

July 27<sup>th</sup>, 2017

**Via Email**

Mr. Christer Loftenius - Hydrogeologist  
Toxic Cleanup Program  
Department of Ecology - Eastern Regional Office  
4601 N. Monroe Street  
Spokane, WA 99205-1295

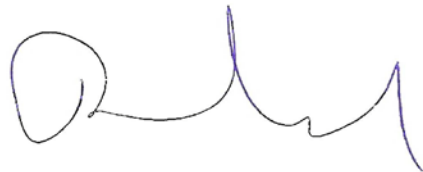
Re: **1<sup>st</sup> Semi-Annual 2017 Ground-Water Monitoring Data Transmittal**  
Andeavor/Tesoro Logistics (Former Chevron) Pasco Bulk Fuel Terminal  
2900 Sacajawea Park Road, Pasco, Washington 99301  
Ecology Facility Site ID: 55763995; Cleanup Site ID: 4867

Dear Mr. Loftenius:

Enclosed please find monitoring data summary tables, site figures, and copies of laboratory data reports for the 1<sup>st</sup> semi-annual 2017 ground-water monitoring event completed on May 15 through 17, 2017 at the Andeavor/Tesoro Logistics (Former Chevron) Pasco Bulk Fuel Terminal on Sacajawea Road in Pasco, Washington. These data are transmitted on behalf of Andeavor/Tesoro Logistics Operations LLC (Tesoro).

Please feel free to call me at (650) 827-7474 if you have any questions. I will be in touch shortly to discuss the status of this site further.

Sincerely,  
CEECON Testing, Inc.



Michael Hodges  
President

cc: Anastasia Duarte RS, Tesoro Logistics GP, LLC  
Kirt Rhoads, Tesoro Logistics

**CEECON Testing, Inc.**  
434 North Canal Street, Suite Six  
South San Francisco, CA 94080  
*CEECON@msn.com*

## **TABLES**

**TABLE 1**  
**MAY 2017 GROUND-WATER MONITORING DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
**Pasco, Washington**

Sample Location	Date Sampled	Ground-Water Sample Analysis Results (ug/l)											Ground-Water Elevation Data (feet)				
		TPHmo (NWTPH-Rx)	TPHd (NWTPH-Dx)	TPHg (NWTPH-Gx)	Benz-ene	Tol-uene	Ethyl-benzene	Total Xylenes	MTBE	Ethanol	1,2-DCA	Naph-thalene	Well Screen Depth Interval	TOC Elevation	DTW	Elev-ation (MSL)	Change in Elevation
<b>Tesoro Logistics (former CPL)</b>																	
MW-1	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	73.9 - 93.9	419.40	Dry	--	--
MW-2 <sup>a</sup>	5/17/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	63.3 - 83.3	417.28	72.86	344.42	-1.16
MW-3	5/16/17	<250	<b>2,600</b>	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	74.95 - 94.95	423.42	79.04	344.38	-1.13
MW-4	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	56.75 - 76.75	412.09	68.02	344.07	--
MW-5	Well destroyed May 1987	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	5/16/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	8.5 - 23.5	358.61	15.88	342.73	-1.03
MW-7	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	57 - 77	411.40	67.02	344.38	-1.16
MW-8	5/17/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	29 - 54	383.91	39.56	344.35	--
MW-9	Well destroyed May 1987	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	55 - 78	407.91	63.50	344.41	--
MW-11	5/16/17	<250	<b>390</b>	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	84.5 - 74.5	423.48	79.15	344.33	-1.14
MW-12	5/16/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	33 - 60;	423.65	79.30	344.35	-1.18
	Duplicate	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	75 - 85				
MW-13	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18.5 - 47.5	--	--	--	--
MW-14	5/17/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	27.5 - 53;	421.97	77.55	344.42	-1.20
													72.5 - 82.5				
RW-1	--	Well buried - status unknown											64- 98	417.29	--	--	--
Equipment Blank:																	
CEB	5/16/17	<250	<100	<50	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<4.0					
Trip Blank:																	
Trip Blank	5/16/17	<250	<100	<50	<2.0	<2.0	<3.0	<3.0	<2.0	--	<2.0	<4.0					
Ecology Criteria <sup>(1)</sup>		500	500	1,000	5	1,000	700	1,000	20	NE	5	160					

## TABLE 1 (cont.)

### Notes:

- (1) Washington Department of Ecology Method A cleanup levels as listed in Table 720-1 of the Model Toxics Control Act, revised 10/12/07
- a Well was silted in and not sampled.

Concentrations in **bold** exceed Ecology Method A cleanup levels.

Change in elevations calculated using previous data collected 12/5-6, 2016.

TPHmo = Total Petroleum Hydrocarbons as Motor Oil

TPHd = Total Petroleum Hydrocarbons as Diesel

TPHg = Total Petroleum Hydrocarbons as Gasoline

TOC = Top of casing elevation in feet MSL

DTW = Depth to water

MSL = Mean sea level

NS = Not sampled

-- = Not analyzed

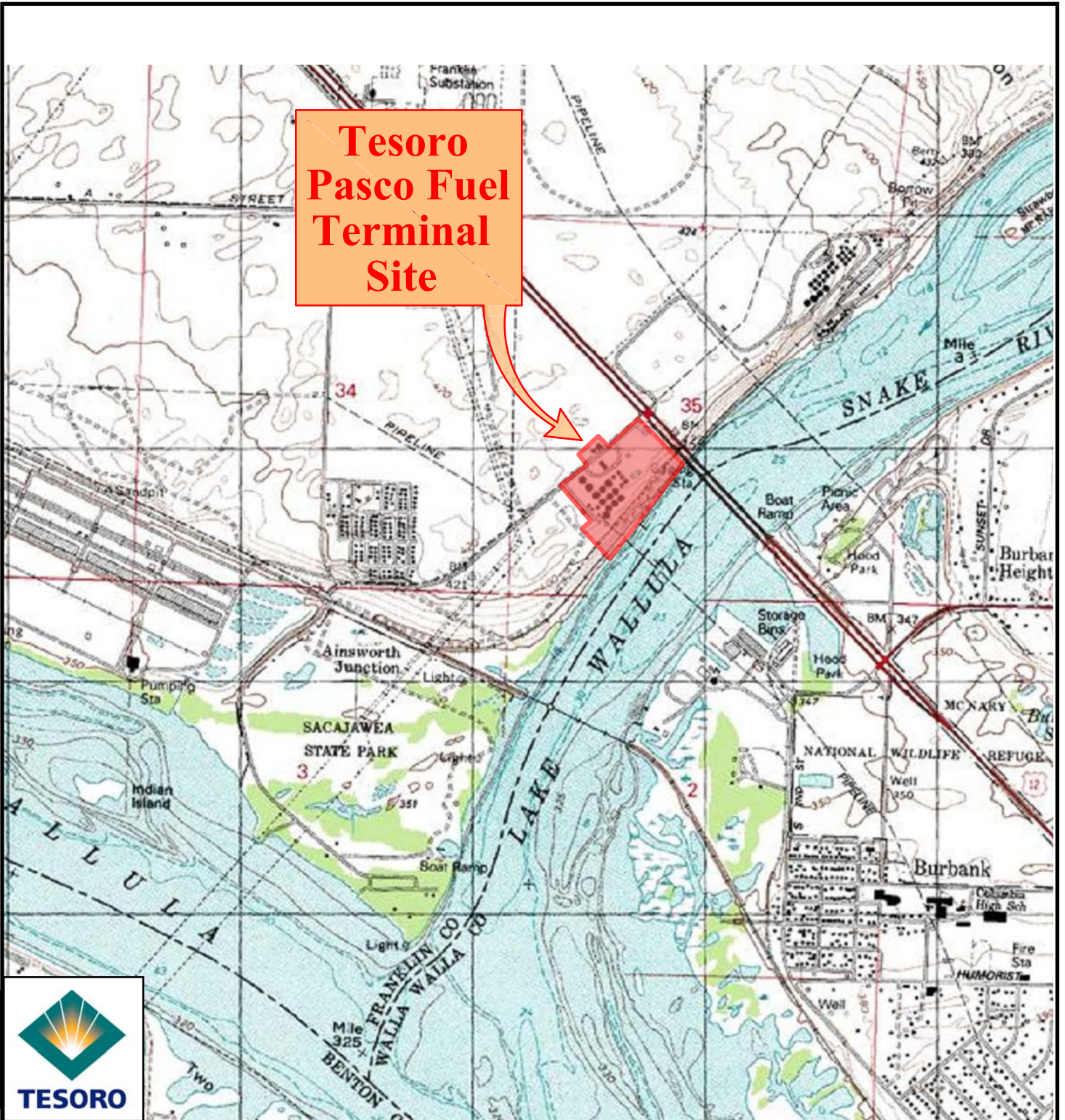
**TABLE 2**  
**MAY 2017 WATER QUALITY AND NATURAL ATTENUATION**  
**PARAMETER DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
Pasco, Washington

Sample ID	Date	FIELD MEASUREMENTS					ANALYTICAL PARAMETERS (Field and Lab)					
		pH	Specific Conductance	DO	Temp.	ORP	Sulfate	Nitrate	Ferrous Iron	Manganese	Methane	Alkalinity
		S.U.	mS/cm	mg/L	°C	mV	mg/L	ppm	ppm	mg/L	mg/L	mg/L
<b>Tesoro Logistics (former CPL)</b>												
MW-1	--	--	--	--	--	--	--	--	--	--	--	--
MW-2 <sup>a</sup>	5/17/17	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/16/17	7.27	0.996	0.82	17.01	-37	--	--	--	--	--	--
MW-4	5/15/17	7.99	0.861	7.78	17.9	-27	--	--	--	--	--	--
MW-6	5/16/17	8.06	0.824	7.89	14.65	66	<b>96</b>	--	--	<0.02	<b>0.0085</b>	<b>150</b>
MW-7	5/15/17	7.62	0.863	6.10	17.30	35	--	--	--	--	--	--
MW-8	5/17/17	7.88	0.869	5.68	17.96	28	<b>100</b>	--	--	<0.02	<0.0050	<b>170</b>
MW-10	5/15/17	7.39	0.888	6.24	17.41	29	--	--	--	--	--	--
MW-11	5/16/17	7.44	0.949	4.79	17.41	46	--	--	--	--	--	--
MW-12	5/16/17	7.96	0.965	3.93	15.97	36	<b>100</b>	--	--	<b>0.16</b>	<b>0.012</b>	<b>240</b>
MW-13	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	5/17/17	7.71	0.923	3.02	17.44	46	--	--	--	--	--	--
RW-1	--	Well buried - status unknown										

**Notes:**

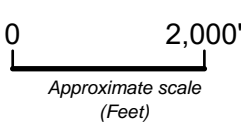
- Not analyzed or measured
  - S.U. Standard Unit
  - mS/cm millisiemens per centimeter
  - mg/L milligrams per liter
  - ppm parts per million
  - °C degrees celsius
  - mV millivolts
  - ORP Oxidation Reduction Potential
  - a Well was silted in and not sampled.
- Water quality parameters collected in the field using a multiparameter Horiba U-55 meter.  
Dissolved oxygen (DO) measured using portable meter with downhole probe.  
Sulfate analyzed by EPA Method 300.  
Nitrate and ferrous iron measured in the field using colorimeter test kits.  
Manganese analyzed by EPA Method 200.7.  
Methane analyzed by Method RSK 175M.  
Alkalinity analyzed by SM2320B.

## **FIGURES**



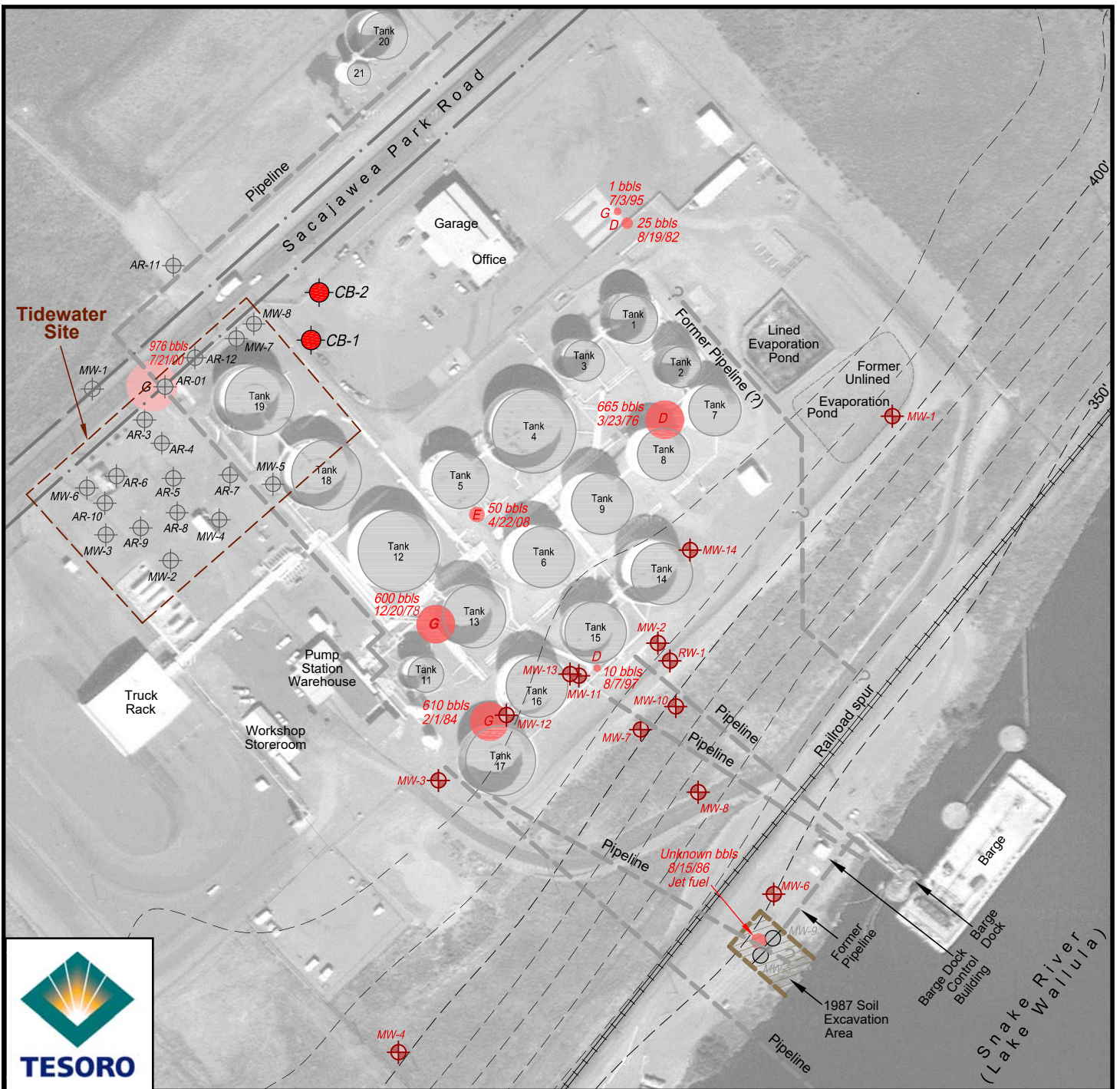
**TESORO**

Map Source:  
U.S.G.S. Pasco, Washington  
1:24,000-scale series (topographic)  
1992 edition



**SITE VICINITY MAP**  
Tesoro Pasco Fuel Terminal Site  
Pasco, Washington

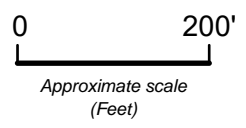
**FIGURE 1**  
**JULY 2017**



**EXPLANATION**

- Tesoro well
  - Tidewater well
  - Former well
  - Tesoro boring (6/15)
- |  |                    |              |
|--|--------------------|--------------|
|  | Previous spill     |              |
| Number of barrels (circle relative to size of spill) | Date of spill      | Fuel spilled |
|  | 610 bbls<br>2/1/84 |              |

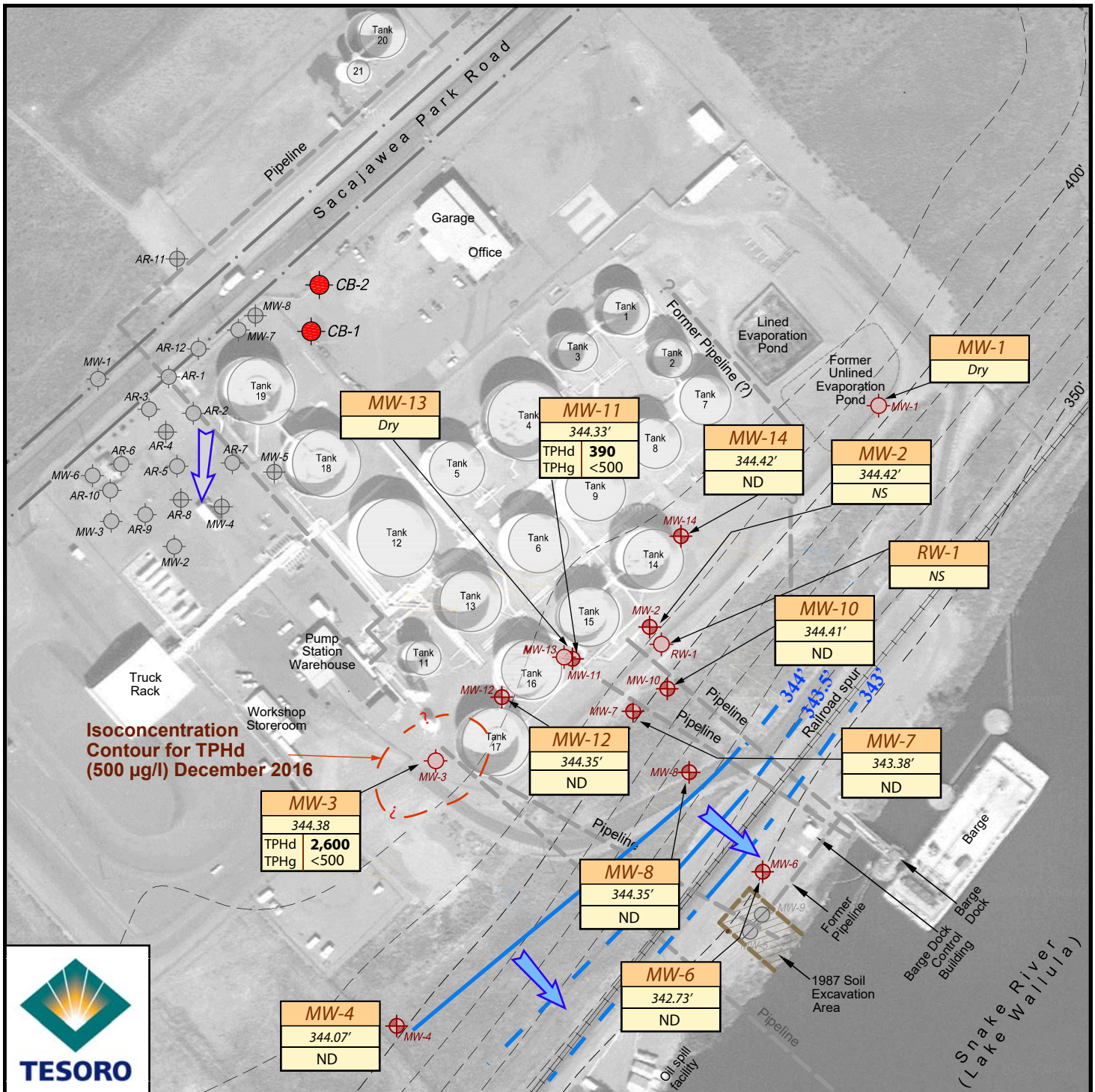
Imagery: earthexplorer.usgs.gov  
 Site information: URS, 2011,  
 GeoEngineers, 1987



**AREA MAP**  
 Tesoro Pasco Fuel Terminal Site  
 Pasco, Washington

**FIGURE 2**  
 JULY 2017





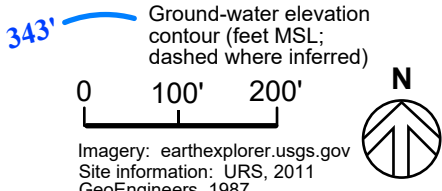
- EXPLANATION**
- Tesoro well
  - Tidewater well
  - Former well
  - Tesoro boring (6/15)

<b>MW-3</b>	Well name
344.38'	Ground-water elevation (feet MSL) on 12/5-6, 2016
<b>2,600</b>	TPHd
<500	TPHg
ND	Non-detect for all constituents
NS	Not sampled

Ground-water flow direction inferred from historical conditions (nearly flat gradient)

Ground-water flow direction near Snake River

Concentrations in **bold** exceed Ecology cleanup levels



<sup>1</sup> TPHd detected in duplicate sample at 150 µg/l



**2017 GROUND-WATER MONITORING RESULTS**  
**May 15-17**  
 Tesoro Pasco Fuel Terminal Site  
 Pasco, Washington

**FIGURE 3**  
**JULY 2017**

**ATTACHMENT  
LABORATORY ANALYTICAL REPORT**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

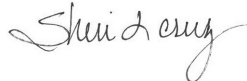
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-68437-1  
Client Project/Site: Tesoro Pasco  
Sampling Event: Pasco

For:  
CEECON Testing, Inc.  
434 North Canal Street  
Suite Six  
South San Francisco, California 94080

Attn: Michael Hodges



Authorized for release by:  
6/2/2017 3:07:27 PM

Sheri Cruz, Project Manager I  
(253)922-2310  
[sheri.cruz@testamericainc.com](mailto:sheri.cruz@testamericainc.com)

### LINKS

Review your project  
results through  
**Total Access**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Job ID: 580-68437-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-68437-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/18/2017 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.0° C, 0.1° C, 0.1° C and 0.3° C.

#### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): Trip Blank (580-68437-12). The COC list Trip Blank as an ID with 12 containers. The containers list Trip Blank 1 as an ID with 6 containers and Trip Blank 2 as an ID with 6 containers. Sample logged in per COC.

Only Relieved the containers that were transferred.

#### GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-246384 recovered outside acceptance criteria, low biased, for 2-Methyl-2-propanol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The following samples was diluted to bring the concentration of target analytes within the calibration range: (580-68460-E-2), (580-68460-E-2 MS) and (580-68460-F-2 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) NWTPH-Dx: Q flags were removed manually for o-Terphenyl due to CCVRT passing criteria, -15.4% rounds to 15%. (CCVRT 580-247086/3)

Method(s) NWTPH-Dx: The following continuing calibration verification (CCV) standard associated with batch 580-247034 recovered outside acceptance criteria for %D for surrogate o-Terphenyl. Since the surrogate recovery is within the acceptance criteria for 50-150 % R limit and for the associated samples ; therefore, the data have been reported. (CCV 580-247034/14), (CCV 580-247034/25), (CCV 580-247034/31) and (CCVRT 580-247034/3)

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was earlier than the typical diesel fuel pattern used by the laboratory for quantitative purposes: (580-68460-A-2-A), (580-68460-A-2-B MS) and (580-68460-B-2-A MSD).

Method(s) NWTPH-Dx: Q flags were removed manually for #2 Diesel (C10-C24) due to CCV passing criteria, 15.1% rounds to 15%. (CCV 580-247086/14)

Method(s) NWTPH-Dx: The matrix spike duplicate (MSD) recoveries for preparation batch 580-247027 and analytical batch 580-247086 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) associated with batch 580-247086 recovered above the upper control limit for #2 Diesel (C10-C24) and Motor Oil (>C24-C36). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: CMW-12 (580-68437-8), C-MW-12D (580-68437-9), C-EB (580-68437-11) and (CCV 580-247086/25).

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: CMW-11 (580-68437-7).

# Case Narrative

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

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## Job ID: 580-68437-1 (Continued)

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### Laboratory: TestAmerica Seattle (Continued)

Method(s) RSK-175: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 490-431999.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Definitions/Glossary

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-03**

**Lab Sample ID: 580-68437-1**

**Date Collected: 05/16/17 15:25**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 01:53	1
1,2-DCA	ND		2.0		ug/L			05/20/17 01:53	1
Benzene	ND		2.0		ug/L			05/20/17 01:53	1
DIPE	ND		2.0		ug/L			05/20/17 01:53	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 01:53	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 01:53	1
MTBE	ND		2.0		ug/L			05/20/17 01:53	1
Naphthalene	ND		4.0		ug/L			05/20/17 01:53	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 01:53	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 01:53	1
Toluene	ND		2.0		ug/L			05/20/17 01:53	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		80 - 126		05/20/17 01:53	1
4-Bromofluorobenzene (Surr)	88		75 - 125		05/20/17 01:53	1
Dibromofluoromethane (Surr)	96		77 - 120		05/20/17 01:53	1
Toluene-d8 (Surr)	98		80 - 122		05/20/17 01:53	1
Trifluorotoluene (Surr)	97		80 - 120		05/20/17 01:53	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:03	1
Methanol	ND		10		mg/L			05/22/17 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	79		52 - 128		05/22/17 13:03	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/22/17 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		05/22/17 21:13	1
Trifluorotoluene (Surr)	102		50 - 150		05/22/17 21:13	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	2.6	F1	0.10		mg/L		05/26/17 13:37	05/27/17 13:09	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	79		50 - 150		05/26/17 13:37	05/27/17 13:09	1

TestAmerica Seattle



# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-04**

**Lab Sample ID: 580-68437-2**

**Date Collected: 05/15/17 16:21**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 07:35	1
1,2-DCA	ND		2.0		ug/L			05/20/17 07:35	1
Benzene	ND		2.0		ug/L			05/20/17 07:35	1
DIPE	ND		2.0		ug/L			05/20/17 07:35	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 07:35	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 07:35	1
MTBE	ND		2.0		ug/L			05/20/17 07:35	1
Naphthalene	ND		4.0		ug/L			05/20/17 07:35	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 07:35	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 07:35	1
Toluene	ND		2.0		ug/L			05/20/17 07:35	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 07:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		80 - 126		05/20/17 07:35	1
4-Bromofluorobenzene (Surr)	99		75 - 125		05/20/17 07:35	1
Dibromofluoromethane (Surr)	95		77 - 120		05/20/17 07:35	1
Toluene-d8 (Surr)	99		80 - 122		05/20/17 07:35	1
Trifluorotoluene (Surr)	98		80 - 120		05/20/17 07:35	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:21	1
Methanol	ND		10		mg/L			05/22/17 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	88		52 - 128		05/22/17 13:21	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/22/17 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		05/22/17 22:49	1
Trifluorotoluene (Surr)	103		50 - 150		05/22/17 22:49	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/26/17 23:03	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/26/17 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150	05/26/17 09:08	05/26/17 23:03	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-06**

**Lab Sample ID: 580-68437-3**

**Date Collected: 05/16/17 10:45**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

### Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 18:16	1
1,2-DCA	ND		2.0		ug/L			05/22/17 18:16	1
Benzene	ND		2.0		ug/L			05/22/17 18:16	1
DIPE	ND		2.0		ug/L			05/22/17 18:16	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 18:16	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 18:16	1
MTBE	ND		2.0		ug/L			05/22/17 18:16	1
Naphthalene	ND		4.0		ug/L			05/22/17 18:16	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 18:16	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 18:16	1
Toluene	ND		2.0		ug/L			05/22/17 18:16	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/22/17 18:16	1
4-Bromofluorobenzene (Surr)	101		75 - 125		05/22/17 18:16	1
Dibromofluoromethane (Surr)	95		77 - 120		05/22/17 18:16	1
Toluene-d8 (Surr)	100		80 - 122		05/22/17 18:16	1
Trifluorotoluene (Surr)	101		80 - 120		05/22/17 18:16	1

### Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:27	1
Methanol	ND		10		mg/L			05/22/17 13:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	89		52 - 128		05/22/17 13:27	1

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/22/17 23:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		05/22/17 23:53	1
Trifluorotoluene (Surr)	103		50 - 150		05/22/17 23:53	1

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>0.0085</b>		0.0050		mg/L			05/23/17 10:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Acetylene (Surr)	94		62 - 124		05/23/17 10:27	1

### Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	05/27/17 16:20	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	05/26/17 13:37	05/27/17 16:20	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-06**

**Lab Sample ID: 580-68437-3**

**Date Collected: 05/16/17 10:45**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

**Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		05/23/17 18:41	05/24/17 17:09	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Sulfate</b>	<b>96</b>		12		mg/L			05/24/17 17:55	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Alkalinity</b>	<b>150</b>		5.0		mg/L			05/23/17 14:51	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>150</b>		5.0		mg/L			05/23/17 14:51	1
Carbonate Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1
Hydroxide Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1



# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-07**

**Lab Sample ID: 580-68437-4**

**Date Collected: 05/15/17 13:06**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 05:50	1
1,2-DCA	ND		2.0		ug/L			05/20/17 05:50	1
Benzene	ND		2.0		ug/L			05/20/17 05:50	1
DIPE	ND		2.0		ug/L			05/20/17 05:50	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 05:50	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 05:50	1
MTBE	ND		2.0		ug/L			05/20/17 05:50	1
Naphthalene	ND		4.0		ug/L			05/20/17 05:50	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 05:50	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 05:50	1
Toluene	ND		2.0		ug/L			05/20/17 05:50	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 05:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/20/17 05:50	1
4-Bromofluorobenzene (Surr)	100		75 - 125		05/20/17 05:50	1
Dibromofluoromethane (Surr)	97		77 - 120		05/20/17 05:50	1
Toluene-d8 (Surr)	99		80 - 122		05/20/17 05:50	1
Trifluorotoluene (Surr)	99		80 - 120		05/20/17 05:50	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:33	1
Methanol	ND		10		mg/L			05/22/17 13:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	90		52 - 128		05/22/17 13:33	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		05/23/17 00:25	1
Trifluorotoluene (Surr)	104		50 - 150		05/23/17 00:25	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/26/17 23:24	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/26/17 23:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150	05/26/17 09:08	05/26/17 23:24	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-08**

**Lab Sample ID: 580-68437-5**

**Date Collected: 05/15/17 15:03**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 06:16	1
1,2-DCA	ND		2.0		ug/L			05/20/17 06:16	1
Benzene	ND		2.0		ug/L			05/20/17 06:16	1
DIPE	ND		2.0		ug/L			05/20/17 06:16	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 06:16	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 06:16	1
MTBE	ND		2.0		ug/L			05/20/17 06:16	1
Naphthalene	ND		4.0		ug/L			05/20/17 06:16	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 06:16	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 06:16	1
Toluene	ND		2.0		ug/L			05/20/17 06:16	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/20/17 06:16	1
4-Bromofluorobenzene (Surr)	102		75 - 125		05/20/17 06:16	1
Dibromofluoromethane (Surr)	96		77 - 120		05/20/17 06:16	1
Toluene-d8 (Surr)	99		80 - 122		05/20/17 06:16	1
Trifluorotoluene (Surr)	98		80 - 120		05/20/17 06:16	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:39	1
Methanol	ND		10		mg/L			05/22/17 13:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	71		52 - 128		05/22/17 13:39	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 00:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		05/23/17 00:57	1
Trifluorotoluene (Surr)	93		50 - 150		05/23/17 00:57	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0050		mg/L			05/23/17 10:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Acetylene (Surr)	92		62 - 124		05/23/17 10:30	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/26/17 23:46	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/26/17 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	05/26/17 09:08	05/26/17 23:46	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-08**

**Lab Sample ID: 580-68437-5**

**Date Collected: 05/15/17 15:03**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

**Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		05/23/17 18:41	05/24/17 17:12	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	100		12		mg/L			05/24/17 18:11	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	170		5.0		mg/L			05/23/17 14:51	1
Bicarbonate Alkalinity as CaCO3	170		5.0		mg/L			05/23/17 14:51	1
Carbonate Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1
Hydroxide Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-10**

**Lab Sample ID: 580-68437-6**

**Date Collected: 05/15/17 12:05**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 03:39	1
1,2-DCA	ND		2.0		ug/L			05/20/17 03:39	1
Benzene	ND		2.0		ug/L			05/20/17 03:39	1
DIPE	ND		2.0		ug/L			05/20/17 03:39	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 03:39	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 03:39	1
MTBE	ND		2.0		ug/L			05/20/17 03:39	1
Naphthalene	ND		4.0		ug/L			05/20/17 03:39	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 03:39	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 03:39	1
Toluene	ND		2.0		ug/L			05/20/17 03:39	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/20/17 03:39	1
4-Bromofluorobenzene (Surr)	100		75 - 125		05/20/17 03:39	1
Dibromofluoromethane (Surr)	95		77 - 120		05/20/17 03:39	1
Toluene-d8 (Surr)	98		80 - 122		05/20/17 03:39	1
Trifluorotoluene (Surr)	97		80 - 120		05/20/17 03:39	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:45	1
Methanol	ND		10		mg/L			05/22/17 13:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	82		52 - 128		05/22/17 13:45	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		05/23/17 21:28	1
Trifluorotoluene (Surr)	107		50 - 150		05/23/17 21:28	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/27/17 00:28	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/27/17 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150	05/26/17 09:08	05/27/17 00:28	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-11**

**Lab Sample ID: 580-68437-7**

**Date Collected: 05/16/17 14:07**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 18:42	1
1,2-DCA	ND		2.0		ug/L			05/22/17 18:42	1
Benzene	ND		2.0		ug/L			05/22/17 18:42	1
DIPE	ND		2.0		ug/L			05/22/17 18:42	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 18:42	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 18:42	1
MTBE	ND		2.0		ug/L			05/22/17 18:42	1
Naphthalene	ND		4.0		ug/L			05/22/17 18:42	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 18:42	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 18:42	1
Toluene	ND		2.0		ug/L			05/22/17 18:42	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 126		05/22/17 18:42	1
4-Bromofluorobenzene (Surr)	101		75 - 125		05/22/17 18:42	1
Dibromofluoromethane (Surr)	96		77 - 120		05/22/17 18:42	1
Toluene-d8 (Surr)	99		80 - 122		05/22/17 18:42	1
Trifluorotoluene (Surr)	99		80 - 120		05/22/17 18:42	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:52	1
Methanol	ND		10		mg/L			05/22/17 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	89		52 - 128		05/22/17 13:52	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		05/23/17 22:00	1
Trifluorotoluene (Surr)	104		50 - 150		05/23/17 22:00	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.39		0.10		mg/L		05/26/17 13:37	06/01/17 16:04	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150	05/26/17 13:37	05/27/17 17:03	1
o-Terphenyl	118		50 - 150	05/26/17 13:37	06/01/17 16:04	1

TestAmerica Seattle



# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-12**

**Lab Sample ID: 580-68437-8**

**Date Collected: 05/16/17 13:07**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

### Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 19:09	1
1,2-DCA	ND		2.0		ug/L			05/22/17 19:09	1
Benzene	ND		2.0		ug/L			05/22/17 19:09	1
DIPE	ND		2.0		ug/L			05/22/17 19:09	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 19:09	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 19:09	1
MTBE	ND		2.0		ug/L			05/22/17 19:09	1
Naphthalene	ND		4.0		ug/L			05/22/17 19:09	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 19:09	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 19:09	1
Toluene	ND		2.0		ug/L			05/22/17 19:09	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 126		05/22/17 19:09	1
4-Bromofluorobenzene (Surr)	113		75 - 125		05/22/17 19:09	1
Dibromofluoromethane (Surr)	98		77 - 120		05/22/17 19:09	1
Toluene-d8 (Surr)	109		80 - 122		05/22/17 19:09	1
Trifluorotoluene (Surr)	100		80 - 120		05/22/17 19:09	1

### Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 13:58	1
Methanol	ND		10		mg/L			05/22/17 13:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	91		52 - 128		05/22/17 13:58	1

### Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		05/23/17 22:32	1
Trifluorotoluene (Surr)	103		50 - 150		05/23/17 22:32	1

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>0.012</b>		0.0050		mg/L			05/23/17 10:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Acetylene (Surr)	91		62 - 124		05/23/17 10:40	1

### Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	05/27/17 17:24	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	86		50 - 150	05/26/17 13:37	05/27/17 17:24	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-12**

**Lab Sample ID: 580-68437-8**

**Date Collected: 05/16/17 13:07**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

**Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.16		0.020		mg/L		05/23/17 18:41	05/24/17 17:16	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	100		12		mg/L			05/24/17 18:27	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	240		5.0		mg/L			05/23/17 14:51	1
Bicarbonate Alkalinity as CaCO3	240		5.0		mg/L			05/23/17 14:51	1
Carbonate Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1
Hydroxide Alkalinity as CaCO3	ND		5.0		mg/L			05/23/17 14:51	1

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: C-MW-12D**

**Lab Sample ID: 580-68437-9**

**Date Collected: 05/16/17 13:12**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 19:36	1
1,2-DCA	ND		2.0		ug/L			05/22/17 19:36	1
Benzene	ND		2.0		ug/L			05/22/17 19:36	1
DIPE	ND		2.0		ug/L			05/22/17 19:36	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 19:36	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 19:36	1
MTBE	ND		2.0		ug/L			05/22/17 19:36	1
Naphthalene	ND		4.0		ug/L			05/22/17 19:36	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 19:36	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 19:36	1
Toluene	ND		2.0		ug/L			05/22/17 19:36	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		05/22/17 19:36	1
4-Bromofluorobenzene (Surr)	118		75 - 125		05/22/17 19:36	1
Dibromofluoromethane (Surr)	96		77 - 120		05/22/17 19:36	1
Toluene-d8 (Surr)	118		80 - 122		05/22/17 19:36	1
Trifluorotoluene (Surr)	100		80 - 120		05/22/17 19:36	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 14:04	1
Methanol	ND		10		mg/L			05/22/17 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	89		52 - 128		05/22/17 14:04	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		05/23/17 23:04	1
Trifluorotoluene (Surr)	104		50 - 150		05/23/17 23:04	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	05/27/17 17:45	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
o-Terphenyl	84		50 - 150		05/26/17 13:37	05/27/17 17:45	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: C-MW-14**

**Lab Sample ID: 580-68437-10**

**Date Collected: 05/15/17 17:25**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/20/17 04:05	1
1,2-DCA	ND		2.0		ug/L			05/20/17 04:05	1
Benzene	ND		2.0		ug/L			05/20/17 04:05	1
DIPE	ND		2.0		ug/L			05/20/17 04:05	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/20/17 04:05	1
Ethylbenzene	ND		3.0		ug/L			05/20/17 04:05	1
MTBE	ND		2.0		ug/L			05/20/17 04:05	1
Naphthalene	ND		4.0		ug/L			05/20/17 04:05	1
t-Butyl alcohol	ND		100		ug/L			05/20/17 04:05	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/20/17 04:05	1
Toluene	ND		2.0		ug/L			05/20/17 04:05	1
Xylenes, Total	ND		3.0		ug/L			05/20/17 04:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		05/20/17 04:05	1
4-Bromofluorobenzene (Surr)	88		75 - 125		05/20/17 04:05	1
Dibromofluoromethane (Surr)	95		77 - 120		05/20/17 04:05	1
Toluene-d8 (Surr)	99		80 - 122		05/20/17 04:05	1
Trifluorotoluene (Surr)	98		80 - 120		05/20/17 04:05	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 14:10	1
Methanol	ND		10		mg/L			05/22/17 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	91		52 - 128		05/22/17 14:10	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/24/17 00:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150		05/24/17 00:08	1
Trifluorotoluene (Surr)	105		50 - 150		05/24/17 00:08	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/27/17 00:49	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/27/17 00:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	83		50 - 150	05/26/17 09:08	05/27/17 00:49	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: C-EB**  
**Date Collected: 05/16/17 11:15**  
**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-11**  
**Matrix: Water**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 20:02	1
1,2-DCA	ND		2.0		ug/L			05/22/17 20:02	1
Benzene	ND		2.0		ug/L			05/22/17 20:02	1
DIPE	ND		2.0		ug/L			05/22/17 20:02	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 20:02	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 20:02	1
MTBE	ND		2.0		ug/L			05/22/17 20:02	1
Naphthalene	ND		4.0		ug/L			05/22/17 20:02	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 20:02	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 20:02	1
Toluene	ND		2.0		ug/L			05/22/17 20:02	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 20:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/22/17 20:02	1
4-Bromofluorobenzene (Surr)	102		75 - 125		05/22/17 20:02	1
Dibromofluoromethane (Surr)	98		77 - 120		05/22/17 20:02	1
Toluene-d8 (Surr)	83		80 - 122		05/22/17 20:02	1
Trifluorotoluene (Surr)	101		80 - 120		05/22/17 20:02	1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 14:16	1
Methanol	ND		10		mg/L			05/22/17 14:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	90		52 - 128		05/22/17 14:16	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/24/17 00:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		05/24/17 00:40	1
Trifluorotoluene (Surr)	103		50 - 150		05/24/17 00:40	1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	05/27/17 18:08	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	05/26/17 13:37	05/27/17 18:08	1

TestAmerica Seattle

# Client Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-68437-12**

**Date Collected: 05/16/17 17:30**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 13:26	1
1,2-DCA	ND		2.0		ug/L			05/22/17 13:26	1
Benzene	ND		2.0		ug/L			05/22/17 13:26	1
DIPE	ND		2.0		ug/L			05/22/17 13:26	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 13:26	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 13:26	1
MTBE	ND		2.0		ug/L			05/22/17 13:26	1
Naphthalene	ND		4.0		ug/L			05/22/17 13:26	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 13:26	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 13:26	1
Toluene	ND		2.0		ug/L			05/22/17 13:26	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 126		05/22/17 13:26	1
4-Bromofluorobenzene (Surr)	87		75 - 125		05/22/17 13:26	1
Dibromofluoromethane (Surr)	97		77 - 120		05/22/17 13:26	1
Toluene-d8 (Surr)	99		80 - 122		05/22/17 13:26	1
Trifluorotoluene (Surr)	98		80 - 120		05/22/17 13:26	1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/24/17 01:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		05/24/17 01:12	1
Trifluorotoluene (Surr)	106		50 - 150		05/24/17 01:12	1

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 580-246384/5**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/19/17 22:24	1
1,2-DCA	ND		2.0		ug/L			05/19/17 22:24	1
Benzene	ND		2.0		ug/L			05/19/17 22:24	1
DIPE	ND		2.0		ug/L			05/19/17 22:24	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/19/17 22:24	1
Ethylbenzene	ND		3.0		ug/L			05/19/17 22:24	1
MTBE	ND		2.0		ug/L			05/19/17 22:24	1
Naphthalene	ND		4.0		ug/L			05/19/17 22:24	1
t-Butyl alcohol	ND		100		ug/L			05/19/17 22:24	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/19/17 22:24	1
Toluene	ND		2.0		ug/L			05/19/17 22:24	1
Xylenes, Total	ND		3.0		ug/L			05/19/17 22:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		05/19/17 22:24	1
4-Bromofluorobenzene (Surr)	101		75 - 125		05/19/17 22:24	1
Dibromofluoromethane (Surr)	95		77 - 120		05/19/17 22:24	1
Toluene-d8 (Surr)	100		80 - 122		05/19/17 22:24	1
Trifluorotoluene (Surr)	99		80 - 120		05/19/17 22:24	1

**Lab Sample ID: LCS 580-246384/6**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	10.0	9.82		ug/L		98	79 - 120
1,2-DCA	10.0	8.89		ug/L		89	76 - 131
Benzene	10.0	9.66		ug/L		97	75 - 120
DIPE	12.5	12.9		ug/L		103	71 - 124
Ethyl-t-butyl ether (ETBE)	12.5	12.1		ug/L		96	79 - 120
Ethylbenzene	10.0	9.84		ug/L		98	75 - 120
MTBE	10.0	9.51		ug/L		95	79 - 120
m-Xylene & p-Xylene	10.0	9.98		ug/L		100	75 - 120
Naphthalene	10.0	9.90		ug/L		99	71 - 126
o-Xylene	10.0	10.2		ug/L		102	74 - 120
t-Butyl alcohol	100	78.1	J	ug/L		78	26 - 150
Tert-amyl methyl ether	12.5	12.0		ug/L		96	75 - 125
Toluene	10.0	9.78		ug/L		98	75 - 120
Xylenes, Total	20.0	20.2		ug/L		101	74 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		80 - 126
4-Bromofluorobenzene (Surr)	101		75 - 125
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	98		80 - 122
Trifluorotoluene (Surr)	98		80 - 120

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-246384/7**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	10.0	9.37		ug/L		94	79 - 120	5	26
1,2-DCA	10.0	8.85		ug/L		88	76 - 131	0	11
Benzene	10.0	9.28		ug/L		93	75 - 120	4	14
DIPE	12.5	12.5		ug/L		100	71 - 124	3	11
Ethyl-t-butyl ether (ETBE)	12.5	11.5		ug/L		92	79 - 120	4	17
Ethylbenzene	10.0	9.32		ug/L		93	75 - 120	5	14
MTBE	10.0	8.93		ug/L		89	79 - 120	6	18
m-Xylene & p-Xylene	10.0	9.50		ug/L		95	75 - 120	5	14
Naphthalene	10.0	8.91		ug/L		89	71 - 126	11	16
o-Xylene	10.0	9.57		ug/L		96	74 - 120	6	16
t-Butyl alcohol	100	69.9	J	ug/L		70	26 - 150	11	35
Tert-amyl methyl ether	12.5	11.7		ug/L		94	75 - 125	3	16
Toluene	10.0	9.12		ug/L		91	75 - 120	7	13
Xylenes, Total	20.0	19.1		ug/L		95	74 - 120	6	15

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	93		80 - 126
4-Bromofluorobenzene (Surr)	101		75 - 125
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	98		80 - 122
Trifluorotoluene (Surr)	97		80 - 120

**Lab Sample ID: 580-68437-1 MS**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: CMW-03**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	ND		10.0	9.29		ug/L		93	66 - 133
1,2-DCA	ND		10.0	8.25		ug/L		82	58 - 143
Benzene	ND		10.0	9.18		ug/L		92	80 - 120
DIPE	ND		12.5	11.9		ug/L		96	51 - 150
Ethyl-t-butyl ether (ETBE)	ND		12.5	10.9		ug/L		87	73 - 116
Ethylbenzene	ND		10.0	9.47		ug/L		95	75 - 119
MTBE	ND		10.0	8.49		ug/L		85	65 - 125
m-Xylene & p-Xylene	ND		10.0	9.49		ug/L		95	75 - 119
Naphthalene	ND		10.0	9.62		ug/L		96	55 - 134
o-Xylene	ND		10.0	9.44		ug/L		94	74 - 120
t-Butyl alcohol	ND		100	ND		ug/L		58	20 - 150
Tert-amyl methyl ether	ND		12.5	11.0		ug/L		88	75 - 125
Toluene	ND		10.0	9.41		ug/L		94	75 - 120
Xylenes, Total	ND		20.0	18.9		ug/L		95	75 - 119

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	90		80 - 126
4-Bromofluorobenzene (Surr)	100		75 - 125
Dibromofluoromethane (Surr)	93		77 - 120
Toluene-d8 (Surr)	98		80 - 122

TestAmerica Seattle



# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 580-68437-1 MS**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: CMW-03**

**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Trifluorotoluene (Surr)	97		80 - 120

**Lab Sample ID: 580-68437-1 MSD**

**Matrix: Water**

**Analysis Batch: 246384**

**Client Sample ID: CMW-03**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	ND		10.0	9.42		ug/L		94	66 - 133	1	35
1,2-DCA	ND		10.0	8.66		ug/L		87	58 - 143	5	35
Benzene	ND		10.0	9.49		ug/L		95	80 - 120	3	35
DIPE	ND		12.5	12.4		ug/L		99	51 - 150	4	35
Ethyl-t-butyl ether (ETBE)	ND		12.5	11.2		ug/L		90	73 - 116	3	35
Ethylbenzene	ND		10.0	9.73		ug/L		97	75 - 119	3	35
MTBE	ND		10.0	9.02		ug/L		90	65 - 125	6	35
m-Xylene & p-Xylene	ND		10.0	9.84		ug/L		98	75 - 119	4	35
Naphthalene	ND		10.0	11.1		ug/L		111	55 - 134	14	35
o-Xylene	ND		10.0	9.79		ug/L		98	74 - 120	4	35
t-Butyl alcohol	ND		100	ND		ug/L		74	20 - 150	24	35
Tert-amyl methyl ether	ND		12.5	11.5		ug/L		92	75 - 125	4	35
Toluene	ND		10.0	9.46		ug/L		95	75 - 120	1	35
Xylenes, Total	ND		20.0	19.6		ug/L		98	75 - 119	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		80 - 126
4-Bromofluorobenzene (Surr)	82		75 - 125
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	97		80 - 122
Trifluorotoluene (Surr)	98		80 - 120

**Lab Sample ID: MB 580-246504/5**

**Matrix: Water**

**Analysis Batch: 246504**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		2.0		ug/L			05/22/17 11:10	1
1,2-DCA	ND		2.0		ug/L			05/22/17 11:10	1
Benzene	ND		2.0		ug/L			05/22/17 11:10	1
DIPE	ND		2.0		ug/L			05/22/17 11:10	1
Ethyl-t-butyl ether (ETBE)	ND		6.0		ug/L			05/22/17 11:10	1
Ethylbenzene	ND		3.0		ug/L			05/22/17 11:10	1
MTBE	ND		2.0		ug/L			05/22/17 11:10	1
Naphthalene	ND		4.0		ug/L			05/22/17 11:10	1
t-Butyl alcohol	ND		100		ug/L			05/22/17 11:10	1
Tert-amyl methyl ether	ND		6.0		ug/L			05/22/17 11:10	1
Toluene	ND		2.0		ug/L			05/22/17 11:10	1
Xylenes, Total	ND		3.0		ug/L			05/22/17 11:10	1

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 580-246504/5**  
**Matrix: Water**  
**Analysis Batch: 246504**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		80 - 126		05/22/17 11:10	1
4-Bromofluorobenzene (Surr)	103		75 - 125		05/22/17 11:10	1
Dibromofluoromethane (Surr)	97		77 - 120		05/22/17 11:10	1
Toluene-d8 (Surr)	98		80 - 122		05/22/17 11:10	1
Trifluorotoluene (Surr)	98		80 - 120		05/22/17 11:10	1

**Lab Sample ID: LCS 580-246504/6**  
**Matrix: Water**  
**Analysis Batch: 246504**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	10.0	9.70		ug/L		97	79 - 120
1,2-DCA	10.0	8.96		ug/L		90	76 - 131
Benzene	10.0	9.39		ug/L		94	75 - 120
DIPE	12.5	12.7		ug/L		101	71 - 124
Ethyl-t-butyl ether (ETBE)	12.5	11.4		ug/L		91	79 - 120
Ethylbenzene	10.0	9.63		ug/L		96	75 - 120
MTBE	10.0	9.27		ug/L		93	79 - 120
m-Xylene & p-Xylene	10.0	9.57		ug/L		96	75 - 120
Naphthalene	10.0	9.21		ug/L		92	71 - 126
o-Xylene	10.0	9.42		ug/L		94	74 - 120
t-Butyl alcohol	100	88.6	J	ug/L		89	26 - 150
Tert-amyl methyl ether	12.5	11.8		ug/L		95	75 - 125
Toluene	10.0	9.55		ug/L		95	75 - 120
Xylenes, Total	20.0	19.0		ug/L		95	74 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		80 - 126
4-Bromofluorobenzene (Surr)	99		75 - 125
Dibromofluoromethane (Surr)	93		77 - 120
Toluene-d8 (Surr)	100		80 - 122
Trifluorotoluene (Surr)	99		80 - 120

**Lab Sample ID: LCSD 580-246504/7**  
**Matrix: Water**  
**Analysis Batch: 246504**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane	10.0	9.41		ug/L		94	79 - 120	3	26
1,2-DCA	10.0	8.97		ug/L		90	76 - 131	0	11
Benzene	10.0	9.16		ug/L		92	75 - 120	3	14
DIPE	12.5	12.5		ug/L		100	71 - 124	1	11
Ethyl-t-butyl ether (ETBE)	12.5	11.5		ug/L		92	79 - 120	1	17
Ethylbenzene	10.0	9.12		ug/L		91	75 - 120	5	14
MTBE	10.0	9.33		ug/L		93	79 - 120	1	18
m-Xylene & p-Xylene	10.0	9.04		ug/L		90	75 - 120	6	14
Naphthalene	10.0	8.32		ug/L		83	71 - 126	10	16
o-Xylene	10.0	9.29		ug/L		93	74 - 120	1	16

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-246504/7**  
**Matrix: Water**  
**Analysis Batch: 246504**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
t-Butyl alcohol	100	89.1	J	ug/L		89	26 - 150	1	35
Tert-amyl methyl ether	12.5	11.9		ug/L		95	75 - 125	0	16
Toluene	10.0	9.15		ug/L		92	75 - 120	4	13
Xylenes, Total	20.0	18.3		ug/L		92	74 - 120	4	15

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	92		80 - 126
4-Bromofluorobenzene (Surr)	100		75 - 125
Dibromofluoromethane (Surr)	95		77 - 120
Toluene-d8 (Surr)	98		80 - 122
Trifluorotoluene (Surr)	97		80 - 120

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

**Lab Sample ID: MB 490-431821/5**  
**Matrix: Water**  
**Analysis Batch: 431821**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			05/22/17 12:51	1
Methanol	ND		10		mg/L			05/22/17 12:51	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	91		52 - 128		05/22/17 12:51	1

**Lab Sample ID: LCS 490-431821/6**  
**Matrix: Water**  
**Analysis Batch: 431821**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	50.2	57.8		mg/L		115	70 - 130
Methanol	50.2	58.5		mg/L		117	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
Isopropyl acetate (Surr)	94		52 - 128

**Lab Sample ID: 580-68437-1 MS**  
**Matrix: Water**  
**Analysis Batch: 431821**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	ND		50.2	56.1		mg/L		112	65 - 130
Methanol	ND		50.2	57.4		mg/L		114	64 - 138

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Isopropyl acetate (Surr)	88		52 - 128

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection) (Continued)

**Lab Sample ID: 580-68437-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 431821**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethanol	ND		50.2	55.6		mg/L		111	65 - 130	1	11
Methanol	ND		50.2	56.1		mg/L		112	64 - 138	2	21
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD</b>	<b>Limits</b>							
Isopropyl acetate (Surr)	90			52 - 128							

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-246501/6**  
**Matrix: Water**  
**Analysis Batch: 246501**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/22/17 12:07	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>MB</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	99			50 - 150				05/22/17 12:07	1
Trifluorotoluene (Surr)	108			50 - 150				05/22/17 12:07	1

**Lab Sample ID: LCS 580-246501/7**  
**Matrix: Water**  
**Analysis Batch: 246501**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.897		mg/L		90	79 - 110
<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>LCS</b>	<b>Limits</b>			
4-Bromofluorobenzene (Surr)	104			50 - 150			
Trifluorotoluene (Surr)	106			50 - 150			

**Lab Sample ID: LCSD 580-246501/8**  
**Matrix: Water**  
**Analysis Batch: 246501**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.888		mg/L		89	79 - 110	1	20
<b>Surrogate</b>	<b>LCSD %Recovery</b>	<b>LCSD Qualifier</b>	<b>LCSD</b>	<b>Limits</b>					
4-Bromofluorobenzene (Surr)	103			50 - 150					
Trifluorotoluene (Surr)	104			50 - 150					

**Lab Sample ID: 580-68437-1 MS**  
**Matrix: Water**  
**Analysis Batch: 246501**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	ND		1.00	1.10		mg/L		78	50 - 150

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150
Trifluorotoluene (Surr)	102		50 - 150

**Lab Sample ID: 580-68437-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 246501**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	ND		1.00	1.03		mg/L		71	50 - 150	6	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		50 - 150
Trifluorotoluene (Surr)	103		50 - 150

**Lab Sample ID: MB 580-246612/6**  
**Matrix: Water**  
**Analysis Batch: 246612**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.50		mg/L			05/23/17 12:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		05/23/17 12:24	1
Trifluorotoluene (Surr)	103		50 - 150		05/23/17 12:24	1

**Lab Sample ID: LCS 580-246612/7**  
**Matrix: Water**  
**Analysis Batch: 246612**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.889		mg/L		89	79 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150
Trifluorotoluene (Surr)	97		50 - 150

**Lab Sample ID: LCSD 580-246612/8**  
**Matrix: Water**  
**Analysis Batch: 246612**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.888		mg/L		89	79 - 110	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150
Trifluorotoluene (Surr)	96		50 - 150

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: RSK-175 - Dissolved Gases (GC)

**Lab Sample ID: MB 490-431999/5**  
**Matrix: Water**  
**Analysis Batch: 431999**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0050		mg/L			05/23/17 09:10	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Acetylene (Surr)	89		62 - 124					05/23/17 09:10	1

**Lab Sample ID: LCS 490-431999/6**  
**Matrix: Water**  
**Analysis Batch: 431999**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	0.287	0.282		mg/L		98	80 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Acetylene (Surr)	89		62 - 124				

**Lab Sample ID: LCSD 490-431999/7**  
**Matrix: Water**  
**Analysis Batch: 431999**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	0.287	0.303		mg/L		106	80 - 120	7	33
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Acetylene (Surr)	89		62 - 124						

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-246972/1-A**  
**Matrix: Water**  
**Analysis Batch: 247034**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 246972**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 09:08	05/26/17 16:34	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 09:08	05/26/17 16:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				05/26/17 09:08	05/26/17 16:34	1

**Lab Sample ID: LCS 580-246972/2-A**  
**Matrix: Water**  
**Analysis Batch: 247034**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 246972**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.01	1.78		mg/L		89	59 - 120
Motor Oil (>C24-C36)	2.01	1.85		mg/L		92	53 - 129

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-246972/2-A**  
**Matrix: Water**  
**Analysis Batch: 247034**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 246972**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	73		50 - 150

**Lab Sample ID: LCSD 580-246972/3-A**  
**Matrix: Water**  
**Analysis Batch: 247034**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 246972**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.01	1.80		mg/L		89	59 - 120	1	27
Motor Oil (>C24-C36)	2.01	1.88		mg/L		93	53 - 129	2	19

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	74		50 - 150

**Lab Sample ID: MB 580-247027/1-A**  
**Matrix: Water**  
**Analysis Batch: 247086**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	05/27/17 10:56	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	05/27/17 10:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150	05/26/17 13:37	05/27/17 10:56	1

**Lab Sample ID: MB 580-247027/1-A**  
**Matrix: Water**  
**Analysis Batch: 247370**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10		mg/L		05/26/17 13:37	06/01/17 14:33	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		05/26/17 13:37	06/01/17 14:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150	05/26/17 13:37	06/01/17 14:33	1

**Lab Sample ID: LCS 580-247027/2-A**  
**Matrix: Water**  
**Analysis Batch: 247086**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2.01	1.86		mg/L		93	59 - 120
Motor Oil (>C24-C36)	2.01	1.97		mg/L		98	53 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	77		50 - 150

TestAmerica Seattle

# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCSD 580-247027/3-A**  
**Matrix: Water**  
**Analysis Batch: 247086**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.01	1.83		mg/L		91	59 - 120	2	27
Motor Oil (>C24-C36)	2.01	2.00		mg/L		99	53 - 129	2	19
		<b>LCSD LCSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
<i>o-Terphenyl</i>	78		50 - 150						

**Lab Sample ID: 580-68437-1 MS**  
**Matrix: Water**  
**Analysis Batch: 247086**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.6	F1	2.02	4.01		mg/L		70	59 - 120		
Motor Oil (>C24-C36)	ND		2.02	2.08		mg/L		93	63 - 129		
		<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
<i>o-Terphenyl</i>	77		50 - 150								

**Lab Sample ID: 580-68437-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 247086**

**Client Sample ID: CMW-03**  
**Prep Type: Total/NA**  
**Prep Batch: 247027**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.6	F1	2.02	3.39	F1	mg/L		39	59 - 120	17	27
Motor Oil (>C24-C36)	ND		2.02	2.01		mg/L		90	63 - 129	3	19
		<b>MSD MSD</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
<i>o-Terphenyl</i>	78		50 - 150								

## Method: 200.7 Rev 4.4 - Metals (ICP)

**Lab Sample ID: LCS 580-246684/13-A**  
**Matrix: Water**  
**Analysis Batch: 246825**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 246684**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese	0.100	0.107		mg/L		107	85 - 115		

**Lab Sample ID: LCSD 580-246684/14-A**  
**Matrix: Water**  
**Analysis Batch: 246825**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 246684**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese	0.100	0.107		mg/L		107	85 - 115	0	20

TestAmerica Seattle



# QC Sample Results

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

**Lab Sample ID: MB 580-246283/9-B**  
**Matrix: Water**  
**Analysis Batch: 246825**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 246684**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		05/23/17 18:41	05/24/17 16:20	1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 580-246834/3**  
**Matrix: Water**  
**Analysis Batch: 246834**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.2		mg/L			05/24/17 17:08	1

**Lab Sample ID: LCS 580-246834/4**  
**Matrix: Water**  
**Analysis Batch: 246834**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50.0	51.3		mg/L		103	90 - 110

**Lab Sample ID: LCSD 580-246834/5**  
**Matrix: Water**  
**Analysis Batch: 246834**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	50.0	50.9		mg/L		102	90 - 110	1	15

## Method: SM 2320B - Alkalinity

**Lab Sample ID: LCS 580-246754/2**  
**Matrix: Water**  
**Analysis Batch: 246754**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	88.5		mg/L		89	85 - 115

**Lab Sample ID: 580-68437-3 DU**  
**Matrix: Water**  
**Analysis Batch: 246754**

**Client Sample ID: CMW-06**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	150		151		mg/L		0.5	17
Bicarbonate Alkalinity as CaCO3	150		151		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

TestAmerica Seattle

# Lab Chronicle

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-03**

**Date Collected: 05/16/17 15:25**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 01:53	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:03	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246501	05/22/17 21:13	CJ	TAL SEA
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 13:09	TL1	TAL SEA

**Client Sample ID: CMW-04**

**Date Collected: 05/15/17 16:21**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 07:35	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:21	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246501	05/22/17 22:49	CJ	TAL SEA
Total/NA	Prep	3510C			246972	05/26/17 09:08	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247034	05/26/17 23:03	W1T	TAL SEA

**Client Sample ID: CMW-06**

**Date Collected: 05/16/17 10:45**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 18:16	J1J	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:27	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246501	05/22/17 23:53	CJ	TAL SEA
Total/NA	Analysis	RSK-175		1	431999	05/23/17 10:27	AAB	TAL NSH
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 16:20	TL1	TAL SEA
Dissolved	Filtration	FILTRATION			246283	05/18/17 16:04	ADB	TAL SEA
Dissolved	Prep	200.7			246684	05/23/17 18:41	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	246825	05/24/17 17:09	HJM	TAL SEA
Total/NA	Analysis	300.0		10	246834	05/24/17 17:55	MMM	TAL SEA
Total/NA	Analysis	SM 2320B		1	246754	05/23/17 14:51	EMM	TAL SEA

**Client Sample ID: CMW-07**

**Date Collected: 05/15/17 13:06**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 05:50	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:33	NMB	TAL NSH

TestAmerica Seattle

# Lab Chronicle

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-07**

**Date Collected: 05/15/17 13:06**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx		1	246501	05/23/17 00:25	CJ	TAL SEA
Total/NA	Prep	3510C			246972	05/26/17 09:08	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247034	05/26/17 23:24	W1T	TAL SEA

**Client Sample ID: CMW-08**

**Date Collected: 05/15/17 15:03**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 06:16	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:39	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246501	05/23/17 00:57	CJ	TAL SEA
Total/NA	Analysis	RSK-175		1	431999	05/23/17 10:30	AAB	TAL NSH
Total/NA	Prep	3510C			246972	05/26/17 09:08	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247034	05/26/17 23:46	W1T	TAL SEA
Dissolved	Filtration	FILTRATION			246283	05/18/17 16:04	ADB	TAL SEA
Dissolved	Prep	200.7			246684	05/23/17 18:41	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	246825	05/24/17 17:12	HJM	TAL SEA
Total/NA	Analysis	300.0		10	246834	05/24/17 18:11	MMM	TAL SEA
Total/NA	Analysis	SM 2320B		1	246754	05/23/17 14:51	EMM	TAL SEA

**Client Sample ID: CMW-10**

**Date Collected: 05/15/17 12:05**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 03:39	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:45	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/23/17 21:28	CJ	TAL SEA
Total/NA	Prep	3510C			246972	05/26/17 09:08	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247034	05/27/17 00:28	W1T	TAL SEA

**Client Sample ID: CMW-11**

**Date Collected: 05/16/17 14:07**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 18:42	J1J	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:52	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/23/17 22:00	CJ	TAL SEA
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247370	06/01/17 16:04	KZ1	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: CMW-11**

**Date Collected: 05/16/17 14:07**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 17:03	TL1	TAL SEA

**Client Sample ID: CMW-12**

**Date Collected: 05/16/17 13:07**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-8**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 19:09	J1J	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 13:58	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/23/17 22:32	CJ	TAL SEA
Total/NA	Analysis	RSK-175		1	431999	05/23/17 10:40	AAB	TAL NSH
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 17:24	TL1	TAL SEA
Dissolved	Filtration	FILTRATION			246283	05/18/17 16:04	ADB	TAL SEA
Dissolved	Prep	200.7			246684	05/23/17 18:41	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	246825	05/24/17 17:16	HJM	TAL SEA
Total/NA	Analysis	300.0		10	246834	05/24/17 18:27	MMM	TAL SEA
Total/NA	Analysis	SM 2320B		1	246754	05/23/17 14:51	EMM	TAL SEA

**Client Sample ID: C-MW-12D**

**Date Collected: 05/16/17 13:12**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-9**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 19:36	J1J	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 14:04	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/23/17 23:04	CJ	TAL SEA
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 17:45	TL1	TAL SEA

**Client Sample ID: C-MW-14**

**Date Collected: 05/15/17 17:25**

**Date Received: 05/18/17 09:25**

**Lab Sample ID: 580-68437-10**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246384	05/20/17 04:05	W1T	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 14:10	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/24/17 00:08	CJ	TAL SEA
Total/NA	Prep	3510C			246972	05/26/17 09:08	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247034	05/27/17 00:49	W1T	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

**Client Sample ID: C-EB**

**Lab Sample ID: 580-68437-11**

**Date Collected: 05/16/17 11:15**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 20:02	J1J	TAL SEA
Total/NA	Analysis	8015C		1	431821	05/22/17 14:16	NMB	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	246612	05/24/17 00:40	CJ	TAL SEA
Total/NA	Prep	3510C			247027	05/26/17 13:37	MRG	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	247086	05/27/17 18:08	TL1	TAL SEA

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-68437-12**

**Date Collected: 05/16/17 17:30**

**Matrix: Water**

**Date Received: 05/18/17 09:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	246504	05/22/17 13:26	J1J	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	246612	05/24/17 01:12	CJ	TAL SEA

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C553	02-17-18
The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
8260C		Water	t-Butyl alcohol	
8260C		Water	Xylenes, Total	
SM 2320B		Water	Hydroxide Alkalinity as CaCO3	

## Laboratory: TestAmerica Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	09-01-17
Arizona	State Program	9	AZ0473	05-05-17 *
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-18
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-28-18
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Seattle

# Accreditation/Certification Summary

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

## Laboratory: TestAmerica Nashville (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17



# Sample Summary

Client: CEECON Testing, Inc.  
Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-68437-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-68437-1	CMW-03	Water	05/16/17 15:25	05/18/17 09:25
580-68437-2	CMW-04	Water	05/15/17 16:21	05/18/17 09:25
580-68437-3	CMW-06	Water	05/16/17 10:45	05/18/17 09:25
580-68437-4	CMW-07	Water	05/15/17 13:06	05/18/17 09:25
580-68437-5	CMW-08	Water	05/15/17 15:03	05/18/17 09:25
580-68437-6	CMW-10	Water	05/15/17 12:05	05/18/17 09:25
580-68437-7	CMW-11	Water	05/16/17 14:07	05/18/17 09:25
580-68437-8	CMW-12	Water	05/16/17 13:07	05/18/17 09:25
580-68437-9	C-MW-12D	Water	05/16/17 13:12	05/18/17 09:25
580-68437-10	C-MW-14	Water	05/15/17 17:25	05/18/17 09:25
580-68437-11	C-EB	Water	05/16/17 11:15	05/18/17 09:25
580-68437-12	Trip Blank	Water	05/16/17 17:30	05/18/17 09:25



**TestAmerica Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone (253) 922-2310 Fax (253) 922-5047

Loc: 580  
**68437**

**Chain of Custody Record**



580-68437 Chain of Custody

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>	Sampler: <u>Rec'd</u>	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-22636-7530.1
Client Contact: Michael Hodges	Phone: <u>415/359-6453</u>	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 2
Company: CEECON Testing, Inc.				Job #:

Address: 434 North Canal Street Suite Six	Due Date Requested:	<b>Analysis Requested</b>										Preservation Codes: A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                 Q - Na2SO3 F - MeOH                     R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid         T - TSP Dodecahydrate I - Ice                         U - Acetone J - DI Water                V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)
City: South San Francisco	TAT Requested (days):	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)	NWTPH-Dx 8015C, DAI - Ethanol, Methanol 8280C, (BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, 1,2-EDB, Naphth)	NWTPH, Gx 300.0 Sulfate 200.7_CWA - Diss Manganese (Lab Filter) RSK_175-Methane 2320B, Alkalinity	Total Number of containers							
State, Zip: CA, 94080	PO #:											
Phone: 253-896-8708(Tel)	WO #:											
Email: ceecon@msn.com	Project #: 58010386											Other:
Site: Washington	SSOW#:											

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	A	N	A	N	A	N	A	N	Total Number of containers	Special Instructions/Note:
C-MW-02				Water			X	X	X	X	X	X	X	X		
C-MW-03	5/16/17	9:25		Water	X	X	X	X	X						33	MS/MSD
C-MW-04	5/15/17	4:21		Water			X	X	X	X					11	
C-MW-06	5/16/17	10:45		Water			X	X	X	X	X	X	X		16	
C-MW-07	5/15/17	1:06		Water			X	X	X	X					11	
C-MW-08	5/15/17	3:03		Water			X	X	X	X	X	X	X		16	
C-MW-10	5/15/17	12:05		Water			X	X	X	X					17	
C-MW-11	5/16/17	2:07		Water			X	X	X	X					11	
C-MW-12	5/16/17	1:07		Water			X	X	X	X	X	X	X		16	
C-MW-12D	5/16/17	1:12		Water			X	X	X	X					11	

<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological	<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
--	--

Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
Special Instructions/QC Requirements: \_\_\_\_\_

Empty Kit Relinquished by: _____	Date: _____	Time: _____	Method of Shipment: _____
Relinquished by: <u>Michael Hodges</u>	Date/Time: <u>5/18/17 9:25 am</u>	Company: _____	Received by: <u>M. Bruce McDevitt</u>
Relinquished by: _____	Date/Time: _____	Company: _____	Received by: _____
Relinquished by: _____	Date/Time: _____	Company: _____	Received by: _____

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.: _____	Page 39 of 45	Cooler Temperature(s) °C and Other Remarks: _____	6/2/2017
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**TestAmerica Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone (253) 922-2310 Fax (253) 922-5047

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <u>Reed</u>		Lab PM: Cruz, Sheri L		Carrier Tracking No(s):		COC No: 580-22636-7530.2			
Client Contact: Michael Hodges		Phone: <u>415/339-6493</u>		E-Mail: sheri.cruz@testamericainc.com				Page: 2 of 2			
Company: CEECON Testing, Inc.				<b>Analysis Requested</b>						Job #:	
Address: 434 North Canal Street Suite Six		Due Date Requested:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlors S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
City: South San Francisco		TAT Requested (days):									
State, Zip: CA, 94080		PO #:									
Phone: 253-896-8708(Tel)		WO #:									
Email: ceecon@msn.com		Project #:		Matrix							
Project Name: Tesoro Pasco		SSOW#:		Sample Type (C=comp, G=grab)							
Site: Washington				Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)							
Sample Identification		Sample Date		Sample Time		Preservation Code		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	
C-MW-14		5/15/17		5:25		Water		X X X X		11	
C-EB		5/16/17		11:15		Water		X X X X		11	
Trip Blank		5/16/17		5:30		Water		X X		12	

**TB A2 Cooler Cor 0.3 Unc 0.5** - **TBAZ Cooler Cor 0.1 Unc 0.3**      **TB A2 Cooler Cor 0.1 Unc 0.3**      **TBAZ Cooler Cor 0.0 Unc 0.2**  
**Cooler Dsc lg. blue white @ Lab**      **Cooler Dsc lg. blue white @ Lab**      **Cooler Dsc lg. blue white @ Lab**      **Cooler Dsc lg. blue white @ Lab**  
**Wet Packs Packing bubble**      **Wet Packs Packing bubble**      **Wet Packs Packing bubble**      **Wet Packs Packing bubble**  
**clidrop w/o cs**      **clidrop w/o cs**      **clidrop w/o cs**      **clidrop w/o cs**

<b>Possible Hazard Identification</b>				<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological				<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <u>Michael Hodges</u>		Date/Time: <u>5/18/17 9:25 AM</u>		Received by: <u>Y.M. P...</u>		Date/Time: <u>5/18/17 0925</u>	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		6/2/2017	

COOLER RECEIPT FORM



Cooler Received/Opened On 5/20/2017 @ 0935

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # 2300 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 31470366 pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_

2. Temperature of rep. sample or temp blank when opened: 2.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) HKG

7. Were custody seals on containers: YES  NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used?  Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES... NO...NA

14. Was there a Trip Blank in this cooler? YES... NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) AJT

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA

b. Did the bottle labels indicate that the correct preservatives were used  YES...NO...NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) AJT

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) AJT

I certify that I attached a label with the unique LIMS number to each container (initial) AJT

21. Were there Non-Conformance issues at login?  YES...NO Was a NCM generated?  YES...NO...# \_\_\_\_\_

# Chain of Custody Record

Loc: 580  
68437

<b>Client Information (Sub Contract Lab)</b>		Lab PM: Cruz, Sheri L	Can:	COO No: 580-46844.1					
Client Contact Shipping/Receiving		Phone: Sheri, cruz@testamericainc.com	State of Origin: Washington	Page: Page 1 of 2					
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Washington							
Address: 2960 Foster Creighton Drive, Nashville, TN, 37204		Job #: 580-68437-1							
Phone: 615-726-0177 (Tel) 615-726-3404 (Fax)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:							
Project Name: Tesoro Pasco		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)							
Site: Tesoro - Pasco/Burbank		Total Number of containers							
Due Date Requested: 5/31/2017		Analysis Requested							
TAT Requested (days):		Field Filtered Sample (Yes or No)							
PO #:		Perform MS/MS (Yes or No)							
WO #:		8015C DAI (MO) Alcohols							
Project #: 58010386		RISK 175/ Methane							
SSOW#:		Special Instructions/Note:							
Sample Identification - Client ID (Lab ID)		Special Instructions/Note:							
CMW-03 (580-68437-1)	Sample Date: 5/16/17	Sample Time: 15:25 Pacific	Sample Type (C=Comp, G=grab): MS	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-03 (580-68437-1MS)	Sample Date: 5/16/17	Sample Time: 15:25 Pacific	Sample Type (C=Comp, G=grab): MS	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-03 (580-68437-1MSD)	Sample Date: 5/16/17	Sample Time: 15:25 Pacific	Sample Type (C=Comp, G=grab): MSD	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-04 (580-68437-2)	Sample Date: 5/15/17	Sample Time: 16:21 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-06 (580-68437-3)	Sample Date: 5/16/17	Sample Time: 10:45 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 6
CMW-07 (580-68437-4)	Sample Date: 5/15/17	Sample Time: 13:06 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-08 (580-68437-5)	Sample Date: 5/15/17	Sample Time: 15:03 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 6
CMW-10 (580-68437-6)	Sample Date: 5/15/17	Sample Time: 12:05 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
CMW-11 (580-68437-7)	Sample Date: 5/16/17	Sample Time: 14:07 Pacific	Sample Type (C=Comp, G=grab): Water	Preservation Code: Water	Field Filtered Sample (Yes or No): X	Perform MS/MS (Yes or No): X	8015C DAI (MO) Alcohols: X	RISK 175/ Methane: X	Total Number of containers: 3
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte &amp; accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.</p>									
<b>Possible Hazard Identification</b>									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2									
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____									
Relinquished by: <i>B. Henry</i> Date: <i>5.19.17</i> Time: <i>1505</i> Company: <i>SEA TA</i>									
Relinquished by: _____ Date: _____ Time: _____ Company: _____									
Relinquished by: _____ Date: _____ Time: _____ Company: _____									
Custody Seals Intact: _____ Custody Seal No.: _____									
Cooler Temperature(s) °C and Other Remarks: <i>2.90C</i>									



**TestAmerica Seattle**  
 5755 8th Street East  
 Tacoma, WA 98424  
 Phone (253) 922-2310 Fax (253) 922-5047

# Chain of Custody Record

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab P.M.:	Carrier Tracking No(s):	COC No:				
Client Contact: Shipping/Receiving		Phone:	Cruz, Sheri L		580-46944.2				
Company: TestAmerica Laboratories, Inc		E-Mail:	sherl.cruz@testamericainc.com	State of Origin:	Page 2 of 2				
Address: 2960 Foster Creighton Drive		Accreditations Required (See note): State Program - Washington		Job #:	580-68437-1				
City: Nashville	Due Date Requested: 5/31/2017	<b>Analysis Requested</b>							
State, Zip: TN, 37204	TAT Requested (days): TAT								
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:								
Email:	WO #:								
Project Name: Tesoro Pasco	Project #: 58010386								
Site: Tesoro - Pasco/Burbank	SSOW#:								
<b>Sample Identification - Client ID (Lab ID)</b>	<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=wastewater, BT=Tissue, AA=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>8015C_DAV (MOD) Alcohols</b>	<b>RSK 175/ Methane</b>	<b>Total Number of Containers</b>	<b>Special Instructions/Note:</b>
CMW-12 (580-68437-8)	5/16/17	13:07 Pacific	Water	Water	X	X	X	6	
C-MW-12D (580-68437-9)	5/16/17	13:12 Pacific	Water	Water	X	X	X	3	
C-MW-14 (580-68437-10)	5/15/17	17:25 Pacific	Water	Water	X	X	X	3	
C-EB (580-68437-11)	5/16/17	11:15 Pacific	Water	Water	X	X	X	3	
Loc: 580 68437									
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I									
<b>Possible Hazard Identification</b>									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2									
Empty Kit Relinquished by:									
Relinquished by: B. Stree Date Time: 5.19.17 1505 Company: SEA TA									
Relinquished by: Date Time: 5/20/17 0939 Company: TAU									
Relinquished by: Date Time: Company:									
Custody Seals Intact: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks: 2.9C									



# Login Sample Receipt Checklist

Client: CEECON Testing, Inc.

Job Number: 580-68437-1

**Login Number: 68437**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Ponce-McDermott, Monica**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: CEECON Testing, Inc.

Job Number: 580-68437-1

**Login Number: 68437**  
**List Number: 2**  
**Creator: Huskey, Adam**

**List Source: TestAmerica Nashville**  
**List Creation: 05/20/17 08:46 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Insufficient volume received for requested analysis.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**TABLE A-1**  
**HISTORICAL GROUND-WATER MONITORING DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
**Pasco, Washington**

Sample Location	Date Sampled	Ground-Water Sample Analysis Results (ug/l)											Ground-Water Elevation Data (feet)					
		TPHmo (NWTPH- Rx)	TPHd (NWTPH- Dx)	TPHg (NWTPH- Gx)	Benz- ene	Tol- uene	Ethyl- benzene	Total Xylenes	MTBE	Ethanol	1,2- DCA	Naph- thalene	Well Screen Depth Interval	TOC Elevation	DTW	Elev- ation (MSL)	Change in Elevation	
<b>Tesoro Logistics (former CPL)</b>																		
MW-1	8/29/16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	73.9 - 93.9	419.40	Dry	--	--
	5/17/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	73.9 - 93.9	419.40	Dry	--	--
MW-2	5/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	63.3 - 83.3	417.28	72.83	344.45	0.38	
	10/29/14	<500	<250	<250	<0.50	0.68	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	63.3 - 83.3	417.28	74.03	343.25	-1.20	
	6/4/15	<250	140	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	63.3 - 83.3	417.28	73.31	343.97	0.72	
	9/28/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	63.3 - 83.3	417.28	74.42	342.86	-1.11	
	8/29/16	<b>710</b>	<b>1,400</b>	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	63.3 - 83.3	417.28	74.52	342.76	-0.10	
	12/5/16	<250	410	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	63.3 - 83.3	417.28	74.02	343.26	0.50	
	5/17/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	63.3 - 83.3	417.28	72.86	344.42	-1.16	
MW-3	5/28/14	<500	<b>1,100</b>	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	74.95 - 94.95	423.42	78.85	344.57	0.53	
	10/30/14	<500	<b>18,000</b>	620	<0.50	1.4	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	74.95 - 94.95	423.42	80.18	343.24	-1.33	
	6/4/15	<250	<b>3,300</b>	<250	<0.50	<0.50	<0.50	<1.0	<0.50	24.8	<0.50	0.51	74.95 - 94.95	423.42	79.46	343.96	0.72	
	9/29/15	<250	<b>3,300</b>	<b>733</b>	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	74.95 - 94.95	423.42	80.58	342.84	-1.12	
	8/30/16	<b>1,100</b>	<b>11,000</b>	<b>1,400</b>	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	2.50	74.95 - 94.95	423.42	80.60	342.82	-0.02	
	12/6/16	290	<b>6,600</b>	290	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	74.95 - 94.95	423.42	80.17	343.25	0.43	
	5/16/17	<250	<b>2,600</b>	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	74.95 - 94.95	423.42	79.04	344.38	-1.13	
MW-4	5/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	56.75 - 76.75	412.09	67.98	344.11	0.45	
	10/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	56.75 - 76.75	412.09	69.17	342.92	-1.19	
	6/3/15	<250	<100	<250	<0.50	0.52	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	56.75 - 76.75	412.09	68.48	343.61	0.69	
	8/30/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	56.75 - 76.75	412.09	69.66	342.43	-0.14	
	12/5/16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	56.75 - 76.75	412.09	--	--	--	
	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	56.75 - 76.75	412.09	68.02	344.07	--	
MW-5	Well destroyed May 1987																	
MW-6	5/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	8.5 - 23.5	358.61	15.57	343.04	0.77	
	10/29/14	<500	<250	<250	<0.50	4.9	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	8.5 - 23.5	358.61	16.82	341.79	-1.25	
	6/3/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	8.5 - 23.5	358.61	16.18	342.43	0.64	
	9/28/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	8.5 - 23.5	358.61	17.15	341.46	-0.97	
	8/30/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	8.5 - 23.5	358.61	17.15	341.46	0.00	
	12/5/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	8.5 - 23.5	358.61	16.91	341.70	0.24	
	5/16/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	8.5 - 23.5	358.61	15.88	342.73	-1.03	
MW-7	5/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	57 - 77	411.40	67.02	344.38	0.35	
	10/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	57 - 77	411.40	68.23	343.17	-1.21	
	6/3/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	57 - 77	411.40	67.48	343.92	0.75	
	9/28/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	57 - 77	411.40	68.61	342.79	-1.13	
	8/30/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	57 - 77	411.40	68.74	342.66	-0.13	
	12/5/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	57 - 77	411.40	68.18	343.22	0.56	



**TABLE A-1**  
**HISTORICAL GROUND-WATER MONITORING DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
**Pasco, Washington**

Sample Location	Date Sampled	Ground-Water Sample Analysis Results (ug/l)											Ground-Water Elevation Data (feet)				
		TPHmo (NWTPH- Rx)	TPHd (NWTPH- Dx)	TPHg (NWTPH- Gx)	Benz- ene	Tol- uene	Ethyl- benzene	Total Xylenes	MTBE	Ethanol	1,2- DCA	Naph- thalene	Well Screen Depth Interval	TOC Elevation	DTW	Elev- ation (MSL)	Change in Elevation
	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	57 - 77	411.40	67.02	344.38	-1.16
MW-8	5/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	29 - 54	383.91	39.56	344.35	0.37
	10/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	29 - 54	383.91	40.78	343.13	-1.22
	6/3/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	29 - 54	383.91	40.04	343.87	0.74
	9/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	29 - 54	383.91	41.13	342.78	-1.09
	8/30/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	29 - 54	383.91	40.30	343.61	0.83
	12/5/16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	29 - 54	383.91	--	--	--
	5/17/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	29 - 54	383.91	39.56	344.35	--
MW-9	Well destroyed May 1987																
MW-10	5/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	55 - 78	407.91	63.46	344.45	0.38
	10/29/14	<500	<250	<250	<0.50	1.1	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	55 - 78	407.91	64.68	343.23	-1.22
	6/3/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	55 - 78	407.91	63.91	344.00	0.77
	9/28/15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	55 - 78	407.91	65.02	342.89	-1.11
	8/30/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	55 - 78	407.91	65.22	342.69	-0.20
	12/5/16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	55 - 78	407.91	--	--	--
	5/15/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	55 - 78	407.91	63.50	344.41	--
MW-11	5/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	84.5 - 74.5	423.48	79.19	344.29	0.27
	10/30/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	84.5 - 74.5	423.48	80.31	343.17	-1.12
	6/4/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	84.5 - 74.5	423.48	79.55	343.93	0.76
	9/29/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	84.5 - 74.5	423.48	80.67	342.81	-1.12
	8/29/16	<250	<b>520</b>	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	84.5 - 74.5	423.48	80.42	343.06	0.25
	12/5/16	<250	<b>360</b>	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	84.5 - 74.5	423.48	80.29	343.19	0.13
	5/16/17	<250	<b>390</b>	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	84.5 - 74.5	423.48	79.15	344.33	-1.14
MW-12	5/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	33 - 60;	423.65	79.26	344.39	0.36
	Duplicate	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	75 - 85	423.65	--	--	--
	10/30/14	<500	<250	<250	<0.50	0.66	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	33 - 60;	423.65	80.45	343.20	-1.19
	Duplicate	<500	<250	<250	<0.50	0.67	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	75 - 85	423.65	--	--	--
	6/4/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	33 - 60;	423.65	79.72	343.93	0.73
	Duplicate	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	75 - 85	423.65	--	--	--
	9/29/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	33 - 60;	423.65	80.83	342.82	-1.11
	Duplicate	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	75 - 85	423.65	--	--	--
	8/29/16	270	<b>750</b>	58	<b>6.0</b>	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	33 - 60;	423.65	80.98	342.67	-0.15
	Duplicate	270	<b>730</b>	<50	4.3	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	75 - 85	423.65	--	--	--
	12/6/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	33 - 60;	423.65	80.48	343.17	0.50
	Duplicate	<250	<b>150</b>	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	75 - 85	423.65	--	--	--
	5/16/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	33 - 60;	423.65	79.30	344.35	-1.18

**TABLE A-1**  
**HISTORICAL GROUND-WATER MONITORING DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
**Pasco, Washington**

Sample Location	Date Sampled	Ground-Water Sample Analysis Results (ug/l)											Ground-Water Elevation Data (feet)				
		TPHmo (NWTPH- Rx)	TPHd (NWTPH- Dx)	TPHg (NWTPH- Gx)	Benz- ene	Tol- uene	Ethyl- benzene	Total Xylenes	MTBE	Ethanol	1,2- DCA	Naph- thalene	Well Screen Depth Interval	TOC Elevation	DTW	Elev- ation (MSL)	Change in Elevation
	Duplicate	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	75 - 85	--	--	--	--
MW-13	5/16/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18.5 - 47.5	--	Dry	--	--
MW-14	5/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	27.5 - 53;	421.97	77.58	344.39	0.36
	10/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	72.5 - 82.5	421.97	78.80	343.17	-1.22
	6/4/15	<250	<100	<250	<0.50	0.72	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	27.5 - 53;	421.97	78.04	343.93	0.76
	9/28/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50	72.5 - 82.5	421.97	79.18	342.79	-1.14
	8/29/16	<250	<b>120</b>	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	27.5 - 53;	421.97	79.32	342.65	-0.14
	12/5/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	27.5 - 53;	421.97	78.75	343.22	0.57
	5/17/17	<250	<100	<500	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<2.0	27.5 - 53;	421.97	77.55	344.42	-1.20
RW-1	Well buried - status unknown											64 - 98	417.29	--	--	--	

Ecology Criteria<sup>(1)</sup>      500      500      1,000      5      1,000      700      1,000      20      N/A

Equipment Blank:

EB-0514	5/28/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50
EB-1014	10/29/14	<500	<250	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50
EB-0615	6/4/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50
EB-0915	9/28/15	<250	<100	<250	<0.50	<0.50	<0.50	<1.0	<0.50	--	<0.50	<0.50
C-EB	8/29/16	<250	140	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0
CEB	12/6/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0
CEB	5/16/17	<250	<100	<50	<2.0	<2.0	<3.0	<3.0	<2.0	<10,000	<2.0	<4.0
Trip Blank	8/29/16	--	--	--	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0
Trip Blank (1)	12/5/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0
Trip Blank (2)	12/6/16	<250	<110	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0
Trip Blank	5/16/17	<250	<100	<50	<2.0	<2.0	<3.0	<3.0	<2.0	--	<2.0	<4.0

**Notes:**

(1) Washington Department of Ecology Method A cleanup levels as listed in Table 720-1 of the Model Toxics Control Act, revised October 12, 2007

Concentrations in **bold** exceed Ecology cleanup levels.

May 2014 change in elevations calculated using previous data collected 12/2010.

Equipment blank samples EB-0514 and EB-1014 below reporting limits for all constituents except TBA (15 and 12 ug/l, respectively)

TPHmo = Total Petroleum Hydrocarbons as Motor Oil  
 TPHd = Total Petroleum Hydrocarbons as Diesel  
 TPHg = Total Petroleum Hydrocarbons as Gasoline  
 TOC = Top of casing elevation in feet MSL

DTW = Depth to water  
 MSL = Mean sea level  
 NS = Not sampled  
 -- = Not analyzed

**TABLE A-2**  
**HISTORICAL WATER QUALITY AND NATURAL ATTENUATION**  
**PARAMETER DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
Pasco, Washington

Sample ID	Date	FIELD MEASUREMENTS					ANALYTICAL PARAMETERS (Field and Lab)					
		pH	Specific Conductance	DO	Temp.	ORP	Sulfate	Nitrate	Ferrous Iron	Manganese	Methane	Alkalinity
		S.U.	mS/cm	mg/L	°C	mV	mg/L	ppm	ppm	mg/L	mg/L	mg/L
<b>Tesoro Logistics (former CPL)</b>												
MW-2	5/29/14	7.16	1.215	2.49	17.58	146.3	100	13.8	1.16	<0.0050	<0.001	537
	10/29/14	6.85	1.578	1.07	17.51	91.6	140	2.6	1.33	0.011	<0.001	730
	6/4/15	6.84	1.018	2.21	17.97	-66.6	107	0.1	0.53	<0.0050	<0.001	558
	9/28/15	6.91	1.467	1.77	17.60	-7.0	167	1.7	--	<0.0050	0.0242	711
	8/29/16	7.38	1.40	1.74	19.89	94	110	--	--	<0.020	<0.0050	--
	12/5/16	6.63	1.05	6.16	15.80	282	89	--	--	--	<0.0050	400
	5/17/17	--	--	--	--	--	--	--	--	--	--	--
MW-3	5/28/14	7.15	1.053	--	18.12	-105.6	--	--	--	--	--	--
	10/30/14	6.91	1.136	0.84	17.28	-144.7	--	--	--	--	--	--
	6/4/15	6.82	1.353	0.95	18.61	-154.0	--	--	--	--	--	--
	9/29/15	6.82	1.174	1.01	17.51	-174.4	--	--	--	--	--	--
	8/30/16	7.13	1.190	2.42	18.13	-153.0	--	--	--	--	--	--
	12/2/16	6.86	0.963	3.24	16.06	36	--	--	--	--	--	--
	5/16/17	7.27	0.996	0.82	17.01	-37.00	--	--	--	--	--	--
MW-4	5/28/14	7.68	0.728	--	17.78	82.2	--	--	--	--	--	--
	10/28/14	7.38	0.741	7.75	16.90	36.0	--	--	--	--	--	--
	6/3/15	7.40	0.751	8.28	17.76	-23.6	--	--	--	--	--	--
	9/28/15	--	--	--	--	--	--	--	--	--	--	--
	8/30/16	8.36	0.813	7.34	18.32	59	--	--	--	--	--	--
	12/5/16	--	--	--	--	--	--	--	--	--	--	--
MW-6	5/15/17	7.99	0.861	7.78	17.90	-27.00	--	--	--	--	--	--
	5/29/14	7.93	0.095	8.78	15.40	127.1	110	18.5	0.00	<0.0050	<0.001	252
	10/29/14	7.43	0.817	6.79	19.45	84.7	100	0.0	0.40	<0.0050	<0.001	185
	6/3/15	7.53	0.744	8.59	17.18	-44.8	107	0.0	0.00	<0.0050	0.00168	169
	9/28/15	7.53	0.812	6.76	19.23	-8.5	108	15.7	--	<0.0050	<0.001	189
	8/30/16	8.30	0.836	7.39	18.88	110	100	--	--	<0.020	<0.0050	--
	12/5/16	6.83	0.851	6.84	14.54	207	93	--	--	<0.020	<0.0050	170
MW-7	5/16/17	8.06	0.824	7.89	14.65	66	96	--	--	<0.02	0.0085	150
	5/28/14	7.63	0.775	--	18.48	101.7	--	--	--	--	--	--
	10/29/14	7.48	0.773	7.43	16.81	84.1	--	--	--	--	--	--
	6/3/15	7.10	0.843	6.78	18.03	-1.8	--	--	--	--	--	--
	9/28/15	7.10	0.798	7.40	17.31	-6.4	103	6.0	--	0.0086	<0.001	203
	8/30/16	7.96	0.964	6.92	19.01	94	--	--	--	--	--	--
	12/5/16	7.06	0.839	7.90	15.85	165	--	--	--	--	--	--

**TABLE A-2**  
**HISTORICAL WATER QUALITY AND NATURAL ATTENUATION**  
**PARAMETER DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
Pasco, Washington

Sample ID	Date	FIELD MEASUREMENTS					ANALYTICAL PARAMETERS (Field and Lab)					
		pH	Specific Conductance	DO	Temp.	ORP	Sulfate	Nitrate	Ferrous Iron	Manganese	Methane	Alkalinity
		S.U.	mS/cm	mg/L	°C	mV	mg/L	ppm	ppm	mg/L	mg/L	mg/L
	5/15/17	7.62	0.863	6.10	17.30	35	--	--	--	--	--	--
MW-8	5/28/14	7.70	0.755	--	17.50	89.5	110	16.8	0.59	<0.0050	<0.001	242
	10/29/14	7.37	0.774	7.05	17.34	75.3	100	18.4	0.00	0.0072	<0.001	190
	6/3/15	7.39	0.778	7.38	17.90	-42.7	108	16.7	0.00	<0.0050	<0.001	185
	9/28/15	--	--	--	--	--	--	--	--	--	--	--
	8/30/16	7.72	0.843	5.29	19.46	143	100	--	--	<0.020	<0.0050	--
	12/5/16	--	--	--	--	--	--	--	--	--	--	--
	5/17/17	7.88	0.869	5.68	17.96	28	100	--	--	<0.02	<0.0050	170
MW-10	5/28/14	7.65	0.764	--	17.91	137.6	--	--	--	--	--	--
	10/29/14	7.40	0.769	7.45	17.02	80.6	--	--	--	--	--	--
	6/3/15	7.29	0.78	7.32	17.90	-34.4	--	--	--	--	--	--
	9/28/15	--	--	--	--	--	--	--	--	--	--	--
	8/30/16	8.28	0.831	5.40	18.26	100	--	--	--	--	--	--
	12/5/16	--	--	--	--	--	--	--	--	--	--	--
	5/15/17	7.39	0.888	6.24	17.41	29	--	--	--	--	--	--
MW-11	5/29/14	7.20	0.889	1.08	19.27	102.7	--	--	--	--	--	--
	10/30/14	6.96	0.932	1.12	18.47	89.0	--	--	--	--	--	--
	6/4/15	6.89	0.916	0.94	18.97	-49.8	--	--	--	--	--	--
	9/29/15	6.89	0.914	0.89	18.40	-15.4	--	--	--	--	--	--
	8/29/16	7.32	0.952	2.67	19.99	148	--	--	--	--	--	--
	12/5/16	6.70	0.933	1.73	17.14	204	--	--	--	--	--	--
	5/16/17	7.44	0.949	4.79	17.41	46	--	--	--	--	--	--
MW-12	5/29/14	7.22	0.993	1.81	19.82	-27.5	110	9.2	--	0.270	0.0142	309
	10/30/14	6.82	1.135	2.55	16.73	-50.6	110	0.0	4.68	0.280	0.0870	350
	6/4/15	6.82	1.017	2.17	18.40	-74.5	113	10.4	0.34	0.201	<0.001	312
	9/29/15	6.82	1.124	1.15	16.49	-63.7	107	7.0	--	0.252	0.0362	367
	8/29/16	7.45	1.290	1.10	19.42	-10	83	--	--	0.25	0.760	--
	12/6/16	6.80	0.993	3.22	14.52	121	--	--	--	0.19	0.063	270
	5/16/17	7.96	0.965	3.93	15.97	36	100.0	--	--	0.16	0.012	240
MW-13	--	--	--	--	--	--	--	--	--	--	--	--

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**HISTORICAL WATER QUALITY AND NATURAL ATTENUATION**  
**PARAMETER DATA - TESORO WELLS**  
**Tesoro Logistics Pasco Terminal**  
Pasco, Washington

Sample ID	Date	FIELD MEASUREMENTS					ANALYTICAL PARAMETERS (Field and Lab)					
		pH	Specific Conductance	DO	Temp.	ORP	Sulfate	Nitrate	Ferrous Iron	Manganese	Methane	Alkalinity
		S.U.	mS/cm	mg/L	°C	mV	mg/L	ppm	ppm	mg/L	mg/L	mg/L
MW-14	5/29/14	7.53	0.795	5.70	17.69	101.4	--	--	--	--	--	--
	10/29/14	7.23	0.805	5.65	17.81	105.4	--	--	--	--	--	--
	6/4/15	7.39	0.784	6.22	17.02	-46.6	--	--	--	--	--	--
	8/29/16	7.71	0.877	5.19	18.76	120	--	--	--	--	--	--
	12/5/16	6.97	0.855	6.29	15.43	178	--	--	--	--	--	--
	5/17/17	7.71	0.923	3.02	17.44	46	--	--	--	--	--	--

**Notes:**

-- Not analyzed or measured  
S.U. Standard Unit  
mS/cm millisiemens per centimeter  
mg/L milligrams per liter  
ppm parts per million  
°C degrees celsius  
mV millivolts  
ORP Oxidation Reduction Potential

Water quality parameters collected in the field using a multiparameter YSI-556 meter.  
Dissolved oxygen (DO) measured using portable meter with downhole probe.  
Sulfate analyzed by EPA Method 300.  
Nitrate and ferrous iron measured in the field using colorimeter test kits.  
Manganese analyzed by EPA Method 200.7.  
Methane analyzed by Method RSK 175M.  
Alkalinity analyzed by SM2320B.