

Piceance Energy LLC - EBUS

Piceance Federal 28-01M

**Patterson 306**

# **Post Job Summary**

## **Cement Production Casing**

Date Prepared: 9/9/2015

Job Date: 9/5/2015

Submitted by: Patrick Ealey – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3672940	Quote #:	Sales Order #: 0902720036
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: ROGER FOSTE	
Well Name: PICEANCE FED	Well #: 28-01M	API/UWI #: 05-077-10244-00	
Field: VEGA	City (SAP): COLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1545FNL-1200FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srcv Supervisor: Andrew Brennecke	
<b>Job</b>			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8292ft Job Depth TVD
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		8.625	7.921	32			0	1625		0
Casing		4.5	4	11.6	8 RD		0	8316		0
Open Hole Section			8.875				1625	8302	0	0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	4.5	1	HES	8292		Top Plug	4.5	1	HES
Float Shoe						Bottom Plug	4.5	1	HES
Float Collar	4.5	1	HES	8202		SSR plug set			
Insert Float						Plug Container	4.5	1	HES
Stage Tool						Centralizers	4.5	146	HES

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

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	4		
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 ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	VersaCem	VERSACEM (TM) SYSTEM	976	sack	12.8	1.75		8	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 ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	ExpandaCem	EXPANDACEM (TM) SYSTEM	413	sack	13.3	1.89		7.7	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 ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement	Displacement	127.5	bbl	8.34			8		
0.05 gal/bbl		CLA-WEB - TOTE (101985045)								
0.01 gal/bbl		MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)								
<b>Cement Left In Pipe</b>		<b>Amount</b>	90 ft		<b>Reason</b>			Shoe Joint		
<b>Comment</b>										

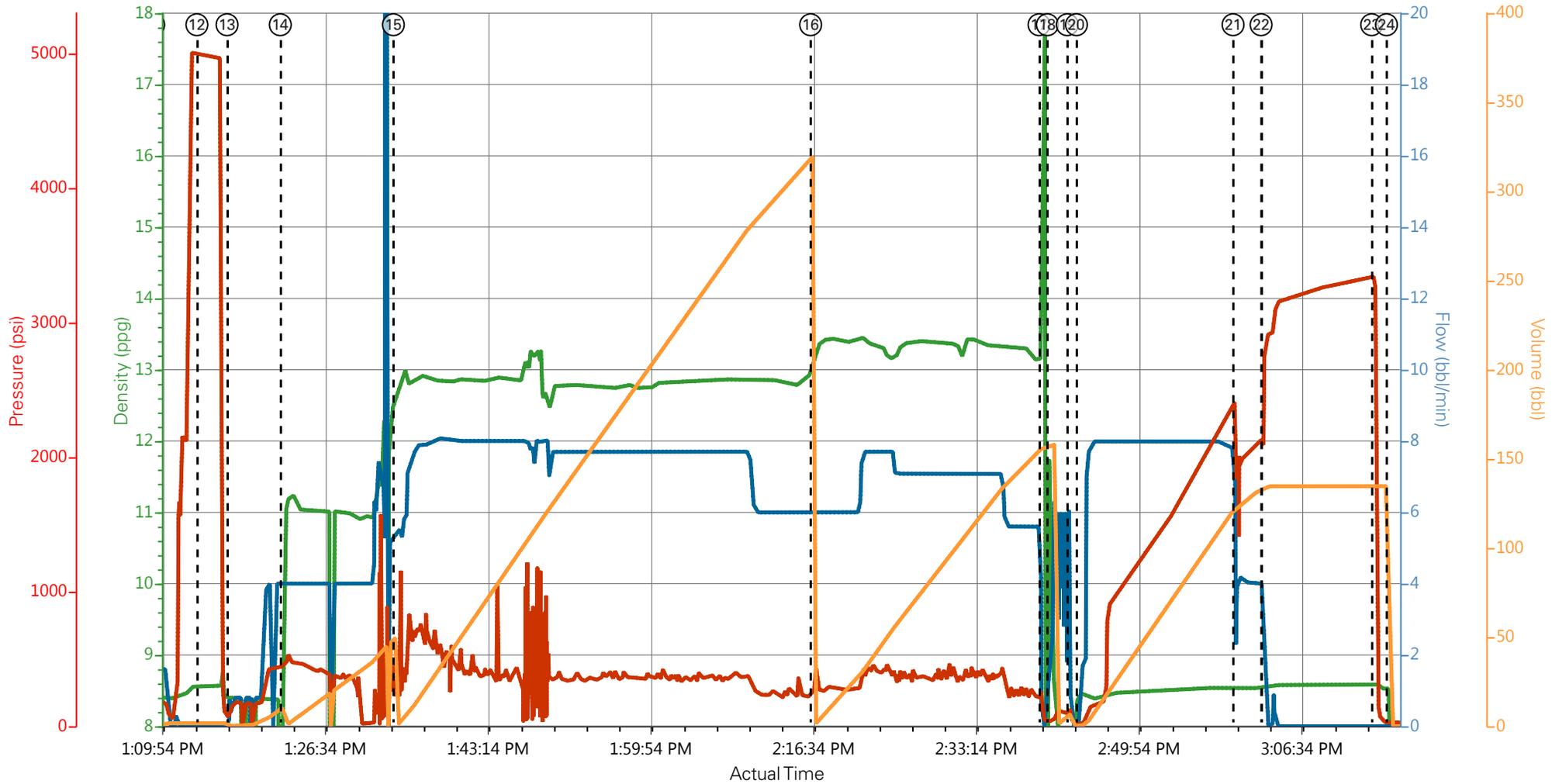
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	9/5/2015	04:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	9/5/2015	06:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	9/5/2015	07:00:00	USER					
Event	4	Arrive At Loc	9/5/2015	09:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	9/5/2015	09:15:00	USER					
Event	6	Pre-Rig Up Safety Meeting	9/5/2015	09:30:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	9/5/2015	12:00:00	USER					1-ELITE, 2-660 BULK TRAILER, 1-PICK UP, 1-SILO, 2" PUMP IRON, 4" SUCTION HOSE, 4.5" QUICK LATCH PLUG CONTAINER
Event	8	Pre-Job Safety Meeting	9/5/2015	13:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	9/5/2015	13:08:00	USER	8.33	0.00	0.00	0.0	TD-8302', TP-8316', PIPE SET AT 8292', SJ-89.97', CSG- 4.5", 11.6# I-80, SCSG-0-1625', 8.625" 32#, OH-7.875", 1625-8302', MUD-9.5PPG 38 VISC. RIG CIRCULATED AT 312GPM PRIOR TO CEMENT JOB.
Event	10	Drop Bottom Plug	9/5/2015	13:09:08	USER	8.34	0.00	5.00	0.0	
Event	11	Prime Pumps	9/5/2015	13:09:18	USER	8.34	2.00	193.00	2.0	FRESH WATER
Event	12	Test Lines	9/5/2015	13:13:43	USER	8.40	0.00	4998.00	0.2	ALL PRESSURE HELD ON LINES

Event	13	Pump Spacer	9/5/2015	13:16:49	USER	8.35	4.00	440.00	10.0	FRESH WATER AHEAD TO ESTABLISH RETURNS
Event	14	Pump Spacer 1	9/5/2015	13:22:15	USER	11.00	4.00	470.00	40.0	TUNED SPACER III, 40BBLS, 11.0PPG, 4.55CF/SK, 30GAL/SK
Event	15	Pump Lead Cement	9/5/2015	13:33:50	USER	12.80	8.00	500.00	304.2	LEAD CEMENT, 12.8PPG, 1.75CF/SK, 8.5GAL/SK
Event	16	Pump Tail Cement	9/5/2015	14:16:34	USER	13.30	7.70	400.00	139.0	TAIL CEMENT, 13.3PPG, 1.89CF/SK, 8.66GAL/SK
Event	17	Shutdown	9/5/2015	14:39:57	USER					
Event	18	Clean Lines	9/5/2015	14:40:48	USER					CLEANED LINES INTO CELLAR
Event	19	Drop Top Plug	9/5/2015	14:42:51	USER					PLUG DROP VERIFIED BY COMPANY REP
Event	20	Pump Displacement	9/5/2015	14:43:47	USER	8.36	8.00	2400.00	117.5	1-GAL MMCR, 5-GAL CLAY WEB, FRESH WATER
Event	21	Slow Rate	9/5/2015	14:59:49	USER	8.34	4.00	1858.00	127.5	SLOW RATE LAST TEN BBLS
Event	22	Bump Plug	9/5/2015	15:02:41	USER	8.40	0.00	2300.00	127.5	PLUG BUMPED AND STARTED CASING TEST 10 MINS
Event	23	Check Floats	9/5/2015	15:14:01	USER	8.40	0.00	3342.00	127.5	FLOATS HELD 1.5 BBLS
Event	24	End Job	9/5/2015	15:15:32	COM5					GOOD RETURNS THROUGH OUT JOB, 30 BBLS TSIII TO SURFACE
Event	25	Crew Leave Location	9/5/2015	16:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

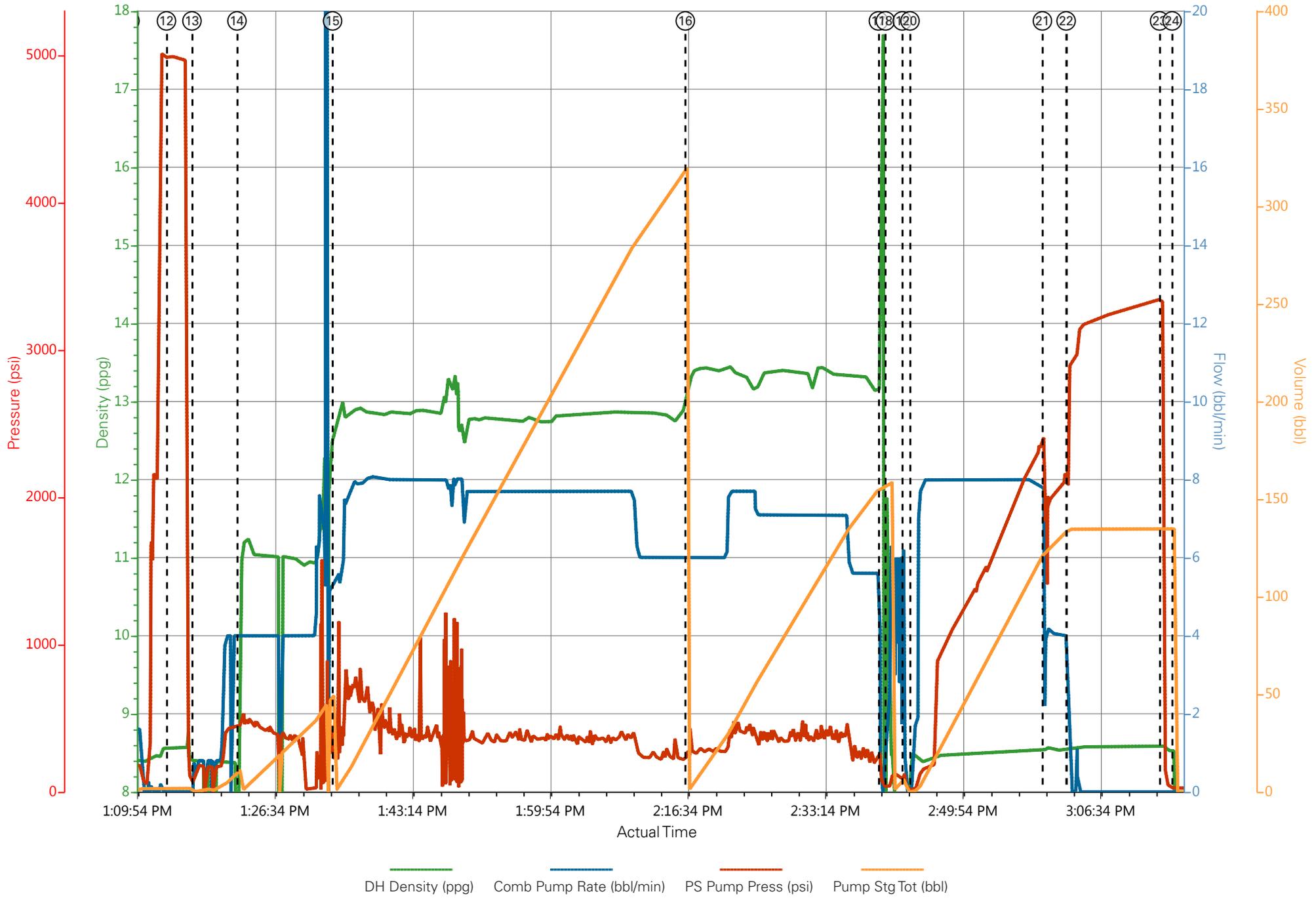
# PICEANCE - 28-01M - 4.5" PRODUCTION



— 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	⑧ Pre-Job Safety Meeting 8.41;0;21;0	⑮ Pump Lead Cement 12.72;5.4;276;0.6	⑳ Bump Plug 8.56;0;2884;134.6
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a	⑨ Start Job 8.42;0;23;0	⑯ Pump Tail Cement 13.22;6;267;0.6	㉑ Check Floats 8.59;0;3128;134.7
③ Crew Leave Yard n/a;n/a;n/a;n/a	⑩ Drop Bottom Plug 8.43;0;25;0	⑰ Shutdown 14.71;0;74;156	㉒ End Job 5.23;0;26;0
④ Arrive At Loc n/a;n/a;n/a;n/a	⑪ Prime Pumps 8.39;1.5;113;0.2	⑱ Clean Lines 10.07;1.7;40;156.7	㉓ Crew Leave Location n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a	⑫ Test Lines 8.56;0;4998;1.8	⑲ Drop Top Plug 7.91;0;70;6.9	
⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a	⑬ Pump Spacer 8.4;0.4;94;0.1	㉔ Pump Displacement 8.43;1.7;21;0.1	
⑦ Rig-Up Completed 8.43;0;23;0	⑭ Pump Spacer 1 8.7;4;444;11.1	㉕ Slow Rate 8.52;3.9;1858;123.1	

# PICEANCE - 28-01M - 4.5" PRODUCTION



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

# HALLIBURTON

## Water Analysis Report

Company: PICEANCE

Date: 9/5/2015

Submitted by: A.BRENNECKE

Date Rec.: 9/5/2015

Attention: E.RUSSEL

S.O.# 902720036

Lease PICEANCE

Job Type: PRODUCTION

Well # 28-01M

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>200 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>&lt;200 Mg / L</b>
Chlorine (Cl <sub>2</sub> )		<b>0 Mg / L</b>
Temp	<i>40-80</i>	<b>68 Deg</b>
Total Dissolved Solids		<b>370 Mg / L</b>

Respectfully: A.BRENNECKE

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

<b>Sales Order #:</b> 0902720036	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 9/5/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> ROGER FOSTE		<b>API / UWI: (leave blank if unknown)</b> 05-077-10244-00
<b>Well Name:</b> PICEANCE FED		<b>Well Number:</b> 0080734019
<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	9/5/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	HB58348
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	ROGER FOSTE
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>	9/5/2015
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>	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>	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>	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	96
<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	8
<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