TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Denver
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Tel: (303)736-0100

TestAmerica Job ID: 280-74857-1
Client Project/Site: AP Wellhead
Sampling Event: AP Wellhead +DRO and Oil and Grease

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

Attn: Katie Gillen

Danielle Harrington

Authorized for release by:
10/14/2015 10:06:13 AM

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Table of Contents

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

TestAmerica Job ID: 280-74857-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

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.
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
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.
¤	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)

Job ID: 280-74857-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: Pioneer Natural Resources USA, Inc.

Project: AP Wellhead

Report Number: 280-74857-1

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.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Receipt
The samples were received on 10/01/2015; the samples arrived in good condition and on ice. The temperature of the cooler at receipt was 0.6C and 1.0C.

Please note, sample EL COTO 13-29 and COOL WHIP 22-29 had all three VOA vials with > 6mm headspace. APISHAPA SWSP WATER TRUCK did not have a sample time on the container labels.

GC Volatiles, SW 846 8021B
The Method 8021B MS/MSD performed on sample from another client and/or lot and was within control limits.

No other anomalies were observed.

GC Semivolatiles, SW 846 8015B
The Method 8015B MS/MSD performed on sample from another client and/or lot and was within control limits.

No other anomalies were observed.

Total Metals, MCAWW 200.7 and MCAWW 200.8
The 200.7 MS/MSD was performed on sample from another client and/or lot and was outside control limits for Potassium and Sodium.

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

The 200.8 MS/MSD was performed on sample from another client and/or lot and was within control limits.

Sodium was recovered outside the QC limits, biased high, in the Initial Calibration Verification Low (ICVL) standard. This is an indicator that data may be biased high. As no detectable concentrations of Sodium are present in the associated Method Blank, corrective action is deemed unnecessary.

No other anomalies were observed.

Dissolved Metals, MCAWW 200.7
Sodium was recovered outside the QC limits, biased high, in the Initial Calibration Verification Low (ICVL) standard. This is an indicator that data may be biased high. As no detectable concentrations of Sodium are present in the associated Method Blank, corrective action is deemed unnecessary.

Job ID: 280-74857-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

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

The 200.7 Potentially Dissolved MS/MSD was performed on sample from another client and/or lot and was within control limits.

No other anomalies were observed.

General Chemistry, Various Methods
Due to a LIMS limitation, the RL does not print for specific Gravity. The RL for specific gravity is 0.0001.

Totalk Alkalinity and Bicarbonate Alkalinity is present at a level greater than the reporting limit in the method blank associated with QC batch 280-299715. As the associated sample amounts are ten times greater than the method blank concentration, corrective action is deemed unnecessary.

The accuracy and precision of the Chloride 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 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.

The Total Sulfide MS/MSDs were performed on samples from other clients and/or jobs and were outside control limits.

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

The Specific Conductance, Total Suspended Solids, and pH Sample Duplicates were performed on sample APISHAPA SWSP WATER TRUCK and were in control.

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

No other anomalies were observed.

Method Summary

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

TestAmerica Job ID: 280-74857-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL DEN
8015B	Diesel Range Organics (DRO) (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
200.8	Metals (ICP/MS)	EPA	TAL DEN
1664A	HEM and SGT-HEM	1664A	TAL DEN
300.0	Anions by Ion Chromatography	MCAWW	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
Field Sampling	Field Sampling	EPA	TAL DEN

Protocol References:

1664A = EPA-821-98-002
ASTM = ASTM International
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
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: AP Wellhead

TestAmerica Job ID: 280-74857-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-74857-1	APISHAPA SWSP WATER TRUCK	Water	09/30/15 08:45	10/01/15 09:35
280-74857-2	TRIP BLANK	Water	09/30/15 00:00	10/01/15 09:35
280-74857-3	COOL WHIP 22-29	Water	09/30/15 11:12	10/01/15 09:35
280-74857-4	EL COTO 13-29	Water	09/30/15 12:05	10/01/15 09:35
280-74857-5	TRIP BLANK	Water	09/30/15 00:00	10/01/15 09:35

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

TestAmerica Job ID: 280-74857-1

Client Sample ID: TRIP BLANK
Date Collected: 09/30/15 00:00
Date Received: 10/01/15 09:35

Lab Sample ID: 280-74857-2
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/04/15 18:39	1
Ethylbenzene	ND		0.50		ug/L			10/04/15 18:39	1
Toluene	ND		0.50		ug/L			10/04/15 18:39	1
Xylenes, Total	ND		0.50		ug/L			10/04/15 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*97*		*85 - 115*		*10/04/15 18:39*	*1*

Client Sample ID: COOL WHIP 22-29

Date Collected: 09/30/15 11:12
Date Received: 10/01/15 09:35

Lab Sample ID: 280-74857-3

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.69**		0.50		ug/L			10/04/15 22:06	1
Ethylbenzene	ND		0.50		ug/L			10/04/15 22:06	1
Toluene	ND		0.50		ug/L			10/04/15 22:06	1
Xylenes, Total	ND		0.50		ug/L			10/04/15 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*92*		*85 - 115*		*10/04/15 22:06*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.24		mg/L		10/02/15 20:26	10/09/15 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 115*	*10/02/15 20:26*	*10/09/15 13:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.010		mg/L		10/05/15 13:50	10/07/15 00:10	1
Iron	**1.6**		0.050		mg/L		10/05/15 13:50	10/07/15 00:10	1
Zinc	ND		0.020		mg/L		10/05/15 13:50	10/07/15 00:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**2.1**		0.20		mg/L		10/05/15 13:50	10/06/15 23:10	1
Magnesium	**0.65**		0.10		mg/L		10/05/15 13:50	10/06/15 23:10	1
Sodium	**610**		5.0		mg/L		10/05/15 13:50	10/06/15 23:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.015		mg/L		10/05/15 13:50	10/06/15 23:42	1
Manganese	**0.021**		0.010		mg/L		10/05/15 13:50	10/06/15 23:42	1
Zinc	**0.020**		0.020		mg/L		10/05/15 13:50	10/06/15 23:42	1

Method: 200.7 - ICP Total Metals by 200.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015		mg/L		10/05/15 13:50	10/07/15 01:15	1
Boron	**0.059**		0.050		mg/L		10/05/15 13:50	10/07/15 01:15	1
Calcium	**2.1**		0.20		mg/L		10/05/15 13:50	10/07/15 01:15	1
Chromium	ND		0.010		mg/L		10/05/15 13:50	10/07/15 01:15	1
Potassium	**3.1**		3.0		mg/L		10/05/15 13:50	10/07/15 01:15	1
Magnesium	**0.63**		0.10		mg/L		10/05/15 13:50	10/07/15 01:15	1
Sodium	**600**		5.0		mg/L		10/05/15 13:50	10/07/15 01:15	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0040		mg/L		10/05/15 13:50	10/05/15 20:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.8		mg/L		10/07/15 16:07	10/07/15 20:03	1
Bromide	**0.60**		0.20		mg/L			10/02/15 22:57	1

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

TestAmerica Job ID: 280-74857-1

Client Sample ID: COOL WHIP 22-29
Date Collected: 09/30/15 11:12
Date Received: 10/01/15 09:35

Lab Sample ID: 280-74857-3
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84		3.0		mg/L			10/02/15 22:57	1
Sulfate	ND		5.0		mg/L			10/02/15 22:57	1
Total Alkalinity	1100	B	5.0		mg/L			10/02/15 15:44	1
Bicarbonate Alkalinity as CaCO3	1100	B	5.0		mg/L			10/02/15 15:44	1
Carbonate Alkalinity as CaCO3	51		5.0		mg/L			10/02/15 15:44	1
Hydroxide Alkalinity	ND		5.0		mg/L			10/02/15 15:44	1
Total Dissolved Solids	1300		20		mg/L			10/02/15 16:49	1
Total Suspended Solids	ND		4.0		mg/L			10/05/15 12:52	1
Sulfide	ND		0.050		mg/L			10/02/15 15:28	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0013				No Unit			10/03/15 13:01	1
Specific Conductance	2100		1.0		umhos/cm			10/05/15 15:06	1
pH	8.41	HF	0.100		SU			10/06/15 20:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.42				SU			09/30/15 11:12	1
Field Conductivity	2814				umhos/cm			09/30/15 11:12	1
Field Temperature	22.7				Degrees C			09/30/15 11:12	1

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

TestAmerica Job ID: 280-74857-1

Client Sample ID: TRIP BLANK
Date Collected: 09/30/15 00:00
Date Received: 10/01/15 09:35

Lab Sample ID: 280-74857-5
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			10/04/15 18:09	1
Ethylbenzene	ND		0.50		ug/L			10/04/15 18:09	1
Toluene	ND		0.50		ug/L			10/04/15 18:09	1
Xylenes, Total	ND		0.50		ug/L			10/04/15 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*97*		*85 - 115*		*10/04/15 18:09*	*1*

Surrogate Summary

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

TestAmerica Job ID: 280-74857-1

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)
280-74857-1	APISHAPA SWSP WATER TRU	95
280-74857-2	TRIP BLANK	97
280-74857-3	COOL WHIP 22-29	92
280-74857-4	EL COTO 13-29	92
280-74857-5	TRIP BLANK	97
280-74895-J-1 MS	Matrix Spike	98
280-74895-J-1 MSD	Matrix Spike Duplicate	99
LCS 280-297809/8	Lab Control Sample	103
LCSD 280-297809/9	Lab Control Sample Dup	102
MB 280-297809/7	Method Blank	98

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Method: 8015B - Diesel Range Organics (DRO) (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTPH1 (50-115)
280-74734-H-8-A MS	Matrix Spike	73
280-74734-N-8-A MSD	Matrix Spike Duplicate	73
280-74857-1	APISHAPA SWSP WATER TRUCK	67
280-74857-3	COOL WHIP 22-29	71
280-74857-4	EL COTO 13-29	78
LCS 280-297564/2-A	Lab Control Sample	86
LCS 280-297681/2-A	Lab Control Sample	82
LCSD 280-297681/3-A	Lab Control Sample Dup	86
MB 280-297564/1-A	Method Blank	87
MB 280-297681/1-A	Method Blank	82

Surrogate Legend

OTPH = o-Terphenyl

Client Sample ID: APISHAPA SWSP WATER TRUCK

Lab Sample ID: 280-74857-1

Date Collected: 09/30/15 08:45

Matrix: Water

Date Received: 10/01/15 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	297809	10/04/15 21:36	CDC	TAL DEN
Total/NA	Prep	3510C			1055.4 mL	1 mL	297564	10/02/15 09:45	DFB1	TAL DEN
Total/NA	Analysis	8015B		1	1055.4 mL	1 mL	298203	10/07/15 14:13	TEM	TAL DEN
Total/NA	Prep	200.7			50 mL	50 mL	297638	10/05/15 13:50	MLS	TAL DEN
Total/NA	Analysis	200.7		1	50 mL	50 mL	298188	10/07/15 01:12	CRR	TAL DEN
Dissolved	Filtration	FILTRATION			120 mL	120 mL	297602	10/02/15 14:15	TEB	TAL DEN
Dissolved	Prep	200.7			50 mL	50 mL	297629	10/05/15 13:50	MLS	TAL DEN
Dissolved	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:07	CRR	TAL DEN
Potentially Dissolvec	Filtration	Poten_Diss_Met			300 mL	300 mL	297603	10/02/15 14:18	TEB	TAL DEN
Potentially Dissolvec	Prep	200.7			50 mL	50 mL	297620	10/05/15 13:50	MLS	TAL DEN
Potentially Dissolvec	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:40	CRR	TAL DEN
Total Recoverable	Prep	200.7			50 mL	50 mL	297671	10/05/15 13:50	MLS	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/07/15 00:07	CRR	TAL DEN
Total Recoverable	Prep	200.8			50 mL	50 mL	297670	10/05/15 13:50	MLS	TAL DEN
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	298026	10/05/15 20:15	LMT	TAL DEN
Total/NA	Prep	1664A			1051 mL	1000 mL	298298	10/07/15 16:07	ARS	TAL DEN
Total/NA	Analysis	1664A		1	1051 mL	1000 mL	298331	10/07/15 20:03	ARS	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	297536	10/02/15 22:39	AFB	TAL DEN
Total/NA	Analysis	D1429-03		1			297742	10/03/15 13:01	MAS	TAL DEN
Total/NA	Analysis	SM 2320B		1			297715	10/02/15 15:37	NAS	TAL DEN
Total/NA	Analysis	SM 2510B		1		25 mL	297904	10/05/15 15:06	WTW	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	297652	10/02/15 16:49	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	297890	10/05/15 12:52	CML	TAL DEN
Total/NA	Analysis	SM 4500 H+ B		1			298204	10/06/15 20:22	MAS	TAL DEN
Total/NA	Analysis	SM 4500 S2 D		1	10.0 mL	10.0 mL	297614	10/02/15 15:28	AJS	TAL DEN
Total/NA	Analysis	Field Sampling		1			297811	09/30/15 08:45	UP	TAL DEN

Client Sample ID: TRIP BLANK

Lab Sample ID: 280-74857-2

Date Collected: 09/30/15 00:00

Matrix: Water

Date Received: 10/01/15 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	297809	10/04/15 18:39	CDC	TAL DEN

Client Sample ID: COOL WHIP 22-29

Lab Sample ID: 280-74857-3

Date Collected: 09/30/15 11:12

Matrix: Water

Date Received: 10/01/15 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	297809	10/04/15 22:06	CDC	TAL DEN
Total/NA	Prep	3510C			1047.5 mL	1 mL	297681	10/02/15 20:26	KI	TAL DEN
Total/NA	Analysis	8015B		1	1047.5 mL	1 mL	298620	10/09/15 13:44	TEM	TAL DEN

Client Sample ID: COOL WHIP 22-29

Lab Sample ID: 280-74857-3

Date Collected: 09/30/15 11:12

Matrix: Water

Date Received: 10/01/15 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			50 mL	50 mL	297638	10/05/15 13:50	MLS	TAL DEN
Total/NA	Analysis	200.7		1	50 mL	50 mL	298188	10/07/15 01:15	CRR	TAL DEN
Dissolved	Filtration	FILTRATION			120 mL	120 mL	297602	10/02/15 14:15	TEB	TAL DEN
Dissolved	Prep	200.7			50 mL	50 mL	297629	10/05/15 13:50	MLS	TAL DEN
Dissolved	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:10	CRR	TAL DEN
Potentially Dissolvec	Filtration	Poten_Diss_Met			300 mL	300 mL	297603	10/02/15 14:18	TEB	TAL DEN
Potentially Dissolvec	Prep	200.7			50 mL	50 mL	297620	10/05/15 13:50	MLS	TAL DEN
Potentially Dissolvec	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:42	CRR	TAL DEN
Total Recoverable	Prep	200.7			50 mL	50 mL	297671	10/05/15 13:50	MLS	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/07/15 00:10	CRR	TAL DEN
Total Recoverable	Prep	200.8			50 mL	50 mL	297670	10/05/15 13:50	MLS	TAL DEN
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	298026	10/05/15 20:19	LMT	TAL DEN
Total/NA	Prep	1664A			1052 mL	1000 mL	298298	10/07/15 16:07	ARS	TAL DEN
Total/NA	Analysis	1664A		1	1052 mL	1000 mL	298331	10/07/15 20:03	ARS	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	297536	10/02/15 22:57	AFB	TAL DEN
Total/NA	Analysis	D1429-03		1			297742	10/03/15 13:01	MAS	TAL DEN
Total/NA	Analysis	SM 2320B		1			297715	10/02/15 15:44	NAS	TAL DEN
Total/NA	Analysis	SM 2510B		1		25 mL	297904	10/05/15 15:06	WTW	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	297652	10/02/15 16:49	RSM	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	297890	10/05/15 12:52	CML	TAL DEN
Total/NA	Analysis	SM 4500 H+ B		1			298204	10/06/15 20:30	MAS	TAL DEN
Total/NA	Analysis	SM 4500 S2 D		1	10.0 mL	10.0 mL	297614	10/02/15 15:28	AJS	TAL DEN
Total/NA	Analysis	Field Sampling		1			297811	09/30/15 11:12	UP	TAL DEN

Client Sample ID: EL COTO 13-29

Lab Sample ID: 280-74857-4

Date Collected: 09/30/15 12:05

Matrix: Water

Date Received: 10/01/15 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	297809	10/04/15 22:35	CDC	TAL DEN
Total/NA	Prep	3510C			1049 mL	1 mL	297681	10/02/15 20:26	KI	TAL DEN
Total/NA	Analysis	8015B		1	1049 mL	1 mL	298620	10/09/15 14:09	TEM	TAL DEN
Total/NA	Prep	200.7			50 mL	50 mL	297638	10/05/15 13:50	MLS	TAL DEN
Total/NA	Analysis	200.7		1	50 mL	50 mL	298188	10/07/15 01:18	CRR	TAL DEN
Dissolved	Filtration	FILTRATION			120 mL	120 mL	297602	10/02/15 14:15	TEB	TAL DEN
Dissolved	Prep	200.7			50 mL	50 mL	297629	10/05/15 13:50	MLS	TAL DEN
Dissolved	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:12	CRR	TAL DEN
Potentially Dissolvec	Filtration	Poten_Diss_Met			300 mL	300 mL	297603	10/02/15 14:18	TEB	TAL DEN
Potentially Dissolvec	Prep	200.7			50 mL	50 mL	297620	10/05/15 13:50	MLS	TAL DEN
Potentially Dissolvec	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/06/15 23:45	CRR	TAL DEN
Total Recoverable	Prep	200.7			50 mL	50 mL	297671	10/05/15 13:50	MLS	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	50 mL	50 mL	298188	10/07/15 00:13	CRR	TAL DEN
Total Recoverable	Prep	200.8			50 mL	50 mL	297670	10/05/15 13:50	MLS	TAL DEN

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/14/2015

Client Information	Sampler: A. Caudill	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-34119-4609.1
Client Contact: Bill Ward	Phone:	E-Mail: danielle.harrington@testamericainc.com		Page: Page 1 of 1
Company: Norwest Corporation				Job #:

Address: 950 South Cherry Street Suite 800	Due Date Requested:	Analysis Requested
City: Denver	TAT Requested (days): Routine/5days/7days	
State, Zip: CO, 80246	PO #:	
Phone:	WO #:	
Email: wward@norwestcorp.com	Project #: 28001998	
Project Name: Pioneer Natural Resources	SSOW#:	
Site: Colorado		

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	AP well head	TPH-DRO	O&G Grease	BTEX	SAR Tests	EC only	Total Number of containers	Special Instructions/Note:
			Preservation Code:											pH Tex EC
Cool whip 22-29	9/30	1112	G	W			X	X	X			Routine TAT	3	Login: see special instructions 8.42 22.7 2184
El Coto 13-29		1205	G	W						X	X		3	8.38 16.7 2575
Trip Blank				W										
Anasazi 228 ADISPT		1305	G	W							X	5 day TAT	2	8.48 38.7 2249
Rio-Laurie 215 ADISPT		1400	G	W								X 7 day TAT	3	n/a 3240

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

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

Special Instructions/QC Requirements: **SAMPLER please circle all that apply:** pH, Nitrate by IC, Nitrite by IC, Potentially Dissolved Metals

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/30/15 1800	Norwest		0935 010ct15	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5, 0.9 IR Gun 010ct15