

Piceance Energy LLC-EBUS

Piceance 28-02W

**Patterson 306**

## **Post Job Summary**

# **Cement Production Casing**

Date Prepared: 09/22/2015

Job Date: 09/22/2015

Submitted by: Jenna Cook – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3123915	Quote #:	Sales Order #: 0902764702
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: MATT SETTLES	
Well Name: PICEANCE		Well #: 28-02W	API/UWI #: 05-077-09770-00
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1522FNL-1181FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srv Supervisor: John Keane	

### Job

Formation Name	
Formation Depth (MD)	Top
Form Type	BHST
Job depth MD	8081ft
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From

### 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		8.625	7.921	32			0	1599	0	1599
Casing		4.5	4	11.6	8 RD	I-80	0	8081	0	0
Open Hole Section			8.875				1599	8091	1599	8091

### Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	4.5	1	HES
Float Shoe	4.5	1		8081	Bottom Plug	4.5	1	HES
Float Collar	4.5	1		7995				
Insert Float					Plug Container	4.5	1	HES
Stage Tool					Centralizers	4.5		HES

### 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	Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.55	30	5	
37 gal/bbl		FRESH WATER							
123.25 lbm/bbl		BARITE, BULK (100003681)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	VersaCem	VERSACEM (TM) SYSTEM	925	sack	12.8	1.75		6	8.5
0.25 lbm		POLY-E-FLAKE (101216940)							
6 lbm		KOL-SEAL, BULK (100064233)							
8.50 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	ExpandaCem	EXPANDACEM (TM) SYSTEM	413	sack	13.3	1.89		6	8.66
0.25 lbm		POLY-E-FLAKE (101216940)							
8.66 Gal		FRESH WATER							
6 lbm		KOL-SEAL, BULK (100064233)							
20 %		SS-200 - BULK (102240841)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	124	bbl	8.34			8	
0.05 gal/bbl		CLA-WEB - TOTE (101985045)							
0.01 gal/bbl		MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
Cement Left In Pipe	Amount	91 ft			Reason			Shoe Joint	

**Comment** 40 BBL TUNED SPACER III, 30 BBL CEMENT CIRCULATED TO SURFACE

## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

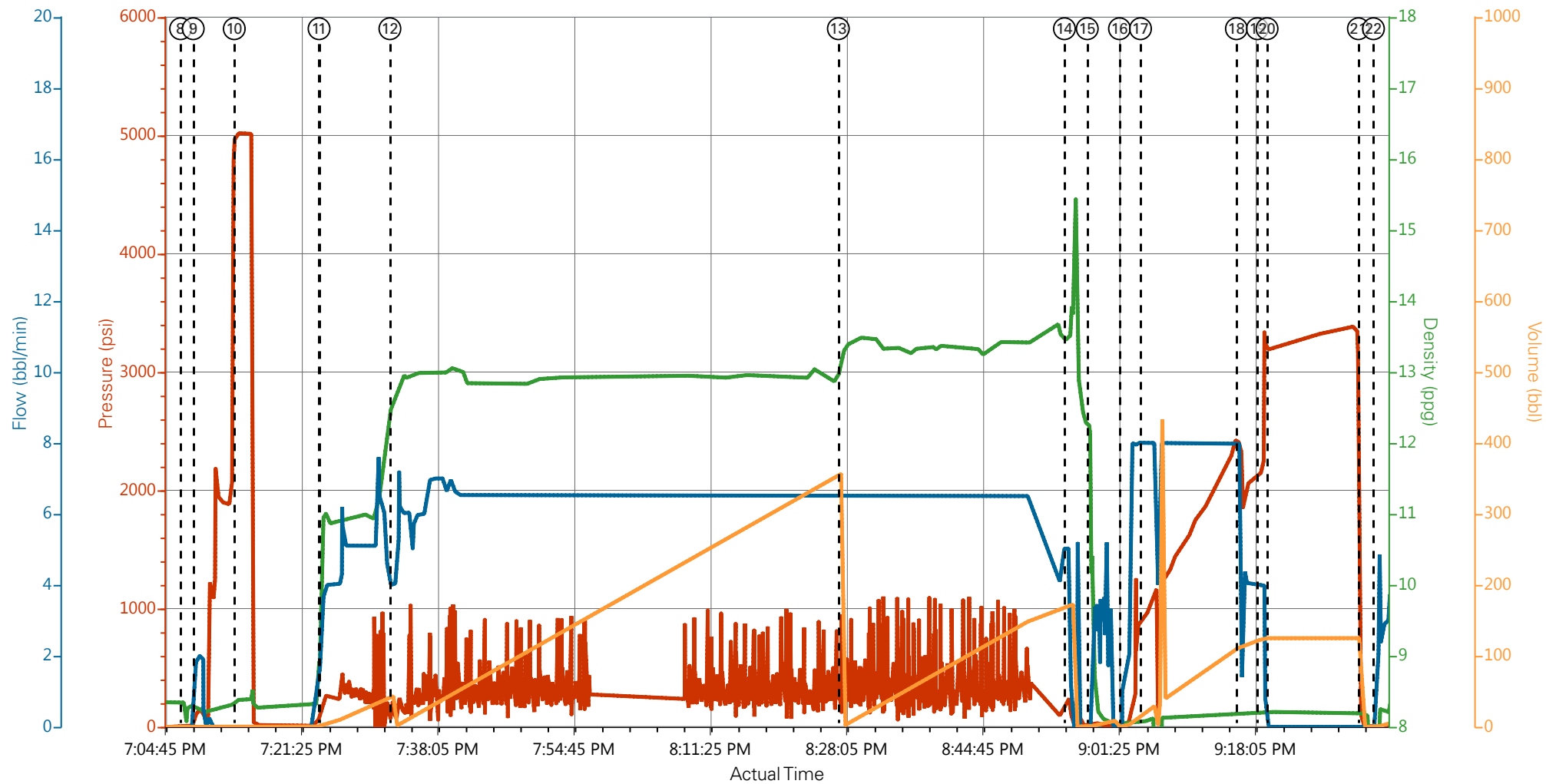
Type	Seq. No.	Activity	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	9/21/2015	12:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	9/21/2015	15:00:00	USER					WITH HES, 1 F-550 PICK-UP, 1 ELITE CEMENTING UNIT, 2 660 BULK TRUCKS
Event	3	Arrive At Loc	9/21/2015	17:10:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	4	Assessment Of Location Safety Meeting	9/21/2015	17:20:00	USER					WITH HES
Event	5	Pre-Rig Up Safety Meeting	9/21/2015	17:35:00	USER					WITH HES
Event	6	Rig-Up Equipment	9/21/2015	17:45:00	USER					1 LINE RAN TO THE FLOOR, 1 LINE RAN TO THE PIT, MANIFOLD BUILT ON THE GROUND, 1 4.5 IN. QUICKLATCH PLUG CONTAINER
Event	7	Pre-Job Safety Meeting	9/21/2015	18:45:00	USER					WITH HES, PICEANCE, AND PATERSON 306
Event	8	Start Job	9/21/2015	19:07:00	COM6					TD 8081 FT, TP 8086 FT, CSG 4.5 IN 11.6 LB/FT I-80, HOLE 7.875 IN, SHOE 91.26 FT, SURFACE CSG SET AT 1599 FT, 8.625 IN 32 LB/FT J-55, MWT 9.4 LB/GAL, RIG CIRCULATING AT 8 BBL/MIN, PASON GAS AT 59 UNITS
Event	9	Prime Pumps	9/21/2015	19:08:32	COM6	124.00	8.26	2.00	0.5	PLUG LAUNCHED

Event	10	Test Lines	9/21/2015	19:13:34	COM6	5023.00	8.38	0.00	2.1	LOW TEST AT 2208 PSI, HIGH TEST AT 5023 PSI, PRESSURE HOLDING
Event	11	Pump Spacer 1	9/21/2015	19:23:56	COM6	267.00	11.00	5.00	40.0	MIXED AT 11.0 LB/GAL, 40 BBL, 4.55 FT3/SK, 30 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	12	Pump Lead Cement	9/21/2015	19:32:36	COM6	105.00	12.80	6.00	288.3	MIXED AT 12.8 LB/GAL, 925 SKS, 1.75 FT3/SK, 8.5 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	13	Pump Tail Cement	9/21/2015	20:27:27	COM6	345.00	13.30	6.50	139.0	MIXED AT 13.3 LB/GAL, 413 SKS, 1.89 FT3/SK, 8.66 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Event	14	Shutdown	9/21/2015	20:55:06	USER	188.00	13.46	5.00	139.0	
Event	15	Clean Lines	9/21/2015	20:57:53	USER					WASHED PUMPS AND LINES TO THE RESERVE PIT
Event	16	Drop Top Plug	9/21/2015	21:01:50	COM6					PLUG LAUNCHED
Event	17	Pump Displacement	9/21/2015	21:04:24	COM6	2230.00	8.06	8.00	114.0	FRESH WATER, 1 GAL MMCR, 5 GAL CLA WEB, ADDED
Event	18	Slow Rate	9/21/2015	21:16:08	USER	1830.00	8.33	4.00	10.0	SLOWED AT 114 BBL AWAY
Event	19	Bump Plug	9/21/2015	21:18:42	USER	2150.00	8.33	4.00	124.0	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	20	Test Lines	9/21/2015	21:19:53	USER	3205.00	8.21	0.00	124.0	HELD PRESSURE FOR 10 MINUTES
Event	21	Other	9/21/2015	21:31:03	COM6					FLOATS HOLDING, 1 BBL RETURNED TO THE TRUCK
Event	22	End Job	9/21/2015	21:32:54	USER					GOOD CIRCULATION, PIPE

WAS STATIC, RIG DID NOT  
USE SUGAR, NO ADD  
HOURS CHARGED,  
CIRCULATED 40 BBL TUNED  
SPACER III, 30 BBL CEMENT,  
TO SURFACE

Event	23	Pre-Rig Down Safety Meeting	9/21/2015	21:40:00	USER	WITH HES
Event	24	Rig-Down Equipment	9/21/2015	21:50:00	USER	
Event	25	Pre-Convoy Safety Meeting	9/21/2015	22:30:00	USER	WITH HES
Event	26	Crew Leave Location	9/21/2015	22:40:00	USER	THANKS FOR USING HALLIBURTON, JOHN KEANE AND CREW

# PICEANCE ENERGY - PICEANCE 28-02W - 4.5 IN. PRODUCTION



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 Start Job -1;8.35;0;0                   | ⑮ Clean Lines 17;10.19;1.6;0.8          | 22 End Job 5;2.06;1.7;0.2                      |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a             | ⑨ Drop Bottom Plug 124;8.26;2;0.5         | ⑯ Drop Top Plug 31.15;8.04;1.7;0.12     | 23 Pre-Rig Down Safety Meeting n/a;n/a;n/a;n/a |
| ③ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑩ Test Lines 5022;8.38;0;2.1              | ⑰ Pump Displacement 926;8.06;8;19.4     | 24 Rig-Down Equipment n/a;n/a;n/a;n/a          |
| ④ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑪ Pump Tuned Spacer III 267;10.93;3.3;1.6 | ⑱ Slow Rate 2400.16;8.2;7.87;113.43     | 25 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a   |
| ⑤ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑫ Pump Lead Cement 105;12.61;4;43.4       | ⑲ Bump Plug 2163.06;8.19;4;123.3        | 26 Crew Leave Location n/a;n/a;n/a;n/a         |
| ⑥ Rig-Up Equipment n/a;n/a;n/a;n/a                      | ⑬ Pump Tail Cement 345;13.2;6.5;0.1       | 20 Pressure Test Casing 3205;8.21;0;125 |  |
| ⑦ Pre-Job Safety Meeting n/a;n/a;n/a;n/a                | ⑭ Shutdown 188;13.46;5;170.9              | 21 Check Floats 51;8.18;0;0             |  |

▼ HALLIBURTON | iCem® Service

Created: 2015-09-21 18:35:41, Version: 4.1.107

Edit

Customer: PICEANCE ENERGY LLC - EBUS

Job Date: 9/21/2015 9:29:28 PM

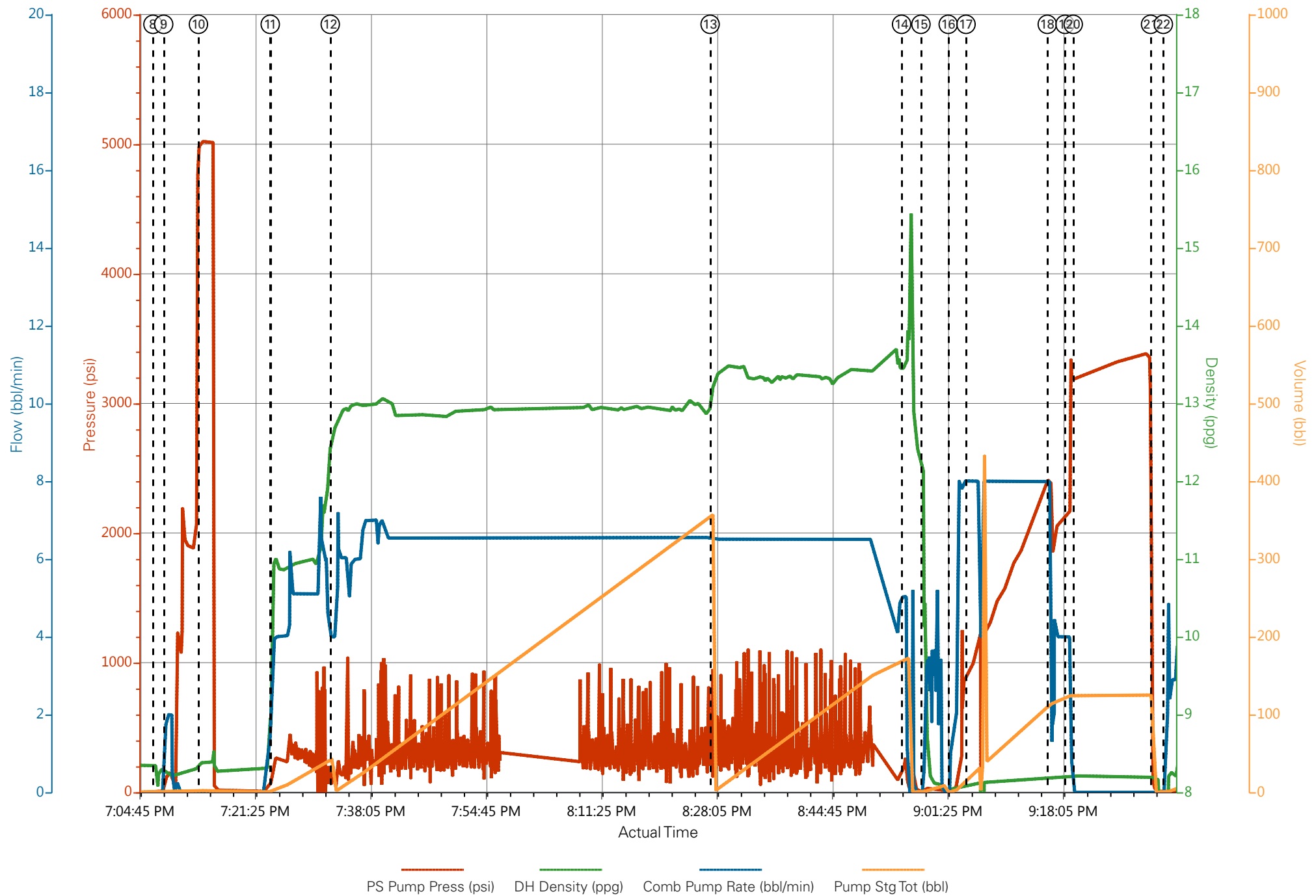
Well: PICEANCE 28-02W

Representative: MATT SETTLES

Sales Order #: 902764702

ELITE 6: JOHN KEANE / CARL KUKUS

# PICEANCE ENERGY - PICEANCE 28-02W - 4.5 IN. PRODUCTION





<b>Sales Order #:</b> 0902764702	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 9/21/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> MATT SETTLES		<b>API / UWI: (leave blank if unknown)</b> 05-077-09770-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080127650
<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	9/21/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB58526
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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<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> MESA

*KEY PERFORMANCE INDICATORS*

General	
<b>Survey Conducted Date</b> The date the survey was conducted	9/21/2015

Cementing KPI Survey	
<b>Type of Job</b> Select the type of job. (Cementing or Non-Cementing)	0
<b>Select the Maximum Deviation range for this Job</b> What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
<b>Total Operating Time (hours)</b> Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	5
<b>HSE Incident, Accident, Injury</b> HSE Incident, Accident, Injury. This should be recordable incidents only.	No
<b>Was the job purpose achieved?</b> Was the job delivered correctly as per customer agreed design?	Yes
<b>Pumping Hours</b> Total number of hours pumping fluid on this job. Enter in decimal format.	3
<b>Type of Rig Classification Job Was Performed</b> Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
<b>Number Of JSAs Performed</b> Number Of Jsas Performed	6
<b>Was this a Primary Cement Job (Yes / No)</b> Primary Cement Job= Casing job, Liner job, or Tie-back job.	Yes
<b>Number of Unplanned Shutdowns</b> Unplanned shutdown is when injection stops for any period of time.	0
<b>Customer Non-Productive Rig Time (hrs)</b>	0

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<b>H2S Present:</b> No	<b>Well State:</b> COLORADO	<b>Well County:</b> MESA

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>Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?</b> Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
<b>Did We Run Wiper Plugs?</b> Did We Run Top And Bottom Casing Wiper Plugs?	Both
<b>If a top plug was run, was the plug bumped? (Yes/No/N/A)</b> If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
<b>If applicable, was Halliburton float equipment used? (Yes/No/N/A)</b> If applicable, was Halliburton float equipment used? (Yes/No/N/A)	Yes
<b>If applicable, did the floats hold? (Yes/No/N/A)</b> If applicable, did the floats hold? (Yes/No/N/A)	Yes
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b> Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	95
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b> 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	95
<b>If applicable, were there returns throughout the job? (Yes/No/N/A)</b> If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
<b>Nbr of Remedial Plug Jobs Rqd - HES</b> Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
<b>Nbr of Remedial Sqz Jobs Rqd - HES</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE ENERGY  
Submitted by: JOHN KEANE  
Attention: EVAN RUSSEL  
Lease PICEANCE  
Well # 28-02W

Date: 9/22/2015  
Date Rec.: 9/22/2015  
S.O.# 902764702  
Job Type: PRODUCTION

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>100</b> Mg / L
Calcium (Ca)	<i>500</i>	<b>120</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>0</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200</b> Mg / L
Chlorine (Cl <sub>2</sub> )		<b>0</b> Mg / L
Temp	<i>40-80</i>	<b>60</b> Deg
Total Dissolved Solids		<b>1210</b> Mg / L

Respectfully: JOHN KEANE

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

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