

PICEANCE ENERGY LLC - EBUS

Piceance Federal 28-21E

Patterson 306

Post Job Summary
Cement Production Casing

Date Prepared: 10/20/2015

Job Date: 10/15/2015

Submitted by: Aaron Katz – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3681108	Quote #:	Sales Order #: 0902820800
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: Matt Settles	
Well Name: PICEANCE FEDERAL	Well #: 28-21E	API/UWI #: 05-077-10250-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: NE SW-28-9S-93W-1981FSL-2484FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 306	
Job BOM: 7523			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		Srcv Supervisor: Steven Wardell	

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8564ft Job Depth TVD 3 FT
Water Depth	Wk Ht Above Floor
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	1658		0
Casing		4.5	4	11.6	8 RD (LT&C)		0	8564		0
Open Hole Section			7.875				1572	8664	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5			8564	Top Plug	4.5	1	HES
Float Shoe	4.5				Bottom Plug	4.5	1	HES
Float Collar	4.5				SSR plug set	4.5		HES
Insert Float	4.5				Plug Container	4.5	1	HES
Stage Tool	4.5				Centralizers	4.5		HES

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		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/min	Total Mix Fluid Gal
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2	EconoCem	ECONOCEM (TM) SYSTEM	1098	sack	12.7	1.64		7	7.97
5 lbm		KOL-SEAL, BULK (100064233)							
7.97 Gal		FRESH WATER							
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
3	ThermaCem	THERMACEM (TM) SYSTEM	446	sack	13.5	1.75		7	7.97
7.97 Gal		FRESH WATER							
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
4	Displacement	Displacement	131.5	bbl	8.34			6	
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	82 ft		Reason	Shoe Joint				
Mix Water:	pH ##	Mix Water Chloride:	## ppm	Mix Water Temperature:	## °F °C				
Cement Temperature:	## °F °C	Plug Displaced by:	## lb/gal kg/m3 XXXX	Disp. Temperature:	## °F °C				
Plug Bumped?	Yes/No	Bump Pressure:	##### psi MPa	Floats Held?	Yes/No				
Cement Returns:	## bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C				
Comment									

1.0 Real-Time Job Summary

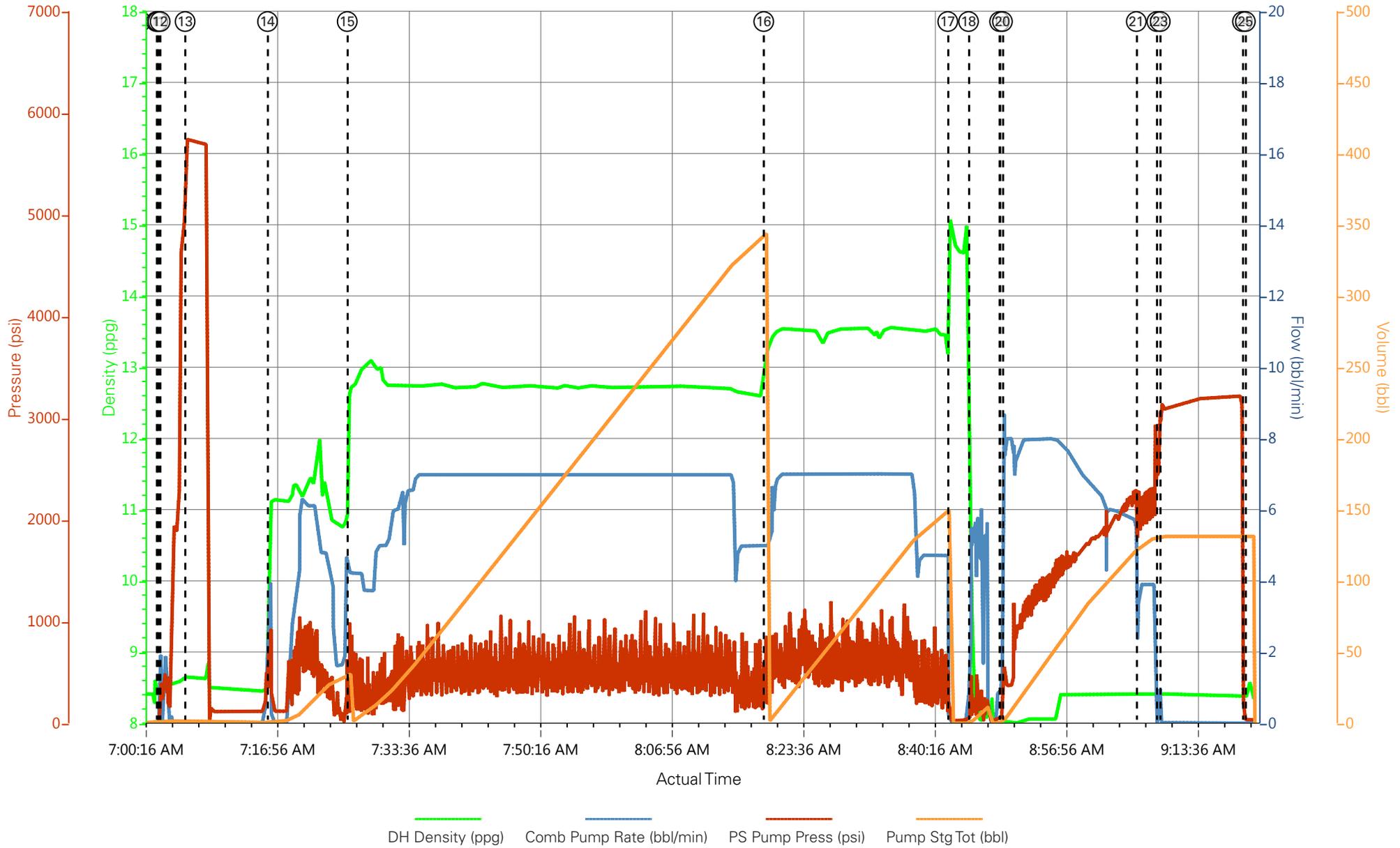
1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pass-Side Pump Pressure (psi)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	10/14/2015	18:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	10/14/2015	20:00:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	10/14/2015	20:15:00	USER					
Event	4	Arrive At Loc	10/14/2015	22:00:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	10/14/2015	22:15:00	USER					WITH ALL HES PERSONNEL
Event	6	Other	10/15/2015	04:00:00	USER					1 PUMP, 2 660 BULK TRUCKS, 1 1200 SILO
Event	7	Pre-Rig Up Safety Meeting	10/15/2015	04:15:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	10/15/2015	04:30:00	USER					
Event	9	Pre-Job Safety Meeting	10/15/2015	07:00:00	USER					WITH ALL PERSONNEL
Event	10	Start Job	10/15/2015	07:02:00	USER					TD 8574 FT, TP 8564 FT, SJ 82.5 FT, SFC CSG 8 5/8 IN 36 LB/FTSET AT 1658 FT, CSG 4 1/2 IN 11.6 LB/FT I-80, OH 7 7/8IN, MUD 9.4 PPG
Event	11	Prime Pumps	10/15/2015	07:02:12	USER	8.4	2.0	290.0	2.0	FRESH WATER
Event	12	Drop Bottom Plug	10/15/2015	07:02:28	USER					PLUG LAUNCHED
Event	13	Test Lines	10/15/2015	07:05:38	RTD Import					TESTED LINES TO 5730

										PSI, PRESSURE HOLDING
Event	14	Pump Spacer 1	10/15/2015	07:16:04	RTD Import	11.0	4.0	300.0	40.0	40 BBLS, 11.0 PPG, 4.55 FT3/SK, 30.0 GAL/SK
Event	15	Pump Lead Cement	10/15/2015	07:26:11	RTD Import	12.7	7.0	520.0	320.7	1098 SKS, 12.7 PPG, 1.64 FT3/SK, 7.97 GAL/SK
Event	16	Pump Tail Cement	10/15/2015	08:18:58	RTD Import	13.5	7.0	650.0	139.0	446 SKS, 13.5 PPG, 1.75 FT3/SK, 7.97 GAL/SK
Event	17	Shutdown	10/15/2015	08:42:17	RTD Import					
Event	18	Clean Lines	10/15/2015	08:44:54	USER					CLEANED PUMPS AND LINES TO CELLAR
Event	19	Drop Plug	10/15/2015	08:48:51	RTD Import					PLUG LAUNCHED
Event	20	Pump Displacement	10/15/2015	08:49:12	RTD Import	8.4	6.0	2226.0	131.5	FRESH WATER WITH 5 GAL CLA-WEB, 1 GAL MMCR
Event	21	Slow Rate	10/15/2015	09:06:10	USER	8.4	4.0	1928.0	121.5	SLOWED RATE 10 BBLS PRIOR TO CALCULATED DISPLACEMENT
Event	22	Bump Plug	10/15/2015	09:08:47	USER			3062.0		
Event	23	Pressure Up Well	10/15/2015	09:09:13	RTD Import			3062.0		10 MINUTE CASING TEST, PRESSURE HOLDING
Event	24	Check Floats	10/15/2015	09:19:37	USER			3216.0		FLOATS HOLDING, HES RETURNED 1 1/2 BBL BACK TO PUMP
Event	25	End Job	10/15/2015	09:20:00	USER					PIPE WAS STATIC DURING JOB, GOOD RETURNS THROUGHOUT JOB.

Event	26	Pre-Rig Down Safety Meeting	10/15/2015	09:30:00	USER	WITH ALL HES PERSONNEL
Event	27	Rig-Down Equipment	10/15/2015	09:45:00	USER	
Event	28	Pre-Convoy Safety Meeting	10/15/2015	11:15:00	USER	WITH ALL HES PERSONNEL
Event	29	Crew Leave Location	10/15/2015	11:30:00	USER	
Event	30	Comment	10/15/2015	11:45:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT DEPARTMENT, STEVEN WARDELL AND CREW.

PICEANCE FEDERAL 28-21E PRODUCTION



- | | | | | | | |
|-----------------------------|---|-----------------------------|--------------------|---------------------|---------------------|---------------------|
| ① Call Out | ④ Arrive At Loc | ⑦ Pre-Rig Up Safety Meeting | ⑩ Start Job | ⑬ Test Lines | ⑯ Pump Tail Cement* | ⑲ Drop Top Plug |
| ② Pre-Convoy Safety Meeting | ⑤ Assessment Of Location Safety Meeting | ⑧ Rig-Up Equipment | ⑪ Prime Lines | ⑭ Pump Tuned Spacer | ⑰ Shutdown | ⑳ Pump Displacement |
| ③ Crew Leave Yard | ⑥ Spot Equipment | ⑨ Pre-Job Safety Meeting | ⑫ Drop Bottom Plug | ⑮ Pump Lead Cement* | ⑱ Clean Lines | ㉑ Slow Rate |

III

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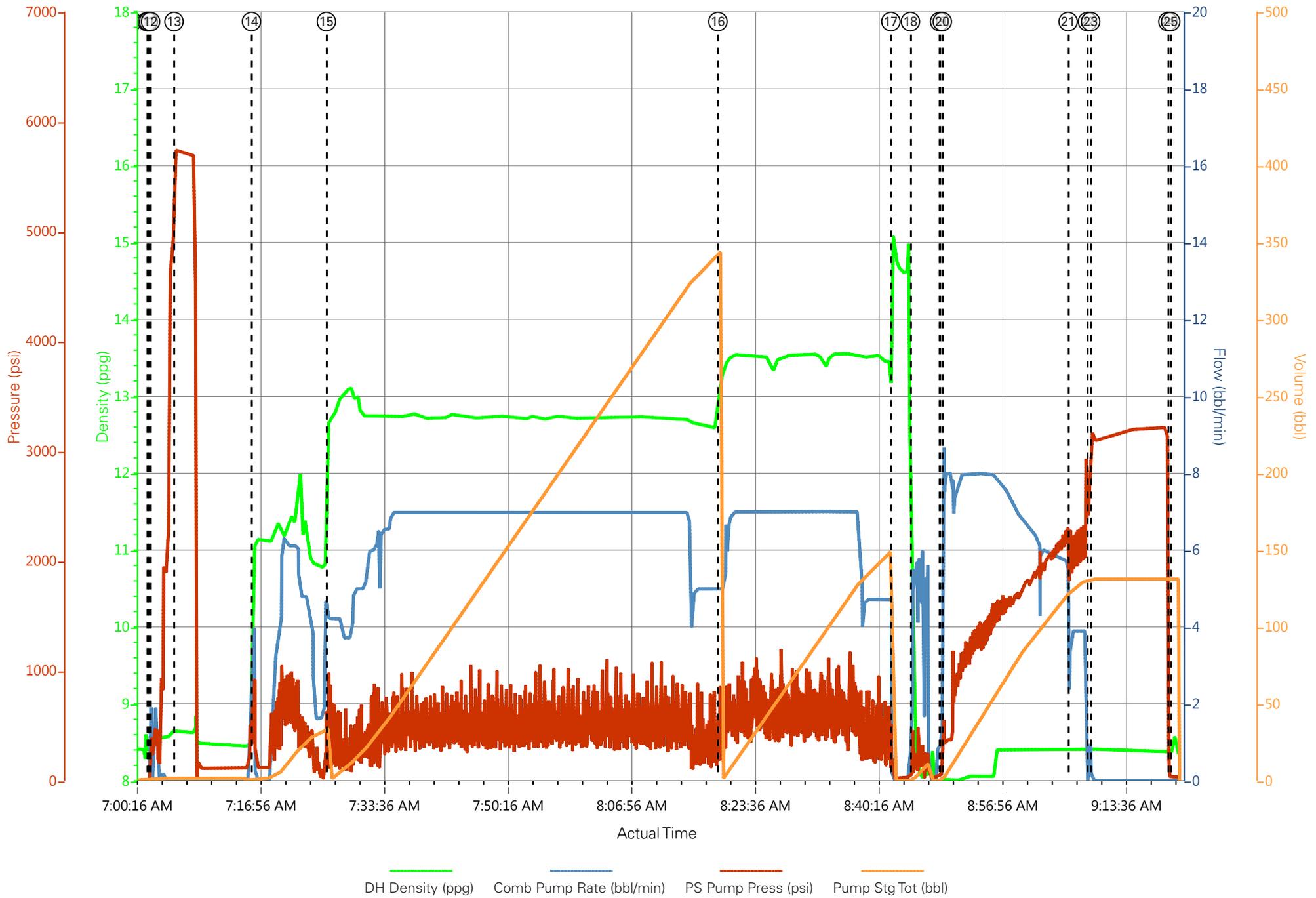
Created: 2015-10-15 09:43:10, Version: 4.2.384

Customer: PICEANCE ENERGY LLC - EBUS
 Representative: MATT SETTLES

Job Date: 10/15/2015 6:52:56 AM
 Sales Order #: 902820800

Well: PICEANCE FEDERAL 28-21E
 ELITE #6: WARDELL / BLOSSOM

PICEANCE FEDERAL 28-21E PRODUCTION



HALLIBURTON

Water Analysis Report

Company: PICEANCE

Date: 10/15/2015

Submitted by: STEVEN WARDELL

Date Rec.: 10/15/2015

Attention: LAB

S.O.# 902820800

Lease PATTERSON 306

Job Type: PRODUCTION

Well # PICEANCE FED 28-21E

Specific Gravity	<i>MAX</i>	1
pH	<i>8</i>	6
Potassium (K)	<i>5000</i>	2000 Mg / L
Hardness	<i>500</i>	200 Mg / L
Iron (FE2)	<i>300</i>	0 Mg / L
Chlorides (Cl)	<i>3000</i>	500 Mg / L
Sulfates (SO ₄)	<i>1500</i>	<200 Mg / L
Temp	<i>40-80</i>	50 Deg
Total Dissolved Solids		200 Mg / L

Respectfully: STEVEN WARDELL

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

Sales Order #: 0902820800	Line Item: 10	Survey Conducted Date: 10/15/2015
Customer: PICEANCE ENERGY LLC - EBUS		Job Type (BOM): CMT PRODUCTION CASING BOM
Customer Representative: MATT SETTLES		API / UWI: (leave blank if unknown) 05-077-10250-00
Well Name: PICEANCE FEDERAL		Well Number: 0080739662
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: 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	10/15/2015
Survey Interviewer	The survey interviewer is the person who initiated the survey.	H127209
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	

CUSTOMER SIGNATURE

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KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	10/15/2015
The date the survey was conducted	

Cementing KPI Survey	
Type of Job	0
Select the type of job. (Cementing or Non-Cementing)	
Select the Maximum Deviation range for this Job	Deviated
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
Total Operating Time (hours)	4
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
HSE Incident, Accident, Injury	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
Was the job purpose achieved?	Yes
Was the job delivered correctly as per customer agreed design?	
Pumping Hours	3
Total number of hours pumping fluid on this job. Enter in decimal format.	
Type of Rig Classification Job Was Performed	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
Number Of JSAs Performed	6
Number Of Jsas Performed	
Was this a Primary Cement Job (Yes / No)	Yes
Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Number of Unplanned Shutdowns	0
Unplanned shutdown is when injection stops for any period of time.	
Customer Non-Productive Rig Time (hrs)	0

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Well Name: PICEANCE FEDERAL		Well Number: 0080739662
Well Type: DIRECTIONAL GAS	Well Country: USA	
H2S Present: No	Well State: COLORADO	Well County: 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.	
Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment? Was the non productive time or the unplanned shutdown caused by a problem with a piece of equipment?	No
Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs?	Both
If a top plug was run, was the plug bumped? (Yes/No/N/A) If a top plug was run, was the plug bumped? (Yes/No/N/A)	Yes
If applicable, was Halliburton float equipment used? (Yes/No/N/A) If applicable, was Halliburton float equipment used? (Yes/No/N/A)	Yes
If applicable, did the floats hold? (Yes/No/N/A) If applicable, did the floats hold? (Yes/No/N/A)	Yes
Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	93
Pump Rate (percent) of Job Stayed At Designed Pump Rate 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
If applicable, were there returns throughout the job? (Yes/No/N/A) If applicable, were there returns throughout the job? (Yes/No/N/A)	Yes
Nbr of Remedial Plug Jobs Rqd - HES Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
Nbr of Remedial Sqz Jobs Rqd - HES Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0