

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

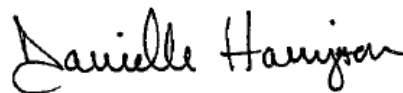
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

TestAmerica Job ID: 280-72179-1
Client Project/Site: Quarterly
Sampling Event: Quarterly

For:
Pioneer Natural Resources USA, Inc.
5205 N. OConnor
Suite 200
Irving, Texas 75039

Attn: Katie Gillen



Authorized for release by:
7/31/2015 3:51:17 PM

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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

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

TestAmerica Job ID: 280-72179-1

Qualifiers

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.

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: 280-72179-1

Job ID: 280-72179-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: Pioneer Natural Resources

Project: Quarterly

Report Number: 280-72179-1

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 07/23/2015 with cooler temperatures of 1.6C.

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 within control limits.

No anomalies were observed.

Total Metals, MCAWW 200.7

The accuracy and precision of the Iron and Sodium MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Iron MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were observed.

General Chemistry, Various Methods

Due to matrix interferences, sample BLADE RUNNER BELOW SPILL was analyzed at a lesser volume for various analyses. The reporting limits have been adjusted relative to the dilution required.

The method 1664A HEM Oil and Grease required MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

The Specific Gravity Sample Duplicate was performed on sample BLADE RUNNER BELOW SPILL and was in control.

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

Case Narrative

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

TestAmerica Job ID: 280-72179-1

Job ID: 280-72179-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

No other anomalies were observed.

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Detection Summary

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

TestAmerica Job ID: 280-72179-1

Client Sample ID: BLADE RUNNER BELOW SPILL

Lab Sample ID: 280-72179-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	24		0.050		mg/L	1		200.7 Rev 4.4	Total Recoverable
Boron	0.11		0.050		mg/L	1		200.7	Total/NA
Calcium	39		0.10		mg/L	1		200.7	Total/NA
Chromium	0.020		0.010		mg/L	1		200.7	Total/NA
Copper	0.022		0.010		mg/L	1		200.7	Total/NA
Iron	25		0.050		mg/L	1		200.7	Total/NA
Potassium	7.6		5.0		mg/L	1		200.7	Total/NA
Magnesium	12		0.10		mg/L	1		200.7	Total/NA
Manganese	0.67		0.010		mg/L	1		200.7	Total/NA
Sodium	420		2.0		mg/L	1		200.7	Total/NA
Chloride	89		3.0		mg/L	1		300.0	Total/NA
Sulfate	19		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	780		5.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	740		5.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	35		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20		mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2300		40		mg/L	1		SM 2540D	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0024				No Unit	1		D1429-03	Total/NA
Specific Conductance	1700		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	8.39	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Trip blank

Lab Sample ID: 280-72179-2

No Detections.

Method Summary

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

TestAmerica Job ID: 280-72179-1

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
1664A	HEM and SGT-HEM	1664A	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:

1664A = EPA-821-98-002

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: 280-72179-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-72179-1	BLADE RUNNER BELOW SPILL	Water	07/22/15 14:18	07/23/15 09:35
280-72179-2	Trip blank	Water	07/22/15 00:00	07/23/15 09:35

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Client Sample Results

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

TestAmerica Job ID: 280-72179-1

Client Sample ID: BLADE RUNNER BELOW SPILL

Lab Sample ID: 280-72179-1

Date Collected: 07/22/15 14:18

Matrix: Water

Date Received: 07/23/15 09:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/29/15 08:02	1
Ethylbenzene	ND		0.50		ug/L			07/29/15 08:02	1
Toluene	ND		0.50		ug/L			07/29/15 08:02	1
Xylenes, Total	ND		0.50		ug/L			07/29/15 08:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	88		85 - 115					07/29/15 08:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	24		0.050		mg/L		07/27/15 08:15	07/27/15 15:38	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		07/27/15 08:15	07/27/15 16:08	1
Boron	0.11		0.050		mg/L		07/27/15 08:15	07/27/15 16:08	1
Calcium	39		0.10		mg/L		07/27/15 08:15	07/27/15 16:08	1
Chromium	0.020		0.010		mg/L		07/27/15 08:15	07/27/15 16:08	1
Copper	0.022		0.010		mg/L		07/27/15 08:15	07/27/15 16:08	1
Iron	25		0.050		mg/L		07/27/15 08:15	07/27/15 16:08	1
Potassium	7.6		5.0		mg/L		07/27/15 08:15	07/27/15 16:08	1
Magnesium	12		0.10		mg/L		07/27/15 08:15	07/27/15 16:08	1
Manganese	0.67		0.010		mg/L		07/27/15 08:15	07/27/15 16:08	1
Sodium	420		2.0		mg/L		07/27/15 08:15	07/27/15 16:08	1
Selenium	ND		0.015		mg/L		07/27/15 08:15	07/27/15 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		14		mg/L		07/28/15 08:10	07/28/15 12:34	1
Bromide	ND		0.20		mg/L			07/24/15 21:21	1
Chloride	89		3.0		mg/L			07/24/15 21:21	1
Sulfate	19		5.0		mg/L			07/24/15 21:21	1
Total Alkalinity	780		5.0		mg/L			07/24/15 16:51	1
Bicarbonate Alkalinity as CaCO3	740		5.0		mg/L			07/24/15 16:51	1
Carbonate Alkalinity as CaCO3	35		5.0		mg/L			07/24/15 16:51	1
Hydroxide Alkalinity	ND		5.0		mg/L			07/24/15 16:51	1
Total Dissolved Solids	1100		20		mg/L			07/27/15 12:12	1
Total Suspended Solids	2300		40		mg/L			07/27/15 09:00	1
Sulfide	ND		0.50		mg/L			07/25/15 08:45	10
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0024				No Unit			07/25/15 08:29	1
Specific Conductance	1700		1.0		umhos/cm			07/28/15 23:49	1
pH	8.39	HF	0.100		SU			07/23/15 22:12	1

TestAmerica Denver

Client Sample Results

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

TestAmerica Job ID: 280-72179-1

Client Sample ID: Trip blank

Lab Sample ID: 280-72179-2

Date Collected: 07/22/15 00:00

Matrix: Water

Date Received: 07/23/15 09:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/29/15 09:31	1
Ethylbenzene	ND		0.50		ug/L			07/29/15 09:31	1
Toluene	ND		0.50		ug/L			07/29/15 09:31	1
Xylenes, Total	ND		0.50		ug/L			07/29/15 09:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	87		85 - 115					07/29/15 09:31	1

Surrogate Summary

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

TestAmerica Job ID: 280-72179-1

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)
280-72178-G-1 MS	Matrix Spike	94
280-72178-G-1 MSD	Matrix Spike Duplicate	95
280-72179-1	BLADE RUNNER BELOW SPILL	88
280-72179-2	Trip blank	87
LCS 280-288143/27	Lab Control Sample	96
LCSD 280-288143/28	Lab Control Sample Dup	97
MB 280-288143/26	Method Blank	90

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Lab Chronicle

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

TestAmerica Job ID: 280-72179-1

Client Sample ID: BLADE RUNNER BELOW SPILL

Lab Sample ID: 280-72179-1

Date Collected: 07/22/15 14:18

Matrix: Water

Date Received: 07/23/15 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	288143	07/29/15 08:02	CDC	TAL DEN
Total/NA	Prep	200.7			50 mL	50 mL	287575	07/27/15 08:15	SUR	TAL DEN
Total/NA	Analysis	200.7		1	50 mL	50 mL	288008	07/27/15 16:08	CRR	TAL DEN
Total Recoverable	Prep	200.7			50 mL	50 mL	287554	07/27/15 08:15	SUR	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	288008	07/27/15 15:38	CRR	TAL DEN
Total/NA	Prep	1664A			350 mL	1000 mL	288015	07/28/15 08:10	JML	TAL DEN
Total/NA	Analysis	1664A		1	350 mL	1000 mL	288080	07/28/15 12:34	JML	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	287588	07/24/15 21:21	AFB	TAL DEN
Total/NA	Analysis	D1429-03		1			287727	07/25/15 08:29	MAS	TAL DEN
Total/NA	Analysis	SM 2320B		1			287707	07/24/15 16:51	CCJ	TAL DEN
Total/NA	Analysis	SM 2510B		1			288178	07/28/15 23:49	RSM	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	287902	07/27/15 12:12	SVC	TAL DEN
Total/NA	Analysis	SM 2540D		1	25 mL	250 mL	287738	07/27/15 09:00	CML	TAL DEN
Total/NA	Analysis	SM 4500 H+ B		1			287591	07/23/15 22:12	MAS	TAL DEN
Total/NA	Analysis	SM 4500 S2 D		10	10.0 mL	10.0 mL	287731	07/25/15 08:45	AJS	TAL DEN

Client Sample ID: Trip blank

Lab Sample ID: 280-72179-2

Date Collected: 07/22/15 00:00

Matrix: Water

Date Received: 07/23/15 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	288143	07/29/15 09:31	CDC	TAL DEN

Laboratory References:

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

Chain of Custody Record

Client Information Client Contact: Bill Ward Company: Norwest Corporation		Lab PM: Harrington, Danielle M E-Mail: danielle.harrington@testamericainc.com		Carrier Tracking No(s): COC No: 280-34119-4609.1 Page: Page 1 of 1 Job #:	
Address: 950 South Cherry Street Suite 800 City: Denver State: CO, 80246 Phone:		Due Date Requested: TAT Requested (days): <i>Routine</i> PO #:		Analysis Requested	
Email: wward@norwestcorp.com Project #: 28001998 Project Name: Pioneer Natural Resources Site: Colorado		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Matrix (W=water, S=solid, O=waste/soil, BT=leachate, A=air)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Archlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification <i>Blade Runner balance spill</i> <i>Trip Blank</i>		Sample Date <i>7/22/15 14:18</i>	Sample Time <i>6</i>	Sample Type (C=comp, G=grab) <i>W</i>	Matrix <i>W</i>
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date/Time: <i>7/22/15 14:18</i>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Date:		Special Instructions/QC Requirements: SAMPLER please circle all that apply (pH, Nitrate by IC, Nitrite by IC, Potentially Dissolved Metals)	
Empty Kit Relinquished by: <i>Just my</i>		Date/Time: <i>7/23/15 10:00</i>		Method of Shipment:	
Relinquished by:		Date/Time:		Received by: <i>Danielle Harrington</i>	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) and Other Remarks: <i>15 IR to 1</i>	