Detection Summary

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

TestAmerica Job ID: 280-25790-1

Client Sample ID: TAHOE 33-20 — Lab Sample ID: 280-25790-1

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Field pH	8.61				SU	1		Field Sampling	Total/NA
Field Conductivity	2149				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	15.3				Degrees C	1		Field Sampling	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.0		0.50		ug/L	1		8021B	Total/NA
Xylenes, Total	0.87		0.50		ug/L	1		8021B	Total/NA
Boron	0.18		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1.8		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	4.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	0.66		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.041		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	560		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	4.7		0.050		mg/L	1		200.7 Rev 4.4	Total Recovera
Bromide	0.62		0.20		mg/L	1		300.0	Total/NA
Total Alkalinity	1100		5.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	990		5.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	70		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Total/NA
Chloride	110		2.5		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0014				No Unit	1		D1429-03	Total/NA
Specific Conductance	2200		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	8.59	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: HIBERNIA 12-16 — Lab Sample ID: 280-25790-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Field pH	7.95				SU	1		Field Sampling	Total/NA
Field Conductivity	2510				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.3				Degrees C	1		Field Sampling	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		0.50		ug/L	1		8021B	Total/NA
Xylenes, Total	0.83		0.50		ug/L	1		8021B	Total/NA
Boron	0.074		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	3.4		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.2		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	0.99		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.086		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	640		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.4		0.050		mg/L	1		200.7 Rev 4.4	Total Recovera
Bromide	1.1		0.20		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
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Total/NA
Chloride	180		2.5		mg/L	1		SM 4500 Cl- E	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Gravity	1.0014				No Unit	1		D1429-03	Total/NA
Specific Conductance	2600		1.0		umhos/cm	1		SM 2510B	Total/NA
pH	7.73	HF	0.100		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 280-25790-3

No Detections

Method Summary

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

TestAmerica Job ID: 280-25790-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL DEN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.8	Metals (ICP/MS)	EPA	TAL DEN
300.0	Anions by IC	EPA	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 Cl- E	Chloride, Total	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:

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: Quarterly/AP Wellhead

TestAmerica Job ID: 280-25790-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-25790-1	TAHOE 33-20	Water	02/17/12 11:15	02/18/12 09:30
280-25790-2	HIBERNIA 12-16	Water	02/17/12 12:25	02/18/12 09:30
280-25790-3	TRIP BLANK	Water	02/17/12 11:15	02/18/12 09:30
280-25790-4	BEARLY 24-29	Water	02/16/12 14:29	02/18/12 09:30
280-25790-5	SKYWALKER FEDERAL 41-10	Water	02/17/12 12:28	02/18/12 09:30
280-25790-6	STUDEBAKER 42-4	Water	02/17/12 13:19	02/18/12 09:30
280-25790-7	BIG MEADOW 34-4	Water	02/17/12 14:24	02/18/12 09:30
280-25790-8	TRIP BLANK	Water	02/17/12 11:15	02/18/12 09:30
280-25790-9	WALK-ABOUT 42-2	Water	02/17/12 10:49	02/18/12 09:30
280-25790-10	FLATSPOT 33-2	Water	02/17/12 11:20	02/18/12 09:30
280-25790-11	POLLYWOG 23-3	Water	02/17/12 11:50	02/18/12 09:30
280-25790-12	TRIP BLANK	Water	02/17/12 11:15	02/18/12 09:30

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

TestAmerica Job ID: 280-25790-1

Client Sample ID: TAHOE 33-20
Date Collected: 02/17/12 11:15
Date Received: 02/18/12 09:30

Lab Sample ID: 280-25790-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.0		0.50		ug/L			02/21/12 22:49	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 22:49	1
Toluene	ND		0.50		ug/L			02/21/12 22:49	1
Xylenes, Total	0.87		0.50		ug/L			02/21/12 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*101*		*85 - 115*		*02/21/12 22:49*	*1*

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Boron	0.18		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Calcium	1.8		0.10		mg/L		02/21/12 06:15	02/21/12 18:53	1
Chromium	ND		0.010		mg/L		02/21/12 06:15	02/21/12 18:53	1
Copper	ND		0.010		mg/L		02/21/12 06:15	02/21/12 18:53	1
Iron	4.4		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Potassium	ND		5.0		mg/L		02/21/12 06:15	02/21/12 18:53	1
Magnesium	0.66		0.10		mg/L		02/21/12 06:15	02/21/12 18:53	1
Manganese	0.041		0.010		mg/L		02/21/12 06:15	02/22/12 15:05	1
Sodium	560		2.0		mg/L		02/21/12 06:15	02/22/12 15:05	1
Selenium	ND		0.015		mg/L		02/21/12 06:15	02/22/12 15:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.7		0.050		mg/L		02/21/12 06:15	02/21/12 20:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.62		0.20		mg/L			02/21/12 16:22	1
Sulfate	ND		5.0		mg/L			02/21/12 16:22	1
Total Alkalinity	1100		5.0		mg/L			02/23/12 11:43	1
Bicarbonate Alkalinity as CaCO3	990		5.0		mg/L			02/23/12 11:43	1
Carbonate Alkalinity as CaCO3	70		5.0		mg/L			02/23/12 11:43	1
Hydroxide Alkalinity	ND		5.0		mg/L			02/23/12 11:43	1
Total Dissolved Solids	1200		10		mg/L			02/24/12 11:04	1
Total Suspended Solids	ND		4.0		mg/L			02/22/12 07:46	1
Chloride	110		2.5		mg/L			02/25/12 14:06	1
Sulfide	ND		0.050		mg/L			02/24/12 15:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0014				No Unit			02/27/12 11:36	1
Specific Conductance	2200		1.0		umhos/cm			02/27/12 14:28	1
pH	8.59	HF	0.100		SU			02/18/12 14:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.61				SU			02/17/12 11:15	1
Field Conductivity	2149				umhos/cm			02/17/12 11:15	1
Field Temperature	15.3				Degrees C			02/17/12 11:15	1

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

TestAmerica Job ID: 280-25790-1

Client Sample ID: TRIP BLANK
Date Collected: 02/17/12 11:15
Date Received: 02/18/12 09:30

Lab Sample ID: 280-25790-3
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			02/22/12 00:00	1
Ethylbenzene	ND		0.50		ug/L			02/22/12 00:00	1
Toluene	ND		0.50		ug/L			02/22/12 00:00	1
Xylenes, Total	ND		0.50		ug/L			02/22/12 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*107*		*85 - 115*		*02/22/12 00:00*	*1*

Surrogate Summary

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

TestAmerica Job ID: 280-25790-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		TFT2
Lab Sample ID	Client Sample ID	(85-115)
280-25696-F-5 MS	Matrix Spike	102
280-25696-F-5 MSD	Matrix Spike Duplicate	103
280-25768-B-1 MS - DL	Matrix Spike	105
280-25768-B-1 MSD - DL	Matrix Spike Duplicate	105
280-25790-6	STUDEBAKER 42-4	104
280-25790-7	BIG MEADOW 34-4	102
280-25790-8	TRIP BLANK	103
280-25790-9	WALK-ABOUT 42-2	100
280-25790-10	FLATSPOT 33-2	102
280-25790-11	POLLYWOG 23-3	103
280-25790-12	TRIP BLANK	100
LCS 280-108771/2	Lab Control Sample	103
LCS 280-108901/2	Lab Control Sample	104
LCSD 280-108771/3	Lab Control Sample Dup	105
LCSD 280-108901/3	Lab Control Sample Dup	103
MB 280-108771/4	Method Blank	105
MB 280-108901/4	Method Blank	102

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		TFT1
Lab Sample ID	Client Sample ID	(85-115)
280-25745-G-1 MS	Matrix Spike	93
280-25745-G-1 MSD	Matrix Spike Duplicate	102
280-25790-1	TAHOE 33-20	101
280-25790-2	HIBERNIA 12-16	100
280-25790-3	TRIP BLANK	107
280-25790-4	BEARLY 24-29	107
280-25790-5	SKYWALKER FEDERAL 41-10	106
LCS 280-108737/2	Lab Control Sample	96
LCSD 280-108737/3	Lab Control Sample Dup	100
MB 280-108737/4	Method Blank	103

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

Summary Report

Client Sample Results

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

TestAmerica Job ID: 280-25790-1

Client Sample ID: TAHOE 33-20
Date Collected: 02/17/12 11:15
Date Received: 02/18/12 09:30

Lab Sample ID: 280-25790-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.0		0.50		ug/L			02/21/12 22:49	1
Ethylbenzene	ND		0.50		ug/L			02/21/12 22:49	1
Toluene	ND		0.50		ug/L			02/21/12 22:49	1
Xylenes, Total	0.87		0.50		ug/L			02/21/12 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*101*		*85 - 115*		*02/21/12 22:49*	*1*

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Boron	0.18		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Calcium	1.8		0.10		mg/L		02/21/12 06:15	02/21/12 18:53	1
Chromium	ND		0.010		mg/L		02/21/12 06:15	02/21/12 18:53	1
Copper	ND		0.010		mg/L		02/21/12 06:15	02/21/12 18:53	1
Iron	4.4		0.050		mg/L		02/21/12 06:15	02/21/12 18:53	1
Potassium	ND		5.0		mg/L		02/21/12 06:15	02/21/12 18:53	1
Magnesium	0.66		0.10		mg/L		02/21/12 06:15	02/21/12 18:53	1
Manganese	0.041		0.010		mg/L		02/21/12 06:15	02/22/12 15:05	1
Sodium	560		2.0		mg/L		02/21/12 06:15	02/22/12 15:05	1
Selenium	ND		0.015		mg/L		02/21/12 06:15	02/22/12 15:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.7		0.050		mg/L		02/21/12 06:15	02/21/12 20:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.62		0.20		mg/L			02/21/12 16:22	1
Sulfate	ND		5.0		mg/L			02/21/12 16:22	1
Total Alkalinity	1100		5.0		mg/L			02/23/12 11:43	1
Bicarbonate Alkalinity as CaCO3	990		5.0		mg/L			02/23/12 11:43	1
Carbonate Alkalinity as CaCO3	70		5.0		mg/L			02/23/12 11:43	1
Hydroxide Alkalinity	ND		5.0		mg/L			02/23/12 11:43	1
Total Dissolved Solids	1200		10		mg/L			02/24/12 11:04	1
Total Suspended Solids	ND		4.0		mg/L			02/22/12 07:46	1
Chloride	110		2.5		mg/L			02/25/12 14:06	1
Sulfide	ND		0.050		mg/L			02/24/12 15:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Gravity	1.0014				No Unit			02/27/12 11:36	1
Specific Conductance	2200		1.0		umhos/cm			02/27/12 14:28	1
pH	8.59	HF	0.100		SU			02/18/12 14:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.61				SU			02/17/12 11:15	1
Field Conductivity	2149				umhos/cm			02/17/12 11:15	1
Field Temperature	15.3				Degrees C			02/17/12 11:15	1

3, 4, SM, 2/18/12

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: _____
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other _____

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: Pioneer Nat-Resources	Client Project Manager: Jerald Jacobs	Site Contact: Bill Ward	Lab Contact: Danielle Harrington	COC No:
Address: 1401 17th St #1200	Telephone: 30	Telephone: 719-846-4024	Telephone: 303-421-6611	1 of 1 COCs
City/State/Zip: Denver CO. 80202	Email:	Analysis Turnaround Time (in BUS days)	Analyses	For lab use only
Phone: 303-298-8100		TAT if different from below: ☒ Routine		Walk-in client: ☐
Project Name: Ruben Basin CO	Method of Shipment/Carrier:	☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Lab pickup: ☐
Project Number: 4010-0004	Shipping/Tracking No:			Lab sampling: ☐
PO #				Job/SDG No.:

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite-C / Grab-G	Analyses: Chlorate	BTEX	Sample Specific Notes / Special Instructions: pH Temp SC
Tahoe 33-20	2/17	11:15		X					1	3		1	2		N	G	X		8.61 15.3 2149 us
Hibernia 12-16	↓	12:25		X					1	3		1	2		N	G	X		7.95 13.3 2510 us
TRIP Blank				X						1								X	

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

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

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TAO	Date/Time: 2/18/12 0930

TAL-0018 (1008)