

Piceance Energy LLC-EBUS

Piceance Fed 28-20E

**Patterson 306**

# **Post Job Summary**

## **Cement Production Casing**

Date Prepared: 10/21/2015  
Job Date: 10/19/2015

Submitted by: Jenna Cook – Grand Junction Cement Engineer

The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3681107	Quote #:	Sales Order #: 0902837202
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: MATT SETLES	
Well Name: PICEANCE FEDERAL	Well #: 28-20E	API/UWI #: 05-077-10256-00	
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: NE SW-28-9S-93W-2001FSL-2489FWL			
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	

**Job**

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	8535ft 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	1648		0
Casing		4.5	4	11.6	8 RD (LT&C)		0	8530		0
Open Hole Section			7.875				1648	8540	0	0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5	1	HES	8530	Top Plug	4.5	1	HES
Float Shoe					Bottom Plug	4.5	1	HES
Float Collar	4.5	1	HES	8450.77	SSR plug set			
Insert Float					Plug Container	4.5	1	HES
Stage Tool					Centralizers	4.5	127	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		4		
36.83 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	EconoCem	ECONOCEM (TM) SYSTEM	1084	sack	12.7	1.64		7.5	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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement	Displacement	131	bbl	8.34			8.5		
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>	84ft		<b>Reason</b>			Shoe Joint		
<b>Comment</b>										

## 2.0 Real-Time Job Summary

### 2.1 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	10/19/2015	12:45:00	USER					
Event	2	Pre-Convoy Safety Meeting	10/19/2015	15:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	10/19/2015	15:45:00	USER					
Event	4	Arrive at Location from Service Center	10/19/2015	17:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	10/19/2015	17:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	10/19/2015	18:00:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	10/19/2015	19:34:29	USER					1-ELITE, 1-SILO, 2-660 BULK TRAILERS, 1-BODY LOAD, 1-CEMENTER PICK UP, 1-4.5" QUICK LATCH PLUG CONTAINER, 2" PUMP IRON, 4"SUCTION HOSE
Event	8	Pre-Job Safety Meeting	10/19/2015	20:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	10/19/2015	20:15:00	USER	8.35	0.00	2.00	0.0	TD-8540', TP-8535' SET AT 8530', CSG-4.5" L-80, 11.6#, SJ-84.23', OH-7.875", MUD-9.5PPG, SCSG-0-1648', 8.625", 24#

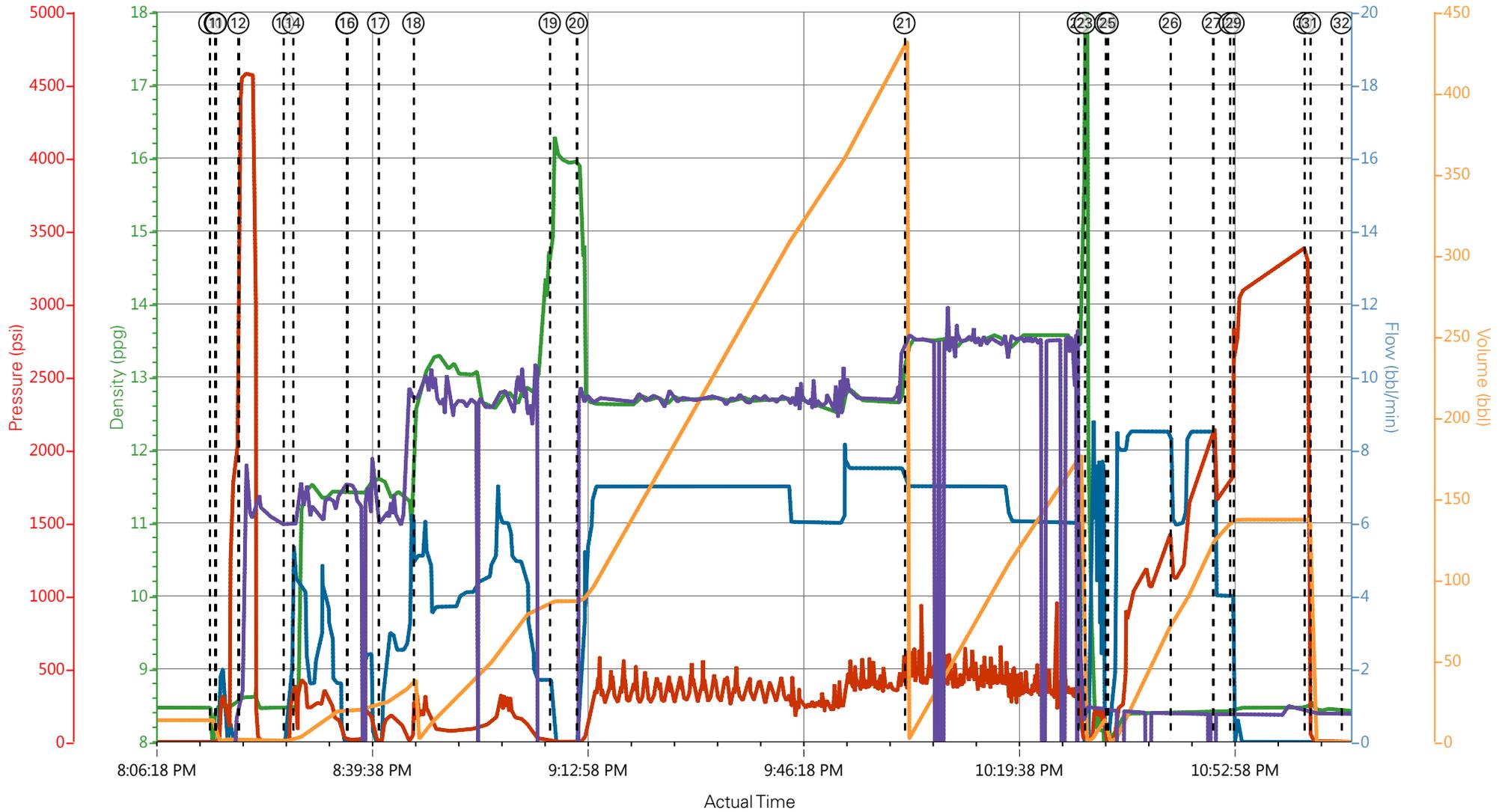
Event	10	Drop Bottom Plug	10/19/2015	20:15:50	USER	8.34	0.00	2.00	0.0	
Event	11	Prime Pumps	10/19/2015	20:16:00	USER	8.33	2.00	320.00	2.0	FRESH WATER
Event	12	Test Lines	10/19/2015	20:19:27	COM5	8.45	0.20	4581.00	2.2	ALL PRESSURE HELD ON LINES
Event	13	Pump Spacer 1	10/19/2015	20:26:24	COM5	8.36	4.00	0.00	2.0	FRESH WATER AHEAD TO ESTABLISH RETURNS
Event	14	Pump Spacer 2	10/19/2015	20:27:54	COM5	11.00	4.00	164.00	40.0	40 BBLS TSIII, 11PPG, 4.55CF/SK, 30GAL/SK
Event	15	Shutdown	10/19/2015	20:36:11	COM5					SHUTDOWN TO VERIFY WEIGHT
Event	16	Check Weight	10/19/2015	20:36:16	COM5					WEIGHT MATCHED MUD SCALES AND RESIRC
Event	17	Resume	10/19/2015	20:41:05	COM5	11.00	3.50	6.00	23.1	
Event	18	Pump Lead Cement	10/19/2015	20:46:31	COM5	12.70	7.00	450.00	316.6	LEAD CEMENT 1084SKS, 12.7PPG, 1.64CF/SK, 7.97GAL/SK
Event	19	Shutdown	10/19/2015	21:07:36	USER					SHUTDOWN TO CHECK WATER KNIFE, PUMP LOST PRIME AND SHOWS DENSITY SPIKE
Event	20	Resume	10/19/2015	21:11:47	USER	12.79	7.50	2.00	86.9	
Event	21	Pump Tail Cement	10/19/2015	22:02:25	COM5	13.50	7.00	405.00	139.0	TAIL CEMENT 446SKS, 13.5PPG, 1.75CF/SK, 7.97GAL/SK
Event	22	Other	10/19/2015	22:29:15	COM5					SHUTDOWN
Event	23	Clean Lines	10/19/2015	22:30:17	USER					CLEAN LINES INTO CELLAR

Event	24	Drop Plug	10/19/2015	22:33:28	COM5					PLUG DROP VERIFIED BY TATTLE TAIL
Event	25	Pump Displacement	10/19/2015	22:33:50	COM5	8.35	8.50	2150.00	121.0	FRESH WATER, 5 GAL CLAY WEB, 1 GAL MMCR
Event	26	Other	10/19/2015	22:43:29	COM5	8.39	6.00	1107.00	75.2	SLOW RATE DUE TO LOST RETURNS, RETURNS CAME BACK 90BBL AWAY MINIMALLY.
Event	27	Slow Rate	10/19/2015	22:50:08	USER	8.42	4.00	1760.00	121.0	SLOW RATE LAST 10 BBLs
Event	28	Bump Plug	10/19/2015	22:52:42	COM5	8.42	4.00	1910.00	131.0	PLUG BUMPED
Event	29	Pressure Up Well	10/19/2015	22:53:18	COM5	8.40	0.60	3000.00	131.0	PRESSURED CASING TO 3000PSI FOR 10 MIN PRESSURE TEST
Event	30	Check Floats	10/19/2015	23:04:14	USER	8.40	0.00	3393.00	131.0	FLOATS HELD, 1.5 BBLs BACK
Event	31	End Job	10/19/2015	23:05:07	COM5					HAD FULL RETURNS THROUGH JOB UNTIL DISPLACEMENT, WHICH WAS NOTED ABOVE.
Event	32	Pre-Rig Down Safety Meeting	10/19/2015	23:10:00	USER					
Event	33	Crew Leave Location	10/19/2015	23:59:59	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

MSDS OFFERED- \_\_\_\_\_

H2O pH =7 Cl- = 0 Temp=56 deg F

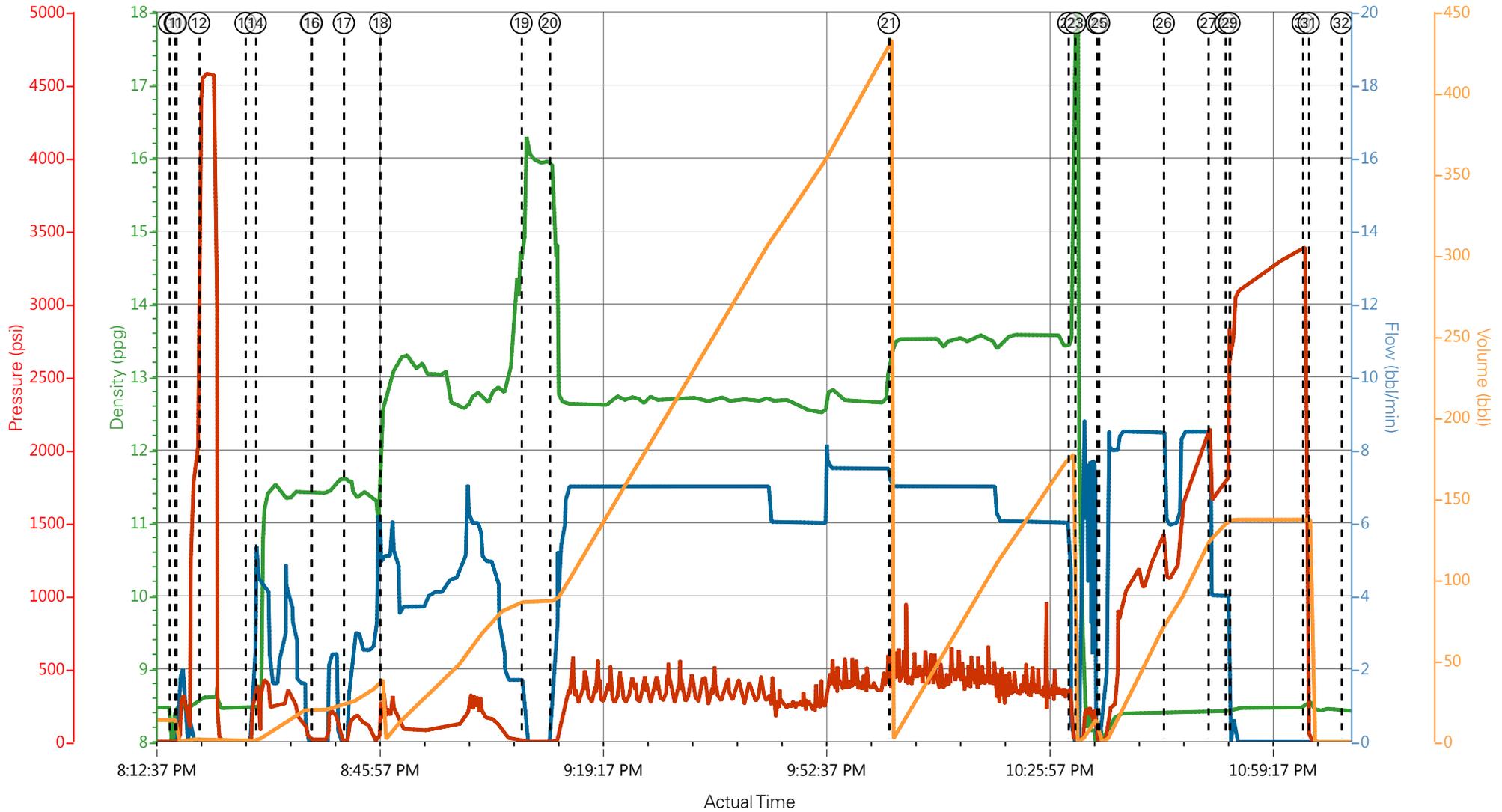
# PICEANCE - FEDERAL 28-20E - 4.5" PRODUCTION



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

- |  |   |                                   |  |   |
|--|---|-----------------------------------|--|---|
| ① Call Out n/a;n/a;n/a;n/a;n/a                               | ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a;n/a | ⑨ Start Job 7.76;0;-2;13.4;0.1    | ⑬ Pump Spacer 1 8.46;0;0;0;10.96       | ⑰ |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a;n/a              | ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a;n/a             | ⑩ Drop Bottom Plug 8.47;0;2;0;0.1 | ⑭ Pump Spacer 2 8.47;4.5;153;0.1;10.99 | ⑱ |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a;n/a                        | ⑦ Rig-Up Completed 8.46;0;0;13.4;0.1                        | ⑪ Prime Pumps 8.49;0.9;21;0;0.1   | ⑮ Shutdown 11.41;0;14;19.8;11.52       | ⑳ |
| ④ Arrive at Location from Service Center n/a;n/a;n/a;n/a;n/a | ⑧ Pre-Job Safety Meeting 8.47;0;-2;13.4;0.1                 | ⑫ Test Lines 8.61;0;4554;1.6;8.58 | ⑯ Check weight 11.41;0;14;19.8;11.53   | ㉑ |

# PICEANCE - FEDERAL 28-20E - 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                               | ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑨ Start Job 7.76;0;-2;13.4    | ⑬ Pump Spacer 1 8.46;0;0;0       | ⑰ Resume 11.6;0;5;2 |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a              | ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑩ Drop Bottom Plug 8.47;0;2;0 | ⑭ Pump Spacer 2 8.47;4.5;153;0.1 | ⑱ Pump Lead Cem     |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a                        | ⑦ Rig-Up Completed 8.46;0;0;13.4                        | ⑪ Prime Pumps 8.49;0.9;21;0   | ⑮ Shutdown 11.41;0;14;19.8       | ⑲ Shutdown 15.7;0   |
| ④ Arrive at Location from Service Center n/a;n/a;n/a;n/a | ⑧ Pre-Job Safety Meeting 8.47;0;-2;13.4                 | ⑫ Test Lines 8.61;0;4554;1.6  | ⑯ Check weight 11.41;0;14;19.8   | ⑳ Resume 15.49;1.7  |



**HALLIBURTON** | iCem® Service

Created: 2015-10-19 18:14:41, Version: 4.2.384

Edit

Customer: PICEANCE ENERGY LLC - EBUS

Job Date: 10/19/2015 6:22:28 PM

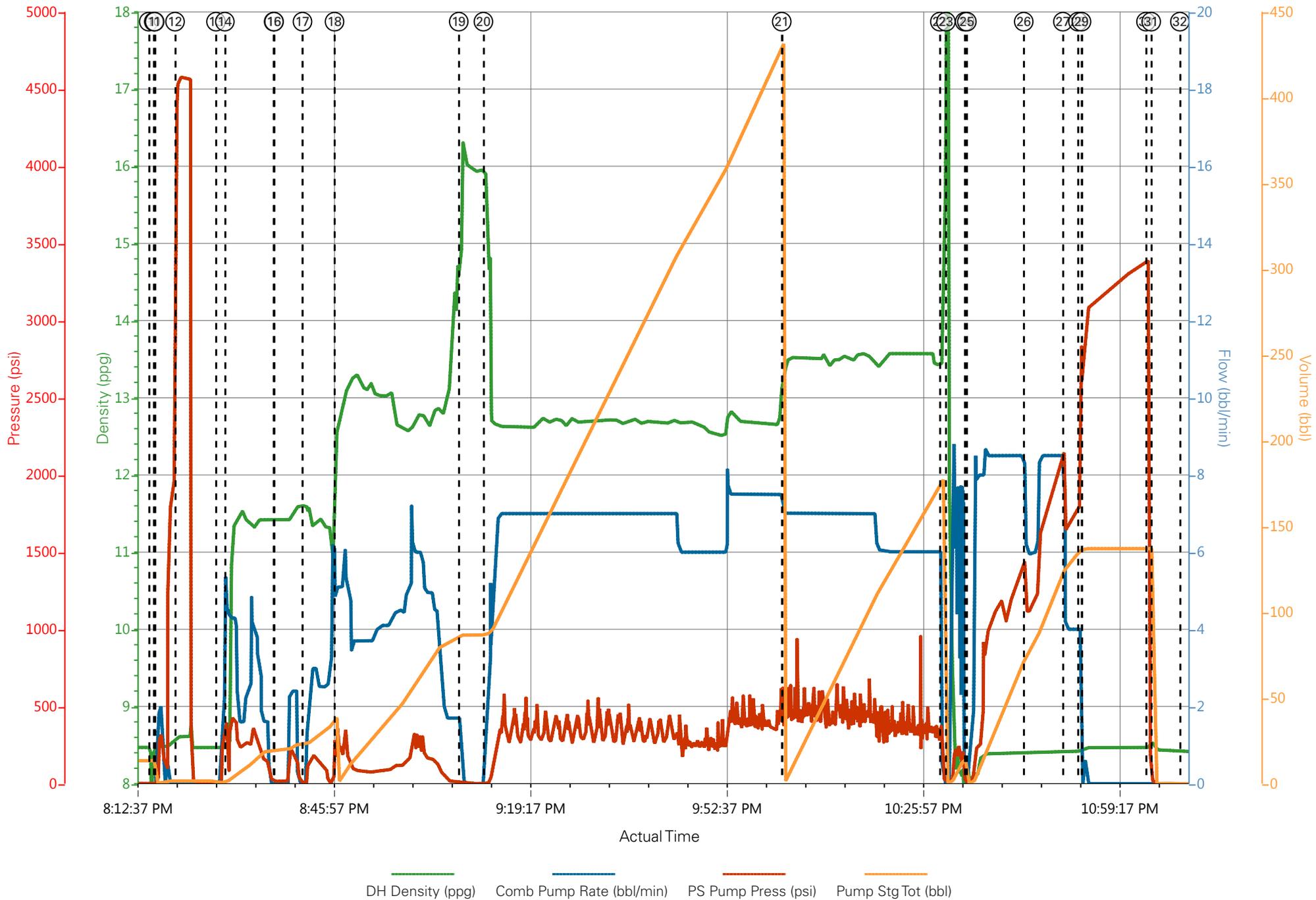
Well: PICEANCE FED 28-20E

Representative: MATT SETTLES

Sales Order #: 902837202

ELITE #8: A.BRENNECKE/S.BLOSSOM

# PICEANCE - FEDERAL 28-20E - 4.5" PRODUCTION



<b>Sales Order #:</b> 0902837202	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 10/20/2015
<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> 05-077-10256-00
<b>Well Name:</b> PICEANCE FEDERAL		<b>Well Number:</b> 0080739661
<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	10/20/2015
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	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>
---------------------------

<b>Sales Order #:</b> 0902837202	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 10/20/2015
<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> 05-077-10256-00
<b>Well Name:</b> PICEANCE FEDERAL		<b>Well Number:</b> 0080739661
<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

### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b>	10/20/2015
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>	0

<b>Sales Order #:</b> 0902837202	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 10/20/2015
<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> 05-077-10256-00
<b>Well Name:</b> PICEANCE FEDERAL		<b>Well Number:</b> 0080739661
<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

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	93
<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	7
<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