



January 22, 2019
Cardno 03111104.R16

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SUBJECT **5-Year Groundwater Compliance Monitoring and Temporary Monitoring Well Installation Report**
Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington

Mr. Middleton:

At the request of ExxonMobil Environmental Services Company (EMES), on behalf of Exxon Mobil Corporation, Cardno has prepared the enclosed *5-Year Groundwater Compliance Monitoring and Temporary Monitoring Well Installation Report*. The purpose of the report is to summarize the results of the temporary groundwater well installation and subsequent groundwater investigation conducted at the subject site.

Please contact Mr. Bobby Thompson, Cardno Project Manager for this site at 206 510 5855, or Ms. Marla Madden, EMES Project Manager for this site at 714 964 4935 with questions.

Sincerely,

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ENCLOSURE

Cardno's *5-Year Groundwater Compliance Monitoring and Temporary Monitoring Well Installation Report*, dated January 22, 2019

cc: w/ enclosure
 Mr. Matt Cook, Pacific Bells (*Electronic copy via email*)
 Ms. Tonya Martinez, Pacific Bells (*Electronic copy via email*)
 Ms. Marla Madden, ExxonMobil Environmental Services Company (*Filed in project folder*)

5-Year Groundwater Compliance Monitoring and Temporary Monitoring Well Installation Report

Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington

Cardno 03111104.R16



Prepared for
ExxonMobil Environmental Services Company

January 22, 2019

5-Year Groundwater Compliance Monitoring and Temporary Monitoring Well Installation Report

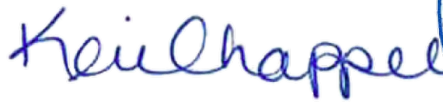
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13204 Northeast Highway 99
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1 Introduction

1.1 Site Information

Site Name: Former Exxon Station 73594
Address: 13204 Northeast Highway 99
Vancouver, Washington
Township/Section/Range: NW ¼, S26, T3N, R1E
Tax Parcel: 18675-4000
Current Property Owner: Pacific Bells Land Company LLC
111 West 39th Street, Suite A
Vancouver, Washington 98660

1.2 Purpose

At request of ExxonMobil Environmental Services Company (EMES), on behalf of Exxon Mobil Corporation (ExxonMobil), Cardno prepared this report for Former Exxon Station 73594 presenting the results of groundwater investigation as outlined in Cardno's *5-Year Groundwater Compliance Monitoring Work Plan* (Cardno, 2018). The purpose of this work is to conduct a five-year groundwater compliance sampling event in accordance with the scope of work approved in the no further action (NFA) determination, issued by the Washington State Department of Ecology (Ecology), for the subject site, dated August 20, 2013 (Ecology, 2013). The NFA determination was dependent on compliance with institutional controls including: 1) Restrictions of groundwater use, 2) Implementation of an environmental covenant for the property, 3) Performance of confirmation monitoring. Groundwater has not been utilized at the property and the environmental covenant was recorded with Clark County on May 14, 2013. The proposed work meets the requirements of the confirmation monitoring.

Scope of work conducted:

- > The advancement of five soil borings with completion of the borings as temporary groundwater monitoring wells.
- > The collection of grab groundwater samples from each temporary groundwater monitoring well location.
- > The decommissioning of five temporary groundwater monitoring wells.

2 Background

2.1 Site Description

The subject property is located on the western side of the Northeast Highway 99, 0.25 mile south of the intersection of Interstate 5 and Interstate 205 in the City of Vancouver, Clark County, Washington (Plate 1). The site is currently occupied by an operating Taco Bell restaurant and is located in a primary commercial area. Locations of former USTs and groundwater monitoring wells, existing restaurant building, and other select site features are shown on Plate 2.

2.2 Geology and Hydrogeology

Semi-consolidated Quaternary-aged periglacial flood gravel, sand, and silt deposits are mapped as underlying the site and are underlain by Quaternary/Pliocene continental rocks and volcanic rocks of Grande

Rhonde Basalt flows of Miocene age (USGS, 1963; USGS, 1987). Surface waters in the region drain as part of Salmon Creek watershed (Ecology, 2005).

The site lies at an elevation of 200 feet above msl, and the local topography slopes generally to the southeast. The average groundwater gradient historically ranges from northwest to southeast and groundwater is typically encountered at depths ranging from approximately 23 to 24 feet bgs (Cardno, 2011a).

3 Previous Work

Soil and groundwater investigations have been conducted at the site since 1988. Previous work has included the drilling of soil borings, installation of wells, and collection of soil and groundwater samples. For more detailed information regarding these investigations, please refer to the documents listed in the reference section (Section 9). Groundwater analytical results are shown in Tables 1 and 2, respectively.

3.1 Aquifer Testing

In 2010, Cardno ERI (Cardno) conducted an aquifer test to evaluate aquifer hydraulic properties and determine groundwater yield. The results of the aquifer test indicated a sustainable yield of less than 0.26 gpm, which is below the threshold for potability presented in the MTCA (Cardno, 2011a). Based on these results, Cardno prepared the *Groundwater Potability Evaluation – Request for Closure*, dated August 25, 2011, which requested that the shallow aquifer be reclassified as non-potable (Cardno, 2011a).

3.2 Closure Activities

In 2002, Environmental Resolutions, Inc. (ERI), entered the subject site into Ecology's Voluntary Cleanup Program (ERI, 2002). Following confirmation boring activities in August 2008, ERI requested a NFA determination from Ecology. Ecology responded that they will not grant closure due to dissolved lead concentrations exceeding the MTCA Method A Cleanup Level in wells MW2 and MW8; however, Ecology acknowledged that hydrocarbons at the site had been addressed (Ecology, 2008).

In August 2011, Cardno ERI requested a NFA determination based on a review of environmental activities completed at the subject site indicating the substantive requirements of MTCA (Washington Administrative Code 173-340-350(7)) had been met (Cardno, 2011a; Cardno, 2011b). In response to the NFA determination request, the Ecology project manager (Mr. Tom Middleton) indicated via phone and email correspondence that all existing wells could be decommissioned and to achieve an NFA determination, a long-term groundwater sampling plan with an environmental covenant should be prepared.

On August 20, 2013, Ecology issued a NFA determination that was dependent on compliance with institutional controls including: 1) Restrictions of groundwater use, 2) Implementation of an environmental covenant for the property, and 3) Performance of confirmation monitoring (Ecology, 2013). Groundwater has not been utilized at the property and the environmental covenant was recorded with Clark County on May 14, 2013. The proposed confirmation monitoring proposed in Cardno's *Long-Term Groundwater Sampling Work Plan*, dated May 30, 2012 (Cardno, 2012) was approved in the NFA determination letter.

4 Subsurface Investigation

The purpose of the work was to confirm that historical lead concentrations have decreased to less than the MTCA Level A Cleanup Levels in accordance with Ecology's NFA determination for the subject site. Five temporary groundwater monitoring wells were installed in accordance with Cardno's *5-Year Groundwater Compliance Monitoring Work Plan*, dated November 27, 2018, Cardno's standard field protocol (Appendix A), and under the supervision of a licensed geologist.

4.1 Temporary Monitoring Well Location Considerations

Proposed temporary monitoring well locations were selected based on a review of historically high lead concentrations in groundwater exceeding the MTCA Level A Cleanup Levels. Monitoring well locations were adjusted for marked-out utilities discovered during the private locate conducted by Mt. View Locating Services, LLC (Mt. View).

4.2 Pre-Field Activities

Prior to field activities, Cardno notified the Utility Notification Center (UNC) to mark out public subsurface utilities. Holocene Drilling, Inc., of Puyallup, Washington (Holocene), obtained Washington start cards from Ecology. Cardno personnel visited the proposed locations to check for obstructions and to mark the proposed locations. The property owner and UNC were notified at least 48 hours prior to the onset of field activities.

4.3 Soil Boring Advancement

On October 26, 2018, Cardno observed Mt. View locate subsurface utilities in the area of the proposed borings. On October 29 through October 31, 2018, Cardno observed Holocene clear borings B19 through B23 to depths ranging from 8 to 10 feet bgs using air knife clearance drilling equipment.

Following clearance activities, Holocene advanced borings B19, B20, and B21 to 30 feet bgs; B22 to 30.25 feet bgs; and B23 to 30.5 feet bgs using a 2-inch outside diameter GeoProbe direct push rig. Soil samples were collected at B22 and B23 using 2-inch diameter (5-foot long) clear acetate liners to confirm static groundwater depth on site. No soil samples were preserved during drilling activities.

4.4 Temporary Monitoring Well Installation

Following drilling, the temporary monitoring wells (TMW19 through TMW23) were constructed using 3/4-inch diameter, Schedule 40 PVC casings with 0.010-inch slots with the screen interval extending from 20 to 30 feet bgs at TMW23, and 25 to 30 feet bgs at TWM19, TMW20, TMW21, and TMW22. Each borehole was backfilled with 8x12 Primer Silica filter pack sand to approximately 2 feet above its respective screened interval to decrease groundwater turbidity during well development and sampling. Additionally, blank 2-inch diameter PVC casing was placed from the top of the screened casing to grade. During the construction of the temporary wells, factory-sealed PVC casing was used to reduce the probability of cross-contamination and all casing joints were flush-threaded. No glues, chemical cements, or solvents were used in well construction. Well construction details, descriptions of materials encountered, and sampled intervals are provided on the boring logs (Appendix B).

4.5 Temporary Monitoring Well Development

Once temporary well installation had been completed, Cardno personnel developed each well by agitating the groundwater with peristaltic pump tubing while purging at a rate that did not exceed the recharge rate of each well. The wells were purged until the groundwater had become free of sedimentation associated with drilling activities. Purge rate and total purge amounts per well are shown in Figure 1.

Figure 1 Temporary Monitoring Well Development

Well ID	Purge Rate (mL/min)	Total Purge Volume (mL)
TMW19	100	1,600
TMW20	100	1,000
TMW21	100	5,000
TMW22	100	3,300
TMW23	80	2,400

4.6 Groundwater Monitoring and Sampling

On October 30 and October 31, 2018, each temporary monitoring well was allowed to stabilize and was sampled in accordance with low-flow sampling methodology (Appendix A) using a peristaltic pump. New tubing was used at each well to prevent cross-contamination between temporary wells. Groundwater monitoring and sampling field notes are included as Appendix C.

4.7 Well Survey

On October 31, 2018, Cardno performed a lateral wellhead location survey in addition to a wellhead elevation survey of temporary monitoring wells TMW19 through TMW23. The wellhead survey was conducted by using an optical level and graduated survey rod. Wellhead elevations were measured to the nearest 0.01 foot relative to TMW23, which was assumed to be 100 feet above msl due to the lack of established survey points at the subject site. Wellhead elevation survey results are presented in Appendix D.

4.8 Laboratory Analysis

Groundwater samples were shipped to Eurofins Calscience, Inc., a state-certified laboratory in Garden Grove, California, and analyzed for total and dissolved lead in accordance with EPA Method 6010B. Groundwater monitoring and sampling data is summarized in Tables 1 and 2. Laboratory analytical results and COC documentation are provided in Appendix E.

4.9 Waste Management

The soil, purge water, and decontamination water generated during drilling activities was stored on-site in DOT-approved 55-gallon drums. Cardno personnel collected representative samples of soil, purge water, and decontamination water for characterization. Soil, purge water, and decontamination water was transported to the U.S. Ecology Nevada, Inc., facility, located in Beatty, Nevada, for final disposal. Waste documentation for soil and water is included in Appendix F.

4.10 Groundwater Investigation Results

Depth to water ranged from 24 to 26 feet bgs and the average groundwater flow direction is northwest (Plate 4). Laboratory results indicate all groundwater samples collected contained total and dissolved lead concentrations less than MTCA Method A Cleanup Levels (Plate 3; Table 1; Appendix E).

5 Conclusions

Following the collection of groundwater samples at each temporary monitoring well, results indicate that total and dissolved lead levels are less than MTCA Method A Cleanup Levels; and therefore, groundwater is protective of human health and the environment. This site qualifies for a revised NFA determination and a removal of the environmental covenant associated with the subject site.

6 Recommendations

Cardno recommends submitting this report to Ecology with a request for an NFA determination without an environmental covenant requirement.

7 Contact Information

- > The responsible party contact is Ms. Marla Madden, ExxonMobil Environmental Services Company, 8941 Atlanta Avenue, #384, Huntington Beach, California, 92646.
- > The consultant contact is Mr. Bobby Thompson, Cardno, 801 Second Avenue, Suite 700, Seattle, Washington 98104.
- > The agency contact is Mr. Tom Middleton, Washington State Department of Ecology, Southwest Regional Office, PO Box 47775, Olympia, Washington 98504-7440.

8 Limitations

For documents cited that were not generated by Cardno, the data taken from those documents is used “as is” and is assumed to be accurate. Cardno does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This report and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability and specialized knowledge necessary to perform the work in a good and workmanlike manner and within all accepted standards pertaining to providers of environmental services in Washington at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

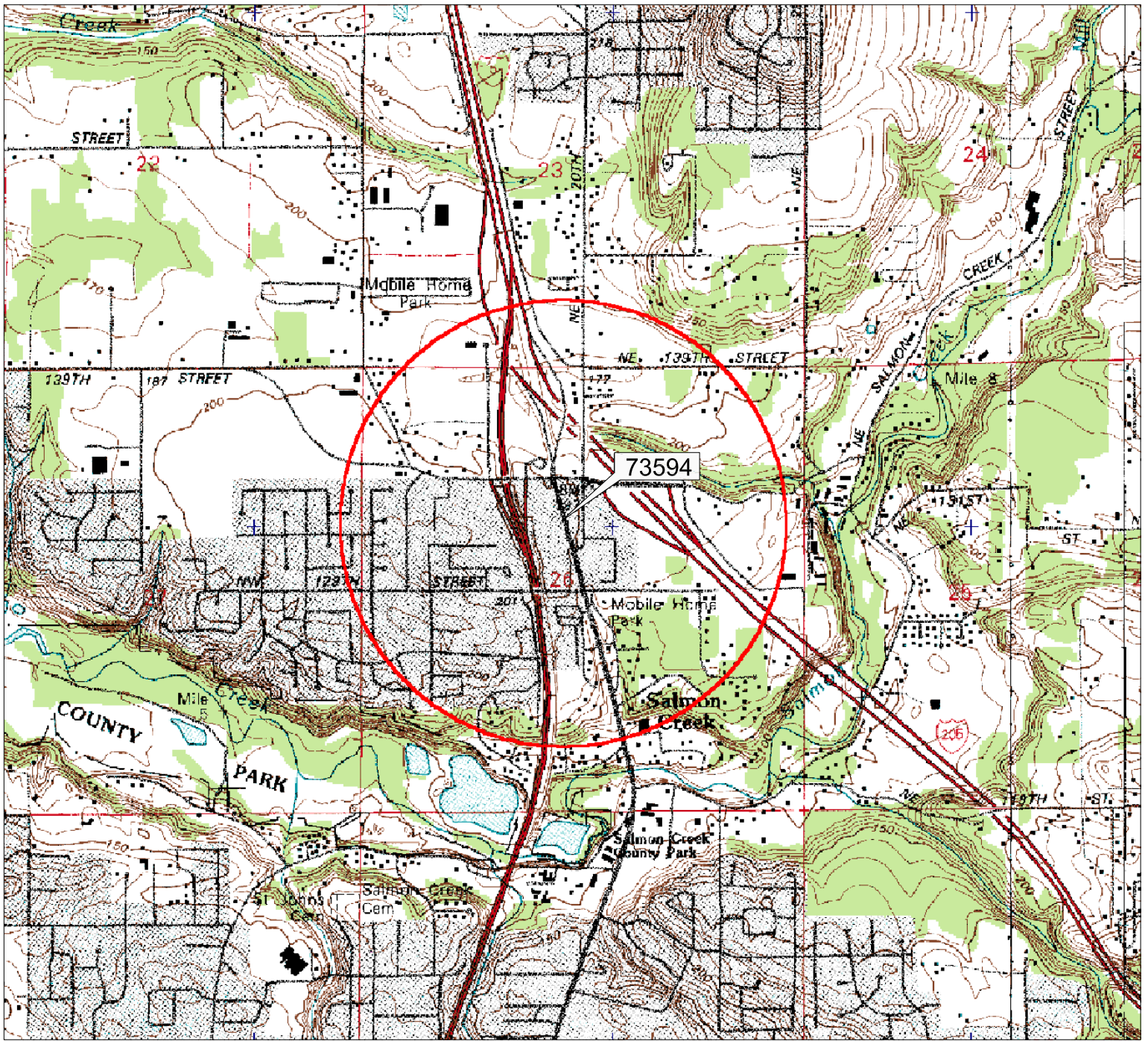
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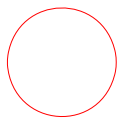
10 Acronym List

µg/L	Micrograms per liter	NAPL	Non-aqueous phase liquid
µs	Microsiemens	NEPA	National Environmental Policy Act
1,2-DCA	1,2-dichloroethane	NGVD	National Geodetic Vertical Datum
acfm	Actual cubic feet per minute	NPDES	National Pollutant Discharge Elimination System
AS	Air sparge	O&M	Operations and Maintenance
bgs	Below ground surface	ORP	Oxidation-reduction potential
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	OSHA	Occupational Safety and Health Administration
CEQA	California Environmental Quality Act	OVA	Organic vapor analyzer
cfm	Cubic feet per minute	P&ID	Process & Instrumentation Diagram
COC	Chain of Custody	PAH	Polycyclic aromatic hydrocarbon
CPT	Cone Penetration (Penetrometer) Test	PCB	Polychlorinated biphenyl
DIPE	Di-isopropyl ether	PCE	Tetrachloroethene or perchloroethylene
DO	Dissolved oxygen	PID	Photo-ionization detector
DOT	Department of Transportation	PLC	Programmable logic control
DPE	Dual-phase extraction	POTW	Publicly owned treatment works
DTW	Depth to water	ppmv	Parts per million by volume
EDB	1,2-dibromoethane	PQL	Practical quantitation limit
EDC	1,2-dichloroethane	psi	Pounds per square inch
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ESL	Environmental screening level	QA/QC	Quality assurance/quality control
ETBE	Ethyl tertiary butyl ether	RBSL	Risk-based screening levels
FID	Flame-ionization detector	RCRA	Resource Conservation and Recovery Act
fpm	Feet per minute	RL	Reporting limit
GAC	Granular activated carbon	scfm	Standard cubic feet per minute
gpd	Gallons per day	SSTL	Site-specific target level
gpm	Gallons per minute	STLC	Soluble threshold limit concentration
GWPTS	Groundwater pump and treat system	SVE	Soil vapor extraction
HVOC	Halogenated volatile organic compound	SVOC	Semivolatile organic compound
J	Estimated value between MDL and PQL (RL)	TAME	Tertiary amyl methyl ether
LEL	Lower explosive limit	TBA	Tertiary butyl alcohol
LPC	Liquid-phase carbon	TCE	Trichloroethene
LRP	Liquid-ring pump	TOC	Top of well casing elevation; datum is msl
LUFT	Leaking underground fuel tank	TOG	Total oil and grease
LUST	Leaking underground storage tank	TPHd	Total hydrocarbons as diesel
MCL	Maximum contaminant level	TPHg	Total hydrocarbons as gasoline
MDL	Method detection limit	TPHmo	Total hydrocarbons as motor oil
mg/kg	Milligrams per kilogram	TPHs	Total hydrocarbons as stoddard solvent
mg/L	Milligrams per liter	TRPH	Total recoverable hydrocarbons
mg/m ³	Milligrams per cubic meter	UCL	Upper confidence level
MPE	Multi-phase extraction	USCS	Unified Soil Classification System
MRL	Method reporting limit	USGS	United States Geologic Survey
msl	Mean sea level	UST	Underground storage tank
MTBE	Methyl tertiary butyl ether	VCP	Voluntary Cleanup Program
MTCA	Model Toxics Control Act	VOC	Volatile organic compound
NAI	Natural attenuation indicators	VPC	Vapor-phase carbon



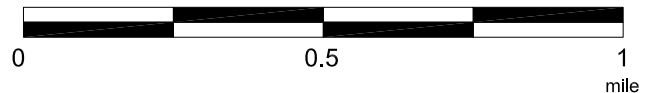
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EXPLANATION



1/2-mile radius circle

APPROXIMATE SCALE



SOURCE:
Modified from a map
provided by
DeLorme 3-D TopoQuads



SITE LOCATION MAP

FORMER EXXON STATION 73594
13204 Northeast Highway 99
Vancouver, Washington

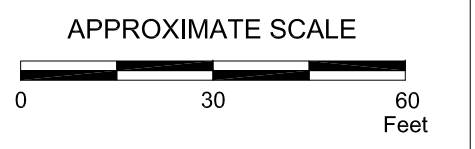
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PLATE

1

NAG: 09/11/12



SOURCE: Modified from a map provided by ExxonMobil Oil Corporation

FN 0311110002

GENERALIZED SITE PLAN
 FORMER EXXON STATION 73594
 13204 Northeast Highway 99
 Vancouver, Washington



EXPLANATION

- MW10 Destroyed Groundwater Monitoring Well
- TMW18 Destroyed Temporary Groundwater Monitoring Well
- PM3 Destroyed Pressure Monitoring Well
- SP4 Destroyed Air Sparging Well
- VE1 Destroyed Soil Vapor Extraction Well
- B3 Historical Soil Boring
- TMW20 5-Year Compliance Destroyed Temporary Groundwater Monitoring Well

PROJECT NO.
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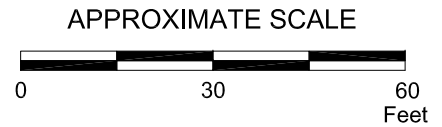
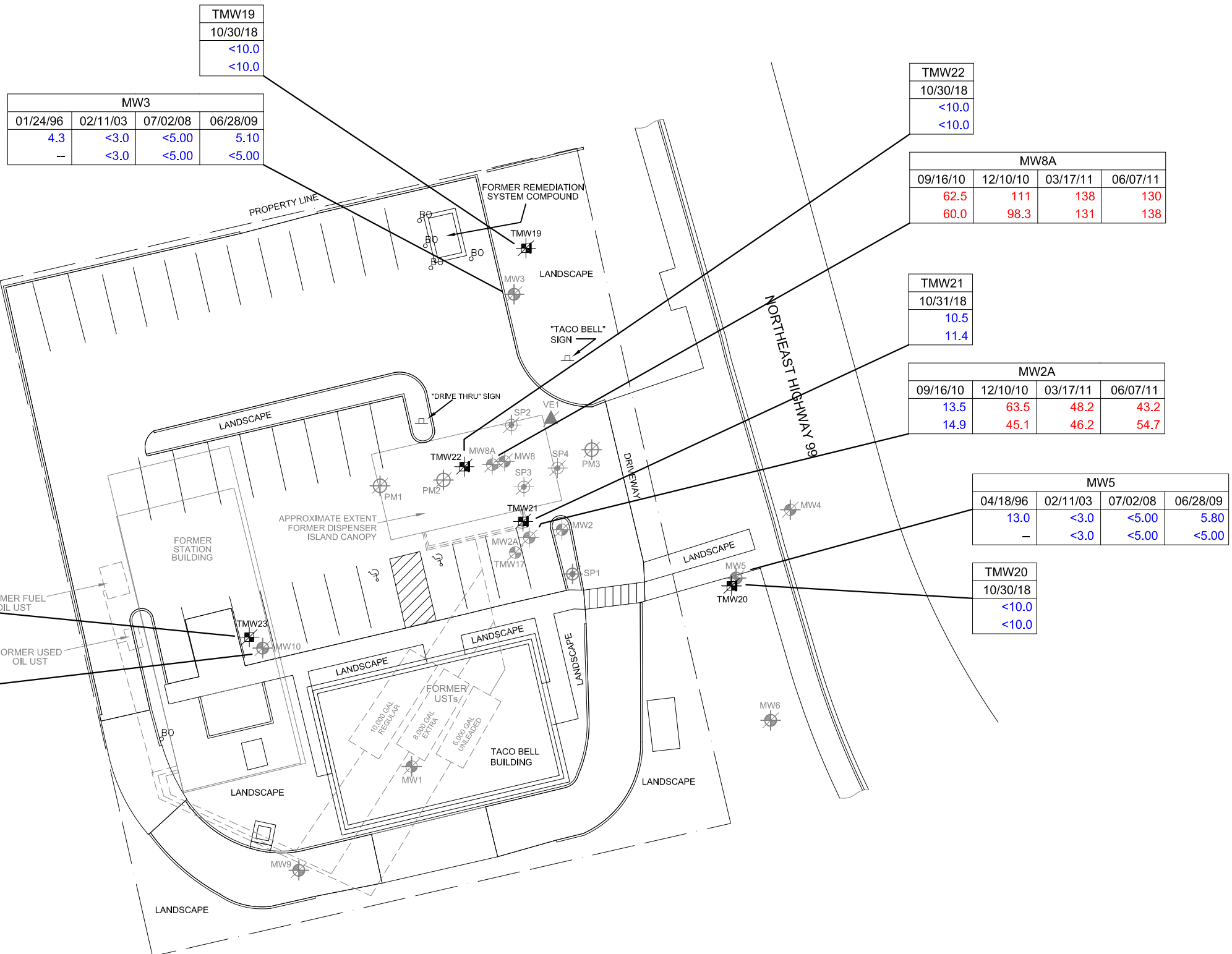
PLATE
2
NAG: 10/18/12

Laboratory Results in µg/L

TMW21	Well ID
10/31/18	Sample Date
10.5	Total Lead
11.4	Dissolved Lead

-- = Not Sampled
 <5.00 = Less than the Stated Laboratory Reporting Limit

Numbers in Red Indicate Dissolved and Total Lead Concentrations Which Exceed MTCA Method A Cleanup Levels
 Numbers and Well Symbols in Blue Indicate Dissolved and Total Lead Concentrations Less Than MTCA Method A Cleanup Levels
 No Data Available for Numbers and Well Symbols in Black



SOURCE: Modified from a map provided by ExxonMobil Oil Corporation

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

5-YEAR COMPLIANCE GROUNDWATER SAMPLE ANALYSIS MAP - 10/30 TO 10/31/18
 FORMER EXXON STATION 73594
 13204 Northeast Highway 99
 Vancouver, Washington

EXPLANATION

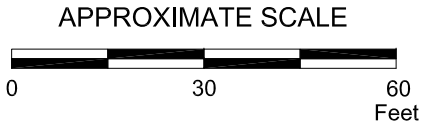
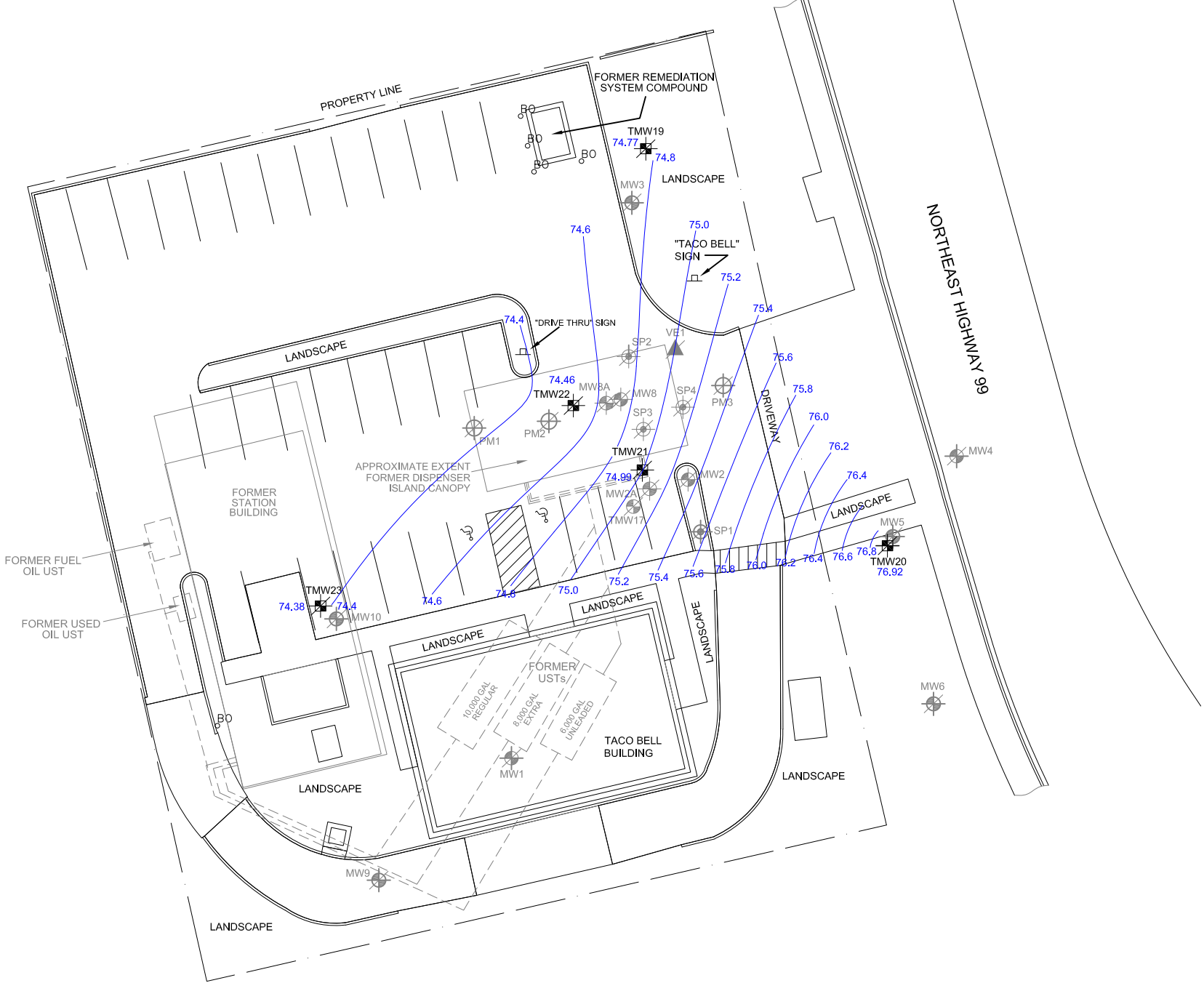
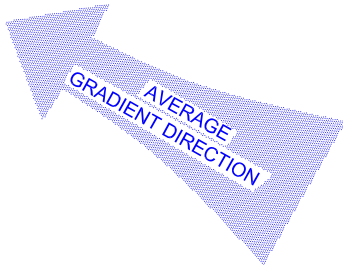
- MW10 Destroyed Groundwater Monitoring Well
- TMW18 Destroyed Temporary Groundwater Monitoring Well
- PM3 Destroyed Pressure Monitoring Well
- SP4 Destroyed Air Sparging Well
- VE1 Destroyed Soil Vapor Extraction Well
- TMW20 5-Year Compliance Destroyed Temporary Groundwater Monitoring Well

PROJECT NO.
031111

PLATE
3
CPA: 11/05/18

TMW23
 Destroyed Temporary 5-Year Compliance Groundwater Monitoring Well
 74.38 Groundwater Elevation
 Groundwater Elevation Contour Line

Wellhead elevations for wells TMW19 through TMW22 were established relative to TMW23, which was assigned an arbitrarily established datum of 100 feet




SOURCE: Modified from a map provided by ExxonMobil Oil Corporation

FN 0311110002



GROUNDWATER ELEVATION CONTOUR
MAP 10/30 TO 10/31/18
 FORMER EXXON STATION 73594
 13204 Northeast Highway 99
 Vancouver, Washington

EXPLANATION

-  MW10 Destroyed Groundwater Monitoring Well
-  TMW18 Destroyed Temporary Groundwater Monitoring Well
-  PM3 Destroyed Pressure Monitoring Well
-  SP4 Destroyed Air Sparging Well
-  VE1 Destroyed Soil Vapor Extraction Well
-  TMW23 Destroyed Temporary 5-Year Compliance Groundwater Monitoring Well

PROJECT NO.

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PLATE

4

CPA: 11/12/18

TABLE 1
GROUNDWATER ANALYTICAL RESULTS - 10/30 to 10/31/18

Former Exxon Station 73594
 13204 Northeast Highway 99
 Vancouver, Washington

Page 1 of 2

Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW19	10/30/18 d	100.09	25.32	74.77	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW20	10/30/18 d	101.10	24.18	76.92	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW21	10/31/18 d	100.05	25.06	74.99	--	--	--	--	--	--	--	--	10.5	11.4	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW22	10/30/18 d	99.81	25.35	74.46	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 20-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW23	10/30/18 d	100.00	25.62	74.38	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
MTC A Method A Cleanup Levels					8000/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 1
GROUNDWATER ANALYTICAL RESULTS - 10/30 to 10/31/18
Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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EXPLANATION:

µg/L = Micrograms per Liter

ft bgs = Feet below ground surface

DTW = Depth to water in feet below top of casing

GW Elev = Groundwater elevation relative to top of casing elevation

NM = Not Measured; N/A = Not Applicable, No Applicable MTCA Method A Cleanup Level; NE = Not Established

-- = Not analyzed or sampled

TPHg = Total Petroleum Hydrocarbons as Gasoline using Ecology Method NWTPH-Gx

TPHd and TPHmo = Total Petroleum Hydrocarbons as Diesel and Motor Oil, respectively, using Ecology Method NWTPH-Dx

B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes

BTEX = Aromatic compounds using EPA Method 8260B

Total Pb = Total Lead. Diss Pb = Dissolved Lead. Total and Dissolved Lead analyzed using EPA Method 6010B.

TSS = Total Suspended Solids using ASTM Standard Method 2540D

< = Less than stated laboratory reporting limit

Shaded values equal or exceed MTCA Method A Cleanup Levels

a = TPHg cleanup level for groundwater is 800 µg/L if benzene is present, TPHg cleanup level is 1,000 µg/L if benzene is not present

d = Wellhead elevations for wells TMW19 through TMW22 were established relative to TMW23, which was assigned an arbitrarily established datum of 100 feet

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS

Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
Screened Interval 15-35 ft bgs/ Total Well Depth 35 ft bgs															
MW1	04/05/88	100.03	22.49	77.54	--	--	--	<25.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	07/20/88	100.03	22.90	77.13	--	--	--	--	--	--	--	--	--	--	--
MW1	03/27/89	100.03	21.70	78.33	--	--	--	<1.0	0.5	0.6	1.7	--	--	--	--
MW1	05/24/89	100.03	21.55	78.48	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	06/19/89	100.03	NM	--	--	--	--	<1.0	1.0	<1.0	<1.0	--	--	--	--
MW1	12/03/90	100.03	NM	--	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	12/10/90	100.03	22.78	77.25	--	--	--	--	--	--	--	--	--	--	--
MW1	03/05/91	100.03	22.04	77.99	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	05/20/91	100.03	21.25	78.78	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	08/28/91	100.03	22.64	77.39	--	--	--	<0.5	<0.5	<0.5	1.1	--	--	--	--
MW1	04/23/92	NE	21.67	--	52	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW1	07/16/92	NE	22.67	--	70	--	--	0.8	0.6	<0.5	<0.5	--	--	--	--
MW1	10/19/92	NE	23.68	--	90	--	--	<0.5	0.7	0.7	<0.5	--	--	--	--
MW1	02/25/93	NE	22.35	--	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW1	06/04/93	NE	NM	--	--	--	--	<1.0	<1.0	--	<1.0	--	--	--	--
MW1	06/15/93	NE	21.23	--	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	5.0	5.0	--
MW1	12/03/93	NE	NM	--	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	02/18/94	NE	NM	--	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	09/01/94	NE	NM	--	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW1	12/04/94	NE	NM	--	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
Destroyed															
Screened Interval 15-35 ft bgs/ Total Well Depth 35 ft bgs															
MW2	04/05/88	99.60	22.74	76.86	--	--	--	184	8.0	2.0	5.0	--	--	--	--
MW2	07/20/88	99.60	22.40	77.20	--	--	--	--	--	--	--	--	--	--	--
MW2	03/27/89	99.60	21.45	78.15	--	--	--	210	2.2	0.7	4.8	--	--	--	--
MW2	05/24/89	99.60	21.65	77.95	--	--	--	120	3.0	2.0	19.0	--	--	--	--
MW2	06/19/89	99.60	NM	--	--	--	--	170	5.0	<1.0	12.0	--	--	--	--
MW2	12/03/90	99.60	NM	--	--	--	--	27	19.0	2.7	12.0	--	--	--	--
MW2	12/10/90	99.60	22.76	76.84	--	--	--	--	--	--	--	--	--	--	--
MW2	03/05/91	99.60	22.13	77.47	--	--	--	31	52.0	3.1	23.0	--	--	--	--
MW2	05/20/91	99.60	21.30	78.30	--	--	--	14	<1.0	2.1	1.4	--	--	--	--
MW2	08/28/91	99.60	22.45	77.15	--	--	--	54	12.0	1.2	7.9	--	--	--	--
MW2	04/23/92	76.52	21.75	54.77	1,400	--	--	9.5	0.6	2.4	1.1	--	--	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS
Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW2	07/16/92	76.52	22.42	54.10	2,200	--	--	310	66.0	6.9	40.0	--	--	--	--
MW2	10/19/92	76.52	23.44	53.08	2,300	--	--	500	150.0	8.9	100.0	--	--	--	--
MW2	02/25/93	76.52	22.14	54.38	2,900	--	--	370	220.0	12.0	150.0	--	--	--	--
MW2	06/15/93	76.52	21.22	55.30	3,300	--	--	650	390.0	81.0	290.0	--	6.0	<3.0	--
MW2	12/27/93	76.52	22.86	53.66	--	--	--	--	--	--	--	--	--	--	--
MW2	06/13/94	98.56	22.63	75.93	1,500	--	--	340	2.6	75.0	17.0	--	4.0	<3.0	--
MW2	09/12/94	98.56	23.32	75.24	4,600	--	--	2,700	340.0	270.0	560.0	--	7.9	<3.0	--
MW2	12/12/94	98.56	22.31	76.25	1,100	--	--	67	0.5	20.0	0.9	--	<3.0	--	--
MW2	02/22/95	98.56	NM	--	1,400	--	--	23	0.7	4.1	2.6	--	<2.0	--	--
MW2	05/22/95	98.56	NM	--	11,000	--	--	4,200	510	410	970	--	<2.0	--	--
MW2	08/01/95	98.56	NM	--	21,000	--	--	9,900	3,700	700	2,500	--	<2.0	--	--
MW2	01/24/96	98.56	NM	--	<50	--	--	0.6	<0.5	<0.5	<1.0	--	13.0	--	--
MW2	04/18/96	98.56	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	10.0	--	--
MW2	06/20/97	98.56	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	--	--	--
MW2	05/27/98	98.56	20.76	77.80	115	--	--	96.7	<1.0	6.3	<2.0	--	--	--	--
MW2	11/19/98	98.56	22.87	75.69	3,380	--	--	1,750	<25.0	<25.0	<50.0	--	--	--	--
MW2	11/23/99	98.56	24.07	74.49	<250	--	--	<1	<1	<1	<1	--	--	--	--
MW2	05/09/00	98.56	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1	<5.00	--	--	--
MW2	03/20/01	98.56	23.05	75.51	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW2	06/22/01	98.56	23.62	74.94	<50.0	--	--	<0.500	0.593	<0.500	<1.00	--	--	--	--
MW2	09/14/01	98.56	23.86	74.70	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW2	03/26/02	98.56	21.08	77.48	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	--	--
MW2	07/11/02	98.56	22.35	76.21	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW2	02/11/03	98.56	20.50	78.06	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	--	<3.0	<3.0	64,100
MW2	05/19/03	98.56	21.10	77.46	--	--	--	--	--	--	--	--	--	--	--
MW2	03/11/04	98.56	21.05	77.51	--	--	--	--	--	--	--	--	--	--	--
MW2	06/16/04	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	09/15/04	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	11/24/04	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	02/10/05	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	09/02/05	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	12/29/05	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	03/20/06	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	07/12/06	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--

MTCA Method A Cleanup Levels

800/1,000^a 500 500 5 1,000 700 1,000 20 15 15 N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS

Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW2	07/02/08	98.56	24.02	74.54	<100	363	179	<1.00	<1.00	<1.00	<3.00	<1.00	71.4	72.2	<2,000
MW2	07/24/08	98.56	24.16	74.40	--	--	--	--	--	--	--	--	88.7	85.3	<2,130
MW2	07/25/08	98.56	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW2	03/26/09	98.56	24.44	74.12	--	--	--	--	--	--	--	--	88.1	87.4	4,200
MW2	03/26/09 b	98.56	24.29	74.27	--	--	--	--	--	--	--	--	87.5	86.9	--
MW2	06/28/09	98.56	24.61	73.95	--	--	--	--	--	--	--	--	97.7	101	--
MW2	01/13/10	98.56	24.05	74.51	--	--	--	--	--	--	--	--	97.6	94.8	--
Destroyed															
Screened Interval 15-40 ft bgs/ Total Well Depth 40 ft bgs															
MW2A	06/15/10	NE	23.08	--	--	--	--	--	--	--	--	--	<5.00	<5.00	--
MW2A	09/16/10	NE	23.31	--	--	--	--	--	--	--	--	--	13.5	14.9	--
MW2A	12/10/10	NE	24.62	--	--	--	--	--	--	--	--	--	63.5	45.1	--
MW2A	03/17/11	NE	22.26	--	--	--	--	--	--	--	--	--	48.2	46.2	--
MW2A	06/07/11 c	202.24	22.48	179.76	--	--	--	--	--	--	--	--	43.2	54.7	--
Destroyed															
Screened Interval 20-35 ft bgs/ Total Well Depth 35 ft bgs															
MW3	07/20/88	99.80	22.72	77.08	--	<50	--	14.0	<1.0	<2.0	4.0	--	--	--	--
MW3	03/27/89	99.80	21.55	78.25	--	--	--	<4.1	<0.5	<0.6	<1.0	--	--	--	--
MW3	05/24/89	99.80	21.16	78.64	--	--	--	--	--	--	--	--	--	--	--
MW3	12/10/90	99.80	22.26	77.54	--	--	--	1.4	<1.0	<1.0	<1.0	--	--	--	--
MW3	03/05/91	99.80	21.51	78.29	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW3	05/20/91	99.80	20.60	79.20	--	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW3	08/28/91	99.80	22.20	77.60	--	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW3	04/23/92	76.66	21.21	55.45	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW3	07/16/92	76.66	22.23	54.43	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW3	10/19/92	76.66	23.30	53.36	70	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--
MW3	02/25/93	76.66	21.97	54.69	<50	--	--	1.1	<0.5	<0.5	<0.5	--	--	--	--
MW3	06/15/93	76.66	20.82	55.84	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	3.0	<3.0	--
MW3	12/27/93	76.66	22.16	54.50	--	--	--	--	--	--	--	--	--	--	--
MW3	06/13/94	98.00	21.94	76.06	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	16.0	<3.0	--
MW3	09/12/94	98.00	22.71	75.29	<50	--	--	<0.5	0.6	<0.5	<0.5	--	6.3	<3.0	--
MW3	12/12/94	98.00	21.54	76.46	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	<3.0	--	--
MW3	02/22/95	98.00	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	<2.0	--	--
MW3	08/01/95	98.00	NM	--	<50	--	--	0.9	1.4	<0.5	2.0	--	<2.0	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS

Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW3	01/24/96	98.00	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	4.3	--	--
MW3	06/20/97	98.00	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	--	--	--
MW3	11/19/98	98.00	21.95	76.05	--	--	--	--	--	--	--	--	--	--	--
MW3	11/23/99	98.00	22.27	75.73	--	--	--	--	--	--	--	--	--	--	--
MW3	03/20/01	98.00	23.15	74.85	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW3	06/22/01	98.00	23.70	74.30	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW3	09/14/01	98.00	23.42	74.58	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW3	03/26/02	98.00	20.06	77.94	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	--	--
MW3	07/11/02	98.00	21.43	76.57	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW3	02/11/03	98.00	20.75	77.25	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	--	<3.0	<3.0	181,000
MW3	05/19/03	98.00	20.11	77.89	--	--	--	--	--	--	--	--	--	--	--
MW3	03/11/04	98.00	19.06	78.94	--	--	--	--	--	--	--	--	--	--	--
MW3	06/16/04	98.00	21.53	76.47	--	--	--	--	--	--	--	--	--	--	--
MW3	09/15/04	98.00	22.40	75.60	--	--	--	--	--	--	--	--	--	--	--
MW3	11/24/04	98.00	22.37	75.63	--	--	--	--	--	--	--	--	--	--	--
MW3	02/10/05	98.00	22.36	75.64	--	--	--	--	--	--	--	--	--	--	--
MW3	09/02/05	98.00	23.52	74.48	--	--	--	--	--	--	--	--	--	--	--
MW3	12/29/05	98.00	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW3	03/20/06	98.00	20.91	77.09	--	--	--	--	--	--	--	--	--	--	--
MW3	07/12/06	98.00	22.35	75.65	--	--	--	--	--	--	--	--	--	--	--
MW3	07/02/08	98.00	23.04	74.96	<100	<111	<111	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<5.00	<2,000
MW3	07/24/08	98.00	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW3	07/25/08	98.00	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW3	03/26/09	98.00	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW3	06/28/09	98.00	23.66	74.34	--	--	--	--	--	--	--	--	5.10	<5.00	--
MW3	01/13/10	98.00	22.98	75.02	--	--	--	--	--	--	--	--	--	--	--
MW3	06/15/10	98.00	24.25	73.75	--	--	--	--	--	--	--	--	--	--	--
MW3	09/16/10	98.00	24.47	73.53	--	--	--	--	--	--	--	--	--	--	--
MW3	12/10/10	98.00	22.24	75.76	--	--	--	--	--	--	--	--	--	--	--
MW3	03/17/11	98.00	20.27	77.73	--	--	--	--	--	--	--	--	--	--	--
MW3	06/07/11 c	201.82	20.51	181.31	--	--	--	--	--	--	--	--	--	--	--
Destroyed															
Screened Interval Unknown ft bgs/ Total Well Depth 35 ft bgs															
MW4	04/23/92	NE	19.84	--	<50	--	--	<0.5	20.0	--	440	--	--	<3	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

**TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS**

Former Exxon Station 73594
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW4	07/16/92	NE	20.82	--	<50	--	--	<0.5	<0.5	140.0	0.8	--	--	<3	--
MW4	10/19/92	NE	21.85	--	--	--	--	--	--	--	--	--	--	--	--
MW4	02/25/93	NE	20.60	--	--	--	--	--	--	--	--	--	--	--	--
MW4	06/15/93	NE	21.32	--	<50	160	--	1.2	<0.5	<0.5	<0.5	--	<3	<3	--
MW4	10/25/93	NE	NM	--	<50	<50	--	<0.5	0.5	<0.5	0.9	--	--	<3	--
Destroyed															
Screened Interval 18-33 ft bgs/ Total Well Depth 33 ft bgs															
MW5	12/20/93	76.26	NM	--	<50	--	--	<0.5	<0.5	<0.5	2.5	--	<3.0	--	--
MW5	12/27/93	76.26	21.76	54.50	--	--	--	--	--	--	--	--	--	--	--
MW5	06/13/94	97.20	21.37	75.83	98	--	--	<0.5	<0.5	3.6	4.4	--	33.0	7.0	--
MW5	09/12/94	97.20	21.92	75.28	290	--	--	0.8	40.0	<0.5	<0.5	--	44.0	<3.0	--
MW5	12/12/94	97.20	20.65	76.55	<50	--	--	1.4	6.6	<0.5	0.6	--	22.0	--	--
MW5	02/22/95	97.20	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	<2.0	--	--
MW5	05/22/95	97.20	NM	--	--	--	--	--	--	--	--	--	<2.0	--	--
MW5	08/01/95	97.20	NM	--	<50	--	--	17.0	<0.5	<0.5	<1.0	--	<2.0	--	--
MW5	10/31/95	97.20	NM	--	150	--	--	350	<0.5	9.4	5.6	--	11.0	--	--
MW5	01/24/96	97.20	NM	--	<50	--	--	21.0	<0.5	1.5	<1.0	--	9.1	--	--
MW5	04/18/96	97.20	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	13.0	--	--
MW5	06/20/97	97.20	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	--	--	--
MW5	05/27/98	97.20	18.32	78.88	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	--	--	--
MW5	11/19/98	97.20	21.45	75.75	--	--	--	--	--	--	--	--	--	--	--
MW5	11/23/99	97.20	21.49	75.71	--	--	--	--	--	--	--	--	--	--	--
MW5	05/09/00	97.20	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	<5.00	--	--	--
MW5	03/20/01	97.20	22.58	74.62	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW5	06/22/01	97.20	22.40	74.80	<50.0	--	--	<0.500	0.528	<0.500	<1.00	--	--	--	--
MW5	09/14/01	97.20	22.65	74.55	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW5	03/26/02	97.20	19.59	77.61	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	--	--
MW5	07/11/02	97.20	20.78	76.42	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW5	02/11/03	97.20	20.40	76.80	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	--	<3.0	<3.0	67,700
MW5	05/19/03	97.20	19.25	77.95	--	--	--	--	--	--	--	--	--	--	--
MW5	03/11/04	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	06/16/04	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	09/15/04	97.20	21.90	75.30	--	--	--	--	--	--	--	--	--	--	--
MW5	11/24/04	97.20	22.90	74.30	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS

Former Exxon Station 73594
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW5	02/10/05	97.20	22.85	74.35	--	--	--	--	--	--	--	--	--	--	--
MW5	09/02/05	97.20	22.04	75.16	--	--	--	--	--	--	--	--	--	--	--
MW5	12/29/05	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	03/20/06	97.20	20.40	76.80	--	--	--	--	--	--	--	--	--	--	--
MW5	07/12/06	97.20	21.60	75.60	--	--	--	--	--	--	--	--	--	--	--
MW5	07/02/08	97.20	22.57	74.63	<100	<125	<125	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<5.00	3,600
MW5	07/24/08	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	07/25/08	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	03/26/09	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	06/28/09	97.20	23.11	74.09	--	--	--	--	--	--	--	--	5.80	<5.00	--
MW5	01/13/10	97.20	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW5	06/15/10	97.20	23.96	73.24	--	--	--	--	--	--	--	--	--	--	--
MW5	09/16/10	97.20	24.38	72.82	--	--	--	--	--	--	--	--	--	--	--
MW5	12/10/10	97.20	21.43	75.77	--	--	--	--	--	--	--	--	--	--	--
MW5	03/17/11	97.20	20.89	76.31	--	--	--	--	--	--	--	--	--	--	--
MW5	06/07/11 c	201.02	21.26	179.76	--	--	--	--	--	--	--	--	--	--	--
Destroyed															
Screened Interval 18-33 ft bgs/ Total Well Depth 33 ft bgs															
MW6	12/20/93	76.24	NM	--	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	4.0	--	--
MW6	12/27/93	76.24	21.75	54.49	--	--	--	--	--	--	--	--	--	--	--
MW6	06/13/94	97.29	21.46	75.83	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	<3.0	<3.0	--
MW6	09/12/94	97.29	22.08	75.21	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	3.7	<3.0	--
MW6	12/12/94	97.29	21.19	76.10	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	<3.0	--	--
MW6	02/22/95	97.29	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	<2.0	--	--
MW6	08/01/95	97.29	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	<2.0	--	--
MW6	01/24/96	97.29	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	<2.0	--	--
MW6	06/20/97	97.29	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	--	--	--	--
MW6	11/19/98	97.29	21.20	76.09	--	--	--	--	--	--	--	--	--	--	--
MW6	11/23/99	97.29	21.64	75.65	--	--	--	--	--	--	--	--	--	--	--
MW6	03/20/01	97.29	22.72	74.57	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW6	06/22/01	97.29	22.32	74.97	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW6	09/14/01	97.29	22.62	74.67	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW6	03/26/02	97.29	19.68	77.61	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	--	--
MW6	07/11/02	97.29	20.90	76.39	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

**TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS**

Former Exxon Station 73594
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW6	02/11/03	97.29	20.53	76.76	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	--	<3.0	<3.0	168,000
MW6	05/19/03	97.29	19.68	77.61	--	--	--	--	--	--	--	--	--	--	--
MW6	03/11/04	97.29	19.71	77.58	--	--	--	--	--	--	--	--	--	--	--
MW6	06/16/04	97.29	21.10	76.19	--	--	--	--	--	--	--	--	--	--	--
MW6	09/15/04	97.29	21.90	75.39	--	--	--	--	--	--	--	--	--	--	--
MW6	11/24/04	97.29	21.97	75.32	--	--	--	--	--	--	--	--	--	--	--
MW6	02/10/05	97.29	21.90	75.39	--	--	--	--	--	--	--	--	--	--	--
MW6	09/02/05	97.29	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW6	12/29/05	97.29	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW6	03/20/06	97.29	20.49	76.80	--	--	--	--	--	--	--	--	--	--	--
MW6	07/12/06	97.29	21.90	75.39	--	--	--	--	--	--	--	--	--	--	--
MW6	07/02/08	97.29	22.60	74.69	<100	<100	<100	<1.00	<1.00	<1.00	<3.00	--	<5.00	<5.00	8,800
MW6	07/24/08	97.29	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW6	07/25/08	97.29	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW6	03/26/09	97.29	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW6	06/28/09	97.29	23.19	74.10	--	--	--	--	--	--	--	--	<5.00	<5.00	--
MW6	01/13/10	97.29	22.74	74.55	--	--	--	--	--	--	--	--	--	--	--
MW6	06/15/10	97.29	24.08	73.21	--	--	--	--	--	--	--	--	--	--	--
MW6	09/16/10	97.29	24.42	72.87	--	--	--	--	--	--	--	--	--	--	--
MW6	12/10/10	97.29	21.93	75.36	--	--	--	--	--	--	--	--	--	--	--
MW6	03/17/11	97.29	20.93	76.36	--	--	--	--	--	--	--	--	--	--	--
MW6	06/07/11 c	201.08	21.19	179.89	--	--	--	--	--	--	--	--	--	--	--
Destroyed															
Screened Interval Unknown ft bgs/ Total Well Depth 30 ft bgs															
MW8	11/19/98	98.36	22.48	75.88	117,000	--	--	23,600	26,300	2,020	12,200	--	--	--	--
MW8	11/26/99	98.36	22.72	75.64	460	--	--	<1	<1	4.3	87	--	--	--	--
MW8	05/09/00	98.36	NM	--	<50	--	--	<0.5	<0.5	<0.5	<1.0	<5.00	--	--	--
MW8	03/20/01	98.36	22.05	76.31	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW8	06/22/01	98.36	23.34	75.02	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW8	09/14/01	98.36	24.20	74.16	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--
MW8	03/26/02	98.36	20.81	77.55	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	--	--
MW8	07/11/02	98.36	22.10	76.26	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--
MW8	02/11/03	98.36	21.50	76.86	<100	626	210	<1.0	<1.0	<1.0	<1.0	--	<3.0	4.0	67,700
MW8	05/19/03	98.36	20.80	77.56	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS

Former Exxon Station 73594
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW8	03/11/04	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	06/16/04	98.36	22.25	76.11	--	--	--	--	--	--	--	--	--	--	--
MW8	09/15/04	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	11/24/04	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	02/10/05	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	09/02/05	98.36	24.02	74.34	--	--	--	--	--	--	--	--	--	--	--
MW8	12/29/05	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	03/20/06	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	07/12/06	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	07/02/08	98.36	23.77	74.59	<100	202	127	<1.00	<1.00	<1.00	<3.00	<1.00	15.0	12.4	<2,130
MW8	07/24/08	98.36	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW8	07/25/08	98.36	23.94	74.42	--	--	--	--	--	--	--	--	35.7	34.9	<2,000
MW8	03/26/09	98.36	24.28	74.08	--	--	--	--	--	--	--	--	5.17	6.10	1,200
MW8	03/26/09 b	98.36	24.04	74.32	--	--	--	--	--	--	--	--	<5.00	<5.00	--
MW8	06/28/09	98.36	24.34	74.02	--	--	--	--	--	--	--	--	7.70	5.80	--
MW8	01/13/10	98.36	23.75	74.61	--	--	--	--	--	--	--	--	42.4	41.9	--
Destroyed															
Screened Interval 15-40 ft bgs/ Total Well Depth 40 ft bgs															
MW8A	06/15/10	NE	23.14	--	--	--	--	--	--	--	--	--	12.5	11.5	--
MW8A	09/16/10	NE	23.54	--	--	--	--	--	--	--	--	--	62.5	60.0	--
MW8A	12/10/10	NE	28.36	--	--	--	--	--	--	--	--	--	111	98.3	--
MW8A	03/17/11	NE	23.48	--	--	--	--	--	--	--	--	--	138	131	--
MW8A	06/07/11 c	202.34	23.62	178.72	--	--	--	--	--	--	--	--	130	138	--
Destroyed															
Screened Interval 15-30 ft bgs/ Total Well Depth 30 ft bgs															
MW9	02/11/03	99.08	21.81	77.27	<100	<143	<143	<1.0	<1.0	<1.0	<1.0	--	19.0	<3.0	1,030,000
MW9	05/19/03	99.08	21.33	77.75	<100	136	<111	4.30	9.0	1.5	10.1	--	20.0	<3.0	1,550,000
MW9	03/11/04	99.08	21.24	77.84	<100	<111	<111	<1.00	<1.0	<1.0	<1.0	--	<5.0	<5.0	--
MW9	06/16/04	99.08	22.76	76.32	<100	<111	<111	<1.00	<1.0	<1.0	<1.0	--	20.0	<5.0	--
MW9	09/15/04	99.08	23.57	75.51	<100	229	<100	<1.00	<1.0	<1.0	<1.0	--	18.0	<5.0	--
MW9	11/24/04	99.08	23.50	75.58	<100	--	--	1.9	1.90	1.5	5.1	--	18.0	<5.0	--
MW9	02/10/05	99.08	23.12	75.96	<100	--	--	<1.00	<1.0	<1.0	1.7	--	35.0	<5.0	--
MW9	09/02/05	99.08	25.31	73.77	<100	--	--	1.45	1.56	<1.00	3.38	--	89.7	<5.00	--
MW9	12/29/05	99.08	24.48	74.60	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	<5.00	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS
Former Exxon Station 73594
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Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW9	03/20/06	99.08	22.51	76.57	<100	--	--	<1.00	16.2	<1.00	<3.00	--	--	<5.00	--
MW9	07/12/06	99.08	23.78	75.30	<100	--	--	<1.00	2.20	<1.00	<3.00	--	--	<5.00	--
MW9	07/02/08	99.08	24.35	74.73	<100	<100	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<5.00	18,600
MW9	07/24/08	99.08	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW9	07/25/08	99.08	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW9	03/26/09	99.08	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW9	06/28/09	99.08	24.76	74.32	--	--	--	--	--	--	--	--	<5.00	<5.00	--
MW9	01/13/10	99.08	24.32	74.76	--	--	--	--	--	--	--	--	--	--	--
MW9	06/15/10	99.08	25.43	73.65	--	--	--	--	--	--	--	--	--	--	--
MW9	09/16/10	99.08	25.77	73.31	--	--	--	--	--	--	--	--	--	--	--
MW9	12/10/10	99.08	23.45	75.63	--	--	--	--	--	--	--	--	--	--	--
MW9	03/17/11	99.08	22.37	76.71	--	--	--	--	--	--	--	--	--	--	--
MW9	06/07/11 c	202.69	22.68	180.01	--	--	--	--	--	--	--	--	--	--	--
Destroyed															
Screened Interval 15-30 ft bgs/ Total Well Depth 30 ft bgs															
MW10	02/11/03	98.88	21.87	77.01	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	--	41.0	<3.0	9,960,000
MW10	05/19/03	98.88	21.35	77.53	134	<111	<111	8.10	21.1	3.8	26.2	--	22.0	<3.0	3,660,000
MW10	03/11/04	98.88	21.25	77.63	<100	<143	<143	<1.00	<1.0	<1.0	<1.0	--	10.0	<5.0	--
MW10	06/16/04	98.88	22.78	76.10	<100	<111	<111	<1.00	2.1	1.2	4.8	--	17.0	<5.0	--
MW10	09/15/04	98.88	23.57	75.31	<100	654	<100	<1.00	<1.0	<1.0	<1.0	--	25.0	<5.0	--
MW10	11/24/04	98.88	23.52	75.36	255	--	--	16.8	13.2	10.7	34.7	--	28.0	<5.0	--
MW10	02/10/05	98.88	23.25	75.63	<100	--	--	<1.00	1.2	1.1	3.5	--	23.0	<5.0	--
MW10	09/02/05	98.88	24.97	73.91	<100	--	--	<1.00	1.71	<1.00	2.45	--	31.8	<5.00	--
MW10	12/29/05	98.88	24.21	74.67	<100	--	--	<1.00	<1.00	<1.00	<1.00	--	--	<5.00	--
MW10	03/20/06	98.88	22.41	76.47	<100	--	--	<1.00	<1.00	<1.00	<3.00	--	--	<5.00	--
MW10	07/12/06	98.88	23.71	75.17	<100	--	--	<1.00	11.7	<1.00	<3.00	--	--	<5.00	--
MW10	07/02/08	98.88	24.29	74.59	<100	<105	<105	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<5.00	<2,000
MW10	07/24/08	98.88	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW10	07/25/08	98.88	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW10	03/26/09	98.88	NM	--	--	--	--	--	--	--	--	--	--	--	--
MW10	06/28/09	98.88	24.82	74.06	--	--	--	--	--	--	--	--	<5.00	<5.00	--
MW10	01/13/10	98.88	24.27	74.61	--	--	--	--	--	--	--	--	--	--	--
MW10	06/15/10	98.88	25.59	73.29	--	--	--	--	--	--	--	--	--	--	--
MW10	09/16/10	98.88	25.89	72.99	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Levels					800/1,000 ^a	500	500	5	1,000	700	1,000	20	15	15	N/A

**TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS**

Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
Page 10 of 11

Well ID	Sampling Date	Wellhead Elev (feet)	DTW (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Total Pb (µg/L)	Diss Pb (µg/L)	TSS (µg/L)
MW10	12/10/10	98.88	23.59	75.29	--	--	--	--	--	--	--	--	--	--	--
MW10	03/17/11	98.88	22.34	76.54	--	--	--	--	--	--	--	--	--	--	--
MW10	06/07/11 c	202.88	22.62	180.26	--	--	--	--	--	--	--	--	--	--	--
Destroyed															
Screened Interval 31-32 ft bgs/ Total Well Depth 32 ft bgs															
SP2	05/28/09	NE	NM	--	--	--	--	--	--	--	--	--	22.8	<5.00	--
Destroyed															
Screened Interval 31-32 ft bgs/ Total Well Depth 32 ft bgs															
SP3	05/28/09	NE	NM	--	--	--	--	--	--	--	--	--	34.1	<5.00	--
Destroyed															
Screened Interval 31-32 ft bgs/ Total Well Depth 32 ft bgs															
SP4	05/28/09	NE	NM	--	--	--	--	--	--	--	--	--	57.7	<5.00	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW19	10/30/18 d	100.09	25.32	74.77	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW20	10/30/18 d	101.10	24.18	76.92	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW21	10/31/18 d	100.05	25.06	74.99	--	--	--	--	--	--	--	--	10.5	11.4	--
Destroyed															
Screened Interval 25-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW22	10/30/18 d	99.81	25.35	74.46	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															
Screened Interval 20-30 ft bgs/ Total Well Depth 30 ft bgs															
TMW23	10/30/18 d	100.00	25.62	74.38	--	--	--	--	--	--	--	--	<10.0	<10.0	--
Destroyed															

MTCA Method A Cleanup Levels

800/1,000^a 500 500 5 1,000 700 1,000 20 15 15 N/A

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS
Former Exxon Station 73594
13204 Northeast Highway 99
Vancouver, Washington
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EXPLANATION:

Wellhead elevations prior to 03/28/11 were taken from prior consultants' reports

Data collected prior to 03/20/01 was taken from prior consultants' reports

µg/L = Micrograms per Liter

ft bgs = Feet below ground surface

DTW = Depth to water in feet below top of casing

GW Elev = Groundwater elevation relative to top of casing elevation

NM = Not Measured; N/A = No Applicable MTCA Method A Cleanup Level; NE = Not Established

-- = Not analyzed or sampled

TPHg = Total Petroleum Hydrocarbons as Gasoline in accordance with Ecology Method NWTPH-Gx

TPHd and TPHmo = Total Petroleum Hydrocarbons as Diesel and Motor Oil, respectively, in accordance with Ecology Method NWTPH-Dx

B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes

BTEX = Aromatic compounds in accordance with EPA Method 8260B or 8021B, refer to laboratory analytical reports

Total Pb = Total Lead. Diss Pb = Dissolved Lead. Total and Dissolved Lead analyzed in accordance EPA Method 7421 or 6010B, refer to laboratory analytical reports.

TSS = Total Suspended Solids in accordance with EPA Method 160.2 or ASTM Standard Method 2540D, refer to laboratory analytical reports

< = Less than stated laboratory reporting limit

Shaded values equal or exceed MTCA Method A Cleanup Levels

a = TPHg cleanup level for groundwater is 800 µg/L if benzene is present, or 1,000 µg/L if benzene is not present

b = No purge sample

c = Wellhead elevations were resurveyed on 03/28/11 by Cardno using NAVD 88

d = Wellhead elevations for wells TMW19 through TMW22 were established relative to TMW23, which was assigned an arbitrarily established datum of 100 feet

Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX A
FIELD PROTOCOLS

**Cardno
Soil Boring and Well Installation
Field Protocol**

Preliminary Activities

Prior to the onset of field activities at the site, Cardno obtains the appropriate permit(s) from the governing agency(s). Advance notification is made as required by the agency(s) prior to the start of work. Cardno marks the borehole locations and contacts the local one call utility locating service at least 48 hours prior to the start of work to mark buried utilities. Borehole locations may also be checked for buried utilities by a private geophysical surveyor. Prior to drilling, the borehole location is cleared in accordance with the client's procedures. Fieldwork is conducted under the advisement of a registered professional geologist and in accordance with an updated site-specific safety plan prepared for the project, which is available at the job site during field activities.

Drilling and Soil Sampling Procedures

Cardno contracts a licensed driller to advance the boring and collect soil samples. The specific drilling method (e.g., hollow-stem auger, direct push method, or sonic drilling), sampling method [e.g., core barrel or California-modified split spoon sampler (CMSSS)] and sampling depths are documented on the boring log and may be specified in a work plan. Soil samples are typically collected at the capillary fringe and at 5-foot intervals to the total depth of the boring. To determine the depth of the capillary fringe prior to drilling, the static groundwater level is measured with a water level indicator in the closest monitoring well to the boring location, if available.

The borehole is advanced to just above the desired sampling depth. For CMSSSs, the sampler is placed inside the auger and driven to a depth of 18 inches past the bit of the auger. The sampler is driven into the soil with a standard 140-pound hammer repeatedly dropped from a height of 30 inches onto the sampler. The number of blows required to drive the sampler each 6-inch increment is recorded on the boring log. For core samplers (e.g., direct push), the core is driven 18 inches using the rig apparatus.

Soil samples are preserved in the metal or plastic sleeve used with the CMSSS or core sampler, in glass jars or other manner required by the local regulatory agency (e.g., Environmental Protection Agency Method 5035). Sleeves are removed from the sample barrel, and the lowermost sample sleeve is immediately sealed with Teflon™ tape, capped and labeled. Samples are placed in a cooler chilled to 4° Celsius and transported to a state-certified laboratory. The samples are transferred under chain-of-custody (COC) protocol.

Field Screening Procedures

Cardno places the soil from the middle of the sampling interval into a plastic re-sealable bag. The bag is placed away from direct sunlight for approximately 20 minutes, after which the tip of a photo-ionization detector (PID) or similar device is inserted through the plastic bag to measure organic vapor concentrations in the headspace. The PID measurement is recorded on the boring log. At a minimum, the PID or other device is calibrated on a daily basis in accordance with manufacturer's specifications using a hexane or isobutylene standard. The calibration gas and concentration are recorded on a calibration log. Instruments such as the PID are useful for evaluating relative concentrations of volatilized hydrocarbons, but they do not measure the concentration of petroleum hydrocarbons in the soil matrix with the same precision as laboratory analysis. Cardno trained personnel describe the soil in the bag according to the Unified Soil Classification System and record the description on the boring log, which is included in the final report.

Air Monitoring Procedures

Cardno performs a field evaluation for volatile hydrocarbon concentrations in the breathing zone using a calibrated PID or lower explosive level meter.

Groundwater Sampling

A groundwater sample, if desired, is collected from the boring by using Hydropunch™ sampling technology or installing a well in the borehole. In the case of using Hydropunch™ technology, after collecting the capillary fringe soil sample, the boring is advanced to the top of the soil/groundwater interface and a sampling probe is pushed to approximately 2 feet below the top of the static water level. The probe is opened by partially withdrawing it and thereby exposing the screen. A new or decontaminated bailer is used to collect a water sample from the probe. The water sample is then emptied into laboratory-supplied containers constructed of the correct material and with the correct volume and preservative to comply with the proposed laboratory test. The container is slowly filled with the retrieved water sample until no headspace remains and then promptly sealed with a Teflon-lined cap, checked for the presence of bubbles, labeled, entered onto a COC record and placed in chilled storage at 4° Celsius. Laboratory-supplied trip blanks accompany the water samples as a quality assurance/quality control procedure. Equipment blanks may be collected as required. The samples are kept in chilled storage and transported under COC protocol to a client-approved, state-certified laboratory for analysis.

Backfilling of Soil Boring

If a well is not installed, the boring is backfilled from total depth to approximately 5 feet below ground surface (bgs) with either neat cement or bentonite grout using a tremie pipe. The boring is backfilled from 5 feet bgs to approximately 1 foot bgs with hydrated bentonite chips. The borehole is completed from 1 foot bgs to surface grade with material that best matches existing surface conditions and meets local agency requirements. Site-specific backfilling details are shown on the respective boring log.

Well Construction

A well (if constructed) is completed using materials documented on the boring log or specified in a work plan. The well is constructed with slotted casing across the desired groundwater sampling depth(s) and completed with blank casing to within 6 inches of surface grade. No further construction is conducted on temporary wells. For permanent wells, the annular space of the well is backfilled with Monterey sand from the total depth to approximately 2 feet above the top of the screened casing. A hydrated granular bentonite seal is placed on top of the sand filter pack. Grout may be placed on top of the bentonite seal to the desired depth using a tremie pipe. The well may be completed to surface grade with a 1-foot thick concrete pad. A traffic-rated well vault and locking cap for the well casing may be installed to protect against surface-water infiltration and unauthorized entry. Site-specific well construction details including type of well, well depth, casing diameter, slot size, length of screen interval and sand size are documented on the boring log or specified in the work plan.

Well Development and Sampling

If a permanent groundwater monitoring well is installed, the grout is allowed to cure a minimum of 48 hours before development. Cardno personnel or a contracted driller use a submersible pump or surge block to develop the newly installed well. Prior to development, the pump is decontaminated by allowing it to run and re-circulate while immersed in a non-phosphate solution followed by successive immersions in potable water and de-ionized water baths. The well is developed until sufficient well casing volumes are removed so that turbidity is within allowable limits and pH, conductivity and temperature levels stabilize in the purge water. The volume of groundwater extracted is recorded on a log.

Following development, groundwater within the well is allowed to recharge until at least 80% of the drawdown is recovered. A new or decontaminated bailer is slowly lowered past the air/water interface in the well, and a water sample is collected and checked for the presence of non-aqueous phase liquid, sheen or emulsions. The water sample is then emptied into laboratory-supplied containers as discussed above.

Surveying

If required, wells are surveyed by a licensed land surveyor relative to an established benchmark of known elevation above mean sea level to an accuracy of +/- 0.01 foot. The casing is notched or marked on one side to identify a consistent surveying and measuring point.

Decontamination Procedures

Cardno or the contracted driller decontaminates soil and water sampling equipment between each sampling event with a non-phosphate solution, followed by a minimum of two tap water rinses. De-ionized water may be used for the final rinse. Downhole drilling equipment is steam-cleaned prior to drilling the borehole and at completion of the borehole.

Waste Treatment and Soil Disposal

Soil cuttings generated from the drilling or sampling are stored on site in labeled, Department of Transportation-approved, 55-gallon drums or other appropriate storage container. The soil is removed from the site and transported under manifest to a client- and regulatory-approved facility for recycling or disposal. Decontamination fluids and purge water from well development and sampling activities, if conducted, are stored on site in labeled, regulatory-approved storage containers. Fluids are subsequently transported under manifest to a client- and regulatory-approved facility for disposal or treated with a permitted mobile or fixed-base carbon treatment system.

Cardno
Groundwater Sampling Field Protocol – Low-flow Sampling

The static water level and non-aqueous phase liquid (NAPL) level, if present, in each groundwater monitoring well that contained water and/or NAPL are measured with an interface probe accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater gradient, depth to water (DTW) levels are subtracted from wellhead elevations.

Before water samples are collected from the groundwater monitoring wells, the wells are purged using a peristaltic or a down-well pump at rates not exceeding 1 liter per minute (L/min) until stabilization of the dissolved oxygen (DO), pH, conductivity, and temperature are obtained. Readings of these parameters are taken and recorded every three minutes while the water is purged, and DTW readings are collected every three minutes to ensure drawdown in the well is less than 0.33 feet. If drawdown occurs too quickly, the rate of withdrawal will be reduced.

Purging will continue until three consecutive readings indicate the following:

- Temperature has a change of less than ± 1 degree Celsius
- Conductivity has a change of less than $\pm 3\%$
- pH has a change of less than ± 0.10
- DO has a change of less than $\pm 10\%$ in concentrations (or less than ± 0.3 milligram per liter (mg/L) DO, whichever occurs first)

These are indicators of stabilized conditions.

Once groundwater conditions have stabilized, groundwater samples are carefully collected in 40-milliliter (ml) glass vials, which are filled so as to produce a positive meniscus. Each vial is preserved with hydrochloric acid, sealed with a cap containing a Teflon[®] septum, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. Additional samples may be collected in other sampling containers. The samples are promptly transported in iced storage in a thermally insulated ice chest, accompanied by chain of custody documentation, to a state-certified laboratory.

Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX B
BORING LOGS



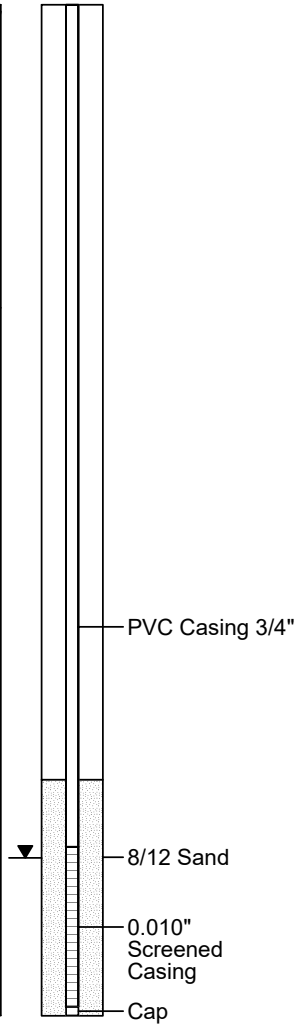
BORING LOG B19 / TMW19

(Page 1 of 1)

Date Drilled: : 10/30/18
 Drilling Co.: : Holocene Drilling, Inc.
 Drilling Method: : Direct Push
 Sampling Method: : N/A
 Borehole Diameter: : 2"
 Casing Diameter: : 3/4"
 Total Depth: : 30'
 First GW Depth: : 25.32'
 Ecology Unique Well ID: N/A

Project No.: : 031111
 Site: : Former Exxon Station 73594, 13204 NE HWY 99, Vancouver, WA
 Logged By: : Cameron Penner-Ash
 Reviewed By: : Kerj Chappell, L.G. 2719
 Signature: : *Kerj Chappell*

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	Sample Condition	Water Levels	Well: TMW19 Elevation: N/A
						<input type="checkbox"/> No Recovery <input type="checkbox"/> Sampled Interval <input type="checkbox"/> Described Sample <input type="checkbox"/> Preserved Sample	<input type="checkbox"/> After Completion <input type="checkbox"/> During Drilling	
DESCRIPTION (%clay/silt/sand/gravel)								
0								
0 - 9.0					SW	3" Organic Top Soil; Borehole was cleared on 10/29/18 to 9.0' bgs using air knife and hand tools. SAND with Silt and Gravel: fine- to coarse-grained, dark gray, low plasticity (0/10/70/20)		
9.0 - 30						Borehole not logged 9 to 30 feet bgs.		
30 - 35						Backfill Materials: 0.5 50-lb. bags of Sand 4 50-lb. bags of Bentonite Chips 7 50-lb. bags of Concrete 3' of Clean Top Soil		
35 - 40						Following collection of groundwater samples, the well casing was removed and the borehole was backfilled with bentonite from 6 to 23 feet bgs., concrete from 3 to 6 feet bgs., and top soil from surface to 3 feet bgs.		





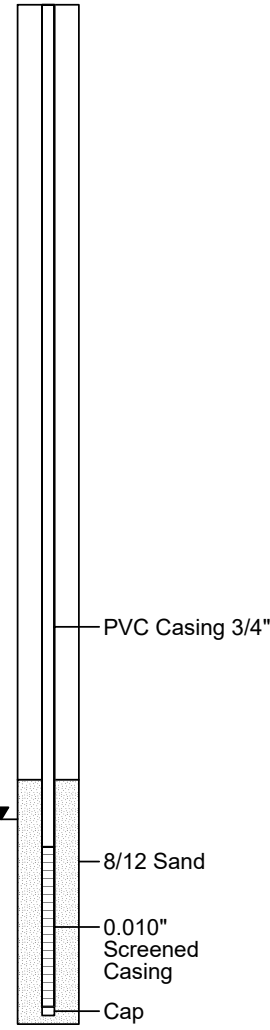
BORING LOG B20 / TMW20

(Page 1 of 1)

Date Drilled: : 10/30/18
 Drilling Co.: : Holocene Drilling, Inc.
 Drilling Method: : Direct Push
 Sampling Method: : N/A
 Borehole Diameter: : 2"
 Casing Diameter: : 3/4"
 Total Depth: : 30'
 First GW Depth: : 24.18'
 Ecology Unique Well ID: N/A

Project No.: : 031111
 Site: : Former Exxon Station 73594, 13204 NE HWY 99, Vancouver, WA
 Logged By: : Cameron Penner-Ash
 Reviewed By: : Keri Chappell, L.G. 2719
 Signature: : *Keri Chappell*

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	Sample Condition	Water Levels	Well: TMW20 Elevation: N/A
						<input type="checkbox"/> No Recovery <input type="checkbox"/> Sampled Interval <input type="checkbox"/> Described Sample <input type="checkbox"/> Preserved Sample	<input type="checkbox"/> After Completion <input type="checkbox"/> During Drilling	
DESCRIPTION (%clay/silt/sand/gravel)								
0								
0 - 10					SP			
0 - 10						3" Organic Top Soil; Borehole was cleared on 10/29/18 to 10.0' bgs using an air knife and hand tools. SAND: fine- to medium-grained, light to dark brown; fine to coarse gravel, angular to rounded (0/10/80/10)		
10 - 30						Borehole not logged 10 to 30 feet bgs.		
30 - 40						Backfill Materials: 0.5 50-lb. bags of Sand 1 50-lb. bags of Bentonite Chips 4 50-lb. bags of Concrete 3' of Clean Top Soil Following collection of groundwater samples, the well casing was removed and the borehole was backfilled with bentonite from 6 to 23 feet bgs., concrete from 3 to 6 feet bgs., and top soil from surface to 3 feet bgs.		





BORING LOG B21 / TMW21

(Page 1 of 1)

Date Drilled: : 10/31/18
 Drilling Co.: : Holocene Drilling, Inc.
 Drilling Method: : Direct Push
 Sampling Method: : N/A
 Borehole Diameter: : 2"
 Casing Diameter: : 3/4"
 Total Depth: : 30'
 First GW Depth: : 25.06'
 Ecology Unique Well ID: N/A

Project No.: : 031111
 Site: : Former Exxon Station 73594, 13204 NE HWY 99, Vancouver, WA
 Logged By: : Cameron Penner-Ash
 Reviewed By: : Keri Chappell, L.G. 2719
 Signature: : *Keri Chappell*

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	Sample Condition	Water Levels	Well: TMW21 Elevation: N/A
						<input type="checkbox"/> No Recovery <input type="checkbox"/> Sampled Interval <input type="checkbox"/> Described Sample <input type="checkbox"/> Preserved Sample	<input checked="" type="checkbox"/> After Completion <input type="checkbox"/> During Drilling	
DESCRIPTION (%clay/silt/sand/gravel)								
0						2" Asphalt; Borehole was cleared on 10/29/18 to 8.0' bgs using air knife and hand tools.		
5					SW	SAND with Silt and Gravel: fine- to coarse-grained, dark gray, low plasticity (0/10/70/20)		
10						Borehole was not logged 8 to 30 feet bgs.		
15								
20								
25								
30								
35						Backfill Materials: 1 50-lb. bags of Sand 3 50-lb. bags of Bentonite Chips 5 50-lb. bags of Concrete		
40						Following collection of groundwater samples, the well casing was removed and the borehole was backfilled with bentonite from 3 to 23 feet bgs., and concrete from surface to 3 feet bgs.		



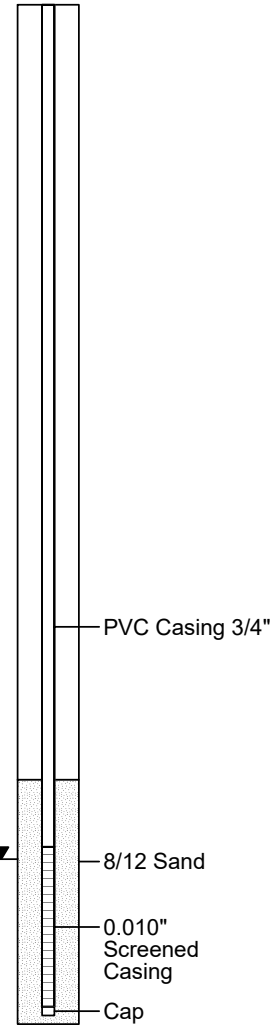
BORING LOG B22 / TMW22

(Page 1 of 1)

Date Drilled: : 10/29/18
 Drilling Co.: : Holocene Drilling, Inc.
 Drilling Method: : Direct Push
 Sampling Method: : Liner
 Borehole Diameter: : 2"
 Casing Diameter: : 3/4"
 Total Depth: : 30.25'
 First GW Depth: : 25.35'
 Ecology Unique Well ID: N/A

Project No.: : 031111
 Site: : Former Exxon Station 73594, 13204 NE HWY 99, Vancouver, WA
 Logged By: : Cameron Penner-Ash
 Reviewed By: : Kerj Chappell, L.G. 2719
 Signature: : *Kerj Chappell*

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	Sample Condition	Water Levels	Well: TMW22 Elevation: N/A
						<input type="checkbox"/> No Recovery <input type="checkbox"/> Sampled Interval <input type="checkbox"/> Described Sample <input type="checkbox"/> Preserved Sample	<input type="checkbox"/> After Completion <input type="checkbox"/> During Drilling	
DESCRIPTION (%clay/silt/sand/gravel)								
0						2" of Asphalt. Borehole was cleared on 10/29/18 to 9.0' bgs using air knife and hand tools.		
5						SAND: fine- to medium-grained, light to dark brown; fine to coarse gravel, angular to rounded (0/10/80/10)		
10								
15					SP			
20								
25						100% recovery		
30								
35						Backfill Materials: 0.5 50-lb. bags of Sand 4 50-lb. bags of Bentonite Chips 10 50-lb. bags of Concrete		
40						Following the collection of groundwater samples, the well casing was removed and the boring was backfilled with bentonite from 3 to 23 feet bgs., and concrete from surface to 3 feet bgs.		



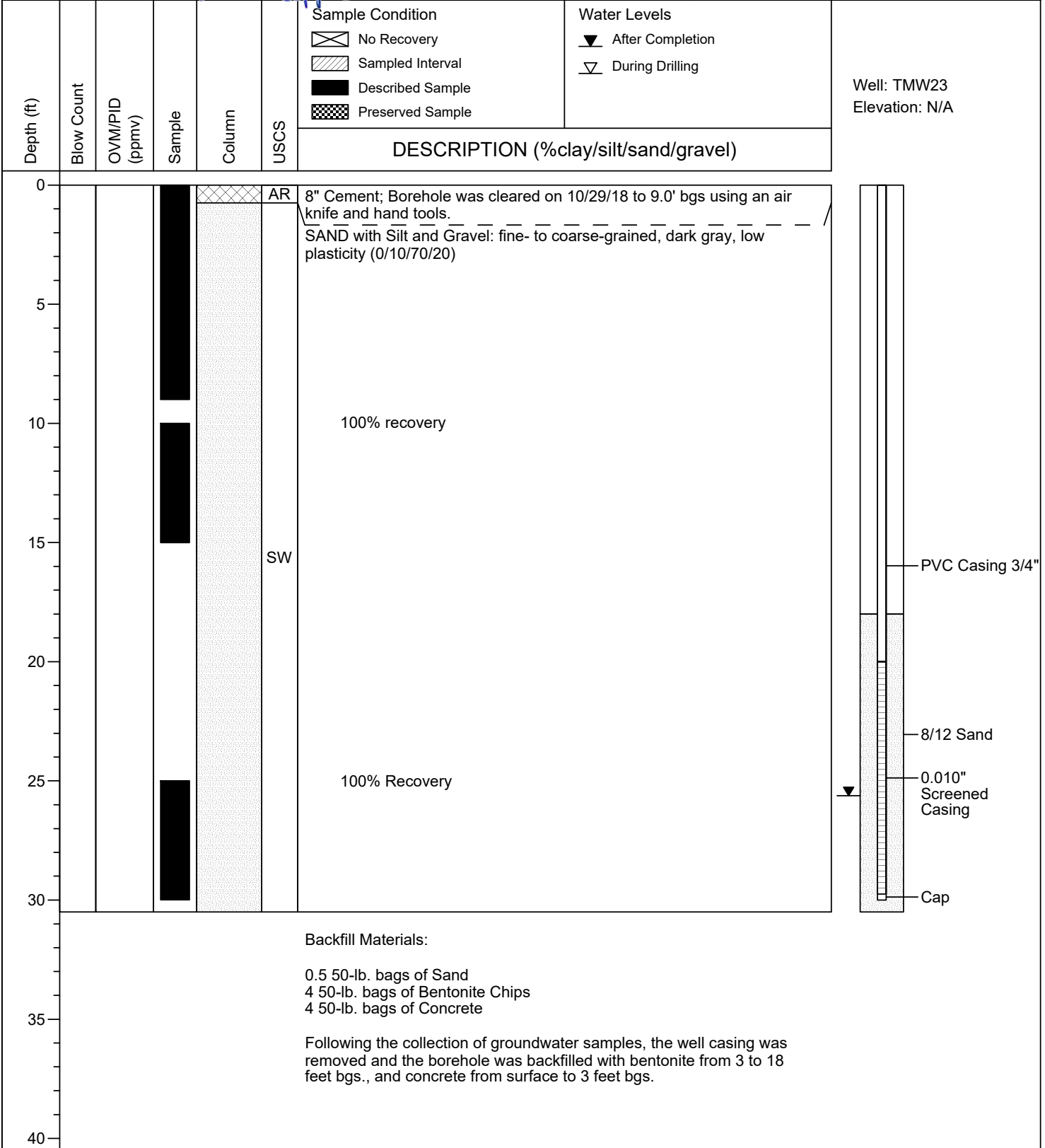


BORING LOG B23 / TMW23

(Page 1 of 1)

Date Drilled: : 10/30/18
 Drilling Co.: : Holocene Drilling, Inc.
 Clearing Method: : Air Knife
 Drilling Method: : Direct Push
 Sampling Method: : Liner
 Borehole Diameter: : 2"
 Casing Diameter: : 3/4"
 Total Depth: : 30.5'
 First GW Depth: : 25.62'
 Ecology Unique Well ID: N/A

Project No.: : 031111
 Site: : Former Exxon Station 73594, 13204 NE HWY 99, Vancouver, WA
 Logged By: : Cameron Penner-Ash
 Reviewed By: : Keri Chappell, L.G. 2719
 Signature: : Keri Chappell



Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX C
GROUNDWATER FIELD LOGS

FIELD LOG
PURGING & SAMPLING RECORD AND WELL EQUIPMENT STATUS

SITE: ExxonMobil 73594

CARDNO#: 031111

LOCATION: 13204 NE Highway 99, Vancouver Washington

FIELD CREW: PEP, BLM

DATE: 10/30 - 10/31/18 Low-Flow Sampling

WELL #		TMW19						
TIME	DTW	PURGE VOLUME	PUMP RATE (Q)	TEMP	COND	pH	ORP	DO
hr:min	ft	mL	mL/min	deg C	mS/cm	unit	mV vs NHE	mg/L
				1 deg	3%	0.1		0.3
22:53	25.32							
23:18	--	300	100	14.00	0.172	6.36	15.7	3.65
23:21	--	600	100	14.00	0.172	6.23	3.0	3.55
23:24	--	900	100	14.00	0.169	6.21	-5.8	3.56
23:27	--	1,200	100	14.00	0.169	6.19	-24.7	3.61
Comments: Could not gauge well while purging/sampling due to prohibitively small casing diameter. Well development took place from 22:53 - 23:09; volume purged = 1,600 mL. Developed and sampled 10/30/18.								
SW	23:30	1 gal = 3.79L						
Total Purge Volume		1,200 mL	0.32 gal					

WELL #		TMW20						
TIME	DTW	PURGE VOLUME	PUMP RATE (Q)	TEMP	COND	pH	ORP	DO
hr:min	ft	mL	mL/min	deg C	mS/cm	unit	mV vs NHE	mg/L
				1 deg	3%	0.1		0.3
04:25	24.18							
04:46	--	300	100	13.90	0.795	6.52	-112.0	0.60
04:49	--	600	100	14.00	0.798	6.55	-121.9	0.58
04:52	--	900	100	14.10	0.800	6.58	-135.2	0.57
Comments: Could not gauge well while purging/sampling due to prohibitively small casing diameter. Well development took place from 04:25 - 04:35; volume purged = 1,000 mL. Developed and sampled 10/30/18.								
SW	04:55	1 gal = 3.79L						
Total Purge Volume		900 mL	0.24 gal					

WELL #		TMW21						
TIME	DTW	PURGE VOLUME	PUMP RATE (Q)	TEMP	COND	pH	ORP	DO
hr:min	ft	mL	mL/min	deg C	mS/cm	unit	mV vs NHE	mg/L
				1 deg	3%	0.1		0.3
01:28	25.06							
02:24	--	300	100	14.70	0.336	6.43	-113.7	1.09
02:27	--	600	100	14.60	0.340	6.42	-124.8	1.10
02:30	--	900	100	14.60	0.346	6.40	-132.3	1.09
Comments: Could not gauge well while purging/sampling due to prohibitively small casing diameter. Well development took place from 01:28 - 02:18; volume purged = 5,000 mL. Developed and sampled 10/31/18.								
SW	02:30	1 gal = 3.79L						
Total Purge Volume		900 mL	0.24 gal					

**FIELD LOG
PURGING & SAMPLING RECORD AND WELL EQUIPMENT STATUS**

SITE: ExxonMobil 73594

CARDNO#: 031111

LOCATION: 13204 NE Highway 99, Vancouver Washington

FIELD CREW: PEP, BLM

DATE: 10/30 - 10/31/18 Low-Flow Sampling

WELL #		TMW22						
TIME	DTW	PURGE VOLUME	PUMP RATE (Q)	TEMP	COND	pH	ORP	DO
hr:min	ft	mL	mL/min	deg C	mS/cm	unit	mV vs NHE	mg/L
				1 deg	3%	0.1		0.3
02:58	25.35							
03:42	--	300	100	14.50	0.299	6.22	-61.2	1.57
03:45	--	600	100	14.60	0.300	6.21	-75.7	1.51
03:48	--	900	100	14.60	0.300	6.19	-82.2	1.58
Comments: Could not gauge well while purging/sampling due to prohibitively small casing diameter. Well development took place from 02:58 - 03:31; volume purged = 3,200 mL. Developed and sampled 10/30/18.								
SW	03:50	1 gal = 3.79L						
Total Purge Volume		900 mL	0.24 gal					

WELL #		TMW23						
TIME	DTW	PURGE VOLUME	PUMP RATE (Q)	TEMP	COND	pH	ORP	DO
hr:min	ft	mL	mL/min	deg C	mS/cm	unit	mV vs NHE	mg/L
				1 deg	3%	0.1		0.3
01:20	25.62							
02:08	--	300	100	14.70	0.324	6.24	143.6	2.61
02:11	--	600	100	14.80	0.321	6.14	122.4	2.62
02:14	--	900	100	15.00	0.317	6.11	102.4	3.13
02:17	--	1,200	100	14.90	0.315	6.09	75.9	3.16
02:20	--	1,500	100	14.80	0.314	6.09	66.1	2.66
02:25	--	1,800	100	14.60	0.308	6.09	44.2	2.77
02:28	--	2,100	100	14.70	0.304	6.09	33.5	3.13
02:31	--	2,400	100	14.80	0.302	6.09	29.3	3.20
02:34	--	2,700	100	14.80	0.303	6.08	26.7	3.19
Comments: Could not gauge well while purging/sampling due to prohibitively small casing diameter. Well Development took place from 01:20 - 01:50; volume purged = 2,400 mL. Developed and sampled 10/30/18.								
SW	02:35	1 gal = 3.79L						
Total Purge Volume		2,700 mL	0.71 gal					

Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX D
WELLHEAD ELEVATION SURVEY
RESULTS

WELLHEAD ELEVATION SURVEY RESULTS

Former Exxon Station 73594

13204 NE HWY 99

Vancouver, Washington

October 31, 2018

Page 1 of 1

TMW20 Elevation Survey Using TMW23 Elevation (100.00 feet amsl)				
TMW19 Station 1 Elevation Survey	TMW19 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.73	4.65	0.08	100.08
TMW19 Station 2 Elevation Survey	TMW19 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.65	4.63	0.02	100.02
TMW19 Station 3 Elevation Survey	TMW19 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.58	4.40	0.18	100.18
Station 1 through Station 3 Average Elevation (Calculated TMW19 Elevation):				100.09

TMW20 Elevation Survey Using TMW23 Elevation (100.00 feet amsl)				
TMW20 Station 1 Elevation Survey	TMW20 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	5.85	4.65	1.2	101.2
TMW20 Station 2 Elevation Survey	TMW20 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	5.34	4.63	0.71	100.71
TMW20 Station 3 Elevation Survey	TMW20 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	5.79	4.40	1.39	101.39
Station 1 through Station 3 Average Elevation (Calculated TMW20 Elevation):				101.10

TMW20 Elevation Survey Using TMW23 Elevation (100.00 feet amsl)				
TMW21 Station 1 Elevation Survey	TMW21 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.67	4.65	0.02	100.02
TMW21 Station 2 Elevation Survey	TMW21 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.61	4.63	-0.02	99.98
TMW21 Station 3 Elevation Survey	TMW21 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.54	4.40	0.14	100.14
Station 1 through Station 3 Average Elevation (Calculated TMW21 Elevation):				100.05

TMW22 Elevation Survey Using TMW23 Elevation (100.00 feet amsl)				
TMW22 Station 1 Elevation Survey	TMW22 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.41	4.65	-0.24	99.76
TMW22 Station 2 Elevation Survey	TMW22 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.39	4.63	-0.24	99.76
TMW22 Station 3 Elevation Survey	TMW22 Measurement (H1)	TMW23 (H2)	ΔH	$\Delta H + \text{TMW23 Elevation}$
	Feet	Feet	Feet	Feet
	4.30	4.40	-0.10	99.90
Station 1 through Station 3 Average Elevation (Calculated TMW22 Elevation):				99.81

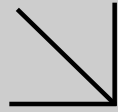
Final TMW19 Elevation 100.09 feet amsl**Final TMW20 Elevation** 101.10 feet amsl**Final TMW21 Elevation** 100.05 feet amsl**Final TMW22 Elevation** 99.81 feet amsl

Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX E
LABORATORY ANALYTICAL
RESULTS



Calscience



WORK ORDER NUMBER: 18-11-0151

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno

Client Project Name: ExxonMobil 73594 / 031111

Attention: Bobby Thompson
801 Second Avenue
Suite 700
Seattle, WA 98104-1573

Approved for release on 11/09/2018 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 18-11-0151

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 11/02/18. They were assigned to Work Order 18-11-0151.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.



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Client: Cardno	Work Order: 18-11-0151
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	PO Number:
	Date/Time Received: 11/02/18 11:00
	Number of Containers: 8
Attn: Bobby Thompson	

Sample Summary

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
DRUM.181031	18-11-0151-1	10/31/18 14:40	8	Solid



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The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

Attn: Bobby Thompson

Analytical Report

Analyte	Result	Flag	Units	MDL	RL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: 1 (DRUM.181031, Solid) Sampled: 10/31/18 14:40									
NWTPH-Dx TPH Diesel (Extraction Method: EPA 3550B) Container - A TPH as Diesel Range	ND		mg/kg		5.1	1.00	11/08/18 17:55	NWTPH-Dx	181107B15A
<i>Surr: n-Octacosane (61-145%)</i>	99%						11/08/18 17:55	NWTPH-Dx	181107B15A
NWTPH-Dx TPH Motor Oil Ranges (Extraction Method: EPA 3550B) Container - A TPH as Motor Oil Range	ND		mg/kg		5.1	1.00	11/08/18 17:55	NWTPH-Dx	181107B16
<i>Surr: n-Octacosane (61-145%)</i>	99%						11/08/18 17:55	NWTPH-Dx	181107B16
NWTPH-Gx TPH Gasoline Prep 5035 (Extraction Method: EPA 5035) Container - G TPH as Gasoline	ND		mg/kg		0.20	1.00	11/08/18 14:39	NWTPH-Gx	181108L028
<i>Surr: 1,4-Bromofluorobenzene (60-126%)</i>	80%						11/08/18 14:39	NWTPH-Gx	181108L028
EPA 6010B ICP Metals (Extraction Method: EPA 3050B) Container - A Lead	0.742		mg/kg		0.503	1.01	11/07/18 19:38	EPA 6010B	181105L02
EPA 8082 PCB Aroclors (Extraction Method: EPA 3545) Container - A Aroclor-1016	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1221	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1232	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1242	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1248	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1254	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1260	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1262	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
Aroclor-1268	ND		mg/kg		0.049	1.00	11/06/18 02:00	EPA 8082	181105L09
<i>Surr: Decachlorobiphenyl (24-168%)</i>	93%						11/06/18 02:00	EPA 8082	181105L09
<i>Surr: 2,4,5,6-Tetrachloro-m-Xylene (25-145%)</i>	102%						11/06/18 02:00	EPA 8082	181105L09
EPA 8260B Volatile Organics + Oxygenates Prep 5035 (Extraction Method: EPA 5035) Container - D									
Acetone	0.080		mg/kg		0.041	1.00	11/07/18 00:46	EPA 8260B	181106L034
Benzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Bromobenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Bromochloromethane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Bromodichloromethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Bromoform	ND		mg/kg		0.0041	1.00	11/07/18 00:46	EPA 8260B	181106L034
Bromomethane	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
2-Butanone	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
n-Butylbenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
sec-Butylbenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
tert-Butylbenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Carbon Disulfide	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034



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Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

Attn: Bobby Thompson

Analytical Report

Analyte	Result	Flag	Units	MDL	RL	Dilution Factor	Analysis Date/Time	Method	Batch
Carbon Tetrachloride	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Chlorobenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Chloroethane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Chloroform	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Chloromethane	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
2-Chlorotoluene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
4-Chlorotoluene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Dibromochloromethane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2-Dibromo-3-Chloropropane	ND		mg/kg		0.0041	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2-Dibromoethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Dibromomethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2-Dichlorobenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,3-Dichlorobenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,4-Dichlorobenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Dichlorodifluoromethane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1-Dichloroethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2-Dichloroethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1-Dichloroethene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
c-1,2-Dichloroethene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
t-1,2-Dichloroethene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2-Dichloropropane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,3-Dichloropropane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
2,2-Dichloropropane	ND		mg/kg		0.0041	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1-Dichloropropene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
c-1,3-Dichloropropene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
t-1,3-Dichloropropene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Ethylbenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
2-Hexanone	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Isopropylbenzene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
p-Isopropyltoluene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Methylene Chloride	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034
4-Methyl-2-Pentanone	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Naphthalene	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034
n-Propylbenzene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Styrene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1,1,2-Tetrachloroethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1,2,2-Tetrachloroethane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Tetrachloroethene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Toluene	0.0022		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2,3-Trichlorobenzene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2,4-Trichlorobenzene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1,1-Trichloroethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034



Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0151
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18
Attn: Bobby Thompson	

Analytical Report

Analyte	Result	Flag	Units	MDL	RL	Dilution Factor	Analysis Date/Time	Method	Batch
1,1,2-Trichloroethane	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Trichloroethene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Trichlorofluoromethane	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2,3-Trichloropropane	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,2,4-Trimethylbenzene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
1,3,5-Trimethylbenzene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Vinyl Acetate	ND		mg/kg		0.0083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Vinyl Chloride	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
p/m-Xylene	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
o-Xylene	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Xylenes (total)	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Methyl-t-Butyl Ether (MTBE)	ND		mg/kg		0.0017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Tert-Butyl Alcohol (TBA)	ND		mg/kg		0.017	1.00	11/07/18 00:46	EPA 8260B	181106L034
Diisopropyl Ether (DIPE)	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Ethyl-t-Butyl Ether (ETBE)	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Tert-Amyl-Methyl Ether (TAME)	ND		mg/kg		0.00083	1.00	11/07/18 00:46	EPA 8260B	181106L034
Ethanol	ND		mg/kg		0.41	1.00	11/07/18 00:46	EPA 8260B	181106L034
Surr: 1,4-Bromofluorobenzene (80-120%)	95%						11/07/18 00:46	EPA 8260B	181106L034
Surr: Dibromofluoromethane (79-133%)	113%						11/07/18 00:46	EPA 8260B	181106L034
Surr: 1,2-Dichloroethane-d4 (71-155%)	127%						11/07/18 00:46	EPA 8260B	181106L034
Surr: Toluene-d8 (80-120%)	103%						11/07/18 00:46	EPA 8260B	181106L034



Calscience

The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

Attn: Bobby Thompson

PROJECT QUALITY CONTROL DATA Blank

Analyte	Blank Value	Qualifiers	Units	QC Batch	Lab Number	Analysis Date/Time
NWTPH-Dx TPH Diesel						
099-15-456-131						
TPH as Diesel Range	ND		mg/kg	181107B15A	099-15-456-131	11/08/18 15:24
Surr: <i>n-Octacosane (61-145%)</i>	102%			181107B15A	099-15-456-131	11/08/18 15:24
NWTPH-Dx TPH Motor Oil Ranges						
099-12-838-245						
TPH as Motor Oil Range	ND		mg/kg	181107B16	099-12-838-245	11/08/18 15:24
Surr: <i>n-Octacosane (61-145%)</i>	102%			181107B16	099-12-838-245	11/08/18 15:24
NWTPH-Gx TPH Gasoline Prep 5035						
099-12-848-207						
TPH as Gasoline	ND		mg/kg	181108L028	099-12-848-207	11/08/18 13:35
Surr: <i>1,4-Bromofluorobenzene (60-126%)</i>	90%			181108L028	099-12-848-207	11/08/18 13:35
EPA 6010B ICP Metals						
097-01-002-27209						
Lead	ND		mg/kg	181105L02	097-01-002-27209	11/06/18 18:02
EPA 8082 PCB Aroclors						
099-12-535-4972						
Aroclor-1016	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1221	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1232	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1242	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1248	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1254	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1260	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1262	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Aroclor-1268	ND		mg/kg	181105L09	099-12-535-4972	11/06/18 00:10
Surr: <i>Decachlorobiphenyl (24-168%)</i>	95%			181105L09	099-12-535-4972	11/06/18 00:10
Surr: <i>2,4,5,6-Tetrachloro-m-Xylene (25-145%)</i>	102%			181105L09	099-12-535-4972	11/06/18 00:10
EPA 8260B Volatile Organics + Oxygenates Prep 5035						
095-01-025-30513						
Acetone	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Benzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Bromobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Bromochloromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Bromodichloromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Bromoform	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Bromomethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
2-Butanone	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
n-Butylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53



Calscience

The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

Attn: Bobby Thompson

PROJECT QUALITY CONTROL DATA Blank

Analyte	Blank Value	Qualifiers	Units	QC Batch	Lab Number	Analysis Date/Time
sec-Butylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
tert-Butylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Carbon Disulfide	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Carbon Tetrachloride	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Chlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Chloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Chloroform	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Chloromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
2-Chlorotoluene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
4-Chlorotoluene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Dibromochloromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2-Dibromo-3-Chloropropane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2-Dibromoethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Dibromomethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2-Dichlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,3-Dichlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,4-Dichlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Dichlorodifluoromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1-Dichloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2-Dichloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1-Dichloroethene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
c-1,2-Dichloroethene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
t-1,2-Dichloroethene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2-Dichloropropane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,3-Dichloropropane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
2,2-Dichloropropane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1-Dichloropropene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
c-1,3-Dichloropropene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
t-1,3-Dichloropropene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Ethylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
2-Hexanone	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Isopropylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
p-Isopropyltoluene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Methylene Chloride	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
4-Methyl-2-Pentanone	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Naphthalene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
n-Propylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Styrene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1,1,2-Tetrachloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1,2,2-Tetrachloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Tetrachloroethene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53



Calscience

The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

Attn: Bobby Thompson

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Qualifiers	Units	QC Batch	Lab Number	Analysis Date/Time
Toluene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2,3-Trichlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2,4-Trichlorobenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1,1-Trichloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1,2-Trichloroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Trichloroethene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Trichlorofluoromethane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2,3-Trichloropropane	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,2,4-Trimethylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
1,3,5-Trimethylbenzene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Vinyl Acetate	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Vinyl Chloride	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
p/m-Xylene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
o-Xylene	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Xylenes (total)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Methyl-t-Butyl Ether (MTBE)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Tert-Butyl Alcohol (TBA)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Diisopropyl Ether (DIPE)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Ethyl-t-Butyl Ether (ETBE)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Tert-Amyl-Methyl Ether (TAME)	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Ethanol	ND		mg/kg	181106L034	095-01-025-30513	11/06/18 16:53
Surr: 1,4-Bromofluorobenzene (80-120%)	94%			181106L034	095-01-025-30513	11/06/18 16:53
Surr: Dibromofluoromethane (79-133%)	107%			181106L034	095-01-025-30513	11/06/18 16:53
Surr: 1,2-Dichloroethane-d4 (71-155%)	109%			181106L034	095-01-025-30513	11/06/18 16:53
Surr: Toluene-d8 (80-120%)	99%			181106L034	095-01-025-30513	11/06/18 16:53


 Return to Contents

Client: Cardno	Work Order: 18-11-0151
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

**QUALITY CONTROL
Matrix Spike**

Analyte	Orig. Val.	MS Val.	Qual.	Units	Spike Conc.	% Rec.	Target Range	Batch	Sample Spiked	Analysis Date/Time
NWTPH-Dx TPH Diesel										
18-11-0151-1										
TPH as Diesel Range	ND	66.22		mg/kg	80.00	83	64-130	181107S15	18-11-0151-1	11/08/18 16:29
NWTPH-Dx TPH Motor Oil Ranges										
18-11-0151-1										
TPH as Motor Oil Range	ND	88.49		mg/kg	80.00	111	64-130	181107S16	18-11-0151-1	11/08/18 17:12
EPA 6010B ICP Metals										
18-11-0177-1										
Lead	2.580	27.92		mg/kg	25.00	101	75-125	181105S02	18-11-0177-1	11/06/18 18:15
EPA 8082 PCB Aroclors										
18-11-0120-1										
Aroclor-1016	ND	0.09550		mg/kg	0.1000	96	50-135	181105S09	18-11-0120-1	11/06/18 00:47
Aroclor-1260	ND	0.1055		mg/kg	0.1000	106	50-135	181105S09	18-11-0120-1	11/06/18 00:47



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The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

**QUALITY CONTROL
Matrix Spike Duplicate**

Analyte	Orig. Val.	Duplicate	Qual.	Units	Spike Conc.	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analysis Date/Time
NWTPH-Dx TPH Diesel												
18-11-0151-1												
TPH as Diesel Range	ND	66.05		mg/kg	80.00	83	64-130	0	0-15	181107S15	18-11-0151-1	11/08/18 16:50
NWTPH-Dx TPH Motor Oil Ranges												
18-11-0151-1												
TPH as Motor Oil Range	ND	89.43		mg/kg	80.00	112	64-130	1	0-15	181107S16	18-11-0151-1	11/08/18 17:33
EPA 6010B ICP Metals												
18-11-0177-1												
Lead	2.580	28.68		mg/kg	25.00	104	75-125	3	0-20	181105S02	18-11-0177-1	11/06/18 18:17
EPA 8082 PCB Aroclors												
18-11-0120-1												
Aroclor-1016	ND	0.09100		mg/kg	0.1000	91	50-135	5	0-20	181105S09	18-11-0120-1	11/06/18 01:05
Aroclor-1260	ND	0.1270		mg/kg	0.1000	127	50-135	18	0-20	181105S09	18-11-0120-1	11/06/18 01:05



Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0151
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

PROJECT QUALITY CONTROL DATA
Laboratory Control Sample

Analyte	Known Val.	Analyzed	Qual.	Units	% Rec.	Target Range	Batch	Analysis Date/Time
NWTPH-Dx TPH Diesel								
099-15-456-131								
TPH as Diesel Range	80.00	66.30		mg/kg	83	75-123	181107B15A	11/08/18 15:45
NWTPH-Dx TPH Motor Oil Ranges								
099-12-838-245								
TPH as Motor Oil Range	80.00	71.05		mg/kg	89	69-123	181107B16	11/08/18 16:07
NWTPH-Gx TPH Gasoline Prep 5035								
099-12-848-207								
TPH as Gasoline	2.000	2.013		mg/kg	101	55-139	181108L028	11/08/18 12:00
EPA 6010B ICP Metals								
097-01-002-27209								
Lead	25.00	29.09		mg/kg	116	80-120	181105L02	11/06/18 18:04
EPA 8082 PCB Aroclors								
099-12-535-4972								
Aroclor-1016	0.1000	0.1125		mg/kg	112	50-135	181105L09	11/06/18 00:28
Aroclor-1260	0.1000	0.1025		mg/kg	102	50-135	181105L09	11/06/18 00:28
EPA 8260B Volatile Organics + Oxygenates Prep 5035								
095-01-025-30513								
Benzene	0.05000	0.04832		mg/kg	97	80-120	181106L034	11/06/18 15:11
Carbon Tetrachloride	0.05000	0.05293		mg/kg	106	65-137	181106L034	11/06/18 15:11
Chlorobenzene	0.05000	0.05024		mg/kg	100	80-120	181106L034	11/06/18 15:11
1,2-Dibromoethane	0.05000	0.05315		mg/kg	106	80-120	181106L034	11/06/18 15:11
1,2-Dichlorobenzene	0.05000	0.05161		mg/kg	103	80-120	181106L034	11/06/18 15:11
1,2-Dichloroethane	0.05000	0.05385		mg/kg	108	80-120	181106L034	11/06/18 15:11
1,1-Dichloroethene	0.05000	0.05215		mg/kg	104	68-128	181106L034	11/06/18 15:11
Ethylbenzene	0.05000	0.05185		mg/kg	104	80-120	181106L034	11/06/18 15:11
Toluene	0.05000	0.04984		mg/kg	100	80-120	181106L034	11/06/18 15:11
Trichloroethene	0.05000	0.05139		mg/kg	103	80-120	181106L034	11/06/18 15:11
Vinyl Chloride	0.05000	0.05346		mg/kg	107	67-127	181106L034	11/06/18 15:11
p/m-Xylene	0.1000	0.1068		mg/kg	107	75-125	181106L034	11/06/18 15:11
o-Xylene	0.05000	0.05401		mg/kg	108	75-125	181106L034	11/06/18 15:11
Methyl-t-Butyl Ether (MTBE)	0.05000	0.04556		mg/kg	91	70-124	181106L034	11/06/18 15:11
Tert-Butyl Alcohol (TBA)	0.2500	0.2393		mg/kg	96	73-121	181106L034	11/06/18 15:11
Diisopropyl Ether (DIPE)	0.05000	0.05393		mg/kg	108	69-129	181106L034	11/06/18 15:11
Ethyl-t-Butyl Ether (ETBE)	0.05000	0.04860		mg/kg	97	70-124	181106L034	11/06/18 15:11
Tert-Amyl-Methyl Ether (TAME)	0.05000	0.05235		mg/kg	105	74-122	181106L034	11/06/18 15:11
Ethanol	0.5000	0.4649		mg/kg	93	51-135	181106L034	11/06/18 15:11

Total number of LCS compounds: 19



Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0151
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

PROJECT QUALITY CONTROL DATA
Laboratory Control Sample

Analyte	Known Val.	Analyzed	Qual.	Units	% Rec.	Target Range	Batch	Analysis Date/Time
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Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass



Calscience

The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0151
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

PROJECT QUALITY CONTROL DATA
Laboratory Control Sample Duplicate

Analyte	LCS Val.	Duplicate	Qual.	Units	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analysis Date/Time
NWTPH-Gx TPH Gasoline Prep 5035											
099-12-848-207											
TPH as Gasoline	2.000	1.942		mg/kg	97	55-139	4	0-18	181108L028	099-12-848-207	11/08/18 12:32
EPA 6010B ICP Metals											
097-01-002-27209											
Lead	25.00	28.54		mg/kg	114	80-120	2	0-20	181105L02	097-01-002-27209	11/06/18 18:06
EPA 8260B Volatile Organics + Oxygenates Prep 5035											
095-01-025-30513											
Benzene	0.05000	0.05156		mg/kg	103	80-120	6	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Carbon Tetrachloride	0.05000	0.05734		mg/kg	115	65-137	8	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Chlorobenzene	0.05000	0.05326		mg/kg	107	80-120	6	0-20	181106L034	095-01-025-30513	11/06/18 15:36
1,2-Dibromoethane	0.05000	0.05480		mg/kg	110	80-120	3	0-20	181106L034	095-01-025-30513	11/06/18 15:36
1,2-Dichlorobenzene	0.05000	0.05645		mg/kg	113	80-120	9	0-20	181106L034	095-01-025-30513	11/06/18 15:36
1,2-Dichloroethane	0.05000	0.05561		mg/kg	111	80-120	3	0-20	181106L034	095-01-025-30513	11/06/18 15:36
1,1-Dichloroethene	0.05000	0.05650		mg/kg	113	68-128	8	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Ethylbenzene	0.05000	0.05664		mg/kg	113	80-120	9	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Toluene	0.05000	0.05431		mg/kg	109	80-120	9	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Trichloroethene	0.05000	0.05578		mg/kg	112	80-120	8	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Vinyl Chloride	0.05000	0.05464		mg/kg	109	67-127	2	0-20	181106L034	095-01-025-30513	11/06/18 15:36
p/m-Xylene	0.1000	0.1172		mg/kg	117	75-125	9	0-25	181106L034	095-01-025-30513	11/06/18 15:36
o-Xylene	0.05000	0.05899		mg/kg	118	75-125	9	0-25	181106L034	095-01-025-30513	11/06/18 15:36
Methyl-t-Butyl Ether (MTBE)	0.05000	0.04743		mg/kg	95	70-124	4	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Tert-Butyl Alcohol (TBA)	0.2500	0.2571		mg/kg	103	73-121	7	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Diisopropyl Ether (DIPE)	0.05000	0.05702		mg/kg	114	69-129	6	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Ethyl-t-Butyl Ether (ETBE)	0.05000	0.05152		mg/kg	103	70-124	6	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Tert-Amyl-Methyl Ether (TAME)	0.05000	0.05619		mg/kg	112	74-122	7	0-20	181106L034	095-01-025-30513	11/06/18 15:36
Ethanol	0.5000	0.5156		mg/kg	103	51-135	10	0-27	181106L034	095-01-025-30513	11/06/18 15:36

Total number of LCS compounds: 19
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Qual - Qualifiers RPD: Relative Percent Difference

Work Order: 18-11-0151

Page 1 of 1

Sample Analysis Summary Report

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3050B	110	ICP 8300	1
EPA 8082	EPA 3545	669	GC 58	1
EPA 8260B	EPA 5035	1178	GC/MS GGG	2
NWTPH-Dx	EPA 3550B	1028	GC 46	1
NWTPH-Gx	EPA 5035	607	GC 56	2

Glossary of Terms and Qualifiers

Qualifiers	Definition
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stdns.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

0151

FedEx Express Package US Airbill

FedEx Tracking Number 8112 8531 5900

Form ID No. 0215
RT 348 ST 15
0066 11 20
00:30 5

1 From
Date 10-31-18

4 Express Package Service * To meet

Next Business Day
 FedEx First Overnight
Earliest next business morning delivery to select locations. *FedEx* shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Priority Overnight
Next business morning. * Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Standard Overnight
Next business afternoon. * Saturday Delivery NOT available.

2 or 3 Business Days
 FedEx 2Day A.M.
Second business morning. * Saturday Delivery NOT available.
 FedEx 2Day
Second business afternoon. * Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Express Saver
Third business day. * Saturday Delivery NOT available.

Sender's Name Brent McLees Phone 208 245-1125
Company Cardno
Address 1000 S. 10th St. Suite A-13
City Seattle State WA ZIP 98108
Dept./Floor/Suite/Room

5 Packaging * Declared value limit \$500.
 FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

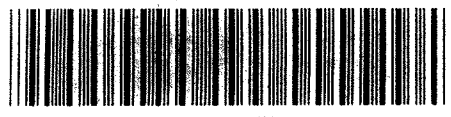
2 Your Internal Billing Reference

3 To
Recipient's Name SAMPLE CONTROL Phone 714 895-3494

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.
 Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
 No Signature Required
Package may be left without obtaining a signature for delivery.
 Direct Signature
Someone at recipient's address may sign for delivery.
 Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.
Does this shipment contain dangerous goods?
One box must be checked.
 No Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required. Dry Ice Dry Ice, 9 UN 1845 x lbs
Restrictions apply for dangerous goods — see the current FedEx Service Guide. Cargo Aircraft Only

Company CALIFORNIA ENVIRONMENTAL LAB
Address 7440 LINCOLN WAY
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City BARBER PT State CA ZIP 92041-1427
Hold Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
Hold Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No.
 Sender Acct. No. in Section 1 will be billed. Recipient Third Party Credit Card Cash/Check
Total Packages 374 Total Weight lbs. Credit Card Auth.



8112 8531 5900

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CARDNO

DATE: 11/02/2018

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)
 Thermometer ID: SC6 (CF: 0.0°C); Temperature (w/o CF): 2.6 °C (w/ CF): 2.6 °C; Blank Sample
 Sample(s) outside temperature criteria (PM/APM contacted by: _____)
 Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
 Sample(s) received at ambient temperature; placed on ice for transport by courier
 Ambient Temperature: Air Filter
 Checked by: VJGP

CUSTODY SEAL:
 Cooler Present and Intact Present but Not Intact Not Present N/A Checked by: VJGP
 Sample(s) Present and Intact Present but Not Intact Not Present N/A Checked by: ITLS

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Container(s) for certain analysis free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE: (Trip Blank Lot Number: _____)
Aqueous: VOA VOAh VOAna₂ 100PJ 100PJna₂ 125AGB 125AGBh 125AGBp 125PB 125PBz_{na} (pH__9)
 250AGB 250CGB 250CGBs (pH__2) 250PB 250PBn (pH__2) 500AGB 500AGJ 500AGJs (pH__2) 500PB
 1AGB 1AGBna₂ 1AGBs (pH__2) 1AGBs (O&G) 1PB 1PBna (pH__12) _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® (____) TerraCores® (6) 202PJ _____ _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (____): _____ _____ _____
 Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag
 Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO₃, **na** = NaOH, **na₂** = Na₂S₂O₃, **p** = H₃PO₄, Labeled/Checked by: ITLS
s = H₂SO₄, **u** = ultra-pure, **x** = Na₂SO₃+NaHSO₄.H₂O, **z_{na}** = Zn (CH₃CO₂)₂ + NaOH Reviewed by: HLMW



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WORK ORDER NUMBER: 18-11-0150

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno

Client Project Name: ExxonMobil 73594 / 031111

Attention: Bobby Thompson
801 Second Avenue
Suite 700
Seattle, WA 98104-1573

Approved for release on 11/09/2018 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Contents

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 Work Order Number: 18-11-0150

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 11/02/18. They were assigned to Work Order 18-11-0150.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.



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Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	PO Number:
	Date/Time Received: 11/02/18 11:00
	Number of Containers: 22
Attn: Bobby Thompson	

Sample Summary

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
Decon.181031	18-11-0150-1	10/31/18 14:50	12	Aqueous
W-25-TMW19	18-11-0150-2	10/30/18 23:30	2	Aqueous
W-24-TMW20	18-11-0150-3	10/30/18 04:55	2	Aqueous
W-25-TMW21	18-11-0150-4	10/31/18 02:30	2	Aqueous
W-22-TMW22	18-11-0150-5	10/30/18 03:50	2	Aqueous
W-25-TMW23	18-11-0150-6	10/30/18 02:35	2	Aqueous

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Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18
Attn: Bobby Thompson	

Analytical Report

Analyte	Result	Flag	Units	MDL	RL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: 1 (Decon.181031, Aqueous) Sampled: 10/31/18 14:50									
NWTPH-Dx TPH Diesel Ranges (Extraction Method: EPA 3510C) Container - L									
TPH as Diesel Range	120	HD	ug/L		96	1.00	11/09/18 00:09	NWTPH-Dx	181107B01
<i>Surr: n-Octacosane (68-140%)</i>	<i>109%</i>						<i>11/09/18 00:09</i>	<i>NWTPH-Dx</i>	<i>181107B01</i>
NWTPH-Dx TPH Motor Oil Ranges (Extraction Method: EPA 3510C) Container - L									
TPH as Motor Oil Range	ND		ug/L		96	1.00	11/09/18 00:09	NWTPH-Dx	181107B02
<i>Surr: n-Octacosane (68-140%)</i>	<i>109%</i>						<i>11/09/18 00:09</i>	<i>NWTPH-Dx</i>	<i>181107B02</i>
NWTPH-Gx Gasoline (Extraction Method: EPA 5030C) Container - F									
TPH as Gasoline	ND		ug/L		100	1.00	11/03/18 13:09	NWTPH-Gx	181102L070
<i>Surr: 1,4-Bromofluorobenzene (38-134%)</i>	<i>74%</i>						<i>11/03/18 13:09</i>	<i>NWTPH-Gx</i>	<i>181102L070</i>
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:05	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:15	EPA 6010B	181108LA2
EPA 8260B BTEX (Extraction Method: EPA 5030C) Container - A									
Benzene	ND		ug/L		1.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
Ethylbenzene	ND		ug/L		1.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
Toluene	2.4		ug/L		1.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
p/m-Xylene	ND		ug/L		2.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
o-Xylene	ND		ug/L		1.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
Xylenes (total)	ND		ug/L		1.0	1.00	11/09/18 07:49	EPA 8260B	181108L052
<i>Surr: 1,4-Bromofluorobenzene (77-120%)</i>	<i>96%</i>						<i>11/09/18 07:49</i>	<i>EPA 8260B</i>	<i>181108L052</i>
<i>Surr: Dibromofluoromethane (80-128%)</i>	<i>102%</i>						<i>11/09/18 07:49</i>	<i>EPA 8260B</i>	<i>181108L052</i>
<i>Surr: 1,2-Dichloroethane-d4 (80-129%)</i>	<i>99%</i>						<i>11/09/18 07:49</i>	<i>EPA 8260B</i>	<i>181108L052</i>
<i>Surr: Toluene-d8 (80-120%)</i>	<i>99%</i>						<i>11/09/18 07:49</i>	<i>EPA 8260B</i>	<i>181108L052</i>
Sample ID: 2 (W-25-TMW19, Aqueous) Sampled: 10/30/18 23:30									
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:07	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:17	EPA 6010B	181108LA2
Sample ID: 3 (W-24-TMW20, Aqueous) Sampled: 10/30/18 04:55									
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:08	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:22	EPA 6010B	181108LA2



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Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18
Attn: Bobby Thompson	

Analytical Report

Analyte	Result	Flag	Units	MDL	RL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: 4 (W-25-TMW21, Aqueous) Sampled: 10/31/18 02:30									
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	10.5		ug/L		10.0	1.00	11/08/18 23:10	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	11.4		ug/L		10.0	1.00	11/08/18 23:24	EPA 6010B	181108LA2
Sample ID: 5 (W-22-TMW22, Aqueous) Sampled: 10/30/18 03:50									
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:12	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:25	EPA 6010B	181108LA2
Sample ID: 6 (W-25-TMW23, Aqueous) Sampled: 10/30/18 02:35									
EPA 6010B ICP Metals (Extraction Method: EPA 3010A Total) Container - A									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:13	EPA 6010B	181108LA3
EPA 6010B ICP Metals (Extraction Method: EPA 3005A Filt.) Container - B									
Lead	ND		ug/L		10.0	1.00	11/08/18 23:27	EPA 6010B	181108LA2


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The difference is service

Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18
Attn: Bobby Thompson	

PROJECT QUALITY CONTROL DATA Blank

Analyte	Blank Value	Qualifiers	Units	QC Batch	Lab Number	Analysis Date/Time
NWTPH-Dx TPH Diesel Ranges						
099-15-560-263						
TPH as Diesel Range	ND		ug/L	181107B01	099-15-560-263	11/08/18 22:21
Surr: <i>n-Octacosane (68-140%)</i>	98%			181107B01	099-15-560-263	11/08/18 22:21
NWTPH-Dx TPH Motor Oil Ranges						
099-15-562-184						
TPH as Motor Oil Range	ND		ug/L	181107B02	099-15-562-184	11/08/18 22:21
Surr: <i>n-Octacosane (68-140%)</i>	98%			181107B02	099-15-562-184	11/08/18 22:21
NWTPH-Gx Gasoline						
099-12-743-1002						
TPH as Gasoline	ND		ug/L	181102L070	099-12-743-1002	11/02/18 23:53
Surr: <i>1,4-Bromofluorobenzene (38-134%)</i>	66%			181102L070	099-12-743-1002	11/02/18 23:53
EPA 6010B ICP Metals						
097-01-003-17125						
Lead	ND		ug/L	181108LA3	097-01-003-17125	11/08/18 22:22
EPA 6010B ICP Metals						
099-15-683-2577						
Lead	ND		ug/L	181108LA2	099-15-683-2577	11/09/18 10:33
EPA 8260B BTEX						
099-14-001-27358						
Benzene	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
Ethylbenzene	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
Toluene	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
p/m-Xylene	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
o-Xylene	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
Xylenes (total)	ND		ug/L	181108L052	099-14-001-27358	11/09/18 05:02
Surr: <i>1,4-Bromofluorobenzene (77-120%)</i>	96%			181108L052	099-14-001-27358	11/09/18 05:02
Surr: <i>Dibromofluoromethane (80-128%)</i>	101%			181108L052	099-14-001-27358	11/09/18 05:02
Surr: <i>1,2-Dichloroethane-d4 (80-129%)</i>	98%			181108L052	099-14-001-27358	11/09/18 05:02
Surr: <i>Toluene-d8 (80-120%)</i>	99%			181108L052	099-14-001-27358	11/09/18 05:02

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Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

**QUALITY CONTROL
Matrix Spike**

Analyte	Orig. Val.	MS Val.	Qual.	Units	Spike Conc.	% Rec.	Target Range	Batch	Sample Spiked	Analysis Date/Time
NWTPH-Gx Gasoline										
18-11-0174-2										
TPH as Gasoline	ND	1845		ug/L	2000	92	68-122	181102S024	18-11-0174-2	11/03/18 00:57
EPA 6010B ICP Metals										
18-11-0087-2										
Lead	ND	383.8	HX	ug/L	500.0	77	84-120	181108SA3	18-11-0087-2	11/08/18 22:30
EPA 6010B ICP Metals										
18-11-0099-5										
Lead	ND	430.5		ug/L	500.0	86	75-125	181108SA2	18-11-0099-5	11/09/18 10:40
EPA 8260B BTEX										
18-11-0150-1										
Benzene	ND	57.07		ug/L	50.00	114	75-125	181108S022	18-11-0150-1	11/09/18 12:29
Ethylbenzene	ND	56.34		ug/L	50.00	113	75-129	181108S022	18-11-0150-1	11/09/18 12:29
Toluene	2.397	59.52		ug/L	50.00	114	75-125	181108S022	18-11-0150-1	11/09/18 12:29
p/m-Xylene	ND	110.1		ug/L	100.0	110	75-133	181108S022	18-11-0150-1	11/09/18 12:29
o-Xylene	ND	56.80		ug/L	50.00	114	75-134	181108S022	18-11-0150-1	11/09/18 12:29


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Calscience

The difference is service

Client: Cardno
801 Second Avenue, Suite 700
Seattle, WA 98104-1573

Work Order: 18-11-0150
Project Name: ExxonMobil 73594 / 031111
Date Received: 11/02/18

**QUALITY CONTROL
Matrix Spike Duplicate**

Analyte	Orig. Val.	Duplicate	Qual.	Units	Spike Conc.	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analysis Date/Time
NWTPH-Gx Gasoline												
18-11-0174-2												
TPH as Gasoline	ND	1822		ug/L	2000	91	68-122	1	0-18	181102S024	18-11-0174-2	11/03/18 01:29
EPA 6010B ICP Metals												
18-11-0087-2												
Lead	ND	401.4	HX	ug/L	500.0	80	84-120	4	0-7	181108SA3	18-11-0087-2	11/08/18 22:32
EPA 6010B ICP Metals												
18-11-0099-5												
Lead	ND	468.2		ug/L	500.0	94	75-125	8	0-20	181108SA2	18-11-0099-5	11/09/18 10:42
EPA 8260B BTEX												
18-11-0150-1												
Benzene	ND	54.71		ug/L	50.00	109	75-125	4	0-20	181108S022	18-11-0150-1	11/09/18 13:02
Ethylbenzene	ND	54.81		ug/L	50.00	110	75-129	3	0-20	181108S022	18-11-0150-1	11/09/18 13:02
Toluene	2.397	58.18		ug/L	50.00	112	75-125	2	0-20	181108S022	18-11-0150-1	11/09/18 13:02
p/m-Xylene	ND	106.8		ug/L	100.0	107	75-133	3	0-20	181108S022	18-11-0150-1	11/09/18 13:02
o-Xylene	ND	55.00		ug/L	50.00	110	75-134	3	0-20	181108S022	18-11-0150-1	11/09/18 13:02


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Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

**QUALITY CONTROL
Post Digestion Spike**

Analyte	Orig. Val.	PDS Val.	Qual.	Units	Spike Conc.	% Rec.	Target Range	Batch	Sample Spiked	Analysis Date/Time
EPA 6010B ICP Metals										
18-11-0099-5										
Lead	ND	541.5		ug/L	500.0	108	75-125	181108SA2	18-11-0099-5	11/09/18 10:43

Qual: Qualifiers



Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

PROJECT QUALITY CONTROL DATA
Laboratory Control Sample

Analyte	Known Val.	Analyzed	Qual.	Units	% Rec.	Target Range	Batch	Analysis Date/Time
NWTPH-Dx TPH Diesel Ranges								
099-15-560-263								
TPH as Diesel Range	800.0	664.1		ug/L	83	75-117	181107B01	11/08/18 22:42
NWTPH-Dx TPH Motor Oil Ranges								
099-15-562-184								
TPH as Motor Oil Range	800.0	757.4		ug/L	95	75-117	181107B02	11/08/18 23:25
NWTPH-Gx Gasoline								
099-12-743-1002								
TPH as Gasoline	2000	1898		ug/L	95	78-120	181102L070	11/02/18 22:50
EPA 6010B ICP Metals								
097-01-003-17125								
Lead	500.0	535.6		ug/L	107	80-120	181108LA3	11/08/18 22:25
EPA 6010B ICP Metals								
099-15-683-2577								
Lead	500.0	529.3		ug/L	106	80-120	181108LA2	11/09/18 10:35
EPA 8260B BTEX								
099-14-001-27358								
Benzene	50.00	53.19		ug/L	106	79-121	181108L052	11/09/18 02:48
Ethylbenzene	50.00	53.75		ug/L	108	80-120	181108L052	11/09/18 02:48
Toluene	50.00	53.65		ug/L	107	80-120	181108L052	11/09/18 02:48
p/m-Xylene	100.0	106.4		ug/L	106	80-122	181108L052	11/09/18 02:48
o-Xylene	50.00	54.28		ug/L	109	80-128	181108L052	11/09/18 02:48



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Calscience

The difference is service

Client: Cardno	Work Order: 18-11-0150
801 Second Avenue, Suite 700	Project Name: ExxonMobil 73594 / 031111
Seattle, WA 98104-1573	Date Received: 11/02/18

PROJECT QUALITY CONTROL DATA
Laboratory Control Sample Duplicate

Analyte	LCS Val.	Duplicate	Qual.	Units	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analysis Date/Time
NWTPH-Dx TPH Diesel Ranges											
099-15-560-263											
TPH as Diesel Range	800.0	654.2		ug/L	82	75-117	2	0-13	181107B01	099-15-560-263	11/08/18 23:05
NWTPH-Dx TPH Motor Oil Ranges											
099-15-562-184											
TPH as Motor Oil Range	800.0	688.8		ug/L	86	75-117	9	0-13	181107B02	099-15-562-184	11/09/18 16:48
EPA 6010B ICP Metals											
097-01-003-17125											
Lead	500.0	534.0		ug/L	107	80-120	0	0-20	181108LA3	097-01-003-17125	11/08/18 22:27
EPA 6010B ICP Metals											
099-15-683-2577											
Lead	500.0	528.1		ug/L	106	80-120	0	0-20	181108LA2	099-15-683-2577	11/09/18 10:36
EPA 8260B BTEX											
099-14-001-27358											
Benzene	50.00	51.67		ug/L	103	79-121	3	0-20	181108L052	099-14-001-27358	11/09/18 03:21
Ethylbenzene	50.00	52.23		ug/L	104	80-120	3	0-20	181108L052	099-14-001-27358	11/09/18 03:21
Toluene	50.00	52.28		ug/L	105	80-120	3	0-20	181108L052	099-14-001-27358	11/09/18 03:21
p/m-Xylene	100.0	103.3		ug/L	103	80-122	3	0-20	181108L052	099-14-001-27358	11/09/18 03:21
o-Xylene	50.00	52.43		ug/L	105	80-128	3	0-20	181108L052	099-14-001-27358	11/09/18 03:21

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Qual - Qualifiers RPD: Relative Percent Difference

Work Order: 18-11-0150

Page 1 of 1

Sample Analysis Summary Report

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 6010B	EPA 3005A Filt.	110	ICP 8300	1
EPA 6010B	EPA 3010A Total	110	ICP 8300	1
EPA 8260B	EPA 5030C	1173	GC/MS FFF	2
NWTPH-Dx	EPA 3510C	1028	GC 46	1
NWTPH-Gx	EPA 5030C	1171	GC 57	2


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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

Location 2: 7445 Lampson Avenue, Garden Grove, CA 92841

Glossary of Terms and Qualifiers

Qualifiers	Definition
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stdns.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

0150

FedEx Express Package US Airbill

FedEx Tracking Number 8112 8531 5900

Form ID No. 0215
RT 348 ST 15
0060 11:02
08:01 5
10:30

1 From
Date 10-31-18

4 Express Package Service * To mtr

Next Business Day
 FedEx First Overnight
Earliest next business morning delivery to select locations. FedEx shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Priority Overnight
Next business morning. * Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Standard Overnight
Next business afternoon. * Saturday Delivery NOT available.
2 or 3 business days
 FedEx 2Day A.M.
Second business morning. * Saturday Delivery NOT available.
 FedEx 2Day
Second business afternoon. * Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
 FedEx Express Saver
Third business day. * Saturday Delivery NOT available.

Sender's Name Brent Melles Phone 208 247-1205
Company Cadco
Address 1000 S. 10th St. Suite A-13
City Seattle State WA ZIP 98108

5 Packaging * Declared value limit \$500.
 FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

2 Your Internal Billing Reference

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

3 To Recipient's Name SAMPLE CONTROL Phone 714 895-3494

Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
 No Signature Required
Package may be left without obtaining a signature for delivery.
 Direct Signature
Someone at recipient's address may sign for delivery.
 Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.
Does this shipment contain dangerous goods?
One box must be checked.
 No Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required. Dry Ice Dry Ice, 9 UN 1845 x lbs
Restrictions apply for dangerous goods — see the current FedEx Service Guide. Cargo Aircraft Only

Company CALIFORNIA ENVIRONMENTAL LAB
Address 2940 W. WILSON WAY
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City BARBER PT CA ZIP 92841-1427
Hold Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
Hold Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

7 Payment Bill to:

0126543332

Sender Acct. No. In Section 1 will be billed. Recipient Third Party Credit Card Cash/Check
Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No.
Total Packages 394 Total Weight lbs. Credit Card Auth.



8112 8531 5900

*Our liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.
Rev. Date 5/15 • Part #183134 • ©1994-2015 FedEx • PRINTED IN U.S.A. 611

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CARDNO

DATE: 11/02/2018

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: 0.0°C); Temperature (w/o CF): 2.6 °C (w/ CF): 2.6 °C; Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: Air Filter

Checked by: VJGP

CUSTODY SEAL:

Cooler Present and Intact Present but Not Intact Not Present N/A

Checked by: VJGP

Sample(s) Present and Intact Present but Not Intact Not Present N/A

Checked by: TTL

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input checked="" type="checkbox"/> Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Container(s) for certain analysis free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: VOA VOAh VOAn₂ 100PJ 100PJna₂ 125AGB 125AGBh 125AGBp 125PB 125PBz_{na} (pH__9)
 250AGB 250CGB 250CGBs (pH__2) 250PB 250PBsn (pH__2) 500AGB 500AGJ 500AGJs (pH__2) 500PB
 1AGB 1AGBna₂ 1AGBs (pH__2) 1AGBs (O&G) 1PB 1PBna (pH__12) _____ _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® (____) TerraCores® (____) _____ _____ _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (____): _____ _____ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄,
 s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, z_{na} = Zn (CH₃CO₂)₂ + NaOH

Labeled/Checked by: TTL

Reviewed by: HMMW

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Former Exxon Station 73594
Cardno 03111104.R16

APPENDIX F
WASTE DOCUMENTATION

CERTIFICATE OF DISPOSAL

January 15,2019

FORMER EXXON STATION 73594
13204 NORTHEAST HIGHWAY 99
VANCOUVER, WA 98686

This is to certify that waste as defined on Waste Manifest number 747690 was received by U.S. Ecology, Inc., on 12/19/2018. The waste(s) were subsequently treated, if required by 40 CFR Part 268 and U.S. Ecology's permits and disposed of on 12/20/2018 in accordance with permits and laws regulating this facility.

Customer Manifest#: 747690

State Manifest #:

Page/Ln: 1/1

Material: 2 55 GALLON DRUM

Process: Solidification

Facility: US ECOLOGY NEVADA, INC.
HWY 95 11 MILES S. OF BEATTY
BEATTY, NV 89003
EPA ID: NVT330010000

Waste Stream #: 070137747-14317

Waste Type: NON HAZARDOUS WASTE

Customer: BELSHIRE ENVIRONMENTAL SERVICES

Printed Name: JOHN DYER

Signature: _____



Title: COMPLIANCE MANAGER

CERTIFICATE OF DISPOSAL

December 27,2018

FORMER EXXON STATION 73594
13204 NORTHEAST HIGHWAY 99
VANCOUVER, WA 98686

This is to certify that waste as defined on Waste Manifest number 747691 was received by U.S. Ecology, Inc., on 12/19/2018. The waste(s) were subsequently treated, if required by 40 CFR Part 268 and U.S. Ecology's permits and disposed of on 12/19/2018 in accordance with permits and laws regulating this facility.

Customer Manifest#: 747691

State Manifest #:

Page/Ln: 1/1

Material: 5 55 GALLON DRUM

Process: Direct Landfill

Facility: US ECOLOGY NEVADA, INC.
HWY 95 11 MILES S. OF BEATTY
BEATTY, NV 89003
EPA ID: NVT330010000

Waste Stream #: 070128043-14393

Waste Type: NON HAZARDOUS WASTE

Customer: BELSHIRE ENVIRONMENTAL SERVICES

Printed Name: JOHN DYER

Signature: 

Title: COMPLIANCE MANAGER

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno
**ZERO
HARM**
EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field.

Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.