

December 27, 2016

Via Email

Mr. Patrick Cabbage, L.G. Eastern Regional Office-Toxics Cleanup Program WA Department of Ecology 4601 N. Monroe Street Spokane, WA 99205-1295

Re: 1st Semi-Annual 2016 Ground-Water Monitoring Data Transmittal

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. Cabbage:

Enclosed please find monitoring data summary tables, site figures, and copies of laboratory data reports for the 1st semi-annual 2016 ground-water monitoring event completed on August 29-30, 2016 at the Tesoro Logistics (Former Chevron) Pasco Bulk Fuel Terminal on Sacajawea Road in Pasco, Washington. These data are transmitted on behalf of Tesoro Logistics Operations LLC (Tesoro).

Please feel free to call me at (650) 827-7474 if you have any questions.

Sincerely,

CEECON Testing, Inc.

Michael Hodges

President

Jeffrey M. Baker, P.E., Tesoro cc: Ryan Biggs, Tesoro Logistics



TABLE 1
AUGUST 2016 GROUND-WATER MONITORING DATA - TESORO WELLS
Tesoro Logistics Pasco Terminal

Pasco, Washington

Sample	Date			Grou	und-Wat	er Sam	ple Analys	sis Resu	ılts (ug	/I)			Grour	d-Water I	Elevatio	on Data	(feet)
Location	Sampled	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
Tesoro Lo	gistics (form	er CPL)															
MW-1		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	73.9 - 93.9	419.40	Dry		
MW-2	8/29/16	710	1,400	<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
MW-3	8/30/16	1,100	11,000	1,400	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	2.5	74.95 - 94.95	423.42	80.60	342.82	-0.02
MW-4	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
MW-5	Well destroy	ed May 19	87														
MW-6	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
MW-7	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
MW-8	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
MW-9	Well destroy	ed May 19	87														
MW-10	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
MW-11	8/29/16	<250	520	<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
MW-12	8/29/16	270	750	58	6.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	33 - 60;	400.05	00.00	240.07	0.45
	Duplicate	270	730	<50	4.3	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0	75 - 85	423.65	80.98	342.67	-0.15
MW-13		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18.5 - 47.5		Dry		
MW-14	8/29/16	<250	120	<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
													72.5 - 82.5				
RW-1		Well burie	d - status u	nknown									64- 98	417.29			
Equipment	Blank:																
C-EB	8/29/16	<250	140	<50	<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0					
Trip Blank:																	
Trip Blank	8/29/16				<2.0	<2.0	<3.0	<3.0	<1.0	<10,000	<1.0	<2.0					
Ecology Cr	iteria <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

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

Change in elevations calculated using previous data collected 9/28/2015.

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

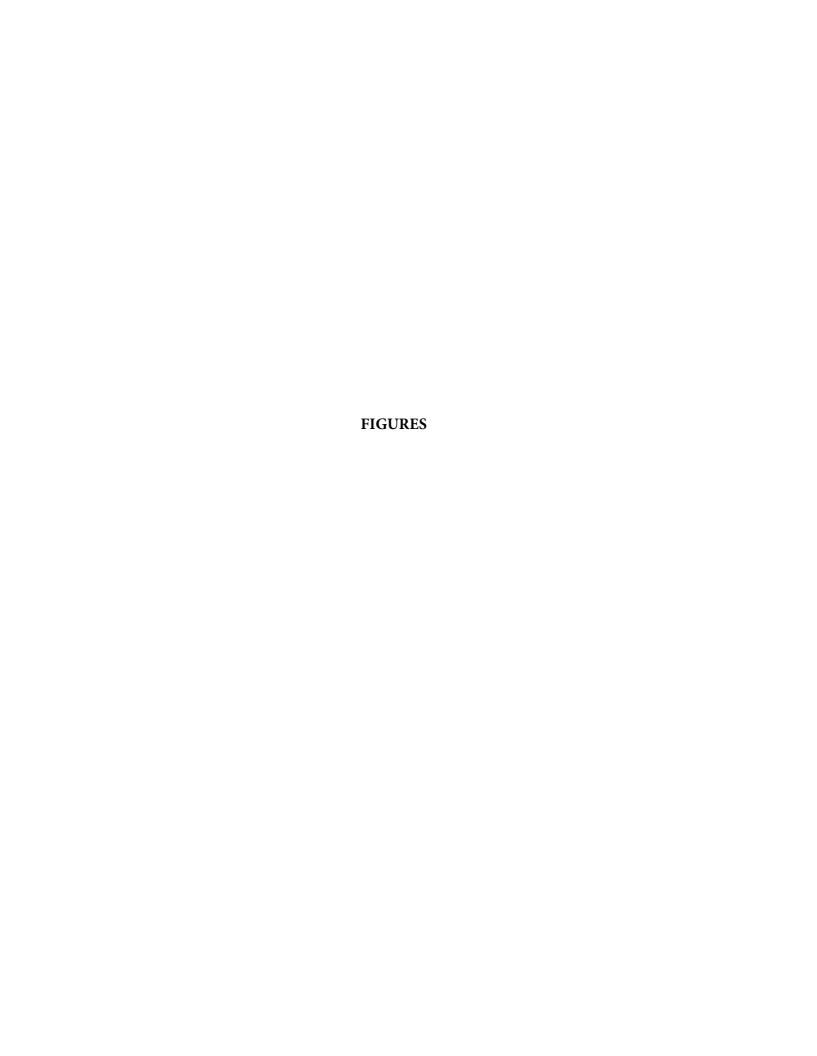
NS = Not sampled

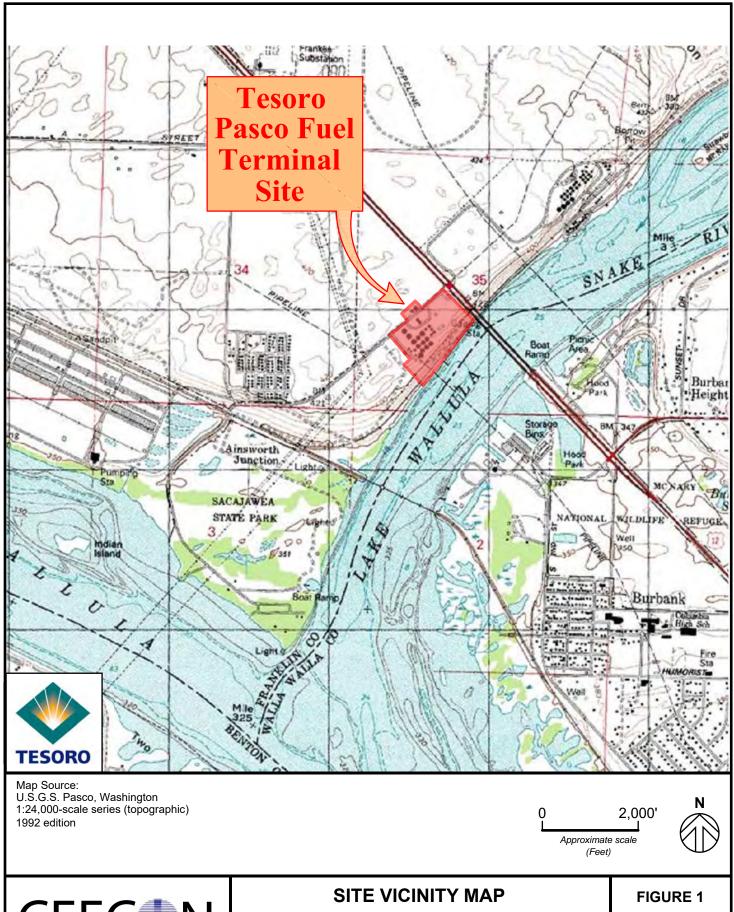
-- = Not analyzed

# TABLE 2 AUGUST 2016 WATER QUALITY AND NATURAL ATTENUATION PARAMETER DATA - TESORO WELLS Tesoro Logistics Pasco Terminal

Pasco, Washington

Sample	Date		FIELD N	IEASUREI	MENTS		ANALYTICAL PARAMETERS (Field and Lab)							ANALYTICAL PARAMETERS (Field and Lab)							
ID		рН	Specific Conduct- ance	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									
Tesoro Log	gistics (form	er CPL)																			
MW-1																					
MW-2	8/29/16	7.38	1.4	1.74	19.89	94	110			<0.020	<0.0050										
MW-3	8/30/16	7.13	1.19	2.42	18.13	-153															
MW-4	8/30/16	8.36	0.813	7.34	18.32	59															
MW-6	8/30/16	8.30	0.836	7.39	18.88	110	100			<0.020	<0.0050										
MW-7	8/30/16	7.96	0.964	6.92	19.01	94															
MW-8	8/30/16	7.72	0.843	5.29	19.46	143	100			<0.020	<0.0050										
MW-10	8/30/16	8.28	0.831	5.40	18.26	100															
MW-11	8/29/16	7.32	0.952	2.67	19.99	148															
MW-12	8/29/16	7.45	1.29	1.10	19.42	-10	83			0.25	0.76										
MW-13																					
MW-14	8/29/16	7.71	0.877	5.19	18.76	120															
RW-1	8/30/16	Well burie	d - status unknov	wn																	
Notes: S.U. mS/cm mg/L ppm *C mV ORP	Not analyzed or measured Standard Unit millisiemens per centimeter milligrams per liter parts per million degrees celsius millivolts Oxidation Reduction Potential				Dissolved ox Sulfate analy	tygen (DO) yzed by EP errous iron analyzed by alyzed by M	measured use A Method 30 measured in EPA Method ethod RSK	sing portal 00. I the field upd 200.7.	ole meter wi	Itiparameter Hor ith downhole pro neter test kits.		er.									

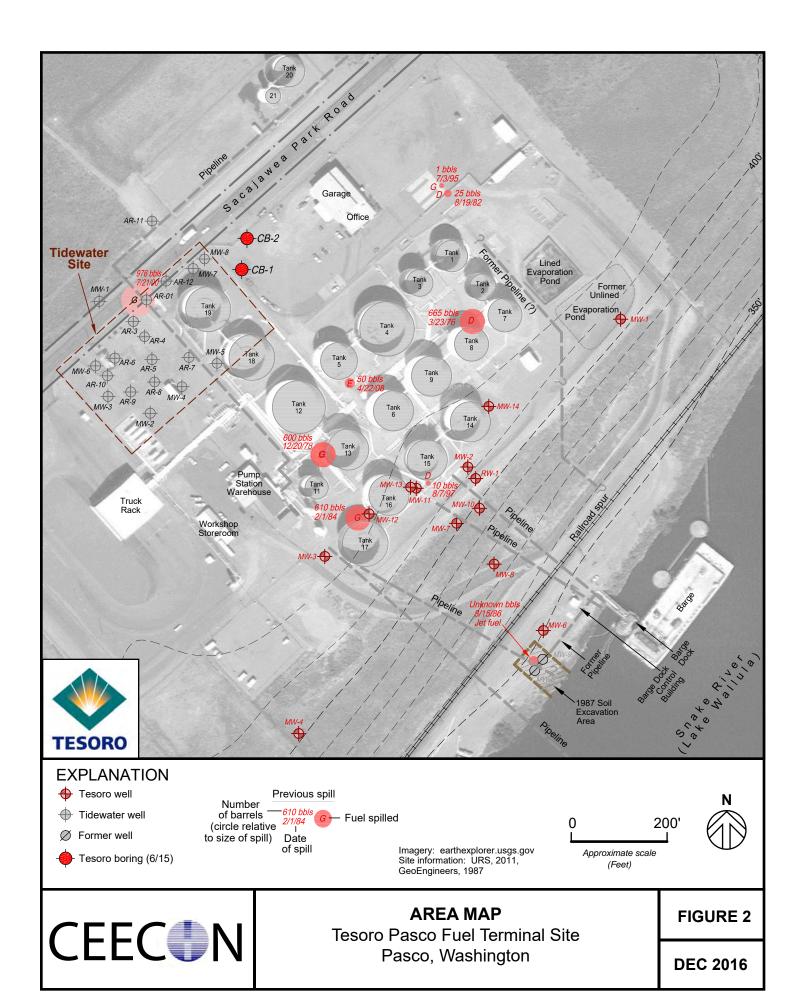


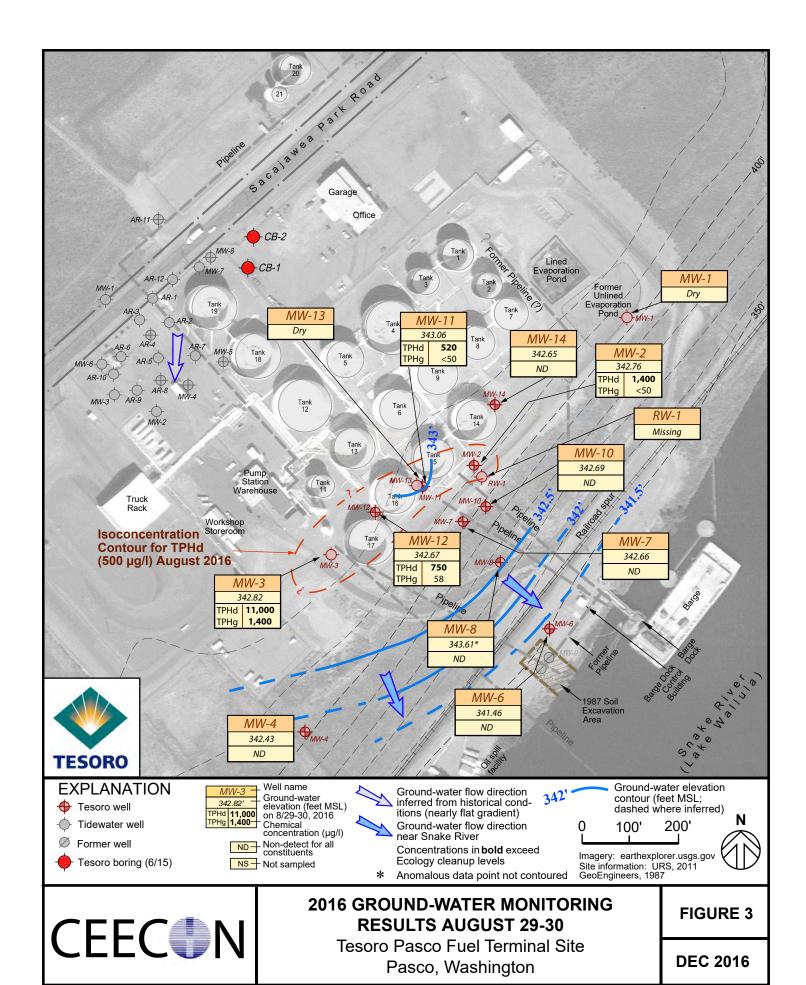




Tesoro Pasco Fuel Terminal Site Pasco, Washington

**DEC 2016** 











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: 580-62238-1 Client Project/Site: Tesoro Pasco

#### For:

Tesoro Logistics Operations LLC 3450 South 344th Way, Suite 201 Auburn, Washington 98001-9540

Attn: Jeff Baker



Authorized for release by: 9/16/2016 1:29:55 PM

Christabel Escarez, Project Manager I (253)922-2310

christabel.escarez@testamericainc.com

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**Have a Question?** 



Visit us at: 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.

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

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#### **Case Narrative**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Job ID: 580-62238-1

#### Laboratory: TestAmerica Seattle

#### **Narrative**

#### Receipt

The samples were received on 9/1/2016 1:30 PM; 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, 0.0° C, 0.1° C and 1.6° C.

#### **Receipt Exceptions**

The container label time for the all samples did not match the information listed on the Chain-of-Custody (COC). The container labels list various times, only one container for each sample matched the time on the COC lists. Samples were logged in per the time listed on the COC.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). The client instructed us to add VOC analysis.

Three VOA vials were submitted for the matrix spike and three VOA vials for the matrix spike duplicate. However, all analytes are marked for analysis. The client instructed us to add VOC analysis.

#### GC/MS VOA

Method(s) NWTPH-Gx: Analytical batch 580-226837 was run with only the secondary source standard for the CCV, LCS and LCSD. A new primary gas standard was made and failed low. The following samples are impacted: (CCV 580-226837/15), (CCV 580-226837/22) and (CCVRT 580-226837/4).

Method(s) NWTPH-Gx: Analytical batch 580-226986 was run with only the secondary source standard for the CCV, LCS and LCSD. A new primary gas standard was made and failed low. The following samples are impacted: (CCV 580-226986/12) and (CCVRT 580-226986/4).

Method(s) 8260C: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-227041 recovered outside control limits for Methyl tert-butyl ether, Naphthalene and t-Butyl alcohol. These analytes were biased high in the LCS/LCSD and were not detected in the associated samples: therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-227089 recovered outside control limits for Naphthalene and t-Butyl alcohol. These analytes were biased high in the LCS/LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-227041 recovered above the upper control limit for Methyl tert-butyl ether, 2-Methyl-2-propanol, Naphthalene and Ethylene Dibromide. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: C-MW-11 (580-62238-8), C-MW-12 (580-62238-9), C-MW-12D (580-62238-10), C-MW-14 (580-62238-11), C-EB (580-62238-12), Trip Blank (580-62238-13) and (CCVIS 580-227041/2).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-227089 recovered above the upper control limit for Methyl tert-butyl ether, 2-Methyl-2-propanol, 1,2-Dibromo-3-Chloropropane and 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 580-227089/2).

Method(s) 8260C: The BFB tune report associated with analytical batch 580-227089 (BFB 580-227089/1) shows the 95.0% relative abundance for m/z 174 failing the 95 to 101% method criteria. This value meets method criteria and is the result of a rounding/significant figure precision error. The data have been reported.

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: The following samples 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: C-MW-02 (580-62238-1), C-MW-12 (580-62238-9), C-MW-12D (580-62238-10) and C-MW-14 (580-62238-11).

Method(s) 8015C: Surrogate recovery for the following sample was outside the upper control limit: C-MW-08 (580-62238-6). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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#### **Case Narrative**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

#### Job ID: 580-62238-1 (Continued)

#### Laboratory: TestAmerica Seattle (Continued)

Method(s) 8015C: The following sample(s) was analyzed outside of analytical holding time due to an error in login. Sample was not received properly in loginC-MW-12D (580-62238-10).

Method(s) RSK-175: The following sample were diluted due to an abundance of target analyte. As such, surrogate and MS/MSD spike recoveries were diluted.

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.

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## **Definitions/Glossary**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

#### **Qualifiers**

#### **GC/MS VOA**

Qualifier	Qualifier Description
*	LCC ar LCCD is suitaide assentance limit

\* LCS or LCSD is outside acceptance limits.

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

**GC VOA** 

Qualifier Qualifier Description

H Sample was prepped or analyzed beyond the specified holding time

X Surrogate is outside control limits

### Glossary

Abbreviation These commonly used abbreviations may or may not be present in this	report.
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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, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration

MDA Minimum detectable activity

EDL Estimated Detection Limit

MDC Minimum detectable concentration

MIDC Minimum detectable concentration

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

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)

TestAmerica Seattle

TestAmerica Job ID: 580-62238-1

Project/Site: Tesoro Pasco

Surrogate

Analyte

Surrogate

o-Terphenyl

Acetylene (Surr)

#2 Diesel (C10-C24)

Motor Oil (>C24-C36)

Client: Tesoro Logistics Operations LLC

Client Sample ID: C-MW-02

Date Collected: 08/29/16 16:00

Date Received: 09/01/16 13:30

Lab Sample ID: 580-62238-1

**Matrix: Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 22:02	
1,2-DCA	ND		1.0		ug/L			09/09/16 22:02	•
Benzene	ND		2.0		ug/L			09/09/16 22:02	•
DIPE	ND		1.0		ug/L			09/09/16 22:02	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 22:02	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 22:02	1
MTBE	ND		1.0		ug/L			09/09/16 22:02	1
Naphthalene	ND	*	2.0		ug/L			09/09/16 22:02	1
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 22:02	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 22:02	1
Toluene	ND		2.0		ug/L			09/09/16 22:02	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 22:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		65 - 143			-		09/09/16 22:02	1
4-Bromofluorobenzene (Surr)	103		75 - 125					09/09/16 22:02	1
Dibromofluoromethane (Surr)	96		77 - 118					09/09/16 22:02	1
Toluene-d8 (Surr)	100		82 - 122					09/09/16 22:02	1
Trifluorotoluene (Surr)	103		80 - 141					09/09/16 22:02	1
Method: 8015C - Nonhalog	enated Organi	c using G(	C/FID (Direct	Aqueou	s Injecti	on)			
Analyte		Qualifier	` RL		Unit	Ď	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			09/12/16 18:30	1
Methanol	ND		10		mg/L			09/12/16 18:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Isopropyl acetate (Surr)	124		52 - 128			-		09/12/16 18:30	1
Method: NWTPH-Gx - Nortl	hwest - Volatile	e Petroleur	m Products (	GC)					
Analyte		Qualifier	RL	•	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			09/07/16 14:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150			-		09/07/16 14:11	1
Trifluorotoluene (Surr)	93		50 - 150					09/07/16 14:11	1
Method: RSK-175 - Dissolv	ed Gases (GC)	)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

TestAmerica Seattle

Analyzed

09/12/16 22:55

Analyzed

Analyzed

09/12/16 10:20 09/12/16 18:28

09/12/16 10:20 09/12/16 18:28

<u>09/12/16 10:20</u> <u>09/12/16 18:28</u>

Dil Fac

Dil Fac

Prepared

Prepared

Prepared

Limits

62 - 124

RL

0.11

0.25

Limits

50 - 150

MDL Unit

mg/L

mg/L

%Recovery Qualifier

Result Qualifier

108

1.4

%Recovery Qualifier

59

0.71

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

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Client Sample ID: C-MW-02

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Lab Sample ID: 580-62238-1

Date Collected: 08/29/16 16:00 **Matrix: Water** Date Received: 09/01/16 13:30

Method: 200.7 Rev 4.4 - M	letals (ICP) - Dis	solved							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.020		mg/L		09/09/16 18:14	09/12/16 18:16	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		12		mg/L			09/08/16 09:50	10

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-03

Date Collected: 08/30/16 15:49 Date Received: 09/01/16 13:30 Lab Sample ID: 580-62238-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND	F1	1.0		ug/L			09/09/16 22:30	1
1,2-DCA	ND		1.0		ug/L			09/09/16 22:30	1
Benzene	ND	F1	2.0		ug/L			09/09/16 22:30	1
DIPE	ND		1.0		ug/L			09/09/16 22:30	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 22:30	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 22:30	1
MTBE	ND	F1	1.0		ug/L			09/09/16 22:30	1
t-Butyl alcohol	ND	F1 *	25		ug/L			09/09/16 22:30	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 22:30	1
Toluene	ND		2.0		ug/L			09/09/16 22:30	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		65 - 143					09/09/16 22:30	1
4-Bromofluorobenzene (Surr)	107		75 - 125					09/09/16 22:30	1
Dibromofluoromethane (Surr)	102		77 - 118					09/09/16 22:30	1
Toluene-d8 (Surr)	98		82 - 122					09/09/16 22:30	1
Trifluorotoluene (Surr)	105		80 - 141					09/09/16 22:30	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	2.5		2.0		ug/L			09/13/16 17:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		65 - 143			-		09/13/16 17:55	1
4-Bromofluorobenzene (Surr)	101		75 - 125					09/13/16 17:55	1
Dibromofluoromethane (Surr)	99		77 - 118					09/13/16 17:55	1
Toluene-d8 (Surr)	101		82 - 122					09/13/16 17:55	1
Trifluorotoluene (Surr)	101		80 - 141					09/13/16 17:55	1

Method: 8015C - Nonhalogen	ated Organic	using GC	/FID (Direct	Aqueou	s Injecti	on)			
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			09/12/16 15:46	1
Methanol	ND		10		mg/L			09/12/16 15:46	1
Surrogate Isopropyl acetate (Surr)	%Recovery	Qualifier	<b>Limits</b> 52 - 128			-	Prepared	Analyzed 09/12/16 15:46	Dil Fac

Method: NWTPH-Gx - North	nwest - Volatile	Petroleui	m Products (	GC)					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1.4		0.050		mg/L			09/07/16 14:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		50 - 150			-		09/07/16 14:43	1
Trifluorotoluene (Surr)	93		50 - 150					09/07/16 14:43	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)	11	0.11	mg/L		09/12/16 10:20	09/12/16 18:50	1	
	Motor Oil (>C24-C36)	1.1	0.25	mg/L		09/12/16 10:20	09/12/16 18:50	1	

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Client Sample ID: C-MW-03 Lab Sample ID: 580-62238-2

Matrix: Water

Date Collected: 08/30/16 15:49 Date Received: 09/01/16 13:30

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Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-04 Lab Sample ID: 580-62238-3

Date Collected: 08/30/16 11:16 **Matrix: Water** 

Date Received: 09/01/16 13:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 20:08	
1,2-DCA	ND		1.0		ug/L			09/09/16 20:08	
Benzene	ND		2.0		ug/L			09/09/16 20:08	
DIPE	ND		1.0		ug/L			09/09/16 20:08	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 20:08	
Ethylbenzene	ND		3.0		ug/L			09/09/16 20:08	
MTBE	ND		1.0		ug/L			09/09/16 20:08	
Naphthalene	ND	*	2.0		ug/L			09/09/16 20:08	
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 20:08	
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 20:08	
Toluene	ND		2.0		ug/L			09/09/16 20:08	
Xylenes, Total	ND		3.0		ug/L			09/09/16 20:08	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	106		65 - 143					09/09/16 20:08	
4-Bromofluorobenzene (Surr)	101		75 - 125					09/09/16 20:08	
Dibromofluoromethane (Surr)	93		77 - 118					09/09/16 20:08	
Toluene-d8 (Surr)	102		82 - 122					09/09/16 20:08	
Trifluorotoluene (Surr)	99		80 - 141					09/09/16 20:08	
Method: 8015C - Nonhalog	enated Organi	c usina G(	C/FID (Direct	Δαμεομ	s Injecti	on)			
Analyte	Result	Qualifier	RL	MDL	-	D	Prepared	Analyzed	Dil Fa
Ethanol	ND		10		mg/L			09/12/16 15:52	
Methanol	ND		10		mg/L			09/12/16 15:52	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Isopropyl acetate (Surr)	57		52 - 128					09/12/16 15:52	-
Method: NWTPH-Gx - Nort	hwest - Volatile	. Potroloui	m Producte (	GC)					
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline	ND		0.050		mg/L			09/08/16 20:09	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	93	- Qualifici	50 - 150				- repared	09/08/16 20:09	
Trifluorotoluene (Surr)	98		50 - 150					09/08/16 20:09	
Timadiololactic (Gair)	30		30 - 130					09/00/10 20:09	
Method: NWTPH-Dx - Nort						_			
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
#2 Diesel (C10-C24)	ND		0.11		mg/L			09/12/16 19:33	
Motor Oil (>C24-C36)	ND		0.25		mg/L		09/12/16 10:20	09/12/16 19:33	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa

TestAmerica Job ID: 580-62238-1

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Methane

Surrogate

Acetylene (Surr)

Client Sample ID: C-MW-06 Lab Sample ID: 580-62238-4

Date Collected: 08/30/16 13:00 Date Received: 09/01/16 13:30

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

**Matrix: Water** 

Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 21:33	
1,2-DCA	ND		1.0		ug/L			09/09/16 21:33	
Benzene	ND		2.0		ug/L			09/09/16 21:33	
DIPE	ND		1.0		ug/L			09/09/16 21:33	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 21:33	
Ethylbenzene	ND		3.0		ug/L			09/09/16 21:33	
MTBE	ND		1.0		ug/L			09/09/16 21:33	
Naphthalene	ND	*	2.0		ug/L			09/09/16 21:33	
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 21:33	
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 21:33	
Toluene	ND		2.0		ug/L			09/09/16 21:33	
Xylenes, Total	ND		3.0		ug/L			09/09/16 21:33	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	109		65 - 143			-		09/09/16 21:33	
4-Bromofluorobenzene (Surr)	101		75 - 125					09/09/16 21:33	
Dibromofluoromethane (Surr)	97		77 - 118					09/09/16 21:33	
Toluene-d8 (Surr)	99		82 - 122					09/09/16 21:33	
Trifluorotoluene (Surr)	103		80 - 141					09/09/16 21:33	
Method: 8015C - Nonhalogo Analyte Ethanol		C using GO Qualifier	C/FID (Direct ) RL 10		Unit mg/L	on) 	Prepared	Analyzed 09/12/16 15:59	Dil Fa
Methanol	ND		10		mg/L			09/12/16 15:59	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Isopropyl acetate (Surr)	59		52 - 128			-		09/12/16 15:59	
Method: NWTPH-Gx - North			m Products (	GC)					
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline	ND		0.050		mg/L			09/07/16 15:47	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	93		50 - 150			-		09/07/16 15:47	
Trifluorotoluene (Surr)	94		50 - 150					09/07/16 15:47	
Method: RSK-175 - Dissolv Analyte	•	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa

Method: NWTPH-Dx - Northwe	st - Semi-Volatile Petrol	eum Prodi	ucts (GC)
Analyte	Result Qualifier	RL	MDL Unit

ND

%Recovery Qualifier

84

Diesel (C10-C24)	ND ND	0.11	mg/L	09/12/16 10:20	09/12/16 19:54	1
tor Oil (>C24-C36)	ND	0.25	mg/L	09/12/16 10:20	09/12/16 19:54	1
( ,						
( )			· ·			
rrogate	%Recovery Qualifier	Limits	Ů	Prepared	Analyzed	Dil Fac
,			•			09/12/16 19:54

0.0050

Limits

62 - 124

mg/L

09/12/16 21:28

Analyzed

09/12/16 21:28

Analyzed

Dil Fac

Dil Fac

Prepared

Prepared

D

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Lab Sample ID: 580-62238-4

**Matrix: Water** 

Date Collected: 08/30/16 13:00 Date Received: 09/01/16 13:30

Client Sample ID: C-MW-06

Method: 200.7 Rev 4.4 - Met Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND ND	0.020	mg/L		09/09/16 18:14	09/12/16 18:19	1
Compared Champioton							

					_				
General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	100		12		mg/L			09/08/16 10:08	10

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o-Terphenyl

Lab Sample ID: 580-62238-5

**Matrix: Water** 

Client Sample ID: C-MW-07 Date Collected: 08/30/16 10:14 Date Received: 09/01/16 13:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 20:37	1
1,2-DCA	ND		1.0		ug/L			09/09/16 20:37	1
Benzene	ND		2.0		ug/L			09/09/16 20:37	1
DIPE	ND		1.0		ug/L			09/09/16 20:37	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 20:37	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 20:37	1
MTBE	ND		1.0		ug/L			09/09/16 20:37	1
Naphthalene	ND	*	2.0		ug/L			09/09/16 20:37	1
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 20:37	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 20:37	1
Toluene	ND		2.0		ug/L			09/09/16 20:37	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 20:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			65 - 143					09/09/16 20:37	1
4-Bromofluorobenzene (Surr)	103		75 - 125					09/09/16 20:37	1
Dibromofluoromethane (Surr)	98		77 - 118					09/09/16 20:37	1
Toluene-d8 (Surr)	99		82 - 122					09/09/16 20:37	1
Trifluorotoluene (Surr)	102		80 - 141					09/09/16 20:37	1
Method: 8015C - Nonhalog	enated Organi	c using G	C/FID (Direct	Aqueou	ıs Injecti	on)			
Method: 8015C - Nonhalog Analyte	Result	c using Go Qualifier	RL		Unit	on) 	Prepared	Analyzed 09/12/16 16:05	
_			•		•	•	Prepared	Analyzed 09/12/16 16:05 09/12/16 16:05	1
Analyte Ethanol Methanol	Result ND ND	Qualifier	10 10		Unit mg/L	•		09/12/16 16:05 09/12/16 16:05	Dil Fac
Analyte Ethanol	Result ND	Qualifier			Unit mg/L	•	Prepared Prepared	09/12/16 16:05	1 1 Dil Fac
Analyte Ethanol Methanol Surrogate	Result ND ND **Recovery 73  hwest - Volatile	Qualifier  Qualifier	10 10 <b>Limits</b> 52 - 128	MDL GC)	Unit mg/L	•		09/12/16 16:05 09/12/16 16:05 <i>Analyzed</i>	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline	Result ND ND  **Recovery 73  hwest - Volatile Result ND	Qualifier  Qualifier  Petroleui Qualifier	RL 10 10 Limits 52-128 m Products ( RL 0.050	MDL GC)	Unit mg/L mg/L	D_	Prepared Prepared	09/12/16 16:05 09/12/16 16:05 <i>Analyzed</i> 09/12/16 16:05 <b>Analyzed</b> 09/07/16 16:19	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate	Result ND ND %Recovery 73 hwest - Volatile Result ND %Recovery	Qualifier  Qualifier  Petroleul Qualifier	RL 10 10 2 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10	MDL GC)	Unit mg/L mg/L	D_	Prepared	09/12/16 16:05 09/12/16 16:05 Analyzed 09/12/16 16:05 Analyzed 09/07/16 16:19 Analyzed	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline	Result ND ND  **Recovery 73  hwest - Volatile Result ND	Qualifier  Qualifier  Petroleui Qualifier	RL 10 10 Limits 52-128 m Products ( RL 0.050	MDL GC)	Unit mg/L mg/L	D_	Prepared Prepared	09/12/16 16:05 09/12/16 16:05 <i>Analyzed</i> 09/12/16 16:05 <b>Analyzed</b> 09/07/16 16:19	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr)  Trifluorotoluene (Surr)  Method: NWTPH-Dx - North	Result ND ND %Recovery 73  hwest - Volatile Result ND %Recovery 94 94 hwest - Semi-V	Qualifier  Qualifier  Petroleum Qualifier  Qualifier	RL 10 10  Limits 52-128  m Products ( RL 0.050  Limits 50-150 50-150	GC) MDL	Unit mg/L mg/L  Unit mg/L	D_	Prepared Prepared	09/12/16 16:05 09/12/16 16:05 Analyzed 09/12/16 16:05 Analyzed 09/07/16 16:19 Analyzed 09/07/16 16:19	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: NWTPH-Dx - North Analyte	Result ND ND %Recovery 73  hwest - Volatile Result ND %Recovery 94 94 hwest - Semi-V	Qualifier  Qualifier  Petroleum Qualifier  Qualifier	RL 10 10 10  Limits 52-128  m Products ( RL 0.050  Limits 50-150 50-150 croleum Products (  RI	GC) MDL	Unit mg/L mg/L  Unit mg/L  Unit mg/L	D	Prepared Prepared	09/12/16 16:05 09/12/16 16:05 Analyzed 09/12/16 16:05 Analyzed 09/07/16 16:19 Analyzed 09/07/16 16:19 09/07/16 16:19	Dil Fac
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: NWTPH-Dx - North Analyte	Result ND ND  %Recovery 73  hwest - Volatile Result ND  %Recovery 94 94  hwest - Semi-V Result	Qualifier  Qualifier  Petroleum Qualifier  Qualifier	RL 10 10  Limits 52 - 128  m Products ( RL 0.050  Limits 50 - 150 50 - 150  croleum Prod RL	GC) MDL	Unit mg/L  Unit mg/L  Unit mg/L	D	Prepared Prepared  Prepared  09/12/16 10:20	09/12/16 16:05 09/12/16 16:05 Analyzed 09/12/16 16:05 Analyzed 09/07/16 16:19 Analyzed 09/07/16 16:19 Analyzed	Dil Face
Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr)  Trifluorotoluene (Surr)  Method: NWTPH-Dx - North Analyte #2 Diesel (C10-C24)	Result ND ND  **Recovery 73  hwest - Volatile Result ND  **Recovery 94 94  hwest - Semi-V Result ND	Qualifier  Qualifier  Petroleul Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	RL 10 10  Limits 52 - 128  m Products ( RL 0.050  Limits 50 - 150 50 - 150 croleum Products RL 0.11	GC) MDL	Unit mg/L  Unit mg/L  Unit mg/L	D	Prepared Prepared  Prepared  09/12/16 10:20	09/12/16 16:05 09/12/16 16:05 Analyzed 09/12/16 16:05 Analyzed 09/07/16 16:19 Analyzed 09/07/16 16:19 09/07/16 16:19	1

<u>09/12/16 10:20</u> <u>09/12/16 20:15</u>

50 - 150

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

Lab Sample ID: 580-62238-6

**Matrix: Water** 

Date Collected: 08/30/16 14:31 Date Received: 09/01/16 13:30

Client Sample ID: C-MW-08

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 21:05	
1,2-DCA	ND		1.0		ug/L			09/09/16 21:05	
Benzene	ND		2.0		ug/L			09/09/16 21:05	
DIPE	ND		1.0		ug/L			09/09/16 21:05	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 21:05	
Ethylbenzene	ND		3.0		ug/L			09/09/16 21:05	
MTBE	ND		1.0		ug/L			09/09/16 21:05	
Naphthalene	ND	*	2.0		ug/L			09/09/16 21:05	
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 21:05	
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 21:05	
Toluene	ND		2.0		ug/L			09/09/16 21:05	
Xylenes, Total	ND		3.0		ug/L			09/09/16 21:05	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	111		65 - 143					09/09/16 21:05	
4-Bromofluorobenzene (Surr)	102		75 - 125					09/09/16 21:05	
Dibromofluoromethane (Surr)	97		77 - 118					09/09/16 21:05	
Toluene-d8 (Surr)	101		82 - 122					09/09/16 21:05	
Trifluorotoluene (Surr)	103		80 - 141					09/09/16 21:05	
Ethanol Mothanol	ND ND		10		mg/L			09/12/16 18:36	
Methanol	ND		10		mg/L			09/12/16 18:36	
Surrogate	%Recovery		Limits				Prepared	Analyzed	Dil F
Isopropyl acetate (Surr)	150	X	52 - 128					09/12/16 18:36	
Method: NWTPH-Gx - Nort Analyte		Petroleur Qualifier	n Products (	•	Unit	D	Prepared	Analyzed	Dil Fa
<u> </u>		Qualifier		IVIDE			Fiepaieu	•	
					ma/l			00/07/16 16:51	
Gasoline	ND		0.050		mg/L			09/07/16 16:51	
	%Recovery	Qualifier	0.050  Limits		mg/L		Prepared	09/07/16 16:51  Analyzed	Dil F
Surrogate		Qualifier			mg/L		Prepared		
Surrogate 4-Bromofluorobenzene (Surr)	%Recovery	Qualifier	Limits		mg/L		Prepared	Analyzed	
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)	% <b>Recovery</b> 94 94		Limits 50 - 150 50 - 150				Prepared	Analyzed 09/07/16 16:51 09/07/16 16:51	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissol	%Recovery 94 94 ved Gases (GC)		Limits 50 - 150	MDL	mg/L Unit		Prepared Prepared	Analyzed 09/07/16 16:51	
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissol Analyte	%Recovery 94 94 ved Gases (GC)		Limits 50 - 150 50 - 150	MDL		D	<u> </u>	Analyzed 09/07/16 16:51 09/07/16 16:51	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissol Analyte  Methane	%Recovery 94 94 ved Gases (GC) Result	Qualifier	Limits  50 - 150 50 - 150	MDL	Unit	D	<u> </u>	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissol Analyte  Wethane  Surrogate	wed Gases (GC) Result ND	Qualifier	Limits  50 - 150  50 - 150  RL  0.0050	MDL	Unit	D	Prepared	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed  09/12/16 21:32	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissol Analyte Methane Surrogate Acetylene (Surr)		Qualifier  Qualifier  Colatile Pet	Limits  50 - 150  50 - 150  RL  0.0050  Limits  62 - 124		<b>Unit</b> mg/L	D	Prepared	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed  09/12/16 21:32  Analyzed	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolanalyte  Methane Surrogate Acetylene (Surr)  Method: NWTPH-Dx - Nord Analyte		Qualifier Qualifier	Limits  50 - 150  50 - 150  RL  0.0050  Limits  62 - 124  roleum Produ	ucts (G	Unit mg/L	D_	Prepared Prepared	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed  09/12/16 21:32  Analyzed  09/12/16 21:32	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolanalyte  Methane Surrogate Acetylene (Surr)  Method: NWTPH-Dx - Nord Analyte		Qualifier  Qualifier  Colatile Pet	Limits  50 - 150  50 - 150  RL  0.0050  Limits  62 - 124  roleum Produ	ucts (G	Unit mg/L  C) Unit mg/L		Prepared  Prepared	Analyzed 09/07/16 16:51 09/07/16 16:51  Analyzed 09/12/16 21:32  Analyzed 09/12/16 21:32	Dil F
Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissoli Analyte Methane Surrogate Acetylene (Surr)  Method: NWTPH-Dx - North Analyte #2 Diesel (C10-C24)		Qualifier  Qualifier  Colatile Pet	Limits  50 - 150  50 - 150  RL  0.0050  Limits  62 - 124  roleum Produ	ucts (G	Unit mg/L		Prepared Prepared  Prepared  09/12/16 10:20	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed  09/12/16 21:32  Analyzed  09/12/16 21:32	Dil F
Gasoline  Surrogate  4-Bromofluorobenzene (Surr)  Trifluorotoluene (Surr)  Method: RSK-175 - Dissoling  Analyte  Methane  Surrogate  Acetylene (Surr)  Method: NWTPH-Dx - North  Analyte  #2 Diesel (C10-C24)  Motor Oil (>C24-C36)  Surrogate  o-Terphenyl		Qualifier  Qualifier  Olatile Pet Qualifier	Limits  50 - 150  50 - 150  RL  0.0050  Limits  62 - 124  roleum Product RL  0.11	ucts (G	Unit mg/L  C) Unit mg/L		Prepared Prepared  Prepared  09/12/16 10:20	Analyzed  09/07/16 16:51  09/07/16 16:51  Analyzed  09/12/16 21:32  Analyzed  09/12/16 21:32	Dil F

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Client Sample ID: C-MW-08

Date Collected: 08/30/16 14:31

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Lab Sample ID: 580-62238-6

Matrice Mater

Matrix: Water

Date Received: 09/01/16 13:30

Method: 200 7 Rev 4.4 - Metals (ICP) - Dissolved

Wethou. 200./ Rev 4.4 - Wetais	(ICP) - Dissolved						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND	0.020	mg/L		09/09/16 18:14	09/12/16 18:23	1
_							

					Ū				
General Chemistry						_			
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	100		12		mg/L			09/08/16 10:26	10

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TestAmerica Job ID: 580-62238-1

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

Trifluorotoluene (Surr)

**Client Sample ID: C-MW-10** 

Date Collected: 08/30/16 09:12 Date Received: 09/01/16 13:30

Lab Sample ID: 580-62238-7

**Matrix: Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 19:40	1
1,2-DCA	ND		1.0		ug/L			09/09/16 19:40	1
Benzene	ND		2.0		ug/L			09/09/16 19:40	1
DIPE	ND		1.0		ug/L			09/09/16 19:40	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 19:40	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 19:40	1
MTBE	ND		1.0		ug/L			09/09/16 19:40	1
Naphthalene	ND	*	2.0		ug/L			09/09/16 19:40	1
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 19:40	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 19:40	1
Toluene	ND		2.0		ug/L			09/09/16 19:40	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 19:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		65 - 143			•		09/09/16 19:40	1
4-Bromofluorobenzene (Surr)	104		75 - 125					09/09/16 19:40	1
Dibromofluoromethane (Surr)	94		77 - 118					09/09/16 19:40	1
Toluene-d8 (Surr)	100		82 - 122					09/09/16 19:40	1
Trifluorotoluene (Surr)	96		80 - 141					09/09/16 19:40	1
Method: 8015C - Nonhalog	enated Organi	c usina G(	C/FID (Direct	Agueou	s Iniecti	on)			
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			09/12/16 16:17	1
Methanol	ND		10		mg/L			09/12/16 16:17	1
Surrogate	%Recovery		Limits				Prepared	Analyzed	Dil Fac

Surrogate Isopropyl acetate (Surr)	%Recovery 57	Qualifier	Limits 52 - 128			-	Prepared	<b>Analyzed</b> 09/12/16 16:17	Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline		Petroleus Qualifier	m Products (RL 0.050	(GC) MDL	Unit mg/L	<u>D</u> .	Prepared	Analyzed 09/07/16 17:56	Dil Fac
Surrogate 4-Bromofluorobenzene (Surr)	%Recovery	Qualifier	Limits 50 - 150			-	Prepared	Analyzed 09/07/16 17:56	Dil Fac

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11		mg/L		09/12/16 10:20	09/12/16 20:58	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		09/12/16 10:20	09/12/16 20:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	80		50 - 150					09/12/16 20:58	

50 - 150

93

09/07/16 17:56

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-11 Lab Sample ID: 580-62238-8

Date Collected: 08/29/16 12:00 **Matrix: Water** 

Date Received: 09/01/16 13:30

Client: Tesoro Logistics Operations LLC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 07:16	
1,2-DCA	ND		1.0		ug/L			09/09/16 07:16	
Benzene	ND		2.0		ug/L			09/09/16 07:16	
DIPE	ND		1.0		ug/L			09/09/16 07:16	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 07:16	
Ethylbenzene	ND		3.0		ug/L			09/09/16 07:16	
MTBE	ND	*	1.0		ug/L			09/09/16 07:16	
Naphthalene	ND	*	2.0		ug/L			09/09/16 07:16	
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 07:16	
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 07:16	
Toluene	ND		2.0		ug/L			09/09/16 07:16	
Xylenes, Total	ND		3.0		ug/L			09/09/16 07:16	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	115		65 - 143					09/09/16 07:16	-
4-Bromofluorobenzene (Surr)	103		75 - 125					09/09/16 07:16	
Dibromofluoromethane (Surr)	102		77 - 118					09/09/16 07:16	
Toluene-d8 (Surr)	101		82 - 122					09/09/16 07:16	
Trifluorotoluene (Surr)	108		80 - 141					09/09/16 07:16	
<b>Analyte</b> Ethanol	Result ND	Qualifier		MDL	Unit mg/L	D	Prepared	Analyzed 09/12/16 16:23	Dil Fa
Etnanoi Methanol	ND ND		10		mg/L mg/L			09/12/16 16:23	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Isopropyl acetate (Surr)	<u> </u>	Qualifier	52 <sub>-</sub> 128					09/12/16 16:23	
Method: NWTPH-Gx - Nort	hwest - Volatile	Petroleu		GC)	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline	ND		0.050		mg/L	=		09/07/16 18:28	
					<b>g</b>				
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	94		50 - 150					09/07/16 18:28	
Trifluorotoluene (Surr)	93		50 - 150					09/07/16 18:28	
Method: NWTPH-Dx - Nort		olatile Pet Qualifier	roleum Prod RL	ucts (G(	•	D	Prepared	Analyzed	Dil Fa
Analyte			0.11		mg/L		09/12/16 10:20	09/12/16 21:19	
•	0.52		0.11						
#2 Diesel (C10-C24)	<b>0.52</b> ND		0.25		mg/L		09/12/16 10:20	09/12/16 21:19	
Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36)  Surrogate		Qualifier			mg/L		09/12/16 10:20  Prepared	09/12/16 21:19 <i>Analyzed</i>	Dil Fa

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-12 Lab Sample ID: 580-62238-9

Date Collected: 08/29/16 14:02 **Matrix: Water** 

Date Received: 09/01/16 13:30

Client: Tesoro Logistics Operations LLC

Analyte	Result	Qualifier	C/MS RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND	- Qualifier	1.0		ug/L			09/09/16 07:44	
1,2-DCA	ND ND		1.0		ug/L ug/L			09/09/16 07:44	1
Benzene	6.0		2.0		ug/L			09/09/16 07:44	1
DIPE	ND		1.0		ug/L			09/09/16 07:44	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 07:44	1
Ethylbenzene	ND ND		3.0		-			09/09/16 07:44	1
MTBE	ND		1.0		ug/L			09/09/16 07:44	
Naphthalene	ND ND		2.0		ug/L			09/09/16 07:44	1
t-Butyl alcohol	ND ND		2.0		ug/L			09/09/16 07:44	1
	ND		5.0		ug/L			09/09/16 07:44	
Tert-amyl methyl ether					ug/L				1
Toluene Vulence Total	ND ND		2.0 3.0		ug/L			09/09/16 07:44	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 07:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			65 - 143					09/09/16 07:44	1
4-Bromofluorobenzene (Surr)	103		75 - 125					09/09/16 07:44	1
Dibromofluoromethane (Surr)	101		77 - 118					09/09/16 07:44	1
Toluene-d8 (Surr)	99		82 - 122					09/09/16 07:44	1
Trifluorotoluene (Surr)	107		80 - 141					09/09/16 07:44	1
Methanol	ND		10		mg/L			09/12/16 16:29	1
Ethanol Methanol	ND ND		10 10		mg/L ma/L			09/12/16 16:29 09/12/16 16:29	1 1
Currente	0/ Daggyany	Ovalifian	Limita				Dramarad	A	Dil 500
Surrogate  Isopropyl acetate (Surr)		Qualifier	Limits 52 128				Prepared	Analyzed	Dil Fac
Surrogate Isopropyl acetate (Surr)		Qualifier	Limits 52 - 128				Prepared	<b>Analyzed</b> 09/12/16 16:29	Dil Fac
	74		52 - 128	GC)			Prepared		
Isopropyl acetate (Surr)	74 hwest - Volatile		52 - 128 m Products (	•	Unit	D	Prepared Prepared	09/12/16 16:29  Analyzed	
Isopropyl acetate (Surr)  Method: NWTPH-Gx - Nortl	74 hwest - Volatile	Petroleu	52 - 128 m Products (	•	Unit mg/L	<u>D</u>		09/12/16 16:29	1
Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline	hwest - Volatile Result 0.058	Petroleu Qualifier	52 - 128 m Products (	•		<u>D</u>	Prepared	09/12/16 16:29  Analyzed 09/07/16 19:00	Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline Surrogate	74 hwest - Volatile Result	Petroleu Qualifier	52 - 128 m Products (1 RL 0.050	•		<u>D</u>		09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed	Dil Fac
Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline	hwest - Volatile Result 0.058	Petroleu Qualifier	52 - 128 m Products (1 RL 0.050	•		<u>D</u>	Prepared	09/12/16 16:29  Analyzed 09/07/16 19:00	Dil Fac  Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)	hwest - Volatile Result 0.058 %Recovery 95 94	Petroleu Qualifier Qualifier	52 - 128 m Products (1 RL 0.050  Limits 50 - 150	•		<u>D</u>	Prepared	09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00	Dil Fac  1  Dil Fac  1
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr)	hwest - Volatile Result 0.058 %Recovery 95 94 red Gases (GC)	Petroleu Qualifier Qualifier	52 - 128  m Products (1 RL 0.050  Limits 50 - 150 50 - 150	MDL	mg/L	<u>D</u>	Prepared	09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00	Dil Fac  1  Dil Fac  1  1
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte	hwest - Volatile Result 0.058  %Recovery 95 94  red Gases (GC) Result	Petroleu Qualifier Qualifier	52 - 128 m Products (1988)	MDL	mg/L Unit	D_	Prepared	Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00 09/07/16 19:00 09/07/16 19:00	Dil Fac  Dil Fac  1  Dil Fac  1  Dil Fac
Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolv	hwest - Volatile Result 0.058 %Recovery 95 94 red Gases (GC)	Petroleu Qualifier Qualifier	52 - 128  m Products (1 RL 0.050  Limits 50 - 150 50 - 150	MDL	mg/L	D	Prepared  Prepared	Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00  09/07/16 19:00 09/07/16 19:00	Dil Fac  1  Dil Fac  1  1
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte	hwest - Volatile Result 0.058  %Recovery 95 94  red Gases (GC) Result	Qualifier  Qualifier  Qualifier	52 - 128 m Products (1988)	MDL	mg/L Unit	D	Prepared  Prepared	Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00 09/07/16 19:00 09/07/16 19:00	Dil Fac  Dil Fac  1  Dil Fac  1  Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte Methane	## Ted Gases (GC Result 0.76	Qualifier  Qualifier  Qualifier	52 - 128  m Products (1 RL 0.050  Limits 50 - 150 50 - 150  RL 0.010	MDL	mg/L Unit	<u>D</u> _	Prepared  Prepared	Analyzed 09/12/16 19:00  Analyzed 09/07/16 19:00  09/07/16 19:00  Analyzed 09/12/16 21:41	Dil Fac  Dil Fac  1  Dil Fac  2
Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolv Analyte Methane  Surrogate Acetylene (Surr)	## A second red Gases (GC Result 0.76   ## Necovery   112	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	52 - 128  m Products (19 RL 0.050  Limits 50 - 150 50 - 150  RL 0.010  Limits 62 - 124	MDL	mg/L  Unit mg/L	D	Prepared  Prepared	Analyzed 09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte Methane Surrogate Acetylene (Surr) Method: NWTPH-Dx - North	## Ted Gases (GC   Result   0.76	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	52 - 128 m Products (19 RL 0.050  Limits 50 - 150 50 - 150  RL 0.010  Limits 62 - 124  croleum Products (19 RL 19	MDL  MDL	mg/L  Unit mg/L	<u>D</u>	Prepared  Prepared  Prepared	Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00 09/07/16 19:00 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed 09/12/16 21:37	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac
Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolv Analyte Methane  Surrogate Acetylene (Surr)  Method: NWTPH-Dx - North Analyte	## A Semi-V Result    This is a second of the content of the conte	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	## Products (## RL	MDL  MDL	Unit mg/L  C) Unit	D	Prepared  Prepared  Prepared  Prepared	Analyzed 09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed 09/12/16 21:37	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte Methane Surrogate Acetylene (Surr)  Method: NWTPH-Dx - North Analyte #2 Diesel (C10-C24)	## A Second Seco	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	52 - 128  m Products (1 RL 0.050  Limits 50 - 150 50 - 150  RL 0.010  Limits 62 - 124  croleum Products (1 RL 0.11)	MDL  MDL	Unit mg/L  C) Unit mg/L	<u>D</u>	Prepared  Prepared  Prepared  Prepared  O9/12/16 10:20	Analyzed 09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed 09/12/16 21:37  Analyzed 09/12/16 21:40	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  1
Isopropyl acetate (Surr)  Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: RSK-175 - Dissolv Analyte Methane  Surrogate Acetylene (Surr)  Method: NWTPH-Dx - North Analyte	## A Semi-V Result    This is a second of the content of the conte	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	## Products (## RL	MDL  MDL	Unit mg/L  C) Unit	<u>D</u>	Prepared  Prepared  Prepared  Prepared  O9/12/16 10:20	Analyzed 09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed 09/12/16 21:37	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac
Method: NWTPH-Gx - North Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: RSK-175 - Dissolv Analyte Methane Surrogate Acetylene (Surr)  Method: NWTPH-Dx - North Analyte #2 Diesel (C10-C24)	## A Second Seco	Qualifier  Qualifier  Qualifier  Qualifier  Qualifier  Qualifier  Qualifier	52 - 128  m Products (1 RL 0.050  Limits 50 - 150 50 - 150  RL 0.010  Limits 62 - 124  croleum Products (1 RL 0.11)	MDL  MDL	Unit mg/L  C) Unit mg/L	<u>D</u>	Prepared  Prepared  Prepared  Prepared  09/12/16 10:20 09/12/16 10:20 Prepared	Analyzed 09/12/16 16:29  Analyzed 09/07/16 19:00  Analyzed 09/07/16 19:00  Analyzed 09/12/16 21:41  Analyzed 09/12/16 21:37  Analyzed 09/12/16 21:40	Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  Dil Fac  1

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Client Sample ID: C-MW-12

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Lab Sample ID: 580-62238-9

Matrice Matrice

Date Collected: 08/29/16 14:02 Matrix: Water Date Received: 09/01/16 13:30

Analyte	etals (ICP) - Dis Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.25		0.020		mg/L		09/09/16 18:14	09/12/16 18:26	1
- General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	83		1.2		mg/L			09/07/16 17:40	1

5

7

0

Project/Site: Tesoro Pasco

Analyte

Surrogate

o-Terphenyl

#2 Diesel (C10-C24)

Motor Oil (>C24-C36)

Client Sample ID: C-MW-12D

Client: Tesoro Logistics Operations LLC

Date Collected: 08/29/16 14:02 Date Received: 09/01/16 13:30 Lab Sample ID: 580-62238-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 08:41	
1,2-DCA	ND		1.0		ug/L			09/09/16 08:41	
Benzene	4.3		2.0		ug/L			09/09/16 08:41	
DIPE	ND		1.0		ug/L			09/09/16 08:41	
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 08:41	
Ethylbenzene	ND		3.0		ug/L			09/09/16 08:41	
MTBE	ND	*	1.0		ug/L			09/09/16 08:41	
Naphthalene	ND	*	2.0		ug/L			09/09/16 08:41	
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 08:41	
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 08:41	
Toluene	ND		2.0		ug/L			09/09/16 08:41	
Xylenes, Total	ND		3.0		ug/L			09/09/16 08:41	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1,2-Dichloroethane-d4 (Surr)	117		65 - 143				<del>-</del>	09/09/16 08:41	
4-Bromofluorobenzene (Surr)	102		75 - 125					09/09/16 08:41	
Dibromofluoromethane (Surr)	101		77 - 118					09/09/16 08:41	
	100		82 - 122					09/09/16 08:41	
Toluene-d8 (Surr)	100		02 - 122					00,00,1000.11	
Trifluorotoluene (Surr)	106		80 - 141					09/09/16 08:41	
Trifluorotoluene (Surr)	106		80 - 141						
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog	106 genated Organi		80 - 141 C/FID (Direct	-	-			09/09/16 08:41	
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte	106 genated Organi Result	Qualifier	80 - 141 C/FID (Direct RL	-	Unit	on)	Prepared	09/09/16 08:41  Analyzed	
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte  Ethanol	genated Organi Result	Qualifier H	80 - 141 C/FID (Direct RL 10	-	Unit mg/L		Prepared	09/09/16 08:41  Analyzed  09/15/16 13:41	
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte  Ethanol	106 genated Organi Result	Qualifier H	80 - 141 C/FID (Direct RL	-	Unit		Prepared	09/09/16 08:41  Analyzed	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte	genated Organi Result	Qualifier H H	80 - 141 C/FID (Direct RL 10	-	Unit mg/L		Prepared Prepared	09/09/16 08:41  Analyzed  09/15/16 13:41	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte  Ethanol Methanol	genated Organi Result ND ND	Qualifier H H	80 - 141 C/FID (Direct RL 10 10	-	Unit mg/L		·	09/09/16 08:41  Analyzed  09/15/16 13:41  09/15/16 13:41	
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)	genated Organi Result ND ND %Recovery	Qualifier H H Qualifier	80 - 141  C/FID (Direct RL 10 10  Limits 52 - 128	MDL	Unit mg/L		·	09/09/16 08:41  Analyzed  09/15/16 13:41  09/15/16 13:41  Analyzed	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - Nort	genated Organi Result ND ND %Recovery 89	Qualifier H H Qualifier	80 - 141  C/FID (Direct RL 10 10  Limits 52 - 128	MDL GC)	Unit mg/L		·	09/09/16 08:41  Analyzed  09/15/16 13:41  09/15/16 13:41  Analyzed	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate	genated Organi Result ND ND %Recovery 89	Qualifier H H Qualifier	80 - 141  C/FID (Direct RL 10 10  Limits 52 - 128  m Products (	MDL GC)	Unit mg/L mg/L	<b>D</b>	Prepared	Analyzed 09/15/16 13:41 09/15/16 13:41  Analyzed 09/15/16 13:41	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - Nort Analyte	genated Organi Result ND ND ND %Recovery 89 chwest - Volatile Result	Qualifier H Qualifier  Petroleul Qualifier	80 - 141  C/FID (Direct RL 10 10  Limits 52 - 128  m Products ( RL	MDL GC)	unit mg/L mg/L	<b>D</b>	Prepared	Analyzed  O9/09/16 08:41  Analyzed  O9/15/16 13:41  O9/15/16 13:41  Analyzed  Analyzed	Dil Fa
Trifluorotoluene (Surr)  Method: 8015C - Nonhalog Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - Nort Analyte Gasoline	genated Organi Result ND ND %Recovery 89 chwest - Volatile Result ND	Qualifier H Qualifier  Petroleul Qualifier	80 - 141  C/FID (Direct RL 10 10  Limits 52 - 128  m Products (RL 0.050	MDL GC)	unit mg/L mg/L	<b>D</b>	Prepared Prepared	Analyzed  O9/09/16 08:41  Analyzed  O9/15/16 13:41  O9/15/16 13:41  Analyzed  O9/15/16 13:41  Analyzed  O9/07/16 19:32	Dil Fa

Analyzed

Analyzed

Dil Fac

Dil Fac

RL

0.11

0.25

Limits

50 - 150

MDL Unit

mg/L

mg/L

Prepared

Prepared

09/12/16 10:20 09/12/16 22:01

09/12/16 10:20 09/12/16 22:01

09/12/16 10:20 09/12/16 22:01

Result Qualifier

0.73

0.27

%Recovery Qualifier

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-14 Lab Sample ID: 580-62238-11 Date Collected: 08/29/16 10:35

**Matrix: Water** 

Date Received: 09/01/16 13:30

Client: Tesoro Logistics Operations LLC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 09:10	
1,2-DCA	ND		1.0		ug/L			09/09/16 09:10	1
Benzene	ND		2.0		ug/L			09/09/16 09:10	1
DIPE	ND		1.0		ug/L			09/09/16 09:10	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 09:10	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 09:10	1
MTBE	ND	*	1.0		ug/L			09/09/16 09:10	1
Naphthalene	ND	*	2.0		ug/L			09/09/16 09:10	1
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 09:10	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 09:10	1
Toluene	ND		2.0		ug/L			09/09/16 09:10	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 09:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			65 - 143					09/09/16 09:10	1
4-Bromofluorobenzene (Surr)	101		75 - 125					09/09/16 09:10	1
Dibromofluoromethane (Surr)	100		77 - 118					09/09/16 09:10	1
Toluene-d8 (Surr)	99		82 - 122					09/09/16 09:10	1
Trifluorotoluene (Surr)	104		80 - 141					09/09/16 09:10	1
Analyte Ethanol	Result ND	Qualifier		MDL	Unit mg/L	D	Prepared	Analyzed 09/12/16 16:35	Dil Fac
Ethanol Methanol	ND ND		10 10		mg/L mg/L			09/12/16 16:35 09/12/16 16:35	1
Surrogata	%Recovery	Qualifier	Limits				Branarad	Analyzad	Dil Fac
Surrogate	92	Quaimer	52 - 128				Prepared	Analyzed 09/12/16 16:35	DII Fac
Isopropyl acetate (Surr)	92		52 - 120					09/12/10 10.35	1
<b>Method: NWTPH-Gx - North</b>	hwest - Volatile	<b>Petroleur</b>	n Products (	GC)					
	Decult	Qualifier		MDI	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier	RL	MIDL					
Analyte	ND Result	Qualifier	0.050	WIDE	mg/L			09/07/16 20:05	1
Analyte Gasoline Surrogate					mg/L		Prepared	09/07/16 20:05  Analyzed	
Analyte Gasoline Surrogate	ND		0.050	MDL	mg/L		Prepared		Dil Fac
Analyte Gasoline Surrogate	ND %Recovery		0.050	MDL	mg/L		Prepared	Analyzed	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)	%Recovery 94 93	Qualifier	0.050  Limits  50 - 150  50 - 150		J		Prepared	Analyzed 09/07/16 20:05	Dil Fac
Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: NWTPH-Dx - North	ND  **Recovery  94  93  hwest - Semi-V	Qualifier	0.050  Limits  50 - 150  50 - 150		C)		Prepared Prepared	Analyzed 09/07/16 20:05	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: NWTPH-Dx - North	ND  **Recovery  94  93  hwest - Semi-V	Qualifier  Colatile Pet	0.050  Limits 50 - 150 50 - 150 roleum Prod	ucts (G0	C)	<u>D</u>	<u> </u>	Analyzed 09/07/16 20:05 09/07/16 20:05	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr)	%Recovery 94 93 hwest - Semi-V Result	Qualifier  Colatile Pet	0.050  Limits 50 - 150 50 - 150  roleum Prod	ucts (G0	C) Unit	D	Prepared 09/12/16 10:20	Analyzed  09/07/16 20:05  09/07/16 20:05  Analyzed	Dil Fac
Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)  Method: NWTPH-Dx - North Analyte #2 Diesel (C10-C24)	%Recovery 94 93 hwest - Semi-V Result 0.12	Qualifier  Colatile Pet	0.050  Limits 50 - 150 50 - 150  roleum Prod RL 0.11	ucts (G0	C) Unit mg/L	D	Prepared 09/12/16 10:20	Analyzed  09/07/16 20:05  09/07/16 20:05  Analyzed  09/12/16 22:22	Dil Fac

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

o-Terphenyl

**Client Sample ID: C-EB** Lab Sample ID: 580-62238-12

Date Collected: 08/29/16 15:05 **Matrix: Water** 

Date Received: 09/01/16 13:30

2-DCA	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Servere	1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 08:13	
DIPE	1,2-DCA	ND		1.0		ug/L			09/09/16 08:13	
Strych-butyl ether (ETBE)	Benzene	ND		2.0		ug/L			09/09/16 08:13	
Surrogate	DIPE	ND		1.0		ug/L			09/09/16 08:13	
MTDE	Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 08:13	
Naphthalene	Ethylbenzene	ND		3.0		ug/L			09/09/16 08:13	
Butyl alcohol	MTBE	ND	*	1.0		ug/L			09/09/16 08:13	
Tert-amyl methyl ether	Naphthalene	ND	*	2.0		ug/L			09/09/16 08:13	
No	t-Butyl alcohol	ND	*	25		ug/L			09/09/16 08:13	
Surrogate   %Recovery   Qualifier   Limits   Prepared   Analyzed   O9/09/16 08:13	Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 08:13	
Prepared   Analyzed   Dil Fa	Toluene	ND		2.0		ug/L			09/09/16 08:13	
1.2-Dichloroethane-d4 (Surr)	Xylenes, Total	ND		3.0		ug/L			09/09/16 08:13	
102   75 - 125   09/09/16 08:13   O9/09/16 08:13   O9/12/16 08:13   O9/09/16 08:13   O9/09/16 08:13   O9/09/16 08:13   O9/12/16 08:13   O9/1	Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Discrepance   103   77 - 118   09/09/16 08:13   100   82 - 122   09/09/16 08:13   100   82 - 122   09/09/16 08:13   100   82 - 122   09/09/16 08:13   100	1,2-Dichloroethane-d4 (Surr)	115		65 - 143					09/09/16 08:13	-
Toluene-d8 (Surr)   100   82 - 122   09/09/16 08:13   17/16 uorotoluene (Surr)   108   80 - 141   09/09/16 08:13   09/12/16 16:41   09/12/16 16:41   09/12/16 16:41   09/12/16 16:41   09/12/16 16:41   09/12/16 10:20   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/12/16 10:20   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/09/16 08:13   09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 20:42   09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 20:42   09/09/16 09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 20:42   09/09/16 09/12/16 10:20   09/12/16 10:20   09/12/16 20:42   09/09/16 09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 10:20   09/12/16 20:42   09/09/09/09/09/09/09/09/09/09/09/09/09/0	4-Bromofluorobenzene (Surr)	102		75 - 125					09/09/16 08:13	
Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)   Analyte   Result   Qualifier   RL   MDL   Unit   Unit   Description   Method: ND   ND   ND   ND   ND   ND   ND   ND	Dibromofluoromethane (Surr)	103		77 - 118					09/09/16 08:13	
Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)           Analyte         Result Qualifier         RL MDL Unit mg/L         D Prepared         Analyzed Dill Fa           Ethanol         ND         10         mg/L         09/12/16 16:41           Methanol         ND         10         mg/L         09/12/16 16:41           Surrogate         %Recovery Qualifier         Limits         Prepared         Analyzed O9/12/16 16:41           Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)         Result Qualifier         RL MDL Unit mg/L         D Prepared         Analyzed O9/07/16 20:37           Surrogate         %Recovery Qualifier         Limits mg/L         Prepared         Analyzed O9/07/16 20:37           Gasoline         ND         50 - 150         09/07/16 20:37           Firifluorotoluene (Surr)         94         50 - 150         09/07/16 20:37           Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) Analyte         NBD         Unit mg/L         D Prepared O9/12/16 10:20         Analyzed O9/12/16 20:42           Motor Oil (>C24-C36)         ND         0.25         mg/L         09/12/16 10:20         09/12/16 22:42	Toluene-d8 (Surr)	100		82 - 122					09/09/16 08:13	
Analyte   Result   Qualifier   RL   MDL   Unit   mg/L	Trifly a rataly and (Curr)	108		00 444					00/00/46 00:43	
Surrogate   %Recovery   Result   Qualifier   Limits   Description   Prepared   Analyzed   Dil Fa	Method: 8015C - Nonhalog	jenated Organi	_	C/FID (Direct	•	-		Dropored		
Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)   Analyte   Result   Qualifier   RL   MDL   Unit   Mg/L   Mg/L	Method: 8015C - Nonhalog Analyte	jenated Organi Result	_	C/FID (Direct	•	Unit		Prepared	Analyzed	Dil Fac
Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)         ND         Result Qualifier         RL MDL Unit mg/L         D Prepared Dil Fa           Gasoline         ND         0.050         mg/L         D Prepared Dil Fa           Surrogate         %Recovery Qualifier Limits         Limits         Prepared Dil Fa           4-Bromofluorobenzene (Surr)         94         50 - 150         09/07/16 20:37           Trifluorotoluene (Surr)         95         50 - 150         09/07/16 20:37           Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)         Analyte Result Qualifier RL MDL Unit DIL MDL Unit MDL	Method: 8015C - Nonhalog Analyte Ethanol	genated Organic Result	_	C/FID (Direct RL 10	•	Unit mg/L		Prepared	Analyzed 09/12/16 16:41	Dil Fac
Result   Qualifier   RL   MDL   Unit   D   Prepared   Analyzed   Dil Fator	,	genated Organi Result ND ND	Qualifier	C/FID (Direct RL 10	•	Unit mg/L			Analyzed 09/12/16 16:41 09/12/16 16:41	Dil Fac
Result   Qualifier   RL   MDL   Unit   D   Prepared   Analyzed   Dil Fator	Method: 8015C - Nonhalog Analyte Ethanol Methanol	genated Organi Result ND ND %Recovery	Qualifier	C/FID (Direct RL 10 10 Limits	•	Unit mg/L			Analyzed 09/12/16 16:41 09/12/16 16:41 Analyzed	Dil Fac
Surrogate   %Recovery   Qualifier   Limits   Prepared   Analyzed   Dil Fata	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr)	genated Organi Result ND ND %Recovery 86	Qualifier  Qualifier	C/FID (Direct RL 10 10 10 Limits 52 - 128	MDL	Unit mg/L			Analyzed 09/12/16 16:41 09/12/16 16:41 Analyzed	Dil Fa
### Promofluorobenzene (Surr) 94 50 - 150 09/07/16 20:37 Trifluorotoluene (Surr) 95 50 - 150 09/07/16 20:37 09/07/16 20:37	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr)	genated Organic Result ND ND ND %Recovery 86	Qualifier  Qualifier  Petroleui	C/FID (Direct RL 10 10 10	MDL GC)	Unit mg/L mg/L	D_	Prepared	Analyzed 09/12/16 16:41 09/12/16 16:41  Analyzed 09/12/16 16:41	Dil Fa
Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)   Analyte   Result   Qualifier   RL   MDL   Unit   Motor Oil (>C24-C36)   ND   0.25   mg/L   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16 22:42   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16 22:42   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16 22:42   0.9/12/16 10:20   0.9/12/16 22:42   0.9/12/16	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte	genated Organic Result ND ND %Recovery 86  hwest - Volatile Result	Qualifier  Qualifier  Petroleui	C/FID (Direct RL 10 10  Limits 52-128  m Products (RL	MDL GC)	Unit mg/L mg/L	D_	Prepared	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed	Dil Fa
Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)           Analyte         Result         Qualifier         RL         MDL         Unit         D         Prepared         Analyzed         Dil Fa           #2 Diesel         (C10-C24)         0.14         0.11         mg/L         09/12/16 10:20         09/12/16 22:42           Wotor Oil (>C24-C36)         ND         0.25         mg/L         09/12/16 10:20         09/12/16 22:42	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte Gasoline	yenated Organic Result ND ND %Recovery 86 hwest - Volatile Result ND	Qualifier  Qualifier  Petroleut Qualifier	C/FID (Direct   RL   10   10     10	MDL GC)	Unit mg/L mg/L	D_	Prepared Prepared	Analyzed  09/12/16 16:41 09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37	Dil Fac
Analyte         Result #2 Diesel (C10-C24)         Qualifier         RL 0.11         MDL mg/L mg/L         Unit mg/L mg/L         D 09/12/16 10:20         Prepared 09/12/16 10:20         Analyzed 09/12/16 22:42         Dil Fall mg/L mg/L           Wotor Oil (>C24-C36)         ND 0.25         mg/L 09/12/16 10:20         09/12/16 22:42         09/12/16 22:42	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort	yenated Organic Result ND ND %Recovery 86  hwest - Volatile Result ND %Recovery	Qualifier  Qualifier  Petroleut Qualifier	C/FID (Direct   RL   10   10   10	MDL GC)	Unit mg/L mg/L	D_	Prepared Prepared	Analyzed  09/12/16 16:41 09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed	Dil Fa
#2 Diesel (C10-C24) 0.14 0.11 mg/L 09/12/16 10:20 09/12/16 22:42 Motor Oil (>C24-C36) ND 0.25 mg/L 09/12/16 10:20 09/12/16 22:42	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr)	yenated Organic Result ND ND ND 86 ND	Qualifier  Qualifier  Petroleut Qualifier	C/FID (Direct   RL   10   10   10	MDL GC)	Unit mg/L mg/L	D_	Prepared Prepared	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37	Dil Fa
Motor Oil (>C24-C36) ND 0.25 mg/L 09/12/16 10:20 09/12/16 22:42	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)	yenated Organic Result ND ND ND 86 ND	Qualifier  Qualifier  Petroleum Qualifier  Qualifier	C/FID (Direct RL 10 10 10 10	GC) MDL	Unit mg/L mg/L  Unit mg/L	D_	Prepared Prepared	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37	Dil Fa
	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)	penated Organic Result ND ND ND 86 ND	Qualifier  Qualifier  Petroleur Qualifier  Qualifier	C/FID (Direct RL 10 10 10  Limits 52-128  m Products (RL 0.050  Limits 50-150 50-150  roleum Prod RL	GC) MDL	Unit mg/L  Unit mg/L  Unit mg/L	<u>D</u>	Prepared Prepared	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37  09/07/16 20:37	Dil Fa
Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fa	Method: 8015C - Nonhalog Analyte Ethanol Methanol Surrogate Isopropyl acetate (Surr) Method: NWTPH-Gx - Nort Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr) Method: NWTPH-Dx - Nort	penated Organic Result ND ND ND 86 hwest - Volatile Result ND 94 95 hwest - Semi-V Result Result Result Result ND	Qualifier  Qualifier  Petroleur Qualifier  Qualifier	C/FID (Direct RL 10 10 10  Limits 52-128  m Products (RL 0.050  Limits 50-150 50-150  roleum Prod RL	GC) MDL	Unit mg/L mg/L Unit mg/L Unit	<u>D</u>	Prepared  Prepared  Prepared	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37	Dil Fac
	Method: 8015C - Nonhalog Analyte Ethanol Methanol  Surrogate Isopropyl acetate (Surr)  Method: NWTPH-Gx - Nort Analyte Gasoline  Surrogate 4-Bromofluorobenzene (Surr)  Trifluorotoluene (Surr)  Method: NWTPH-Dx - Nort Analyte	penated Organic Result ND ND ND 86 ND	Qualifier  Qualifier  Petroleur Qualifier  Qualifier	C/FID (Direct RL 10 10 10  Limits 52 - 128  m Products (RL 0.050  Limits 50 - 150 50 - 150 roleum Prod RL 0.11	GC) MDL	Unit mg/L  Unit mg/L  Unit mg/L	<u>D</u>	Prepared Prepared  Prepared  09/12/16 10:20	Analyzed  09/12/16 16:41  09/12/16 16:41  Analyzed  09/12/16 16:41  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37  Analyzed  09/07/16 20:37	Dil Fac

09/12/16 10:20 09/12/16 22:42

50 - 150

## **Client Sample Results**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Trifluorotoluene (Surr)

TestAmerica Job ID: 580-62238-1

09/09/16 02:02

Lab Sample ID: 580-62238-13

**Matrix: Water** 

**Client Sample ID: Trip Blank** Date Collected: 08/29/16 00:00

Date Received: 09/01/16 13:30

Method: 8260C - Volatile O	rganic Compo	unds by G	C/MS						
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 02:02	1
1,2-DCA	ND		1.0		ug/L			09/09/16 02:02	1
Benzene	ND		2.0		ug/L			09/09/16 02:02	1
DIPE	ND		1.0		ug/L			09/09/16 02:02	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 02:02	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 02:02	1
MTBE	ND	*	1.0		ug/L			09/09/16 02:02	1
Naphthalene	ND	*	2.0		ug/L			09/09/16 02:02	1
t-Butyl alcohol	ND	*	25		ug/L			09/09/16 02:02	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 02:02	1
Toluene	ND		2.0		ug/L			09/09/16 02:02	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 02:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			65 - 143			-		09/09/16 02:02	1
4-Bromofluorobenzene (Surr)	103		75 - 125					09/09/16 02:02	1
Dibromofluoromethane (Surr)	101		77 - 118					09/09/16 02:02	1
Toluene-d8 (Surr)	98		82 - 122					09/09/16 02:02	1

80 - 141

TestAmerica Job ID: 580-62238-1

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

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

Lab Sample ID: MB 580-227041/4

**Matrix: Water** 

Analysis Batch: 227041

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

	MB MB						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND	1.0	ug/L			09/09/16 00:08	1
1,2-DCA	ND	1.0	ug/L			09/09/16 00:08	1
Benzene	ND	2.0	ug/L			09/09/16 00:08	1
DIPE	ND	1.0	ug/L			09/09/16 00:08	1
Ethyl-t-butyl ether (ETBE)	ND	5.0	ug/L			09/09/16 00:08	1
Ethylbenzene	ND	3.0	ug/L			09/09/16 00:08	1
MTBE	ND	1.0	ug/L			09/09/16 00:08	1
Naphthalene	ND	2.0	ug/L			09/09/16 00:08	1
t-Butyl alcohol	ND	25	ug/L			09/09/16 00:08	1
Tert-amyl methyl ether	ND	5.0	ug/L			09/09/16 00:08	1
Toluene	ND	2.0	ug/L			09/09/16 00:08	1
Xylenes, Total	ND	3.0	ug/L			09/09/16 00:08	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		65 - 143		09/09/16 00:08	1
4-Bromofluorobenzene (Surr)	103		75 - 125		09/09/16 00:08	1
Dibromofluoromethane (Surr)	99		77 - 118		09/09/16 00:08	1
Toluene-d8 (Surr)	100		82 - 122	(	09/09/16 00:08	1
Trifluorotoluene (Surr)	106		80 - 141		09/09/16 00:08	1

Lab Sample ID: LCS 580-227041/5

**Matrix: Water** 

Analysis Batch: 227041

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

7 maryono Batom 227 o 11	Spike	LCS	LCS				%Rec.
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
1,2-Dibromoethane	10.0	13.0		ug/L		130	66 - 133
1,2-DCA	10.0	11.9		ug/L		119	58 - 143
Benzene	10.0	10.9		ug/L		108	80 - 120
DIPE	12.5	14.0		ug/L		112	51 - 150
Ethyl-t-butyl ether (ETBE)	12.5	13.4		ug/L		107	73 <sub>-</sub> 116
Ethylbenzene	10.0	10.3		ug/L		103	75 <sub>-</sub> 119
MTBE	10.0	12.7	*	ug/L		127	65 - 125
m-Xylene & p-Xylene	10.0	10.4		ug/L		103	75 <sub>-</sub> 119
Naphthalene	10.0	15.6	*	ug/L		156	55 - 134
o-Xylene	10.0	10.7		ug/L		107	74 <sub>-</sub> 120
t-Butyl alcohol	100	166	*	ug/L		166	20 - 150
Tert-amyl methyl ether	12.5	14.5		ug/L		116	75 - 125
Toluene	10.0	10.3		ug/L		103	75 - 120
Xylenes, Total	20.0	21.1		ug/L		105	75 <sub>-</sub> 119

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		65 - 143
4-Bromofluorobenzene (Surr)	107		75 - 125
Dibromofluoromethane (Surr)	100		77 - 118
Toluene-d8 (Surr)	99		82 - 122
Trifluorotoluene (Surr)	106		80 - 141

TestAmerica Seattle

TestAmerica Job ID: 580-62238-1

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

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

Lab Sample ID: LCSD 580-227041/6

**Matrix: Water** 

1,2-Dibromoethane

Ethyl-t-butyl ether (ETBE)

m-Xylene & p-Xylene

Tert-amyl methyl ether

Analyte

1,2-DCA

Benzene

Ethylbenzene

Naphthalene

t-Butyl alcohol

Xylenes, Total

o-Xylene

Toluene

DIPE

MTBE

Analysis Batch: 227041

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

99

103

Spike LCSD LCSD %Rec. RPD Added Result Qualifier Unit D %Rec Limits RPD Limit 10.0 13.0 ug/L 66 - 133 0 17 130 10.0 11.7 58 - 143 17 ug/L 117 2 10.0 10.8 ug/L 108 80 - 120 0 14 12.5 111 51 - 150 20 13.9 ug/L 12.5 14.0 ug/L 112 73 - 116 17 10.0 10.2 ug/L 102 75 - 119 14 10.0 12.7 \* 127 65 - 125 0 ug/L 18 10.0 101 75 - 119 14 10.1 ug/L 10.0 15.8 ' 158 55 - 134 30 ug/L 10.0 10.5 ug/L 105 74 - 120 16 100 163 ' 163 20 - 150 ug/L 13 12.5 14.4 ug/L 115 75 - 125 16

ug/L

ug/L

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		65 - 143
4-Bromofluorobenzene (Surr)	106		75 - 125
Dibromofluoromethane (Surr)	101		77 - 118
Toluene-d8 (Surr)	98		82 - 122
Trifluorotoluene (Surr)	106		80 - 141

Lab Sample ID: MB 580-227089/4

**Matrix: Water** 

**Analysis Batch: 227089** 

**Client Sample ID: Method Blank** 

75 - 120

75 - 119

**Prep Type: Total/NA** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0		ug/L			09/09/16 13:57	1
1,2-DCA	ND		1.0		ug/L			09/09/16 13:57	1
Benzene	ND		2.0		ug/L			09/09/16 13:57	1
DIPE	ND		1.0		ug/L			09/09/16 13:57	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			09/09/16 13:57	1
Ethylbenzene	ND		3.0		ug/L			09/09/16 13:57	1
MTBE	ND		1.0		ug/L			09/09/16 13:57	1
Naphthalene	ND		2.0		ug/L			09/09/16 13:57	1
t-Butyl alcohol	ND		25		ug/L			09/09/16 13:57	1
Tert-amyl methyl ether	ND		5.0		ug/L			09/09/16 13:57	1
Toluene	ND		2.0		ug/L			09/09/16 13:57	1
Xylenes, Total	ND		3.0		ug/L			09/09/16 13:57	1

10.0

20.0

9.91

20.6

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114	65 - 143		09/09/16 13:57	1
4-Bromofluorobenzene (Surr)	103	75 - 125		09/09/16 13:57	1
Dibromofluoromethane (Surr)	102	77 - 118		09/09/16 13:57	1
Toluene-d8 (Surr)	100	82 - 122		09/09/16 13:57	1
Trifluorotoluene (Surr)	108	80 - 141		09/09/16 13:57	1

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

Lab Sample ID: LCS 580-227089/5

**Matrix: Water** 

**Analysis Batch: 227089** 

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

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,2-Dibromoethane	10.0	12.0		ug/L		119	66 - 133	
1,2-DCA	10.0	11.0		ug/L		110	58 - 143	
Benzene	10.0	10.3		ug/L		102	80 - 120	
DIPE	12.5	13.9		ug/L		111	51 - 150	
Ethyl-t-butyl ether (ETBE)	12.5	12.7		ug/L		102	73 - 116	
Ethylbenzene	10.0	9.55		ug/L		95	75 - 119	
MTBE	10.0	11.4		ug/L		114	65 - 125	
m-Xylene & p-Xylene	10.0	9.67		ug/L		96	75 - 119	
Naphthalene	10.0	13.5	*	ug/L		135	55 - 134	
o-Xylene	10.0	9.78		ug/L		98	74 - 120	
t-Butyl alcohol	100	155	*	ug/L		155	20 - 150	
Tert-amyl methyl ether	12.5	13.5		ug/L		108	75 - 125	
Toluene	10.0	9.71		ug/L		97	75 - 120	
Xylenes, Total	20.0	19.5		ug/L		97	75 - 119	

LCSD LCSD

11.9

11.4

10.6

14.3

13.0

9.76

12.1

9.79

13.2

9.92

13.8

154 \*

ug/L

ug/L

ug/L

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		65 - 143
4-Bromofluorobenzene (Surr)	105		75 - 125
Dibromofluoromethane (Surr)	103		77 - 118
Toluene-d8 (Surr)	98		82 - 122
Trifluorotoluene (Surr)	103		80 - 141

Lab Sample ID: LCSD 580-227089/6

**Matrix: Water** 

1,2-Dibromoethane

Ethyl-t-butyl ether (ETBE)

m-Xylene & p-Xylene

Analyte

1,2-DCA

Benzene

Ethylbenzene

Naphthalene

t-Butyl alcohol

o-Xylene

DIPE

MTBE

**Analysis Batch: 227089** 

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

%Rec. RPD Result Qualifier Unit %Rec Limits RPD Limit ug/L 119 66 - 133 0 17 ug/L 114 58 - 143 17 ug/L 105 80 - 120 14 3 51 - 150 ug/L 115 20 104 73 - 116 2 17 ug/L 97 75 - 119 2 ug/L 14 ug/L 121 65 - 125 18 98 75 - 119 ug/L 14

132

99

154

111

55 - 134

74 - 120

20 - 150

75 - 125

Tert-amyl methyl ether ug/L Toluene 10.0 9.87 ug/L 99 75 - 120 ug/L Xylenes, Total 20.0 19.7 75 - 119 LCSD LCSD %Recovery Qualifier Limits Surrogate 112 65 - 143

Spike

Added

10.0

10.0

10.0

12.5

12.5

10.0

10.0

10.0

10.0

10.0

100

12.5

1,2-Dichloroethane-d4 (Surr) 104 4-Bromofluorobenzene (Surr) 75 - 125 Dibromofluoromethane (Surr) 101 77 - 118 Toluene-d8 (Surr) 98 82 - 122

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30

16

13

16

19

15

Client Sample ID: Lab Control Sample Dup

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

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

Lab Sample ID: LCSD 580-227089/6

**Matrix: Water** 

**Analysis Batch: 227089** 

LCSD LCSD

Surrogate %Recovery Qualifier Limits Trifluorotoluene (Surr) 105 80 - 141

Lab Sample ID: 580-62238-2 MS

**Analysis Batch: 227089** 

Client Sample ID: C-MW-03

**Prep Type: Total/NA** 

**Matrix: Water Prep Type: Total/NA** 

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,2-Dibromoethane	ND	F1	10.0	13.7	F1	ug/L		136	66 - 133	
1,2-DCA	ND		10.0	12.5		ug/L		123	58 <sub>-</sub> 143	
Benzene	ND	F1	10.0	11.9		ug/L		119	80 - 120	
DIPE	ND		12.5	14.7		ug/L		118	51 <sub>-</sub> 150	
Ethyl-t-butyl ether (ETBE)	ND		12.5	13.9		ug/L		111	73 <sub>-</sub> 116	
Ethylbenzene	ND		10.0	10.9		ug/L		109	75 - 119	
MTBE	ND	F1	10.0	12.4		ug/L		124	65 - 125	
m-Xylene & p-Xylene	ND		10.0	11.3		ug/L		112	75 - 119	
Naphthalene	3.2	F1 *	10.0	20.8	F1	ug/L		176	55 - 134	
o-Xylene	ND		10.0	11.1		ug/L		111	74 - 120	
t-Butyl alcohol	ND	F1 *	100	156	F1	ug/L		156	20 - 150	
Tert-amyl methyl ether	ND		12.5	14.6		ug/L		117	75 - 125	
Toluene	ND		10.0	11.4		ug/L		114	75 - 120	
Xylenes, Total	ND		20.0	22.4		ug/L		112	75 <sub>-</sub> 119	

MS MS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		65 - 143
4-Bromofluorobenzene (Surr)	111		75 - 125
Dibromofluoromethane (Surr)	101		77 - 118
Toluene-d8 (Surr)	100		82 - 122
Trifluorotoluene (Surr)	106		80 - 141

Lab Sample ID: 580-62238-2 MSD

**Matrix: Water** 

Client Sample ID: C-MW-03 Prep Type: Total/NA

Analysis Batch: 227089											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,2-Dibromoethane	ND	F1	10.0	13.2		ug/L		132	66 - 133	3	35
1,2-DCA	ND		10.0	12.7		ug/L		125	58 - 143	2	35
Benzene	ND	F1	10.0	12.2	F1	ug/L		121	80 - 120	2	35
DIPE	ND		12.5	14.5		ug/L		116	51 - 150	2	35
Ethyl-t-butyl ether (ETBE)	ND		12.5	13.9		ug/L		111	73 - 116	0	35
Ethylbenzene	ND		10.0	11.0		ug/L		109	75 - 119	0	35
MTBE	ND	F1	10.0	13.4	F1	ug/L		134	65 - 125	8	35
m-Xylene & p-Xylene	ND		10.0	11.2		ug/L		112	75 - 119	0	35
Naphthalene	3.2	F1 *	10.0	20.1	F1	ug/L		169	55 - 134	3	35
o-Xylene	ND		10.0	11.0		ug/L		110	74 - 120	1	35
t-Butyl alcohol	ND	F1 *	100	148		ug/L		148	20 - 150	6	35
Tert-amyl methyl ether	ND		12.5	15.2		ug/L		122	75 - 125	4	35
Toluene	ND		10.0	11.6		ug/L		116	75 - 120	1	35
Xylenes, Total	ND		20.0	22.2		ug/L		111	75 - 119	1	35

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Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	110		65 - 143
4-Bromofluorobenzene (Surr)	108		75 - 125
Dibromofluoromethane (Surr)	101		77 - 118
Toluene-d8 (Surr)	96		82 - 122
Trifluorotoluene (Surr)	107		80 - 141

Lab Sample ID: MB 580-227394/4 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 227394

MB MB Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Naphthalene 2.0 09/13/16 16:28 ug/L MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106	65 - 143		09/13/16 16:28	1
4-Bromofluorobenzene (Surr)	99	75 - 125		09/13/16 16:28	1
Dibromofluoromethane (Surr)	99	77 - 118		09/13/16 16:28	1
Toluene-d8 (Surr)	104	82 - 122		09/13/16 16:28	1
Trifluorotoluene (Surr)	103	80 - 141		09/13/16 16:28	1

Lab Sample ID: LCS 580-227394/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

**Analysis Batch: 227394** 

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Naphthalene 10.0 9.16 ug/L 91 55 - 134

	LCS		
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		65 - 143
4-Bromofluorobenzene (Surr)	98		75 - 125
Dibromofluoromethane (Surr)	101		77 - 118
Toluene-d8 (Surr)	100		82 - 122
Trifluorotoluene (Surr)	100		80 - 141

Lab Sample ID: LCSD 580-227394/6 **Client Sample ID: Lab Control Sample Dup Matrix: Water Prep Type: Total/NA** 

Analysis Batch: 227394

Naphthalene

Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Limits Unit %Rec RPD Limit

9.49

ug/L

95

55 - 134

10.0

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		65 - 143
4-Bromofluorobenzene (Surr)	98		75 - 125
Dibromofluoromethane (Surr)	99		77 - 118
Toluene-d8 (Surr)	99		82 - 122
Trifluorotoluene (Surr)	99		80 - 141

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

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

Lab Sample ID: MB 490-369438/4

**Matrix: Water** 

Analyte

Ethanol

Methanol

Analysis Batch: 369438

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

MB MB Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 10 ND mg/L 09/12/16 14:44 ND 10 mg/L 09/12/16 14:44

MB MB

Surrogate Qualifier Limits %Recovery Prepared Analyzed Dil Fac 52 - 128 Isopropyl acetate (Surr) 109 09/12/16 14:44

Lab Sample ID: LCS 490-369438/5 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 369438

LCS LCS %Rec. Spike Result Qualifier Unit **Analyte** Added D %Rec Limits Ethanol 50.0 52.0 mg/L 104 70 - 130 mg/L Methanol 50.0 51.6 103 70 - 130

LCS LCS Surrogate %Recovery Qualifier Limits Isopropyl acetate (Surr) 99 52 - 128

Client Sample ID: C-MW-02 Lab Sample ID: 580-62238-1 MS **Prep Type: Total/NA** 

**Matrix: Water** 

Analysis Batch: 369438

Alialysis Balcii. 303430	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethanol	ND		50.0	51.8		mg/L		104	65 - 130	
Methanol	ND		50.0	51.1		mg/L		102	64 - 138	
	MS	MS								

Surrogate %Recovery Qualifier Limits Isopropyl acetate (Surr) 71 52 - 128

Lab Sample ID: 580-62238-1 MSD

**Matrix: Water** 

**Analysis Batch: 369438** 

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Ethanol	ND		50.0	50.5		mg/L		101	65 - 130	2	11	
Methanol	ND		50.0	50.8		mg/L		102	64 - 138	1	21	

MSD MSD Surrogate Limits %Recovery Qualifier 52 - 128 Isopropyl acetate (Surr) 80

Lab Sample ID: MB 490-370398/4

**Matrix: Water** 

**Analysis Batch: 370398** 

	INIB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		10		mg/L			09/15/16 12:59	1
Methanol	ND		10		mg/L			09/15/16 12:59	1

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Prep Type: Total/NA

Client Sample ID: C-MW-02

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

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Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

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

Lab Sample ID: MB 490-370398/4

**Matrix: Water** 

**Analysis Batch: 370398** 

MB MB

Surrogate %Recovery Qualifier Limits Dil Fac Prepared Analyzed 09/15/16 12:59 Isopropyl acetate (Surr) 52 - 128 73

Lab Sample ID: LCS 490-370398/5

**Matrix: Water** 

**Analysis Batch: 370398** 

Spike LCS LCS %Rec. Added Result Qualifier Limits **Analyte** Unit %Rec Ethanol 50.0 50.5 mg/L 101 70 - 130 Methanol 50.0 48.9 98 70 - 130 mg/L

LCS LCS

Surrogate %Recovery Qualifier Limits Isopropyl acetate (Surr) 72 52 - 128

Lab Sample ID: LCSD 490-370398/6

**Matrix: Water** 

**Analysis Batch: 370398** 

LCSD LCSD Spike %Rec. **RPD Analyte** Added Result Qualifier Unit D %Rec Limits **RPD** Limit Ethanol 50.0 55.2 70 - 130 mg/L 110 11 Methanol 50.0 53.0 mg/L 106 70 - 1308 21

LCSD LCSD

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

Lab Sample ID: 580-62238-10 MS

**Matrix: Water** 

**Analysis Batch: 370398** Spike MS MS %Rec. Sample Sample Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Ethanol  $\overline{\mathsf{ND}}$   $\overline{\mathsf{H}}$ 50.0 56.2 mg/L 112 65 - 130 Methanol ND H 50.0 53.8 mg/L 108 64 - 138

MS MS

Surrogate %Recovery Qualifier Limits Isopropyl acetate (Surr) 102 52 - 128

Lab Sample ID: 580-62238-10 MSD

**Matrix: Water** 

Analysis Batch: 370398

**RPD** Sample Sample Spike MSD MSD %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Ethanol  $\overline{\mathsf{ND}}$   $\overline{\mathsf{H}}$ 50.0 mg/L 101 65 - 130 50.4 11 11 Methanol ND H 50.0 48.7 mg/L 97 64 - 13810 21

MSD MSD %Recovery Qualifier Limits Surrogate 52 - 128 Isopropyl acetate (Surr) 93

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Client Sample ID: C-MW-12D

Prep Type: Total/NA

Client Sample ID: C-MW-12D

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

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

Lab Sample ID: MB 580-226837/5 **Client Sample ID: Method Blank Matrix: Water Prep Type: Total/NA** 

**Analysis Batch: 226837** 

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			09/07/16 12:02	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 50 - 150 4-Bromofluorobenzene (Surr) 94 09/07/16 12:02 09/07/16 12:02 Trifluorotoluene (Surr) 95 50 - 150

Lab Sample ID: LCS 580-226837/6 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 226837

•	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline	 1.16	1.04		mg/L		90	79 - 110	_

LCS LCS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 100 50 - 150 Trifluorotoluene (Surr) 94 50 - 150

Lab Sample ID: LCSD 580-226837/7 **Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA** 

**Matrix: Water** 

**Analysis Batch: 226837** 

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline	 1.16	1.05		mg/L		90	79 - 110	1	20

LCSD LCSD %Recovery Qualifier Surrogate I imits 4-Bromofluorobenzene (Surr) 100 50 - 150 Trifluorotoluene (Surr) 97 50 - 150

Lab Sample ID: MB 580-226986/5 **Client Sample ID: Method Blank** Prep Type: Total/NA

**Matrix: Water** 

**Analysis Batch: 226986** 

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			09/08/16 16:56	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepare	ed Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		50 - 150		09/08/16 16:56	1
Trifluorotoluene (Surr)	91		50 - 150		09/08/16 16:56	1

Lab Sample ID: LCS 580-226986/6 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

**Matrix: Water** Analysis Batch: 226986

Analysis Datch. 220300								
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline	1 16	1 03		ma/l	_	88	79 - 110	 

Prep Type: Total/NA

Prep Type: Total/NA

RPD

1

RPD

Limit

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

%Rec

89

%Rec.

Limits

79 - 110

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

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

Lab Sample ID: LCS 580-226986/6

**Matrix: Water** 

**Analysis Batch: 226986** 

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150
Trifluorotoluene (Surr)	94		50 - 150

Lab Sample ID: LCSD 580-226986/7

**Matrix: Water** 

Analysis Batch: 226986

Spike LCSD LCSD Analyte Added Result Qualifier Unit Gasoline 1.16 1.04 mg/L

LCSD LCSD %Recovery Qualifier Surrogate Limits

4-Bromofluorobenzene (Surr) 100 50 - 150 Trifluorotoluene (Surr) 94 50 - 150

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 490-369539/9

**Matrix: Water** 

**Analysis Batch: 369539** 

MB MB Analyte Result Qualifier RL **MDL** Unit D Analyzed Dil Fac Prepared 0.0050 Methane  $\overline{\mathsf{ND}}$ mg/L 09/12/16 19:53

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Acetylene (Surr) 77 62 - 124 09/12/16 19:53

Lab Sample ID: LCS 490-369539/10

**Matrix: Water** 

**Analysis Batch: 369539** 

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Methane 0.279 0.268 mg/L 96 80 - 120

LCS LCS

Surrogate %Recovery Qualifier Limits Acetylene (Surr) 62 - 124 107

Lab Sample ID: LCSD 490-369539/11

**Matrix: Water** 

**Analysis Batch: 369539** 

Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit 0.279 Methane 0.259 mg/L 93 80 - 120

LCSD LCSD

%Recovery Qualifier Surrogate Limits Acetylene (Surr) 104 62 - 124

Project/Site: Tesoro Pasco

Client: Tesoro Logistics Operations LLC

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

Lab Sample ID: MB 580-227221/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 227232** Prep Batch: 227221 MD MD

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11		mg/L		09/12/16 10:20	09/12/16 17:25	1
Motor Oil (>C24-C36)	ND		0.25		mg/L		09/12/16 10:20	09/12/16 17:25	1

MB MB %Recovery Qualifier Limits Surrogate

Prepared Analyzed Dil Fac o-Terphenyl 83 50 - 150 09/12/16 10:20 09/12/16 17:25

Lab Sample ID: LCS 580-227221/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 227232** Prep Batch: 227221 LCS LCS Spike %Rec.

Result Qualifier Unit Limits **Analyte** Added D %Rec #2 Diesel (C10-C24) 2.01 1.74 mg/L 86 59 - 120 53 - 129 Motor Oil (>C24-C36) 2.01 1.87 93 mg/L

LCS LCS Surrogate %Recovery Qualifier Limits o-Terphenyl 50 - 150 92

Lab Sample ID: LCSD 580-227221/3-A **Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA** 

**Matrix: Water** 

**Analysis Batch: 227232** Prep Batch: 227221 LCSD LCSD Spike %Rec. **RPD** Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit #2 Diesel (C10-C24) 2.01 1.61 mg/L 80 59 - 120 8 27 2.01 Motor Oil (>C24-C36) 1.68 mg/L 83 53 - 129 11 19

LCSD LCSD Surrogate %Recovery Qualifier Limits o-Terphenyl 78 50 - 150

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

Lab Sample ID: LCS 580-227168/15-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 227302** Prep Batch: 227168 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Manganese 0.100 0.0951 95 85 - 115 mg/L

Lab Sample ID: LCSD 580-227168/16-A Matrix: Water Analysis Batch: 227302		(	Client S	Sample	ID: Lat	Control Prep Ty Prep Ba	pe: Tot	al/NA	
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese	0.100	0.0970	-	mg/L		97	85 - 115	2	20

**Client Sample ID: Method Blank** 

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

%Rec.

Limits

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

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

Lab Sample ID: MB 580-226917/11-B

**Matrix: Water** 

**Analysis Batch: 227302** 

MB MB

Analyte

Result Qualifier Manganese  $\overline{\mathsf{ND}}$ 

RL 0.020

**MDL** Unit mg/L Prepared

Analyzed 09/09/16 18:14 09/12/16 17:37

**Prep Type: Dissolved** 

**Prep Batch: 227168** 

Dil Fac

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-226989/10

**Matrix: Water** 

**Analysis Batch: 226989** 

MB MB

Analyte Sulfate  $\overline{\mathsf{ND}}$ 

Result Qualifier

RL 1.2

Spike

Added

50.0

**MDL** Unit mg/L

LCS LCS

LCSD LCSD

47.5

Result Qualifier

47.3

D

Prepared

95

D %Rec

95

Analyzed Dil Fac 09/07/16 09:36

Prep Type: Total/NA

Prep Type: Total/NA

Lab Sample ID: LCS 580-226989/11

**Matrix: Water** 

**Analysis Batch: 226989** 

Analyte

Sulfate

Lab Sample ID: LCSD 580-226989/12 **Matrix: Water** 

**Analysis Batch: 226989** 

Analyte

Sulfate

Spike Added 50.0 Result Qualifier

mg/L

Unit

mg/L

90 - 110

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

> RPD %Rec. Limits RPD Limit 90 - 110

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Lab Sample ID: 580-62238-1

Lab Sample ID: 580-62238-2

Lab Sample ID: 580-62238-3

**Matrix: Water** 

**Matrix: Water** 

Client Sample ID: C-MW-02 Date Collected: 08/29/16 16:00 Date Received: 09/01/16 13:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227089	09/09/16 22:02	CJ	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 18:30	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 14:11	D1R	TAL SEA
Total/NA	Analysis	RSK-175		1	369539	09/12/16 22:55	SH	TAL NSH
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 18:28	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			226917	09/07/16 15:26	PAB	TAL SEA
Dissolved	Prep	200.7			227168	09/09/16 18:14	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	227302	09/12/16 18:16	HJM	TAL SEA
Total/NA	Analysis	300.0		10	226989	09/08/16 09:50	RSB	TAL SEA

Client Sample ID: C-MW-03

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ate Collected: ate Received:	Matrix: Water								
Duna T	Batch	Batch	D	Dilution	Batch	Prepared	Amahaat	Lab	

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227089	09/09/16 22:30	CJ	TAL SEA
Total/NA	Analysis	8260C	RA	1	227394	09/13/16 17:55	W1T	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 15:46	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 14:43	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 18:50	CJ	TAL SEA

Client Sample ID: C-MW-04

Date Collected: 08/30/16 11:16

Date Received: 09/01/16 13:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227089	09/09/16 20:08	CJ	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 15:52	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226986	09/08/16 20:09	W1T	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 19:33	CJ	TAL SEA

Date Received: 09/01/16 13:30

Date Collected: 08/30/16 13:00							Mati	rix: Water
<b>Client Sample</b>	le ID: C-M	W-06				Lab S	ample ID: 580-	62238-4
Total/NA	Analysis	NWTPH-Dx	1	227232	09/12/16 19:33	CJ	TAL SEA	
TOTALINA	riep	33100		221221	09/12/10 10.20	JCV	TAL SEA	

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	227089	09/09/16 21:33	CJ	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 15:59	SH	TAL NSH

Project/Site: Tesoro Pasco

Lab Sample ID: 580-62238-4

**Matrix: Water** 

Date	Collected:	08/30/16 13:00
<b>Date</b>	Received:	09/01/16 13:30

Client Sample ID: C-MW-06

Client: Tesoro Logistics Operations LLC

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx			226837	09/07/16 15:47	D1R	TAL SEA
Total/NA	Analysis	RSK-175		1	369539	09/12/16 21:28	SH	TAL NSH
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 19:54	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			226917	09/07/16 15:26	PAB	TAL SEA
Dissolved	Prep	200.7			227168	09/09/16 18:14	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	227302	09/12/16 18:19	HJM	TAL SEA
Total/NA	Analysis	300.0		10	226989	09/08/16 10:08	RSB	TAL SEA

Client Sample ID: C-MW-07 Date Collected: 08/30/16 10:14

Lab Sample ID: 580-62238-5

**Matrix: Water** 

D-4-1	

Batch		Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227089	09/09/16 20:37	CJ	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 16:05	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 16:19	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 20:15	CJ	TAL SEA

Client Sample ID: C-MW-08

Date Collected: 08/30/16 14:31 Date Received: 09/01/16 13:30

Lab S	Sample	ID: 580	-62238-6
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**Matrix: Water** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	227089	09/09/16 21:05	CJ	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 18:36	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 16:51	D1R	TAL SEA
Total/NA	Analysis	RSK-175		1	369539	09/12/16 21:32	SH	TAL NSH
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 20:37	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			226917	09/07/16 15:26	PAB	TAL SEA
Dissolved	Prep	200.7			227168	09/09/16 18:14	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	227302	09/12/16 18:23	HJM	TAL SEA
Total/NA	Analysis	300.0		10	226989	09/08/16 10:26	RSB	TAL SEA

**Client Sample ID: C-MW-10** 

Date Received: 09/01/16 13:30

Date Collected: 08/30/16 09:12

Lab Sample ID: 580-62238-7

**Matrix: Water** 

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227089	09/09/16 19:40	CJ	TAL SEA

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

Client Sample ID: C-MW-10 Lab Sample ID: 580-62238-7 Date Collected: 08/30/16 09:12

**Matrix: Water** 

Date Received: 09/01/16 13:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015C			369438	09/12/16 16:17	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 17:56	D1R	TAL SEA
Total/NA Total/NA	Prep Analysis	3510C NWTPH-Dx		1		09/12/16 10:20 09/12/16 20:58		TAL SEA TAL SEA

Client Sample ID: C-MW-11 Lab Sample ID: 580-62238-8

**Matrix: Water** 

Date Collected: 08/29/16 12:00 Date Received: 09/01/16 13:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	227041	09/09/16 07:16	STA	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 16:23	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 18:28	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 21:19	CJ	TAL SEA

**Client Sample ID: C-MW-12** Lab Sample ID: 580-62238-9

**Matrix: Water** 

Date Collected: 08/29/16 14:02 Date Received: 09/01/16 13:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	227041	09/09/16 07:44	STA	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 16:29	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 19:00	D1R	TAL SEA
Total/NA	Analysis	RSK-175		1	369539	09/12/16 21:37	SH	TAL NSH
Total/NA	Analysis	RSK-175		2	369539	09/12/16 21:41	SH	TAL NSH
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 21:40	CJ	TAL SEA
Dissolved	Filtration	FILTRATION			226917	09/07/16 15:26	PAB	TAL SEA
Dissolved	Prep	200.7			227168	09/09/16 18:14	PAB	TAL SEA
Dissolved	Analysis	200.7 Rev 4.4		1	227302	09/12/16 18:26	HJM	TAL SEA
Total/NA	Analysis	300.0		1	226989	09/07/16 17:40	RSB	TAL SEA

Client Sample ID: C-MW-12D Lab Sample ID: 580-62238-10

Date Collected: 08/29/16 14:02 **Matrix: Water** 

Date Received: 09/01/16 13:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	227041	09/09/16 08:41	STA	TAL SEA
Total/NA	Analysis	8015C		1	370398	09/15/16 13:41	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 19:32	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA

Project/Site: Tesoro Pasco

Client: Tesoro Logistics Operations LLC

Client Sample ID: C-MW-12D Lab Sample ID: 580-62238-10 Date Collected: 08/29/16 14:02

**Matrix: Water** 

Date Received: 09/01/16 13:30

Batch Batch Dilution Batch **Prepared** Number **Prep Type** Type Method Run **Factor** or Analyzed Analyst Lab NWTPH-Dx TAL SEA Total/NA Analysis 227232 09/12/16 22:01 CJ

Client Sample ID: C-MW-14 Lab Sample ID: 580-62238-11

Date Collected: 08/29/16 10:35 **Matrix: Water** 

Date Received: 09/01/16 13:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227041	09/09/16 09:10	STA	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 16:35	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 20:05	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 22:22	CJ	TAL SEA

Client Sample ID: C-EB Lab Sample ID: 580-62238-12

Date Collected: 08/29/16 15:05

Date Received: 09/01/16 13:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227041	09/09/16 08:13	STA	TAL SEA
Total/NA	Analysis	8015C		1	369438	09/12/16 16:41	SH	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	226837	09/07/16 20:37	D1R	TAL SEA
Total/NA	Prep	3510C			227221	09/12/16 10:20	JCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	227232	09/12/16 22:42	CJ	TAL SEA

**Client Sample ID: Trip Blank** Lab Sample ID: 580-62238-13

Date Collected: 08/29/16 00:00 **Matrix: Water** 

Date Received: 09/01/16 13:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C			227041	09/09/16 02:02	STA	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

TestAmerica Seattle

**Matrix: Water** 

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

### **Laboratory: TestAmerica Seattle**

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

Authority Washington		Program State Program		Certification ID	Expiration Date 02-17-17
The following analytes	are included in this repo	ort, but certification is	not offered by the go	overning authority:	
Analysis Method	Prep Method	Matrix	Analyt	te	
8260C		Water	t-Butyl	l alcohol	
8260C		Water	Xvlene	es, Total	

### Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	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	07-24-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-17
California	State Program	9	2938	10-31-16
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	12-09-16 *
lowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-16 *
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-16
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-17
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-16 *
Mississippi	State Program	4	N/A	06-30-16 *
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-16 *
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-17
North Carolina (WW/SW)	State Program	4	387	12-31-16
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	04-27-17
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-16
South Carolina	State Program	4	84009 (001)	02-28-16 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-16 *

<sup>\*</sup> Certification renewal pending - certification considered valid.

TestAmerica Seattle

9/16/2016

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## **Certification Summary**

Client: Tesoro Logistics Operations LLC

Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

## **Laboratory: TestAmerica Nashville (Continued)**

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

Authority	Program	<b>EPA Region</b>	Certification ID	<b>Expiration Date</b>
West Virginia DEP	State Program	3	219	02-28-17
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

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# **Sample Summary**

Client: Tesoro Logistics Operations LLC Project/Site: Tesoro Pasco

TestAmerica Job ID: 580-62238-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-62238-1	C-MW-02	Water	08/29/16 16:00	09/01/16 13:30
580-62238-2	C-MW-03	Water	08/30/16 15:49	09/01/16 13:30
580-62238-3	C-MW-04	Water	08/30/16 11:16	09/01/16 13:30
580-62238-4	C-MW-06	Water	08/30/16 13:00	09/01/16 13:30
580-62238-5	C-MW-07	Water	08/30/16 10:14	09/01/16 13:30
580-62238-6	C-MW-08	Water	08/30/16 14:31	09/01/16 13:30
580-62238-7	C-MW-10	Water	08/30/16 09:12	09/01/16 13:30
580-62238-8	C-MW-11	Water	08/29/16 12:00	09/01/16 13:30
580-62238-9	C-MW-12	Water	08/29/16 14:02	09/01/16 13:30
580-62238-10	C-MW-12D	Water	08/29/16 14:02	09/01/16 13:30
580-62238-11	C-MW-14	Water	08/29/16 10:35	09/01/16 13:30
580-62238-12	C-EB	Water	08/29/16 15:05	09/01/16 13:30
580-62238-13	Trip Blank	Water	08/29/16 00:00	09/01/16 13:30

### **TestAmerica Seattle**

5755 8th Street East Tacoma, WA 98424

# **Chain of Custody Record**



Client Information	Sampler. Ree	d			.ab PM: Escarez,	Christ	abel	С					Ca	rrier Tra	cking No(	s):		COC No: 580-20652-694	2.2
Client Contact: Michael Hodges	Phone: 4/5/3	9-1-	453		E-Mail: christabel	esca	re7@	testa	meri	caino	con							Page:	
Company: CEECON Testing, Inc.					Analysis Requested										X 4				
Address: 434 North Canal Street, Suite Six	Due Date Reques	ted:			1970										TT	In	Preservation Co	des:	
City:	TAT Requested (d	lays):			-111	1		TAME, TBA,1,2-DCA, 1,2-										A - HCL	M - Hexane
South San Francisco State, Zip:						1		1,2-DC										B - NaOH C - Zn Acetate D - Nitric Acid	N - None O - AsNaO2 P - Na2O4S
CA, 94080 Phone:	PO#:	PO#			-118			TBA,										E - NaHSO4 F - MeOH	Q - Na2SO3 R - Na2S2O3
253-896-8708(Tel) Email:	4502279440 Wo #:				ŷ	1		LAME,										G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
ceecon@msn.com					S or	Briego					ilter)					yo	I - Ice J - DI Water	U - Acetone V - MCAA	
Project Name: Pasco Sampling Event	Project #: 58009424				e (Ye	t City	Methanol)	DIPE, ETBE,			(Lab F						containers	K - EDTA L - EDA	W - ph 4-5 Z - other (specify)
Site: Washington	SSOW#.				Spr	1	nol, M	BE, DI			anese	e l							
Sample Identification	S	Sample	Sample Type (C=comp,	Matrix (W=water S=solid, O=weste/o	id Filte	NWTPH_Dx w/8	8015C_DAI (Ethanol,	8260C (BTEX,MT EDB, Napth)	NWTPH Gx	300.0 (Suffate)	200.7 Diss Manganese (Lab Filter)	RSK_175 - Methane	2320B, Alkalinity				Total Number of		
Sample Identification	Sample Date	Time	G=grab) i			A	8	A 82	7700	10000	150000	A I		185	200		£	Special In	structions/Note:
C-MW-02	8/29/16	4:00		Water	TY	×	x	x	x	×	X	×	x				~		
C-MW-03	8/30/16	3:49		Water	×	×	x	x	x										
C-MW-04	8/3411	11:14		Water		×	x	×	x					100			1		
C-MW-06-	8/30/16	1:00		Water		×	x	×	x	x	x	x	x	H					
C-MW-07-	8/30/14	10:14		Water	11	×	×	×	x				34				100		
C-MW-08-	8/30/16	2:31		Water		×	x	x	x	x	x	x	×						
C-MW-10-	8/30/14	9:12		Water	11	×	x	x	x		-			-	_	1			W -
C-MW-11-	8/29/14	12:00		Water	1	×	x	×	×			+				WW			
C-MW-12-		2:02		Water	11	x	x	×	x	x	x	×	x	$\vdash$			$\mathbb{N}\mathbb{N}$		M
C-MW-12D-	8/29/16	2:02		Water	11	×	×	x	x						580-62	238 Ch	ain o	f Custody	_
C-MW-14-	8/29/16	10:35		Water		×	x	x	x		+	+	+			1 1	1		
Possible Hazard Identification  Non-Hazard Flammable Skin Irritant  Deliverable Requested: I, II, III, IV, Other (specify)	Poison B Unkno		adiological		1	mple R	<b>Disp</b> eturn	osal To C	(A i			Dis	osal B	if san y Lab	ples ar		ed lo	nger than 1 mon	th) onths
					- 1	ecial I	Instru	ction	s/QC	Req	luire	ments							
Empty Kit Relinquished by:	Date/Time	Date: Company			Time:	Recei	vad h		4	-		_		Method	of Shipm				
MELLINGE HUNGS A	9-1-10/6 Date/Time:	11 100 1-30 (1900)			CHV	Recei	7	om	10	Low	5	E	150	Date/Time:				1330	Company 7 A-Sec Company
elinquished by:	Date/Time:	Date/Time: Company				Received by:						_	Date/Time:				Company		
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No				Pog	e 42 o	-	r Tem	peratur	re(s) '	°C and	Othe	r Rema	rks:		1				9/16/2016

### TestAmerica Seattle

5755 8th Street East Tacoma, WA 98424

# **Chain of Custody Record**



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9	-		-700	-			1000		
					_		_		

Client Information	Sampler: R e	e d			ab PM: scarez,	Chris	tabel	С						Carrier	racking	No(s):		COC No:	0040.0	
Client Contact: Michael Hodges	Phone: 1/5/3	39-6	453	E	-Mail: hristabe		01.00				240							580-20652- Page:		
Company: CEECON Testing, Inc.					mistabe	31.6566	rezu	jiesia			. 1				-	_		Page 2	05 2	
Address:	Due Date Reques	ted:			-		_			Ana	lysi	s R	eque	ested			_	1.808.00		
434 North Canal Street, Suite Six City:	TAT Requested (c	nua):			_8	- 125										Preservation				
South San Francisco State, Zip:	- Nequested (C	(-)						ETBE, TAME, TBA,1,2-DCA, 1,2-										A - HCL B - NaOH	M - Hexai N - None	
CA, 94080						ш.		A,1,2										C - Zn Acetate D - Nitric Acid	P - Na20-	14S
Phone: 253-896-8708(Tel)	PO#: 4502279440				-10	и.	1	E, TB						1	1 1			E - NaHSO4 F - MeOH	Q - Na2Si R - Na2Si	203
Email:	WO#:				- Î	Ш.		TAM			_							G - Amchlor H - Ascorbic A		Dodecahydrate
ceecon@msn.com Project Name:	Project #:				S or	No.	(for	TBE,			Filter)				11			ا - Ice J - DI Water	U - Acetor V - MCAA	
Pasco Sampling Event Site:	58009424				e (Ye	ST OF	Methanol)	PE, E			(Lab		- 1					K - EDTA L - EDA	W - ph 4-5 Z - other (	
Washington	SSOW#:				dwb	IICa G	nol, M	BE, D			eseu	92		- Manganese				K - EDTA L - EDA Other:		35.500
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=soild, O=waste/oil	ille	NWTPH_DX-WTS	8015C_DAI (Etha	8260C (BTEX,MT EDB, Napth)	NWTPH_Gx	300.0 (Sulfate)	200.7 Diss Manga	RSK_175 - Methane	2320B, Alkalinity	200.7_CWA - Man				Otal Number of Specia		
		><	Telling and the state of the st	tion Code		Z A	THE STATE OF				_	A I		N N			-	Specia	al Instruction	s/Note:
C-EB-	8/24/16	3:05		Water	П	x	x	x	x								-	1		
				Water	$\top$	T					1			-	1		+			
				Water	11					-	+	-	+	+		-	+	8		
				Water	+				+	-	+	+	+	-		-	- 12			
	10			Water	+		1					+	+	+		+	-			
	7/1-			Water	+	-		-	-	-	-	-	+	-						
	4			vvaler	++	-					4	1	4	1						
TB A Cooler Cor & Unc 1.8 — Cooler Dsc La Blown W Lab Wet/Packs Packing — Cooler Dsc Lab — Very Packs Packing — Cooler Dsc Lab — Very Packs Packing — Cooler Dsc Lab — Very Packs Packing — Cooler Dsc Lab — Coole	BA Cooler Cooler Ose \Quad \Quad \Quad   \qu	B) W cking B	O.O Un @Lab Ubble	c0.2	-T	B P	v r D Pack	oole sc_le ss_l	er_Pac	B1 kin	Co.	8-1	ab	ne D	レ	TBM2 Coole	r D	ooler sc by 6   ss Packin	Cord.\ Ualab Walab g Bubbi	n.Ø.3
Possible Hazard Identification  Non-Hazard Flammable Skin Irritant Po					Sa	ample	Disp	osal (	Afe	ee m	ay be	e ass	esse	ed if sa	mples	are retail	ned le	onger than 1 m	tonth)	
Non-Hazard Flammable Skin Irritant Poleliverable Requested: I, II, III, IV, Other (specify)	son B Unknown Radiological				- 1	Recial I	eturn	To CI	ient			Dis	osa	l By La	,		nive I		_ Months	
mpty Kit Relinquished by:		Date:			Time:		_	_						Meth	od of Ship	nmen!				
elinquished by:  MICHAN HODARS  All lelinquished by:	Date/Time:  Date/Time:	9 1-2016 1:30 pm Cole			N	Recei	ved by	10	m	Be	lan	1	X	0	Da	ite/Time:	/10	6 1330		
elinquished by:	Date/Time:	Date/Time: Company		ompany		Recei	ved by:		_							te/Time:			Company	
Custody Seals Intact: Custody Seal No.:	u e		- 1			Coole	Temp	erature	e(s) °C	2 and	Other	Rama	rke							
Δ Yes Δ No				Page	<del>43 c</del>				(-)		- inter	. veilla	Na						Q	/16/2016

Nashville, TN

### **COOLER RECEIPT FORM**

Cooler Received/Opened On 9/8/2016 @ 0930	
Time Samples Removed From Cooler Time Samples Placed In Storage	(2 Hour Window)
1. Tracking #	x
IR Gun ID 17960357 pH Strip Lot HC564992 Chlorine Strip Lot 012516A	
2. Temperature of rep. sample or temp blank when opened: Degrees Celsius	_
3. If Item #2 temperature is $0^{\circ}$ C or less, was the representative sample or temp blank frozen? YE	S NO(NA)
4. Were custody seals on outside of cooler?	ES)NONA
If yes, how many and where:	
5. Were the seals intact, signed, and dated correctly?	ESNONA
6. Were custody papers inside cooler?	ESNONA
Leertify that I opened the cooler and answered questions 1-6 (intial)	<b>F</b> _
7. Were custody seals on containers: YES (NO) and Intact Y	ESNO.
Were these signed and dated correctly?	ESNO(NA)
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper 0	Other None
9. Cooling process: Ce Ice-pack Ice (direct contact) Dry ice	Other None
10. Did all containers arrive in good condition (unbroken)?	ÈsNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	ESNONA
12. Did all container labels and tags agree with custody papers?	ESNONA
13a. Were VOA vials received?	ESNONA
b. Was there any observable headspace present in any VOA vial?	ES(NONA
14. Was there a Trip Blank in this cooler? YESNONA If multiple coolers, sequence	<b>4</b>
I certify that I unloaded the cooler and answered questions 7-14 (intial)	
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YE	ESNO(.NA)
b. Did the bottle labels indicate that the correct preservatives were used	ES).NONA
16. Was residual chlorine present?	ESNO(NA)
I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial)	H4 G
17. Were custody papers properly filled out (ink, signed, etc)?	ĒŜ)NONA
18. Did you sign the custody papers in the appropriate place?	ESNONA
19. Were correct containers used for the analysis requested?	ESNONA
20. Was sufficient amount of sample sent in each container?	ESNONA
I certify that I entered this project into LIMS and answered questions 17-20 (intial)	
I certify that I attached a label with the unique LIMS number to each container (intial)	<u>G</u>
21. Were there Non-Conformance issues at login? YES(NO) Was a NCM generated? YES(NO	.).#

5 8th Street Fact	stAmerica Seattle
	Ð

State, Zip: TN, 37204

Nashville

TAT Requested (days):

615-726-0177(Tel)

615-726-3404(Fax)

Sample Identification - Client ID (Lab ID)

Sample Date

G=grab) (C=comp, Sample

Type

(W=water, S=solid, O=waste/oil,

Matrix

8015C\_DAI/ (MOD) Alcohols

Total Number of containers

RSK\_175/ Methane

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes of No)

Preservation Code:

Water

×

8/29/16

Pacific 15:49

8/30/16 8/30/16

8/30/16

Water

 $\times$ 

×

Water Water

× ×

8/30/16 8/30/16

Water Water

×

×

Water

Water

Pacific 13:00 Pacific 10:14 Pacific 14:31 Pacific 09:12

 $\times$ 

Pasco WA Bulk Terminal

Project Name: Tesoro Pasco

Project #: 58009424

VO #

#WOSS

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424	Chain of Custody Record	Loc: 580 <b>6223</b> 8	<sup>500</sup> ≥stAmerico
Phone (253) 922-2310 Fax (253) 922-5047			LEADER IN ENVIRONMENTAL TESTING
	Sampler: Lab	Lab PM:	No:
Client Information (Sub Contract Lab)	Es	Escarez, Christabel C	40591.1
Client Contact	Phone: E-Mail:	Aail:	Page:
Shipping/Receiving	chı	christabel.escarez@testamericainc.com	Page 1 of 2
Company:			
Test-America Laboratories, Inc		Analysis Requested	ested 580-62238-1
Address:	Due Date Requested:		Preservation Codes:
			A-HO M- Haxana

\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		M:
LEADER IN ENVIRONMENTAL TESTING (2)		
20		2
₹ 2 7 7 C 1	0 / \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	

No:	LEADER IN ENVIRONMENTAL TESTING	というというない というない あいとうない ないかん ないない ないない ないない ないない ないない ないない ない
	_ ,_	

Special Instructions/Note: M - Hexane
N - None
O - AsNaO2
P - NaZO4S
O - NaZSO3
R - NaZSO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

A - HCL
B - NaoH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
I - loe
J - DI Water
X - EDTA
L - EDA

C-MW-14 (580-62238-11) C-MW-12D (580-62238-10) C-MW-12 (580-62238-9) C-MW-11 (580-62238-8) C-MW-10 (580-62238-7) C-MW-08 (580-62238-6) C-MW-07 (580-62238-5) C-MW-06 (580-62238-4) C-MW-04 (580-62238-3) C-MW-03 (580-62238-2) C-MW-02 (580-62238-1)

Possible Hazard Identification

Empty Kit Relinquished by

Relinquished by:

Date/∏ime

Company

Received by:

Cooler Temperature(s) °C and Other Remarks:

5

S

STEP TO Company

N

9/8///

8930

Company

Company

Method of Shipment

l Ime:

Special Instructions/QC Requirements:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Month

Months

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Custody Seals Intact:

∆ Yes ∆ No

Custody Seal No.

Deliverable Requested: I, II, III, IV, Other (specify)

Primary Deliverable Rank: 2

8/29/16 8/29/16 8/29/16 8/29/16 8/30/16

Water Water

× ×  $\times$ × ×

Pacific 12:00 Pacific 14:02 Pacific 14:02

Water

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Custody Seals Intact: Custody Seal No.:  ∆ Yes ∆ No		Relinquished by:	Relinquished by: B. H.C.	Empty Kit Relinquished by:	Deliverable Requested: I, II, III, IV, Other (specify)	Unconfirmed	Possible Hazard Identification						,	Trio Blank (580-62238-13)	C-EB (580-62238-12)		Sample Identification - Client ID (Lab ID)	Pasco WA Bulk Terminal	Project Name: Tesoro Pasco	Email:	Phone: 615-726-0177(Tel) 615-726-3404(Fax)	Nate, Zip: TN, 37204	City: Nashville	Address: 2960 Foster Creighton Drive,	TestAmerica Laboratories, Inc	Client Contact Shipping/Receiving	Client Information (Sub Contract Lab)	5755 8th Street East Tacoma, WA 98424 Phone (253) 922-2310 Fax (253) 922-5047	TestAmerica Seattle
	Date/Time:	Date/Time:	Date Time: 7.16		Primary Deliverable Rank: 2									915e3	8/29/16	$\bigvee$	Sample Date	SSOV#:	Project #: 58009424	WO#	PO#		TAT Requested (days):	Due Date Requested: 9/14/2016		Phone	wampen.		
			133	Date:	ble Rank: 2									w E	15:05 Pacific	/ \	Sample (C						/s):	#			Į.	Chain of Custody Record	
	Company	Company	F School					_						Car	Water	സ	Sample (Wewnter, Type Sesolid, (C=comp, G=grab) BT=Tissue, A=Air)											Custody	ı
	У	l	ETA TA	Time:	Spe	6	3			-				3	ter	å X	Field Filtered									E-Mail: christabel.e:	ez .	/ Reco	
Cooler Temperature(s)	Received by:	Received by:	Received by:		Special Instructions/QC Requirements	Return To C	nnie Dispos								×		8015C_DAI/ (M RSK_175/ Meti		cohols							E-Mail: christabel.escarez@testam	Christabel C		ı
			Lik!		ons/QC Rec	) Client	×Ι																		Analys	americainc.com			
°C and Other Remarks:			12		juirements:	Dispo	ho asso	+	-																Analysis Requested	om.	Came		
iv.				Method of Shipment:		Disposal By Lab	sod if sam	+																	sted	1		Loc: 580	
	Date/Time:	Date/Time:	Date/Time: 9/5/16	ipment:			nios aro roti	+										-									C	ສິ	
			84			rchive For	ined lange					1 1		(1)	ω	X	Total Numbe	r of co		_	G - Amchior H - Ascorbic	E - NaHSO4	B - NaOH C - Zn Acetate	Preserv A-HCL	580-62238-1	Page: Page 2 of 2	580-40591.2	31 3H1	<u></u> <del>p</del> '
			30			ant Disposal By Lab Archive For Mont	rthan 1 mo									V	pecial Inst				cid			Preservation Codes: A - HCL M	238-1	of 2	591.2	ADER IN ENVI	? <b>↓</b>
	Company	Company	Company			Months	nth)										Special Instructions/Note:		:- other (specify)	U - Acetone V - MCAA W - DH 4-5	) - H2SO4 TSP Dodecahydrate	? - Na2SO3 ? - Na2SO3	N - None O - AsNaO2	: 1- Hexane				HE LEADER IN ENVIRONMENTAL TESTING	estamerica

## **Login Sample Receipt Checklist**

Client: Tesoro Logistics Operations LLC Job Number: 580-62238-1

Login Number: 62238 List Source: TestAmerica Seattle

List Number: 1

Creator: Torres, Terri L

Oreator. Torres, Terri L		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	Received Trip Blank(s) not listed on 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	Refer to Job Narrative for details.
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	False	Refer to Job Narrative for details.
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.	True	

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## **Login Sample Receipt Checklist**

Client: Tesoro Logistics Operations LLC Job Number: 580-62238-1

List Source: TestAmerica Nashville
List Number: 2
List Creation: 09/08/16 03:52 PM

Creator: Gundi, Hozar K

Creator: Gundi, Hozar K		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
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.	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.	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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## **Login Sample Receipt Checklist**

Client: Tesoro Logistics Operations LLC Job Number: 580-62238-1

List Source: TestAmerica Nashville
List Number: 3
List Creation: 09/16/16 02:05 PM

Creator: Ford, Easton

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

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