

ANALYTICAL SUMMARY REPORT

March 26, 2013

Marathon Oil Company
743 Horizon Court Ste. 220
Grand Junction, CO 81506

Workorder No.: G13020247

Project Name: Produced_Water

Energy Laboratories Inc. Gillette WY received the following 2 samples for Marathon Oil Company on 2/14/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G13020247-001	PW_18A_Loadout	02/13/13 12:30	02/14/13	Aqueous	Metals by ICP/ICPMS, Total Conductivity Mercury, Total DRO-Liquid-Liquid Extraction Diesel Range Organics Gasoline Range Organics Methanol Waters-Prep Non-Halogenated Organics by GC-FID Metals by, Dissolved pH Metals Digestion by EPA 200.2 Digestion, Total Metals Digestion, Mercury by CVAA Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Solids, Total Dissolved Solids, Total Suspended 8260-Volatile Organic Compounds-Short List
G13020247-002	TRIP BLANK- LOTg21la1302111335	02/13/13 12:30	02/14/13	Trip Blank	8260-Volatile Organic Compounds-Short List

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By:



CLIENT: Marathon Oil Company

Project: Produced_Water

Sample Delivery Group: G13020247

Report Date: 03/26/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Marathon Oil Company
Site Name: 2013_18A_Water_Profile
Project: Produced_Water
Client Sample ID: PW_18A_Loadout
Location:
Samp FRQ/Type: SP
Lab ID: G13020247-001

Report Date: 03/26/13
Collection Date: 02/13/13 12:30
Date Received: 02/14/13
Sampled By: Scott Distel
Matrix: Aqueous
Tracking Number:

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL						
Arsenic	0.002	mg/L	0.001		SW6020	02/26/13 19:09 / eli-b
Barium	10.3	mg/L	0.05		SW6020	02/22/13 21:20 / eli-b
Cadmium	ND	mg/L	0.001		SW6020	02/26/13 19:09 / eli-b
Chromium	ND	mg/L	0.005		SW6020	02/26/13 19:09 / eli-b
Lead	ND	mg/L	0.001		SW6020	02/26/13 19:09 / eli-b
Mercury	0.0021	mg/L	0.0001		SW7470A	03/01/13 17:09 / eli-b
Selenium	ND	mg/L	0.03	D	SW6020	02/28/13 14:43 / eli-b
Silver	ND	mg/L	0.001		SW6020	02/26/13 19:09 / eli-b
NON-METALS						
pH	6.62	s.u.	0.01	H	A4500-H B	02/14/13 17:27 / blb
Solids, Total Dissolved TDS @ 180 C	7470	mg/L	200		A2540 C	02/15/13 08:37 / blb
Solids, Total Suspended TSS @ 105 C	ND	mg/L	10		A2540 D	02/15/13 10:51 / blb
RADIONUCLIDES - TOTAL						
Radium 226	1.5	pCi/L			E903.0	03/11/13 13:19 / eli-ca
Radium 226 precision (±)	0.35	pCi/L			E903.0	03/11/13 13:19 / eli-ca
Radium 226 MDC	0.29	pCi/L			E903.0	03/11/13 13:19 / eli-ca
Radium 228	-0.09	pCi/L		U	RA-05	03/21/13 18:21 / eli-ca
Radium 228 precision (±)	1.1	pCi/L			RA-05	03/21/13 18:21 / eli-ca
Radium 228 MDC	1.8	pCi/L			RA-05	03/21/13 18:21 / eli-ca
Radium 226 + Radium 228	1.4	pCi/L		U	A7500-RA	03/26/13 10:04 / eli-ca
Radium 226 + Radium 228 precision (±)	1.1	pCi/L			A7500-RA	03/26/13 10:04 / eli-ca
Radium 226 + Radium 228 MDC	1.8	pCi/L			A7500-RA	03/26/13 10:04 / eli-ca
Uranium	ND	mg/L	0.0003		E200.8	02/25/13 20:19 / eli-ca
NON-HALOGENATED ORGANICS BY GC-FID						
Methanol	476	mg/L	5.0		SW8015B	02/21/13 12:54 / eli-b
Surr: sec-Butyl Alcohol	106	%REC	80-120		SW8015B	02/21/13 12:54 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE						
Gasoline Range Organics (GRO)	333000	ug/L	5000		SW8015B	02/22/13 20:50 / eli-b
Total Purgeable Hydrocarbons	405000	ug/L	5000		SW8015B	02/22/13 20:50 / eli-b
Surr: Trifluorotoluene	377	%REC	70-130	S	SW8015B	02/22/13 20:50 / eli-b
- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene. - Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time. - S=The Surrogate recovery was outside QC advisory limits due to positive sample matrix interference. - The sample was received in the laboratory with a pH > 2. The pH was 7.						
PETROLEUM HYDROCARBONS-SEMI-VOLATILE						
Diesel Range Organics (DRO)	135	mg/L	6.0		SW8015B	02/21/13 11:26 / eli-b
Total Extractable Hydrocarbons	234	mg/L	6.0		SW8015B	02/21/13 11:26 / eli-b

Report Definitions:
 RL - Analyte reporting limit.
 QCL - Quality control limit.
 MDC - Minimum detectable concentration
 H - Analysis performed past recommended holding time.
 U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.
 D - RL increased due to sample matrix.
 S - Spike recovery outside of advisory limits.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Marathon Oil Company
Site Name: 2013_18A_Water_Profile
Project: Produced_Water
Client Sample ID: PW_18A_Loadout
Location:
Samp FRQ/Type: SP
Lab ID: G13020247-001

Report Date: 03/26/13
Collection Date: 02/13/13 12:30
Date Received: 02/14/13
Sampled By: Scott Distel
Matrix: Aqueous
Tracking Number:

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
PETROLEUM HYDROCARBONS-SEMI-VOLATILE						
Surr: o-Terphenyl	104	%REC	50-150		SW8015B	02/21/13 11:26 / eli-b
- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28. - Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.						
VOLATILE ORGANIC COMPOUNDS						
Benzene	20000	ug/L	2500		SW8260B	02/25/13 13:36 / eli-b
Bromobenzene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Bromochloromethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Bromodichloromethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Bromoform	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Bromomethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Carbon tetrachloride	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Chlorobenzene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Chlorodibromomethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Chloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
2-Chloroethyl vinyl ether	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Chloroform	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Chloromethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,2-Dibromoethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
2-Chlorotoluene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
4-Chlorotoluene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Dibromomethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,2-Dichlorobenzene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,3-Dichlorobenzene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,4-Dichlorobenzene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Dichlorodifluoromethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,1-Dichloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,2-Dichloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,1-Dichloroethene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
cis-1,2-Dichloroethene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
trans-1,2-Dichloroethene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,2-Dichloropropane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,3-Dichloropropane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
2,2-Dichloropropane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,1-Dichloropropene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
cis-1,3-Dichloropropene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
trans-1,3-Dichloropropene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Ethylbenzene	3200	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Methyl ethyl ketone	ND	ug/L	5000		SW8260B	02/25/13 14:09 / eli-b
Methyl tert-butyl ether (MTBE)	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Methylene chloride	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Styrene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Marathon Oil Company
Site Name: 2013_18A_Water_Profile
Project: Produced_Water
Client Sample ID: PW_18A_Loadout
Location:
Samp FRQ/Type: SP
Lab ID: G13020247-001

Report Date: 03/26/13
Collection Date: 02/13/13 12:30
Date Received: 02/14/13
Sampled By: Scott Distel
Matrix: Aqueous
Tracking Number:

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS						
1,1,1,2-Tetrachloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Tetrachloroethene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Toluene	58000	ug/L	2500		SW8260B	02/25/13 13:36 / eli-b
1,1,1-Trichloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,1,2-Trichloroethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Trichloroethene	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Trichlorofluoromethane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
1,2,3-Trichloropropane	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
Vinyl chloride	ND	ug/L	250		SW8260B	02/25/13 14:09 / eli-b
m+p-Xylenes	41000	ug/L	2500		SW8260B	02/25/13 13:36 / eli-b
o-Xylene	5800	ug/L	2500		SW8260B	02/25/13 13:36 / eli-b
Xylenes, Total	46800	ug/L	2500		SW8260B	02/25/13 13:36 / eli-b
Surr: Dibromofluoromethane	100	%REC	77-126		SW8260B	02/25/13 14:09 / eli-b
Surr: 1,2-Dichloroethane-d4	100	%REC	70-130		SW8260B	02/25/13 14:09 / eli-b
Surr: Toluene-d8	106	%REC	79-122		SW8260B	02/25/13 14:09 / eli-b
Surr: p-Bromofluorobenzene	106	%REC	76-127		SW8260B	02/25/13 14:09 / eli-b
- The reporting limit reflects a 500 times dilution. The sample was diluted due to sample matrix interference.						

Report RL - Analyte reporting limit.
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Marathon Oil Company
Site Name: 2013_18A_Water_Profile
Project: Produced_Water
Client Sample ID: TRIP BLANK-LOTg2tla1302111335
Location:
Samp FRQ/Type: SP
Lab ID: G13020247-002

Report Date: 03/26/13
Collection Date: 02/13/13 12:30
Date Received: 02/14/13
Sampled By: Scott Distel
Matrix: Trip Blank
Tracking Number:

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS						
Benzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Bromobenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Bromochloromethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Bromodichloromethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Bromoform	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Bromomethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Carbon tetrachloride	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Chlorobenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Chlorodibromomethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Chloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
2-Chloroethyl vinyl ether	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Chloroform	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Chloromethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,2-Dibromoethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
2-Chlorotoluene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
4-Chlorotoluene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Dibromomethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,2-Dichlorobenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,3-Dichlorobenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,4-Dichlorobenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Dichlorodifluoromethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1-Dichloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,2-Dichloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1-Dichloroethene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
cis-1,2-Dichloroethene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
trans-1,2-Dichloroethene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,2-Dichloropropane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,3-Dichloropropane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
2,2-Dichloropropane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1-Dichloropropene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
cis-1,3-Dichloropropene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
trans-1,3-Dichloropropene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Ethylbenzene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Methyl ethyl ketone	ND	ug/L	20		SW8260B	02/25/13 13:02 / eli-b
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Methylene chloride	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Styrene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Tetrachloroethene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Toluene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,1,1-Trichloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Marathon Oil Company
Site Name: 2013_18A_Water_Profile
Project: Produced_Water
Client Sample ID: TRIP BLANK-LOTg2tla1302111335
Location:
Samp FRQ/Type: SP
Lab ID: G13020247-002

Report Date: 03/26/13
Collection Date: 02/13/13 12:30
Date Received: 02/14/13
Sampled By: Scott Distel
Matrix: Trip Blank
Tracking Number:

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS						
1,1,2-Trichloroethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Trichloroethene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Trichlorofluoromethane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
1,2,3-Trichloropropane	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Vinyl chloride	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
m+p-Xylenes	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
o-Xylene	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Xylenes, Total	ND	ug/L	1.0		SW8260B	02/25/13 13:02 / eli-b
Surr: Dibromofluoromethane	101	%REC	77-126		SW8260B	02/25/13 13:02 / eli-b
Surr: 1,2-Dichloroethane-d4	103	%REC	70-130		SW8260B	02/25/13 13:02 / eli-b
Surr: Toluene-d8	104	%REC	79-122		SW8260B	02/25/13 13:02 / eli-b
Surr: p-Bromofluorobenzene	105	%REC	76-127		SW8260B	02/25/13 13:02 / eli-b

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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Marathon Oil Company

Report Date: 03/26/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C							Batch: TDS130215A		
Sample ID: MB-1_130215A	Method Blank				Run: BAL-MET-AE_130215B		02/15/13 08:37		
Solids, Total Dissolved TDS @ 180 C	7	mg/L	5						
Sample ID: LCS-2_130215A	Laboratory Control Sample				Run: BAL-MET-AE_130215B		02/15/13 08:37		
Solids, Total Dissolved TDS @ 180 C	1090	mg/L	11	98	90	110			
Sample ID: G13020247-001A DUP	Sample Duplicate				Run: BAL-MET-AE_130215B		02/15/13 08:38		
Solids, Total Dissolved TDS @ 180 C	7530	mg/L	170				0.8	5	
Sample ID: G13020249-001A MS	Sample Matrix Spike				Run: BAL-MET-AE_130215B		02/15/13 08:38		
Solids, Total Dissolved TDS @ 180 C	1040	mg/L	17	97	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Marathon Oil Company

Report Date: 03/26/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D							Batch: 130215_1_SLDS-TSS-W		
Sample ID: MBLK-1_130215	Method Blank					Run: BAL-MET-AE_130215A		02/15/13 10:48	
Solids, Total Suspended TSS @ 105 C	ND	mg/L	3						
Sample ID: LCS-1_130215	Laboratory Control Sample					Run: BAL-MET-AE_130215A		02/15/13 10:48	
Solids, Total Suspended TSS @ 105 C	89	mg/L	10	89	80	120			
Sample ID: G13020171-001BDUP	Sample Duplicate					Run: BAL-MET-AE_130215A		02/15/13 10:49	
Solids, Total Suspended TSS @ 105 C	22	mg/L	10				0.8	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Marathon Oil Company

Report Date: 03/26/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B	Analytical Run: PHSC_101-G_130214A								
Sample ID: pH 8	Initial Calibration Verification Standard								02/14/13 13:51
pH	7.97	s.u.	0.010	100	98	102			
Method: A4500-H B									Batch: R201437
Sample ID: G13020186-001ADUP	Sample Duplicate				Run: PHSC_101-G_130214A				02/14/13 17:04
pH	7.21	s.u.	0.010				0.3	1.5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020						Analytical Run: ICPMS202-B_130222A				
Sample ID: ICSA		Interference Check Sample A								02/22/13 12:22
Barium		0.000240	mg/L	0.0010						
Sample ID: ICSAB		Interference Check Sample AB								02/22/13 12:25
Barium		0.000130	mg/L	0.0010		0	0			
Sample ID: QCS		Initial Calibration Verification Standard								02/22/13 16:47
Barium		0.0489	mg/L	0.0010	98	90	110			
Method: SW6020						Batch: 69169				
Sample ID: MB-69169		6	Method Blank			Run: ICPMS202-B_130222A			02/22/13 21:06	
Arsenic		ND	mg/L	0.0008						
Barium		ND	mg/L	0.0001						
Cadmium		ND	mg/L	0.0003						
Chromium		0.002	mg/L	0.0003						
Lead		ND	mg/L	0.0002						
Silver		0.0003	mg/L	0.0002						
Sample ID: B13021064-002ADIL		6	Serial Dilution			Run: ICPMS202-B_130222A			02/22/13 21:17	
Arsenic		ND	mg/L	0.075		0	0		10	
Barium		0.107	mg/L	0.050		0	0		10	N
Cadmium		ND	mg/L	0.035		0	0		10	
Chromium		0.0542	mg/L	0.030		0	0		10	N
Lead		ND	mg/L	0.018		0	0		10	
Silver		ND	mg/L	0.022		0	0		10	
Sample ID: LCS-69169		6	Laboratory Control Sample			Run: ICPMS202-B_130222A			02/22/13 21:23	
Arsenic		0.452	mg/L	0.0015	90	85	115			
Barium		0.503	mg/L	0.050	101	85	115			
Cadmium		0.230	mg/L	0.0010	92	85	115			
Chromium		0.489	mg/L	0.0050	97	85	115			
Lead		0.506	mg/L	0.0010	101	85	115			
Silver		0.0497	mg/L	0.0010	99	85	115			
Sample ID: B13021064-002AMS3		6	Sample Matrix Spike			Run: ICPMS202-B_130222A			02/22/13 21:40	
Arsenic		4.63	mg/L	0.015	92	75	125			
Barium		5.33	mg/L	0.050	104	75	125			
Cadmium		2.20	mg/L	0.0070	88	75	125			
Chromium		4.90	mg/L	0.0059	97	75	125			
Lead		5.39	mg/L	0.0036	108	75	125			
Silver		0.457	mg/L	0.0045	91	75	125			
Sample ID: B13021064-002AMSD		6	Sample Matrix Spike Duplicate			Run: ICPMS202-B_130222A			02/22/13 21:42	
Arsenic		4.56	mg/L	0.015	91	75	125	1.6	20	
Barium		5.36	mg/L	0.050	105	75	125	0.4	20	
Cadmium		2.19	mg/L	0.0070	87	75	125	0.8	20	
Chromium		4.92	mg/L	0.0059	98	75	125	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 69169
Sample ID: B13021064-002AMSD 6 Sample Matrix Spike Duplicate										
						Run: ICPMS202-B_130222A		02/22/13 21:42		
Lead		5.41	mg/L	0.0036	108	75	125	0.4	20	
Silver		0.456	mg/L	0.0045	91	75	125	0.3	20	
Sample ID: G13020247-001CMS3 6 Sample Matrix Spike										
						Run: ICPMS202-B_130222A		02/22/13 21:48		
Arsenic		0.505	mg/L	0.015	101	75	125			
Barium		10.9	mg/L	0.050		75	125			A
Cadmium		0.239	mg/L	0.0070	96	75	125			
Chromium		0.533	mg/L	0.0059	107	75	125			
Lead		0.508	mg/L	0.0036	102	75	125			
Silver		0.0488	mg/L	0.0045	98	75	125			
Sample ID: G13020247-001CMSD 6 Sample Matrix Spike Duplicate										
						Run: ICPMS202-B_130222A		02/22/13 21:51		
Arsenic		0.513	mg/L	0.015	103	75	125	1.6	20	
Barium		11.2	mg/L	0.050		75	125	3.0	20	A
Cadmium		0.250	mg/L	0.0070	100	75	125	4.4	20	
Chromium		0.546	mg/L	0.0059	109	75	125	2.4	20	
Lead		0.523	mg/L	0.0036	105	75	125	2.8	20	
Silver		0.0503	mg/L	0.0045	101	75	125	2.9	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020				Analytical Run: ICPMS203-B_130225A						
Sample ID: ICSA	5	Interference Check Sample A								02/26/13 01:56
Arsenic		0.000133	mg/L	0.0010						
Cadmium		0.000573	mg/L	0.0010						
Chromium		0.000992	mg/L	0.0010						
Lead		0.000228	mg/L	0.0010						
Silver		6.10E-05	mg/L	0.0010						
Sample ID: ICSAB	5	Interference Check Sample AB								02/26/13 02:01
Arsenic		0.00994	mg/L	0.0010	99	70	130			
Cadmium		0.0100	mg/L	0.0010	100	70	130			
Chromium		0.0209	mg/L	0.0010	104	70	130			
Lead		0.000124	mg/L	0.0010		0	0			
Silver		0.0183	mg/L	0.0010	92	70	130			
Sample ID: QCS	5	Initial Calibration Verification Standard								02/26/13 11:02
Arsenic		0.0515	mg/L	0.0010	103	90	110			
Cadmium		0.0261	mg/L	0.0010	104	90	110			
Chromium		0.0513	mg/L	0.0010	103	90	110			
Lead		0.0495	mg/L	0.0010	99	90	110			
Silver		0.0254	mg/L	0.0010	101	90	110			
Method: SW6020				Batch: 69169						
Sample ID: MB-69169	6	Method Blank								Run: ICPMS203-B_130225A 02/26/13 18:53
Arsenic		ND	mg/L	0.001						
Barium		ND	mg/L	0.002						
Cadmium		ND	mg/L	0.0004						
Chromium		ND	mg/L	0.002						
Lead		ND	mg/L	0.0004						
Silver		ND	mg/L	0.0005						
Sample ID: G13020247-001CDIL	6	Serial Dilution								Run: ICPMS203-B_130225A 02/26/13 19:14
Arsenic		ND	mg/L	0.034		0	0			10
Barium		11.5	mg/L	0.050		0	0	9.6		10
Cadmium		ND	mg/L	0.0089		0	0			10
Chromium		ND	mg/L	0.053		0	0			10
Lead		ND	mg/L	0.0097		0	0			10
Silver		ND	mg/L	0.013		0	0			10
Sample ID: LCS-69169	6	Laboratory Control Sample								Run: ICPMS203-B_130225A 02/26/13 19:20
Arsenic		0.476	mg/L	0.0014	95	85	115			
Barium		0.494	mg/L	0.050	99	85	115			
Cadmium		0.248	mg/L	0.0010	99	85	115			
Chromium		0.507	mg/L	0.0050	101	85	115			
Lead		0.494	mg/L	0.0010	99	85	115			
Silver		0.0495	mg/L	0.0010	99	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 69169
Sample ID: G13020247-001CMS3 6 Sample Matrix Spike										Run: ICPMS203-B_130225A 02/26/13 19:51
Arsenic		0.492	mg/L	0.0014	98	75	125			
Barium		11.5	mg/L	0.050		75	125			A
Cadmium		0.246	mg/L	0.0010	98	75	125			
Chromium		0.515	mg/L	0.0050	103	75	125			
Lead		0.532	mg/L	0.0010	106	75	125			
Silver		0.0468	mg/L	0.0010	94	75	125			
Sample ID: G13020247-001CMSD 6 Sample Matrix Spike Duplicate										Run: ICPMS203-B_130225A 02/26/13 19:56
Arsenic		0.496	mg/L	0.0014	99	75	125	0.9	20	
Barium		11.9	mg/L	0.050		75	125	3.0	20	A
Cadmium		0.247	mg/L	0.0010	99	75	125	0.4	20	
Chromium		0.519	mg/L	0.0050	104	75	125	0.8	20	
Lead		0.540	mg/L	0.0010	108	75	125	1.5	20	
Silver		0.0491	mg/L	0.0010	98	75	125	4.9	20	

Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020						Analytical Run: ICPMS203-B_130228A				
Sample ID: ICSA		Interference Check Sample A							02/28/13 10:12	
Selenium		0.000306	mg/L	0.0010						
Sample ID: ICSAB		Interference Check Sample AB							02/28/13 10:17	
Selenium		0.00908	mg/L	0.0010	91	70	130			
Sample ID: QCS		Initial Calibration Verification Standard							02/28/13 12:47	
Selenium		0.0529	mg/L	0.0010	106	90	110			
Method: SW6020						Batch: 69169				
Sample ID: MB-69169		7	Method Blank			Run: ICPMS203-B_130228A			02/28/13 11:06	
Arsenic		ND	mg/L	0.001						
Barium		ND	mg/L	0.002						
Cadmium		ND	mg/L	0.0004						
Chromium		ND	mg/L	0.002						
Lead		ND	mg/L	0.0004						
Selenium		ND	mg/L	0.008						
Silver		ND	mg/L	0.0005						
Sample ID: G13020247-001CDIL		7	Serial Dilution			Run: ICPMS203-B_130228A			02/28/13 11:16	
Arsenic		ND	mg/L	0.14		0	0		10	
Barium		9.25	mg/L	0.16		0	0	11	10	R
Cadmium		ND	mg/L	0.036		0	0		10	
Chromium		ND	mg/L	0.21		0	0		10	
Lead		ND	mg/L	0.039		0	0		10	
Selenium		ND	mg/L	0.76		0	0		10	
Silver		ND	mg/L	0.052		0	0		10	
Sample ID: LCS-69169		7	Laboratory Control Sample			Run: ICPMS203-B_130228A			02/28/13 11:21	
Arsenic		0.451	mg/L	0.0014	90	85	115			
Barium		0.486	mg/L	0.050	97	85	115			
Cadmium		0.247	mg/L	0.0010	99	85	115			
Chromium		0.467	mg/L	0.0050	93	85	115			
Lead		0.486	mg/L	0.0010	97	85	115			
Selenium		0.459	mg/L	0.0076	92	85	115			
Silver		0.0475	mg/L	0.0010	95	85	115			
Sample ID: G13020247-001CMS3		7	Sample Matrix Spike			Run: ICPMS203-B_130228A			02/28/13 11:32	
Arsenic		0.490	mg/L	0.0055	98	75	125			
Barium		10.7	mg/L	0.050		75	125			A
Cadmium		0.244	mg/L	0.0014	98	75	125			
Chromium		0.476	mg/L	0.0085	95	75	125			
Lead		0.483	mg/L	0.0015	97	75	125			
Selenium		0.494	mg/L	0.030	99	75	125			
Silver		0.0480	mg/L	0.0021	96	75	125			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 69169
Sample ID: G13020247-001CMSD 7 Sample Matrix Spike Duplicate										Run: ICPMS203-B_130228A 02/28/13 11:53
Arsenic		0.457	mg/L	0.0055	91	75	125	6.9	20	
Barium		10.9	mg/L	0.050		75	125	2.3	20	A
Cadmium		0.242	mg/L	0.0014	97	75	125	0.7	20	
Chromium		0.447	mg/L	0.0085	89	75	125	6.4	20	
Lead		0.492	mg/L	0.0015	98	75	125	1.7	20	
Selenium		0.445	mg/L	0.030	89	75	125	10	20	
Silver		0.0466	mg/L	0.0021	93	75	125	3.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/04/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7470A							Analytical Run: HGCV201-B_130301B			
Sample ID: QCS		Initial Calibration Verification Standard								03/01/13 16:51
Mercury		0.00206	mg/L	0.00010	103	90	110			
Method: SW7470A							Batch: 69478			
Sample ID: MB-69478		Method Blank								03/01/13 17:02
Mercury		ND	mg/L	1E-05						
Sample ID: LCS-69478		Laboratory Control Sample								03/01/13 17:05
Mercury		0.00208	mg/L	0.00010	104	80	120			
Sample ID: B13021969-001ADIL		Serial Dilution								03/01/13 17:14
Mercury		ND	mg/L	0.0012		0	0			20
Sample ID: B13021969-001AMS		Sample Matrix Spike								03/01/13 17:17
Mercury		0.0104	mg/L	0.00025	103	75	125			
Sample ID: B13021969-001AMSD		Sample Matrix Spike Duplicate								03/01/13 17:20
Mercury		0.0104	mg/L	0.00025	102	75	125	0.5		20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Marathon Oil Company

Project: Produced_Water

Report Date: 03/25/13

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0							Batch: RA226-6523		
Sample ID: C13020598-001AMS	Sample Matrix Spike				Run: BERTHOLD 770-1_130222C		03/11/13 13:19		
Radium 226	22	pCi/L	98		70	130			
Sample ID: C13020598-001AMSD	Sample Matrix Spike Duplicate				Run: BERTHOLD 770-1_130222C		03/11/13 13:19		
Radium 226	24	pCi/L	106		70	130	10	21.2	
Sample ID: MB-RA226-6523	Method Blank				Run: BERTHOLD 770-1_130222C		03/11/13 15:00		
Radium 226	-0.03	pCi/L							U
Radium 226 precision (±)	0.08	pCi/L							
Radium 226 MDC	0.2	pCi/L							
Sample ID: LCS-RA226-6523	Laboratory Control Sample				Run: BERTHOLD 770-1_130222C		03/11/13 15:00		
Radium 226	12	pCi/L	103		80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Marathon Oil Company

Report Date: 03/25/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05							Batch: RA228-4364		
Sample ID: LCS-228-RA228-4364	Laboratory Control Sample				Run: G542M_130315C		03/21/13 18:21		
Radium 228	3.9	pCi/L		86	80	120			
Sample ID: MB-228-RA228-4364	Method Blank				Run: G542M_130315C		03/21/13 18:21		
Radium 228	0.04	pCi/L							U
Radium 228 precision (\pm)	2	pCi/L							
Radium 228 MDC	3	pCi/L							
Sample ID: C13020598-003AMS	Sample Matrix Spike				Run: G542M_130315C		03/21/13 19:53		
Radium 228	-3.1	pCi/L		-20	70	130			US
- Spike response is outside of the acceptance range for this analysis. Since the LCS and the RPD for the MS MSD pair are acceptable, the response is considered to be matrix related. The batch is approved.									
Sample ID: C13020598-003AMSD	Sample Matrix Spike Duplicate				Run: G542M_130315C		03/21/13 19:53		
Radium 228	-0.3	pCi/L		10	70	130	160	370.8	US

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Marathon Oil Company

Report Date: 03/05/13

Project: Produced_Water

Work Order: G13020247

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS2-C_130225A		
Sample ID: ICV		Initial Calibration Verification Standard								02/25/13 13:49
Uranium		0.0504	mg/L	0.00030	101	90	110			
Method: E200.8								Batch: 36621		
Sample ID: MB-36621		Method Blank								02/25/13 19:05
Uranium		0.0002	mg/L	1E-05						
Sample ID: LCS3-36621		Laboratory Control Sample								02/25/13 19:08
Uranium		0.555	mg/L	0.00030	111	85	115			
Sample ID: C13020549-037AMS3		Sample Matrix Spike								02/25/13 20:29
Uranium		0.582	mg/L	0.00030	114	70	130			
Sample ID: C13020549-037AMSD		Sample Matrix Spike Duplicate								02/25/13 20:31
Uranium		0.582	mg/L	0.00030	114	70	130	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: lcs022513_	Laboratory Control Sample				Run: VOA5975C.L_130225A			02/25/13 11:20	
Benzene	4.44	ug/L	1.0	89	71	133			
Bromobenzene	4.68	ug/L	1.0	94	78	133			
Bromochloromethane	4.76	ug/L	1.0	95	68	131			
Bromodichloromethane	4.56	ug/L	1.0	91	67	138			
Bromoform	4.88	ug/L	1.0	98	64	136			
Bromomethane	3.14	ug/L	1.0	63	60	138			
Carbon tetrachloride	4.52	ug/L	1.0	90	61	144			
Chlorobenzene	4.80	ug/L	1.0	96	78	136			
Chlorodibromomethane	4.80	ug/L	1.0	96	72	136			
Chloroethane	4.88	ug/L	1.0	98	64	136			
Chloroform	4.24	ug/L	1.0	85	69	133			
Chloromethane	4.52	ug/L	1.0	90	63	149			
2-Chloroethyl vinyl ether	1.95	ug/L	1.0	39	64	132			S
1,2-Dibromoethane	4.88	ug/L	1.0	98	75	131			
2-Chlorotoluene	4.64	ug/L	1.0	93	74	135			
Dibromomethane	4.64	ug/L	1.0	93	72	133			
1,2-Dichlorobenzene	4.76	ug/L	1.0	95	78	129			
4-Chlorotoluene	4.72	ug/L	1.0	94	79	135			
1,3-Dichlorobenzene	4.72	ug/L	1.0	94	79	132			
1,4-Dichlorobenzene	4.72	ug/L	1.0	94	78	131			
Dichlorodifluoromethane	5.28	ug/L	1.0	106	55	141			
1,1-Dichloroethane	4.48	ug/L	1.0	90	72	130			
1,2-Dichloroethane	4.40	ug/L	1.0	88	57	146			
1,1-Dichloroethene	4.76	ug/L	1.0	95	66	142			
cis-1,2-Dichloroethene	4.64	ug/L	1.0	93	74	133			
trans-1,2-Dichloroethene	4.36	ug/L	1.0	87	76	138			
1,2-Dichloropropane	4.40	ug/L	1.0	88	72	135			
1,3-Dichloropropane	4.64	ug/L	1.0	93	75	134			
2,2-Dichloropropane	4.76	ug/L	1.0	95	42	167			
1,1-Dichloropropene	4.56	ug/L	1.0	91	72	140			
cis-1,3-Dichloropropene	4.76	ug/L	1.0	95	75	132			
trans-1,3-Dichloropropene	5.40	ug/L	1.0	108	77	145			
Ethylbenzene	4.80	ug/L	1.0	96	78	131			
Methyl tert-butyl ether (MTBE)	4.92	ug/L	1.0	98	58	151			
Methyl ethyl ketone	52.0	ug/L	20	104	55	145			
Methylene chloride	4.24	ug/L	1.0	85	73	126			
Styrene	4.68	ug/L	1.0	94	76	134			
1,1,1,2-Tetrachloroethane	4.64	ug/L	1.0	93	75	135			
1,1,2,2-Tetrachloroethane	4.64	ug/L	1.0	93	72	132			
Tetrachloroethene	4.68	ug/L	1.0	94	78	137			
Toluene	4.76	ug/L	1.0	95	78	134			
1,1,1-Trichloroethane	4.48	ug/L	1.0	90	64	141			
1,1,2-Trichloroethane	4.52	ug/L	1.0	90	72	133			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: lcs022513_	Laboratory Control Sample				Run: VOA5975C.I_130225A			02/25/13 11:20	
Trichloroethene	4.44	ug/L	1.0	89	75	138			
Trichlorofluoromethane	4.48	ug/L	1.0	90	58	139			
1,2,3-Trichloropropane	4.40	ug/L	1.0	88	67	133			
Vinyl chloride	4.64	ug/L	1.0	93	66	140			
m+p-Xylenes	9.68	ug/L	1.0	97	78	133			
o-Xylene	4.96	ug/L	1.0	99	79	136			
Surr: 1,2-Dichloroethane-d4			1.0	100	70	130			
Surr: Dibromofluoromethane			1.0	101	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	105	79	122			
Sample ID: blk022513_	Method Blank				Run: VOA5975C.I_130225A			02/25/13 12:29	
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: blk022513_	Method Blank		Run: VOA5975C.I_130225A				02/25/13 12:29		
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	101	70	130			
Surr: Dibromofluoromethane			1.0	100	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	102	79	122			
Sample ID: G13020247-001Ems	Sample Matrix Spike		Run: VOA5975C.I_130225A				02/25/13 16:53		
Benzene	43200	ug/L	2500	93	71	133			
Bromobenzene	23600	ug/L	2500	94	78	133			
Bromochloromethane	23000	ug/L	2500	92	68	131			
Bromodichloromethane	21600	ug/L	2500	86	67	138			
Bromoform	23600	ug/L	2500	94	64	136			
Bromomethane	15700	ug/L	2500	63	60	138			
Carbon tetrachloride	23200	ug/L	2500	93	61	144			
Chlorobenzene	23600	ug/L	2500	94	78	136			
Chlorodibromomethane	23600	ug/L	2500	94	72	136			
Chloroethane	22600	ug/L	2500	90	64	136			
Chloroform	21400	ug/L	2500	86	69	133			
Chloromethane	19600	ug/L	2500	78	63	149			
2-Chloroethyl vinyl ether	10600	ug/L	2500	42	64	132			S
1,2-Dibromoethane	24000	ug/L	2500	96	75	131			
2-Chlorotoluene	23800	ug/L	2500	95	74	135			
Dibromomethane	23200	ug/L	2500	93	72	133			
1,2-Dichlorobenzene	24000	ug/L	2500	96	78	129			
4-Chlorotoluene	24200	ug/L	2500	97	79	135			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: G13020247-001Ems	Sample Matrix Spike		Run: VOA5975C.I_130225A				02/25/13 16:53		
1,3-Dichlorobenzene	23800	ug/L	2500	95	79	132			
1,4-Dichlorobenzene	23800	ug/L	2500	95	78	131			
Dichlorodifluoromethane	22400	ug/L	2500	90	55	141			
1,1-Dichloroethane	21800	ug/L	2500	87	72	130			
1,2-Dichloroethane	23200	ug/L	2500	93	57	146			
1,1-Dichloroethene	21800	ug/L	2500	87	66	142			
cis-1,2-Dichloroethene	23200	ug/L	2500	93	74	133			
trans-1,2-Dichloroethene	21800	ug/L	2500	87	76	138			
1,2-Dichloropropane	22400	ug/L	2500	90	72	135			
1,3-Dichloropropane	23200	ug/L	2500	93	75	134			
2,2-Dichloropropane	25000	ug/L	2500	100	42	167			
1,1-Dichloropropene	23200	ug/L	2500	93	72	140			
cis-1,3-Dichloropropene	23600	ug/L	2500	94	75	132			
trans-1,3-Dichloropropene	24400	ug/L	2500	98	77	145			
Ethylbenzene	27200	ug/L	2500	96	78	131			
Methyl tert-butyl ether (MTBE)	26000	ug/L	2500	104	58	151			
Methyl ethyl ketone	256000	ug/L	50000	102	55	145			
Methylene chloride	21000	ug/L	2500	84	73	126			
Styrene	23800	ug/L	2500	95	76	134			
1,1,1,2-Tetrachloroethane	23000	ug/L	2500	92	75	135			
1,1,2,2-Tetrachloroethane	23800	ug/L	2500	95	72	132			
Tetrachloroethene	23400	ug/L	2500	94	78	137			
Toluene	80800	ug/L	2500	91	78	134			
1,1,1-Trichloroethane	22800	ug/L	2500	91	64	141			
1,1,2-Trichloroethane	23400	ug/L	2500	94	72	133			
Trichloroethene	22200	ug/L	2500	89	75	138			
Trichlorofluoromethane	22200	ug/L	2500	89	58	139			
1,2,3-Trichloropropane	23600	ug/L	2500	94	67	133			
Vinyl chloride	22600	ug/L	2500	90	66	140			
m+p-Xylenes	90200	ug/L	2500	98	78	133			
o-Xylene	30600	ug/L	2500	99	79	136			
Surr: 1,2-Dichloroethane-d4			5000	101	70	130			
Surr: Dibromofluoromethane			5000	102	77	126			
Surr: p-Bromofluorobenzene			5000	104	76	127			
Surr: Toluene-d8			5000	103	79	122			
Sample ID: G13020247-001Emsd	Sample Matrix Spike Duplicate		Run: VOA5975C.I_130225A				02/25/13 17:27		
Benzene	43400	ug/L	2500	94	71	133	0.5	20	
Bromobenzene	24400	ug/L	2500	98	78	133	3.3	20	
Bromochloromethane	23800	ug/L	2500	95	68	131	3.4	20	
Bromodichloromethane	22400	ug/L	2500	90	67	138	3.6	20	
Bromoform	24400	ug/L	2500	98	64	136	3.3	20	
Bromomethane	18100	ug/L	2500	72	60	138	14	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: G13020247-001Emsd	Sample Matrix Spike Duplicate			Run: VOA5975C.I_130225A				02/25/13 17:27	
Carbon tetrachloride	23400	ug/L	2500	94	61	144	0.9	20	
Chlorobenzene	24200	ug/L	2500	97	78	136	2.5	20	
Chlorodibromomethane	24000	ug/L	2500	96	72	136	1.7	20	
Chloroethane	22600	ug/L	2500	90	64	136	0.0	20	
Chloroform	21600	ug/L	2500	86	69	133	0.9	20	
Chloromethane	20800	ug/L	2500	83	63	149	5.9	20	
2-Chloroethyl vinyl ether	10500	ug/L	2500	42	64	132	0.4	20	S
1,2-Dibromoethane	24800	ug/L	2500	99	75	131	3.3	20	
2-Chlorotoluene	24200	ug/L	2500	97	74	135	1.7	20	
Dibromomethane	23800	ug/L	2500	95	72	133	2.6	20	
1,2-Dichlorobenzene	24600	ug/L	2500	98	78	129	2.5	20	
4-Chlorotoluene	24800	ug/L	2500	99	79	135	2.4	20	
1,3-Dichlorobenzene	24000	ug/L	2500	96	79	132	0.8	20	
1,4-Dichlorobenzene	24000	ug/L	2500	96	78	131	0.8	20	
Dichlorodifluoromethane	22000	ug/L	2500	88	55	141	1.8	20	
1,1-Dichloroethane	22000	ug/L	2500	88	72	130	0.9	20	
1,2-Dichloroethane	23200	ug/L	2500	93	57	146	0.0	20	
1,1-Dichloroethene	21800	ug/L	2500	87	66	142	0.0	20	
cis-1,2-Dichloroethene	23600	ug/L	2500	94	74	133	1.7	20	
trans-1,2-Dichloroethene	22400	ug/L	2500	90	76	138	2.7	20	
1,2-Dichloropropane	23200	ug/L	2500	93	72	135	3.5	20	
1,3-Dichloropropane	24200	ug/L	2500	97	75	134	4.2	20	
2,2-Dichloropropane	25000	ug/L	2500	100	42	167	0.0	20	
1,1-Dichloropropene	23200	ug/L	2500	93	72	140	0.0	20	
cis-1,3-Dichloropropene	24800	ug/L	2500	99	75	132	5.0	20	
trans-1,3-Dichloropropene	25600	ug/L	2500	102	77	145	4.8	20	
Ethylbenzene	27600	ug/L	2500	98	78	131	1.5	20	
Methyl tert-butyl ether (MTBE)	24600	ug/L	2500	98	58	151	5.5	20	
Methyl ethyl ketone	270000	ug/L	50000	108	55	145	5.3	20	
Methylene chloride	21400	ug/L	2500	86	73	126	1.9	20	
Styrene	24400	ug/L	2500	98	76	134	2.5	20	
1,1,1,2-Tetrachloroethane	23800	ug/L	2500	95	75	135	3.4	20	
1,1,2,2-Tetrachloroethane	24000	ug/L	2500	96	72	132	0.8	20	
Tetrachloroethene	23600	ug/L	2500	94	78	137	0.9	20	
Toluene	80800	ug/L	2500	91	78	134	0.0	20	
1,1,1-Trichloroethane	22800	ug/L	2500	91	64	141	0.0	20	
1,1,2-Trichloroethane	23200	ug/L	2500	93	72	133	0.9	20	
Trichloroethene	22800	ug/L	2500	91	75	138	2.7	20	
Trichlorofluoromethane	22200	ug/L	2500	89	58	139	0.0	20	
1,2,3-Trichloropropane	23000	ug/L	2500	92	67	133	2.6	20	
Vinyl chloride	22800	ug/L	2500	91	66	140	0.9	20	
m+p-Xylenes	90800	ug/L	2500	100	78	133	0.7	20	
o-Xylene	31000	ug/L	2500	101	79	136	1.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B							Batch: R200390		
Sample ID: G13020247-001Emsd		Sample Matrix Spike Duplicate			Run: VOA5975C.I_130225A			02/25/13 17:27	
Surr: 1,2-Dichloroethane-d4			5000	102	70	130			
Surr: Dibromofluoromethane			5000	102	77	126			
Surr: p-Bromofluorobenzene			5000	105	76	127			
Surr: Toluene-d8			5000	105	79	122			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015B							Analytical Run: R200283		
Sample ID: CCV_0221PE147r	Continuing Calibration Verification Standard								02/22/13 16:28
Total Purgeable Hydrocarbons	206	ug/L	20	103	85	115			
Surr: Trifluorotoluene			1.0	92	85	115			
Method: SW8015B							Batch: R200283		
Sample ID: LCS_0221PE104r	Laboratory Control Sample								02/21/13 15:44
Total Purgeable Hydrocarbons	198	ug/L	20	99	70	130			
Surr: Trifluorotoluene			1.0	98	70	130			
Sample ID: MBLK_0221PE106r	Method Blank								02/21/13 16:53
Gasoline Range Organics (GRO)	ND	ug/L	20						
Total Purgeable Hydrocarbons	ND	ug/L	20						
Surr: Trifluorotoluene			1.0	85	70	130			
Sample ID: B13021196-001AMS	Sample Matrix Spike								02/22/13 19:07
Total Purgeable Hydrocarbons	265	ug/L	20	100	70	130			
Surr: Trifluorotoluene			1.0	91	70	130			
Sample ID: B13021196-001AMSD	Sample Matrix Spike Duplicate								02/22/13 19:41
Total Purgeable Hydrocarbons	247	ug/L	20	91	70	130	7.2	20	
Surr: Trifluorotoluene			1.0	89	70	130			

- The sample was received in the laboratory with a pH > 2. The pH was 7.

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015B									Batch: 69177
Sample ID: LCS-69177	Laboratory Control Sample				Run: GCFID-HP2-B_130220C			02/20/13 20:26	
Diesel Range Organics (DRO)	13.6	mg/L	0.30	91	60	140			
Total Extractable Hydrocarbons	14.1	mg/L	0.30	94	60	140			
Surr: o-Terphenyl			0.0040	101	50	150			
Sample ID: MB-69177	Method Blank				Run: GCFID-HP2-B_130220C			02/20/13 21:57	
Diesel Range Organics (DRO)	ND	mg/L	0.30						
Total Extractable Hydrocarbons	ND	mg/L	0.30						
Surr: o-Terphenyl			0.0040	96	50	150			
Sample ID: B13021077-001DMS	Sample Matrix Spike				Run: GCFID-HP2-B_130220C			02/20/13 23:27	
Diesel Range Organics (DRO)	28.3	mg/L	0.60	87	60	140			
Total Extractable Hydrocarbons	29.7	mg/L	0.60	90	60	140			
Surr: o-Terphenyl			0.0080	95	50	150			
Sample ID: B13021077-001DMSD	Sample Matrix Spike Duplicate				Run: GCFID-HP2-B_130220C			02/21/13 00:11	
Diesel Range Organics (DRO)	27.9	mg/L	0.60	85	60	140	1.2	20	
Total Extractable Hydrocarbons	29.4	mg/L	0.60	89	60	140	1.3	20	
Surr: o-Terphenyl			0.0080	94	50	150			
Method: SW8015B									Analytical Run: R200188
Sample ID: CCV_0220HP230r	Continuing Calibration Verification Standard							02/21/13 06:56	
Total Extractable Hydrocarbons	15.3	mg/L	0.30	102	85	115			
Surr: o-Terphenyl			0.0040	100	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Marathon Oil Company

Report Date: 03/01/13

Project: Produced_Water

Work Order: G13020247

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015B									Batch: 69236
Sample ID: LCS-69236	Laboratory Control Sample				Run: GCFID-HP1-B_130221A				02/21/13 09:59
Methanol	54.4	mg/L	1.0	109	71	128			
Surr: sec-Butyl Alcohol			1.0	103	80	120			
Sample ID: MB-69236	Method Blank				Run: GCFID-HP1-B_130221A				02/21/13 10:21
Methanol	ND	mg/L	1.0						
Surr: sec-Butyl Alcohol			1.0	103	80	120			
Sample ID: B13021270-002AMS	Sample Matrix Spike				Run: GCFID-HP1-B_130221A				02/21/13 11:26
Methanol	51.1	mg/L	1.1	93	71	128			
Surr: sec-Butyl Alcohol			1.1	94	80	120			
Sample ID: B13021270-002AMSD	Sample Matrix Spike Duplicate				Run: GCFID-HP1-B_130221A				02/21/13 11:48
Methanol	49.6	mg/L	1.1	90	71	128	3.1	20	
Surr: sec-Butyl Alcohol			1.1	92	80	120			
Method: SW8015B									Analytical Run: R200229
Sample ID: CCV_0221HM105r-W	Continuing Calibration Verification Standard								02/21/13 09:37
Methanol	99.1	mg/L	1.0	99	85	115			
Surr: sec-Butyl Alcohol			1.0	104	80	120			
Sample ID: CCV_0221HM112r-W	Continuing Calibration Verification Standard								02/21/13 12:10
Methanol	101	mg/L	1.0	101	85	115			
Surr: sec-Butyl Alcohol			1.0	103	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Marathon Oil Company

G13020247

Login completed by: Amanda Alley

Date Received: 2/14/2013

Reviewed by: BL2000\kscottruff

Received by: ala

Reviewed Date: 2/14/2013

Carrier FedEx
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: Marathon Oil Company		Project Name, PWS, Permit, Etc. 2013_18A_Water_Profile/Produced_Water		Sample Origin CO		EPA/State Compliance: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Marathon Oil Company 743 Horizon Court, Suite 220 Grand Junction, CO 81506		Contact Name: Zach Toellner		Phone/Fax: (970) 244-5723		Email: zitoellner@marathonoil.com	
Invoice Address: Marathon Oil Company 743 Horizon Court, Suite 220 Grand Junction, CO 81506		Invoice Contact & Phone: Stacey Wales (970) 244-5725		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats - ELL must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWMT <input type="checkbox"/> State: _____ <input checked="" type="checkbox"/> Other: PDF <input type="checkbox"/> A2LA <input checked="" type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED		SEE ATTACHED Normal Turnaround (TAT)	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) PW_18A_Loadout		Collection Date 2/13/13		Collection Time 12:30		MATRIX	
1						X	
2						X	
3						X	
4							
5							
6							
7							
8							
9							
10							
Relinquished by (print): Scott Distel		Date/Time: 2/13/13 @ 16:30		Signature: <i>Scott Distel</i>		Received by (print): Date/Time:	
Relinquished by (print):		Date/Time:		Signature:		Received by Laboratory: Date/Time:	
Custody Record MUST be Signed		Sample Disposal: Return to Client: X		Lab Disposal: X		Received by Laboratory: Date/Time: 2/14/13 11:30	

LABORATORY USE ONLY

Shipped by: <i>FeDEX</i>	Receipt Temp 16 °C	On Ice: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Custody Seal Intact Signature Match
Cooler ID(s):			

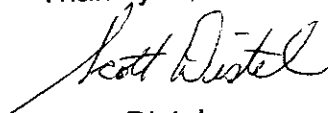
In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

13020211

Please analyze PW_18A_Loadout for the following list of constituents:

- pH
- Volatile Organic Compounds
 - Methanol
- Total Suspended Solids
- Total Dissolved Solids
- Diesel Range Organics
- Gasoline Range Organics
 - Radionuclides: Ra 226, Ra 228, Total U
- RCRA Metals – “Total Metals”
 - Arsenic
 - Barium
 - Cadmium
 - Chromium
 - Lead
 - Mercury
 - Selenium
 - Silver

Thank you,



Scott Distel