XTO ENERGY INC.

OIL CONS. DIV DIST. 3

JUL 10 2015

Natural Gas Analysis Report
SAN JUAN DIVISION

30-045-28919

Sample Information

Sample Information	
Sample Name	GALLEGOSFEDERAL 26-13-14-1 BH
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-07-09 07:55:28

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal / 1000 cu.ft)	
Nitrogen	0.6103	0.0	0.00590	0.067	
Oxygen	0.0415	0.0	0.00046	0.004	
Methane	94.3477	955.1	0.52259	16.036	
Carbon Dioxide	0.0868	0.0	0.00132	0.015	
Ethane	2.1338	37.8	0.02215	0.572	
Propane	0.4434	11.2	0.00675	0.122	
I-Butane	0.1566	5.1	0.00314	0.051	
N-Butane	0.1849	6.0	0.00371	0.058	
I-Pentane	0.0877	3.5	0.00218	0.032	
N-Pentane	0.1311	5.3	0.00327	0.048	
Hexanes	0.2226	10.6	0.00662	0.092	
Heptanes	0.4009	22.1	0.01387	0.185	
Octanes	0.8499	53.2	0.03352	0.437	
Nonanes	0.3028	21.2	0.01341	0.171	
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000	
Water	0.0000	0.0	0.00000	0.000	
Total:	100.0000	1131.3	0.63890	17.891	

Results Summary

Result	Dry	Sat	
Total Normalzed Mole%	100.0000	100.0000	
Pressure Base (psia)	14.730		
Flowing Temperature (Deg. F)	65.0		
Flowing Pressure (psia)	12.0		
Gross Heating Value (BTU / Real cu.ft.)	1134.5	1115.1	
Relative Density (G), Real	0.6404	0.6404	
Compressibility (Z) Factor	0.9972	0.9968	
Total GPM	17.891	17.686	

XTO ENERGY INC.

OIL CONS. DIV DIST. 3

JUL 10 2015

Natural Gas Analysis Report
SAN JUAN DIVISION

Sample Information

	Sample Information
Sample Name	GALLEGOSFEDERAL 26-13-14-1 CASING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-07-09 07:47:49

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	8.4895	0.0	0.08211	0.936	
Oxygen	9.2329	0.0	0.10201	0.821	
Methane	75.9241	768.6	0.42054	12.893	
Carbon Dioxide	2.8358	0.0	0.04309	0.485	
Ethane	3.0608	54.3	0.03178	0.820	
Propane	0.0317	0.8	0.00048	0.009	
I-Butane	0.0466	1.5	0.00094	0.015	
N-Butane	0.1100	3.6	0.00221	0.035	
I-Pentane	0.0426	1.7	0.00106	0.016	
N-Pentane	0.0674	2.7	0.00168	0.024	
Hexanes	0.0813	3.9	0.00242	0.033	
Heptanes	0.0317	1.7	0.00110	0.015	
Octanes	0.0337	2.1	0.00133	0.017	
Nonanes	0.0119	0.8	0.00053	0.007	
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000	
Water	0.0000	0.0	0.00000	0.000	
Total:	100.0000	841.8	0.69126	16.125	

Results Summary

Result	Dry	Sat.	
Total Normalzed Mole%	100.0000	100.0000	
Pressure Base (psia)	14.730		
Flowing Temperature (Deg. F)	65.0		
Flowing Pressure (psia)	5.0		
Gross Heating Value (BTU / Real cu.ft.)	843.4	829.0	
Relative Density (G), Real	0.6923	0.6913	
Compressibility (Z) Factor	0.9981	0.9978	
Total GPM	16.125	15.949	

XTO ENERGY INC.

OIL CONS. DIV DIST. 3

JUL 10 2015

Natural Gas Analysis Report
SAN JUAN DIVISION

Sample Information

	Sample Information
Sample Name	GALLEGOSFEDERAL 26-13-14-1 TUBING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-07-09 07:35:48

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	0.8261	0.0	0.00799	0.091	
Oxygen	0.5594	0.0	0.00618	0.050	
Methane	91.9949	931.3	0.50956	15.629	
Carbon Dioxide	2.0262	0.0	0.03079	0.347	
Ethane	3.6407	64.6	0.03780	0.976	
Propane	0.0300	0.8	0.00046	0.008	
I-Butane	0.0966	3.1	0.00194	0.032	
N-Butane	0.2522	8.2	0.00506	0.080	
I-Pentane	0.0986	4.0	0.00246	0.036	
N-Pentane	0.1874	7.5	0.00467	0.068	
Hexanes	0.1923	9.2	0.00572	0.079	
Heptanes	0.0502	2.8	0.00174	0.023	
Octanes	0.0338	2.1	0.00133	0.017	
Nonanes	0.0116	0.8	0.00051	0.007	
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000	
Water	0.0000	0.0	0.00000	0.000	
Total:	100.0000	1034.4	0.61620	17.442	

Results Summary

Result	Dry	Sat.	
Total Normalzed Mole%	100.0000	100.0000	
Pressure Base (psia)	14.730		
Flowing Temperature (Deg. F)	65.0	-	
Flowing Pressure (psia)	5.0		
Gross Heating Value (BTU / Real cu.ft.)	1036.8	1019.1	
Relative Density (G), Real	0.6174	0.6177	
Compressibility (Z) Factor	0.9977	0.9973	
Total GPM	17.442	17.244	

Multi-Chem Analytical Laboratory
1122 S. FM1788
Midland, TX 76706

multi-chem®
A HALLIBURTON SERVICE

Units of Measurement: **Standard**

Solids Analysis Report

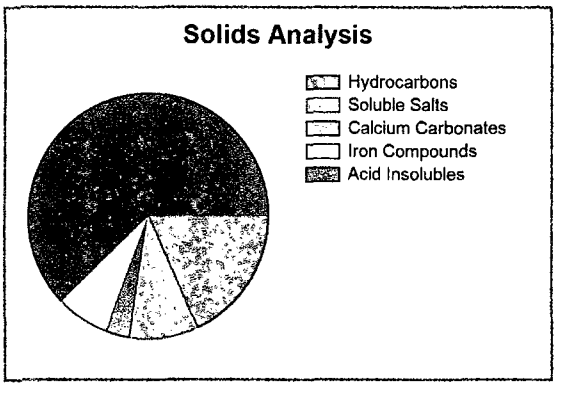
Production Company:	**XTO**	Sales Rep:	**Jeffery Jim**
Well Name:	**Gallegos Fed 26-13-14 1**	Lab Tech:	**Melissa Ashwood**
Sample Point:	**Wellhead**		
Sample Date:	**6/23/2015**		
Sample ID:	**SO-215761**		

Sample Properties:

Magnetic: Some Inclusions
Flame Loop Test:
Calcium Sulfate:
Appearance: Brown Flakes

Solids Analysis Results

	Wgt %	mg
Hydrocarbons:	18.32 %	19.00
Soluble Salts:	9.06 %	9.40
Calcium Carbonates:	3.38 %	3.50
Iron Compounds:	7.04 %	7.30
Acid Insolubles:	62.20 %	64.50
Totals:	100.00 %	103.70



% Organic: 19.39 %

% Inorganic: 80.61 %

Iron Compounds Present

( ) **Iron Oxide** (X) **Iron Sulfide** ( ) **Iron Carbonate**

Notes: Awaiting results to determine if sample is cement or mud.

Reactivity Results

20% Acetic Acid Reaction:
( ) No Reaction ( ) Weak (X) Strong

15% Hydrochloric Acid Reaction:
( ) No Reaction ( ) Weak (X) Strong

Acid Indicator Color:
( ) No Color ( ) Lt. Yellow (X) Yellow

H2S Presence:
( ) Negative (X) Positive ( ) Strong Positive

Specific Procedures Used

( ) **Soxhlet Extraction** ( ) **X-Ray Diffraction** (X) **Crucible**
( ) **Flame Loop Test** ( ) **FTIR Spectroscopy** (X) **Solubility Test**

Procedure Descriptions:

Soxhlet Extraction: Two-phased process used to remove any Oil, Hydrocarbon, Paraffin or Asphaltene that may be present in a sample.

X-Ray Diffraction Scan: Used to help identify the HCl Insoluble portion of a crystalline solid.

Crucible: Placed in a furnace at 800°C, it helps determine the amount of organic and inorganic matter contained in a sample.

Flame Loop: Used to help identify the presence of Barium and/or Strontium present in a sample.

FTIR: Used to help identify/classify many organic compounds as well as some inorganic compounds.

Solubility Test: A series of washes used to remove Hydrocarbons, Sodium Chloride, Calcium Carbonate and Iron. The remaining is called the HCl Insoluble portion.

HALLIBURTON

Lab Results-PE

Permian Basin, Odessa

Job Information

Request ID	2017035/1	**Rig Name**	N/A	**Date**	29/JUL/2015
Submitted By	Mindy Sandmann	**Job Type**	Misc Pumping	**Well**	G.T. 26-14-1 1st
Customer	XTO	**Location**	N/A		

Well Information

Formation	N/A	**Depth MD**	N/A	**BHST**	N/A
Pressure	N/A	**Depth TVD**	N/A	**Cool Down Temperature**	N/A

Fluid Results Request ID 2017035/ 1

Water Analysis

Tank Number/Source	pH	Calcium (mg/L)	Dissolved Iron (mg/L)
1. Cement	N/A	3600	N/A
2. Cement	N/A	5100	5080
3. Unknown	7.44	40	573
4. WBM	7.39	900	1002
5. WBM	8.07	600	N/A
6. Cement	11.7	N/A	N/A
7. Cement	12.12	N/A	N/A

Analyst (1-5): H118419
Analysts (6,7): H128542, H165793

1: iFacts #2259970-2
2: iFacts #2259770
3: XTO/G.T. 26-14-1 1st
4. Oxy/Barnett Deep 2128 #1WA (TOA: 7/25/15, 16:29)*
5. Oxy/Patterson Unit 2707 WA, production (TOA: 7/8/15, 16:45)*
6. iFacts #2259090-2
7. iFacts #2247439-3

*Large dilution necessary in order to create a fluid in which a color change could be seen for the calcium test (1:299). A very small amount of titrant caused a color change. This could indicate calcium levels are lower than reported for samples 4 and 5.

Sample was water-based, so only WBM was used in comparison testing. Iron levels were measured as a positive/negative cement test. Once it was determined that WBM also contained a large quantity of iron, calcium and pH became the major focus of the investigation.

Paper accompanying unknown sample says "From Bradenhead Gallggoms"? "Fed-26-13-14 #1"

Phenolphthalein Test: A dark pink color indicates the presence of cement

Before Phenolphthalein:

After Phenolphthalein: