HALLIBURTON

Cementing

PICEANCE ENERGY LLC - EBUS

Piceance 28-02M

Patterson 306

Post Job Summary
Cement Surface Casing

Date Prepared: 09/02/2015
Job Date: 08/28/2015

Submitted by: Aaron Katz – Grand Junction Cement Engineer

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 344919	**Ship To #:** 3673007	**Quote #:**	**Sales Order #:** 0902695128
Customer: PICEANCE ENERGY LLC - EBUS		**Customer Rep:** ROGER FOSTER	
Well Name: PICEANCE FED	**Well #:** 28-02M		**API/UWI #:** 05-077-10239-00
Field: VEGA	**City (SAP):** COLLBRAN	**County/Parish:** MESA	**State:** COLORADO
Legal Description: SW NW-28-9S-93W-1560FNL-1212FWL			
Contractor: PATTERSON-UTI ENERGY		**Rig/Platform Name/Num:** PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		**Srvc Supervisor:** Eric Carter	

Job

Formation Name				
Formation Depth (MD)	**Top**	82 FT.	**Bottom**	1626 FT.
Form Type			**BHST**	
Job depth MD	1616ft		**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		16	15.25	65			0	82		0
Casing		8.625	8.097	24	8 RD	J-55	0	1616		0
Open Hole Section			11				60	1626		0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe						**Top Plug**	8.625	1	HES
Float Shoe						**Bottom Plug**	8.625	1	HES
Float Collar						**SSR plug set**			
Insert Float						**Plug Container**	8.625	1	HES
Stage Tool						**Centralizers**			

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	Fresh Water	Fresh Water	40	bbl	8.33			6	

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	VariCem GJ5	VARICEM (TM) CEMENT	192	sack	12.3	2.46	14.17	7.5	
14.12 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	VariCem GJ5	VARICEM (TM) CEMENT	120	sack	12.8	2.18	12.11	7.5	
12.05 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	Fresh Water Displacement	Fresh Water Displacement	99.8	bbl	8.3			8	

Cement Left In Pipe	Amount	47 ft	Reason	Shoe Joint

Comment

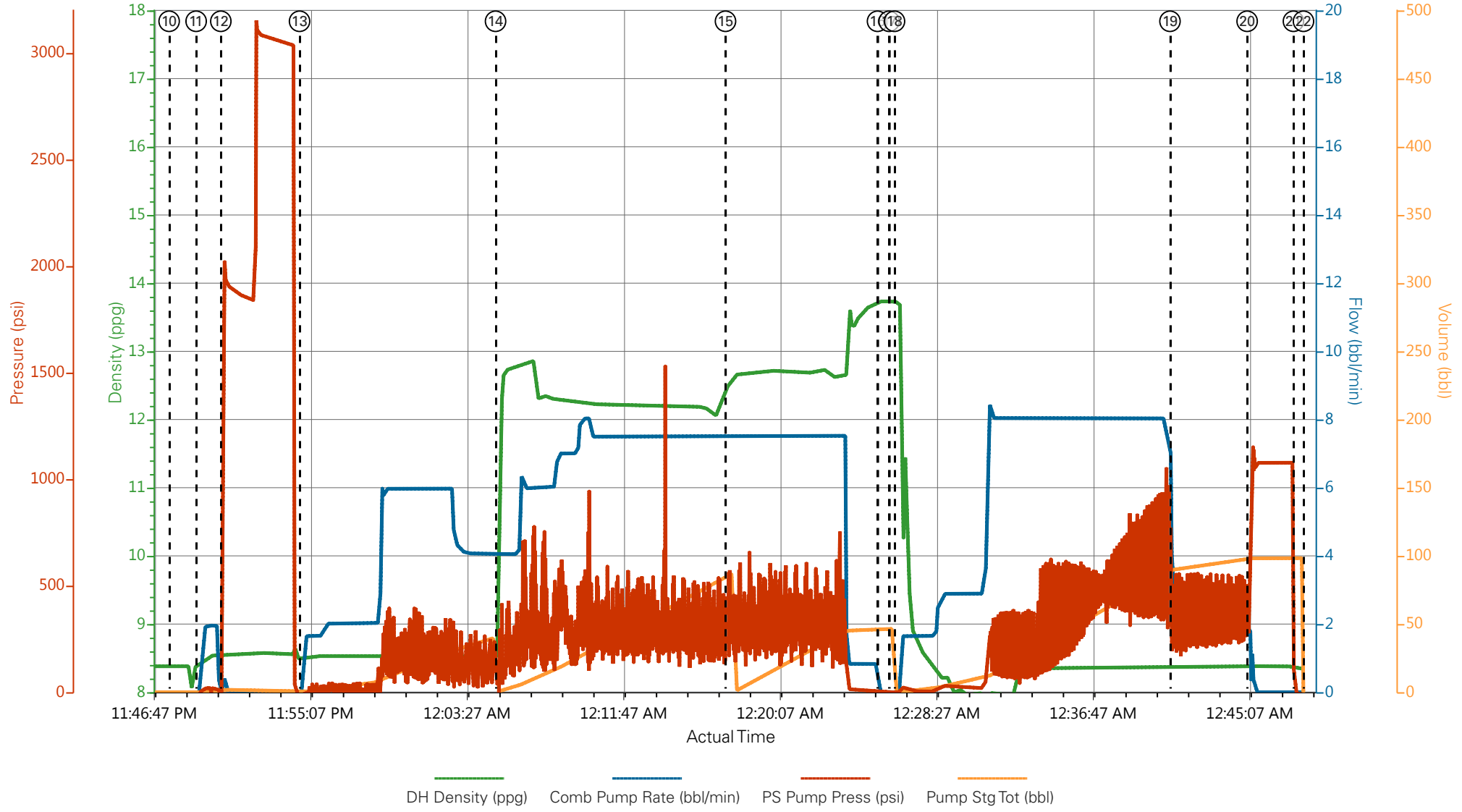
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	8/27/2015	08:00:00	USER					
Event	2	Depart Yard Safety Meeting	8/27/2015	10:50:00	USER					ATTENDED BY ALL HES CREW
Event	17	Crew Leave Yard	8/27/2015	11:00:00	USER					
Event	18	Arrive At Loc	8/27/2015	14:00:00	USER					RIG RUNNING CASING
Event	19	Assessment Of Location Safety Meeting	8/27/2015	22:00:00	USER					ATTENDED BY ALL HES CREW
Event	20	Other	8/27/2015	22:10:00	USER					SPOT EQUIPMENT
Event	21	Pre-Rig Up Safety Meeting	8/27/2015	22:20:00	USER					ATTENDED BY ALL HES CREW
Event	22	Rig-Up Equipment	8/27/2015	22:30:00	USER					
Event	23	Pre-Job Safety Meeting	8/27/2015	23:20:00	USER					ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP
Event	26	Start Job	8/27/2015	23:47:43	USER					TP 1616', TD 1626', MW 9 PPG, CASING 8.625", 24#, J-55, SJ 46.57', HOLE 11", CONDUCTOR CASING 16", 65# SET AT 82', RIG CIRCULATED FOR 1.5 HR'S PRIOR TO JOB
Event	28	Fill Lines	8/27/2015	23:49:09	USER	100	8.33	2	2	FRESH WATER
Event	29	Test Lines	8/27/2015	23:50:28	USER					PRESSURED UP TO 3220 PSI, PRESSURE HELD
Event	42	Pump Spacer	8/27/2015	23:54:40	USER	220	8.33	6	40	FRESH WATER, BOTTOM PLUG LAUNCHED
Event	59	Pump Lead Cement	8/28/2015	00:05:06	USER	390	12.3	7.5	84.1	192 SKS VARICEM MIXED AT 12.3 PPG, 2.46 YIELD, 14.17 GL/SK
Event	72	Pump Tail Cement	8/28/2015	00:17:21	USER	370	12.8	7.5	46.6	120 SKS VARICEM MIXED AT 12.8 PPG, 2.18 YIELD, 12.11 GL/SK
Event	104	Shutdown	8/28/2015	00:25:26	USER					
Event	105	Drop Top Plug	8/28/2015	00:26:03	USER					

Event	107	Pump Displacement	8/28/2015	00:26:21	USER	730	8.33	8	89.8	FRESH WATER
Event	116	Slow Rate	8/28/2015	00:41:01	USER	350	8.33	2	10	
Event	117	Bump Plug	8/28/2015	00:45:07	USER	1030				PLUG LANDED
Event	118	Check Floats	8/28/2015	00:47:35	USER					FLOATS HELD
Event	119	End Job	8/28/2015	00:48:07	USER					GOOD CIRCULATION THROUGHOUT JOB, PIPE NOT MOVED DURING JOB, 18 BBLS CEMENT TO SURFACE
Event	120	Post-Job Safety Meeting (Pre Rig-Down)	8/28/2015	00:50:00	USER					ATTENDED BY ALL HES CREW
Event	121	Rig-Down Equipment	8/28/2015	01:00:00	USER					
Event	122	Depart Location Safety Meeting	8/28/2015	01:50:00	USER					ATTENDED BY ALL HES CREW
Event	123	Crew Leave Location	8/28/2015	02:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW.

PICEANCE ENERGY - PICEANCE FED 28-02M - SURFACE



① Call Out 8.39;0;-19.72;29.99	⑦ Pre-Rig Up Safety Meeting 8.4;0;-18.78;0	⑬ Pump Spacer 8.49;0.01;-17.84;0	⑲ Slow Rate 8.36;2.92;320.6;90.04
② Depart Yard Safety Meeting 8.38;0;-20.66;29.99	⑧ Rig-Up Equipment 8.4;0;-20.66;0	⑭ Pump Lead Cement 9.2;4.08;-6.59;0.75	20 Bump Plug 8.36;1.69;639.35;98.16
③ Crew Leave Yard 8.38;0;-20.66;0	⑨ Pre-Job Safety Meeting 8.39;0;-24.41;0	⑮ Pump Tail Cement 12.53;7.52;170.6;85.82	21 Check Floats 8.34;0;-8.47;98.31
④ Arrive At Loc 8.38;0;-19.72;0	⑩ Start Job 8.38;0;-30.03;0	⑯ Shutdown 13.73;0;-0.03;46.44	22 End Job n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting 8.38;0;-20.66;0	⑪ Fill Lines 8.42;0;-2.84;0	⑰ Drop Top Plug 13.73;0;-0.97;46.44	23 Post-Job Safety Meeting (Pre Rig-Down) n/a;n/a;n/a;n
⑥ Other 8.39;0;-19.72;0	⑫ Test Lines 8.53;0.39;2023.13;1.78	⑱ Pump Displacement 13.72;0;-0.97;0	24 Rig-Down Equipment n/a;n/a;n/a;n/a

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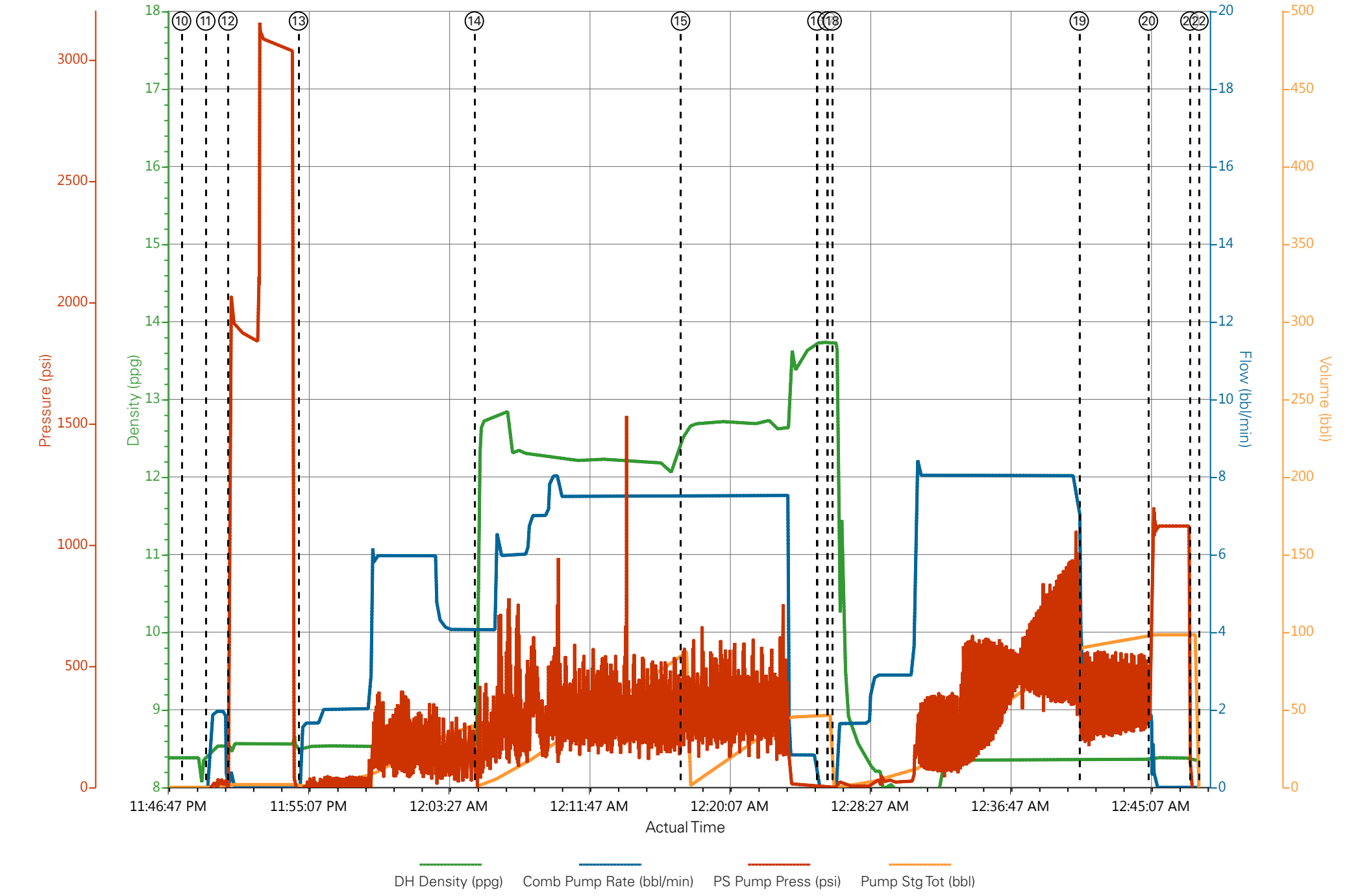
Created: 2015-08-28 01:16:12, Version: 4.1.107 Edit

Customer : PICEANCE ENERGY LLC
Representative : ROGER FOSTER

Job Date : 8/27/2015 12:00:00 AM
Sales Order # : 0902695128

Well : PICEANCE FED 28-02M
ELITE 6 : ERIC CARTER/CARL KUKUS

PICEANCE ENERGY - PICEANCE FED 28-02M - SURFACE



HALLIBURTON | iCem® Service

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Customer: PICEANCE ENERGY LLC
Representative: ROGER FOSTER
Job Date: 8/27/2015 12:00:00 AM
Sales Order #: 0902695128
Well: PICEANCE FED 28-02M
ELITE 6: ERIC CARTER/CARL KUKUS

HALLIBURTON

Water Analysis Report

Company:	PICEANCE ENERGY	**Date:**	9/2/2015
Submitted by:	ERIC CARTER	**Date Rec.:**	9/2/2015
Attention:	J.Trout	**S.O.#**	902695128
Lease	PATTERSON 306	**Job Type:**	SURFACE
Well #	PICEANCE FED 28-02M		

Specific Gravity	*MAX*	1	
pH	*8*	7	
Potassium (K)	*5000*	0	Mg / L
Hardness	*500*	250	Mg / L
Iron (FE2)	*300*	0	Mg / L
Chlorides (Cl)	*3000*	500	Mg / L
Sulfates (SO_4)	*1500*	<200	Mg / L
Temp	*40-80*	60	Deg
Total Dissolved Solids		400	Mg / L

Respectfully: ERIC CARTER

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902695128	10	8/28/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
ROGER FOSTER		05-077-10239-00
Well Name:		**Well Number:**
PICEANCE FED		0080734130
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	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**	**8/28/2015**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**HX15491**
Customer Participation	**Did the customer partipcipate 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**	

CUSTOMER SIGNATURE

HALLIBURTON

CUSTOMER SURVEY

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PICEANCE ENERGY LLC - EBUS		CMT SURFACE CASING BOM
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ROGER FOSTER		05-077-10239-00
Well Name:		**Well Number:**
PICEANCE FED		0080734130
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	MESA

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	8/28/2015

Cementing KPI Survey	
Type of Job Select the type of job. (Cementing or Non-Cementing)	0
Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	3
HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only.	No
Was the job purpose achieved? Was the job delivered correctly as per customer agreed design?	Yes
Pumping Hours Total number of hours pumping fluid on this job. Enter in decimal format.	1.5
Type of Rig Classification Job Was Performed Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
Number Of JSAs Performed Number Of Jsas Performed	5
Was this a Primary Cement Job (Yes / No) Primary Cement Job= Casing job, Liner job, or Tie-back job.	Yes
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Customer Non-Productive Rig Time (hrs)	0

HALLIBURTON

CUSTOMER SURVEY

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ROGER FOSTER		05-077-10239-00
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PICEANCE FED		0080734130
Well Type:	**Well Country:**	
DIRECTIONAL GAS	USA	
H2S Present:	**Well State:**	**Well County:**
No	COLORADO	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 cment mixed at designed density divided by total BBLs of cement multiplied by 100	98
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	95
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