

Piceance Energy LLC-EBUS

Piceance 28-06M

**Patterson 306**

# **Post Job Summary**

## **Cement Production Casing**

Date Prepared: 08/17/2015

Job Date: 08/14/2015

Submitted by: Jenna Cook – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3123923	Quote #:	Sales Order #: 0902657035
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: MATT SETTLES	
Well Name: PICEANCE	Well #: 28-06M	API/UWI #: 05-077-09779-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1583FNL-1231FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Eric Carter	
Job			

Formation Name				
Formation Depth (MD)	Top	1567ft	Bottom	8046ft
Form Type	BHST			
Job depth MD	8036ft			
Water Depth	Job Depth TVD			
Perforation Depth (MD)	From		To	4ft

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	1567		0
Casing		4.5	4	11.6			0	8036		0
Open Hole Section			7.875				1567	8046	0	0

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					Bottom Plug	4.5	1	HES	
Float Collar					SSR plug set				
Insert Float					Plug Container	4.5	1	HES	
Stage Tool					Centralizers	4.5	132		

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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	40	bbl	11	4.55	30	6		
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/mi n	Total Mix Fluid Gal
2	VersaCem	VERSACEM (TM) SYSTEM	938	sack	12.8	1.75	8.5	8	
	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/mi n	Total Mix Fluid Gal
3	ExpandaCem GJ4	EXPANDACEM (TM) SYSTEM	413	sack	13.3	1.89	8.66	6	
	20 %	SS-200 - BULK (102240841)							
	0.25 lbm	POLY-E-FLAKE (101216940)							
	8.66 Gal	FRESH WATER							
	6 lbm	KOL-SEAL, BULK (100064233)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	123.2	bbl	8.34			8	
	0.01 gal/bbl	MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
	0.05 gal/bbl	CLA-WEB - TOTE (101985045)							
	Cement Left In Pipe	Amount	90 ft	Reason	Shoe Joint 89.5ft				
<b>Comment</b>									

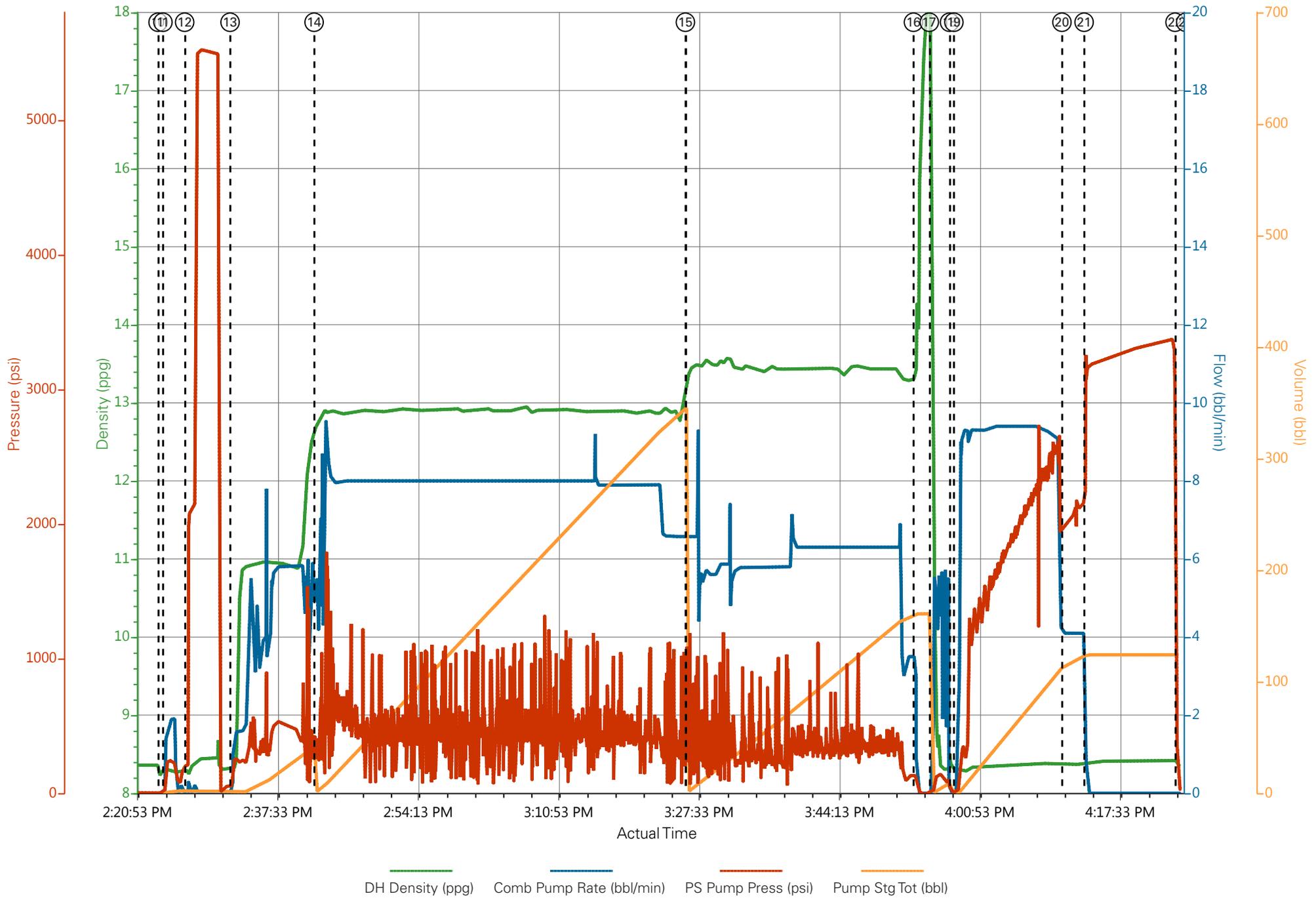
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density <i>(ppg)</i>	PS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	8/14/2015	06:30:00	USER					
Event	2	Depart Yard Safety Meeting	8/14/2015	08:50:00	USER					ATTENDED BY ALL HES CREW
Event	3	Crew Leave Yard	8/14/2015	09:00:00	USER					
Event	4	Arrive At Loc	8/14/2015	10:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	8/14/2015	12:30:00	USER					ATTENDED BY ALL HES CREW
Event	6	Other	8/14/2015	12:40:00	USER					SPOT EQUIPMENT
Event	7	Pre-Rig Up Safety Meeting	8/14/2015	12:50:00	USER					ATTENDED BY ALL HES CREW
Event	8	Rig-Up Equipment	8/14/2015	13:00:00	USER					
Event	9	Pre-Job Safety Meeting	8/14/2015	14:00:00	USER					ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP
Event	10	Other	8/14/2015	14:23:38	USER					TP 8036', TD 8046', MW 9.5 PPG, CASING 4.5", 11.6#, I-80, SJ 89.5 ', HOLE 7.875", SURFACE CASING 8.625", 24# SET AT 1567',RIG CIRCULATED FOR 2 HRS PRIOR TO JOB
Event	11	Other	8/14/2015	14:24:13	USER	8.34	240	2	2	FRESH WATER
Event	12	Test Lines	8/14/2015	14:26:48	USER					PRESSURED UP TO 5545 PSI, PRESSURE HELD
Event	13	Pump Spacer	8/14/2015	14:32:11	USER	11.0	500	6	40	TUNED SPACER AT 11.0

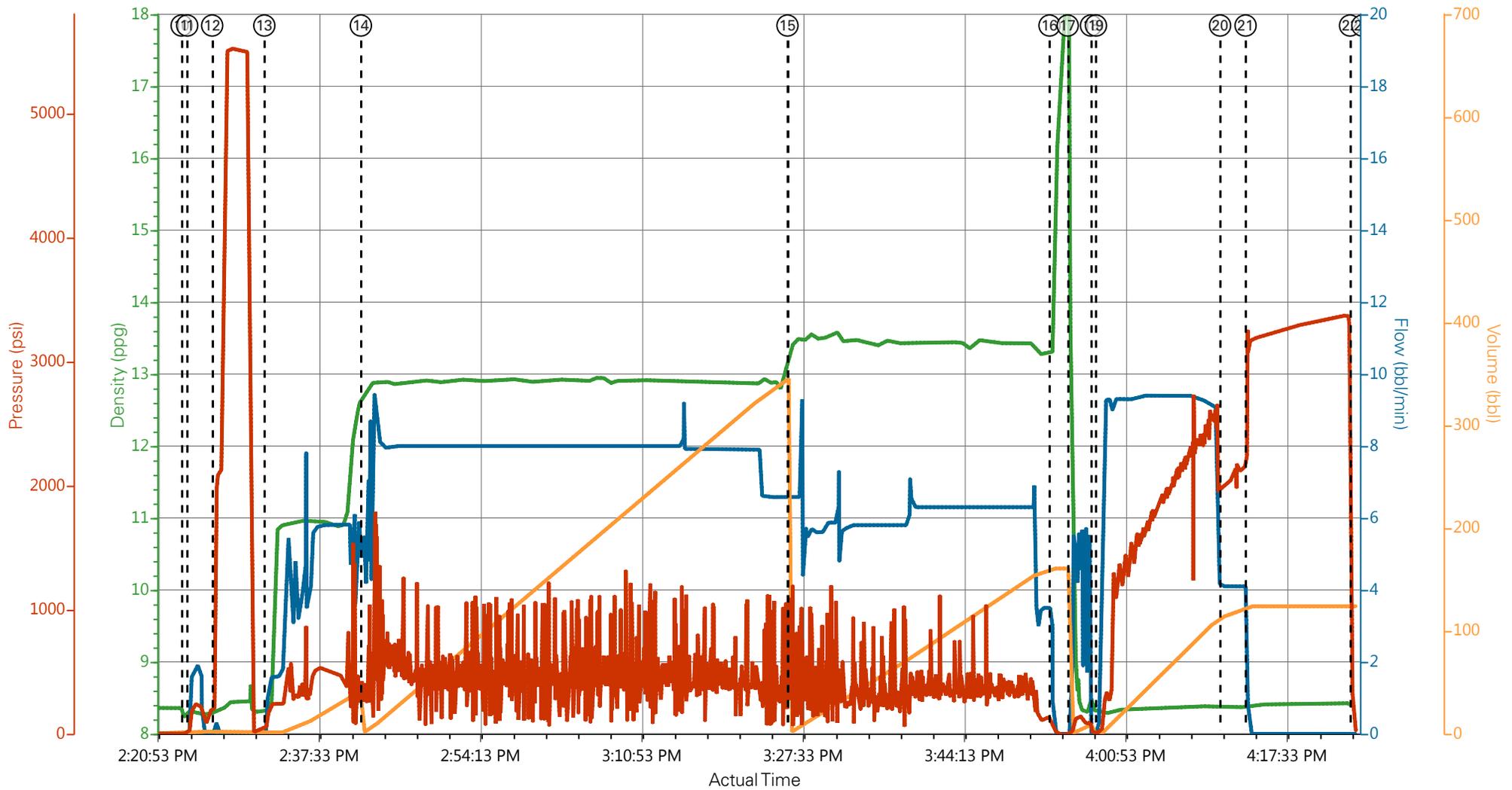
Event	ID	Description	Date	Time	User	Rate	Volume	Count	Weight	Notes
										PPG, BOTTOM PLUG LAUNCHED
Event	14	Pump Lead Cement	8/14/2015	14:42:10	USER	12.8	600	8	292.4	939 SKS VERSACEM MIXED AT 12.8 PPG, 1.75 YIELD, 8.5 GAL/SK
Event	15	Pump Tail Cement	8/14/2015	15:26:14	USER	13.3	300	6	139	413 SKS EXPANDACEM MIXED AT 13.3 PPG, 1.89 YIELD, 8.66 GAL/SK
Event	16	Shutdown	8/14/2015	15:53:19	USER					
Event	17	Clean Lines	8/14/2015	15:55:11	USER					CLEANED PUMPS AND LINES TO THE CELLAR
Event	18	Drop Top Plug	8/14/2015	15:57:35	USER					PLUG LAUNCHED
Event	19	Pump Displacement	8/14/2015	15:58:07	USER	8.34	2670	8	113.2	FRESH WATER WITH CLAY-WEB AND MMCR
Event	20	Slow Rate	8/14/2015	16:10:56	USER	8.34	2160	4	10	
Event	21	Bump Plug	8/14/2015	16:13:34	USER		3170			PLUG LANDED
Event	22	Check Floats	8/14/2015	16:24:22	USER		3300			FLOATS HELD
Event	23	Other	8/14/2015	16:25:38	USER					GOOD CIRCULATION THROUGHOUT JOB, PIPE NOT MOVED DURING JOB, 25 BBLS CEMENT TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	8/14/2015	16:30:00	USER					ATTENDED BY ALL HES CREW
Event	25	Rig-Down Equipment	8/14/2015	16:40:00	USER					
Event	26	Depart Location Safety Meeting	8/14/2015	17:20:00	USER					ATTENDED BY ALL HES CREW
Event	27	Crew Leave Location	8/14/2015	17:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW

# PICEANCE ENERGY - PICEANCE 28-06M - 4.5" PRODUCTION CASING



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

# PICEANCE ENERGY - PICEANCE 28-06M - 4.5" PRODUCTION CASING



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

- |   |   |                                      |                                     |                       |
|---|---|--------------------------------------|-------------------------------------|-----------------------|
| ① Call Out n/a;n/a;n/a;n/a                              | ⑥ Other n/a;n/a;n/a;n/a                     | ⑪ Fill Lines 8.32;1.6;41;0.1         | ⑯ Shutdown 14.27;0;83;160.8         | ⑳ Bump Plug 8.4;0     |
| ② Depart Yard Safety Meeting n/a;n/a;n/a;n/a            | ⑦ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a | ⑫ Test Lines 8.29;0;210;2.1          | ⑰ Clean Lines 12.94;1.7;20;0.1      | ㉑ Check Floats n/a;   |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                       | ⑧ Rig-Up Equipment n/a;n/a;n/a;n/a          | ⑬ Pump Spacer 8.31;1.6;97;2.2        | ⑱ Drop Top Plug 8.32;0;-3;0         | ㉒ End Job n/a;n/a;n/a |
| ④ Arrive At Loc n/a;n/a;n/a;n/a                         | ⑨ Pre-Job Safety Meeting n/a;n/a;n/a;n/a    | ⑭ Pump Lead Cement 12.72;5.5;384;1.8 | ㉓ Pump Displacement 8.29;1.7;21;0.1 | ㉔ Post-Job Safety     |
| ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑩ Start Job 8.27;0;2;0                      | ⑮ Pump Tail Cement 13.38;6.5;293;1.5 | ㉔ Slow Rate 8.37;4.1;2018;114       | ㉕ Rig-Down Equip      |

<b>Sales Order #:</b> 0902657035	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 8/14/2015
<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> 05-077-09779-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080127659
<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	8/14/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HX15491
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>	8/14/2015
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>	Vertical
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>	4
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>	2
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>	6
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>	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?	Bottom
<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)	Not Available
<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	98
<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	94
<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  
Submitted by: ERIC CARTER  
Attention: J.Trout  
Lease: PATTERSON 306  
Well #: PICEANCE 28-06M

Date: 8/17/2015  
Date Rec.: 8/17/2015  
S.O.#: 902657035  
Job Type: PRODUCTION

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>0 Mg / L</b>
Hardness	<i>500</i>	<b>250 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>&lt;200 Mg / L</b>
Temp	<i>40-80</i>	<b>65 Deg</b>
Total Dissolved Solids		<b>480 Mg / L</b>

Respectfully: ERIC CARTER

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.