



Analytical Report

Report Summary

Client: XTO Energy Inc.
Chain Of Custody Number: 1343
Samples Received: 3/4/2016 11:39:00AM
Job Number: 98031-0528
Work Order: P603008
Project Name/Location: Huber Burkett 4-B

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', written over a horizontal line.

Walter Hinchman, Laboratory Director

Date: 3/11/16

A handwritten signature in black ink, appearing to read 'Tim Cain', written over a horizontal line.

Tim Cain, Quality Assurance Officer

Date: 3/11/16

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



XTO Energy Inc.
382 CR 3100
Aztec NM, 87410

Project Name: Huber Burkett 4-B
Project Number: 98031-0528
Project Manager: James McDaniel

Reported:
11-Mar-16 15:12

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PW Sample	P603008-01A	Water	03/03/16	03/04/16	Poly 500mL
	P603008-01B	Water	03/03/16	03/04/16	Poly 500mL
	P603008-01C	Water	03/03/16	03/04/16	Poly 500mL
	P603008-01D	Water	03/03/16	03/04/16	Poly 500mL
	P603008-01E	Water	03/03/16	03/04/16	VOA Vial, Amber, 40mL
	P603008-01F	Water	03/03/16	03/04/16	VOA Vial, Amber, 40mL
EOW Sample	P603008-02A	Water	03/03/16	03/04/16	Poly 500mL
	P603008-02B	Water	03/03/16	03/04/16	Poly 500mL
	P603008-02C	Water	03/03/16	03/04/16	Poly 500mL
	P603008-02D	Water	03/03/16	03/04/16	Poly 500mL
	P603008-02E	Water	03/03/16	03/04/16	VOA Vial, Amber, 40mL
	P603008-02F	Water	03/03/16	03/04/16	VOA Vial, Amber, 40mL

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XTO Energy Inc.
 382 CR 3100
 Aztec NM, 87410

 Project Name: Huber Burkett 4-B
 Project Number: 98031-0528
 Project Manager: James McDaniel

 Reported:
 11-Mar-16 15:12

PW Sample
P603008-01 (Water)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
Toluene	ND	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
Ethylbenzene	0.001	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
p,m-Xylene	0.005	0.002	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
o-Xylene	0.003	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
Total Xylenes	0.008	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
Total BTEX	0.009	0.001	mg/L	1		1611001	03/07/16	03/07/16	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		104 %		50-150		1611001	03/07/16	03/07/16	EPA 8021B	
Cation/Anion Analysis										
pH @25°C	8.17		pH Units	1		1610017	03/04/16 13:01	03/04/16 14:44	9040C/4500 H	H
Electrical Conductivity	2210		umhos/cm	1		1610017	03/04/16	03/04/16	9050A/2510	H
Total Dissolved Solids	1330	10.0	mg/L	1		1611005	03/07/16	03/07/16	160.1/2540C	
Sodium Absorption Ratio	16.5		N/A	1		1611029	03/11/16	03/11/16	[CALC]	
Total Alkalinity as CaCO3	1180	10.0	mg/L	1		1611004	03/07/16	03/07/16	Hach Method 8203	
Total Hardness as CaCO3	144	2.07	mg/L			[CALC]	03/08/16	03/08/16	[CALC]	
Bicarbonate as CaCO3	ND	10.0	mg/L	1		1611004	03/07/16	03/07/16	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1		1611004	03/07/16	03/07/16	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1		1611004	03/07/16	03/07/16	Hach Method 8203	
Nitrate-N	ND	2.50	mg/L	10		1610018	03/04/16 14:35	03/07/16 18:12	EPA 300.0	A-01
Nitrite-N	ND	2.50	mg/L	10		1610018	03/04/16 14:35	03/07/16 18:12	EPA 300.0	A-01
Chloride	378	20.0	mg/L	10		1610018	03/04/16	03/07/16	EPA 300.0	
Fluoride	ND	2.50	mg/L	10		1610018	03/04/16	03/07/16	EPA 300.0	
o-Phosphate-P	ND	2.50	mg/L	10		1610018	03/04/16 14:35	03/07/16 17:50	EPA 300.0	H
Sulfate	ND	20.0	mg/L	10		1610018	03/04/16	03/07/16	EPA 300.0	
Iron	ND	0.50	mg/L	1		1611009	03/08/16	03/08/16	EPA 6010C	
Calcium	48.0	0.50	mg/L	1		1611009	03/08/16	03/08/16	EPA 6010C	
Magnesium	5.89	0.20	mg/L	1		1611009	03/08/16	03/08/16	EPA 6010C	
Potassium	6.44	0.50	mg/L	1		1611009	03/08/16	03/08/16	EPA 6010C	
Sodium	455	2.00	mg/L	1		1611009	03/08/16	03/08/16	EPA 6010C	

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XTO Energy Inc. 382 CR 3100 Aztec NM, 87410	Project Name: Huber Burkett 4-B Project Number: 98031-0528 Project Manager: James McDaniel	Reported: 11-Mar-16 15:12
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**EOW Sample
P603008-02 (Water)**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Volatile Organics by EPA 8021									
Benzene	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
Toluene	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
Ethylbenzene	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
p,m-Xylene	ND	0.002	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
o-Xylene	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
Total Xylenes	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
Total BTEX	ND	0.001	mg/L	1	1611001	03/07/16	03/07/16	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		100 %		50-150	1611001	03/07/16	03/07/16	EPA 8021B	
Cation/Anion Analysis									
pH @25°C	8.26		pH Units	1	1610017	03/04/16 13:01	03/04/16 14:44	9040C/4500 H	H
Electrical Conductivity	531		umhos/cm	1	1610017	03/04/16	03/04/16	9050A/2510	H
Total Dissolved Solids	536	10.0	mg/L	1	1611005	03/07/16	03/07/16	160.1/2540C	
Sodium Absorption Ratio	7.78		N/A	1	1611029	03/11/16	03/11/16	[CALC]	
Total Alkalinity as CaCO3	238	10.0	mg/L	1	1611004	03/07/16	03/07/16	Hach Method 8203	
Total Hardness as CaCO3	48.9	2.07	mg/L		[CALC]	03/08/16	03/08/16	[CALC]	
Bicarbonate as CaCO3	ND	10.0	mg/L	1	1611004	03/07/16	03/07/16	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1	1611004	03/07/16	03/07/16	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1	1611004	03/07/16	03/07/16	Hach Method 8203	
Nitrate-N	ND	0.25	mg/L	1	1610018	03/04/16 14:35	03/07/16 17:07	EPA 300.0	A-0
Nitrite-N	ND	0.25	mg/L	1	1610018	03/04/16 14:35	03/07/16 17:07	EPA 300.0	A-0
Chloride	81.6	2.00	mg/L	1	1610018	03/04/16	03/07/16	EPA 300.0	
Fluoride	0.72	0.25	mg/L	1	1610018	03/04/16	03/07/16	EPA 300.0	
o-Phosphate-P	ND	0.25	mg/L	1	1610018	03/04/16 14:35	03/07/16 16:03	EPA 300.0	H
Sulfate	6.37	2.00	mg/L	1	1610018	03/04/16	03/07/16	EPA 300.0	
Iron	2.17	0.50	mg/L	1	1611009	03/08/16	03/08/16	EPA 6010C	
Calcium	15.9	0.50	mg/L	1	1611009	03/08/16	03/08/16	EPA 6010C	
Magnesium	2.23	0.20	mg/L	1	1611009	03/08/16	03/08/16	EPA 6010C	
Potassium	2.65	0.50	mg/L	1	1611009	03/08/16	03/08/16	EPA 6010C	
Sodium	125	2.00	mg/L	1	1611009	03/08/16	03/08/16	EPA 6010C	

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XTO Energy Inc.
382 CR 3100
Aztec NM, 87410

Project Name: Huber Burkett 4-B
Project Number: 98031-0528
Project Manager: James McDaniel

Reported:
11-Mar-16 15:12

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1611001 - Purge and Trap EPA 5030A

Blank (1611001-BLK1)

Prepared & Analyzed: 07-Mar-16

Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	"							
Ethylbenzene	ND	0.001	"							
p,m-Xylene	ND	0.002	"							
o-Xylene	ND	0.001	"							
Total Xylenes	ND	0.001	"							
Total BTEX	ND	0.001	"							

Surrogate: 4-Bromochlorobenzene-PID 0.161 " 0.160 101 50-150

LCS (1611001-BS1)

Prepared & Analyzed: 07-Mar-16

Benzene	0.10	0.001	mg/L	0.100		100	70-130			
Toluene	0.10	0.001	"	0.100		101	70-130			
Ethylbenzene	0.10	0.001	"	0.100		102	70-130			
p,m-Xylene	0.20	0.002	"	0.200		102	70-130			
o-Xylene	0.10	0.001	"	0.100		99.3	70-130			

Surrogate: 4-Bromochlorobenzene-PID 0.157 " 0.160 98.0 50-150

Matrix Spike (1611001-MS1)

Source: P603008-01

Prepared & Analyzed: 07-Mar-16

Benzene	0.55	0.005	mg/L	0.500	ND	110	54.3-133			
Toluene	0.55	0.005	"	0.500	ND	110	61.4-130			
Ethylbenzene	0.55	0.005	"	0.500	0.001	111	61.4-133			
p,m-Xylene	1.11	0.01	"	1.00	0.005	111	63.3-131			
o-Xylene	0.54	0.005	"	0.500	0.003	108	63.3-131			

Surrogate: 4-Bromochlorobenzene-PID 0.164 " 0.160 103 50-150

Matrix Spike Dup (1611001-MSD1)

Source: P603008-01

Prepared & Analyzed: 07-Mar-16

Benzene	0.55	0.005	mg/L	0.500	ND	110	54.3-133	0.106	20	
Toluene	0.55	0.005	"	0.500	ND	110	61.4-130	0.00999	20	
Ethylbenzene	0.55	0.005	"	0.500	0.001	110	61.4-133	0.997	20	
p,m-Xylene	1.10	0.01	"	1.00	0.005	110	63.3-131	1.15	20	
o-Xylene	0.53	0.005	"	0.500	0.003	107	63.3-131	1.57	20	

Surrogate: 4-Bromochlorobenzene-PID 0.162 " 0.160 101 50-150

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Cation/Anion Analysis - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1610018 - Anion Extraction EPA 300.0

Blank (1610018-BLK1)

Prepared: 04-Mar-16 Analyzed: 07-Mar-16

Nitrate-N	ND	0.25	mg/L
Nitrite-N	ND	0.25	"
Chloride	ND	2.00	"
Fluoride	ND	0.25	"
o-Phosphate-P	ND	0.25	"
Sulfate	ND	2.00	"

LCS (1610018-BS1)

Prepared: 04-Mar-16 Analyzed: 07-Mar-16

Nitrate-N	4.70	0.25	mg/L	5.00	94.0	90-110
Nitrite-N	5.18	0.25	"	5.00	104	90-110
Chloride	50.5	2.00	"	50.0	101	90-110
Fluoride	5.08	0.25	"	5.00	102	90-110
o-Phosphate-P	7.81	0.25	"	8.15	95.8	90-110
Sulfate	49.8	2.00	"	50.0	99.7	90-110

Matrix Spike (1610018-MS1)

Source: P603008-02

Prepared: 04-Mar-16 Analyzed: 07-Mar-16

Nitrate-N	4.94	0.25	mg/L	5.00	ND	98.8	80-120	
Nitrite-N	2.25	0.25	"	5.00	ND	45.0	80-120	SPK1
Chloride	123	2.00	"	50.0	81.6	82.2	80-120	
Fluoride	5.88	0.25	"	5.00	0.72	103	80-120	
o-Phosphate-P	8.08	0.25	"	8.15	ND	99.0	80-120	
Sulfate	57.3	2.00	"	50.0	6.37	102	80-120	

Matrix Spike Dup (1610018-MSD1)

Source: P603008-02

Prepared: 04-Mar-16 Analyzed: 07-Mar-16

Nitrate-N	5.02	0.25	mg/L	5.00	ND	100	80-120	1.59	20	
Nitrite-N	2.40	0.25	"	5.00	ND	48.0	80-120	6.58	20	SPK1
Chloride	124	2.00	"	50.0	81.6	85.6	80-120	1.39	20	
Fluoride	5.97	0.25	"	5.00	0.72	105	80-120	1.45	20	
o-Phosphate-P	8.22	0.25	"	8.15	ND	101	80-120	1.77	20	
Sulfate	58.2	2.00	"	50.0	6.37	104	80-120	1.53	20	

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Project Name: Huber Burkett 4-B
Project Number: 98031-0528
Project Manager: James McDaniel

Reported:
11-Mar-16 15:12

Cation/Anion Analysis - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1611009 - Metal Water Digestion EPA 3015A

Blank (1611009-BLK1)

Prepared & Analyzed: 08-Mar-16

Iron	ND	0.50	mg/L							
Calcium	ND	0.50	"							
Magnesium	ND	0.20	"							
Potassium	ND	0.50	"							
Sodium	ND	2.00	"							

LCS (1611009-BS1)

Prepared & Analyzed: 08-Mar-16

Iron	95.9	0.50	mg/L	100		95.9	80-120			
Calcium	96.8	0.50	"	100		96.8	80-120			
Magnesium	91.1	0.20	"	100		91.1	80-120			
Potassium	1.07	0.50	"	1.00		107	80-120			
Sodium	99.0	2.00	"	100		99.0	80-120			

Matrix Spike (1611009-MS1)

Source: P603010-01

Prepared & Analyzed: 08-Mar-16

Iron	97.9	0.50	mg/L	100	0.89	97.1	75-125			
Calcium	99.9	0.50	"	100	2.51	97.3	75-125			
Magnesium	92.6	0.20	"	100	0.45	92.1	75-125			
Potassium	7.49	0.50	"	1.00	6.08	141	75-125			SPK1
Sodium	226	2.00	"	100	133	92.7	75-125			

Matrix Spike Dup (1611009-MSD1)

Source: P603010-01

Prepared & Analyzed: 08-Mar-16

Iron	98.8	0.50	mg/L	100	0.89	97.9	75-125	0.881	20	
Calcium	99.6	0.50	"	100	2.51	97.1	75-125	0.279	20	
Magnesium	93.4	0.20	"	100	0.45	92.9	75-125	0.849	20	
Potassium	7.51	0.50	"	1.00	6.08	143	75-125	0.296	20	SPK1
Sodium	225	2.00	"	100	133	91.8	75-125	0.394	20	

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Project Name: Huber Burkett 4-B
Project Number: 98031-0528
Project Manager: James McDaniel

Reported:
11-Mar-16 15:12

Notes and Definitions

SPK1 The spike recovery is outside of quality control limits.

H2 Sample was analyzed after regulatory hold-time exceeded for target analyte.

H1 Sample was received after regulatory hold-time exceeded for target analyte.

A-01a Taken from containers preserved with sulfuric acid

A-01 Taken from container preserved with sulfuric acid

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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[illegible]

* Sample ID will be the office and sampler-date-military time FARUM-MMDDYY-1200

