

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

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Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-60623-1

Client Project/Site: Quarterly

Sampling Event: Quarterly

For:

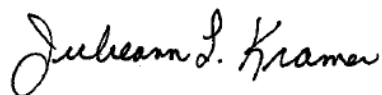
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10/10/2014 3:37:48 PM

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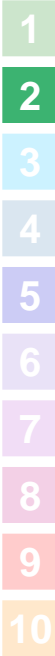
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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

### Qualifiers

#### GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

#### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, 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
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)

## Case Narrative

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Job ID: 280-60623-1**

**Laboratory: TestAmerica Denver**

**Narrative**

### CASE NARRATIVE

**Client: Pioneer Natural Resources**

**Project: Quarterly**

**Report Number: 280-60623-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) less than TestAmerica's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

#### Receipt

The samples were received on 10/01/2014 with cooler temperature of 2.3C.

All sample bottles were received in acceptable condition.

#### GC Volatiles, SW 846 8021B

The Method 8021B MS/MSD performed on sample from another client and/or lot was outside control limits for Benzene.

An additional Method 8021B MS/MSD performed on sample from another client and/or lot was within control limits for Benzene.

No anomalies were observed.

#### Total Metals, MCAWW 200.7

The Method 200.7 continuing calibration verification (CCV) associated with batch 246358 recovered above the upper control limit for low line Na. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported.

The Method 200.7 MS/MSD performed on sample LORENCITO 6-16-34-66 was OUTSIDE control limits. for Sodium. It was noted that this analyte was present in the original sample at greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

The Method 200.7 MS/MSD performed on sample from another client and/or lot was within control limits for Iron.

No other anomalies were observed.

#### General Chemistry, Various Methods

All MS/MSDs were performed on samples from other clients and/or jobs and were in control.

The Sample Duplicates were performed on sample LORENCITO 6-16-34-66 and WAS in control for pH.

All other Sample Duplicates were performed on samples from other clients and/or jobs and were in control.

No other anomalies were observed.

Case Narrative

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Job ID: 280-60623-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

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## Detection Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Client Sample ID: LORENCITO 6-16-34-66**

**Lab Sample ID: 280-60623-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.93		0.050		mg/L	1		200.7 Rev 4.4	Total
									Recoverable
Boron	0.21		0.050		mg/L	1		200.7	Total/NA
Calcium	3.4		0.10		mg/L	1		200.7	Total/NA
Iron	0.95		0.050		mg/L	1		200.7	Total/NA
Magnesium	0.44		0.10		mg/L	1		200.7	Total/NA
Manganese	0.013		0.010		mg/L	1		200.7	Total/NA
Sodium	570		2.0		mg/L	1		200.7	Total/NA
Chloride	54		3.0		mg/L	1		300.0	Total/NA
Total Alkalinity	990		5.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	930		5.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	65		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0013				No Unit	1		D1429-03	Total/NA
Specific Conductance	1900		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	8.48	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

**Client Sample ID: LORENCITO 6-15-34-66**

**Lab Sample ID: 280-60623-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.30		0.050		mg/L	1		200.7 Rev 4.4	Total
									Recoverable
Boron	0.44		0.050		mg/L	1		200.7	Total/NA
Calcium	4.4		0.10		mg/L	1		200.7	Total/NA
Iron	0.28		0.050		mg/L	1		200.7	Total/NA
Magnesium	0.86		0.10		mg/L	1		200.7	Total/NA
Sodium	750		2.0		mg/L	1		200.7	Total/NA
Chloride	170		3.0		mg/L	1		300.0	Total/NA
Total Alkalinity	1200		5.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200		5.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	55		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1700		20		mg/L	1		SM 2540C	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0016				No Unit	1		D1429-03	Total/NA
Specific Conductance	2600		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	8.31	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

**Client Sample ID: LORENCITO 3-27-34-66 kv**

**Lab Sample ID: 280-60623-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.3		0.050		mg/L	1		200.7 Rev 4.4	Total
									Recoverable
Boron	0.47		0.050		mg/L	1		200.7	Total/NA
Calcium	9.1		0.10		mg/L	1		200.7	Total/NA
Iron	3.7		0.050		mg/L	1		200.7	Total/NA
Potassium	6.1		5.0		mg/L	1		200.7	Total/NA
Magnesium	2.5		0.10		mg/L	1		200.7	Total/NA
Manganese	0.061		0.010		mg/L	1		200.7	Total/NA
Sodium	1400		2.0		mg/L	1		200.7	Total/NA
Bromide	12		0.40		mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

## Detection Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

### Client Sample ID: LORENCITO 3-27-34-66 kv (Continued)

Lab Sample ID: 280-60623-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300		30		mg/L	10		300.0	Total/NA
Total Alkalinity	870		5.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	850		5.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	22		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3300		40		mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.0		4.0		mg/L	1		SM 2540D	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0026				No Unit	1		D1429-03	Total/NA
Specific Conductance	5000		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	8.16	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

### Client Sample ID: TRIP BLANK

Lab Sample ID: 280-60623-4

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

## Method Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL DEN
200.7	ICP Total Metals by 200.7	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
300.0	Anions by IC	EPA	TAL DEN
D1429-03	Specific Gravity	ASTM	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2510B	Conductivity, Specific Conductance	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM 4500 H+ B	pH	SM	TAL DEN
SM 4500 S2 D	Sulfide, Total	SM	TAL DEN

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-60623-1	LORENCITO 6-16-34-66	Water	09/30/14 12:18	10/01/14 09:50
280-60623-2	LORENCITO 6-15-34-66	Water	09/30/14 12:58	10/01/14 09:50
280-60623-3	LORENCITO 3-27-34-66 kv	Water	09/30/14 14:02	10/01/14 09:50
280-60623-4	TRIP BLANK	Water	09/30/14 00:00	10/01/14 09:50

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Client Sample ID: LORENCITO 6-16-34-66**

**Lab Sample ID: 280-60623-1**

**Date Collected: 09/30/14 12:18**

**Matrix: Water**

**Date Received: 10/01/14 09:50**

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/08/14 08:38	1
Ethylbenzene	ND		0.50		ug/L			10/08/14 08:38	1
Toluene	ND		0.50		ug/L			10/08/14 08:38	1
Xylenes, Total	ND		0.50		ug/L			10/08/14 08:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		85 - 115					10/08/14 08:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.93		0.050		mg/L		10/06/14 08:15	10/07/14 03:36	1

## Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Boron	0.21		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Calcium	3.4		0.10		mg/L		10/03/14 07:00	10/03/14 19:06	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Iron	0.95		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Potassium	ND		5.0		mg/L		10/03/14 07:00	10/03/14 19:06	1
Magnesium	0.44		0.10		mg/L		10/03/14 07:00	10/03/14 19:06	1
Manganese	0.013		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Sodium	570		2.0		mg/L		10/03/14 07:00	10/03/14 19:06	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20		mg/L			10/07/14 18:57	1
Chloride	54		3.0		mg/L			10/07/14 18:57	1
Sulfate	ND		5.0		mg/L			10/07/14 18:57	1
Total Alkalinity	990		5.0		mg/L			10/07/14 01:01	1
Bicarbonate Alkalinity as CaCO3	930		5.0		mg/L			10/07/14 01:01	1
Carbonate Alkalinity as CaCO3	65		5.0		mg/L			10/07/14 01:01	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:01	1
Total Dissolved Solids	1200		10		mg/L			10/04/14 08:29	1
Total Suspended Solids	ND		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0013				No Unit			10/09/14 18:27	1
Specific Conductance	1900		1.0		umhos/cm			10/02/14 16:18	1
pH	8.48	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Client Sample ID: LORENCITO 6-15-34-66**

**Lab Sample ID: 280-60623-2**

**Date Collected: 09/30/14 12:58**

**Matrix: Water**

**Date Received: 10/01/14 09:50**

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/08/14 09:07	1
Ethylbenzene	ND		0.50		ug/L			10/08/14 09:07	1
Toluene	ND		0.50		ug/L			10/08/14 09:07	1
Xylenes, Total	ND		0.50		ug/L			10/08/14 09:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	91		85 - 115					10/08/14 09:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30		0.050		mg/L		10/06/14 08:15	10/07/14 03:39	1

## Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Boron	0.44		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Calcium	4.4		0.10		mg/L		10/03/14 07:00	10/03/14 19:33	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Iron	0.28		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Potassium	ND		5.0		mg/L		10/03/14 07:00	10/03/14 19:33	1
Magnesium	0.86		0.10		mg/L		10/03/14 07:00	10/03/14 19:33	1
Manganese	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Sodium	750		2.0		mg/L		10/03/14 07:00	10/03/14 19:33	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20		mg/L			10/07/14 19:15	1
Chloride	170		3.0		mg/L			10/07/14 19:15	1
Sulfate	ND		5.0		mg/L			10/07/14 19:15	1
Total Alkalinity	1200		5.0		mg/L			10/07/14 01:07	1
Bicarbonate Alkalinity as CaCO3	1200		5.0		mg/L			10/07/14 01:07	1
Carbonate Alkalinity as CaCO3	55		5.0		mg/L			10/07/14 01:07	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:07	1
Total Dissolved Solids	1700		20		mg/L			10/04/14 08:29	1
Total Suspended Solids	ND		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0016				No Unit			10/09/14 18:27	1
Specific Conductance	2600		1.0		umhos/cm			10/02/14 16:18	1
pH	8.31	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Client Sample ID: LORENCITO 3-27-34-66 kv**

**Lab Sample ID: 280-60623-3**

**Date Collected: 09/30/14 14:02**

**Matrix: Water**

**Date Received: 10/01/14 09:50**

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/09/14 10:42	1
Ethylbenzene	ND		0.50		ug/L			10/09/14 10:42	1
Toluene	ND		0.50		ug/L			10/09/14 10:42	1
Xylenes, Total	ND		0.50		ug/L			10/09/14 10:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		85 - 115					10/09/14 10:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.3		0.050		mg/L		10/06/14 08:15	10/07/14 03:42	1

## Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Boron	0.47		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Calcium	9.1		0.10		mg/L		10/03/14 07:00	10/03/14 19:36	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Iron	3.7		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Potassium	6.1		5.0		mg/L		10/03/14 07:00	10/03/14 19:36	1
Magnesium	2.5		0.10		mg/L		10/03/14 07:00	10/03/14 19:36	1
Manganese	0.061		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Sodium	1400		2.0		mg/L		10/03/14 07:00	10/03/14 19:36	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:36	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	12		0.40		mg/L			10/07/14 19:51	2
Chloride	1300		30		mg/L			10/07/14 20:08	10
Sulfate	ND		10		mg/L			10/07/14 19:51	2
Total Alkalinity	870		5.0		mg/L			10/07/14 01:36	1
Bicarbonate Alkalinity as CaCO3	850		5.0		mg/L			10/07/14 01:36	1
Carbonate Alkalinity as CaCO3	22		5.0		mg/L			10/07/14 01:36	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:36	1
Total Dissolved Solids	3300		40		mg/L			10/04/14 08:29	1
Total Suspended Solids	6.0		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0026				No Unit			10/09/14 18:27	1
Specific Conductance	5000		1.0		umhos/cm			10/02/14 16:18	1
pH	8.16	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

## Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 280-60623-4**

**Date Collected: 09/30/14 00:00**

**Matrix: Water**

**Date Received: 10/01/14 09:50**

### Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/09/14 11:11	1
Ethylbenzene	ND		0.50		ug/L			10/09/14 11:11	1
Toluene	ND		0.50		ug/L			10/09/14 11:11	1
Xylenes, Total	ND		0.50		ug/L			10/09/14 11:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		85 - 115					10/09/14 11:11	1

## Surrogate Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

### Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TFT1 (85-115)					
280-60459-B-18 MS	Matrix Spike	97					
280-60459-B-18 MSD	Matrix Spike Duplicate	97					
280-60623-1	LORENCITO 6-16-34-66	92					
280-60623-2	LORENCITO 6-15-34-66	91					
280-60623-3	LORENCITO 3-27-34-66 kv	93					
280-60623-4	TRIP BLANK	93					
280-60624-AT-5 MS	Matrix Spike	95					
280-60624-AT-5 MSD	Matrix Spike Duplicate	95					
LCS 280-246761/6	Lab Control Sample	95					
LCS 280-246943/36	Lab Control Sample	94					
LCSD 280-246761/7	Lab Control Sample Dup	95					
LCSD 280-246943/37	Lab Control Sample Dup	95					
MB 280-246761/5	Method Blank	95					
MB 280-246943/35	Method Blank	93					

#### Surrogate Legend

TFT = a,a,a-Trifluorotoluene



## Summary Report



## Sample Summary

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-60623-1	LORENCITO 6-16-34-66	Water	09/30/14 12:18	10/01/14 09:50
280-60623-2	LORENCITO 6-15-34-66	Water	09/30/14 12:58	10/01/14 09:50
280-60623-3	LORENCITO 3-27-34-66 kv	Water	09/30/14 14:02	10/01/14 09:50
280-60623-4	TRIP BLANK	Water	09/30/14 00:00	10/01/14 09:50

Preliminary Data

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Client Sample ID: LORENCITO 6-16-34-66

Lab Sample ID: 280-60623-1

Date Collected: 09/30/14 12:18

Matrix: Water

Date Received: 10/01/14 09:50

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/08/14 08:38	1
Ethylbenzene	ND		0.50		ug/L			10/08/14 08:38	1
Toluene	ND		0.50		ug/L			10/08/14 08:38	1
Xylenes, Total	ND		0.50		ug/L			10/08/14 08:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	92		85 - 115					10/08/14 08:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.93		0.050		mg/L		10/06/14 08:15	10/07/14 03:36	1

## Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Boron	0.21		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Calcium	3.4		0.10		mg/L		10/03/14 07:00	10/03/14 19:06	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Iron	0.95		0.050		mg/L		10/03/14 07:00	10/03/14 19:06	1
Potassium	ND		5.0		mg/L		10/03/14 07:00	10/03/14 19:06	1
Magnesium	0.44		0.10		mg/L		10/03/14 07:00	10/03/14 19:06	1
Manganese	0.013		0.010		mg/L		10/03/14 07:00	10/03/14 19:06	1
Sodium	570		2.0		mg/L		10/03/14 07:00	10/03/14 19:06	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20		mg/L			10/07/14 18:57	1
Chloride	54		3.0		mg/L			10/07/14 18:57	1
Sulfate	ND		5.0		mg/L			10/07/14 18:57	1
Total Alkalinity	990		5.0		mg/L			10/07/14 01:01	1
Bicarbonate Alkalinity as CaCO3	930		5.0		mg/L			10/07/14 01:01	1
Carbonate Alkalinity as CaCO3	65		5.0		mg/L			10/07/14 01:01	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:01	1
Total Dissolved Solids	1200		10		mg/L			10/04/14 08:29	1
Total Suspended Solids	ND		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0013				No Unit			10/09/14 18:27	1
Specific Conductance	1900		1.0		umhos/cm			10/02/14 16:18	1
pH	8.48	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Client Sample ID: LORENCITO 6-15-34-66

Lab Sample ID: 280-60623-2

Date Collected: 09/30/14 12:58

Matrix: Water

Date Received: 10/01/14 09:50

Method: 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/08/14 09:07	1
Ethylbenzene	ND		0.50		ug/L			10/08/14 09:07	1
Toluene	ND		0.50		ug/L			10/08/14 09:07	1
Xylenes, Total	ND		0.50		ug/L			10/08/14 09:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	91		85 - 115					10/08/14 09:07	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30		0.050		mg/L		10/06/14 08:15	10/07/14 03:39	1

Method: 200.7 - ICP Total Metals by 200.7									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Boron	0.44		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Calcium	4.4		0.10		mg/L		10/03/14 07:00	10/03/14 19:33	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Iron	0.28		0.050		mg/L		10/03/14 07:00	10/03/14 19:33	1
Potassium	ND		5.0		mg/L		10/03/14 07:00	10/03/14 19:33	1
Magnesium	0.86		0.10		mg/L		10/03/14 07:00	10/03/14 19:33	1
Manganese	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:33	1
Sodium	750		2.0		mg/L		10/03/14 07:00	10/03/14 19:33	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:33	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20		mg/L			10/07/14 19:15	1
Chloride	170		3.0		mg/L			10/07/14 19:15	1
Sulfate	ND		5.0		mg/L			10/07/14 19:15	1
Total Alkalinity	1200		5.0		mg/L			10/07/14 01:07	1
Bicarbonate Alkalinity as CaCO3	1200		5.0		mg/L			10/07/14 01:07	1
Carbonate Alkalinity as CaCO3	55		5.0		mg/L			10/07/14 01:07	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:07	1
Total Dissolved Solids	1700		20		mg/L			10/04/14 08:29	1
Total Suspended Solids	ND		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0016				No Unit			10/09/14 18:27	1
Specific Conductance	2600		1.0		umhos/cm			10/02/14 16:18	1
pH	8.31	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Client Sample ID: LORENCITO 3-27-34-66 kv

Lab Sample ID: 280-60623-3

Date Collected: 09/30/14 14:02

Matrix: Water

Date Received: 10/01/14 09:50

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/09/14 10:42	1
Ethylbenzene	ND		0.50		ug/L			10/09/14 10:42	1
Toluene	ND		0.50		ug/L			10/09/14 10:42	1
Xylenes, Total	ND		0.50		ug/L			10/09/14 10:42	1

## Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		85 - 115		10/09/14 10:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.3		0.050		mg/L		10/06/14 08:15	10/07/14 03:42	1

## Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Boron	0.47		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Calcium	9.1		0.10		mg/L		10/03/14 07:00	10/03/14 19:36	1
Chromium	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Copper	ND		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Iron	3.7		0.050		mg/L		10/03/14 07:00	10/03/14 19:36	1
Potassium	6.1		5.0		mg/L		10/03/14 07:00	10/03/14 19:36	1
Magnesium	2.5		0.10		mg/L		10/03/14 07:00	10/03/14 19:36	1
Manganese	0.064		0.010		mg/L		10/03/14 07:00	10/03/14 19:36	1
Sodium	1400		2.0		mg/L		10/03/14 07:00	10/03/14 19:36	1
Selenium	ND		0.015		mg/L		10/03/14 07:00	10/03/14 19:36	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	12		0.40		mg/L			10/07/14 19:51	2
Chloride	1300		30		mg/L			10/07/14 20:08	10
Sulfate	ND		10		mg/L			10/07/14 19:51	2
Total Alkalinity	870		5.0		mg/L			10/07/14 01:36	1
Bicarbonate Alkalinity as CaCO3	850		5.0		mg/L			10/07/14 01:36	1
Carbonate Alkalinity as CaCO3	22		5.0		mg/L			10/07/14 01:36	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/07/14 01:36	1
Total Dissolved Solids	3300		40		mg/L			10/04/14 08:29	1
Total Suspended Solids	6.0		4.0		mg/L			10/02/14 15:15	1
Sulfide	ND		0.050		mg/L			10/03/14 17:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0026				No Unit			10/09/14 18:27	1
Specific Conductance	5000		1.0		umhos/cm			10/02/14 16:18	1
pH	8.16	HF	0.100		SU			10/01/14 19:24	1

TestAmerica Denver

# Client Sample Results

Client: Pioneer Natural Resources USA, Inc.  
Project/Site: Quarterly

TestAmerica Job ID: 280-60623-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-60623-4

Date Collected: 09/30/14 00:00

Matrix: Water

Date Received: 10/01/14 09:50

## Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/09/14 11:11	1
Ethylbenzene	ND		0.50		ug/L			10/09/14 11:11	1
Toluene	ND		0.50		ug/L			10/09/14 11:11	1
Xylenes, Total	ND		0.50		ug/L			10/09/14 11:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	93		85 - 115					10/09/14 11:11	1

Preliminary Data

TestAmerica Denver