

Piceance Energy LLC - EBUS

Piceance 28-11W

**Patterson 306**

# **Post Job Summary**

## **Cement Surface Casing**

Date Prepared: 3/31/2015

Job Date: 3/21/2015

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

*The Road to Excellence Starts with Safety*

Sold To #: 344919	Ship To #: 3563325	Quote #:	Sales Order #: 0902247303
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: Matt Settles	
Well Name: PICEANCE	Well #: 28-11W	API/UWI #: 05-077-10220-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: NE SW-28-9S-93W-2515FSL-1608FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Cliff Sparks	
<b>Job</b>			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	1532ft Job Depth TVD 1532FT
Water Depth	Wk Ht Above Floor 3
Perforation Depth (MD)	From To

Well Data										
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		16	15.25	65			0	60		
Casing		8.625	8.097	24	8 RD	J-55	0	1532	0	1532
Open Hole Section			11				60	1542	0	1542

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	8.625	1		1532		Top Plug	8.625	1	HES
Float Shoe	8.625					Bottom Plug	8.625	1	HES
Float Collar	8.625	1		1485.5		SSR plug set	8.625		
Insert Float	8.625					Plug Container	8.625	1	HES
Stage Tool	8.625					Centralizers	8.625		

Miscellaneous Materials									
Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc			
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty			

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water	Fresh Water	40	bbl	8.33					
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	VariCem GJ5	VARICEM (TM) CEMENT	192	sack	12.3	2.451		6	14.17	

14.12 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft<sup>3</sup>/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/mi n</b>	<b>Total Mix Fluid Gal</b>
3	VariCem GJ5	VARICEM (TM) CEMENT	114	sack	12.8	2.18		6	12.11
12.05 Gal		FRESH WATER							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft<sup>3</sup>/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/mi n</b>	<b>Total Mix Fluid Gal</b>
4	Fresh Water Displacement	Fresh Water Displacement	94.5	bbl	8.3				
<b>Cement Left In Pipe</b>	<b>Amount</b>	46.5 ft		<b>Reason</b>				Shoe Joint	

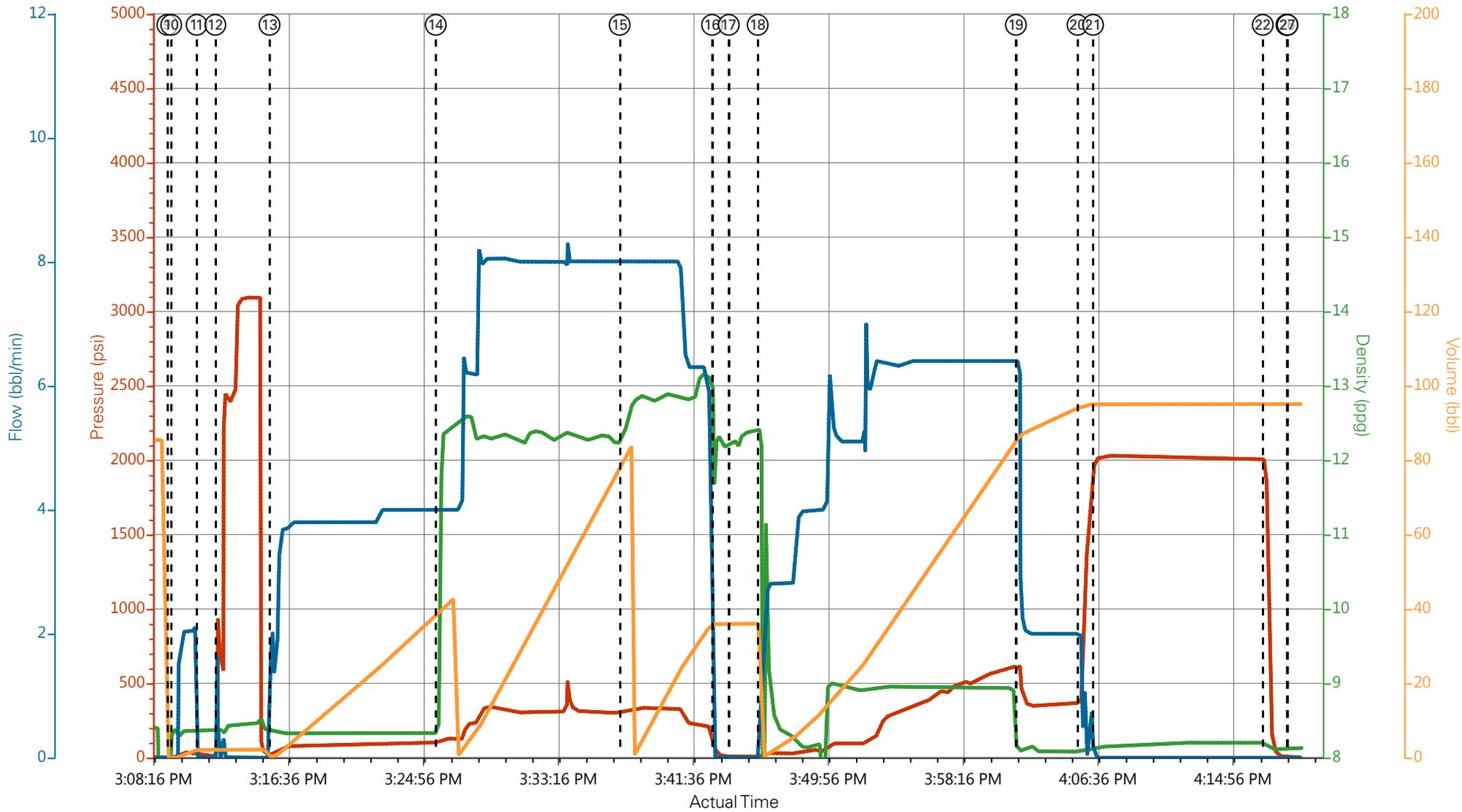
## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	3/21/2015	05:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	3/21/2015	07:45:00	USER					ALL HES
Event	3	Crew Leave Yard	3/21/2015	08:00:00	USER					1 PICKUP, 1 ELITE, 2 660's,
Event	4	Arrive At Loc	3/21/2015	09:30:00	USER					CASING CREW FINISHING CASING. ARRIVED 2 HOURS EARLY
Event	5	Assessment Of Location Safety Meeting	3/21/2015	09:35:00	USER					
Event	6	Pre-Rig Up Safety Meeting	3/21/2015	11:00:00	USER					ALL HES
Event	7	Rig-up Lines	3/21/2015	11:15:00	USER					WHILE PRIMING UP WE WERE HAVING TROUBLE WITH THE DRIVER SIDE HT. UPON FURTHER INSPECTION WE NOTICED ON THE BOTTOM FRAC VALVE WAS MISSING A SPRING BETWEEN THE CROWS FOOT AND THE VALVE RESULTING IN A DESTROYED BOTTOM VALVE. CALLED BRANDON REEVES AND HAD PARTS BROUGHT OUT. CALLED AT 1230 AND THEY SHOWED UP AT 1430. PRIMED UP FINE AFTER REPAIRS
Event	8	Pre-Job Safety Meeting	3/21/2015	15:00:00	USER					ALL HES AND RIG CREW
Event	9	Start Job	3/21/2015	15:09:17	COM2					TD-1542', TP-1531', OH-11", CASING 8.625", SJ-46.6', MUD 9.5#

Event	10	Drop Bottom Plug	3/21/2015	15:09:32	USER						PLUG WENT
Event	11	Prime Pumps	3/21/2015	15:11:06	COM2	8.34	2	40	2		
Event	12	Test Lines	3/21/2015	15:12:15	COM2	8.34	0.00	3095	2		PRESSURE HELD
Event	13	Pump Spacer 1	3/21/2015	15:15:36	COM2	8.34	4	150	40		40 BBL FRESH WATER
Event	14	Pump Lead Cement	3/21/2015	15:25:52	COM2	12.3	8	340	83.8		192SKS (83.8BBL) 12.3PPG, 2.45YIELD, 14.17GAL/SK
Event	15	Pump Tail Cement	3/21/2015	15:37:13	COM2	12.8	8	335	44.3		114SKS (44.3BBL) 12.8PPG, 2.18YEILD, 12.11GAL/SK
Event	16	Shutdown	3/21/2015	15:42:56	USER						
Event	17	Drop Top Plug	3/21/2015	15:43:58	COM2						PLUG WENT
Event	18	Pump Displacement	3/21/2015	15:45:45	COM2	9.5	6.5	620	94.5		94.5 BBL MUD DISPLACEMENT.
Event	19	Slow Rate	3/21/2015	16:01:42	USER	8.35	2	360	84		2 BBL/MIN
Event	20	Bump Plug	3/21/2015	16:05:30	COM2	8.35	2	360	94.5		PRESSURED UP TO 2023 FOR CASING TEST
Event	21	Pressure Up Well	3/21/2015	16:06:28	USER	8.35	0.00	2023	94.5		Casing test 2023 to 2007 in 10 Min
Event	22	Check Floats	3/21/2015	16:16:57	USER	8.35	0.00	2007	94.5		FLOATS HELD
Event	23	End Job	3/21/2015	16:18:24	COM2						GOOD RETURNS THROUGH JOB. 26 BBLs OF GOOD CEMENT RETURNS
Event	24	Pre-Rig Down Safety Meeting	3/21/2015	16:18:25	USER						ALL HES
Event	25	Rig Down Lines	3/21/2015	16:18:26	USER						
Event	26	Pre-Convoy Safety Meeting	3/21/2015	16:18:27	USER						ALL HES
Event	27	Crew Leave Location	3/21/2015	16:18:28	USER						THANK YOU FOR USING HALLIBURTON CEMENT. CLIFF SPARKS AND CREW

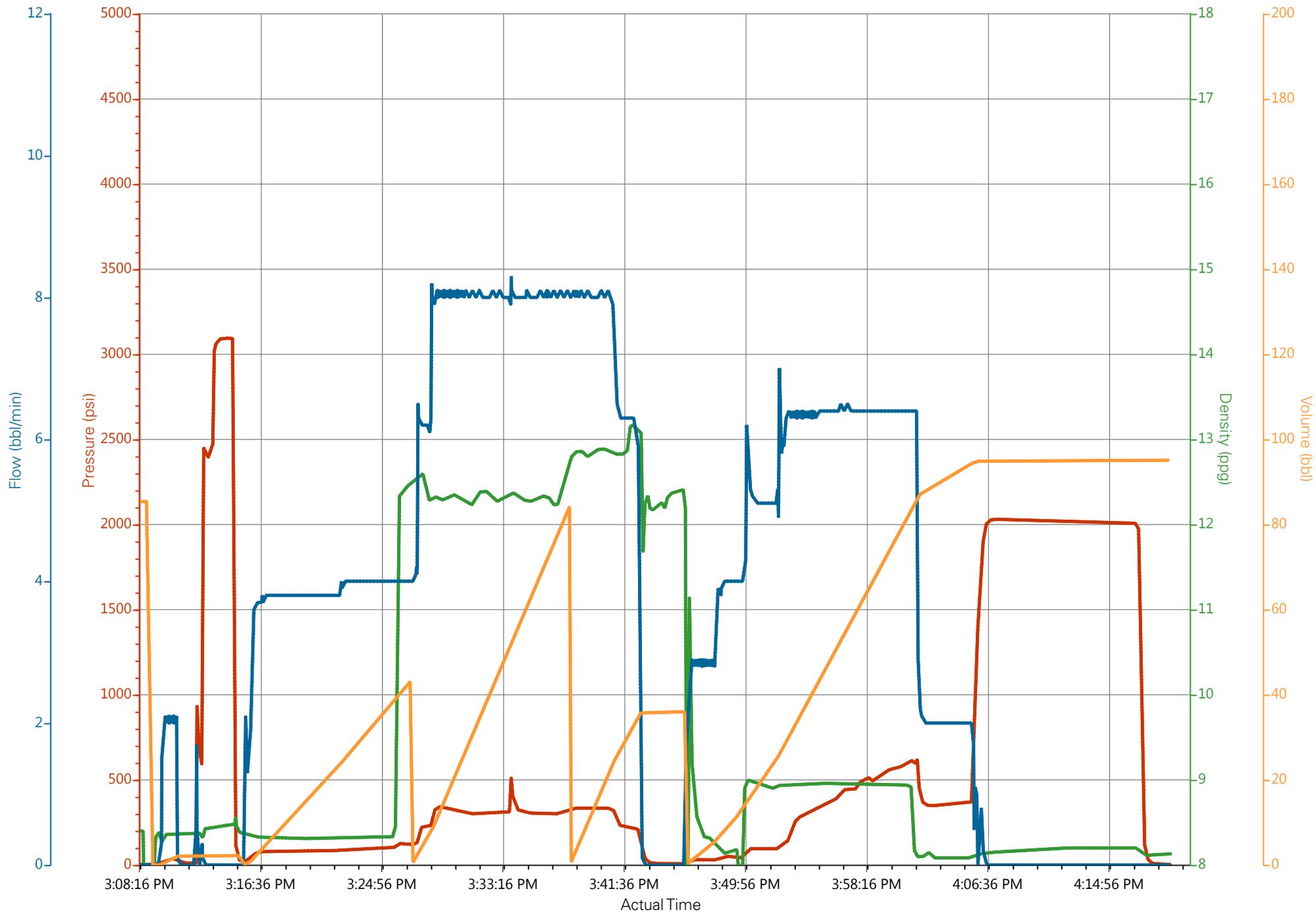
# Piceance 28-11W Surface



PS Pump Press (psi)    DH Density (ppg)    Comb Pump Rate (bbl/min)    Pump Stg Tot (bbl)

- |   |   |                                     |   |
|---|---|-------------------------------------|---|
| ① Call Out n/a;n/a;n/a;n/a                              | ⑧ Pre-Job Safety Meeting 49;8.43;4.4;59.8 | ⑮ Pump Tail Cement 306;12.33;8;79.6 | ⑳ Check Floats 1911;8.2;0;95.1              |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a             | ⑨ Start Job 2;8.21;0;0                    | ⑯ Shutdown 48;11.9;0;36             | ㉑ End Job 3;8.12;0;95.1                     |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                       | ⑩ Drop Bottom Plug 2;8.39;0;0             | ⑰ Drop Top Plug 8;12.24;0;36        | ㉒ Pre-Rig Down Safety Meeting 3;8.12;0;95.1 |
| ④ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑪ Prime Pumps 16;8.36;0;2.1               | ⑱ Pump Displacement 9;12.19;1.7;0   | ㉓ Rig Down Lines 3;8.12;0;95.1              |
| ⑤ Assessment of location safety meeting n/a;n/a;n/a;n/a | ⑫ Test Lines 772;8.37;0;2.2               | ⑲ Slow Rate 625;8.1;6.4;86.4        | ㉔ Pre-Convoy Safety Meeting 3;8.12;0;95.1   |
| ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑬ Pump Spacer 1 24;8.37;2;0.4             | ㉚ Bump Plug 383;8.08;2;94.5         | ㉕ Crew Leave Location 3;8.12;0;95.1         |
| ⑦ Rig Up Lines n/a;n/a;n/a;n/a                          | ⑭ Pump Lead Cement 103;8.89;4;39.1        | ㉛ Casing Test 2007;8.14;0;95.1      |   |

# Piceance 28-11W Surface



PS Pump Press (psi)    DH Density (ppg)    Comb Pump Rate (bb/min)    Pump Stg Tot (bb)

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE ENERGY

Date: 3/21/2015

Submitted by: CLIFF SPARKS

Date Rec.: 3/21/2015

Attention: DALLAS SCOTT

S.O.# 902247303

Lease PICEANCE

Job Type: SURFACE

Well # 28-11W

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>250 Mg / L</b>
Calcium (Ca)	<i>500</i>	<b>120 Mg / L</b>
Iron (FE2)	<i>300</i>	<b>0 Mg / L</b>
Chlorides (Cl)	<i>3000</i>	<b>0 Mg / L</b>
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>-200 Mg / L</b>
Chlorine (Cl <sub>2</sub> )		<b>0 Mg / L</b>
Temp	<i>40-80</i>	<b>40 Deg</b>
Total Dissolved Solids		<b>290 Mg / L</b>

Respectfully: CLIFF SPARKS

Title: CEMENTING SUPERVISOR

Location: WILLISTON ND

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

<b>Sales Order #:</b> 0902247303	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 3/21/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b> MATT SETTLES		<b>API / UWI: (leave blank if unknown)</b> 05-077-10220-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080643265
<b>Well Type:</b> DIRECTIONAL GAS	<b>Well Country:</b> USA	
<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> MESA

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

### CUSTOMER SATISFACTION SURVEY

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	The date the survey was conducted	3/21/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HAL9235
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	MATT SETTLES
HSE	Was our HSE performance satisfactory? Circle Y or N	Yes
Equipment	Were you satisfied with our Equipment? Circle Y or N	Yes
Personnel	Were you satisfied with our people? Circle Y or N	Yes
Customer Comment	Customer's Comment	

<b>CUSTOMER SIGNATURE</b>
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### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b>	3/21/2015
The date the survey was conducted	

Cementing KPI Survey	
<b>Type of Job</b>	0
Select the type of job. (Cementing or Non-Cementing)	
<b>Select the Maximum Deviation range for this Job</b>	Deviated
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
<b>Total Operating Time (hours)</b>	3
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
<b>HSE Incident, Accident, Injury</b>	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
<b>Was the job purpose achieved?</b>	Yes
Was the job delivered correctly as per customer agreed design?	
<b>Pumping Hours</b>	1
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Type of Rig Classification Job Was Performed</b>	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
<b>Number Of JSAs Performed</b>	5
Number Of Jsas Performed	
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes
Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Number of Unplanned Shutdowns</b>	0
Unplanned shutdown is when injection stops for any period of time.	
<b>Customer Non-Productive Rig Time (hrs)</b>	2

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Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	
<b>Reason For Non-Productive Rig Time</b>	FRAC VALVE WAS DESTROYED DUE TO NO SPRING BETWEEN VALVE AND CROWS FOOT. REPAIRED AFTER PARTS WERE BROUGHT TO LOCATION AND JOB WENT WELL
Reason For Non-productive Rig Time (Cementing PSL Responsibility)	
<b>Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?</b>	Yes
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	
<b>If Yes, which piece of equipment had a problem? Options for equipment failure:</b>	2
If Yes, which piece of equipment had a problem? Options for equipment failure: (1)Mixing System (2)Pumping System (3)Data Acquisition (4)Bulk System (5)Bulk Compressor (6)Rig owned Bulk System (7)Batch Mixer (8) Plug Container (9)Iron/Manifold (10)Liquid Additive System (11) Remote Operation Control	
<b>Did We Run Wiper Plugs?</b>	Both
Did We Run Top And Bottom Casing Wiper Plugs?	
<b>If a top plug was run, was the plug bumped? (Yes/No/N/A)</b>	Yes
If a top plug was run, was the plug bumped? (Yes/No/N/A)	
<b>If applicable, was Halliburton float equipment used? (Yes/No/N/A)</b>	Not Available
If applicable, was Halliburton float equipment used? (Yes/No/N/A)	
<b>If applicable, did the floats hold? (Yes/No/N/A)</b>	Yes
If applicable, did the floats hold? (Yes/No/N/A)	
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b>	98
Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b>	98
Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	
<b>If applicable, were there returns throughout the job? (Yes/No/N/A)</b>	Yes
If applicable, were there returns throughout the job? (Yes/No/N/A)	
<b>Nbr of Remedial Plug Jobs Rqd - HES</b>	0
Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	

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<b>Nbr of Remedial Sqz Jobs Rqd - HES</b>	0
Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	