

PICEANCE ENERGY LLC - EBUS

Piceance 28-18E

**Patterson 306**

## **Post Job Summary**

# **Cement Production Casing**

Date Prepared: 11/04/2015

Job Date: 10/29/2015

Submitted by: Aaron Katz – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3681105	Quote #:	Sales Order #: 0902859000
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: ROGER FOSTER	
Well Name: PICEANCE FEDERAL		Well #: 28-18E	API/UWI #: 05-077-10258-00
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: NE SW-28-9S-93W-2030FSL-2497FWL			
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		Bottom
Form Type			BHST
Job depth MD	8450ft		Job Depth TVD
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	1600		0
Casing		4.5	4	11.6	8 RD (LT&C)		0	8450		0
Open Hole Section			8.875				1600	8450	0	0

## Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	4.5	1		8450	Top Plug	4.5	1	HES
Float Shoe	4.5	1			Bottom Plug	4.5	1	HES
Float Collar	4.5	1			SSR plug set	4.5	1	HES
Insert Float	4.5	1			Plug Container	4.5	1	HES
Stage Tool	4.5	1			Centralizers	4.5	1	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	0	bbl	11	4.55				
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 ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	EconoCem	ECONOCEM (TM) SYSTEM		sack	12.8	1.65		4	7.96
5 lbm		KOL-SEAL, BULK (100064233)							
7.96 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	ThermaCem	THERMACEM (TM) SYSTEM		sack	13.5	1.75		4	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/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	0	bbl	8.34				
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	90 ft		Reason		Shoe Joint		
Comment									

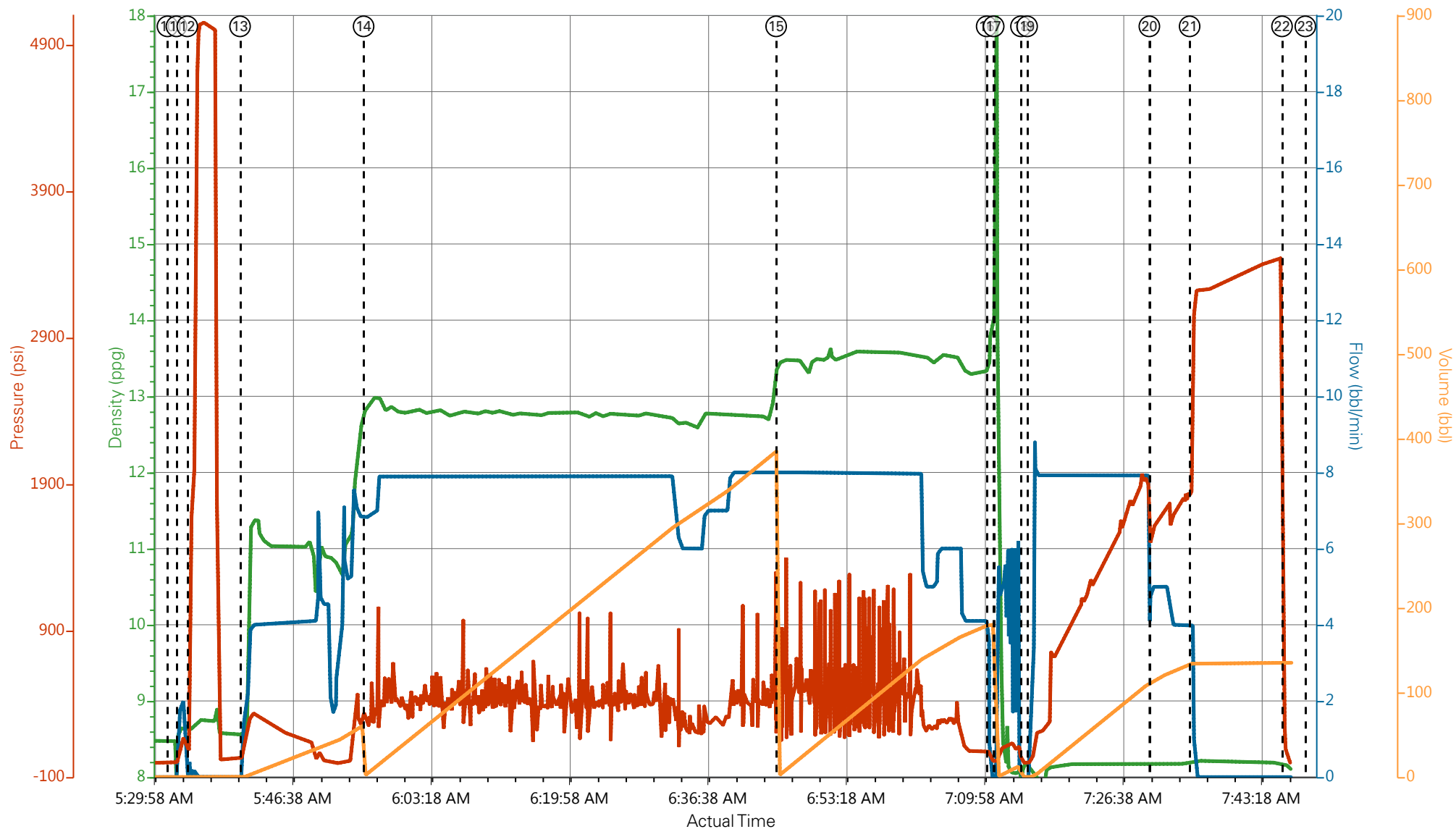
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	10/28/2015	19:30	USER					
Event	2	Depart Yard Safety Meeting	10/28/2015	20:50	USER					ATTENDED BY ALL HES CREW
Event	3	Crew Leave Yard	10/28/2015	21:00	USER					
Event	4	Arrive At Loc	10/28/2015	23:00	USER					RIG RUNNING CASING, COMPANY REP OFFERED MSDS FOR CEMENT AND ADDITIVES
Event	5	Assessment Of Location Safety Meeting	10/29/2015	03:30	USER					ATTENDED BY ALL HES CREW
Event	6	Other	10/29/2015	03:40	USER					SPOT EQUIPMENT
Event	7	Pre-Rig Up Safety Meeting	10/29/2015	03:50	USER					ATTENDED BY ALL HES CREW
Event	8	Rig-Up Equipment	10/29/2015	04:00	USER					
Event	9	Pre-Job Safety Meeting	10/29/2015	05:00	USER					ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP
Event	10	Start Job	10/29/2015	05:31:54	USER					TP 8437', TD 8447', MW 9.4 PPG, CASING 4.5", 11.6#, N-80, SJ 85.91', SURFACE CASING 8.625", 24# SET AT 1647', HOLE 7.875", RIG CIRCULATED FOR 1.5 HR'S PRIOR TO JOB
Event	11	Fill Lines	10/29/2015	05:32:58	USER	8.34	2	160	2	FRESH WATER, PH 7, CHLORIDES 250, TEMP 52
Event	12	Test Lines	10/29/2015	05:34:17	USER					PRESSURED UP TO 5060 PSI, PRESSURE HELD

Event	13	Pump Spacer	10/29/2015	05:40:38	USER	8.34	4	270	4	TUNED SPACER MIXED AT 11 PPG, BOTTOM PLUG LAUNCHED
Event	14	Pump Lead Cement	10/29/2015	05:55:31	USER	12.7	8	480	313.8	1068 SKS ECONOCHEM MIXED AT 12.8 PPG, 1.65 YIELD, 7.96 GL/SK
Event	15	Pump Tail Cement	10/29/2015	06:45:12	USER	13.5	8	500	139	446 SKS THERMACHEM MIXED AT 13.5 PPG, 1.75 YIELD, 7.97 GL/SK
Event	16	Shutdown	10/29/2015	07:10:33	USER					
Event	17	Clean Lines	10/29/2015	07:11:24	USER					CLEANED LINES TO CELLAR
Event	18	Drop Top Plug	10/29/2015	07:14:41	USER					PLUG LAUNCHED
Event	19	Pump Displacement	10/29/2015	07:15:25	USER	8.35	8	1970	119.8	FRESH WATER WITH MMCR AND CLAY-WEB
Event	20	Slow Rate	10/29/2015	07:30:09	USER	8.35	4	1850	10	
Event	21	Bump Plug	10/29/2015	07:35:00	USER			3240		PLUG LANDED
Event	22	Check Floats	10/29/2015	07:46:07	USER			3450		FLOATS HELD
Event	23	End Job	10/29/2015	07:48:56	USER					GOOD CIRCULATION THROUGHOUT JOB, PIPE NOT MOVED DURING JOB, 20 BBL SPACER TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	10/29/2015	07:50	USER					ATTENDED BY ALL HES CREW
Event	25	Rig-Down Equipment	10/29/2015	08:00	USER					
Event	26	Depart Location Safety Meeting	10/29/2015	08:50	USER					ATTENDED BY ALL HES CREW
Event	27	Crew Leave Location	10/29/2015	09:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW.

# PICEANCE ENERGY - PICEANCE FEDERAL 28-18E - 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                              | ⑥ Other n/a;n/a;n/a;n/a                     | ⑪ Fill Lines 8.63;1.7;88;0.3         | ⑯ Shutdown 13.82;0;44;180.1         | 21 Bump Plug 8.17;0;0;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 8.64;0;939;0            | ⑰ Clean Lines 14.1;2.4;14;0.2       | 22 Check Floats 8.19;0;0;0        |
| 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 8.56;0.6;32;0          | ⑱ Drop Top Plug 8.21;0;-7;0         | 23 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 12.87;6.9;281;3.8 | ⑲ Pump Displacement 8.11;1.7;18;0.1 | 24 Post-Job Safety n/a;n/a;n/a    |
| ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑩ Start Job 8.48;0;-4;0                     | ⑮ Pump Tail Cement 13.44;8;470;2.6   | 20 Slow Rate 8.18;5;1594;113.5      | 25 Rig-Down Equipment n/a;n/a;n/a |

# PICEANCE ENERGY - PICEANCE FEDERAL 28-18E - PRODUCTION

