

PICEANCE ENERGY LLC - EBUS

Piceance 28-10M

**Patterson 306**

## **Post Job Summary**

# **Cement Production Casing**

Date Prepared: 07/20/2015

Job Date: 07/18/2015

Submitted by: Aaron Katz – Grand Junction Cement Engineer

## The Road to Excellence Starts with Safety

Sold To #: 344919	Ship To #: 3673006	Quote #:	Sales Order #: 0902576998
Customer: PICEANCE ENERGY LLC - EBUS		Customer Rep: ROGER FOSTER	
Well Name: PICEANCE		Well #: 28-10M	API/UWI #: 05-077-10243-00
Field: VEGA	City (SAP): COLLBRAN	County/Parish: MESA	State: COLORADO
Legal Description: SW NW-28-9S-93W-1620FNL-1248FWL			
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 1612 FT Bottom 8127 FT
Form Type	BHST
Job depth MD	8117ft Job Depth TVD
Water Depth	Wk Ht Above Floor 4 FT
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	8.097	24			0	1612		0
Casing		4.5	4	11.6			0	8117		0
Open Hole Section			7.875				1612	8127	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	135	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	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	VersaCem	VERSACEM (TM) SYSTEM	939	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	ExpandaCem GJ4	EXPANDACEM (TM) SYSTEM	413	sack	13.3	1.89	8.66	7	
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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	124.9	bbl	8.34			9	
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		84 ft			Reason		Shoe Joint
Comment									

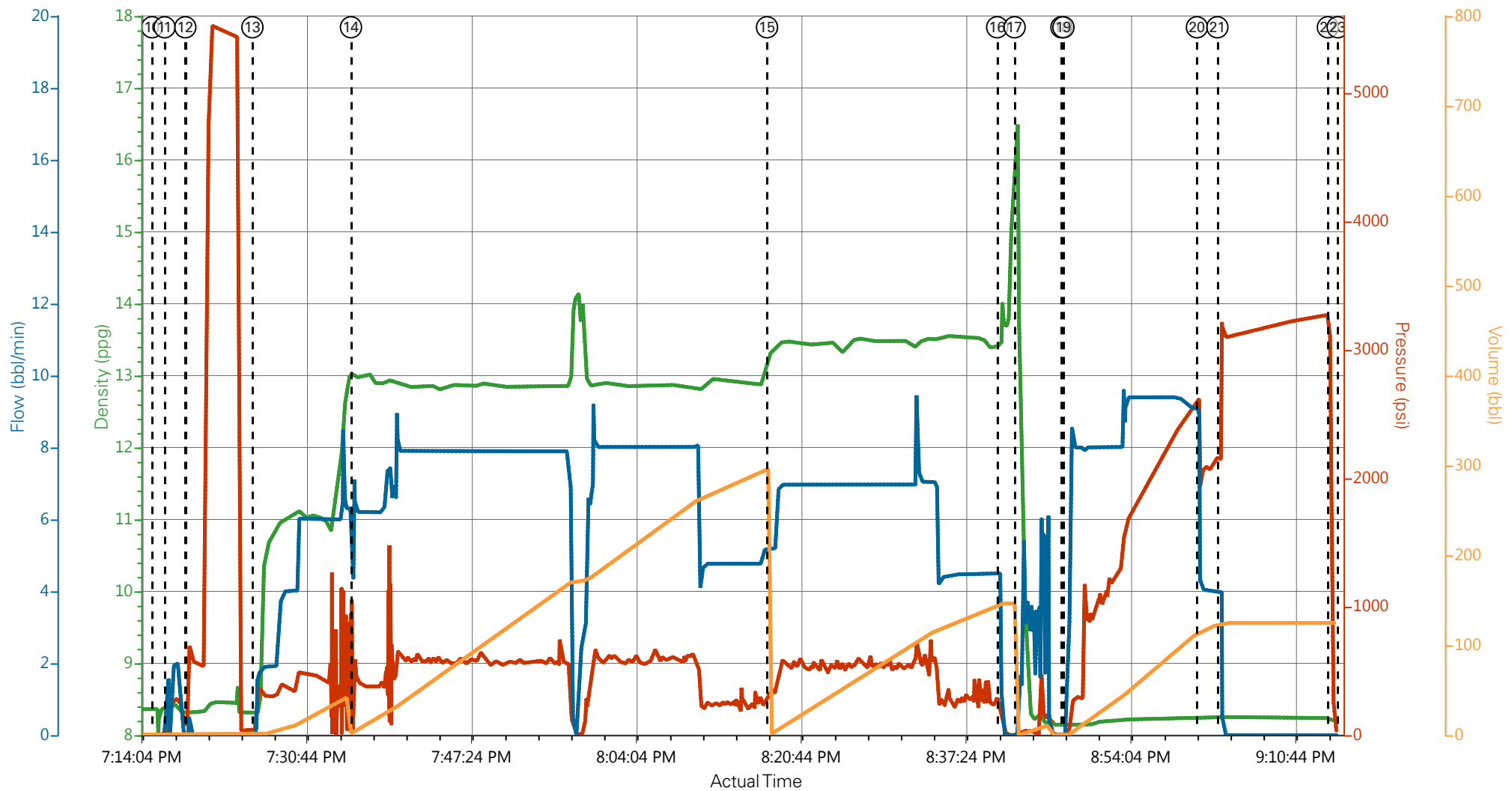
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	7/18/2015	10:00:00	USER					
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/18/2015	13:50:00	USER					ATTENDED BY ALL HES CREW
Event	3	Crew Leave Yard	Crew Leave Yard	7/18/2015	14:00:00	USER					
Event	4	Arrive At Loc	Arrive At Loc	7/18/2015	15:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	7/18/2015	17:30:00	USER					ATTENDED BY ALL HES CREW
Event	6	Other	Other	7/18/2015	17:40:00	USER					SPOT EQUIPMENT
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/18/2015	17:50:00	USER					ATTENDED BY ALL HES CREW
Event	8	Rig-Up Equipment	Rig-Up Equipment	7/18/2015	18:00:00	USER					
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/18/2015	19:00:00	USER					ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP
Event	10	Other	Start Job	7/18/2015	19:15:24	USER					TP 8116.70', TD 8127', MW 9.3 PPG, CASING 4.5" 11.6#, I-80, SJ 83.58', HOLE 7.875", SURFACE CASING 8.625", 24# SET AT 1612', RIG CIRCULATED FOR 2 HRS PRIOR TO JOB
Event	11	Other	Fill Lines	7/18/2015	19:16:40	USER	8.34	300	2	2	FRESH WATER
Event	12	Test Lines	Test Lines	7/18/2015	19:18:46	USER					PRESSURED UP TO 5490 PSI, PRESSURE HELD
Event	13	Pump Spacer	Pump Spacer	7/18/2015	19:25:33	USER	11.0	500	6	40	TUNED SPACER III MIXED AT

											11.0 PPG, BOTTOM PLUG LAUNCHED	
Event	14	Pump Lead Cement	Pump Lead Cement	7/18/2015	19:35:31	USER	12.8	630	8	292.7	939 SKS VERSACEM MIXED AT 12.8 PPG, 1.75 YIELD, 8.5 GAL/SK	
Event	15	Pump Tail Cement	Pump Tail Cement	7/18/2015	20:17:35	USER	13.3	570	7	139.0	413 SKS EXPANDACEM MIXED AT 13.3 PPG, 1.89 YIELD, 8.66 GAL/SK	
Event	16	Shutdown	Shutdown	7/18/2015	20:40:51	USER						
Event	17	Clean Lines	Clean Lines	7/18/2015	20:42:37	USER						CLEANED PUMPS AND LINES TO THE CELLAR
Event	18	Drop Top Plug	Drop Top Plug	7/18/2015	20:47:21	USER						PLUG LAUNCHED
Event	19	Pump Displacement	Pump Displacement	7/18/2015	20:47:33	USER	8.34	2610	9	114.9	FRESH WATER WITH CLAY-WEB AND MMCR	
Event	20	Slow Rate	Slow Rate	7/18/2015	21:01:03	USER	8.34	2100	4	10		
Event	21	Bump Plug	Bump Plug	7/18/2015	21:03:07	USER						PLUG LANDED
Event	22	Check Floats	Check Floats	7/18/2015	21:14:17	USER						FLOATS HELD
Event	23	Other	End Job	7/18/2015	21:15:17	USER						GOOD CIRCULATION THROUGHOUT JOB, PIPE NOT MOVED DURING JOB, 25 BBLS CEMENT TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	7/18/2015	21:20:00	USER						ATTENDED BY ALL HES CREW
Event	25	Rig-Down Equipment	Rig-Down Equipment	7/18/2015	21:25:00	USER						
Event	26	Depart Location Safety Meeting	Depart Location Safety Meeting	7/18/2015	22:20:00	USER						ATTENDED BY ALL HES CREW
Event	27	Crew Leave Location	Crew Leave Location	7/18/2015	22:30:00	USER						THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW

# PICEANCE ENERGY - PICEANCE 28-10M - 4.5" PRODUCTION



⑪ Fill Lines 8.39;104;1.4;0.1

⑫ Test Lines 8.31;725;0.5;2

⑬ Pump Spacer 8.29;43;0;0

⑭ Pump Lead Cement 12.94;612;6.6;4.2

⑮ Pump Tail Cement 13.32;322;5.2;1.2

⑯ Shutdown 13.42;256;4.5;146.3

⑰ Clean Lines 15.71;2;0;0

⑱ DropTop Plug 8.14;1;0;0

⑲ Pump Displacement 8.14;26;1.7;0.2

⑳ Slow Rate 8.23;1978;4.1;116.1

21 Bump Plug 8.24;2146;4;124.4

22 Check Floats 8.22;1616;0;124.8

23 End Job n/a;n/a;n/a;n/a

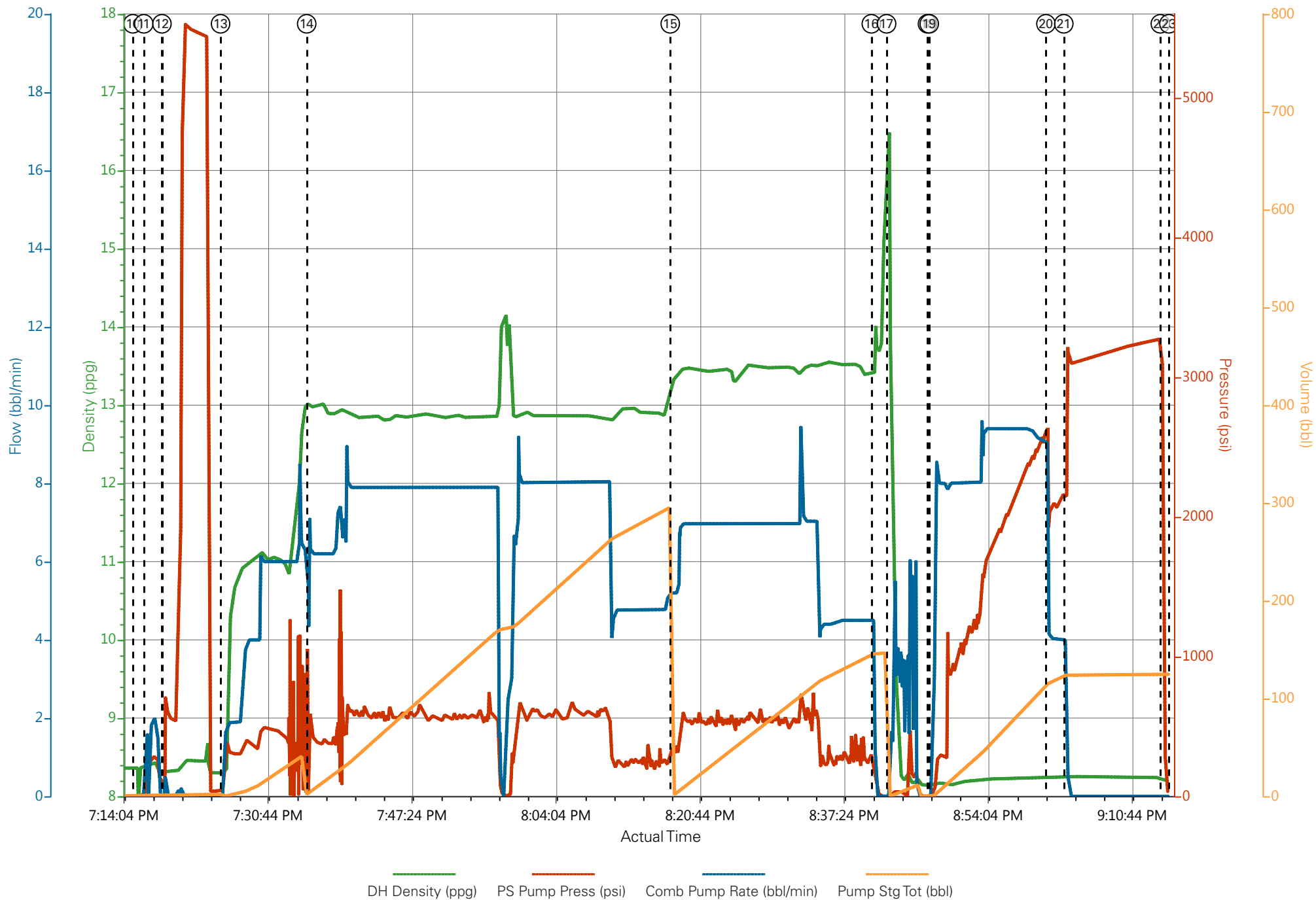
24 Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n/a

25 Rig-Down Equipment n/a;n/a;n/a;n/a

26 Depart Location Safety Meeting n/a;n/a;n/a;n/a

27 Crew Leave Location n/a;n/a;n/a;n/a

# PICEANCE ENERGY - PICEANCE 28-10M - 4.5" PRODUCTION



# HALLIBURTON

## Water Analysis Report

Company: PICEANCE ENERGY

Submitted by: ERIC CARTER

Attention: J.Trout

Lease PATTERSON 306

Well # PICEANCE 28-10M

Date: 7/20/2015

Date Rec.: 7/20/2015

S.O.# 902576998

Job Type: PRODUCTION

Specific Gravity	<i>MAX</i>	<i>1</i>
pH	<i>8</i>	<i>7</i>
Potassium (K)	<i>5000</i>	<i>0</i> Mg / L
Hardness	<i>500</i>	<i>250</i> Mg / L
Iron (FE2)	<i>300</i>	<i>0</i> Mg / L
Chlorides (Cl)	<i>3000</i>	<i>250</i> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<i>&lt;200</i> Mg / L
Temp	<i>40-80</i>	<i>62</i> Deg
Total Dissolved Solids		<i>420</i> Mg / L

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 it



<b>Sales Order #:</b> 0902576998	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 7/19/2015
<b>Customer:</b> PICEANCE ENERGY LLC - EBUS		<b>Job Type (BOM):</b> CMT PRODUCTION CASING BOM
<b>Customer Representative:</b> ROGER FOSTER		<b>API / UWI: (leave blank if unknown)</b> 05-077-10243-00
<b>Well Name:</b> PICEANCE		<b>Well Number:</b> 0080734125
<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	7/18/2015
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	ROGER FOSTER
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> The date the survey was conducted	7/19/2015

Cementing KPI Survey	
<b>Type of Job</b> Select the type of job. (Cementing or Non-Cementing)	0
<b>Select the Maximum Deviation range for this Job</b> What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
<b>Total Operating Time (hours)</b> Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	4
<b>HSE Incident, Accident, Injury</b> HSE Incident, Accident, Injury. This should be recordable incidents only.	No
<b>Was the job purpose achieved?</b> Was the job delivered correctly as per customer agreed design?	Yes
<b>Pumping Hours</b> Total number of hours pumping fluid on this job. Enter in decimal format.	2
<b>Type of Rig Classification Job Was Performed</b> Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
<b>Number Of JSAs Performed</b> Number Of Jsas Performed	6
<b>Was this a Primary Cement Job (Yes / No)</b> Primary Cement Job= Casing job, Liner job, or Tie-back job.	Yes
<b>Number of Unplanned Shutdowns</b> Unplanned shutdown is when injection stops for any period of time.	0
<b>Customer Non-Productive Rig Time (hrs)</b>	0

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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	95
<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	95
<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