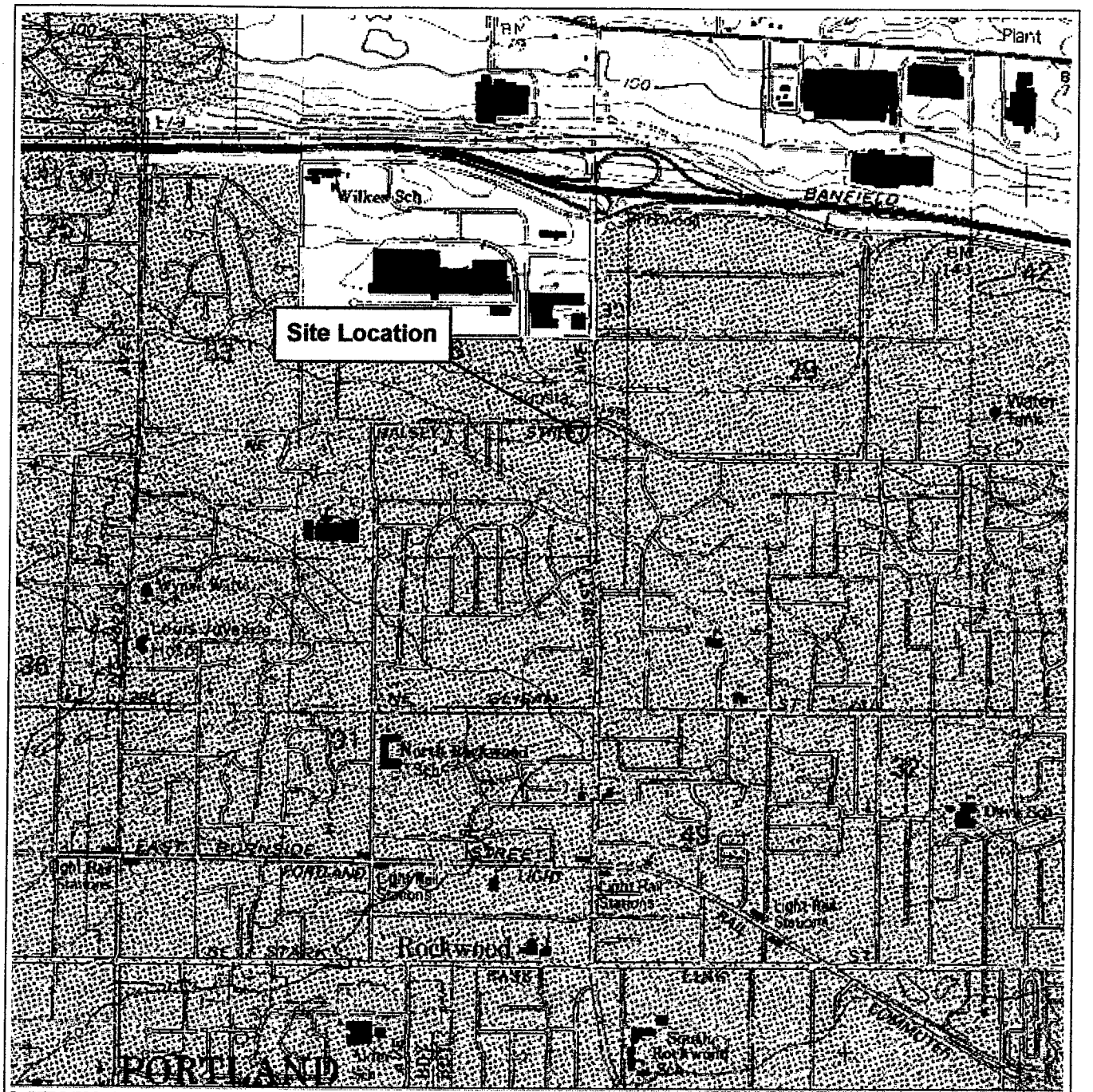
1545 NE 181st Avenue

Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	NE	0.10
06/28/06	**NE**	**0.04**

Notes

ft/ft = feet per foot


Site Location
Plant
Wilkes Sch.
BANFIELD
Water Tank
Louis Juvenile Hosp.
North Parkrose Sch.
Dent Sch.
EAST BURNSIDE
Light Rail Stations
Rockwood
PORTLAND
Sandy Blvd
NE 181st
NE 162nd
NE 122nd
NE 82nd
NE 60th
NE 47th
NE 33rd
NE 28th
NE 21st
NE 12th
NE 7th
NE 2nd
SE 7th
SE 12th
SE 21st
SE 26th
SE 33rd
SE 39th
SE 47th
SE 52nd
SE 60th
SE 67th
SE 72nd
SE 82nd
SE 92nd
SE 102nd
SE 112th
SE 122nd
SE 130th
SE 136th
SE 142nd
SE 148th
SE 152nd
SE 162nd
SE 172nd
SE 181st
SE 190th
SE 202nd
SE 212th
SE 222nd
SE 232nd
SE 242nd
SE 252nd
SE 262nd
SE 272nd
SE 282nd
SE 292nd
SE 302nd
SE 312th
SE 322nd
SE 332nd
SE 342nd
SE 352nd
SE 362nd
SE 372nd
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SE 472nd
SE 482nd
SE 492nd
SE

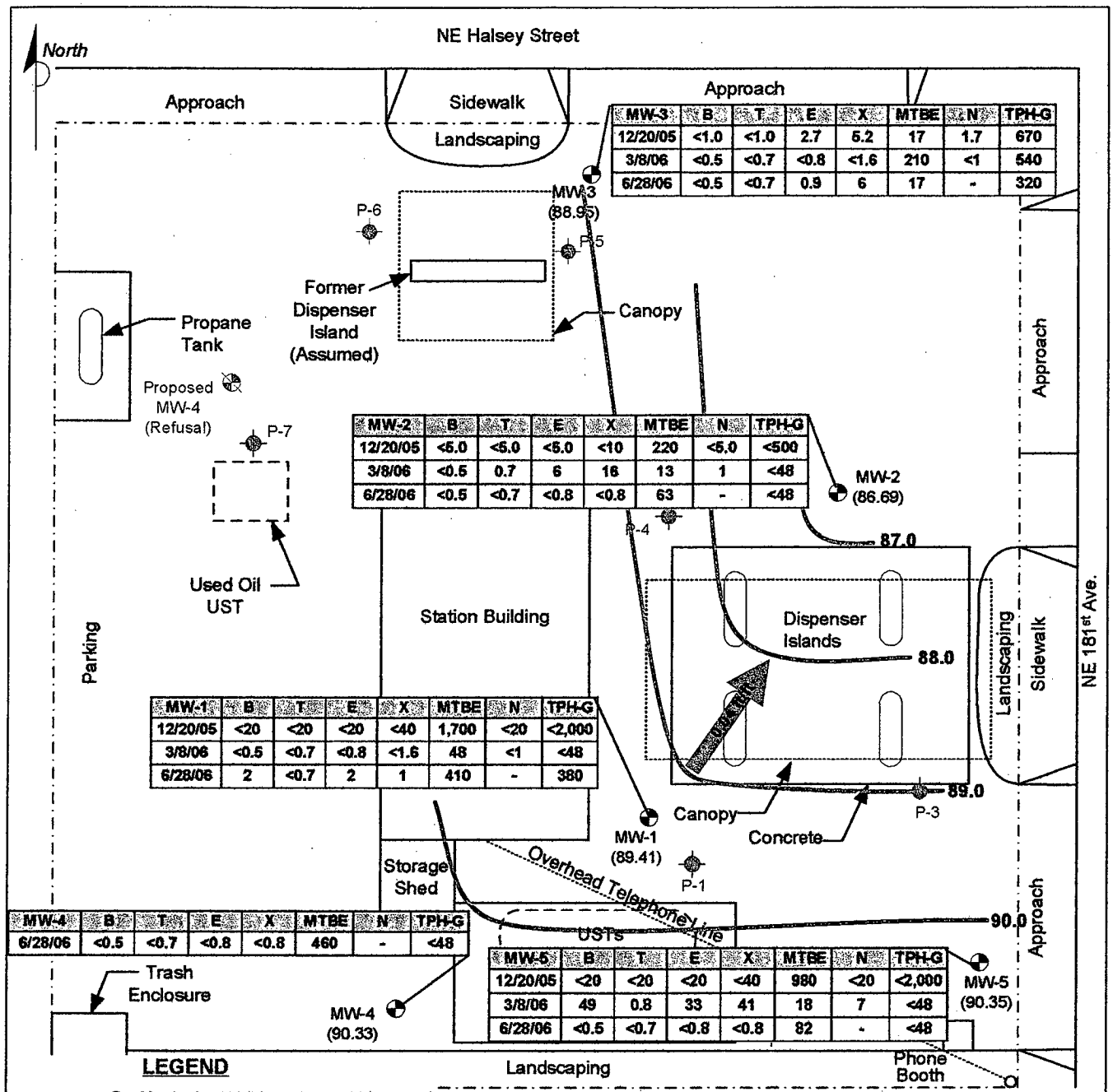


FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 7/26/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

206-706-2341

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 995894. Samples arrived at the laboratory on Saturday, July 01, 2006. The PO# for this group is 4506513508 and the release number is ECKERT.

Client Description	Lancaster Labs Number
MW-1 Grab Water Sample	4807247
MW-2 Grab Water Sample	4807248
MW-3 Grab Water Sample	4807249
MW-4 Grab Water Sample	4807250
MW-5 Grab Water Sample	4807251

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Susan M Goshert

Susan M. Goshert
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4807247

MW-1 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:06/28/2006 12:25 by KM

Account Number: 11856

Submitted: 07/01/2006 10:25
Reported: 07/25/2006 at 19:49
Discard: 08/25/2006

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

PORT1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	380.	48.	ug/l	1
	The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 7.					
02300	UST-Unleaded Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	410.	0.5	ug/l	1
05401	Benzene	71-43-2	2.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	2.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	1.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/07/2006 09:17	Steven A Skiles	1
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	07/07/2006 23:58	Kelly E Brickley	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/07/2006 09:17	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/07/2006 23:58	Kelly E Brickley	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4807248

MW-2 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:06/28/2006 12:45 by KM

Account Number: 11856

Submitted: 07/01/2006 10:25
Reported: 07/25/2006 at 19:49
Discard: 08/25/2006

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

PORT2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	UST-Unleaded Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	63.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/07/2006 09:49	Steven A Skiles	1
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	07/08/2006 00:25	Kelly E Brickley	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/07/2006 09:49	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/08/2006 00:25	Kelly E Brickley	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4807249

MW-3 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:06/28/2006 12:55 by KM

Account Number: 11856

Submitted: 07/01/2006 10:25
Reported: 07/25/2006 at 19:49
Discard: 08/25/2006

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

PORT3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	320.	48.	ug/l	1
	The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 7.					
02300	UST-Unleaded Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	17.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	0.9	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	6.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/07/2006 10:22	Steven A Skiles	1
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	07/08/2006 00:52	Kelly E Brickley	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/07/2006 10:22	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/08/2006 00:52	Kelly E Brickley	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4807250

MW-4 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:06/28/2006 13:15 by KM

Account Number: 11856

Submitted: 07/01/2006 10:25
Reported: 07/25/2006 at 19:49
Discard: 08/25/2006

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

PORT4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
02300	UST-Unleaded Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	460.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/07/2006 10:55	Steven A Skiles	1
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	07/08/2006 01:18	Kelly E Brickley	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/07/2006 10:55	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/08/2006 01:18	Kelly E Brickley	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4807251

MW-5 Grab Water Sample
Site# 4745
1545 NE 181st Ave.-Portland, OR
Collected:06/28/2006 12:35 by KM

Account Number: 11856

Submitted: 07/01/2006 10:25
Reported: 07/25/2006 at 19:49
Discard: 08/25/2006

ConocoPhillips
19909 120th Avenue NE
Suite 101
Bothell WA 98011

PORT5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
	The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 7.					
02300	UST-Unleaded Waters by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	82.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	07/07/2006 11:28	Steven A Skiles	1
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	1	07/08/2006 01:45	Kelly E Brickley	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/07/2006 11:28	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	07/08/2006 01:45	Kelly E Brickley	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips Group Number: 995894
Reported: 07/25/06 at 07:50 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 06187A07B	Sample number(s): 4807247-4807251							
TPH by NWTPH-Gx waters	N.D.	48.	ug/l	95	93	70-130	2	30
Batch number: P061881AA	Sample number(s): 4807247-4807251							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	93		73-119		
Benzene	N.D.	0.5	ug/l	94		85-117		
Toluene	N.D.	0.7	ug/l	89		85-115		
Ethylbenzene	N.D.	0.8	ug/l	87		82-119		
Xylene (Total)	N.D.	0.8	ug/l	89		83-113		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 06187A07B	Sample number(s): 4807247-4807251 UNSPK: P801667								
TPH by NWTPH-Gx waters	60*		63-154						
Batch number: P061881AA	Sample number(s): 4807247-4807251 UNSPK: P805172								
Methyl Tertiary Butyl Ether	96	93	69-127	3	30				
Benzene	100	98	83-128	2	30				
Toluene	98	94	83-127	4	30				
Ethylbenzene	96	92	82-129	5	30				
Xylene (Total)	96	93	82-130	3	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 06187A07B

	Trifluorotoluene-F
4807247	96
4807248	88
4807249	93
4807250	84
4807251	86
Blank	86

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: ConocoPhillips Group Number: 995894
Reported: 07/25/06 at 07:50 PM

Surrogate Quality Control

LCS	95
LCSD	92
MS	89
Limits:	63-135

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: P061881AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4807247	86	85	88	88
4807248	87	86	87	88
4807249	86	85	87	88
4807250	86	85	87	87
4807251	86	85	87	87
Blank	87	87	87	87
LCS	86	87	86	87
MS	87	85	87	87
MSD	87	87	87	89
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

002121

For Lancaster Laboratories use only
Acct. #: 11856 Group #: 995941 Sample #: 4807247-51

SCR#:

Site #: OR 64745 WNO #: 4702.01
Site Address: 1545 NE 181st Ave, Portland, OR
ConocoPhillips PM: M. Cramer Company Code:
Core Work Order#: 4745DEL002 Total Lab Budget: $2000
Consultant/Office: Delta Tigard
Consultant Prj. Mgr: Brian Pletcher
Consultant Phone #: 503-639-8098 Fax #: -7619
Sampler: Katy McQuinn

Matrix: ☐ Potable ☐ NPDES; Soil, Water, Oil ☐ Air ☐

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes: H, H

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	NWTPH-G	BTEX/MTBE (EPA 8260B)	Remarks
MW-1	6/28/06	1225				X			X	X	4 VOAs
MW-2	"	1245				X			X	X	"
MW-3	"	1255				X			X	X	"
MW-4	"	1315				X			X	X	"
MW-5	6/28/06	1235				X			X	X	"

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Turnaround Time Requested in Business Days (TAT) (please circle):
STD. TAT 5 day 48 hour
24 hour other

Reporting Requirements (please circle)
NJ Reduced NY ASP Cat. A Raw Data Diskette
NY ASP Cat. B Full Type I Other

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6/30	0800			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
				7/1/06	1025

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature Upon Receipt 2.6 C°

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Site No. / Job No.: OR 00445

Location: 1545 NE 181st Ave, PDX, OR

Delta Personnel: KCM

Date/Time: 6/28/06 1045-1355

Delta Environmental Consultants, Inc.

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5		
DTW	10.59	12.58	9.58	9.78	8.72		
SPH Thickness	—	—	—	—	—		
Total Depth	19.62	19.98	19.81	19.50	13.94		
Well Diameter	2"	2"	2"	2"	2"		
Purge Volume (3 Casing Volumes)	2.98	3.60	5.06	4.81	2.58		
Actual Purge Volume	3.0	4.0	5.5	no purge- developed with sub-pump	2.75		
Purge Method	lt-pump	lt pump	lt pump		lt-pump		
Sample Time	1225	1245	1255	1315	1235		

Field Measurements: (If Applicable)

pH							
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS							
ORP							
Alkalinity							
Ferrous Iron							
Comments	Slight ODOR	OK	ODOR		OK		

Remedial System (Y/N)? _____ Comments: _____

Operational Upon Arrival (Y/N)? _____ Comments: _____

Shut Down System 1 / 24 hours before DTW (Y/N)? _____ Time: _____

Re-Start System (Y/N)? _____

Purge Water Disposal (Y/N)? _____ Date: _____ Location: _____

Delta Environmental Consultants, Inc.

(if found, please call 1-800-888-1331)

Fieldwork Daily Log

Site number (s/s): 4745 GP

Project number: OR 04745

Location (City, State): PDX, OR

Date: 6/28/06

Page: 1 of 1

Check in with site manager (time):

Recorded by:

Site map (measurements and sampling):

Conduct tailgate safety meeting & sign acknowledgement KEM

Fieldwork Assignment: Survey & develop MW-4
Quarterly GWM
pump Decon drum

Time	Activity Description
1100	MW-4 TD: 19.50 1 PV = 1.60 gal
	DTW: 9.78 10 PV = 16.0 gal
	developed until water ran nearly clear - .32 gal.
	MW-1 MW-2 MW-4 MW-5
1320	
1st survey	survey equip not working - call to John @ Geoline to confirm - retrieving laser level
1355	buttoning wells - depart site

Remaining scope:

Equipment used:

Waste (volume): Waste (disposal):

Starting mileage: Ending mileage: Total mileage:

Attachments: COC: Other:

Reviewed by:

Oregon
Theodore R. Kulongoski, Governor

Department Of Environmental Quality
Northwest Region - East Side Office
1550 NW Eastman Parkway, Suite 290
Gresham, Oregon 97030
(503) 667-8414
Fax: (503) 674-5148

May 24, 2006

MARTIN CRAMER
CONOCOPHILLIPS CORPORATION
5528 SW DOANE AVENUE
PORTLAND, OREGON 97210

Re: ConocoPhillips 4745
UST Cleanup File No. 26-05-0199
UST Facility ID No. 1010

Dear Mr.Cramer:

The purpose of this letter is to inform you that I have been assigned as project manager and have begun a file review of your underground storage tank (UST) cleanup site located at 1545 NE 181st Avenue, in Gresham, Oregon. This included a review of the *Subsurface Investigation Report* dated February 21, 2005, and subsequent monitoring well installation and quarterly monitoring reports.

On February 10, 2005, the Department of Environmental Quality (DEQ) sent you a letter with an attached Cost Recovery Agreement (CRA) form. I am sending you another copy of the CRA form, and encourage you to complete the form. By law DEQ is required to recover project oversight costs. To maintain oversight, the DEQ requests that you complete the enclosed form.

Thank you for your work at the site. If there are any questions, please feel free to call me in the Northwest Region Eastside office in Gresham at 503-667-8414 extension 55007

Sincerely,

Laurey Cook

Laurey Cook, Natural Resource Specialist
UST Cleanup and Compliance Section
NWR Tank Program

llc:LLC

cc: Brian Pletcher
Senior Project Geologist
Delta Environmental Consultants, Inc.
7150 SW Hampton, Suite 220
Tigard, Oregon 97223

Delta
Environmental Consultants, Inc.

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7150 SW Hampton • Suite 220
Tigard, Oregon 97223 USA

503.639.8098 800.477.7411
Fax 503.639.7619

LETTER OF TRANSMITTAL

To:	Mr. Martin Cramer	**From:**	Brian Pletcher
Company:	ConocoPhillips Corporation 5528 SW Doane Avenue Portland, OR 97210	**Date:**	March 27, 2006
Re:	1Q06 GW Monitoring Report	**Site No.:** **DEQ File No. 26-05-0199**	ConocoPhillips 4745

Copies of the above-referenced groundwater monitoring report will be forwarded to the parties noted below under cc.

Thank you for the opportunity to perform this work for you. Please feel free to call (503) 639-8098 with any questions or comments.

cc: Ms. Stephanie Rawson, Oregon DEQ-Northwest Region, Portland, OR
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste.700, Los Angeles, CA 90025

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Inogen® Environmental Alliance

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT

March 27, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Martin Cramer
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

WORK PERFORMED THIS QUARTER [1Q06]

- Groundwater monitoring and sampling on March 8, 2006.

WORK PROPOSED FOR NEXT QUARTER [2Q06]

- Continue groundwater monitoring and sampling.

SUMMARY

Current Phase:	Groundwater Monitoring	
Frequency of Monitoring Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	7.74 to 12.74	(Feet below TOC)
Groundwater Gradient:	Northeast	(Direction)
	0.1	(ft/ft)
Maximum Benzene Concentration:	540	(µg/L)
Measurable Free Product Detected:	No	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Not Applicable	(tons)
Water Wells or Surface Waters within a 2000' Radius and Respective Direction:	Not Applicable	(Distance and Direction)
Current Remedial Action:	Not Applicable	(SVE/AS/P&T/DVE/ Product Removal/Bio/etc.)
Permits for Discharge:	Not Applicable	(NPDES, POTW, etc.)

DISCUSSION:

Groundwater field activities conducted on March 8, 2006 included measuring the water levels in monitoring wells MW-1 through MW-3 and MW-5. Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Monitoring wells MW-1 through MW-3 and MW-5 were purged using a centrifugal pump with dedicated tubing or new disposable bailers. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. A total volume of approximately 22 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

March 27, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Martin Cramer
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

After purging each monitoring well, groundwater samples were collected using new disposable bailers. The water samples were placed in laboratory-prepared containers provided by Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. Each sample was appropriately labeled so as to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to Lancaster on March 10, 2006. Water samples collected from Wells MW-1 through MW-3 and MW-5 were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene (RBCA List) using EPA Method 8260B, and TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.

TPH-G was detected above the laboratory method reporting limits (MRLs) in Well MW-3 at a concentration of 540 micrograms per liter (µg/L). Benzene was detected above the laboratory MRL in Well MW-5 at a concentration of 49 µg/L. Concentrations of toluene, ethylbenzene, and total xylenes were detected in Wells MW-2 and MW-5 at maximum concentrations of 0.8 µg/L toluene (MW-5), 33 µg/L ethylbenzene (MW-5), and 41 µg/L total xylenes (MW-5). MTBE was detected above the laboratory MRL in Wells MW-1, MW-2, MW-3, and MW-5 at concentrations ranging from 13 µg/L in Well MW-2 to 210 µg/L in Well MW-3. Naphthalene was detected above the laboratory MRL in Wells MW-2 and MW-5 at concentrations of 1 µg/L and 7 µg/L, respectively. EDB and EDC were not detected above the laboratory MRLs in any of the wells sampled. Additional RBCA volatiles, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene were detected above the laboratory MRLs in Wells MW-2 and MW-5, with maximum concentrations detected in Well MW-5. Isopropylbenzene was detected above the laboratory MRL in Wells MW-2 and MW-5 at concentrations of 3 µg/L and 52 µg/L, respectively. N-propylbenzene was detected above the laboratory MRL in Wells MW-2 and MW-5 at concentrations of 8 µg/L and 120 µg/L, respectively. 1,2,4-trimethylbenzene was detected above the laboratory MRL in Wells MW-2 and MW-5 at concentrations of 14 µg/L and 44 µg/L, respectively. 1,3,5-trimethylbenzene was detected above the laboratory MRL in Wells MW-2 and MW-5 at concentrations of 4 µg/L and 8 µg/L, respectively. MTBE concentrations decreased in Well MW-1 and MW-2 and increased in Well MW-3 relative to results from the previous sampling event. There is insufficient historical groundwater data to determine a trend in concentrations. The site will continue to be monitored and sampled on a quarterly basis.

CONOCOPHILLIPS COMPANY
GROUNDWATER MONITORING REPORT
(CONTINUED)

March 27, 2006

Site No.: 4745 Site Address: 1545 NE 181st Avenue, Portland, Oregon
ConocoPhillips Project Manager: Martin Cramer
Consultant/Contact Person: Delta Environmental Consultants, Inc./Brian Pletcher
Primary Agency/Regulatory ID No.: Oregon DEQ Northwest Region/**DEQ File No. 26-05-0199**

DISCUSSION (Continued):

A summary of the laboratory analytical results is presented in Tables 1 and 2. A site location map is presented as Figure 1. A groundwater elevation contour map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 2.

Free product was not observed in any of the site wells during free product monitoring conducted during this quarter. Depth to water in the monitoring wells during this groundwater monitoring event ranged from 7.74 feet below the top of casing (TOC) in Well MW-5 to 12.74 feet below TOC in Well MW-2. The approximate groundwater flow direction appears to be towards the northeast. Groundwater levels in the monitoring wells are consistent with previous monitoring events. A summary of the groundwater elevations is presented in Table 1 and Figure 2. A summary of historical groundwater flow direction and gradient at the site is presented in Table 3.

Based on a review of the laboratory reports, it appears that the submitted water samples were analyzed within the specified holding times, and that the appropriate quality assurance/quality control (QA/QC) procedures were followed during analysis. A copy of the laboratory reports and chain-of-custody documentation is attached.

The next groundwater monitoring event is tentatively scheduled for June 2006.

Delta appreciates the opportunity to perform environmental services for ConocoPhillips Company. Please call if you have any questions regarding the contents of this letter.

Sincerely:
Delta Environmental Consultants, Inc.

Cale R. Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Stephanie Rawson, Oregon DEQ-Northwest Region, Portland, Oregon,
Mr. Chris Pecoraro, Suncor, 11601 Wilshire Blvd., Ste. 700, Los Angeles, CA, 90025

ATTACHMENTS:

Table 1– Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, and TPH-G
Table 2 – Groundwater Analytical Results - Selected VOCs
Table 3 – Historical Groundwater Flow Direction and Gradient
Figure 1- Site Location Map
Figure 2 – Groundwater Elevation Contours and BTEX/MTBE/N/TPH-G Concentrations
Laboratory Analytical Report and Chain-of-Custody Documentation
Groundwater Sampling Procedures and Field Sheets

TABLE 1

GROUNDWATER ELEVATIO[redacted]ND ANALYTICAL RESULTS - BTEX, M[redacted]E, NAPHTHALENE, AND TPH-G

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-G (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<20	<20	<20	<40	1,700[1]	<20	<2,000
100.00	**03/08/06**	**8.40**	0.00	**91.60**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**48**	**<1**	**<48**
MW-2	12/20/05	13.44	0.00	85.83	<5.0	<5.0	<5.0	<10	220[1]	<5.0	<500
99.27	**03/08/06**	**12.74**	0.00	**86.53**	**<0.5**	**0.7**	**6**	**16**	**13**	**1**	**<48**
MW-3	12/20/05	9.18	0.00	89.35	<1.0	<1.0	2.7	5.2	17[1]	1.7	670
98.53	**03/08/06**	**8.51**	0.00	**90.02**	**<0.5**	**<0.7**	**<0.8**	**<1.6**	**210**	**<1**	**540**
MW-5	12/20/05	9.27	0.00	89.80	<20	<20	<20	<40	980[1]	<20	<2,000
99.07	**03/08/06**	**7.74**	0.00	**91.33**	**49**	**0.8**	**33**	**41**	**18**	**7**	**<48**

Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
Benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene analysis by EPA Method 8260B
TPH-G analysis by Northwest Method NWTPH-Gx

TABLE 2
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

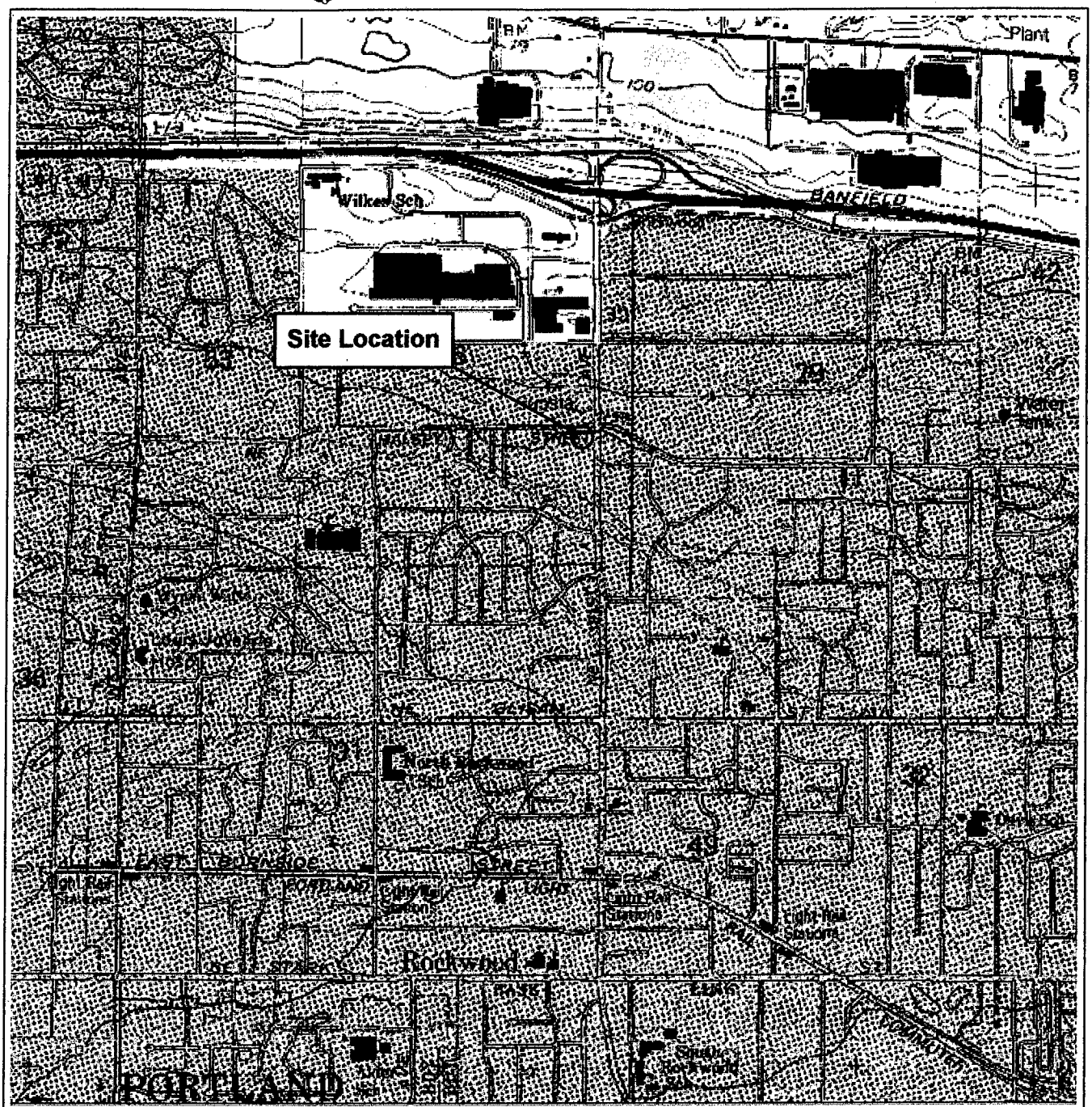
Well ID	Date Sampled	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,2,4-trimethyl-benzene (µg/L)	1,3,5-trimethyl-benzene (µg/L)
MW-1	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-2	12/20/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	03/08/06	**<1**	**<1**	**3**	**8**	**14**	**4**
MW-3	12/20/05	<1.0	<1.0	3.5	9.4	15	3.4
	03/08/06	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
MW-5	12/20/05	<20	<20	<20	<20	<20	<20
	03/08/06	**<1**	**<1**	**52**	**120**	**44**	**8**

Notes:
µg/L = micrograms per liter
EDB = ethylene dibromide
EDC = ethylene dichloride
EDB, EDC, iso-, and n-Propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene analysis by EPA Method 8260B

TABLE 3
SUMMARY OF HISTORICAL GROUNDWATER FLOW DIRECTION AND GRADIENT
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Date Sampled	Flow Direction	Average Gradient (ft/ft)
12/20/05	NE	0.07
03/08/06	**NE**	**0.10**

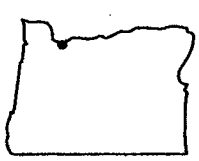
Notes
ft/ft = feet per foot



h, ME 04096 Source Data: USGS 750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000



QUADRANGLE LOCATION

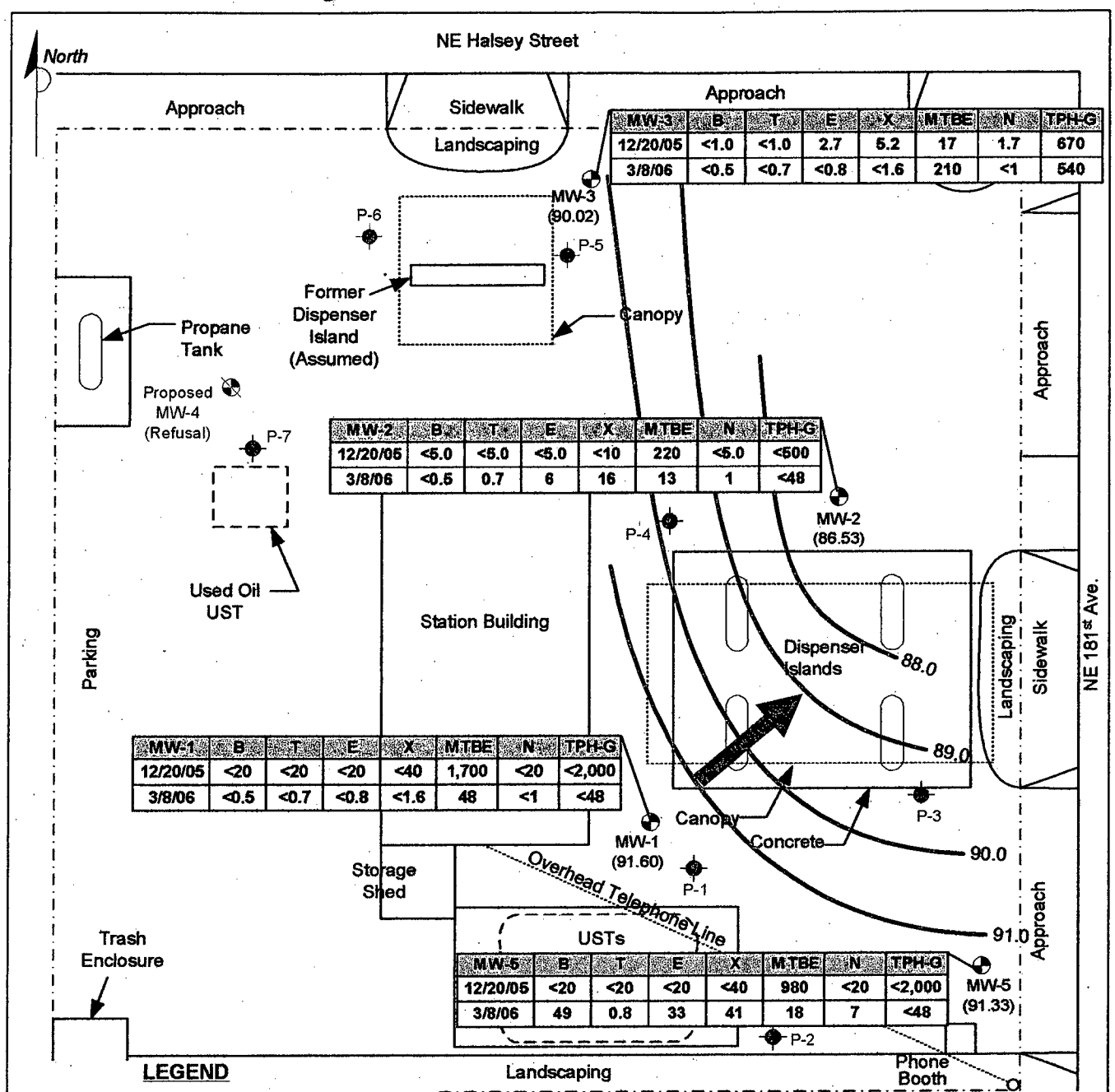
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 3/27/06
REVISION NO.	REVIEWED BY

Delta
Environmental
Consultants, Inc.



MW-3	B	T	E	X	MTBE	N	TPH-G
12/20/05	<1.0	<1.0	2.7	5.2	17	1.7	670
3/8/06	<0.5	<0.7	<0.8	<1.6	210	<1	540

MW-2	B	T	E	X	MTBE	N	TPH-G
12/20/05	<5.0	<5.0	<5.0	<10	220	<5.0	<500
3/8/06	<0.5	0.7	6	16	13	1	<48

MW-1	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	1,700	<20	<2,000
3/8/06	<0.5	<0.7	<0.8	<1.6	48	<1	<48

MW-5	B	T	E	X	MTBE	N	TPH-G
12/20/05	<20	<20	<20	<40	980	<20	<2,000
3/8/06	49	0.8	33	41	18	7	<48

LEGEND

- MW-1 — Monitoring Well Location and Identification
- P-1 — Soil Boring Location and Designation (1/11/05)
- (87.68) — Groundwater Elevation, Feet
- 90.0 — Groundwater Elevation Contour, Feet
- Approximate Groundwater Flow Direction and Gradient
- B — Benzene Concentration, micrograms per liter (µg/L)
- T — Toluene Concentration, µg/L
- E — Ethylbenzene Concentration, µg/L
- X — Total Xylenes Concentration, µg/L
- MTBE — Methly tert-Butyl Ether Concentration, µg/L
- N — Naphthalene Concentration, µg/L
- TPH-G — Total Petroleum Hydrocarbon as Gasoline

Groundwater Monitoring and Sampling Performed on March 8, 2006

0 20 FT

APPROX. SCALE

FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND BETX/N/TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 3/24/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

503-248-1517

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 981283. Samples arrived at the laboratory on Saturday, March 11, 2006. The PO# for this group is 4745DEL002 and the release number is CRAMER.

Client Description	Lancaster Labs Number
MW-1 Water Sample	4726588
MW-2 Water Sample	4726589
MW-3 Water Sample	4726590
MW-5 Water Sample	4726591

ELECTRONIC COPY TO Delta Environmental Attn: Brian Pletcher

Lancaster Laboratories

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Questions? Contact your Client Services Representative
Teresa L Cunningham at (717) 656-2300

Respectfully Submitted,

Valerie L. Tomayko
Group Leader

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4726588

MW-1 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected: 03/08/2006 13:00 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	48.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	03/16/2006 12:47	Linda C Pape	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	03/18/2006 01:40	Jason M Long	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	03/18/2006 01:40	Jason M Long	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/16/2006 12:47	Linda C Pape	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4726588

MW-1 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 13:00 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW1

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2006 01:40	Jason M Long	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4726589

MW-2 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 13:40 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	0.7	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	6.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	13.	0.8	ug/l	1
05417	o-Xylene	95-47-6	3.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	3.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	8.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	4.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	14.	1.	ug/l	1
05439	Naphthalene	91-20-3	1.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	13.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	03/16/2006 13:20	Linda C Pape	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	03/18/2006 02:03	Jason M Long	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	03/18/2006 02:03	Jason M Long	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/16/2006 13:20	Linda C Pape	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4726589

MW-2 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 13:40 by KM

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

Account Number: 11856

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW2

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2006 02:03	Jason M Long	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 4726590

MW-3 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 14:00 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	540.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	N.D.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	N.D.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	1.	ug/l	1
05439	Naphthalene	91-20-3	N.D.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	210.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	03/16/2006 14:59	Linda C Pape	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	03/18/2006 02:27	Jason M Long	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	03/18/2006 02:27	Jason M Long	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/16/2006 14:59	Linda C Pape	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4726590

MW-3 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 14:00 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW3

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2006 02:27	Jason M Long	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4726591

MW-5 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 13:20 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08273	TPH by NWTPH-Gx waters					
01645	TPH by NWTPH-Gx waters	n.a.	N.D.	48.	ug/l	1
05382	Volatiles by 8260 Full Scan					
05401	Benzene	71-43-2	49.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	1.	ug/l	1
05407	Toluene	108-88-3	0.8	0.7	ug/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	1.	ug/l	1
05415	Ethylbenzene	100-41-4	33.	0.8	ug/l	1
05416	m+p-Xylene	1330-20-7	41.	0.8	ug/l	1
05417	o-Xylene	95-47-6	N.D.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	52.	1.	ug/l	1
05424	n-Propylbenzene	103-65-1	120.	1.	ug/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	8.	1.	ug/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	44.	1.	ug/l	1
05439	Naphthalene	91-20-3	7.	1.	ug/l	1
08202	Volatiles 8260 full scan cont					
02010	Methyl Tertiary Butyl Ether	1634-04-4	18.	0.5	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08273	TPH by NWTPH-Gx waters	ECY 97-602 NWTPH-Gx modified	1	03/16/2006 15:32	Linda C Pape	1
05382	Volatiles by 8260 Full Scan	SW-846 8260B	1	03/18/2006 02:50	Jason M Long	1
08202	Volatiles 8260 full scan cont	SW-846 8260B	1	03/18/2006 02:50	Jason M Long	1
01146	GC VOA Water Prep	SW-846 5030B	1	03/16/2006 15:32	Linda C Pape	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

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Analysis Report

Lancaster Laboratories Sample No. WW 4726591

MW-5 Water Sample
Site# 4745
1545 NE 181st - Portland, OR
Collected:03/08/2006 13:20 by KM

Account Number: 11856

Submitted: 03/11/2006 10:45
Reported: 03/23/2006 at 13:22
Discard: 04/23/2006

ConocoPhillips
5528 NW Doane Avenue
Portland OR 97210

ORMW5

01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/18/2006 02:50	Jason M Long	1

#=Laboratory MethodDetection Limit exceeded target detection limit
N.D.=Not detected at or above the Reporting Limit

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips
Reported: 03/23/06 at 01:22 PM

Group Number: 981283

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 06074A51A	Sample number(s): 4726588-4726591							
TPH by NWTPH-Gx waters	N.D.	100.	ug/l	85	88	70-130	3	30
Batch number: W060762AB	Sample number(s): 4726588-4726591							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	101		73-119		
Benzene	N.D.	0.5	ug/l	107		85-117		
1,2-Dichloroethane	N.D.	1.	ug/l	113		77-132		
Toluene	N.D.	0.7	ug/l	102		85-115		
1,2-Dibromoethane	N.D.	1.	ug/l	89		81-114		
Ethylbenzene	N.D.	0.8	ug/l	103		82-119		
m+p-Xylene	N.D.	0.8	ug/l	100		83-113		
o-Xylene	N.D.	0.8	ug/l	100		83-113		
Isopropylbenzene	N.D.	1.	ug/l	103		80-120		
n-Propylbenzene	N.D.	1.	ug/l	98		78-119		
1,3,5-Trimethylbenzene	N.D.	1.	ug/l	97		78-116		
1,2,4-Trimethylbenzene	N.D.	1.	ug/l	98		78-117		
Naphthalene	N.D.	1.	ug/l	62		61-116		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 06074A51A	Sample number(s): 4726588-4726591 UNSPK: P726444								
TPH by NWTPH-Gx waters	98		63-154						
Batch number: W060762AB	Sample number(s): 4726588-4726591 UNSPK: P727797								
Methyl Tertiary Butyl Ether	99	99	69-127	0	30				
Benzene	118	120	83-128	1	30				
1,2-Dichloroethane	117	116	70-143	1	30				
Toluene	106	106	83-127	0	30				
1,2-Dibromoethane	87	87	78-120	1	30				
Ethylbenzene	123	122	82-129	0	30				
m+p-Xylene	97	96	82-130	0	30				
o-Xylene	103	103	82-130	0	30				
Isopropylbenzene	109	109	81-130	0	30				
n-Propylbenzene	106	107	74-138	1	30				
1,3,5-Trimethylbenzene	105	107	77-124	2	30				
1,2,4-Trimethylbenzene	113	114	80-125	0	30				
Naphthalene	62	65	50-124	5	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Analysis Report

Quality Control Summary

Client Name: ConocoPhillips
Reported: 03/23/06 at 01:22 PM

Group Number: 981283

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH by NWTPH-Gx waters
Batch number: 06074A51A

	Trifluorotoluene-F
4726588	99
4726589	104
4726590	106
4726591	106
Blank	108
LCS	109
LCSD	105
MS	106
Limits:	63-135

Analysis Name: EPA SW846/8260 (water)
Batch number: W060762AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4726588	92	84	85	87
4726589	92	82	84	89
4726590	91	83	85	87
4726591	89	82	85	89
Blank	92	84	85	87
LCS	93	82	86	91
MS	93	82	85	91
MSD	91	82	86	91
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

ConocoPhillips Analysis Request/Chain of Custody

Lancaster Laboratories

001096

Acct. #: 11856 For Lancaster Laboratories use only Group # 981288 Sample #: 472658-91

SCR#: 25256

Site #: OR 4745 WNO #: 4702.01

Site Address: 1545 NE. 181st, Portland, OR

ConocoPhillips PM: M. Cramer Company Code:

Core Work Order#: 4745D02002 Total Lab Budget: $2000

Consultant/Office: Delta Tigard

Consultant Prj. Mgr: Brian Pletcher

Consultant Phone #: 503.639.8098 Fax #: 639.7619

Sampler K. McQuinn

Analyses Requested — List total number of containers in the box under each analysis.

Preservation Codes

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Oil	Air	#	NW TPH-Gx	BTEX, MTBE, naphthalene,	EDB, isopropyl benzene, EDC*	n-propyl benzene,	1,2,4- and 1,3,5-	trimethyl benzene	by EPA 8260B
MW-1	3/8/06	1300				X				X						V
MW-2	"	1340				X				X						V
MW-3	"	1400				X				X						V
MW-5	"	1320				X				X						V

Potable ☐ NPDES ☐

Preservative Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, O = Other

* EDC added to list per Brian Pletcher kaw1885, 3/14/06

Remarks: 4 VOAs; "; "; "

Turnaround Time Requested in Business Days (TAT) (please circle):

STD. TAT 5 day 48 hour 24 hour other

Reporting Requirements (please circle)

NJ Reduced NY ASP Cat. A Raw Data Diskette

NY ASP Cat. B Full Type I Other

Relinquished by:	Date	Time	Received by:	Date	Time
K. McQuinn	3-20-06	0745	KMcQuinn	3/21	900
KMcQuinn	3/10	1630			

Relinquished by Commercial Carrier: UPS ____ FedEx ✓ Other ____

Temperature Upon Receipt 5.5° C°

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

4531.01

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

GROUNDWATER SAMPLING PROCEDURES AND FIELD SHEETS

Quarterly Groundwater Sampling
ConocoPhillips Site No. 4745

Groundwater Monitoring and Sampling

Before the sampling event, Delta measured depth to water in each groundwater monitoring well at the facility with a Heron® Electronic Oil/Water Level Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. Wells were sampled after purging three casing volumes of water from the well (or until dry). After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

Groundwater Sampling Field Sheet

Site No. / Job No.: OR Ø 474

Location: 1545 NE 181st Ave, Portland, OR

Delta Personnel: KCM

Date/Time: 3/8/06 1215 - 1415

Delta Environmental Consultants, Inc.

Well ID	MW-1	MW-2	MW-3	MW-5			
DTW	8.40	12.74	8.51	7.74			
SPH Thickness	—	—	—	—			
Total Depth	19.62	19.98	19.81	13.94			
Well Diameter	2"	2"	2"	2"			
Purge Volume (3 Casing Volumes)	5.49	3.54	5.53	3.03			
Actual Purge Volume	6.50	3.75	8.00	3.25			
Purge Method	H pump	bailer	h-pump	bailer			
Sample Time	1300	1340	1400	1320			

Field Measurements: (If Applicable)

pH	turbid -	clear	turbid	turbid			
Conductivity	moderately	purge	purge -	purge			
Turbidity	turbid		purged	2nd			
DO	purge &		extra	sample			
Temperature	sample		to mod-				
Salinity			erately				
TDS		-	turbid				
ORP							
Alkalinity							
Ferrous Iron							
Comments	OK	OK	ODOR	OK			

Remedial System (Y/N)? N Comments:

Operational Upon Arrival (Y/N)? Comments:

Shut Down System 1 / 24 hours before DTW (Y/N)? Time:

Re-Start System (Y/N)?

Purge Water Disposal (Y/N)? Date: Location:

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503.639.8098 800.477.7411
Fax 503.639.7619

February 13, 2006

Mr. Martin Cramer
ConocoPhillips Company
5528 NW Doane Avenue
Portland, OR 97210

RE: Monitoring Well Installation Report
ConocoPhillips Service Station No. 4745
1545 NE 181st Avenue
Portland, Oregon
Project No. OR04-745-2

Dear Mr. Cramer:

Delta Environmental Consultants (Delta), on behalf on ConocoPhillips Company (COP) has prepared this report summarizing the environmental assessment for the ConocoPhillips Site No. 4745 located at 1545 NE 181st Avenue in Portland, Oregon. The purpose of this work was to provide further on-site soil and groundwater assessment with respect to potential petroleum hydrocarbon impact associated with site activities at ConocoPhillips Service Station No. 4745.

SITE DESCRIPTION

ConocoPhillips Site No. 4745 (Site) is an operating 76-branded service station located on the southwest corner of the intersection of NE 181st Avenue and NE Halsey Street in Portland, Oregon (Figure 1). Current site features include a station building, two 12,000-gallon gasoline underground storage tanks (USTs), one used-oil UST, one former dispenser island canopy and two dispenser islands. The Site is primarily covered with concrete and asphalt pavement.

SITE VICINITY

The Site is bordered to the north by NE Halsey Street, beyond which is a vacant ARCO branded retail fuel service station, to the east by NE 181st Avenue, beyond which is a restaurant (Jung's Dynasty), to the south by a restaurant (Wendy's); and to the west by a Safeway grocery store.

The nearest surface water body is a canal, located approximately 1.0 mile north of the Site, which appears to drain Fairview Lake, located approximately 1.5 miles northeast of the Site.

RECEIVED
FEB 16 2006
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

A member of:
Inogen Environmental Alliance

Overview 2/17/06

- Site is UNassigned, NO CRA
- 5/05 options letter sent, either submit CRA or perform WORK W/O DEB oversight
- Canal located ~1 mi to the N which drains into Fairview Lake located ~1.5 mi NE
- GW detections: Gx upto 670 ppb, MTBE upto 1,700ppb 1,2,4 TMB 3.4 ppb, 135 TMB 15 ppb, N 1.7 ppb, IPB 3.5 ppb
- Detections above generic RBCs for Residential (some)
- NO CSM NOR request for closure
- Soil detections below generic RBCs
- Facility ID# 1010
- Site Ranked but NOT high environmental priority

Should site be assigned OR at least comments Re: Report? No, unless NJ ask for CE MH 4/17

2005 8 1 859

PREVIOUS INVESTIGATION

On January 11, 2005 Delta supervised the completion of seven on-site soil borings (P-1 through P-7) near the dispenser islands, current USTs, former dispenser island, and used oil UST to assess petroleum hydrocarbons in the site soil and groundwater.

TPH-G in soil was detected in soil sample (P-7-11) at a concentration of 7.68 mg/kg from soil boring location P-7, located near the present used-oil UST. 1,2,4-trimethylbenzene was detected in soil sample P-5-11 at a concentration of 0.0776 mg/kg from boring location P-5, located near the former dispenser island. Petroleum hydrocarbons were not detected above the laboratory MRLs in all other soil samples submitted for analysis from soil boring locations P-1 through P-6.

Groundwater was encountered in three of the seven boring locations (P-1, P-2, and P-6). TPH-G, BTEX, MTBE, naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-1, located near the present fuel USTs. TPH-G, ethylbenzene, MTBE, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-2, located immediately east of the present fuel USTs. MTBE was detected above the laboratory MRL in sample P-6, located immediately west of the former dispenser island. EDB and EDC were not detected above the laboratory MRLs in any of the groundwater samples submitted for analysis from boring locations P-1, P-2, and P-7.

On February 7, 2005, evidence of a potential release to the subsurface from an underground storage tank system was reported to the Oregon DEQ. The DEQ assigned the site DEQ File No. 626-05-0199.

SITE HEALTH AND SAFETY

A project-specific health and safety plan (HASP) was prepared in accordance with 29 CFR 1910.120 for field activities at the subject site. The HASP identified potential physical and chemical hazards associated with the proposed field activities and specified personal protection and safety monitoring requirements. The HASP was reviewed and signed by Delta and Contractor personnel prior to beginning work at the site. The HASP was available on site at all times during the field activities. Copies of the HASP daily safety meeting signature pages, and air monitoring log are provided in Attachment A. Delta requested a site utility marking by One-Call Utilities Notification and a private utility locator was contracted to assist in locating the subsurface features and the utilities in the area of the proposed drilling.

The boring locations for MW-1 through MW-5 were vacuum-cleared (air-knifed) to 5 feet below ground surface (bgs) for utility clearance by the drilling contractor, Cascade Drilling, Inc. (Cascade) of Portland, Oregon.

SCOPE OF WORK

On December 6, 2005, Delta supervised the drilling and installation of four of five onsite groundwater monitoring wells (MW-1 through MW-3, and MW-5). Due to time constraints, Well MW-4 was not installed the same day. Delta returned with Cascade on December 12, 2005 to complete boring and well installation activities for Well MW-4. However, refusal was encountered at 5.5 feet below ground surface (bgs) and the boring location was abandoned by backfilling with hydrated bentonite chips to 1.5 feet bgs and completed to surface with concrete. Well MW-4 installation activities have been

postponed pending soil and groundwater results from Wells MW-1 through MW-3, and MW-5. The location of Wells MW-1 through MW-3, and MW-5, and abandoned location of proposed Well MW-4 are illustrated on Figure 2.

WELL INSTALLATION

Monitoring well installation was completed by Cascade, using a truck-mounted drill rig with 10 ¼-inch nominal outside diameter hollow-stem auger drilling equipment. Monitoring wells MW-1 through MW-3 were completed to a depth of 20 feet bgs. Monitoring well MW-5 was completed to a depth of 14 feet bgs due to boring refusal at 14 feet bgs. Wells MW-1 through MW-3, and MW-5 were constructed with two-inch diameter Schedule 40 PVC casing, with a screened interval from 5 to 20 feet bgs in Wells MW-1 through MW-3, and a screened interval of 5 to 14 feet bgs in Well MW-5. All wells were constructed using 0.010-inch machine-slotted PVC, followed by blank riser well casing to approximately three inches bgs. Silica sand was used to fill the annular space around the screened interval to 1.0 feet above the well screen. Hydrated bentonite chips were used to fill the annular space to within approximately one foot of ground surface, and the wells were completed to surface with a traffic-rated, flush-mounted well monument set with concrete. Following well completion, Wells MW-1 through MW-3, and MW-5 were developed using a combination of surging and bailing to remove fine-grained material and drilling fluid from the vicinity of the well screen and to improve groundwater flow into the well. The top of casing elevations were surveyed by Delta relative to an arbitrary datum.

SUBSURFACE CONDITIONS

Soils encountered during this investigation generally consisted of brown silty sand with gravel to approximately 6 feet bgs, brown silty sand with cobbles from approximately 6 feet bgs to approximately 15 feet bgs, followed by brown silty sand with gravel to the total depth explored. Groundwater was initially encountered at approximately 10 to 11 feet bgs during boring advancements. Static groundwater, measured on December 20, 2005 ranged from 9.18 feet below the top of casing (TOC) in Well MW-3 to 13.44 feet below TOC in Well MW-2.

SOIL SAMPLING

Soil samples were collected at 5-foot intervals between 5 and 20 feet bgs in accordance with OAR 340-122-0218. Soil samples for logging and chemical analyses were collected utilizing a standard split-spoon sampler driven into undisturbed formation materials. The soils encountered were logged by a Delta field technician working under the supervision of a state-registered geologist using ASTM D 2488, titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Field observations, including soil color, odor, and photoionization detector (PID) readings, were recorded on the boring logs. Field procedures, field sheets, and boring and well construction logs are included in Attachment B.

SOIL SAMPLE SELECTION AND ANALYSIS

Six soil samples were submitted for laboratory analyses. A minimum of one soil sample was submitted for analyses from each boring. Selected soil samples were submitted based on their close proximity to the water table. Soil samples submitted for analyses were identified as MW-1-5, MW-1-10, MW-2-10, MW-3-10, MW-5-5, and MW-5-10. No visual, olfactory, or PID indications of contamination were recorded for any of the soil samples collected. Soil samples were submitted to Severn Trent

Laboratories, Inc. (STL) in Tacoma, Washington for quantitative chemical analyses. Laboratory analytical reports and chain-of-custody documentation are included in Attachment C.

Selected soil samples were submitted for the following laboratory analyses:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-G) using Northwest Method NWTPH-Gx,
- Benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl tert-Butyl ether (MTBE), naphthalene, ethylene dichloride (EDC), ethylene dibromide (EDB), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene and n-propylbenzene (Oregon Risk-Based Decision Making (RBDM) List) using EPA Method 8260, and
- Total Lead using EPA Method 6010.

SOIL SAMPLE ANALYTICAL RESULTS

TPH-G was detected above the laboratory method reporting limit (MRL) at a concentration of 61.5 milligrams per kilogram (mg/kg) in soil sample MW-2-10, collected at a depth of 10 feet bgs. MTBE was detected above the laboratory MRL at a concentration of 0.148 mg/kg in soil sample MW-1-10, collected at a depth of 10 feet bgs. Lead was detected above the laboratory MRL in all soil samples submitted for analysis, with concentrations ranging from 2.14 mg/kg in soil sample MW-3-10 to 7.95 mg/kg in soil sample MW-2-10. Petroleum hydrocarbons, including TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, iso-propylbenzene, and n-propylbenzene, were not detected at or above the laboratory method reporting limits (MRLs) in all other soil samples submitted for analyses. Soil sample analytical results are summarized in Table 1.

GROUNDWATER SAMPLING

Groundwater samples were collected from Wells MW-1 through MW-3, and MW-5 on December 20, 2005 as part of this scope of work. Prior to groundwater monitoring and sampling, all four groundwater monitoring well TOC elevations were surveyed to a relative datum of 100 feet. Based on the groundwater elevations measured on December 20, 2005, the groundwater at the site flows to the north-northeast at an approximate gradient of 0.07 foot per foot (ft/ft).

Prior to collecting groundwater samples, each monitoring well was purged of at least three casing volumes of water. Wells MW-1, MW-2, MW-3, MW-5 were purged using new disposable bailers. Prior to sampling, the wells were allowed to recover to approximately 80% or more of static water level. Groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-5 were collected using new disposable bailers.

A total volume of approximately 15 gallons of water was purged from the wells. The purge water generated during this monitoring event was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal.

The water samples were placed in laboratory-prepared containers provided by Severn Trent Laboratory (STL) of Tacoma, Washington. Each sample was appropriately labeled so as to identify the sample number, project name, facility number, the date and time of sample collection, and the sampler's name. Each sample was immediately placed in a chilled cooler for storage, and samples were transported to the laboratory using strict chain-of-custody protocols.

The groundwater samples were submitted to STL on December 21, 2005. Water samples collected from Wells MW-1, MW-2, MW-3, and MW-5 were analyzed for the following:

- TPH-G using Northwest Method NWTPH-Gx.
- BTEX, MTBE, naphthalene, ethylene dibromide (EDB), ethylene dichloride (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene (RBCA Volatile Organic Compounds List) by EPA Method 8260B.

GROUNDWATER ANALYTICAL RESULTS

TPH-G was detected above the laboratory MRL in Well MW-3 at a concentration of 670 µg/L. Benzene was not detected above the laboratory MRL in any of the wells sampled. MTBE was detected above the laboratory MRL in Wells MW-1, MW-2, MW-3, and MW-5 at concentrations ranging from 17 µg/L in Well MW-3 to 1,700 µg/L in Well MW-1. Naphthalene was detected above the laboratory MRL in Well MW-3 at a concentration of 1.7 µg/L. Concentrations of isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were detected in Well MW-3 at concentrations of 3.5 µg/L, 9.4 µg/L, 3.4 µg/L, and 15 µg/L, respectively. BTEX, naphthalene, TPH-G, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in Wells MW-1, MW-2, and MW-5.

A summary of current groundwater analytical results is presented in Table 2. A site map with BTEX, MTBE, naphthalene, and TPH-G concentrations is presented as Figure 3.

WASTE HANDLING

Soil cuttings, decontamination water, and development water generated by field activities were temporarily stored in 55-gallon steel drums pending coordination of disposal at an appropriate ConocoPhillips-approved facility. Decontamination water, development water, and purge water was transported by Delta to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal. A copy of the soil disposal receipt and waste manifest is included in Attachment D.

SUMMARY

This site investigation was performed to investigate soil and groundwater conditions at ConocoPhillips Site No. 4745 in Portland, Oregon. Four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-5) were installed on site to assess soil and groundwater conditions in the vicinity of the fuel USTs, current dispenser islands, and former dispenser islands. Refusal was encountered at proposed boring location MW-4 at a depth of 5.5 feet bgs. Boring location MW-4 was abandoned and well installation activities were postponed pending results of this soil and groundwater investigation. Wells MW-1, MW-2, and MW-5 were installed to assist with delineation of potential petroleum hydrocarbon impact associated with current site activities. Well MW-3 was installed to assess soil and groundwater downgradient of the former dispenser islands. TPH-G (61.5 mg/kg) was detected in soil sample MW-2-10, located north and downgradient of the current fuel dispenser islands. MTBE (0.148 mg/kg) was detected in soil sample MW-1-10, located north and downgradient of the fuel USTs. Lead was detected in all soil samples submitted for analysis, with concentrations ranging from 2.14 mg/kg in soil sample MW-3-10 to 7.95 mg/kg in soil sample MW-2-10. Petroleum hydrocarbon constituents were not detected in all other soil samples submitted for analysis.

Groundwater sampling of all four monitoring wells (MW-1, MW-2, MW-3, and MW-5) was completed on December 20, 2005. MTBE was detected at a maximum concentration of 1,700 µg/L, in the groundwater sample collected from Well MW-1. Well MW-1 is located north and downgradient of the fuel USTs. TPH-G was detected above the laboratory MRL at a maximum concentration of 670 µg/L in the groundwater sample collected from Well MW-3.

Based on current soil conditions, the maximum concentration of TPH-G (61.5 mg/kg) present in soil sample MW-2-10 and MTBE (0.148 mg/kg) present in soil sample MW-1-10 (both collected at a depth of 10 feet bgs) do not exceed the risk-based concentrations (RBCs), as presented in Appendix A of DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, dated September 22, 2003, for the vapor intrusion into buildings, volatilization to outdoor air, and soil ingestion, dermal contact, and inhalation exposure pathways for all applicable site receptor scenarios (residential, urban residential, occupational, construction, and excavation worker).

Based on current groundwater conditions, the maximum concentration of TPH-G (670 µg/L) and naphthalene (1.7 µg/L) present in the groundwater sample collected from Well MW-3 and MTBE (1,700 µg/L) present in the groundwater sample collected from Well MW-1 do not exceed the risk-based concentrations (RBCs), as presented in Appendix A of DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, dated September 22, 2003, for the groundwater in excavation, vapor intrusion into buildings, and volatilization to outdoor air exposure pathways for all applicable site receptor scenarios (residential, urban residential, occupational, construction, and excavation worker).

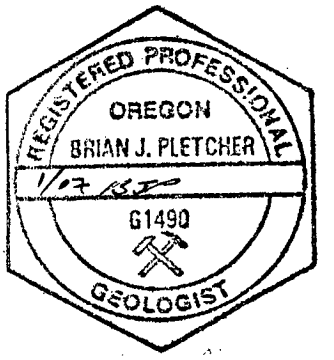
This report has been prepared for the exclusive use of ConocoPhillips in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in the same locality under similar conditions. No other representations, expressed or implied, and no warranty or guarantee is included or intended in the agreement, or in any report, opinion, document or otherwise. The findings contained herein are relevant to the date of performance of field work for this investigation.

Delta appreciates the opportunity to assist ConocoPhillips with this Environmental Investigation. Please call if you have any questions.

Sincerely,
Delta Environmental Consultants, Inc.

Cale Fleming
Staff Scientist

Brian J. Pletcher, R.G.
Senior Project Geologist



cc: Ms. Stephanie Rawson, Oregon DEQ

Attachments: Table 1 – Soil Analytical Results – TPH-G, BTEX, MTBE, Naphthalene, Lead, and Selected VOCs
Table 2 – Groundwater Elevation and Analytical Results – BTEX, MTBE, Naphthalene, TPH-G, and Selected VOCs
Figure 1 – Site Location Map
Figure 2 – Site Map with TPH-G and Benzene Concentrations in Soil
Figure 3 – Groundwater Elevation Contours and BTEX, MTBE, Naphthalene, and TPH-G Concentrations
Attachment A – Health and Safety Plan Signature Forms and Air Monitoring Log
Attachment B – Field Procedures, Field Sheets, and Boring and Well Construction Logs
Attachment C – Laboratory Analytical Reports and Chain-of-Custody Documentation
Attachment D – Soil Disposal Receipt and Waste Manifest

TABLE 1
SOIL ANALYTICAL RESULTS - TPH-G, BTEX, MTBE, NAPHTHALENE, VOCs, AND LEAD
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

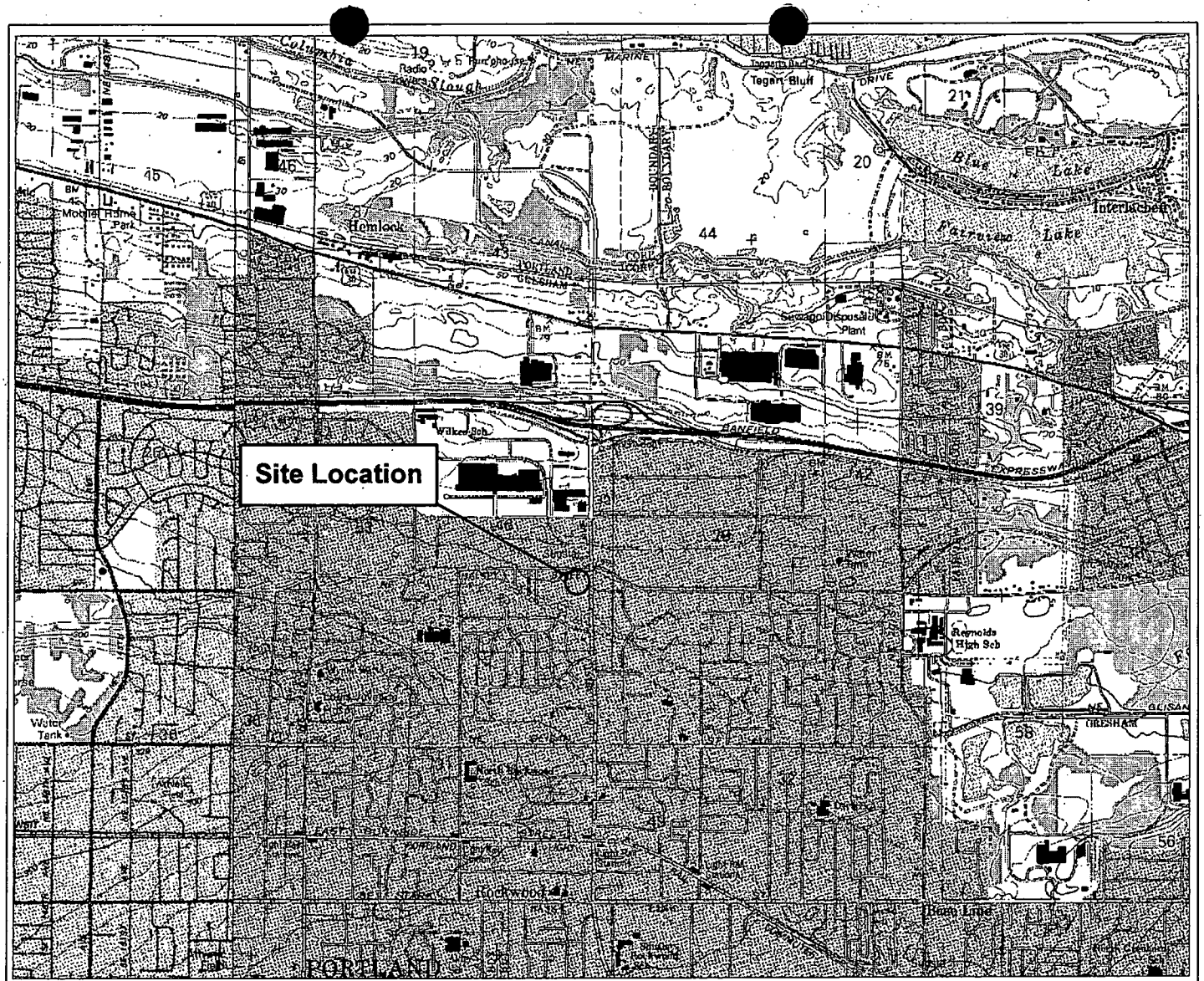
Sample Identification	Sample Date	Sample Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	Isopropyl benzene (mg/kg)	n-Propyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	Lead (mg/kg)
MW-1-5	12/06/05	5	<4.39	<0.0219	<0.0439	<0.0439	<0.1317	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	<0.0439	**4.52**
MW-1-10	12/06/05	10	<5.12	<0.0256	<0.0512	<0.0512	<0.1532	**0.148**	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	<0.0512	**7.15**
MW-2-10	12/06/05	10	**61.5**	<0.0247	<0.0493	<0.0493	<0.148	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	<0.0493	**7.95**
MW-3-10	12/06/05	10	<4.18	<0.0209	<0.0418	<0.0418	<0.1254	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	<0.0418	**2.14**
MW-5-5	12/06/05	5	<4.46	<0.0223	<0.0446	<0.0446	<0.1339	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	<0.0446	**6.1**
MW-5-10	12/06/05	10	<5.08	<0.0254	<0.0508	<0.0508	<0.1528	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	<0.0508	**6.12**

Notes:
mg/kg = milligrams per kilogram - dry
TPH-G = Total Petroleum Hydrocarbon as Gasoline
TPH-D = Total Petroleum Hydrocarbon as Diesel
TPH-O = Total Petroleum Hydrocarbon as Oil
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
TPH-Gasoline (TPH-G) analysis by NWTPH-Gx Method
Volatile organic compound (VOC) analysis by EPA Method 8260B
Lead analysis by EPA Method 6010
<0.0219 = not detected above the laboratory method reporting limit (MRL) of 0.0219 mg/kg

TABLE 2
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS - TPH-G, BTEX, MTBE, NAPHTHALENE, AND VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Well I.D. TOC	Date Sampled	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPH-G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	EDC (µg/L)	Isopropyl-benzene (µg/L)	n-Propyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	1,2,4-Trimethyl-benzene (µg/L)
MW-1	12/20/05	11.90	0.00	88.10	<2,000	<20	<20	<20	<40	**1,700**[1]	<20	<20	<20	<20	<20	<20	<20
100.00																	
MW-2	12/20/05	13.44	0.00	85.83	<500	<5.0	<5.0	<5.0	<10	**220**[1]	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
99.27																	
MW-3	12/20/05	9.18	0.00	89.35	**670**	<1.0	<1.0	**2.7**	**5.2**	**17**[1]	**1.7**	<1.0	<1.0	**3.5**	**9.4**	**3.4**	**15**
98.53																	
MW-5	12/20/05	9.27	0.00	89.80	<2,000	<20	<20	<20	<40	**980**[1]	<20	<20	<20	<20	<20	<20	<20
99.07																	

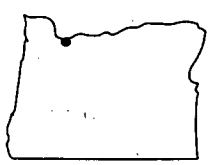
Notes:
µg/L = micrograms per liter
TOC = Top of casing per site datum
DTW = Depth to water
SPH = Separate phase hydrocarbons
GWE = Groundwater elevation
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
[1] MTBE failed high in the Laboratory Control Sample/Duplicate hits
TPH-G analysis by Northwest Method NWTPH-Gx
Volatile organic compound (VOC) analysis by EPA Method 8260B



Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000

North



QUADRANGLE LOCATION

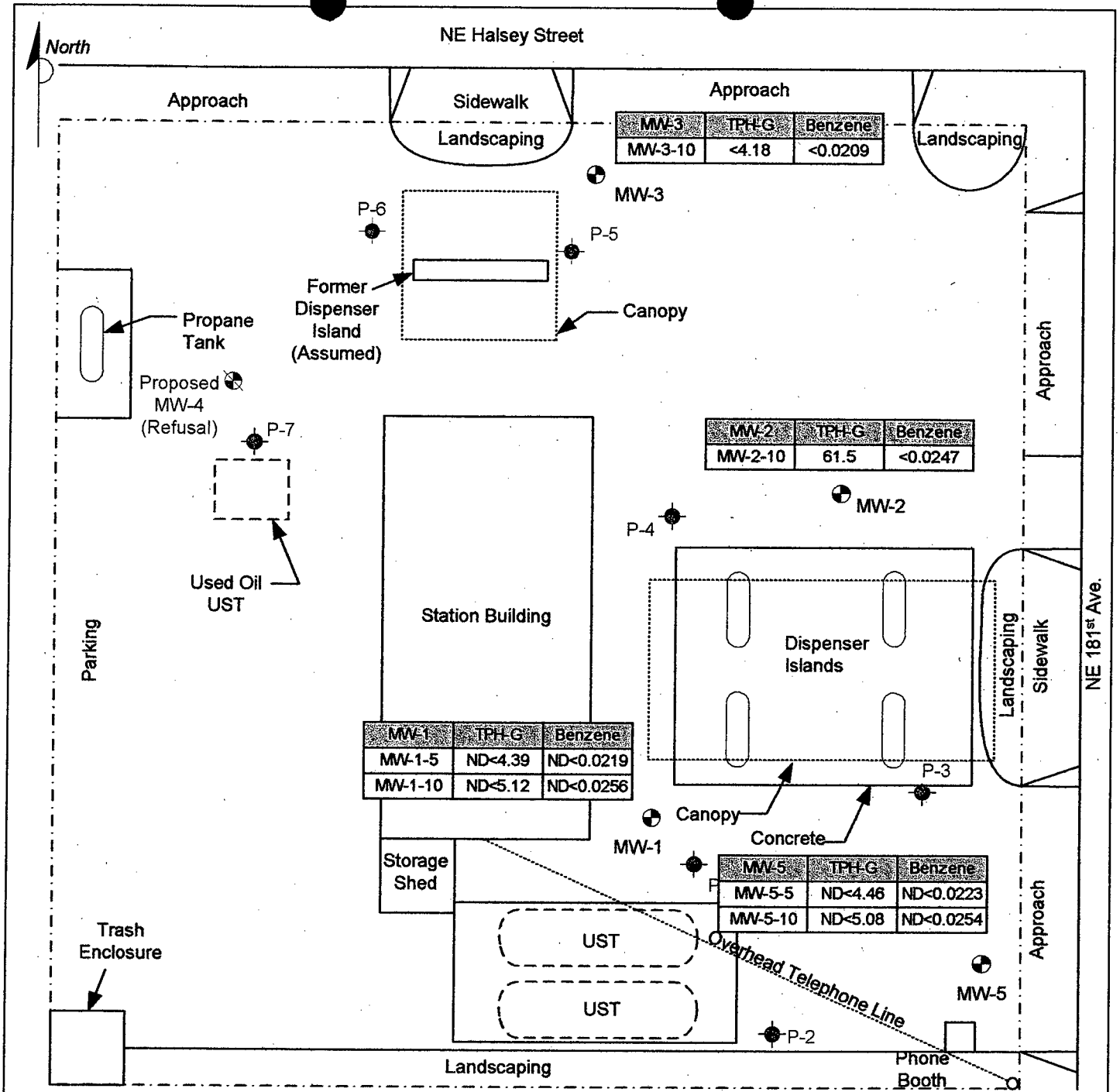
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 1/5/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND

MW-1 — Monitoring Well Location and Identification

MW-1-5 — Sample Location and Identification

P-1 — Soil Boring Location and Designation (1/11/05)

ND <4.39 — Not Detected above laboratory reporting limit of 4.39 milligrams per kilogram (mg/kg)

Total Petroleum Hydrocarbon as Gasoline (TPH-G) and Benzene results presented in mg/kg

0 20 FT

APPROX. SCALE

FIGURE 2

SITE MAP WITH BORING LOCATIONS AND TPH-G AND BENZENE CONCENTRATIONS IN SOIL

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 1/5/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

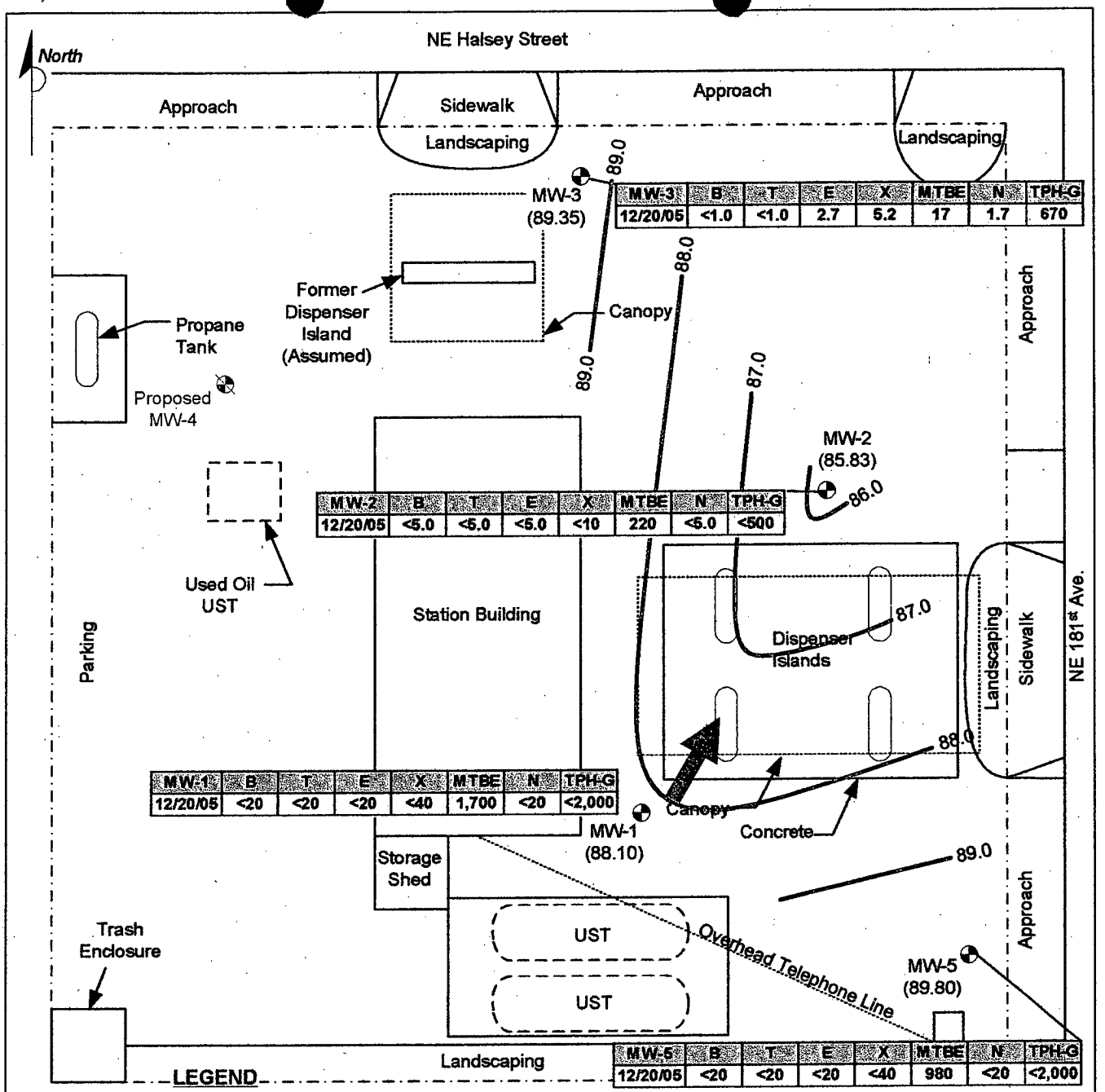


FIGURE 3

GROUNDWATER ELEVATION CONTOURS AND BTEX, MTBE, NAPHTHALENE, AND TPH-G CONCENTRATIONS

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 1/11/06
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

ATTACHMENT A

HEALTH AND SAFETY PLAN SIGNATURE FORMS AND AIR MONITORING LOG

IX. ACKNOWLEDGMENT AGREEMENT

DELTA EMPLOYEE
SITE HEALTH AND SAFETY PLAN REVIEW RECORD

I acknowledge that I have read and understood the contents of this Site Health and Safety Plan and I agree to abide by all provisions as set forth. I have also checked in with the site client contact to alert them of our presence and for any daily safety issues. Please note: "no implements are to be brought on a Delta site, or while performing Delta business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited. By signing below you are certifying, that this policy is upheld. Delta retains the option to audit your personnel and equipment to assure your compliance.

Signature	Date
[signature]	12/5/05
[signature]	12/6/05
[signature]	12/15/05

SUBCONTRACTOR & VISITOR
SITE HEALTH AND SAFETY PLAN REVIEW RECORD

SITE: ConocoPhillips 4745

I have read the Site Health and Safety Plan for this site and have been briefed on the nature of the contaminants and the level and degree of exposure likely as a result of participation in this project. I agree to conform to all the requirements of this plan. This SHSP does not replace the requirement or liability for your company to have it's own safety program and SHSP. I also acknowledge that this plan is specific for this Delta Environmental Consultants, Inc. site and may not address unforeseen hazards not included in the Site Health and Safety Plan or your specific contracted task. Please note: "no implements are to be brought on a Delta site, or while performing Delta business that are, or are intended to be used, as weapons (such as: guns, knives, etc.)". Firearms are expressly prohibited. By signing below you are certifying, that this policy is upheld. Delta retains the option to audit your personnel and equipment to assure your compliance.

Name	Signature	Affiliation	Date
Chason Smith		Locates Road Crew	12-5-2005
Mark Lauer		CDT	12 5 05
Matt Ross		CDT	12-6-05
Mark Lauer		CDT	12 6 05
Jesse Cannon		CDT	12/12/05

4745

ATTACHMENT 1
DELTA ENVIRONMENTAL CONSULTANTS, INC.
AIR MONITORING LOG*

DATE	TIME	LOCATION	SOURCE/AREA/ BREATHING ZONE	INSTRUMENT	CONCENTRATION/UNITS	SAMPLED BY
12/5/05	0810	MW-4 B. Zone	B. Zone	LEL	~~0.8~~ LEL	CMR
	0845	" "	"	"	0	
	0930	MW-3 Area	Area	"	0	
	1005	MW-2 B. Zone	B. Zone	"	0	
	1105	MW-1 Area	Area	"	0	
	1220	MW-5 "	B. Zone	"	0	
12/6/05	0800	MW-5	Area	PID	0.1	CMR
	1040	MW-2	Area	"	0.1	
	1140	MW-1	B. Zone	"	0.1	
	1230	MW-1	B. Zone	"	0.1	
	1450	MW-2	Area	"	0.1	
	1650	MW-3	B. Zone	"	0.1	
	1745	MW-3	Area	"	0.1	

***Notify the Health and Safety Coordinator or Corporate Health and Safety immediately if a PEL, TLV, or other limit is exceeded**

12/12/05 0745 MW-4 B. Zone PID 0.1 CMR

ATTACHMENT 2
DELTA ENVIRONMENTAL CONSULTANTS, INC.
DAILY HEALTH AND SAFETY BRIEFING LOG

Date: 12/5/05

Start Time: 0715

Subjects Discussed: PPE / Traffic Safety / work exclusion zone / 9-1-1

Attendees:

Print Name	Signature	
Carson Smith		
Jeff Murphy		
Mark Lauer		CDI
12/6/05 Will McDonald		CDI
Cole Fleming		
Kyle Pemberton		CDI
Matt Ross		CDI
12/12/05 Cole Manning		
Kyle Pemberton		CDI
Jesse Cannon		
Matt Ross		CDI

Meeting Conducted by: C. Fleming

Name (Site Health and Safety Officer): _____ Signature: _____

ATTACHMENT B

FIELD PROCEDURES, FIELD SHEETS, AND BORING AND WELL CONSTRUCTION LOGS

WELL INSTALLATION PROCEDURES AND SOIL AND GROUNDWATER SAMPLING PROTOCOL

UNDERGROUND UTILITY LOCATIONS

Prior to initiating the field investigation, a request was placed with the Utilities Notification Center to conduct an underground utility survey in the vicinity of the proposed Geoprobe borings and groundwater monitoring well. A private utility locator was contracted to clear the proposed Geoprobe boring and groundwater monitoring well location of private underground utilities.

DRILLING PROCEDURES

Soil borings were drilled using a truck-mounted hollow-stem-auger rig equipped with 10 and 1/4-inch outside diameter, 6 and 1/4-inch inside diameter augers for the groundwater monitoring well. The auger was decontaminated with a hot water pressure wash before use in the borehole to minimize any cross-contamination. Decontamination water was contained in a trailer during washing and immediately pumped into Oregon Department of Transportation (ODOT) approved 55-gallon open-head drums. Soil cuttings generated during drill activities were collected and stored on site in 55-gallon steel drums.

GROUNDWATER MONITORING WELL CONSTRUCTION

The groundwater monitoring well was constructed with a 2-inch inside diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) well casing and a 15-foot screened interval consisting of machine-slotted PVC casing with 0.010-inch-wide slots. Groundwater monitoring well MW-2A was screened from 5 to 20 feet below ground surface (bgs) and has blank PVC casing from 5 feet bgs to 3 inches bgs. The annular space in the well was backfilled with 10/20-grade sand from the base of the boring to 1.0 feet above the respective screened interval. Hydrated bentonite chips were used to fill the annular space from 4 feet to 1 feet bgs. A traffic-rated monument was cemented in the remaining annulus and set to grade.

SOIL SAMPLE COLLECTION

Soil samples were collected at 5-foot intervals using an 18-inch-long split-spoon sampler (SPT). The bottom most portion of the sample interval was used for field screening for evidence of volatile organic constituents. Field screening was completed by placing a portion of the collected soil into a sealable plastic bag and then monitoring headspace vapor concentrations using a portable photoionization detector (PID). The middle portion from the sampling interval was prepared for submittal to an off-site laboratory for possible analysis. The uppermost portion of the sample interval was retained for visual inspection and for lithogic descriptions.

A log was compiled for each borehole, including descriptions of the soil types, color, texture, degree of consolidation, and moisture content. Soil types were based on the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*.

GROUNDWATER SAMPLE COLLECTION

Before the sampling event, Delta measured depth to water in groundwater monitoring well MW-2A with a Heron® Electronic Oil/Water Interface Meter. This information was recorded on waterproof field sheets. Groundwater elevations (GWE) were measured to an accuracy of 0.01 feet. The well was developed by surging and bailing of the groundwater using a new disposable bailer to remove fine sediments within the filter pack. A total of approximately 10 well casing volumes of groundwater was removed from the well. After the well had recharged to approximately 80% of static level, samples were collected using a disposable polyethylene bailer and placed in the appropriate laboratory-provided container. Samples were labeled, placed into ice filled coolers, logged onto chain-of-custody forms and transported to the laboratory.

FIELD SCREENING OF SOIL SAMPLES

Soil samples were field screened for visual or olfactory indications of petroleum hydrocarbons, tested for sheen by water immersion, and tested for headspace vapor concentrations using a portable PID.
Data generated from field screening instruments were considered qualitative in nature. Although semi-quantitative data are generated using a PID, the results cannot be relied upon with the confidence of a laboratory analysis. Data generated from this type of analysis may provide the following:

- Identification of soil, water, air, and waste locations that have a high likelihood of showing contamination through subsequent laboratory analysis.
- Real-time data used for health and safety consideration during site reconnaissance and subsequent intrusive activities.
- Quantitative data, if contaminant is known and the instrument is calibrated to that substance.

FIELD SCREENING USING VAPOR HEADSPACE TESTING

The instrument used for headspace vapor testing was a MiniRae PID. Prior to use, this instrument was calibrated to a known isobutylene calibrant standard (100 parts per million (ppm)), in accordance with the manufacturer's specifications.

The following sequential steps were completed for each sample analyzed:

- A representative portion of the soil sample was collected directly from a brass sample ring or acrylic sleeve into a new, sealable Ziploc-type plastic bag. The bag was immediately sealed.
- The sealed bag with sample was allowed to sit at field ambient temperature for several minutes.
- One end of the bag seal was slightly opened, and the intake port of a PID was carefully inserted through the opening.
- The stabilized numerical value was observed and recorded onto the boring log form.

This number does not represent a concentration of volatiles in ppm; it is a relative measure of the amount of ionized compounds present. As the exact chemical species present is unknown, the units of concentration are referred to as ppm of isobutylene. Vapor headspace screening is only applicable as a screening method for the presence of ionizable compounds with first ionization potentials of less than 10.6 electron volts. In addition, variables that affect measurable concentrations and are unaccounted for in this procedure include, but are not limited to: temperature, soil moisture content, and soil organic content. Vapor headspace screening is not designed for screening for evidence of contamination by semi-volatile or non-volatile organic compounds or for the presence of elemental metals or compounds.

Soil Descriptions

The Delta system of soil description utilizes the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).* Generally, soils were described by the following modifiers:

- Density (based on visual observations).
- Moisture.
- Color (including mottling, stringers, color changes).
- Soil classification.
- Stratification.
- Percent varying grain sizes.
- Sphericity, and roundness of grains.
- Major soil constituents were capitalized, and granular soils were given relative size descriptions.

Each sample was described, using the modifiers provided above, on a standardized field log form or project notebook.

Sample Documentation and Custody

Chain-of-custody for a sample was defined by the following criteria:

- The sample was in a Delta staff person's possession or in his or her view after being in his or her possession.

Each time the samples transferred possession, both the sender and receiver signed and dated the chain-of-custody form and specified the item being transferred. After transfer of sample custody from the sampling team to the laboratory sample custodian, one copy of the chain-of-custody record was given to the sampling team for placement into the project files; the original remains with the laboratory. A chain-of-custody record was completed for each shipment of containers.

The following information was included on the chain-of-custody form:

- Sample container type and container number.
- Date and time of collection.

- Sample collection location(s).
- Signatures of sampler, submitter, and receiver of samples.
- Date and time samples were received by laboratory.
- Total number of samples received.
- Laboratory analyses requested for each sample.
- Requested laboratory turn-around time.

Decontamination Procedures

Decontamination procedures were used on all dedicated and non-dedicated sampling equipment that could potentially contact and cross-contaminate other materials. This included personal protective equipment, sampling equipment, and sample containers.

Materials that were used in the decontamination process include:

- Liquinox nonphosphate detergent.
- Deionized water.
- Tap water.
- Teflon squirt bottles.
- Bailer brushes.
- Galvanized cleaning tubs.

Investigation-Derived Wastes

Personal protective clothing, development water, purge water, and decontamination solution/solvents were the types of waste generated during the course of this project.

The water generated from the investigation was transported to ConocoPhillips Site No. 11019 in Gresham, Oregon for treatment and disposal. Potentially hazardous wastes were contained within DOT approved, 17-H steel drums (55-gallon) and stored on site (with the owner's permission), pending receipt of analytical data and determination of final disposition.

Each drum containing investigation-derived waste was labeled with the following information:

- Site name.
- Sequential drum number.
- Date of collection.
- Source and type of waste.

All such information was recorded in field log books, and a final inventory of all investigation-derived wastes, including quantities, storage methods, disposition, and dates, was compiled at the completion of the project.

Soil containing concentrations of petroleum constituents were disposed of at an off-site site permitted to accept and treat soil containing petroleum constituents. All necessary permits were obtained prior to transporting, treating, or disposal of soil.

Field Notebook

In addition to sample identification numbers and chain-of-custody records, a bound field notebook was maintained by Delta personnel to provide a daily record of significant events, observations, and measurements during field investigations. This record will include a sample collection record, field measurements, personnel, and other pertinent information. All entries in the field notebooks were made in ink, signed, and dated. The field notebook was kept as a permanent record.

Soil samples were placed in appropriate USEPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory. A waterproof label showing project identification, boring designation, approximate depth, date, and the sampler's initials was affixed to each sample. All drilling equipment was cleaned between samples by washing in a detergent solution followed by a clean water rinse and distilled water rinse.

Groundwater Sampling Field Sheet

Site No. / Job No.: 474

Location: 181st & Halsey, Gresham, OR

Delta Personnel: JCM

Date/Time: 12/20/05 0815

Delta Environmental Consultants, Inc.

Well ID	MW-1	MW-2	MW-3	MW-5			
DTW	11.90	13.44	9.18	9.27			
SPH Thickness	-	-	-	-			
Total Depth	20.0	20.0	20.0	14.0			
Well Diameter	2"	2"	2"	2"			
Purge Volume (3 Casing Volumes)	4.00	3.25	5.36	2.34			
Actual Purge Volume	4.00	3.25	5.50	2.50			
Purge Method	bailer	bailer	bailer	bailer			
Sample Time	1010	0930	0910	0950			

Field Measurements: (If Applicable)

pH							
Conductivity							
Turbidity							
DO							
Temperature							
Salinity							
TDS				Slow			
ORP				Recharge			
Alkalinity							
Ferrous Iron	moderately						
Comments	turbid purge & sample	OK	turbid purge & sample	turbid purge & sample			

Remedial System (Y/N)? N Comments:

Operational Upon Arrival (Y/N)? Comments:

Shut Down System 1 / 24 hours before DTW (Y/N)? Time:

Re-Start System (Y/N)?

Purge Water Disposal (Y/N)? Date: Location:

Groundwater Sampling Field Sheet

Site No. / Job No.: COP 4795

Location: 1545 NE 181st, Portland, OR

Delta Personnel: KCM

Date/Time: 12/15/05 0900 - 1445
1 hr down

(Develop wells)
survey

Well ID	MW-1	MW-2	MW-3	MW-5			
DTW	9.01	13.11	8.99	7.54			
SPH Thickness	-	-	-	-			
* Total Depth	20.00	20.00	~~14.60~~ 20.00 KM	14.00			
Well Diameter	2"	2"	2"	2"			
Purge Volume ~~(3 Casing~~ 10X Volumes)	18.13	11.37	18.17	10.66			
Actual Purge Volume	13.00	12.00	19.00	8.00			
Purge Method	H-pump	H-pump	H-pump	H-pump			
Sample Time	—	—	—	—			

Field Measurements: (If Applicable)

~~pH~~							
~~Conductivity~~							
~~Turbidity~~							
~~DO~~			very →	moderately →			
~~Temperature~~	very	not	moderately	slightly			
~~Salinity~~	turbid	turbid	turbid	turbid			
~~TDS~~							
~~ORP~~	(poor	(ran	(good	(poor			
~~Alkalinity~~	recharge)	clear)	recharge)	recharge)			
~~Ferrous Iron~~							
Comments	19.39	19.15	10.33 & Rising	13.90	POST PURGE DTW		
	16.60	19.97	19.80	13.90	MEAS. TOTAL DEPTH		

Remedial System (Y/N)? N Comments:

Operational Upon Arrival (Y/N)? Comments:

Shut Down System 1 / 24 hours before DTW (Y/N)? Time:

Re-Start System (Y/N)?

Purge Water Disposal (Y/N)? Date: Location:

* Total depths taken from Boring Logs (CRF)

— MW-1 - stopped developing @ 10 gal. to allow some recharge, dry at 2 gallons after recharge, stopped again to recharge, then dry @ 1 gal

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No:	MW-1
Logged By:	[redacted]	Location:	1545 NE 181st Av[redacted], Portland, OR	Page	1 of 1
Driller:	Cascade	Date Drilled:	12/6/2005	Location Map	See Figure 2
Drilling Method:	HSA	Hole Diameter:	10"		
Sampling Method:	SPT	Hole Depth:	20'		
Casing Type:	SCH. 40 PVC	Well Diameter:	2"		
Slot Size:	0.010	Well Depth:	20'		
Gravel Pack:	10X20	Casing Stickup:	Flush		
Elevation		Northing		Easting	

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Backfill									Asphalt (4") and subbase gravel fill
Bentonite / Casing					1				
					2				
					3				
					4				(End Vac-Clear at 5 feet bgs)
				17	5				
		MST	0.1	18	6			SM	Silty SAND with gravel, brown
				10					50% well-graded sand, 35% gravel (fractured), 15% silt
					7				*(Cobbles - rough drilling from 6 to 8 feet bgs as observed from cuttings)*
					8				
					9				
	12/6/05								
		Wet	1.8	23	10			SM	As above, sand grades brown-orange in color
				26	11				
Sand	12/20/05			20					
					12				
					13				*(Cobbles - rough drilling at 13 feet bgs)*
					14				
					15				
		MST	1.1	26				SM	As above, sand grades rigid from cementation
				50 for 5"	16				65% well-graded sand, 20% well-graded gravel, 15% silt
					17				
					18				
					19				
					20			GM	Silty GRAVEL with sand
					21				70% well-graded gravel (70% fine, 30% coarse), 20% silt, 15% sand
					22				Bottom of Boring at 20 feet bgs.
									Sampling Terminated at 21.5 feet bgs

Delta
Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No:	MW-2
Logged By:	[redacted]	Location:	1545 NE 181st Av[redacted], Portland, OR	Page	1 of 1
Driller:	Cascade	Date Drilled:	12/6/2005	Location Map	See Figure 2
Drilling Method:	HSA	Hole Diameter:	10"		
Sampling Method:	SPT	Hole Depth:	20'		
Casing Type:	SCH. 40 PVC	Well Diameter:	2"		
Slot Size:	0.010	Well Depth:	20'		
Gravel Pack:	10X20	Casing Stickup:	Flush		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Bentonite / Sand					0				Asphalt (4")
					1				SAND, medium- to coarse-grained, with cobbles and silt
					2				
					3				
					4				(End Vac-Clear at 5 feet bgs)
				17	5				
		MST	0.5	31	6			SM	
				37	7				Silty SAND with gravel, brown, well-graded 40% coarse-grained, 20% medium-grained, 20% fine-grained sand, 15% silt, 15% gravel
					8				*(As above, with coarse gravels and cobbles, round to subround, as observed from cuttings)*
					9				
				7	10				
	▽ 12/6/05	Wet	0.1	15	11			SM	Silty SAND with gravel, brown, well-graded grades more gravel and cobbles at 11'
				50 for 5"	12				
	▼ 12/20/05				13				
					14				
				11	15			SM	As above
		MST	0.1	25	16				
				40	17				
					18				
					19				
				39	20				As above
		MST	0.1	50 for 5"	21				Bottom of Boring at 20 feet bgs Sampling Terminated at 22 feet bgs
					22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: MW-3
Logged By:	[redacted]	Location:	1545 NE 181st Av[redacted], Portland, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	12/6/2005	Location Map
Drilling Method:	HSA	Hole Diameter:	10"	See Figure 2
Sampling Method:	SPT	Hole Depth:	20'	
Casing Type:	SCH. 40 PVC	Well Diameter:	2"	
Slot Size:	0.010	Well Depth:	20'	
Gravel Pack:	10X20	Casing Stickup:	Flush	
Elevation		Northing		Easting

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Backfill									Asphalt (4")
Bentonite					1			SM	SAND, brown, with subrounded 4"-5" cobbles, with fines
					2				
					3				
					4				(End Vac-Clear at 5 feet bgs)
					5				
		MST	0.6	-	6			GP	GRAVEL, brown, fractured basalt with cobbles,
					7				with silty sand, poor recovery, no sample
					8				
					9				
	12/20/05				10				
				17					
			-	44	11			SM	
		MST		48					
					12				Silty SAND, brown, with cobbles
									60% fine sand, 30% silt, 10% cobbles (fractured)
					13				
					14				
					15				
				17				SM	Silty SAND, brown,
			0.7	27	16				60% well-graded sand, 25% silt, 15% gravel,
				43					
					17				
					18				
					19				
					20				
				23					Silty SAND with gravel (cobbles), brown
				50	21				50% coarse-grained sand, 30% gravel, 20% silt
		WET		for 5"					Bottom of boring at 20 feet bgs
					22				Sampling Terminated at 22 feet bgs
Sand									

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-2	Client:	ConocoPhillips	Boring/Well No: MW-5
Logged By:	[redacted]F	Location:	1545 NE 181st A[redacted]e, Portland, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	12/6/2005	Location Map
Drilling Method:	HSA	Hole Diameter:	10"	See Figure 2
Sampling Method:	SPT	Hole Depth:	14'	
Casing Type:	SCH. 40 PVC	Well Diameter:	2"	
Slot Size:	0.010	Well Depth:	14'	
Gravel Pack:	10X20	Casing Stickup:	Flush	
Elevation		Northing		Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Bentonite / Sand					1				Asphalt (4")
					2				
					3				
					4				
					5				(End Vac-Clear at 5 feet bgs) *(Subround cobbles from 4'6"' - 5'8"as observed from cuttings)*
				12					
			-	13					
		MST		16	6			SM	Silty SAND, brown
									60% well-graded sand, 30% silt, 10% gravel
					7				
					8				
	12/20/05 ▼				9				
	12/6/05 ▽				10				
		SAT		15					
			0.1	27	11			SW	SAND with gravel, brown
				32					50% well-graded sand, 40% well-graded gravel (subround),
		MST			12				10% silt, some cementation in gravel
					13				
					14				Refusal at 14 feet bgs
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

ATTACHMENT C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: December 22, 2005

TO: Brian Pletcher
Delta Environmental, Inc.
7150 SW Hampton #220
Tigard, OR 97223

PROJECT: 4745 Portland, OR

REPORT NUMBER: 130440

TOTAL NUMBER OF PAGES: _____

Enclosed are the test results for twelve samples received at STL Seattle on December 8, 2005.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Coyner
Project Manager

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender immediately at 253-922-2310 and destroy this report immediately.

STL Seattle

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
130440-1	MW-1-5	12-06-05 11:45	solid
130440-2	MW-1-10	12-06-05 12:05	solid
130440-3	MW-1-15	12-06-05 12:25	solid
130440-4	MW-1-20	12-06-05 12:50	solid
130440-5	MW-2-10	12-06-05 15:00	solid
130440-6	MW-2-15	12-06-05 15:15	solid
130440-7	MW-2-20	12-06-05 15:35	solid
130440-8	MW-3-10	12-06-05 17:15	solid
130440-9	MW-3-15	12-06-05 17:30	solid
130440-10	MW-3-20	12-06-05 17:55	solid
130440-11	MW-5-5	12-06-05 08:15	solid
130440-12	MW-5-10	12-06-05 08:30	solid

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STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-1-5
Lab ID:	130440-01
Date Received:	12/8/2005
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	85.56
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	111		50	150
Fluorobenzene	104		76	137
Toluene-d8	100		79	132
Ethylbenzene-d10	95.3		76	142
4-Bromofluorobenzene	87		76	137

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.39	
MTBE	ND	0.0439	
Benzene	ND	0.0219	
Toluene	ND	0.0439	
Ethylbenzene	ND	0.0439	
m&p-Xylene	ND	0.0878	
o-Xylene	ND	0.0439	
1,2-Dichloroethane	ND	0.0439	
1,2-Dibromoethane	ND	0.0439	
Isopropylbenzene	ND	0.0439	
n-propylbenzene	ND	0.0439	
1,3,5-Trimethylbenzene	ND	0.0439	
1,2,4-Trimethylbenzene	ND	0.0439	
Naphthalene	ND	0.0439	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-1-10
Lab ID:	130440-02
Date Received:	12/8/2005
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	76.61
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	106		50	150
Fluorobenzene	102		76	137
Toluene-d8	99.1		79	132
Ethylbenzene-d10	94.2		76	142
4-Bromofluorobenzene	85.8		76	137

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	5.12	
MTBE	0.148	0.0512	
Benzene	ND	0.0256	
Toluene	ND	0.0512	
Ethylbenzene	ND	0.0512	
m&p-Xylene	ND	0.102	
o-Xylene	ND	0.0512	
1,2-Dichloroethane	ND	0.0512	
1,2-Dibromoethane	ND	0.0512	
Isopropylbenzene	ND	0.0512	
n-propylbenzene	ND	0.0512	
1,3,5-Trimethylbenzene	ND	0.0512	
1,2,4-Trimethylbenzene	ND	0.0512	
Naphthalene	ND	0.0512	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-2-10
Lab ID:	130440-05
Date Received:	12/8/2005
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	75.22
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	108		50	150
Fluorobenzene	124		76	137
Toluene-d8	126		79	132
Ethylbenzene-d10	121		76	142
4-Bromofluorobenzene	109		76	137

Sample results are on a dry weight basis.

Analyte		**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G		61.5	4.93	
MTBE	ND		0.0493	
Benzene	ND		0.0247	
Toluene	ND		0.0493	
Ethylbenzene	ND		0.0493	
m&p-Xylene	ND		0.0987	
o-Xylene	ND		0.0493	
1,2-Dichloroethane	ND		0.0493	
1,2-Dibromoethane	ND		0.0493	
Isopropylbenzene	ND		0.0493	
n-propylbenzene	ND		0.0493	
1,3,5-Trimethylbenzene	ND		0.0493	
1,2,4-Trimethylbenzene	ND		0.0493	
Naphthalene	ND		0.0493	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-3-10
Lab ID:	130440-08
Date Received:	12/8/2005
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	93.04
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	110		50	150
Fluorobenzene	73.1	X9	76	137
Toluene-d8	106		79	132
Ethylbenzene-d10	61.8	X9	76	142
4-Bromofluorobenzene	58.4	X9	76	137

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.18	
MTBE	ND	0.0418	
Benzene	ND	0.0209	
Toluene	ND	0.0418	
Ethylbenzene	ND	0.0418	
m&p-Xylene	ND	0.0836	
o-Xylene	ND	0.0418	
1,2-Dichloroethane	ND	0.0418	
1,2-Dibromoethane	ND	0.0418	
Isopropylbenzene	ND	0.0418	
n-propylbenzene	ND	0.0418	
1,3,5-Trimethylbenzene	ND	0.0418	
1,2,4-Trimethylbenzene	ND	0.0418	
Naphthalene	ND	0.0418	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-5-5
Lab ID:	130440-11
Date Received:	12/8/05
Date Prepared:	12/20/05
Date Analyzed:	12/20/05
% Solids	84.67
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	108		50	150
Fluorobenzene	136		76	137
Toluene-d8	139	X9	79	132
Ethylbenzene-d10	134		76	142
4-Bromofluorobenzene	120		76	137

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.46	
MTBE	ND	0.0446	
Benzene	ND	0.0223	
Toluene	ND	0.0446	
Ethylbenzene	ND	0.0446	
m&p-Xylene	ND	0.0893	
o-Xylene	ND	0.0446	
1,2-Dichloroethane	ND	0.0446	
1,2-Dibromoethane	ND	0.0446	
Isopropylbenzene	ND	0.0446	
n-propylbenzene	ND	0.0446	
1,3,5-Trimethylbenzene	ND	0.0446	
1,2,4-Trimethylbenzene	ND	0.0446	
Naphthalene	ND	0.0446	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	MW-5-10
Lab ID:	130440-12
Date Received:	12/8/2005
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	76.7
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	107		50	150
Fluorobenzene	104		76	137
Toluene-d8	101		79	132
Ethylbenzene-d10	95.1		76	142
4-Bromofluorobenzene	87.4		76	137

Sample results are on a dry weight basis.

		Result		
Analyte		**(mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND		5.08	
MTBE		0.0584	0.0508	
Benzene	ND		0.0254	
Toluene	ND		0.0508	
Ethylbenzene	ND		0.0508	
m&p-Xylene	ND		0.102	
o-Xylene	ND		0.0508	
1,2-Dichloroethane	ND		0.0508	
1,2-Dibromoethane	ND		0.0508	
Isopropylbenzene	ND		0.0508	
n-propylbenzene	ND		0.0508	
1,3,5-Trimethylbenzene	ND		0.0508	
1,2,4-Trimethylbenzene	ND		0.0508	
Naphthalene	ND		0.0508	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-1-5
Lab ID:	130440-01
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	85.56

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	4.52	2.16	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-1-10
Lab ID:	130440-02
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	76.61

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	7.15	2.26	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-2-10
Lab ID:	130440-05
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	75.22

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	7.95	2.5	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-3-10
Lab ID:	130440-08
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	93.04

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	2.14	1.74	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-5-5
Lab ID:	130440-11
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	84.67

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	6.21	1.86	

STL Seattle

Client Name	Delta Environmental, Inc.
Client ID:	MW-5-10
Lab ID:	130440-12
Date Received:	12/8/2005
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1
% Solids	76.7

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	6.12	1.92	

STL Seattle

Lab ID:	Method Blank - GB5381
Date Received:	-
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
% Solids	
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	119		50	150
Fluorobenzene	122		76	137
Toluene-d8	123		79	132
Ethylbenzene-d10	118		76	142
4-Bromofluorobenzene	105		76	137

Sample results are on an as received basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4	
MTBE	ND	0.04	
Benzene	ND	0.02	
Toluene	ND	0.04	
Ethylbenzene	ND	0.04	
m&p-Xylene	ND	0.08	
o-Xylene	ND	0.04	
1,2-Dichloroethane	ND	0.04	
1,2-Dibromoethane	ND	0.04	
Isopropylbenzene	ND	0.04	
n-propylbenzene	ND	0.04	
1,3,5-Trimethylbenzene	ND	0.04	
1,2,4-Trimethylbenzene	ND	0.04	
Naphthalene	ND	0.04	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB5381
Date Prepared:	12/20/2005
Date Analyzed:	12/20/2005
QC Batch ID:	GB5381

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

Compound Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	BSD Result (mg/kg)	BSD % Rec.	RPD	Flag
Gasoline By NWTPH-G	0	50	52.2	104	52.4	105	0.96	
Benzene	0	1	1.16	116	1.16	116	0	
Toluene	0	1	1.04	104	1.05	105	0.96	
Ethylbenzene	0	1	1.06	106	1.07	107	0.94	
m&p-Xylene	0	2	1.92	96	1.95	97.3	1.3	
o-Xylene	0	1	1.06	106	1.07	107	0.94	

STL Seattle

Lab ID:	Method Blank - SP1704
Date Received:	-
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
Dilution Factor	1

Metals by ICP - USEPA Method 6010

Sample results are on an as received basis.

Analyte	Result (mg/kg)	RL	Flags
Lead	ND	2	

STL Seattle

Matrix Spike Report

Client Sample ID:	SOIL #1
Lab ID:	130453-01
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
QC Batch ID:	SP1704

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Lead	3.37	98.7	97.9	96	

STL Seattle

Duplicate Report

Client Sample ID:	SOIL #1
Lab ID:	130453-01
Date Prepared:	12/13/2005
Date Analyzed:	12/13/2005
QC Batch ID:	SP1704

Metals by ICP - USEPA Method 6010

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Lead	3.4	3.8	-11.0	

SEVERN TRENT STL

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be ≤ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

RL: Reporting Limit

N: See analytical narrative

ND: Not Detected

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

0.1 C Ice
130/40

SEVERN TRENT STL

Client: Delta Environmental	Project Manager: Brian Pletcher	Date: 12/7/05	Chain of Custody Number: 16489
Address: 7150 SW Hampton St, Ste 220	Telephone Number (Area Code)/Fax Number: 503-639-8098	Lab Number:	Page 1 of 1
City: Tigard / State: OR / Zip Code: 97223	Site Contact: M. Cramer	Lab Contact:	
Project Name and Location (State): 4745 Portland, OR	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: WNO. 4702 4745DEL001			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TPH-Gx	BTEX/RBCA+(8260)	Total Pb
MW-1-5	12/6/05	1145				✓	1						✓	✓	✓
MW-1-10		1205				✓	1						✓	✓	✓
MW-1-15		1225				✓	1								
MW-1-20		1250				✓	1								
MW-2-10		1500				✓	1						✓	✓	✓
MW-2-15		1515				✓	1								
MW-2-20		1535				✓	1								
MW-3-10		1715				✓	1						✓	✓	✓
MW-3-15		1730				✓	1								
MW-3-20		1755				✓	1								
MW-5-5		0815				✓	1						✓	✓	✓
MW-5-10		0830				✓	1						✓	✓	✓

Special Instructions/ Conditions of Receipt:
RBCA + = EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify):

1. Relinquished By	Date: 12/7/05	Time: 1000	1. Received By	Date:	Time:
2. Relinquished By	Date:	Time:	2. Received By	Date: 12/8/05	Time: 10A
3. Relinquished By	Date:	Time:	3. Received By	Date:	Time:

Comments:

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

STL8274-580 (12/02)

RECEIVED
JAN 1 3 2006
BY:

ANALYTICAL REPORT

Job Number: 580-1019-1

Job Description: 4745, Halsey & 181st , OR

For:

Delta Environmental Consultants, Inc.
7150 SW Hampton Street
Suite 220
Tigard, OR 97223

Attention: Brian Pletcher

Tom Coyner
Project Manager I
tcoyner@stl-inc.com
01/11/2006

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STL Seattle
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Tacoma, WA 98424

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Fax: 253 922 5047
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ANALYTICAL NARRATIVE

Client: Delta Environmental

Date: January 11, 2006

Project: 4745

Lab No.: 1019

Delivered By: Submitter

SW8260
MTBE failed high in the LCS/D, hits in the samples. Fluorobenzene, Toluene and Ethylbenzene surrogates failed high in several samples. No samples remaining for re-analysis, results reported.

All quality control parameters were within the acceptance limits.

No difficulties were encountered during the total metals analyses

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METHOD SUMMARY

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	STL-SEA	SW846 8260B	
Purge-and-Trap	STL-SEA		SW846 5030B
Volatile Petroleum Products	STL-SEA	NWTPH NWTPH-Gx	
Purge-and-Trap	STL-SEA		SW846 5030B

LAB REFERENCES:

STL-SEA = STL-Seattle

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-1019-1	MW-1	Water	12/20/2005 1010	12/22/2005 1441
580-1019-2	MW-2	Water	12/20/2005 0930	12/22/2005 1441
580-1019-3	MW-3	Water	12/20/2005 0910	12/22/2005 1441
580-1019-4	MW-5	Water	12/20/2005 0950	12/22/2005 1441

SAMPLE RESULTS

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-1**

Lab Sample ID: 580-1019-1
Client Matrix: Water

Date Sampled: 12/20/2005 1010
Date Received: 12/22/2005 1441

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 20
Date Analyzed: 12/30/2005 2130
Date Prepared: 12/30/2005 2130

Analysis Batch: 580-2817

Instrument ID: 5973N
Lab File ID: MS163500.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	1700	*	20
Benzene	ND		20
1,2-Dichloroethane	ND		20
Toluene	ND		20
1,2-Dibromoethane	ND		20
Ethylbenzene	ND		20
m-Xylene & p-Xylene	ND	*	40
Isopropylbenzene	ND		20
N-Propylbenzene	ND		20
1,3,5-Trimethylbenzene	ND		20
1,2,4-Trimethylbenzene	ND		20
Naphthalene	ND		20

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	140	*	80 - 120
Toluene-d8	129	*	80 - 120
Ethylbenzene-d10	128	*	80 - 120
4-Bromofluorobenzene (Surr)	119		80 - 120
Trifluorotoluene (Surr)	122	*	80 - 120

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-2**

Lab Sample ID: 580-1019-2
Client Matrix: Water

Date Sampled: 12/20/2005 0930
Date Received: 12/22/2005 1441

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 5.0
Date Analyzed: 12/30/2005 2153
Date Prepared: 12/30/2005 2153

Analysis Batch: 580-2817

Instrument ID: 5973N
Lab File ID: MS163501.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	220	*	5.0
Benzene	ND		5.0
1,2-Dichloroethane	ND		5.0
Toluene	ND		5.0
1,2-Dibromoethane	ND		5.0
Ethylbenzene	ND		5.0
m-Xylene & p-Xylene	ND	*	10
Isopropylbenzene	ND		5.0
N-Propylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0
Naphthalene	ND		5.0

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	138	*	80 - 120
Toluene-d8	127	*	80 - 120
Ethylbenzene-d10	126	*	80 - 120
4-Bromofluorobenzene (Surr)	117		80 - 120
Trifluorotoluene (Surr)	116		80 - 120

Client: Delta Environmental Consultants, Inc.

Job Number: 580-1019-1

Client Sample ID: **MW-3**

Lab Sample ID: 580-1019-3
Client Matrix: Water

Date Sampled: 12/20/2005 0910
Date Received: 12/22/2005 1441

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/30/2005 2215
Date Prepared: 12/30/2005 2215

Analysis Batch: 580-2817

Instrument ID: 5973N
Lab File ID: MS163502.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	17	*	1.0
Benzene	ND		1.0
1,2-Dichloroethane	ND		1.0
Toluene	ND		1.0
1,2-Dibromoethane	ND		1.0
Ethylbenzene	2.7		1.0
m-Xylene & p-Xylene	5.2	*	2.0
Isopropylbenzene	3.5		1.0
N-Propylbenzene	9.4		1.0
1,3,5-Trimethylbenzene	3.4		1.0
1,2,4-Trimethylbenzene	15		1.0
Naphthalene	1.7		1.0

Surrogate	%Rec	Acceptance Limits
Fluorobenzene (Surr)	109	80 - 120
Toluene-d8	99	80 - 120
Ethylbenzene-d10	99	80 - 120
4-Bromofluorobenzene (Surr)	95	80 - 120
Trifluorotoluene (Surr)	94	80 - 120

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-5**

Lab Sample ID: 580-1019-4
Client Matrix: Water

Date Sampled: 12/20/2005 0950
Date Received: 12/22/2005 1441

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 20
Date Analyzed: 12/30/2005 2238
Date Prepared: 12/30/2005 2238

Analysis Batch: 580-2817

Instrument ID: 5973N
Lab File ID: MS163503.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	980	*	20
Benzene	ND		20
1,2-Dichloroethane	ND		20
Toluene	ND		20
1,2-Dibromoethane	ND		20
Ethylbenzene	ND		20
m-Xylene & p-Xylene	ND	*	40
Isopropylbenzene	ND		20
N-Propylbenzene	ND		20
1,3,5-Trimethylbenzene	ND		20
1,2,4-Trimethylbenzene	ND		20
Naphthalene	ND		20

Surrogate	%Rec		Acceptance Limits
Fluorobenzene (Surr)	141	*	80 - 120
Toluene-d8	128	*	80 - 120
Ethylbenzene-d10	128	*	80 - 120
4-Bromofluorobenzene (Surr)	117		80 - 120
Trifluorotoluene (Surr)	120		80 - 120

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-1**

Lab Sample ID: 580-1019-1
Client Matrix: Water

Date Sampled: 12/20/2005 1010
Date Received: 12/22/2005 1441

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 20
Date Analyzed: 12/30/2005 2130
Date Prepared: 12/30/2005 2130

Analysis Batch: 580-2818

Instrument ID: 5973N
Lab File ID: CS163500.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	RL
Gasoline	ND		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	109	50 - 150
Trifluorotoluene (Surr)	124	50 - 150
Ethylbenzene-d10	117	50 - 150
Fluorobenzene (Surr)	105	50 - 150
Toluene-d8	123	50 - 150

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-2**

Lab Sample ID: 580-1019-2
Client Matrix: Water

Date Sampled: 12/20/2005 0930
Date Received: 12/22/2005 1441

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 5.0
Date Analyzed: 12/30/2005 2153
Date Prepared: 12/30/2005 2153

Analysis Batch: 580-2818

Instrument ID: 5973N
Lab File ID: CS163501.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	RL
Gasoline	ND		0.50

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	108	50 - 150
Trifluorotoluene (Surr)	121	50 - 150
Ethylbenzene-d10	115	50 - 150
Fluorobenzene (Surr)	105	50 - 150
Toluene-d8	121	50 - 150

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: **MW-3**

Lab Sample ID: 580-1019-3
Client Matrix: Water

Date Sampled: 12/20/2005 0910
Date Received: 12/22/2005 1441

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/30/2005 2215
Date Prepared: 12/30/2005 2215

Analysis Batch: 580-2818

Instrument ID: 5973N
Lab File ID: CS163502.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	RL
Gasoline	0.67		0.10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	88	50 - 150
Trifluorotoluene (Surr)	102	50 - 150
Ethylbenzene-d10	92	50 - 150
Fluorobenzene (Surr)	89	50 - 150
Toluene-d8	108	50 - 150

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Client Sample ID: MW-5

Lab Sample ID: 580-1019-4
Client Matrix: Water

Date Sampled: 12/20/2005 0950
Date Received: 12/22/2005 1441

NWTPH-Gx Volatile Petroleum Products

Method: NWTPH-Gx
Preparation: 5030B
Dilution: 20
Date Analyzed: 12/30/2005 2238
Date Prepared: 12/30/2005 2238

Analysis Batch: 580-2818

Instrument ID: 5973N
Lab File ID: CS163503.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (mg/L)	Qualifier	RL
Gasoline	ND		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	109	50 - 150
Trifluorotoluene (Surr)	122	50 - 150
Ethylbenzene-d10	117	50 - 150
Fluorobenzene (Surr)	105	50 - 150
Toluene-d8	123	50 - 150

DATA REPORTING QUALIFIERS

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS, LCSD, MS, MSD, MD, or Surrogate exceeds the control limits

QUALITY CONTROL RESULTS

Client: Delta Environmental Consultants, Inc.

Job Number: 580-1019-1

Method Blank - Batch: 580-2817

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 580-2817/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 2108
Date Prepared: 12/30/2005 2108

Analysis Batch: 580-2817
Prep Batch: N/A
Units: ug/L

Instrument ID: 5973N
Lab File ID: MS163499.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		1.0
Benzene	ND		1.0
1,2-Dichloroethane	ND		1.0
Toluene	ND		1.0
1,2-Dibromoethane	ND		1.0
Ethylbenzene	ND		1.0
m-Xylene & p-Xylene	ND		2.0
Isopropylbenzene	ND		1.0
N-Propylbenzene	ND		1.0
1,3,5-Trimethylbenzene	ND		1.0
1,2,4-Trimethylbenzene	ND		1.0
Naphthalene	ND		1.0

Surrogate	% Rec	Acceptance Limits
Fluorobenzene (Surr)	118	80 - 120
Toluene-d8	107	80 - 120
Ethylbenzene-d10	107	80 - 120
4-Bromofluorobenzene (Surr)	104	80 - 120
Trifluorotoluene (Surr)	91	80 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Delta Environmental Consultants, Inc.

Job Number: 580-1019-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-2817

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 580-2817/16
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 2001
Date Prepared: 12/30/2005 2001

Analysis Batch: 580-2817
Prep Batch: N/A
Units: ug/L

Instrument ID: 5973N
Lab File ID: MS163496.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

LCSD Lab Sample ID: LCSD 580-2817/17
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 2023
Date Prepared: 12/30/2005 2023

Analysis Batch: 580-2817
Prep Batch: N/A
Units: ug/L

Instrument ID: 5973N
Lab File ID: MS163497.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	% Rec. LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	116	111	80 - 120	4	12		
Toluene	99	94	75 - 120	5	12		

Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits
Fluorobenzene (Surr)	123	*	119	80 - 120
Toluene-d8	109		105	80 - 120
Ethylbenzene-d10	110		105	80 - 120
4-Bromofluorobenzene (Surr)	109		105	80 - 120
Trifluorotoluene (Surr)	102		97	80 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Delta Environmental Consultants, Inc.

Job Number: 580-1019-1

Method Blank - Batch: 580-2818

Method: NWTPH-Gx
Preparation: 5030B

Lab Sample ID: MB 580-2818/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 2108
Date Prepared: 12/30/2005 2108

Analysis Batch: 580-2818
Prep Batch: N/A
Units: mg/L

Instrument ID: 5973N
Lab File ID: CS163499.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Gasoline	ND		0.10

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	98	50 - 150
Trifluorotoluene (Surr)	99	50 - 150
Ethylbenzene-d10	101	50 - 150
Fluorobenzene (Surr)	94	50 - 150
Toluene-d8	107	50 - 150

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 580-2818

Method: NWTPH-Gx
Preparation: 5030B

LCS Lab Sample ID: LCS 580-2818/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 1916
Date Prepared: 12/30/2005 1916

Analysis Batch: 580-2818
Prep Batch: N/A
Units: mg/L

Instrument ID: 5973N
Lab File ID: CS163494.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 580-2818/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/30/2005 1938
Date Prepared: 12/30/2005 1938

Analysis Batch: 580-2818
Prep Batch: N/A
Units: mg/L

Instrument ID: 5973N
Lab File ID: CS163495.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline	98	94	79 - 110	4	8		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene (Surr)	106	103	50 - 150
Trifluorotoluene (Surr)	118	112	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Blue White Ice FedEx

3.9°

1019

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

SEVERN TRENT STL

Client: Delta / Conoco	Project Manager: B. Pletcher	Date: 12/20/05	Chain of Custody Number: 21901
Address: 7150 SW Hampton #220	Telephone Number (Area Code)/Fax Number: 503-639-8098	Lab Number:	Page 1 of 1
City: Tigard / State: OR / Zip Code: 97223	Site Contact: M. CRAMER	Lab Contact:	
Project Name and Location (State): 4745 Halsey & 181st, OR	Carrier/Waybill Number: WNO. 4702.01		
Contract/Purchase Order/Quote No.: 4745.DEL001			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: NWTPH-Gx	RBCA	Special Instructions/ Conditions of Receipt
MW-1	12/20	1010		X						4			X	X	
MW-2	12/20	0930		X						4			X	X	
MW-3	12/20	0910		X						4			X	X	
MW-5	12/20	0950		X						4			X	X	

Page 19 of 20

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☑ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By: KMG/vm	Date: 12/20	Time: 1200	1. Received By:	Date: 12/22/5	Time: 1030
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Delta Environmental Consultants, Inc. Job Number: 580-1019-1

Login Number: 1019

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

ATTACHMENT D

SOIL DISPOSAL RECEIPT AND WASTE MANIFEST

WASTE MANAGEMENT

Hillsboro Landfill, Inc
3205 SW Minter Bridge
Hillsboro, OR, 97123
Ph: (503)-640-9427

Original
Ticket# 944737

Customer Name STRATUSCORP STRATUS CORPORATI
Ticket Date 01/16/2006
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest na
Destination
PO 6012
Profile 8586 (PCS)
Generator 168-CONOC04745 CONOCO PHILLIPS 4745

Carrier SELFHLD SELF HAULED
Vehicle# 109 Volume
Container
Driver virgil
Check#
Billing # 0000371
Gen EPA ID

	Time	Scale	Operator			
In	01/16/2006 12:25:59	MANUAL WT	hdg	Gross	37700	LBS
Out	01/16/2006 12:43:10	Outbound	TMM	Tare	29140	LBS
				Net	8560	LBS
				Tons		4.28

Comments

Consumer Comments? We want to know. Please call.

	Product	LO%	Qty	UOM	Rate	Tax	Amount	Origin
1	WM-Cont Soil Pet-C	100	4.28	Tons				MULT-IN
2	Evt-Env Fee Lg.	100	1	Load				

Burgan
PO 6012

Total Tax
Total Ticket

Driver's Signature

403WM

NON-HAZARDOUS WASTE MANIFEST

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: Not Applicable (N/A)

Manifest Document No.: 4745-06-01

2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address:
ConocoPhillips Company
5528 NW Doane Avenue
Portland, OR 97210

4. Generator's Phone: (503) 248-1517

5. Transporter 1 Company Name: Stratus Corporation

6. US EPA ID Number: N/A

A. State Transporter's ID: N/A

B. Transporter 1 Phone: 503-985-7912

7. Transporter 2 Company Name:

8. US EPA ID Number:

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address:
Waste Management-Hillsboro Landfill
3205 SE Minter Bridge Rd.
Hillsboro, OR 97123

10. US EPA ID Number:

E. State Facility's ID:

F. Facility's Phone: 503-640-9427

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
Soil Cuttings From UST Project				
a. Soil Cuttings	14	55-gal steel drums	5 ton	750
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above: IDW

15. Special Handling Instructions and Additional Information:
Level D - PPE

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date: Month	Day	Year
Martini Cramer		1	6	06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date: Month	Day	Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date: Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date: Month	Day	Year

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

May 12, 2005

MARTIN CRAMER
CONOCOPHILLIPS
5528 NW DOANE AVE
PORTLAND OR 97210

Re: ConocoPhillips #4745 II
LUST File No. 26-05-0199
Facility ID No. 1010

Dear Mr. Cramer:

The Department of Environmental Quality (DEQ) has completed a file review on the available file information on the above-referenced underground storage tank (UST) cleanup, located at 1545 NE 181st Avenue in Gresham, Oregon.

Based on the review of Delta Environmental Consultants, Inc., *Subsurface Investigation Report,* additional investigation is required to identify the source of contamination, to determine the extent of groundwater contamination, and to determine if groundwater monitoring is warranted.

Due to the number of sites requiring further attention, the DEQ's UST Cleanup Program prioritizes sites for further investigation and/or cleanup, based on the potential threats the site contamination poses to human health and/or the environment or to meet property owner's financing/real estate transaction needs.

Based on our evaluation, this site has been assigned a low priority for further project review. Given this priority, the following options are available to you:

1) Submit a signed cost recovery agreement to the DEQ to request oversight. If you have a property transaction or other extenuating circumstances, please inform DEQ and DEQ will try to accommodate your request for review sooner. Our goal is to assign projects as soon as possible. However, due to recent staff reductions and the large number of people who had previously requested oversight, we are unsure when a project manager would be assigned to this project.

2) Conduct further investigation and/or cleanup on your own, without DEQ oversight at this time. If you pursue this option, DEQ recommends keeping detailed records of your activities. You are required to submit the records to DEQ as work is completed. In accordance with its priorities, DEQ will review these records and determine the need for further action. Note that there is an element of risk in performing work without any DEQ oversight or consultation. For example, DEQ may not concur with the scope of work or

how site work has been implemented, or may determine that certain actions have worsened existing contamination.

3) Wait for DEQ to pursue further action at your site. When DEQ commences oversight, we will track our costs for any time spent providing oversight. Also, work required by law but not completed may be subject to enforcement activities.

Please let us know how you plan to proceed. If you have any questions or concerns with regards to these matters, please contact me at (503) 229-5472.

Respectfully,

Stephanie Rawson
UST Cleanup Specialist

cc: Ruth Ha
Delta Environmental Consultants, Inc.
7150 SW Hampton, Suite 220
Tigard, OR 97223

(smr:SMR)

DEQ-DC1

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

7150 SW Hampton • Suite 220
Tigard, Oregon 97223 USA

503.639.8098 800.477.7411
Fax 503.639.7619

RECEIVED
MAR 2 2005
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

www.deltaenv.com

LETTER OF TRANSMITTAL

To:	UST Duty Officer	**From:**	Brian Pletcher
Company:	DEQ Northwest Region UST Section 2020 SW First Avenue Suite 400 Portland, OR 97201	**Date:**	February 28, 2005
Re:	20 day report **DEQ File No. 26-05-0199**		**ConocoPhillips Site No. 4745**

Attached is the completed Initial Report Form for UST Projects (20-day report) for the release reported at ConocoPhillips Site No. 4745 located at 1545 NE 181st Avenue in Portland, Oregon. Also attached is a copy of a subsurface investigation report for your use.

Please feel free to call (503) 639 8098 with any questions or comments.

cc: Mr. Martin Crammer ConocoPhillips

A member of:
Inogen Environmental Alliance

INITIAL (TWENTY DAY) REPORT FORM FOR UST CLEANUP PROJECTS

This report is due twenty (20) days from the date of the release.

DEQ File No. 26 - 05 - 0199 DEQ Facility ID No. 1010

Site Name: ConocoPhillips # 4745 II

Site Address: 1545 NE 181st Avenue

Gresham, Oregon

INITIAL CLEANUP INFORMATION

(1) Type of contamination (check all that apply):

X Gasoline ___ Diesel ___ Waste Oil ___ Heating Oil
___ Other (specify) _____

(2) Estimate quantity of release (based on information known to date):
___<100 gal. ___100-499 gal. ___ 500-999 gal. ___1,000-5,000 gal. ___>5,000 gal.
X unknown

SITE INFORMATION

(3) N Y Did any water enter the excavation? If yes, please describe and identify the depth to groundwater in feet below ground surface: _____

(4) (N) Y Was a sheen or odor observed on any water in the excavation?

NOTE: IF GROUNDWATER IS ENCOUNTERED, SOIL SAMPLES FROM THE SOIL/WATER INTERFACE MUST BE COLLECTED AND ANALYZED FOR BTEX AND APPROPRIATE TPH METHOD.

AT SITES WHERE DIESEL OR OTHER NON-GASOLINE PRODUCTS HAVE BEEN RELEASED, THE WATER MUST ALSO BE TESTED FOR POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS).

(5) N Y Was water pumped from the excavation?
If yes, did groundwater recharge within 24 hours after pumping? N Y
NA Please describe the pumping procedure and disposal option selected for the purged excavation water: Depth to water 7.5 feet

(6) N Y Was/were any water sample(s) collected from the excavation?
If Yes, please describe: See attached Report

(7) N (Y) Have any soil and/or water samples results been received at this time?
If so, please attach any lab reports. See attached Report

REPORT DUE DATES AND INFORMATION TO BE SUBMITTED FOR UST CLEANUP PROJECTS

A. Within 20 days from the date the release was reported *

1. Complete all portions of the Initial Report Form for UST Cleanup Projects.

B. Within 45 days from the date the release was reported *

1. If cleanup (and the final report) cannot be completed within 45 days from the date of the release, submit an interim status report. The interim report must a) summarize the findings to-date, b) outline your planned actions for additional work, and c) include anticipated dates of completion for each action. Attach copies of any sample results and chain of custody forms for all samples collected to-date.

2. If cleanup is on-going, submit quarterly status reports (as described in item B.1 above) each January 1st, April 1st, July 1st, and October 1st unless otherwise specified by the DEQ Regional Office until cleanup is completed. Note: you do not need to resubmit copies of sample results already provided, but all data collected to-date should be mentioned in your summary reports.

C. Within 60 days from the date CLEANUP is considered COMPLETE

1. Submit the final cleanup report. The information that must be included is outlined in the UST Cleanup Manual, OAR 340-122-360.

D. Corrective Action Plans (CAP)

1. Once groundwater contamination has been confirmed and the investigation is complete, you will be required to submit a CAP for approval (some complex soil remediation projects may also require a CAP). If your project is not just a simple Matrix cleanup, contact the regional office listed below for specific information on how to proceed and what your reporting requirements will be.

* NOTE: The date the release was reported to DEQ is listed on the cover letter received by the Responsible Party.

Complete, step-by-step guidance on cleanup and reporting requirements is provided in the UST Cleanup Manual. Please refer to this manual for any specific information you may require. If you have further questions, please contact the regional office listed below.

SEND UST CLEANUP REPORTS TO:

DEQ - NORTHWEST REGION
UST SECTION
2020 SW FOURTH AVENUE SUITE 400
PORTLAND, OR 97201
(503) 229-5489

Dept. of Environmental Quality 3/22/96

IF GROUNDWATER HAS BEEN ENCOUNTERED, PLEASE ANSWER QUESTIONS 8-13, BELOW.
IF NO WATER HAS BEEN ENCOUNTERED, PLEASE SKIP TO QUESTION #14

(8) What are the known uses of groundwater within a 500 foot radius of the release site?
X non-use; ___ industrial; ___ agricultural; ___ drinking supply

(9) If groundwater in this area is being used as a drinking water supply, please check the following type of population and size served by the supply:

___ Community (community well used for drinking water year round)
size: ___ <1,000 people; ___ 1,000 - 5,000 people; ___ >5,000 people

___ Intermittent use (public water used for drinking water only on a part-time basis)
size: ___ <50 people; ___ 50 - 300 people; ___ > 300 people

___ Private wells (individual private well or wells used for drinking water)
size: ___ <10 people; ___ 10 - 25 people; ___ >25 people

(10) N Y Is there any evidence this water supply has been, or is likely to be impacted from the petroleum product release? If Yes, estimate how difficult it would be to replace the existing supply:

___ Bottled water is the only alternative.
___ On-site water treatment, bulk water delivery, or new wells are available.
___ Able to connect to existing water supply.
___ Do not know what alternatives would be available.

(11) (N) Y Are/were there any vapors present in on-site or nearby buildings? If yes:

A. Are you monitoring and/or mitigating any potential fire and safety hazards posed by vapors and free product? Explain:

B. Estimate the number of people potentially affected by vapors:
___ 1-2 people; ___ 3-10 people; ___ >10 people

(12) N Y - Are vapors or is petroleum contamination present in the utility corridors?
If yes, please explain: unknown

(13) (N) Y Are there natural areas within 1/4 mile of the site? If so, please explain type(s) (parks, rivers, wetlands, sensitive habitats, etc.) and proximity:

(14) N Y If groundwater was not encountered in the excavation, do you believe that this cleanup project can be conducted under the requirements for an UST Cleanup Matrix site?

N/A

AREA/SITE CONDITIONS:

(15) Mean annual rainfall: ___ <20 inches; X 20-45 inches; ___ >45 inches

(16) Soil type(s) (these are naturally occurring soils, not the backfill around the tank):

___ clays, compact tills, shales, and unfractured metamorphic and igneous rocks

X sandy loams, loamy sands, silty clays, clay loams, moderately permeable limestone, dolmite, sandstones, moderately fractured igneous and metmorphic rock.
Sand & Cobbles

X fine and silty sands, sands and gravels, highly fractured igneous and metamorphic rock, permeable basalts and lavas, karst limestones and dolmites.

SOIL MANAGEMENT

(17) (N) Y Will the level of contamination detected require removal of contaminated soil for treatment or disposal? (If soil sample results have been received):

(18) All contaminated soil temporarily stockpiled onsite prior to treatment or disposal must be contained within a bermed area, kept covered, and the entire area secured to prevent unauthorized access by the public. If you haven't done this, please explain why:

RX

(19) If contaminated soil is currently stockpiled onsite, please indicate when disposal will occur or when treatment will begin:

N/A

Note: Contaminated soil cannot be stockpiled onsite for more than thirty (30) days without applying for a Solid Waste Letter of Authorization (SWLA)

(20) Estimated volume of contaminated soil (tons or cubic yards): _____

(21) Intended disposition of soils (please check one):

____ Onsite treatment, Solid Waste Letter Authorization Permit Application attached.
____ Offsite treatment, Solid Waste Letter Authorization Permit Application attached.

Note: Offsite treatment of contaminated soil is banned within Portland Metro Boundaries

____ Thermal treatment offsite at an authorized facility.
Facilityname: _____

____ Thermal treatment onsite with a mobil treatment unit, permit required from DEQ.
Company name_____

____ Landfill disposal. Name of Landfill:_____

Note: Please attach additional information as necessary to explain any unusual circumstances associated with this project.

This initial report is intended to provide the Department with the basic initial information about activities associated with the release. Future reports must be much more detailed and provide a complete picture of the cleanup project.

THIS REPORT WAS PREPARED BY:

Individual: Brian Pletcher Phone: 503-639-8098
Company: Delta Environmental Consultants
Address: 7120 SW Hampton Suite 220
City Tigard Oregon 97223 State _____ Zip _____

Please return this form to:	Department of Environmental Quality Northwest Region-UST Section 2020 SW Fourth Avenue, Suite 400 Portland, OR 97201

Please be aware that a DEQ permit/authorization is required for the following activities:

1) Soil aeration, bioremediation (on-site or off-site) or on-site thermal treatment.

2) Water discharges from the excavation or treatment tank.

If these activities will be included in your cleanup project, contact the regional DEQ office for the appropriate application forms, information on permit fees and guidance documents.

Note: If there will be emissions from pollution control equipment (e.g. air strippers, vapor extraction systems, etc.), notify the DEQ by phone before installation. Have actual or estimated emissions calculated before calling.

KEEP A COPY OF THIS REPORT FOR YOUR FACILITY RECORDS

Fact Sheet

Approval Requirements for UST Cleanup Projects

State of Oregon
Department of Environmental Quality

Land Quality Division
UST Program
811 SW 6th Avenue
Portland, OR 97204
Phone: (800) 742-7878
Fax: (503) 229-6954
tanks.info@deq.state.or.us

Background

The Oregon Department of Environmental Quality (DEQ) is required to approve certain cleanup actions and the final "no further action" determination for underground storage tank (UST) cleanup sites. Oregon Administrative Rules (OAR) 340-122-0205 through 0360 specifies UST cleanup requirements and approval criteria.

This Fact Sheet explains when approval from the UST Cleanup Program is necessary. This document will also serve as a useful reference about where to find more complete descriptions of the criteria and procedures for approval.

When is "approval" necessary for UST cleanup sites?

Formal DEQ approval is only required for a corrective action plan (CAP) and for a "no further action" determination. We encourage the responsible party to proceed with necessary corrective action plans prior to approval. Approval is not needed for actions required by OAR 340-122-0220 through 0240, such as mitigating imminent hazards, preventing additional leaks, investigating the contamination, performing free product removal, and proceeding with site cleanup.

What is required for the approval of a corrective action plan?

Oregon Administrative Rule 340-122-0250 lists the information that must be included in a corrective action plan. Remember these three important rules:

- You must determine the full magnitude and extent of all contamination (soil, groundwater, surface water and vapors--both on- and off-site).
- It is not necessary to wait until a corrective action plan is approved in order to perform corrective actions, unless implementation of the corrective action carries additional human health risks that must be evaluated (*e.g.*, air sparging, bioremediation, *etc.*).
- A corrective action plan must include enough design and test data to show that the plan is adequate to protect human health and the environment.

What is a "no further action" determination? What are the evaluation criteria for approval?

Your cleanup site may qualify for a "no further action" determination when it no longer presents an unacceptable risk to human health or the environment and when you have complied with all applicable rules. The "no further action" decision means that based upon the technical information presented to DEQ, the agency has concluded that no additional cleanup measures are necessary.

The UST Cleanup Program allows many options for completing your project. These include:

- Low-Impact Sites (OAR 340-122-0243)
- Risk-Based Concentrations (OAR 340-122-0244)
- Corrective Action Plan (OAR 340-122-0250)
- Generic Remedies (OAR 340-122-0252)
- Soil Matrix Cleanup Options (OAR 340-122-0320 through 0360)

Each option takes a different path to the no further action determination, but you must always:

- Determine the full magnitude and extent of all contamination.
- Demonstrate that there are no unacceptable risks either by 1) leaving no residual contamination in place that exceeds numeric standards or 2) demonstrating that there are no complete pathways that present human health or environmental risk.

Additional information

Three important documents are:

- *UST Cleanup Manual,* DEQ, 2000,
- *Risk-Based Decision Making for the Remediation of Petroleum-contaminated Sites,* DEQ, 1999, and
- *Guidance for Applying the Low-Impact Site Rule to UST Cleanup Sites,* DEQ, 1999.

All are available by contacting DEQ's Helpline toll-free at 1-800-742-7878. E-mail your request to **tanks.info@deq.state.or.us** or visit our Web site at: **www.deq.state.or.us/wmc/tank/toc-fct.htm.**

Last Updated: 9/05/01
By: Sheila Monroe

Delta
Environmental
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Tigard, Oregon 97223 USA

503.639.8098 800.477.7411
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26-05-0199

February 21, 2005

Andrew Stow
ConocoPhillips
Post Office Box 2197
Houston, Texas 77252-2197

RE: Subsurface Investigation Report
ConocoPhillips Service Station No. 4745
1545 NE 181st Avenue
Portland, Oregon
Project No. OR04-745-1

Dear Mr. Stow:

Delta Environmental Consultants (Delta) has prepared this report summarizing the baseline environmental assessment for the ConocoPhillips Site No. 4745 located at 1545 NE 181st Avenue in Portland, Oregon. The scope of work was performed to document existing soil and shallow groundwater conditions related to potential hydrocarbon impact associated with site activities. This investigation was completed without an oversight agency approved work plan.

Delta Environmental Consultants, Inc. (Delta), on behalf of ConocoPhillips, has prepared this environmental investigation report for ConocoPhillips Site No. 4745, located in Portland, Oregon. The purpose of this investigation was to assess current on-site soil and groundwater conditions with respect to petroleum hydrocarbons potentially associated with site activities.

SITE DESCRIPTION

ConocoPhillips Site No. 4745 (Site) is an operating 76-branded service station located on the southwest corner of the intersection of NE 181st Avenue and NE Halsey Street in Portland, Oregon (Figure 1). Current site features include a station building, two 12,000-gallon gasoline underground storage tanks (USTs), one used-oil UST, one former dispenser island canopy and two dispenser islands. The Site is primarily covered with concrete and asphalt pavement.

A member of:
Inogen® Environmental Alliance

SITE VICINITY

The Site is bordered to the north by NE Halsey Street, beyond which is a vacant ARCO branded retail fuel service station, to the east by NE 181st Avenue, beyond which is a restaurant (Jung's Dynasty), to the south by a restaurant (Wendy's); and to the west by a Safeway grocery store.

The nearest surface water body is a canal, located approximately 1.0 mile north of the Site, which appears to drain Fairview Lake, located approximately 1.5 miles northeast of the Site.

SCOPE OF WORK

On January 11, 2005 Delta supervised the completion of seven on-site soil borings (P-1 through P-7) near the dispenser islands and USTs to assess hydrocarbon in the site soil and groundwater.

BORINGS

Prior to drilling, a project-specific health and safety plan (HASP) was prepared in accordance with 29 CFR 1910 120 for field activities at the site. The HASP identified potential physical and chemical hazards associated with the proposed field activities and specified personal protection and safety monitoring requirements. The HASP was available on-site at all times during the field activities. One-Call Utilities Notification and a private utility locator were contracted to assist in locating the subsurface features and the utilities in the area of the proposed drilling. All boring locations were air-knifed to five feet below ground surface (bgs) for utility clearance.

The soil borings were advanced using a direct-push hydraulic drive point system to depths ranging from 7.5 feet bgs to 14 feet bgs. The total depth of the boring was dependent upon the depth at which groundwater or refusal was encountered at each boring location. Soil samples were collected at approximate four-foot intervals using a four-foot macro sampler. Groundwater was encountered in three of the seven boring locations (P-1, P-2, and P-6) and groundwater samples were collected. The soil borings were backfilled with hydrated bentonite chips upon completion. The completed borings were finished to grade with like surface materials. A site map with boring locations is presented as Figure 2.

SUBSURFACE CONDITIONS

Soils encountered during this investigation generally consisted of well-graded sands with gravel and cobbles and silty sands with gravel and cobbles to the total depth explored of 14 feet bgs. Groundwater was encountered in borings P-1, P-2 and P-6 at depths of 7.5, 9.5 and 13.5 feet, respectively. Groundwater was not encountered during boring advancements at boring locations P-3, P-4, P-5, and P-7.

SOIL SAMPLING

Soil samples were collected at approximate four-foot intervals between 5 feet and 13.5 feet bgs in accordance with OAR 340-122-0218. Soil samples for logging and chemical analysis were collected utilizing a four-foot long macro core sampler with a 1.5-inch inside diameter driven into undisturbed formation materials utilizing a hydraulic piston mechanism. The soils encountered were logged by a Delta field technician working under the supervision of a state-registered geologist using ASTM D 2488, titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Field observations, including soil color, odor and photoionization detector (PID) readings, were recorded on the boring logs. Field procedures and boring logs are included in Attachment A.

SOIL SAMPLE SELECTION AND ANALYSIS

Based on field observations and PID readings stated above, soil samples were selected from each boring and submitted for laboratory analysis. Soil samples submitted for analysis were identified as P-1-8, P-2-12, P-3-7, P-4-12, P-5-11, P-6-13.5, and P-7-11. Soil samples were submitted to Severn Trent Laboratories, Inc. (STL) in Tacoma, Washington for quantitative chemical analysis. A certified laboratory analytical report and chain-of-custody documentation is included in Attachment B. Selected soil samples were submitted for analysis for one or more of the following:

- TPH as gasoline (TPH-G) using Northwest Method NWTPH-Gx.
- TPH as oil (TPH-O) and TPH as diesel (TPH-D) using Northwest Method NWTPH-Dx.
- Benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, methyl tert-Butyl ether (MTBE), 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC), isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene using EPA Method 8260B

SOIL ANALYTICAL RESULTS

Fuel USTs

Sample locations P-1 and P-2 were located near the present gasoline USTs to assess the soil and groundwater conditions. Two soil samples (P-1-8 and P-2-12) were collected at respective depths of 8 feet and 12 feet bgs, and were submitted for laboratory analysis.

TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were not detected above the laboratory method reporting limits (MRLs) in any of the soil samples submitted for analysis.

Dispenser Islands

Sample locations P-3 and P-4 were located near the present dispenser islands to assess the soil and groundwater conditions. Two soil samples (P-3-7 and P-4-12) were collected at respective depths of 7 feet and 12 feet bgs, and were submitted for laboratory analysis.

TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in any of the soil samples submitted for analysis.

Former Dispenser Island

Sample locations P-5 and P-6 were located near the former dispenser island to the north of the site to assess the soil and groundwater conditions. Two soil samples (P-5-11 and P-6-13.5) were collected at respective depths of 11 feet and 13.5 feet bgs, and were submitted for laboratory analysis.

TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in any of the soil samples submitted for analysis. 1,2,4-trimethylbenzene was detected in soil sample P-5-11 at a concentration of 0.0776 mg/kg.

Used Oil UST

Sample location P-7 was located near the present used-oil UST to assess the soil and groundwater conditions. One soil sample (P-7-11) was collected at a depth of 7 feet bgs, and was submitted for laboratory analysis. Sample P-7-11 was additionally analyzed for TPH-D and TPH-O due to its proximity to the used oil UST.

TPH-G was detected above the laboratory MRL at a concentration of 7.68 mg/kg. TPH-D, TPH-O, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in the soil sample submitted for analysis.

Soil analytical results are summarized in Tables 1 and 2. A site map with TPH-G and BTEX concentrations in soil is presented as Figure 2.

GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were collected from boring locations P-1 and P-2 (located near the fuel USTs) and P-6, located near the former dispenser island to the north of the site to assess potential petroleum hydrocarbon impact in the groundwater. Groundwater was not encountered in boring locations P-3 through P-5 and P-7.

Three groundwater samples (P-1, P-2, and P-6) were submitted for analysis for TPH-G, BTEX, MTBE, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. TPH-G was detected in samples P-1

and P-2 at concentrations of 11,400 micrograms per liter (µg/L) and 276 µg/L, respectively. BTEX was detected in sample P-1 at concentrations of 11.1 µg/L, 3.36 µg/L, 127 µg/L, and 118 µg/L, respectively. Ethylbenzene was detected in sample P-2 at a concentration of 1.55 µg/L. MTBE was detected in groundwater samples collected from P-1, P-2, and P-6 at concentrations of 49.4 µg/L, 37.8 µg/L, 51.5 µg/L, respectively. Naphthalene was detected in samples P-1 and P-2 at concentrations of 124 µg/L and 3.48 µg/L, respectively. Additional RBCA volatiles (isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene) were detected above the laboratory MRLs in sample P-1 at concentrations ranging from 31.1 µg/L (isopropylbenzene) to 725 µg/L (1,2,4-trimethylbenzene). Additional RBCA volatiles (n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene) were detected above the laboratory MRLs in sample P-2 at concentrations ranging from 1.58 µg/L (1,3,5-trimethylbenzene) to 6.73 µg/L (1,2,4-trimethylbenzene).

TPH-G, BTEX, naphthalene, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were not detected above the laboratory MRLs in sample P-6.

Groundwater analytical results are summarized in Tables 3 and 4. A site map with TPH-G, BTEX, MTBE and naphthalene concentrations in groundwater is presented as Figure 3.

WASTE HANDLING

Soil cuttings and decontamination water generated by field activities were temporarily stored in 55-gallon steel drums pending receipt of analytical results and coordination of disposal at an appropriate ConocoPhillips-approved facility. Decontamination water was transported by Delta to ConocoPhillips Site No. 11019 for treatment and disposal. Soil disposal receipts are included in Attachment C.

SUMMARY

This site investigation was performed to assess current on-site soil and groundwater conditions with respect to petroleum hydrocarbons at the site. TPH-G in soil was detected above the laboratory MRL in one soil sample (P-7-11) submitted for analysis from soil boring locations P-7, near the present used-oil UST and 1-2-4,trimethylbenzene was detected in boring P-5 near the former dispenser island. Petroleum hydrocarbons were not detected above the laboratory MRLs in all other soil samples submitted for analysis from soil boring locations P-1 through P-6.

Groundwater was encountered in three of the seven boring locations (P-1, P-2, and P-6). TPH-G, BTEX, MTBE, naphthalene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-1, located near the present fuel USTs. TPH-G, ethylbenzene, MTBE, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above the laboratory MRLs in sample P-2, located immediately east of the present fuel USTs. MTBE was detected above the laboratory MRL in sample P-6, located immediately west of the former dispenser island. EDB and EDC were not detected above

the laboratory MRLs in any of the groundwater samples submitted for analysis from boring locations P-1, P-2, and P-6.

On February 7, 2005, evidence of a potential release to the subsurface from an underground storage tank system was reported to the Oregon DEQ. The DEQ assigned the site DEQ File No. 626-05-0199 (Attachment C).

If you have any questions or comments regarding this report, please contact Ruth Ha at (503) 639-8098.

Sincerely,
Delta Environmental Consultants, Inc.

Ruth Ha
Project Engineer

Brian J. Pletcher, R.G.
Senior Project Geologist

cc: Mr. Bob Turrietta, ConocoPhillips
Mr. Martin Cramer, ConocoPhillips
Mr. William Rodgers, ConocoPhillips

Attachments: Table 1 – Summary of Soil Analytical Results – TPH, BTEX, MTBE, and Naphthalene
Table 2 – Summary of Soil Analytical Results – Selected VOCs
Table 3 - Summary of Groundwater Analytical Results – TPH-G, BTEX, MTBE, and Naphthalene
Table 4 – Summary of Groundwater Analytical Results – Selected VOCs
Figure 1 – Site Location Map
Figure 2 – Site Map with Boring Locations and TPH-G and Benzene Concentrations in Soil
Figure 3 - Site Map with Boring Locations and TPH-G, BTEX, MTBE, and Naphthalene Concentrations in Groundwater
Attachment A – Field Procedures and Boring Logs
Attachment B – Laboratory Analytical Report and Chain-of-Custody Documentation
Attachment C –Oregon DEQ Release Report

TABLE 1
SOIL ANALYTICAL RESULTS - TPH, BTEX, MTBE, AND NAPHTHALENE
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Sample Identification	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)
P-1-8	01/11/05	<4.89	-	-	<0.0489	<0.0489	<0.0489	<0.1466	<0.0489	<0/0489
P-2-12	01/11/05	<5.16	-	-	<0.0516	<0.0516	<0.0516	<0.1546	<0.0516	<0.0516
P-3-7	01/11/05	<4.66	-	-	<0.0466	<0.0466	<0.0466	<0.1398	<0.0466	<0.0466
P-4-12	01/11/05	<4.86	-	-	<0.0486	<0.0486	<0.0486	<0.1457	<0.0486	<0.0486
P-5-11	01/11/05	<4.49	-	-	<0.0449	<0.0449	<0.0449	<0.1348	<0.0449	<0.0449
P-6-13.5	01/11/05	<5.31	-	-	<0.0531	<0.0531	<0.0531	<0.1591	<0.0531	<0.0531
P-7-11	01/11/05	7.68	<28.6	<57.2	<0.0453	<0.0453	<0.0453	<0.136	<0.0453	<0.0453

Notes:
mg/kg = milligrams per kilogram - dry
TPH-G = Total Petroleum Hydrocarbon as Gasoline
TPH-D = Total Petroleum Hydrocarbon as Diesel
TPH-O = Total Petroleum Hydrocarbon as Oil
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
TPH-Gasoline (TPH-G) analysis by NWTPH-Gx Method
TPH-Diesel (TPH-D) and TPH-Oil (TPH-O) analysis by Northwest Method NWTPH-Dx with silica gel cleanup
BTEX, MTBE, and naphthalene analysis by EPA Method 8260B
< = not detected above the laboratory method reporting limits (MRLs)
- = not analyzed

TABLE 2
SOIL ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Sample Identification	Sample Date	EDB (mg/kg)	EDC (mg/kg)	Isopropyl Benzene (mg/kg)	n-Propyl Benzene (mg/kg)	1,3,5-Trimethyl Benzene (mg/kg)	1,2,4-Trimethyl Benzene (mg/kg)
P-1-8	01/11/05	<0.0489	<0.0489	<0.0489	<0.0489	<0.0489	<0.0489
P-2-12	01/11/05	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516	<0.0516
P-3-7	01/11/05	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466	<0.0466
P-4-12	01/11/05	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486	<0.0486
P-5-11	01/11/05	<0.0449	<0.0449	<0.0449	<0.0449	<0.0449	0.0776
P-6-13.5	01/11/05	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531	<0.0531
P-7-11	01/11/05	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453	<0.0453

Notes:
mg/kg = milligrams per kilogram - dry
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
Volatile organic compound (VOC) analysis by EPA Method 8260B
< = not detected above the laboratory method reporting limits (MRL)

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - TPH-G, BTEX, MTBE, AND NAPHTHALENE
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

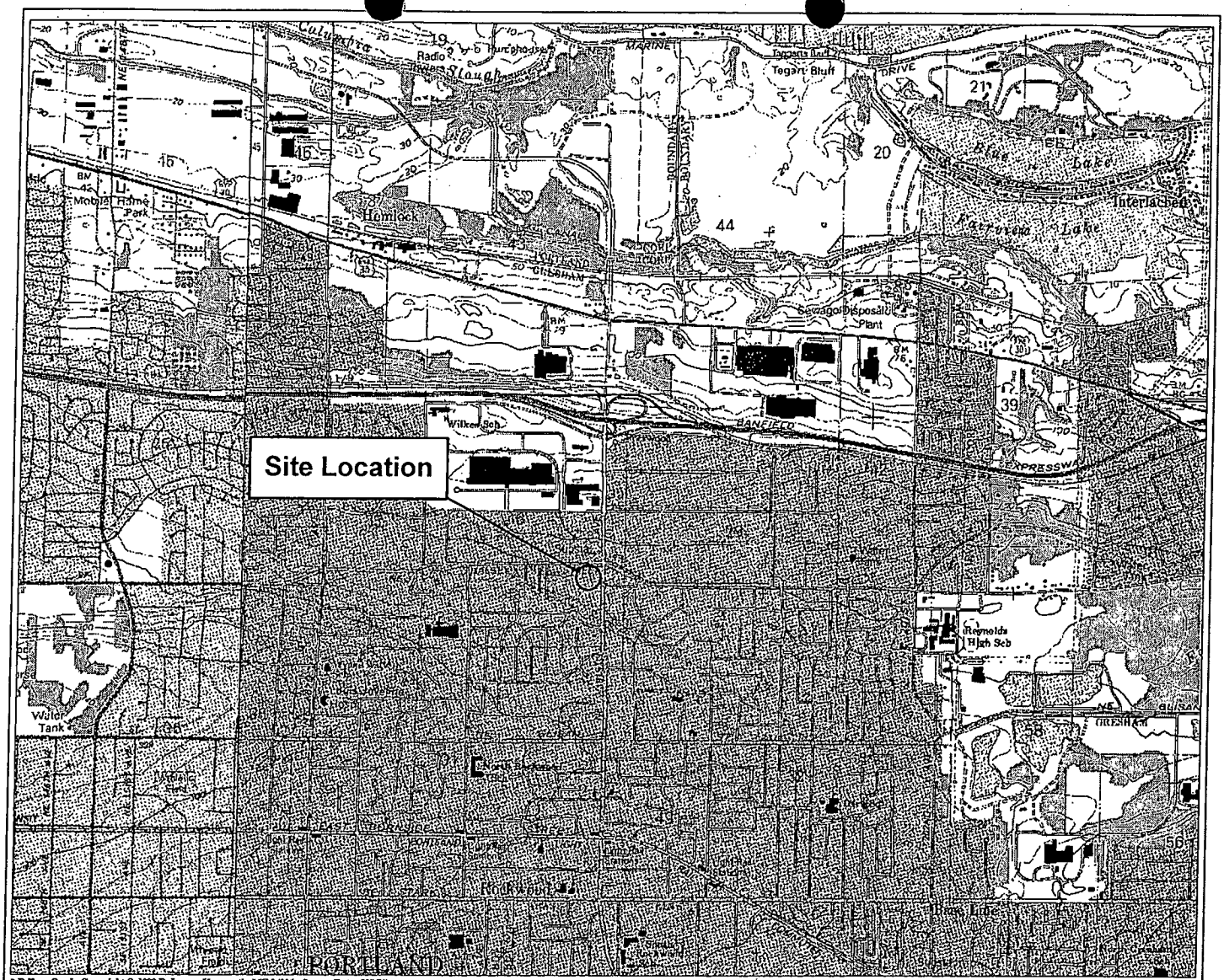
Sample Identification	Sample Date	TPH-G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)
P-1	01/11/05	11,400	11.1	3.36	127	118	49.4	124
P-2	01/11/05	276	<1	<1	1.55	<3	37.8	3.48
P-6	01/11/05	<100	<1	<1	<1	<3	51.5	<1

Notes:
µg/L = micrograms per liter
TPH-G = Total Petroleum Hydrocarbon as Gasoline
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl tert-Butyl Ether
TPH-Gasoline (TPH-G) analysis by NWTPH-Gx Method
BTEX, MTBE, and naphthalene analysis by EPA Method 8260B
< = not detected above the laboratory method reporting limits (MRLs)

TABLE 4
GROUNDWATER ANALYTICAL RESULTS - SELECTED VOCs
ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

Sample Identification	Sample Date	EDB (µg/L)	EDC (µg/L)	Isopropyl Benzene (µg/L)	n-Propyl Benzene (µg/L)	1,3,5-Trimethyl Benzene (µg/L)	1,2,4-Trimethyl Benzene (µg/L)
P-1	01/11/05	<1	<1	31.1	135	142	725[1]
P-2	01/11/05	<1	<1	<1	1.69	1.58	6.73
P-6	01/11/05	<1	<1	<1	<1	<1	<1

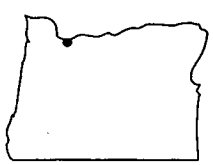
Notes:
µg/L = micrograms per liter
[1] = The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
Volatile organic compound (VOC) analysis by EPA Method 8260B
< = not detected above the laboratory method reporting limits (MRLs)



Reference:

DeLorme3-D TopoQuads
Camas (WA-OR) 1996
1:25,000

North



QUADRANGLE LOCATION

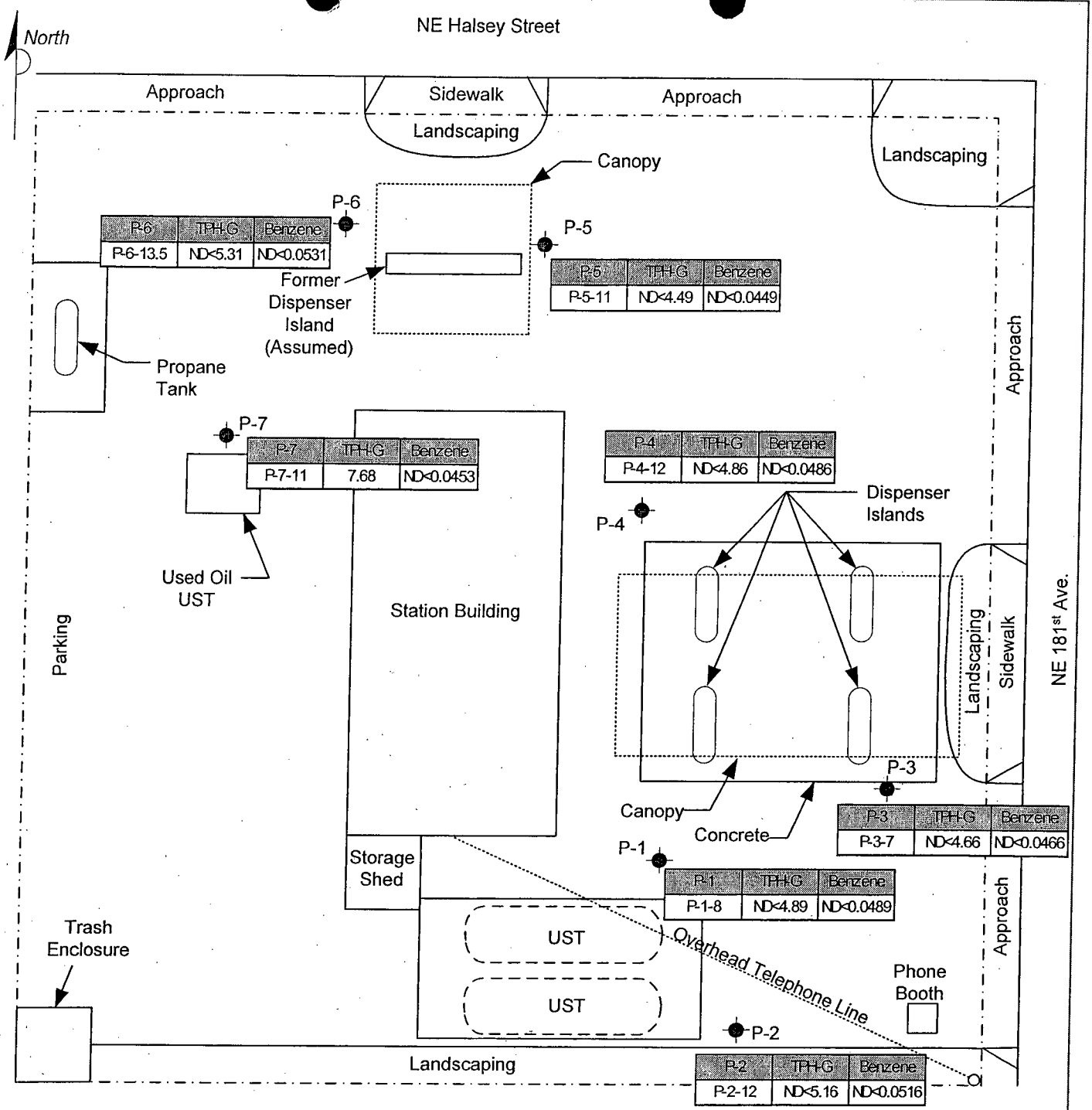
FIGURE 1

SITE LOCATION MAP

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-475-1.	DRAWN BY CRF
FILE NO. 4745	PREPARED BY CRF 1/4/05
REVISION NO.	REVIEWED BY

Delta
Environmental
Consultants, Inc.



LEGEND

P-1 ⊕ Soil Boring Location and Designation (1/11/05)

TPH-G Total Petroleum Hydrocarbon as Gasoline in milligrams per kilogram (mg/kg)

ND Not Detected above laboratory reporting limit

TPH-G and Benzene results in mg/kg

0 20 FT

APPROX. SCALE

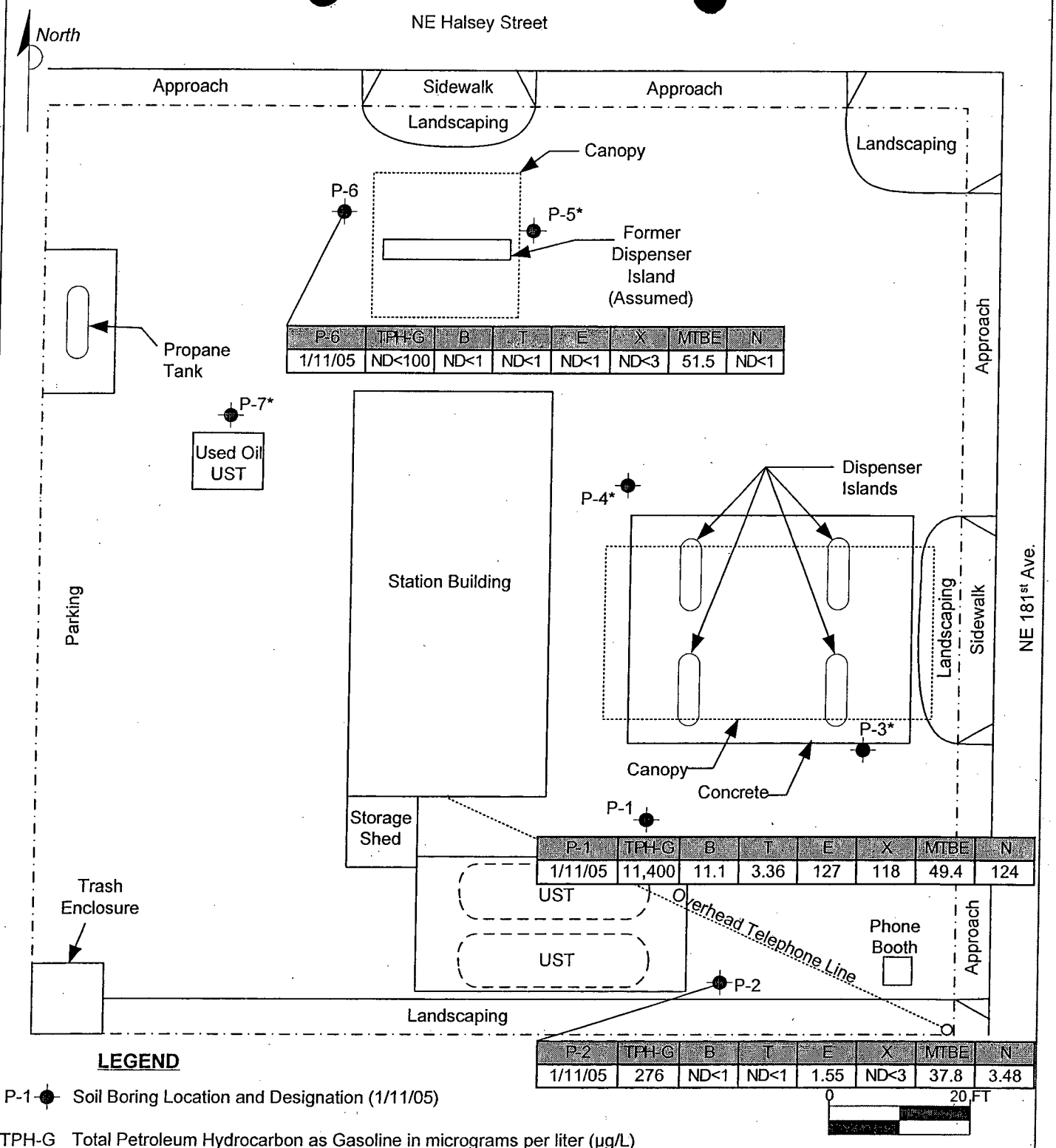
FIGURE 2

SITE MAP WITH BORING LOCATIONS AND TPH-G AND BENZENE CONCENTRATIONS IN SOIL

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 2/7/05
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.



P-6	TPH-G	B	T	E	X	MTBE	N
1/11/05	ND<100	ND<1	ND<1	ND<1	ND<3	51.5	ND<1

P-1	TPH-G	B	T	E	X	MTBE	N
1/11/05	11,400	11.1	3.36	127	118	49.4	124

P-2	TPH-G	B	T	E	X	MTBE	N
1/11/05	276	ND<1	ND<1	1.55	ND<3	37.8	3.48

LEGEND

P-1 ⊕ Soil Boring Location and Designation (1/11/05)

TPH-G	Total Petroleum Hydrocarbon as Gasoline in micrograms per liter (µg/L)
B	Benzene Concentration, µg/L
T	Toluene Concentration, µg/L
E	Ethylbenzene Concentration, µg/L
X	Xylene Concentration, µg/L
MTBE	Methyl tert-Butyl Ether Concentration, µg/L
N	Naphthalene Concentration, µg/L
ND	Not Detected Above Laboratory Reporting Limit
*	Groundwater Not Encountered - No Sample Collected

FIGURE 3

SITE MAP WITH BORING LOCATIONS AND TPH-G, BTEX, MTBE, AND NAPHTHALENE CONCENTRATIONS IN GROUNDWATER

ConocoPhillips Site No. 4745
1545 NE 181st Avenue
Portland, Oregon

PROJECT NO. OR04-745-1	DRAWN BY JMN 1/19/04
FILE NO. 4745	PREPARED BY CRF 2/7/05
REVISION NO.	REVIEWED BY

Delta Environmental Consultants, Inc.

ATTACHMENT A

FIELD PROCEDURES AND BORING LOGS

GEOPROBE INSTALLATION PROCEDURES AND SOIL AND SAMPLING PROTOCOL

UNDERGROUND UTILITY LOCATIONS

Prior to initiating the field investigation, a request was placed with the Utilities Notification Center to conduct an underground utility survey in the vicinity of the proposed Geoprobe borings and groundwater monitoring well. A private utility locator was contracted to clear the proposed Geoprobe borings of private underground utilities. Each boring location was air-knifed to five feet bgs for utility clearance.

DRILLING PROCEDURES

Soil borings were drilled using a Geoprobe rig equipped with a 4-foot by 1.5-inch inside diameter macrosampler. Decontamination water was contained in a trailer during washing and immediately pumped into Oregon Department of Transportation (ODOT) approved 55-gallon open-head drums. Soil cuttings generated during drill activities were collected and stored on site in 55-gallon steel drums.

SOIL SAMPLE COLLECTION

Soil samples were collected from the 4-foot macrosampler that was lined with acrylic sleeves in the Geoprobe borings. Prior to sampling, a piston was unlocked which was placed in the leading end of the macrosampler. The macrosampler was then advanced into undisturbed soils at the bottom of the borehole. The macrosampler was then withdrawn from the boring and opened. The macrosampler contents were segregated and prepared for evaluation and analysis. Field screening was completed by placing a portion of the collected soil into a sealable plastic bag and then monitoring headspace vapor concentrations using a portable photoionization detector (PID). The middle portion from the sampling interval was prepared for submittal to an off-site laboratory for possible analysis. The uppermost portion of the sample interval was retained for visual inspection and for lithogic descriptions.

A log was compiled for each borehole, including descriptions of the soil types, color, texture, degree of consolidation, and moisture content. Soil types were based on the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).*

FIELD SCREENING OF SOIL SAMPLES

Soil samples were field screened for visual or olfactory indications of petroleum hydrocarbons, tested for sheen by water immersion, and tested for headspace vapor concentrations using a portable PID.
Data generated from field screening instruments were considered qualitative in nature. Although semi-quantitative data are generated using a PID, the results cannot be relied upon with the confidence of a laboratory analysis. Data generated from this type of analysis may provide the following:

- Identification of soil, water, air, and waste locations that have a high likelihood of showing contamination through subsequent laboratory analysis.
- Real-time data used for health and safety consideration during site reconnaissance and subsequent intrusive activities.

- Quantitative data, if contaminant is known and the instrument is calibrated to that substance.

FIELD SCREENING USING VAPOR HEADSPACE TESTING

The instrument used for headspace vapor testing was a MiniRae PID. Prior to use, this instrument was calibrated to a known isobutylene calibrant standard (100 parts per million (ppm)), in accordance with the manufacturer's specifications.

The following sequential steps were completed for each sample analyzed:

- A representative portion of the soil sample was collected directly from a brass sample ring or acrylic sleeve into a new, sealable Ziploc-type plastic bag. The bag was immediately sealed.
- The sealed bag with sample was allowed to sit at field ambient temperature for several minutes.
- One end of the bag seal was slightly opened, and the intake port of a PID was carefully inserted through the opening.
- The stabilized numerical value was observed and recorded onto the boring log form.

This number does not represent a concentration of volatiles in ppm; it is a relative measure of the amount of ionized compounds present. As the exact chemical species present is unknown, the units of concentration are referred to as ppm of isobutylene.

Vapor headspace screening is only applicable as a screening method for the presence of ionizable compounds with first ionization potentials of less than 10.6 electron volts. In addition, variables that affect measurable concentrations and are unaccounted for in this procedure include, but are not limited to: temperature, soil moisture content, and soil organic content. Vapor headspace screening is not designed for screening for evidence of contamination by semi-volatile or non-volatile organic compounds or for the presence of elemental metals or compounds.

Soil Descriptions

The Delta system of soil description utilizes the ASTM D 2488 titled *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Generally, soils were described by the following modifiers:

- Density (based on visual observations).
- Moisture.
- Color (including mottling, stringers, color changes).
- Soil classification.
- Stratification.
- Percent varying grain sizes.
- Sphericity, and roundness of grains.
- Major soil constituents were capitalized, and granular soils were given relative size descriptions.

Each sample was described, using the modifiers provided above, on a standardized field log form or project notebook.

Sample Documentation and Custody

Chain-of-custody for a sample was defined by the following criteria:

- The sample was in a Delta staff person's possession or in his or her view after being in his or her possession.

Each time the samples transferred possession, both the sender and receiver signed and dated the chain-of-custody form and specified the item being transferred. After transfer of sample custody from the sampling team to the laboratory sample custodian, one copy of the chain-of-custody record was given to the sampling team for placement into the project files; the original remains with the laboratory. A chain-of-custody record was completed for each shipment of containers.

The following information was included on the chain-of-custody form:

- Sample container type and container number.
- Date and time of collection.
- Sample collection location(s).
- Signatures of sampler, submitter, and receiver of samples.
- Date and time samples were received by laboratory.
- Total number of samples received.
- Laboratory analyses requested for each sample.
- Requested laboratory turn-around time.

Decontamination Procedures

Decontamination procedures were used on all dedicated and non-dedicated sampling equipment that could potentially contact and cross-contaminate other materials. This included personal protective equipment, sampling equipment, and sample containers.

Materials that were used in the decontamination process include:

- Liquinox nonphosphate detergent.
- Deionized water.
- Tap water.
- Teflon squirt bottles.
- Bailer brushes.
- Galvanized cleaning tubs.

Investigation-Derived Wastes

Personal protective clothing, development water, purge water, and decontamination solution/solvents were the types of waste generated during the course of this project.

The water generated from the investigation was transported to ConocoPhillips Site No. 11019 in Salem, Oregon for treatment and disposal. Potentially hazardous wastes were contained within DOT approved, 17-H steel drums (55-gallon) and stored on site (with the owner's permission), pending receipt of analytical data and determination of final disposition.

Each drum containing investigation-derived waste was labeled with the following information:

- Site name.
- Sequential drum number.
- Date of collection.
- Source and type of waste.

All such information was recorded in field log books, and a final inventory of all investigation-derived wastes, including quantities, storage methods, disposition, and dates, was compiled at the completion of the project.
Soil containing concentrations of petroleum constituents were disposed of at an off-site site permitted to accept and treat soil containing petroleum constituents. All necessary permits were obtained prior to transporting, treating, or disposal of soil.

Field Notebook

In addition to sample identification numbers and chain-of-custody records, a bound field notebook was maintained by Delta personnel to provide a daily record of significant events, observations, and measurements during field investigations. This record will include a sample collection record, field measurements, personnel, and other pertinent information. All entries in the field notebooks were made in ink, signed, and dated. The field notebook was kept as a permanent record.

Soil samples were placed in appropriate USEPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to the laboratory. A waterproof label showing project identification, boring designation, approximate depth, date, and the sampler's initials was affixed to each sample. All drilling equipment was cleaned between samples by washing in a detergent solution followed by a clean water rinse and distilled water rinse.

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-1
Logged By:	CRF	Location:	1545 NE 1 Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	10'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	

Location Map

Elevation	Northing	Easting

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete						0				Asphalt
Bentonite						1				(Vac-Clear to 5' bgs)
						2				
						3				
						4				
						5				
						6			SP-	Poorly graded SAND with silt, brown, loose
		▽	Wet	0.1		7			SM	60% medium sand, 30% coarse sand, 10% silt
									SM	Silty SAND, brown
						8				70% medium-coarse sand, 30% silt
										Bottom of Boring at 8 feet bgs
						9				
						10				
						11				
						12				
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				
						21				
						22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-2
Logged By:	CRF	Location:	1545 NE 18 Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	12'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete									Asphalt
Bentonite					1				(Vac-Clear to 5' bgs)
					2				
					3				
					4				
		Dry			5			SM	Silty SAND with gravel, brown, cemented, rigid 60% well-graded sand, 20% silt, 20% well-graded gravel
					6				
			0.1		7				
					8				grades gray sand
	▽				9				
		Wet			10				Silty SAND with gravel, brown, cemented, rigid 60% well-graded sand, 20% silt, 20% well-graded gravel
					11				
		Mst	0.1		12				Refusal at 12 feet bgs
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-3
Logged By:	CRF	Location:	1545 NE 1[redacted]Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	7.5'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete										Asphalt
Bentonite						1				(Vac-Clear to 5' bgs)
						2				
						3				
						4			SM	Silty SAND with gravel, brown
						5				50% well-graded sand, 20% silt, 25% well-graded gravel
						6				and cobbles
			Dry	0.1		7				
						8				Refusal at 7.5 feet bgs
						9				
						10				
						11				
						12				
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				
						21				
						22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-4
Logged By:	CRF	Location:	1545 NE 1[redacted]Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	Location Map
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	12'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete										Asphalt (4")
Bentonite						1				(Vac-Clear to 5' bgs)
						2				
						3				
						4				
						5				Silty SAND with gravel, brown
						6			SM	60% well-graded sand, 20% silt, 20% well-graded gravel
									GP	Cobbles ~4 inches
						7			SM	Silty SAND with gravel, brown, cemented, stiff
			Dry	0.1		8				60% well-graded sand, 20% silt, 20% well-graded gravel
						9				
						10				
						11				
			Dry	0.1		12				Refusal at 12 feet bgs
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				
						21				
						22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-5
Logged By:	CRF	Location:	1545 NE 18[redacted]Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	11'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete										Asphalt (4")
Bentonite						1				(Vac-Clear to 5' bgs)
						2				
						3				
						4				
						5				
						6			SW-SM	Well-graded SAND with silt and gravel, brown
			MST							60% well-graded sand, 30% gravel, 10% silt
						7				
				0.1		8				
						9				
						10				
			MST	55.8		11				Refusal at 11 feet bgs
						12				
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				
						21				
						22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-6
Logged By:	CRF	Location:	1545 NE [redacted]t Ave, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	14'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete										Asphalt (4")
Bentonite						1				(Vac-Clear to 5' bgs)
						2				
						3				
						4				
			Dry			5			SM	Silty SAND with gravel, brown 60% well-graded sand, 15% silt, 25% well-graded gravel
						6				
						7				
				0.1		8				grades more gravel (35%)
						9				
						10				
						11				occasional reddish-orange fine sand, lensed
			Mst	0.1		12				
						13				
		▽	Wet	0.1		14				Refusal at 14 feet bgs
						15				
						16				
						17				
						18				
						19				
						20				
						21				
						22				

Delta

Environmental Consultants Incorporated

Project No:	OR04-745-1	Client:	ConocoPhillips	Boring/Well No: P-7
Logged By:	CRF	Location:	1545 NE 18[illegible]ve, Ptld, OR	Page 1 of 1
Driller:	Cascade	Date Drilled:	1/11/2005	Location Map
Drilling Method:	Push Probe	Hole Diameter:	1.75"	
Sampling Method:	Macro	Hole Depth:	11'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete									Asphalt (6")
Bentonite					1				(Vac-Clear to 5' bgs)
					2				
					3				
					4				
		Mst	0.1		5			SP-SM	Poorly graded SAND with silt and gravel, brown
					6				60% medium-coarse sand, 30% well-graded gravel,
					7				10% silt
					8				trace reddish-orange sand, fine, lensed
					9				
		Mst	0.1		10			GP-GM	Poorly graded GRAVEL with silt and sand, brown
					11				60% gravel and cobbles, 30% sand, 10% silt
									Refusal at 11 feet bgs
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

ATTACHMENT B

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

SEVERN TRENT STL

RECEIVED
JAN 3 1 2004
BY:

STL Seattle
5755 8th Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

TRANSMITTAL MEMORANDUM

DATE: January 27, 2005

TO: Ruth Ha
Delta Environmental, Inc.
7150 SW Hampton #220
Tigard, OR 97223

PROJECT: CP 4745

REPORT NUMBER: 125823

TOTAL NUMBER OF PAGES: 28

Enclosed are the test results for sixteen samples received at STL Seattle on January 14, 2005.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Coyner
Project Manager

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender immediately at 253-922-2310 and destroy this report immediately.

Sample Identification:

Lab. No.	Client ID	Date/Time Sampled	Matrix
125823-1	P-1-8	01-11-05 11:05	solid
125823-2	P-2-12	01-11-05 12:00	solid
125823-3	P-3-7	01-11-05 12:35	solid
125823-4	P-4-12	01-11-05 10:40	solid
125823-5	P-5-11	01-11-05 09:55	solid
125823-6	P-6-13.5	01-11-05 09:00	solid
125823-7	P-7-11	01-11-05 07:40	solid
125823-8	P-1	01-11-05 11:20	liquid
125823-9	P-2	01-11-05 12:15	liquid
125823-10	P-6	01-11-05 10:30	liquid
125823-11	P-2-7	01-11-05 11:50	solid
125823-12	P-4-8	01-11-05 10:25	solid
125823-13	P-5-8	01-11-05 09:45	solid
125823-14	P-6-7	01-11-05 08:30	solid
125823-15	P-6-12	01-11-05 08:45	solid
125823-16	P-7-5	01-11-05 07:20	solid

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STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-1-8
Lab ID:	125823-01
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	79.54
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	101		50	150
1-Chloro-3-fluorobenzene	113		76	137
Bromofluorobenzene	111		79	132
Pentafluorobenzene	114		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.89	
MTBE	ND	0.0489	
Benzene	ND	0.0489	
Toluene	ND	0.0489	
Ethylbenzene	ND	0.0489	
m&p-Xylene	ND	0.0977	
o-Xylene	ND	0.0489	
1,2-Dichloroethane	ND	0.0489	
1,2-Dibromoethane	ND	0.0489	
Isopropylbenzene	ND	0.0489	
n-propylbenzene	ND	0.0489	
1,3,5-Trimethylbenzene	ND	0.0489	
1,2,4-Trimethylbenzene	ND	0.0489	
Naphthalene	ND	0.0489	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-1-8 - dup
Lab ID:	125823R01
Date Received:	-
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	79.54
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	100		50	150
1-Chloro-3-fluorobenzene	111		76	137
Bromofluorobenzene	110		79	132
Pentafluorobenzene	110		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.88	
MTBE	ND	0.0488	
Benzene	ND	0.0488	
Toluene	ND	0.0488	
Ethylbenzene	ND	0.0488	
m&p-Xylene	ND	0.0976	
o-Xylene	ND	0.0488	
1,2-Dichloroethane	ND	0.0488	
1,2-Dibromoethane	ND	0.0488	
Isopropylbenzene	ND	0.0488	
n-propylbenzene	ND	0.0488	
1,3,5-Trimethylbenzene	ND	0.0488	
1,2,4-Trimethylbenzene	ND	0.0488	
Naphthalene	ND	0.0488	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-2-12
Lab ID:	125823-02
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	74.96
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	102		50	150
1-Chloro-3-fluorobenzene	110		76	137
Bromofluorobenzene	108		79	132
Pentafluorobenzene	111		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	5.16	
MTBE	ND	0.0516	
Benzene	ND	0.0516	
Toluene	ND	0.0516	
Ethylbenzene	ND	0.0516	
m&p-Xylene	ND	0.103	
o-Xylene	ND	0.0516	
1,2-Dichloroethane	ND	0.0516	
1,2-Dibromoethane	ND	0.0516	
Isopropylbenzene	ND	0.0516	
n-propylbenzene	ND	0.0516	
1,3,5-Trimethylbenzene	ND	0.0516	
1,2,4-Trimethylbenzene	ND	0.0516	
Naphthalene	ND	0.0516	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-3-7
Lab ID:	125823-03
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	82.37
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	101		50	150
1-Chloro-3-fluorobenzene	112		76	137
Bromofluorobenzene	110		79	132
Pentafluorobenzene	112		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.66	
MTBE	ND	0.0466	
Benzene	ND	0.0466	
Toluene	ND	0.0466	
Ethylbenzene	ND	0.0466	
m&p-Xylene	ND	0.0932	
o-Xylene	ND	0.0466	
1,2-Dichloroethane	ND	0.0466	
1,2-Dibromoethane	ND	0.0466	
Isopropylbenzene	ND	0.0466	
n-propylbenzene	ND	0.0466	
1,3,5-Trimethylbenzene	ND	0.0466	
1,2,4-Trimethylbenzene	ND	0.0466	
Naphthalene	ND	0.0466	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-4-12
Lab ID:	125823-04
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	79.88
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	100		50	150
1-Chloro-3-fluorobenzene	110		76	137
Bromofluorobenzene	109		79	132
Pentafluorobenzene	111		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4.86	
MTBE	ND	0.0486	
Benzene	ND	0.0486	
Toluene	ND	0.0486	
Ethylbenzene	ND	0.0486	
m&p-Xylene	ND	0.0971	
o-Xylene	ND	0.0486	
1,2-Dichloroethane	ND	0.0486	
1,2-Dibromoethane	ND	0.0486	
Isopropylbenzene	ND	0.0486	
n-propylbenzene	ND	0.0486	
1,3,5-Trimethylbenzene	ND	0.0486	
1,2,4-Trimethylbenzene	ND	0.0486	
Naphthalene	ND	0.0486	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-5-11
Lab ID:	125823-05
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	83.95
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	103		50	150
1-Chloro-3-fluorobenzene	114		76	137
Bromofluorobenzene	112		79	132
Pentafluorobenzene	112		76	142

Sample results are on a dry weight basis.

		Result		
Analyte		**(mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND		4.49	
MTBE	ND		0.0449	
Benzene	ND		0.0449	
Toluene	ND		0.0449	
Ethylbenzene	ND		0.0449	
m&p-Xylene	ND		0.0899	
o-Xylene	ND		0.0449	
1,2-Dichloroethane	ND		0.0449	
1,2-Dibromoethane	ND		0.0449	
Isopropylbenzene	ND		0.0449	
n-propylbenzene	ND		0.0449	
1,3,5-Trimethylbenzene	ND		0.0449	
1,2,4-Trimethylbenzene		0.0776	0.0449	
Naphthalene	ND		0.0449	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-6-13.5
Lab ID:	125823-06
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	72.2
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	101		50	150
1-Chloro-3-fluorobenzene	110		76	137
Bromofluorobenzene	107		79	132
Pentafluorobenzene	107		76	142

Sample results are on a dry weight basis.

		Result		
Analyte		**(mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND		5.31	
MTBE	ND		0.0531	
Benzene	ND		0.0531	
Toluene	ND		0.0531	
Ethylbenzene	ND		0.0531	
m&p-Xylene	ND		0.106	
o-Xylene	ND		0.0531	
1,2-Dichloroethane	ND		0.0531	
1,2-Dibromoethane	ND		0.0531	
Isopropylbenzene	ND		0.0531	
n-propylbenzene	ND		0.0531	
1,3,5-Trimethylbenzene	ND		0.0531	
1,2,4-Trimethylbenzene	ND		0.0531	
Naphthalene	ND		0.0531	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-7-11
Lab ID:	125823-07
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/21/05
% Solids	83.42
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	102		50	150
1-Chloro-3-fluorobenzene	96.1		76	137
Bromofluorobenzene	93.8		79	132
Pentafluorobenzene	95.5		76	142

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	7.68	4.53	
MTBE	ND	0.0453	
Benzene	ND	0.0453	
Toluene	ND	0.0453	
Ethylbenzene	ND	0.0453	
m&p-Xylene	ND	0.0907	
o-Xylene	ND	0.0453	
1,2-Dichloroethane	ND	0.0453	
1,2-Dibromoethane	ND	0.0453	
Isopropylbenzene	ND	0.0453	
n-propylbenzene	ND	0.0453	
1,3,5-Trimethylbenzene	ND	0.0453	
1,2,4-Trimethylbenzene	ND	0.0453	
Naphthalene	ND	0.0453	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-7-11 - ms
Lab ID:	125823S07
Date Received:	1/14/05
Date Prepared:	1/20/05
Date Analyzed:	1/21/05
% Solids	83.42
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	105		50	150
1-Chloro-3-fluorobenzene	109		76	137
Bromofluorobenzene	106		79	132
Pentafluorobenzene	111		76	142

Sample results are on a dry weight basis.

	Result		
Analyte	**(mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	100	4.48	
Benzene	0.498	0.0448	
Toluene	3.27	0.0448	
Ethylbenzene	0.81	0.0448	
m&p-Xylene	2.91	0.0897	
o-Xylene	1.19	0.0448	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-1
Lab ID:	125823-08
Date Received:	1/14/05
Date Prepared:	1/19/05
Date Analyzed:	1/19/05
% Solids	-
Dilution Factor	1

GRO by NWTPH-Gx / Volatile Aromatics by 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	115		50	150
1-Chloro-3-fluorobenzene	114		80	120
Bromofluorobenzene	105		80	120
Pentafluorobenzene	115		81	126

Analyte		**Result (mg/L)**	**RL**	**Flags**
Gasoline By NWTPH-G		11.4	0.1	
MTBE		0.0494	0.001	
Benzene		0.0111	0.001	
Toluene		0.00336	0.001	
Ethylbenzene		0.127	0.001	
m&p-Xylene		0.0962	0.002	
o-Xylene		0.0218	0.001	
1,2-Dichloroethane	ND		0.001	
1,2-Dibromoethane	ND		0.001	
Isopropylbenzene		0.0311	0.001	
n-propylbenzene		0.135	0.001	
1,3,5-Trimethylbenzene		0.142	0.001	
1,2,4-Trimethylbenzene		0.725	0.001	E
Naphthalene		0.124	0.001	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-2
Lab ID:	125823-09
Date Received:	1/14/05
Date Prepared:	1/19/05
Date Analyzed:	1/19/05
% Solids	-
Dilution Factor	1

GRO by NWTPH-Gx / Volatile Aromatics by 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	118		50	150
1-Chloro-3-fluorobenzene	118		80	120
Bromofluorobenzene	113		80	120
Pentafluorobenzene	119		81	126

		Result		
Analyte		**(mg/L)**	**RL**	**Flags**
Gasoline By NWTPH-G		0.276	0.1	
MTBE		0.0378	0.001	
Benzene	ND		0.001	
Toluene	ND		0.001	
Ethylbenzene		0.00155	0.001	
m&p-Xylene	ND		0.002	
o-Xylene	ND		0.001	
1,2-Dichloroethane	ND		0.001	
1,2-Dibromoethane	ND		0.001	
Isopropylbenzene	ND		0.001	
n-propylbenzene		0.00169	0.001	
1,3,5-Trimethylbenzene		0.00158	0.001	
1,2,4-Trimethylbenzene		0.00673	0.001	
Naphthalene		0.00348	0.001	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-6
Lab ID:	125823-10
Date Received:	1/14/05
Date Prepared:	1/19/05
Date Analyzed:	1/19/05
% Solids	-
Dilution Factor	1

GRO by NWTPH-Gx / Volatile Aromatics by 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	114		50	150
1-Chloro-3-fluorobenzene	112		80	120
Bromofluorobenzene	107		80	120
Pentafluorobenzene	113		81	126

Analyte		**Result (mg/L)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND		0.1	
MTBE		0.0515	0.001	
Benzene	ND		0.001	
Toluene	ND		0.001	
Ethylbenzene	ND		0.001	
m&p-Xylene	ND		0.002	
o-Xylene	ND		0.001	
1,2-Dichloroethane	ND		0.001	
1,2-Dibromoethane	ND		0.001	
Isopropylbenzene	ND		0.001	
n-propylbenzene	ND		0.001	
1,3,5-Trimethylbenzene	ND		0.001	
1,2,4-Trimethylbenzene	ND		0.001	
Naphthalene	ND		0.001	

STL Seattle

Client Name:	Delta Environmental, Inc.
Client ID:	P-7-11
Lab ID:	125823-07
Date Received:	1/14/2005
Date Prepared:	1/17/2005
Date Analyzed:	1/17/2005
% Solids	83.42
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	83.6		50	150

Sample results are on a dry weight basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
#2 Diesel	ND	28.6	
Motor Oil	ND	57.2	

STL Seattle

Lab ID:	Method Blank - GB4069
Date Received:	-
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
% Solids	
Dilution Factor	1

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	111		50	150
1-Chloro-3-fluorobenzene	114		76	137
Bromofluorobenzene	112		79	132
Pentafluorobenzene	115		76	142

Sample results are on an as received basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	4	
MTBE	ND	0.04	
Benzene	ND	0.04	
Toluene	ND	0.04	
Ethylbenzene	ND	0.04	
m&p-Xylene	ND	0.08	
o-Xylene	ND	0.04	
1,2-Dichloroethane	ND	0.04	
1,2-Dibromoethane	ND	0.04	
Isopropylbenzene	ND	0.04	
n-propylbenzene	ND	0.04	
1,3,5-Trimethylbenzene	ND	0.04	
1,2,4-Trimethylbenzene	ND	0.04	
Naphthalene	ND	0.04	

STL Seattle

Lab ID:	Method Blank - GB4067
Date Received:	-
Date Prepared:	1/19/05
Date Analyzed:	1/19/05
% Solids	-
Dilution Factor	1

GRO by NWTPH-Gx / Volatile Aromatics by 5030/8260B

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
Trifluorotoluene	99.9		50	150
1-Chloro-3-fluorobenzene	95.5		80	120
Bromofluorobenzene	93.9		80	120
Pentafluorobenzene	95.5		81	126

Analyte	**Result (mg/L)**	**RL**	**Flags**
Gasoline By NWTPH-G	ND	0.1	
MTBE	ND	0.001	
Benzene	ND	0.001	
Toluene	ND	0.001	
Ethylbenzene	ND	0.001	
m&p-Xylene	ND	0.002	
o-Xylene	ND	0.001	
1,2-Dichloroethane	ND	0.001	
1,2-Dibromoethane	ND	0.001	
Isopropylbenzene	ND	0.001	
n-propylbenzene	ND	0.001	
1,3,5-Trimethylbenzene	ND	0.001	
1,2,4-Trimethylbenzene	ND	0.001	
Naphthalene	ND	0.001	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB4069
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
QC Batch ID:	GB4069

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

Compound Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	BSD Result (mg/kg)	BSD % Rec.	RPD	Flag
Gasoline By NWTPH-G	0	50	49.9	99.8	52.1	104	4.1	
Benzene	0	0.736	0.651	88.5	0.677	91.9	3.8	
Toluene	0	3.54	4.09	116	4.18	118	1.7	
Ethylbenzene	0	0.791	0.958	121	0.976	123	1.6	
m&p-Xylene	0	2.92	3.41	117	3.45	118	0.85	
o-Xylene	0	1.07	1.32	124	1.37	128	3.2	

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	GB4067
Date Prepared:	1/19/05
Date Analyzed:	1/19/05
QC Batch ID:	GB4067

GRO by NWTPH-Gx / Volatile Aromatics by 5030/8260B

Compound Name	Blank Result (mg/L)	Spike Amount (mg/L)	BS Result (mg/L)	BS % Rec.	BSD Result (mg/L)	BSD % Rec.	RPD	Flag
Gasoline By NWTPH-G	0	1.25	1.19	94.9	1.22	97.8	3	
MTBE	0	0.0288	0.0248	86	0.0247	85.8	-0.23	
Benzene	0	0.0184	0.0158	85.7	0.0162	88	2.6	
Toluene	0	0.0884	0.0952	108	0.0977	111	2.7	
Ethylbenzene	0	0.0198	0.0222	112	0.023	116	3.5	
m&p-Xylene	0	0.073	0.0786	108	0.0807	111	2.7	
o-Xylene	0	0.0286	0.031	108	0.0318	111	2.7	
Naphthalene	0	0.005	0.00467	93.4	0.00512	102	8.8	

STL Seattle

Matrix Spike Report

Client Sample ID:	P-7-11
Lab ID:	125823-07
Date Prepared:	1/20/05
Date Analyzed:	1/21/05
QC Batch ID:	GB4069

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

Compound Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Gasoline By NWTPH-G	7.7	56.1	100	165	X7
Benzene	0	0.826	0.498	60.3	X7
Toluene	0	3.96	3.27	82.4	
Ethylbenzene	0	0.887	0.81	91.3	
m&p-Xylene	0	3.27	2.91	89	
o-Xylene	0	1.19	1.19	100	

STL Seattle

Duplicate Report

Client Sample ID:	P-1-8
Lab ID:	125823-01
Date Prepared:	1/20/05
Date Analyzed:	1/20/05
QC Batch ID:	GB4069

Gasoline Range Organics by NWTPH-Gx / Volatile Aromatics by EPA Method 5035/8260B

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Gasoline By NWTPH-G	0	0	NC	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m&p-Xylene	0	0	NC	
o-Xylene	0	0	NC	
1,2-Dichloroethane	0	0	NC	
1,2-Dibromoethane	0	0	NC	
Isopropylbenzene	0	0	NC	
n-propylbenzene	0	0	NC	
1,3,5-Trimethylbenzene	0	0	NC	
1,2,4-Trimethylbenzene	0	0	NC	
Naphthalene	0	0	NC	

STL Seattle

Lab ID:	Method Blank - DS1380
Date Received:	-
Date Prepared:	1/17/2005
Date Analyzed:	1/17/2005
% Solids	
Dilution Factor	1

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
o-terphenyl	91.3		50	150

3

Sample results are on an as received basis.

Analyte	**Result (mg/kg)**	**RL**	**Flags**
#2 Diesel	ND	25	
Motor Oil	ND	50	

00022

STL Seattle

Blank Spike/Blank Spike Duplicate Report

Lab ID:	DS1380
Date Prepared:	1/17/2005
Date Analyzed:	1/17/2005
QC Batch ID:	DS1380

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

Compound Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	BSD Result (mg/kg)	BSD % Rec.	RPD	Flag
#2 Diesel	0	500	503	101	486	97.2	-3.8	
Motor Oil	0	500	519	104	503	101	-2.9	

STL Seattle

Duplicate Report

Client Sample ID:	EFS-02SS
Lab ID:	125818-02
Date Prepared:	1/17/2005
Date Analyzed:	1/17/2005
QC Batch ID:	DS1380

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
#2 Diesel	18.2	25.1	-32.0	x4a
Motor Oil	0	0	NC	

STL Seattle

Duplicate Report

Client Sample ID:	EFS-FD
Lab ID:	125818-13
Date Prepared:	1/17/2005
Date Analyzed:	1/17/2005
QC Batch ID:	DS1380

Diesel and Motor Oil by NWTPH-Dx Modified with Silica Gel Cleanup

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
#2 Diesel	0	0	NC	
Motor Oil	0	0	NC	

SEVERN TRENT STL

STL Seattle
575[redacted] Street East
Tacoma, WA 98424

Tel: 253 922 2310
Fax: 253 922 5047
www.stl-inc.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be < 40%.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 40%. The higher result was reported unless anomalies were noted.

C3: Second analysis confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq$ 30%.

C4: Second analysis confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be > 30%. The original analysis was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

RL: Reporting Limit

N: See analytical narrative

ND: Not Detected

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

000026

Chain of Custody Record

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

125823 Vol. 1/E4

SEVERN TRENT STL

Client: Delta Environmental	Project Manager: Ruth Hu	Date: 1/20/05	Chain of Custody Number: 13174
Address: 7150 SW Hampton St, Ste. 220	Telephone Number (Area Code)/Fax Number: 503-639-8098	Lab Number:	Page 2 of 2
City: Tigard / State: OR / Zip Code: 97223	Site Contact: M. Cramer	Lab Contact:	
Project Name and Location (State): CP 4745	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 4745DEL011			

	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	#	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed)
11	P-2-7	1/11/05	1150				✓	1	✓						HOLD
12	P-4-8		1025				✓	1	✓						
13	P-5-8		0945				✓	1	✓						
14	P-6-7		0830				✓	1	✓						
15	P-6-12		0845				✓	1	✓						
16	P-7-5	↓	0720				✓	2	✓						

Special Instructions/ Conditions of Receipt: please Hold

Cooler: ☐ Yes ☐ No Cooler Temp:_____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	1/13/05	1000	1. Received By	1-14-05	8:00
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

Chain of Custody Record

STL-8274 (0102)

STL Seattle
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.stl-inc.com

125823 Vol. 1/E4

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

Client: Delta Environmental	Project Manager: Ruth Hu	Date: 1/13/05	Chain of Custody Number: 003061
Address: 7150 SW Hampton St, Ste 220	Telephone Number (Area Code)/Fax Number: 503-639-8095	Lab Number:	Page 1 of 2
City: Tigard, OR / State: / Zip Code: 97223	Site Contact: M. Cramer / Lab Contact:		
Project Name and Location (State): CP 4745	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 4745DE1001			

#	Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	#	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TPH-Gx (WTPH-Gx) *	RBCA List (8260B) *	TPH-Dx (WTPH-Dx) **	Chlorinated Hydrocarbons (8260B) *
1	P-1-8	1/11/05	1105				✓	1	✓						✓	✓		
2	P-2-12		1200				✓	1	✓						✓	✓		
3	P-3-7		1235				✓	1	✓						✓	✓		
4	P-4-12		1040				✓	1	✓						✓	✓		
5	P-5-11		0955				✓	1	✓						✓	✓		
6	P-6-13.5		0900				✓	1	✓						✓	✓		
7	P-7-11		0740				✓	2	✓						✓	✓	✓	
8	P-1		1120		✓			6				✓			✓	✓		
9	P-2	↓	1215		✓			6				✓			✓	✓		
10	P-6		1030		✓			6				✓			✓	✓		

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

* RBCA List analytes include: BTEX, MTBE, MTBE-A, EDB, EDC, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

** If TPH-Dx hits, please call for follow-up analysis

Cooler: ☐ Yes ☐ No Cooler Temp: _____

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☐ 15 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By	1/13/05	1600	1. Received By	1-14-05	3:00
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

ATTACHMENT C

OREGON DEQ RELEASE REPORT

Brian Pletcher

From: State of Oregon DEQ [SQLAdmin@deq.state.or.us]
Sent: Wednesday, February 09, 2005 5:02 PM
To: Brian Pletcher
Subject: OLPRR Incident Report in Accepted Status. Log Number: 26-05-0199

YOUR ON-LINE TANK DATA SUBMITTAL HAS BEEN REVIEWED AND ACCEPTED BY THE STATE OF OREGON DEQ.
NEW LUST INCIDENT LOG NUMBER: 26-05-0199

REPORTED BY: BRIAN PLETC HER
COMPANY NAME: DELTA ENVIRONMENTAL CONSULTANTS INC
PHONE NUMBER: 503-639-7619

SITE NAME: CONOCOPHILLIPS SITE 4745 II
SITE ADDRESS: 1545 181ST AVENUE
SITE COUNTY: MULTNOMAH
SITE CITY: GRESHAM
SITE ZIP CODE: 97230
COMMENTS: SOIL AND GROUNDWATER SAMPLES WERE COLLECTED NEAR THE USED OIL UST, FOMER DISPENSER ISLAND AND FUEL USTS SYSTEM AS PART OF A DUE DILIGENCE INVESTIGAION. GASOLINE RANGE HYDROCARBONS WERE IDENTIFIED IN THE SOIL AND GROUNDWATER AT THE SITE.

DATE RECEIVED: 2/7/2005
RELEASE TYPE: REGULATED

RESPONSIBLE PARTY INFORMATION INFORMATION	INVOICE CONTACT
FIRST NAME:	FIRST NAME:
MARTIN	MARTIN
LAST NAME:	LAST NAME:
CRAMER	CRAMER
ORGANIZATION:	ORGANIZATION:
CONOCO PHILLIPS	CONOCO PHILLIPS
CITY:	CITY:
PORTLAND	PORTLAND
PHONE:	PHONE:
503-248-1517	503-248-1517
ADDRESS:	ADDRESS:
5528 NW DOANE AVE	5528 NW DOANE AVE
STATE:	STATE:
OR	OR
ZIP:	ZIP:
97210-3608	97210-3608

DISCOVERY DATE: 1/27/2005
DISCOVERY: SITEASSESSMENT
CONFIRMATION: LAB:RP
CAUSE: UNKNOWN

MEDIA TYPE
GROUND WATER
SOIL

CONTAMINANT TYPE
MISC. GASOLINE

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

February 10, 2005

MARTIN CRAMER
CONOCOPHILLIPS
5528 NW DOANE AVE
PORTLAND OR 97210

RE: ConocoPhillips #4745 II
File No.: 26-05-0199

On February 7, 2005, a release was reported from an underground storage tank (UST) system at your facility located at 1545 NE 181st Avenue in Gresham, Oregon. As the responsible party for the facility, you are required to clean up the release according to OAR 340-122-201 through 340-122-360. These rules require cleaning up the soil, groundwater, surface water and any other media contaminated by petroleum to the appropriate standards or demonstrating that the contamination does not pose a risk to human health or the environment. We are looking forward to working with you to bring this site to closure.

An Initial Report Form for UST Cleanup Projects is enclosed. This form needs to be completed and returned to this office within twenty (20) days from the date the release was reported. An outline of additional reporting requirements that includes due dates for submittals is also enclosed. A copy of the UST Cleanup regulations or an application for a letter of authorization for soil treatment will be provided upon request. As the responsible party, you should be aware of the requirements for cleanup, even if you have hired a qualified contractor or consultant to assist you.

Please reference the DEQ File Number listed above in all future correspondence and reports.

By law, DEQ is required to recover project oversight costs. DEQ oversight begins with the initial site characterization and continues through site closure. Oversight includes activities such as reviewing reports, preparing correspondence, answering technical questions, site inspections, and enforcement actions. **You will be receiving an invoice each month for all oversight activities performed to date.**

DEQ's highest priority for oversight are those sites that pose the greatest hazard to human health, safety and the environment. As a result, many lower environmental priority sites will not be reviewed in detail or receive a final "No Further Action" or "closure" letter from DEQ until the higher priority sites are addressed. However, all projects, simple or complex, require at least some oversight. At a minimum, review is conducted to determine the environmental priority of the cleanup project.

For those responsible parties who desire DEQ oversight regardless of environmental priority, we

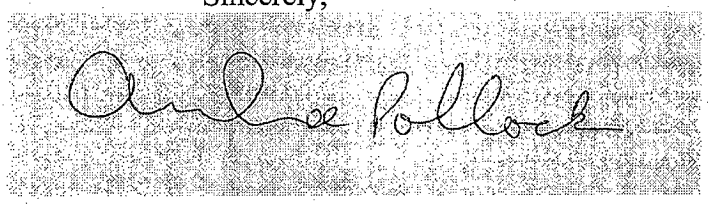
have developed a Responsible Party Priority Site Program. To receive oversight and more effectively schedule your project, you will be asked to sign an agreement requesting priority review and confirming your agreement to pay DEQ oversight costs in a timely manner.

Not entering into the Agreement does not release you from responsibility for investigation and/or cleanup of the contamination, nor does it mean that you are exempt from paying for DEQ oversight costs. Please be aware that there may be a waiting list for assignment to the next available project manager, and that these projects are assigned on a first come, first served basis.

Please read the attached information on the cost recovery and invoice process. We have also included information about the Responsible Party Priority Site Program and an agreement, if you are interested in expediting review of your project. You may contact the Land Quality Division at (503) 229-6635 if you have questions about cost recovery.

Thank you for your cooperation and continued efforts to comply with the regulations. **If you have any questions about the regulations and/or your cleanup project, please call (503) 229-5263 and ask to speak to the Underground Storage Tank Duty Officer.**

Sincerely,



Andree Pollock, Manager
UST Cleanup and Compliance Section

Enclosures