May 23, 2016 2015-01-103

Mr. Mark Chandler
Vice President of Environmental Services
TOC Holdings Company
2737 W. Commodore Way
Seattle, WA 98199

Subject: **Groundwater Monitoring Report**
First Quarter, 2016
TOC Holdings Co. Facility No. 01-103
42411 NE Yale Bridge Road Amboy, WA

Dear Mr. Chandler:

This report summarizes the results of the First Quarter 2016 groundwater sampling events conducted by HydroCon Environmental, LLC (HydroCon) at the TOC Holdings Co. Facility No. 01-103 property located at 42411 NE Yale Bridge Road Amboy, WA (the Property). The Property location is shown on Figure 1. This report presents a summary of the site background, field activities, and results of the quarterly monitoring event.

Site Background

The Site is located in the southeast quarter of Section 12 of Township 5 North, Range 3 East of the Willamette baseline and Meridian as displayed in Figure 1. The Property is a 4.36-acre square-shaped lot located at 42411 NE Yale Bridge Road, Amboy, Washington 98601. The Property is currently owned by Becky J. Graybill and consists of one tax lot (Clark County tax parcel No. 274365000).

A 6,000 square foot restaurant and general store is located in the central portion of the Site. An active fuel dispensing island is located to the southwest of the general store, and the associated tank pit is located to the southeast of the dispensing island. The remainder of the Property is comprised of a paved parking area to the west and south of the general store, and undeveloped land to the north and east (Figure 2).

Three USTs were removed from the subject property in 1993, including one 12,000-gallon and two 8,000-gallon gasoline USTs. The gasoline tanks are reported to have been in place for 18 years at the time of decommissioning (Ecology 2013, 3Kings 2014). Site investigations performed between 1993 and 2014 included soil and groundwater sampling. In general, gasoline constituents were detected in soil and groundwater samples in the southwest portion of the site, near the former USTs and pump island. Sample locations are shown on Figure 2 and additional details of historical sampling and remedial efforts will be provided in the Cleanup Action Plan (CAP) under preparation.

HydroCon conducted a Subsurface Investigation (SI) in 2015[1] that consisted of abandoning all existing wells at the site, installing and sampling 17 soil borings, sampling groundwater in each of the soil borings, and installing 6 groundwater monitoring wells. Analytical testing included gasoline-range petroleum hydrocarbons (GRPH), diesel--range petroleum hydrocarbons (DRPH), oil--range petroleum hydrocarbons (ORPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), selected volatile organic compounds (VOCs(, carcinogenic polynuclear aromatic hydrocarbons (cPAHs), and lead.

Based on the results of laboratory analysis, concentrations of GRPH and xylenes were observed above CULs in the soil samples collected in the area of the former USTs. Concentrations are up to 17 times the CUL for GRPH and 3 times the CUL for total xylenes. Groundwater results from the permanent wells indicate that the area above CULs is limited to the area southeast and downgradient of the former UST area (MW03A).

A CAP to address remaining Site contamination is under preparation.

Scope Of Work

Groundwater samples were collected March 30, 2016 to evaluate the groundwater quality beneath the Site and to eventually demonstrate compliance with MTCA cleanup regulations. The monitoring event included the following activities:

- Measurement of depth to groundwater in monitoring wells MW01 through MW06.
- Collection of groundwater samples from monitoring wells MW01 through MW06.
- Collection and analysis of a field duplicate sample from monitoring wells MW03 for quality assurance/quality control (QA/QC) purposes.
- Summarizing the groundwater sampling activities, analytical results, and upcoming work (this report).

Groundwater Sampling Procedures

HydroCon collected groundwater samples March 30, 2016 from monitoring wells MW01 through MW06. A field duplicate was collected from MW03 for QA/QC purposes. Monitoring wells were purged and sampled in accordance with U.S. Environmental Protection Agency (EPA) guidance for low-flow sampling[2].

Depth to groundwater was measured in monitoring wells MW01 through MW06 on March 30, 2016. Prior to well purging and sample collection, the well cap on each well was removed and the water level was allowed to equilibrate prior to measuring the depth to water. The depth to water in each well was measured

[1] *HydroCon 2015. Subsurface Investigation Report. TOC Holdings Co. Site 01-103. 42411 NE Yale Bridge Road, Amboy, WA. Prepared for TOC Holdings Co. May 20.*

[2] *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (*April 1996). EPA/540/S-95/504*

using a clean electronic water level indicator. Water levels were measured at the scribed reference mark (north side of the top of the polyvinyl chloride casing) at each well.

Prior to groundwater sampling, the wells were purged with a low-flow peristaltic pump equipped with a new length of low-density polyethylene tubing attached to a new length of silicone tubing. The tubing intake was placed approximately 2 to 3 feet below the surface of the groundwater or mid-screen in each well. During purging, water quality was monitored using a Quanta multi-parameter water quality meter equipped with a flow-through cell. The water quality parameters monitored and recorded included temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Each well was purged until all six water quality parameters stabilized or the minimum parameter subset of pH, specific conductance, temperature, and turbidity and/or dissolved oxygen stabilized. Groundwater sample collection forms are provided in Attachment A.

Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into clean, laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported under chain-of-custody to Friedman & Bruya, Inc., of Seattle, Washington, for laboratory analysis.

Purge water generated during the monitoring event was placed in an appropriately labeled 55-gallon steel drum and temporarily stored on the Property pending receipt of analytical data for proper disposal.

Laboratory Analysis

The analytical protocols followed for samples collected at the Property include the required testing for petroleum releases for gasoline (Table 830-1 in the MTCA Cleanup Regulations Chapter 173-340 WAC). The analytical methods used include:

- DRPH and ORPH using Northwest Method NWTPH-Dx
- GRPH using Northwest Method NWTPH-Gx
- VOCs including BTEX, methyl tertiary-butyl ether (MTBE), 1,2-dibromoethane (EDB), 1,2-dichloroethylene (EDC), and naphthalene using EPA Method 8260C
- cPAHs (semi volatile organic compounds) by analyzed by EPA Method 8270D SIM
- Total and dissolved lead using EPA Method 200.8.

All samples were analyzed for DRPH, ORPH, GRPH, BTEX, VOCs, and lead. The sample from MW2A was analyzed for cPAHs.

Groundwater Conditions

Groundwater levels measured on March 30, 2016 ranged from 7.02 feet below the top of monitoring well casing (ft below TOC) in monitoring well MW05 to 8.50 ft below TOC in monitoring well MW01A.

Groundwater elevations ranged from 496.40 feet above mean sea level (ft msl) in MW04A to 496.69 ft msl in MW01A. Groundwater flow across the site is to the southwest at an approximate gradient of 0.003 feet per foot between MW01A and MW04A.

Groundwater elevations are shown on Figure 3 and the depth to groundwater and groundwater elevations are summarized in Table 1.

Groundwater Sampling Results

Laboratory analytical results from the monitoring events were compared to applicable MTCA Method A cleanup levels for groundwater and are summarized on Figure 4 and Table 1. Of the constituents analyzed, only GRPH in monitoring well MW02A (820 ug/L) exceeded the applicable cleanup levels

Data Quality Review

A QA/QC review was performed on the analytical results. This included an assessment of the accuracy and precision of the data supplied by the laboratory. In addition, the relative percent difference (RPD) calculation was performed on field duplicate sample MW99, which was collected by HydroCon from monitoring well MW02A. The RPD for each analyte present above the laboratory reporting limit was within acceptable limits. The RPD cannot be calculated if the results are below the laboratory reporting limit.

DRPH results for MW02A and MW99 were given the lab qualifier "x". The lab qualifier "x" is defined as "The sample chromatographic pattern does not resemble the fuel standard used for quantitation."

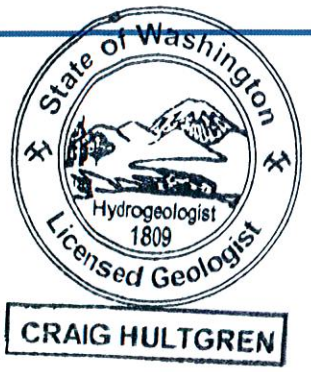
Non detected EDB results were given the validation qualifier "ec" meaning "Method reporting limit exceeds Clean Up Level shown".

All other quality control criteria are acceptable for the samples; therefore, no action is required and analytical results are usable to meet the project objectives. A copy of the laboratory analytical report is provided in Attachment B.

Work Planned

HydroCon will conduct groundwater monitoring at the Property in the Second Quarter 2016, the results of which will be included in a groundwater monitoring report.

Sincerely,



Craig Hultgren, LHG
Senior Geologist/Project Manager

cc: Nicholas M. Acklam, Washington State Department of Ecology, Southwest Region

Figures
Figure 1 – Site Location Map
Figure 2 – Site Features and Utilities
Figure 3 – Groundwater Elevation Contours for March 2016
Figure 4 – Groundwater Analytical Results for March 2016

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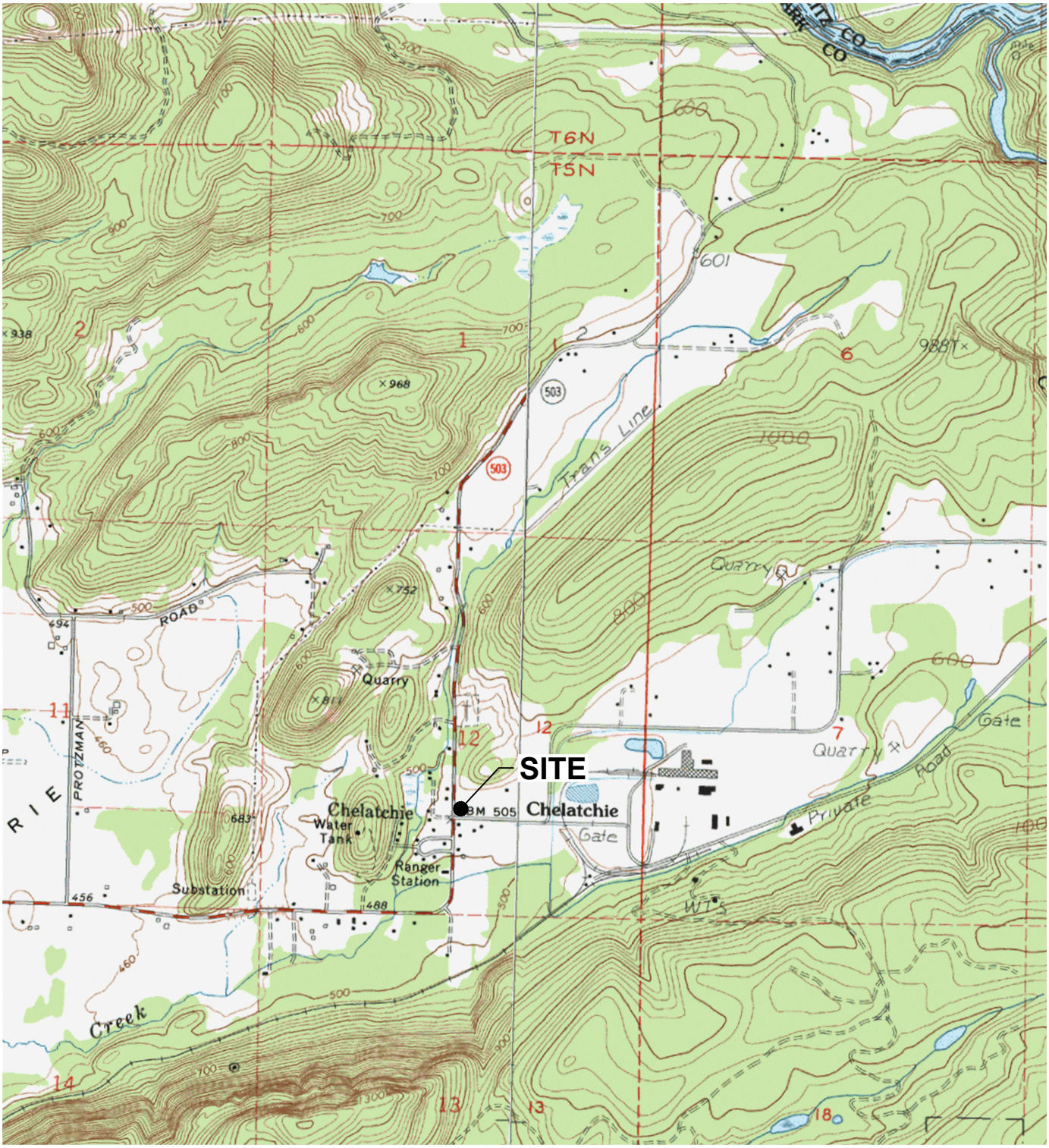
Table 1 – Groundwater Analytical Results
Table 2 – Groundwater Semi Volatile Analytical Results

Attachments
Attachment A – Groundwater Sample Collection Forms
Attachment B – Laboratory Report and Chain-of-Custody Documentation

FIGURES



NOTE(S):

USGS, AMBOY QUADRANGLE
WASHINGTON
7.5 MINUTE SERIES (TOPOGRAPHIC)

0 2000 4000

SCALE IN FEET
1" = 2000'

N
W E
S

HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 12-30-14
DWN: JJT
CHK: CH
APPROVED:
PRJ. MGR: CH
PROJECT NO: AMBOY

FIGURE 1
SITE LOCATION MAP

CHELATCHIE GENERAL STORE
42411 NE YALE BRIDGE RD
AMBOY, WA.

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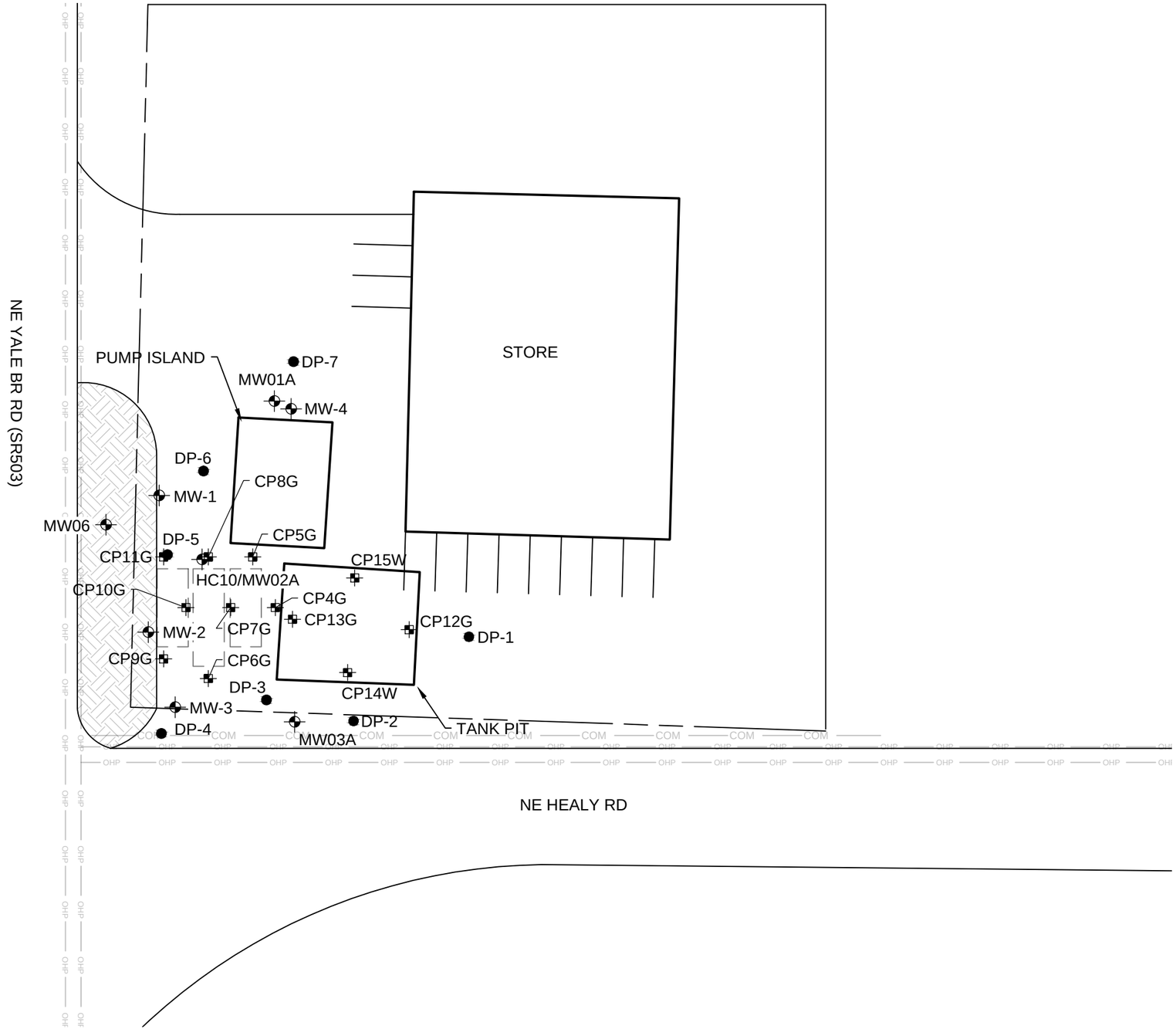

LEGEND

- BUILDING
- PROPERTY LINE
- COMMUNICATIONS UTILITY
- OVERHEAD POWER UTILITY
- LOCATION OF FORMER USTs
- LANDSCAPE AREA
- DP-1 — PREVIOUS EXPLORATION LOCATION
- CP3G — PREVIOUS EXPLORATION LOCATION
- MW01 — PREVIOUS MONITORING WELL
- MW01A — MONITORING WELL 2015

N W E S

0 30 60

SCALE IN FEET
1" = 30'

HydroCon
510 Allen St. Suite B Kelso, WA 98626, Ph. (360) 703-6079

DATE: 4-21-16
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 01-103

FIGURE 2
SITE FEATURES AND HISTORICAL SAMLPLING LOCATIONS
TOC FACILITY #01-103
42411 NE YALE BRIDGE RD
AMBOY, WA.

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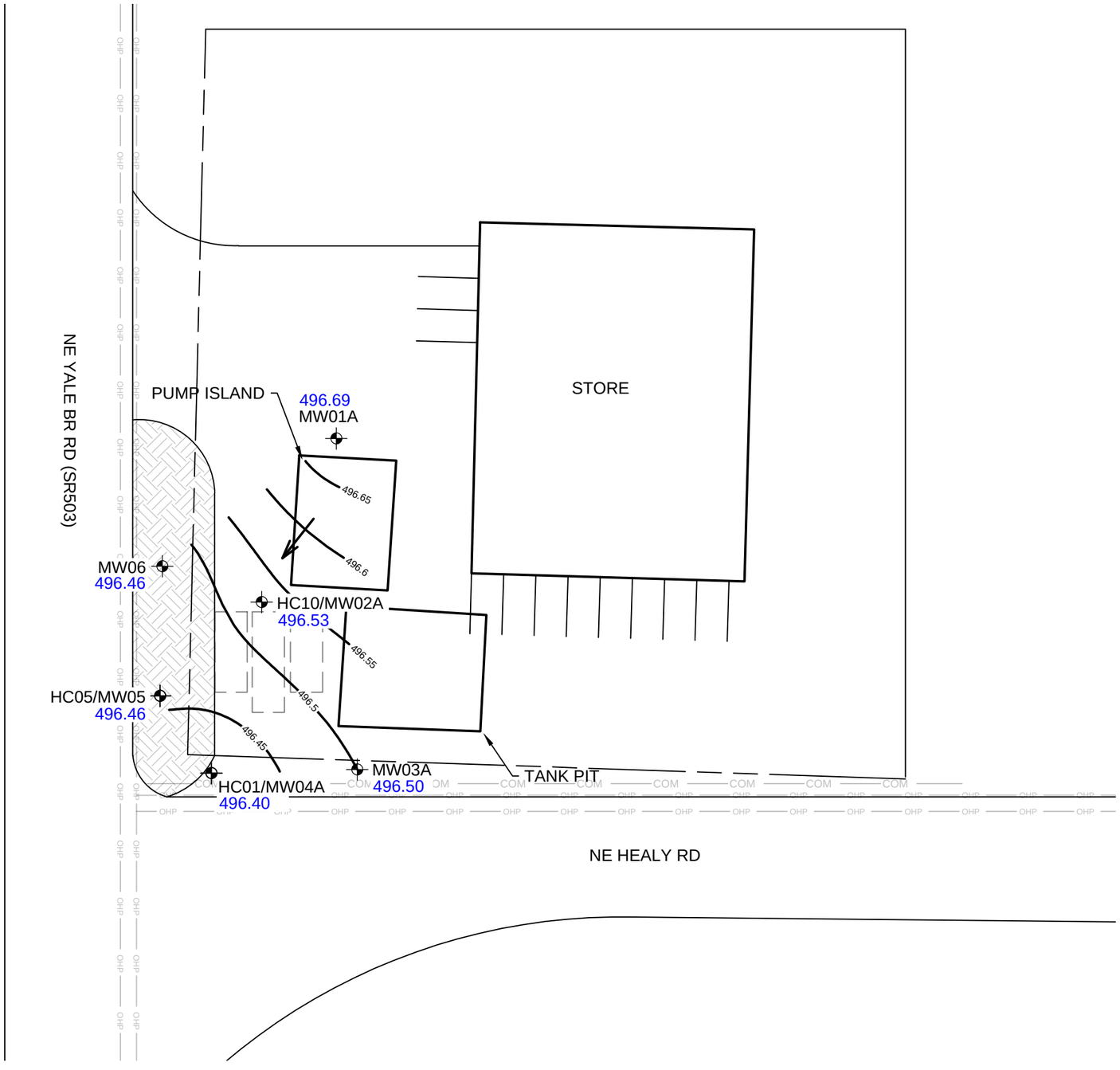

LEGEND

- BUILDING
- PROPERTY LINE
- OHP — OVERHEAD POWER UTILITY
- COM — COMMUNICATIONS UTILITY
- LOCATION OF FORMER USTs
- LANDSCAPE AREA
- MW05 — MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- 496.40 — GROUNDWATER ELEVATION
- 496.5 — GROUNDWATER ELEVATION CONTOUR

N W E S

0 30 60

SCALE IN FEET
1" = 30'

Hydro Con
510 Allen St. Suite B Kelso, WA 98626, Ph. (360) 703-6079

DATE: 4-21-16
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 01-103

FIGURE 3
GROUNDWATER ELEVATION CONTOURS
FOR MARCH 2016
TOC FACILITY #01-103
42411 NE YALE BRIDGE RD
AMBOY, WA.

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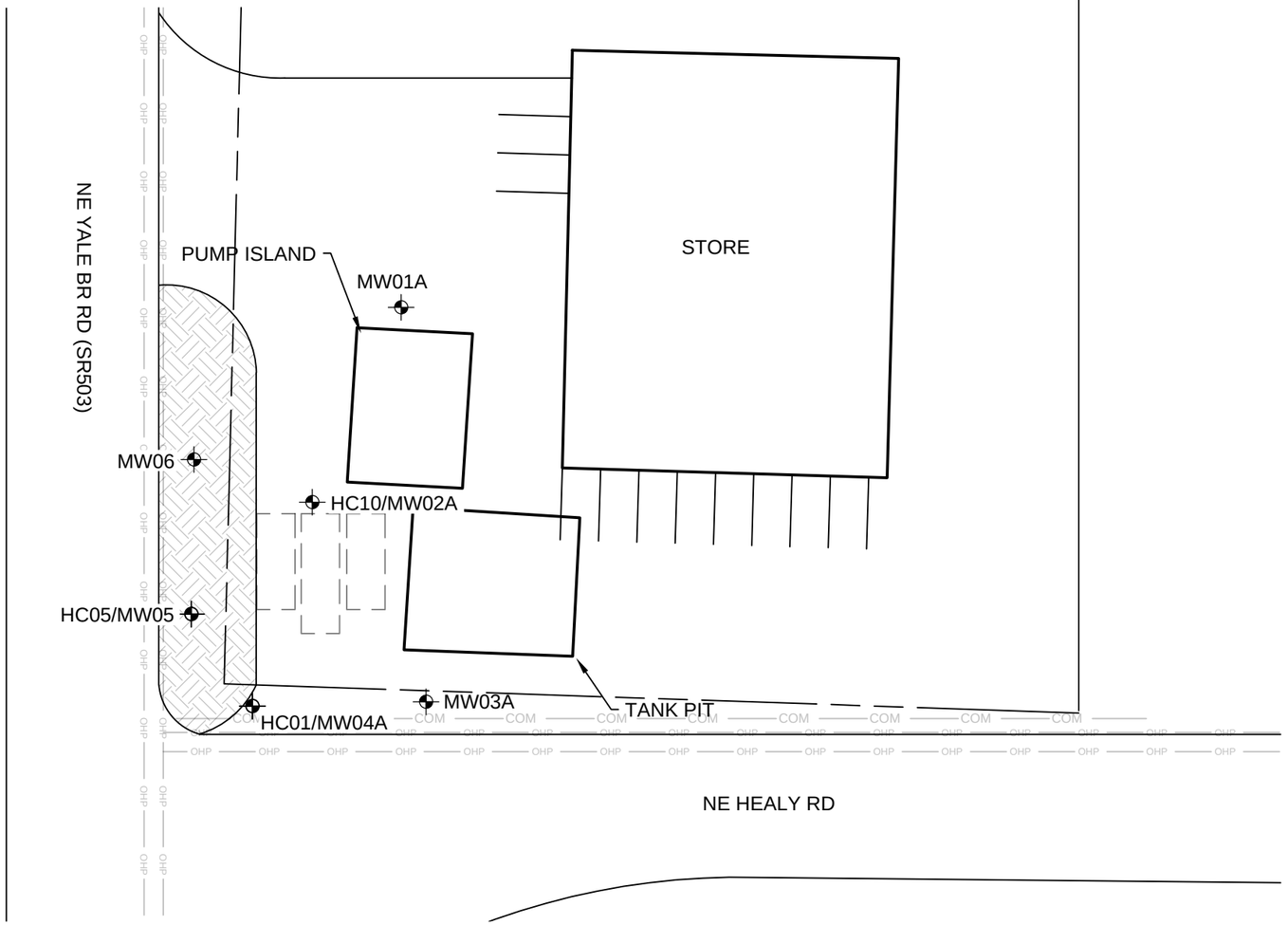
Well ID	Analytical Results (ug/L)											
	DRPH	ORPH	GRPH	Benzene	Toluene	Ethylbenzene	Xylene, Total	EDB	EDC	MTBE	Naphthalene	Lead
MTCA A	**500**	**500**	**800/1,000**	**5**	**1,000**	**700**	**1,000**	**0.01**	**5**	**20**	**160**	**15**
MW01A	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW02A	290 x	<250	**820**	<0.35	<1	<1	16.1	<1 ec	<1	<1	7.5	<1
MW03A	<50	<250	<100	0.5	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW04A	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW05	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	6.92
MW06	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1

Notes:
Red denotes concentration exceeds MTCA Cleanup Level for Groundwater.
Lab Qualifiers:
x - The sample chromatographic pattern does not resemble the fuel standard used for quantification.
ec - Method reporting limit exceeds Clean Up Level.



LEGEND

- BUILDING
- PROPERTY LINE
- OHP — OVERHEAD POWER UTILITY
- COM — COMMUNICATIONS UTILITY
- LOCATION OF FORMER USTs
- LANDSCAPE AREA
- MW05 — MONITORING WELL 2015

N W E S

0 30 60
SCALE IN FEET
1" = 30'

Hydro Con
510 Allen St. Suite B Kelso, WA 98626, Ph. (360) 703-6079

DATE: 4-21-16
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 01-103

FIGURE 4
GROUNDWATER ANALYTICAL RESULTS
FOR MARCH 2016
TOC FACILITY #01-103
42411 NE YALE BRIDGE RD
AMBOY, WA.

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TABLES

Table 1
Groundwater Analytical Results
TOC Holding Co. Facility No. 01-103
42411 NE Yale Bridge Road
Amboy, Washington

		Measurement			Fuels		Volatiles									Metal
		Top of Casing	Depth to Groundwater	Groundwater Elevation	DRPH	ORPH	GRPH	Benzene	Toluene	Ethylbenzene	Xylene, Total	EDB	EDC	MTBE	Naphthalene	Lead
		feet	feet	feet	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
WA MTCA A Cleanup for Groundwater					500	500	800|1000	5	1,000	700	1,000	0.01	5	20	160	15
Benzene (Non Detect)							1,000									
Benzene (Detect)							800									
Field ID	**Date**															
MW01A	12/23/2015	505.19	6.6	498.59	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
	3/30/2016	505.19	8.5	496.69	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW02A	12/23/2015	504.38	6	498.38	360 x	<250	530	<0.35	<1	1.2	26.6	<1 ec	<1	<1	3.1	<1
	3/30/2016	504.38	7.85	496.53	290 x	<250	820	<0.35	<1	<1	16.1	<1 ec	<1	<1	7.5	<1
MW03A	12/23/2015	504.36	6.2	498.16	<50	<250	200	16	6.7	<1	3.6	<1 ec	<1	<1	<1	<1
	3/30/2016	504.36	7.86	496.5	<50	<250	<100	0.5	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW04A	12/23/2015	503.74	5.4	498.34	95 x	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
	3/30/2016	503.74	7.34	496.4	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
MW05	12/23/2015	503.48	5.2	498.28	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
	3/30/2016	503.48	7.02	496.46	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	6.92
MW06	12/23/2015	503.8	5.32	498.48	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1
	3/30/2016	503.8	7.34	496.46	<50	<250	<100	<0.35	<1	<1	<3	<1 ec	<1	<1	<1	<1

Notes

Red denotes concentration in excess of MTCA Method Cleanup Level for Groundwater.
Samples in 2015 and forward analyzed by Friedman & Bruya, Inc. of Seattle, Washington.
Top of casings elevations surveyed in 2015Q4 using NAVD88.
Prior elevations surveyed using an arbitary benchmark of 100.00 feet and/or are unknown.
GRPH analyzed by Method NWTPH-Gx.
Volatiles analyzed by EPA Method 8021B or 8260.
DRPH and ORPH analyzed by Method NWTPH-Dx.
Metals analyzed by EPA Method 200.8.
MTCA Method A Cleanup Levels, WAC 173-340-720 through 173-340-760, revised Nov., 2007.

dry - Well is dry. No sample collected.
ec - Method reporting limit exceeds Clean Up Level shown.
rla - Reporting Limit Assumed
x - The pattern of peaks is not indicative of diesel.

* = No well installation/decommissioning records are available for these wells.
Wells belived to be abandoned in 2007.
- = not analyzed/not measured; SPH not detected
< = not detected at a concentration exceeding the laboratory reporting limit
µg/L = micrograms per liter
DRPH = Diesel Range Petroleum Hydrocarbon
EDB = 1,2-dibromoethane (ethylene dibromide)
EDC = 1,2-dichloroethylene (ethylene dichloride)
EPA = U.S. Environmental Protection Agency
GRPH = Gasoline Range Petroleum Hydrocarbon
MTBE = methyl tertiary-butyl ether
MTCA = Washington State Model Toxics Control Act
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH = Oil Range Petroleum Hydrocarbon
WAC = Washington Administrative Code

Table 2
Groundwater Semi Volatile Analytical Results
TOC Holding Co. Facility No. 01-103
42411 NE Yale Bridge Road
Amboy, Washington

		Semi Volatiles						
		Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-c,d)pyrene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
WA MTCA A Cleanup for Groundwater			0.1					
Field ID	**Date**							
MW02A	12/23/2015	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
	3/30/2016	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
MW04A	12/23/2015	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

Notes
Red denotes concentrations exceeding the MTCA Method A cleanup level shown.
Samples analyzed by Friedman & Bruya, Inc. of Seattle, Washington.
Organics analyzed by EPA Method 8270D SIM.
MTCA Method A Cleanup Levels, WAC 173-340-720 through 173-340-760,

< = not detected at a concentration exceeding the laboratory reporting limit
µg/L = micrograms per liter
EPA = U.S. Environmental Protection Agency
MTCA = Washington State Model Toxics Control Act
WAC = Washington Administrative Code

ATTACHMENT A

Groundwater Sample Collection Forms

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW01A

Project Name (Number): JDC Amboy (01-103) Sample I.D.: MW01A Time: 1530
Hydrocon Project Number: _____ Field Duplicate I.D.: _____ Time: _____
Date: 30 March 2016 Personnel: Larry Namba

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair: _____ ☑ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☑ Not measured PID Reading _____ ppm ☐ Odor: _____
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other: _____
Comments _____

PURGING INFORMATION

Total well depth: 25.11 ft Bottom: ☐ Hard ☑ Semi Soft ☐ Not measured Screen Interval(s): 5-25
Depth to product: NM ft
Depth to water: 7.50 ft Intake Depth (BTOC): _____ Begin Purging Well: 1511
Casing volume: 17.61 ft (H_2O) X 0.16 gal/ft = 2.82 gal. X 3 = 8.46 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☑ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: None

Time	Water Level (BTOC)	Purge Rate (L/min) (0.100-0.500)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1512	~~7.55~~ 7.51		13.66	0.072	7.82	5.73	202	90.1
1515	7.51	0.168	13.10	0.072	7.97	5.72	200	75.8
1518	7.51		12.70	0.072	8.01	5.73	200	72.5
1521	7.51		13.11	0.071	7.87	5.77	200	61.6
1524	7.51		12.66	0.071	7.90	5.71	200	59.1
1527	7.51		12.58	0.071	7.98	5.72	200	59.7

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis Requested
40 ml VOA	3 / 4 (6)	HCl	No 0.45 0.10	NWTPH-GX, BTEX, Oxy
500 ml AGB	1	None	No 0.45 0.10	NWTPH-Dx
500 ml Poly	1	HNO_3	No 0.45 0.10	Dissolved Pb
500 ml AGB	1	HNO_3	No 0.45 0.10	PAH
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW02A

Project Name: TOC Amboy
Hydrocon Project #: 01-103
Date: 30 March 2016

Sample I.D. MW02A Time: 1454
Field Duplicate I.D. MW99 Time: 1454
Personnel: C. Dischel

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor _____
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 24.53 ft Bottom: ☐ Hard ☒ Soft ☐ Not measured Screen Interval(s): 5 ~ 25
Depth to product - ft
Depth to water 7.85 ft Intake Depth (BTOC) _____ Begin Purging Well: 1431
Casing volume 16.73 ft (H_2O) X 0.16 gal/ft = 2.68 gal. X 3 = 8.03 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☑ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: _____

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1434	7.95	.152	13.41	.123	0.48	5.65	198	-
1437	7.96		13.36	.123	0.36	5.62	198	-
1440	7.96		13.22	.123	0.31	5.60	198	-
1443	7.97		13.16	.124	0.29	5.59	198	-
1446	7.97		13.19	.123	0.33	5.58	198	-
1449	7.97		13.21	.122	0.43	5.57	199	-

Sample @ 1454

Stabilization achieved if three successive measurements for ~~pH, Conductivity and~~ Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 ml VOA	6	-	No 0.45 0.10	TPHx / BTEX
500 ml amber	2	-	No 0.45 0.10	TPHx
500 ml Poly	1	-	No 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW03A

Project Name (Number): TOC Amboy (01-1031) Sample I.D.: MW 03A Time: 1332
Hydrocon Project Number: Field Duplicate I.D.: Time:
Date: 30 March 2016 Personnel: Larry Hamba

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair: ☑ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☑ Not measured PID Reading ____ ppm ☐ Odor:
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other:
Comments

PURGING INFORMATION

Total well depth: 24.87 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 5-25
Depth to product: NM ft
Depth to water: 7.86 ft Intake Depth (BTOC): 10 Begin Purging Well: 1313
Casing volume: 17.01 ft (H_2O) X 0.16 gal/ft = 2.72 gal. X 3 = 8.16 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other
Bailer type: Water Disposal: ☑ Drummed ☐ Remediation System ☐ Other

FIELD PARAMETERS

Odor and/or Sheen:

Time	Water Level (BTOC)	Purge Rate (L/min) (0.100-0.500)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1314	7.88		17.03	0.175	2.22	6.33	192	67.9
1317	7.88	0.148	15.74	0.102	0.92	6.03	191	48.4
1320	7.88		14.98	0.082	0.54	5.94	192	41.1
1323	7.88		14.82	0.081	0.37	5.93	192	39.2
1326	7.88		14.70	0.081	0.33	5.93	193	36.0
1329	7.88		14.67	0.081	0.30	5.92	193	36.0

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments:

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis Requested
40 ml VOA	3 / 4 / 6	HCl	No 0.45 0.10	NWTPH-GX, BTEX, OXY
500 ml AGB	1	None	No 0.45 0.10	NWTPH-Dx
500 ml Poly	1	HNO_3	No 0.45 0.10	~~Dissolved~~ Pb Total
500 ml AGB	1	None	No 0.45 0.10	PAH
			No 0.45 0.10	

Sampling Comments:

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW04A

Project Name (Number): TOC Amboy (01-103) Sample I.D.: MW04A Time: 1425
Hydrocon Project Number: Field Duplicate I.D.: Time:
Date: 30 March 2016 Personnel: Larry Namba

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair: ☑ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☑ Not measured PID Reading ____ ppm ☐ Odor:
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other:
Comments

PURGING INFORMATION

Total well depth: 24.15 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 5-25
Depth to product: NM ft
Depth to water: 7.35 ft Intake Depth (BTOC): 11 Begin Purging Well: 1406
Casing volume: 17.60 ft (H_2O) X 0.16 gal/ft = 2.82 gal. X 3 = 8.46 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other
Bailer type: Water Disposal: ☑ Drummed ☐ Remediation System ☐ Other

FIELD PARAMETERS

Odor and/or Sheen: None

Time	Water Level (BTOC)	Purge Rate (L/min) (0.100-0.500)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1407	7.46		15.61	0.036	6.58	5.71	189	46.1
1410	7.52	0.100	14.77	0.034	6.14	5.61	191	40.5
1413	7.53		15.12	0.034	6.05	5.57	190	37.2
1416	7.55		15.21	0.034	6.02	5.57	190	36.4
1419	7.57		15.31	0.034	6.06	5.56	191	35.3
1422	7.59		14.63	0.034	5.98	5.55	192	36.6

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments:

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis Requested
40 ml VOA	3 / 4 / 6	HCl	No 0.45 0.10	NWTPH-GX, BTEX, Oxy
500 ml AGB	1	None	No 0.45 0.10	NWTPH-Dx
500 ml Poly	1	HNO_3	No 0.45 0.10	Dissolved Pb
500 ml AGB	1	None	No 0.45 0.10	PAH
			No 0.45 0.10	

Sampling Comments:

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW05

Project Name: TOC Amboy
Hydrocon Project #: 01-103
Date: 3/30/16

Sample I.D. MW 05 Time: 1605
Field Duplicate I.D. - Time: -
Personnel: C. Darchel

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor _____
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 24.46 ft Bottom: ☒ Hard ☐ Soft ☐ Not measured Screen Interval(s): 5-25'
Depth to product _____ ft
Depth to water 7.02 ft Intake Depth (BTOC) _____ Begin Purging Well: 1533
Casing volume 17.38 ft (H_2O) X 0.16 gal/ft = 2.78 gal. X 3 = 8.34 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☑ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: _____

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1538	7.25	.202	10.38	.029	7.87	5.72	198	-
1541	7.28		10.22	.030	7.69	5.71	197	-
1544	7.25	.146	10.28	.030	7.19	5.76	197	-
1547	7.25		10.13	.030	7.02	5.70	197	-
1550	7.25		10.45	.031	6.80	5.69	197	-
1553	7.25		10.56	.031	6.61	5.69	197	HH
1556	7.27		10.64	.033	6.42	5.69	197	116
1559	7.26		10.54	.033	6.46	5.69	198	120
1602	7.25		10.36	.034	6.38	5.67	198	126
				Sample @ 1605				

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 ml VOA	6	HCl	(No) 0.45 0.10	TPH GX / BTEX
500 ml amber	2		(No) 0.45 0.10	TPH DX
500 ml Poly	1	HNO3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW06

Project Name: TOC Amboy
Hydrocon Project #: 01-103
Date: 3/30/16

Sample I.D.: MW 06 Time: 1403
Field Duplicate I.D.: - Time: -
Personnel: C. Duschel

WELL INFORMATION

Monument condition: ☑ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☑ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☑ Not measured _____ ppm ☐ Odor _____
Well diameter: ☑ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 24.25 ft Bottom: ☑ Hard ☐ Soft ☐ Not measured Screen Interval(s): 5 - 25'
Depth to product - ft
Depth to water 7.34 ft Intake Depth (BTOC) _____ Begin Purging Well: ~~13:30~~ 13:40
Casing volume 16.91 ft (H_2O) X .16 gal/ft = 2.70 gal. X 3 = 8.12 gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☑ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal:: ☑ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: -

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	~~Turbidity~~ (NTU) (± 10% or ≤10)
~~1343~~	7.35	.176	~~12.20~~	.020	9.42	5.74	187	-
1346	7.35		12.02	.020	9.52	5.73	187	-
1349	7.34		11.88	.020	9.55	5.73	187	-
1352	7.34		11.76	.020	9.59	5.71	187	-
1355	7.34		11.73	.021	9.58	5.70	187	-
1358	7.34		11.70	.021	9.59	5.75	188	-

Sample @ 1403

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: Water level indicator continuously cleaned to maintain operation

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 ml VOA	6	HCl	(No) 0.45 0.10	TPHGx, BTEX
500 ml amber	2	none	(No) 0.45 0.10	TPHDx
500 ml Poly	1	HNO_3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

ATTACHMENT B

Laboratory Report and Chain-of-Custody Documentation

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 13, 2016

Craig Hultgren, Project Manager
HydroCon
510 Allen St, Suite B
Kelso, WA 98626

Dear Mr. Hultgren:

Included are the results from the testing of material submitted on March 31, 2016 from the TOC_01-103 GW, WORFDB8 F&BI 603567 project. There are 28 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Rob Honsberger, Allison Greiner
HDC0413R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 31, 2016 by Friedman & Bruya, Inc. from the HydroCon TOC_01-103 GW, WORFDB8 F&BI 603567 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	HydroCon
603567 -01	MW01A
603567 -02	MW02A
603567 -03	MW03A
603567 -04	MW04A
603567 -05	MW05
603567 -06	MW06
603567 -07	MW99

All quality control requirements were acceptable.

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567
Date Extracted: 04/01/16
Date Analyzed: 04/01/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW01A 603567-01	<100	90
MW02A 603567-02	820	98
MW03A 603567-03	<100	90
MW04A 603567-04	<100	95
MW05 603567-05	<100	91
MW06 603567-06	<100	92
MW99 603567-07	910	101
Method Blank 06-611 MB	<100	91

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567
Date Extracted: 04/01/16
Date Analyzed: 04/04/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW01A 603567-01	<50	<250	95
MW02A 603567-02	290 x	<250	95
MW03A 603567-03	<50	<250	100
MW04A 603567-04	<50	<250	85
MW05 603567-05	<50	<250	96
MW06 603567-06	<50	<250	90
MW99 603567-07	350 x	<250	92
Method Blank 06-650 MB	<50	<250	111

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW01A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-01
Date Analyzed:	04/01/16	Data File:	603567-01.074
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW02A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-02
Date Analyzed:	04/01/16	Data File:	603567-02.076
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW03A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-03
Date Analyzed:	04/01/16	Data File:	603567-03.077
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW04A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-04
Date Analyzed:	04/01/16	Data File:	603567-04.078
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW05	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-05
Date Analyzed:	04/01/16	Data File:	603567-05.079
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	6.92

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW06	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-06
Date Analyzed:	04/01/16	Data File:	603567-06.080
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	MW99	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	603567-07
Date Analyzed:	04/01/16	Data File:	603567-07.081
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	HydroCon
Date Received:	NA	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/01/16	Lab ID:	I6-187 mb
Date Analyzed:	04/01/16	Data File:	I6-187 mb.055
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW02A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/06/16	Lab ID:	603567-02 1/2
Date Analyzed:	04/07/16	Data File:	040706.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	31	160
Benzo(a)anthracene-d12	97	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW99	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/06/16	Lab ID:	603567-07 1/2
Date Analyzed:	04/07/16	Data File:	040707.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	95	31	160
Benzo(a)anthracene-d12	97	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	04/06/16	Lab ID:	06-681 mb
Date Analyzed:	04/07/16	Data File:	040705.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	160
Benzo(a)anthracene-d12	96	25	165

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW01A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-01
Date Analyzed:	03/31/16	Data File:	033120.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	105	91	108
4-Bromofluorobenzene	104	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW02A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-02
Date Analyzed:	03/31/16	Data File:	033125.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	106	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	12
o-Xylene	4.1
Naphthalene	7.5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW03A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-03
Date Analyzed:	03/31/16	Data File:	033124.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	103	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	0.50
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW04A	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-04
Date Analyzed:	03/31/16	Data File:	033121.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	104	91	108
4-Bromofluorobenzene	103	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW05	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-05
Date Analyzed:	03/31/16	Data File:	033122.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	105	91	108
4-Bromofluorobenzene	105	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW06	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-06
Date Analyzed:	03/31/16	Data File:	033123.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	105	91	108
4-Bromofluorobenzene	104	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW99	Client:	HydroCon
Date Received:	03/31/16	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	603567-07
Date Analyzed:	03/31/16	Data File:	033126.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	105	91	108
4-Bromofluorobenzene	105	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	11
o-Xylene	4.1
Naphthalene	7.5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	HydroCon
Date Received:	Not Applicable	Project:	TOC_01-103 GW, WORFDB8
Date Extracted:	03/31/16	Lab ID:	06-621 mb
Date Analyzed:	03/31/16	Data File:	033107.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	103	91	108
4-Bromofluorobenzene	102	76	126

Compounds:	Concentration ug/L (ppb)
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
1,2-Dibromoethane (EDB)	<1
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 603566-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	96	69-134

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	107	58-134	1

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 603566-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	ug/L (ppb)	10	<1	92	91	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	ug/L (ppb)	10	110	85-115

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	ug/L (ppb)	1	95	96	60-118	1
Chrysene	ug/L (ppb)	1	98	98	66-125	0
Benzo(b)fluoranthene	ug/L (ppb)	1	94	91	55-135	3
Benzo(k)fluoranthene	ug/L (ppb)	1	95	96	62-125	1
Benzo(a)pyrene	ug/L (ppb)	1	92	90	58-127	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	95	87	36-142	9
Dibenz(a,h)anthracene	ug/L (ppb)	1	83	74	37-133	11

Date of Report: 04/13/16
Date Received: 03/31/16
Project: TOC_01-103 GW, WORFDB8 F&BI 603567

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 603565-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	68-125
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	70-119
Benzene	ug/L (ppb)	50	<0.35	90	78-108
Toluene	ug/L (ppb)	50	<1	86	73-117
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	97	79-120
Ethylbenzene	ug/L (ppb)	50	<1	88	71-120
m,p-Xylene	ug/L (ppb)	100	<2	90	63-128
o-Xylene	ug/L (ppb)	50	<1	90	64-129
Naphthalene	ug/L (ppb)	50	<1	91	62-140

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	101	102	70-122	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	101	79-109	1
Benzene	ug/L (ppb)	50	92	91	81-108	1
Toluene	ug/L (ppb)	50	88	89	83-108	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	97	82-118	0
Ethylbenzene	ug/L (ppb)	50	88	89	83-111	1
m,p-Xylene	ug/L (ppb)	100	91	92	84-112	1
o-Xylene	ug/L (ppb)	50	91	93	81-117	2
Naphthalene	ug/L (ppb)	50	89	93	72-131	4

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

603567

ME 03/31/16

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VS/BI4/E04

Hydro Con

Hydrocon Environmental, LLC
Report to: Craig Hultrgren
cc: Allison Greiner
510 Allen Street
Kelso, Washington 98626
(360) 703-6079
CraigH@hydroconllc.net
allisongreiner@eurekaprojectsolutions.net

Samplers Name: L. Namba / C. Doschel
Project Name: TOC Holdings Company
Facility Number: 01-103 GW
Facility Address: Amboy, WA
PO Number:
EDD Requested: EIM + DataConcourse

Requested Turn Around Time

[x] Standard 10 business days
[ ] Rush

Rush Charges Authorized by:

Sample Disposal: (30 days) Return Will Call

Additional Comments: For PAHs analysis, please see notes.

	Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of containers	TPH-Dx	TPH-Gx	8260C BTEX, EDB, EDC, MTBE, N	200.8 Pb, Total	Carcinogenic PAHs 8270							✓ added per COC MG 4/5/16 AG Notes
1	MW01A	01 A-I	03/30/16	1530	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
2	MW02A	02	03/30/16	1454	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
3	MW03A	03	03/30/16	1332	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
4	MW04A	04	03/30/16	1425	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
5	MW05	05	03/30/16	1605	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
6	MW06	06	03/30/16	1403	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
7	MW99	07	03/30/16	1454	W	9	X	X	X	X	✓							*If DRPH or ORPH is present, sample for Carc. PAHs 8270
8																		
9																		
10																	Samples received at	3 °C

ANALYSES REQUESTED

	Signature	Print Name	Time	Date
Relinquished by:		Jerry Namba	12:30	31 March 2016
Received by:		Nhan Phan	12:50	31 March 2016
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282