HALLIBURTON

Cementing

PICEANCE ENERGY LLC - EBUS

Piceance 28-07W

Patterson 306

Post Job Summary
Cement Surface Casing

Date Prepared: 09/17/2015
Job Date: 09/06/2015

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 #:** 3123920	**Quote #:**	**Sales Order #:** 0902727752
Customer: PICEANCE ENERGY LLC - EBUS		**Customer Rep:**	
Well Name: PICEANCE	**Well #:** 28-07W		**API/UWI #:** 05-077-09775-00
Field: VEGA	**City (SAP):** COLLBRAN	**County/Parish:** MESA	**State:** COLORADO
Legal Description: SW NW-28-9S-93W-1551FNL-1192FWL			
Contractor: PATTERSON-UTI ENERGY		**Rig/Platform Name/Num:** PATTERSON 306	
Job BOM: 7521			
Well Type: DIRECTIONAL GAS			
Sales Person: HALAMERICA\HX41066		**Srvc Supervisor:** Steven Wardell	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	1572ft		**Job Depth TVD**	
Water Depth			**Wk Ht Above Floor**	3 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	60		
Casing		8.625	8.097	24	8 RD		0	1572		0
Open Hole Section			11				60	1582		0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	8.625			1572		**Top Plug**	8.625	1	HES
Float Shoe	8.625					**Bottom Plug**	8.625	1	HES
Float Collar	8.625			1525.15		**SSR plug set**	8.625		
Insert Float	8.625					**Plug Container**	8.625	1	HES
Stage Tool	8.625					**Centralizers**	8.625		

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			3	

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		6	14.17
14.17 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		6	12.11
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	97.2	bbl	8.3			10	

Cement Left In Pipe	**Amount**	46 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					

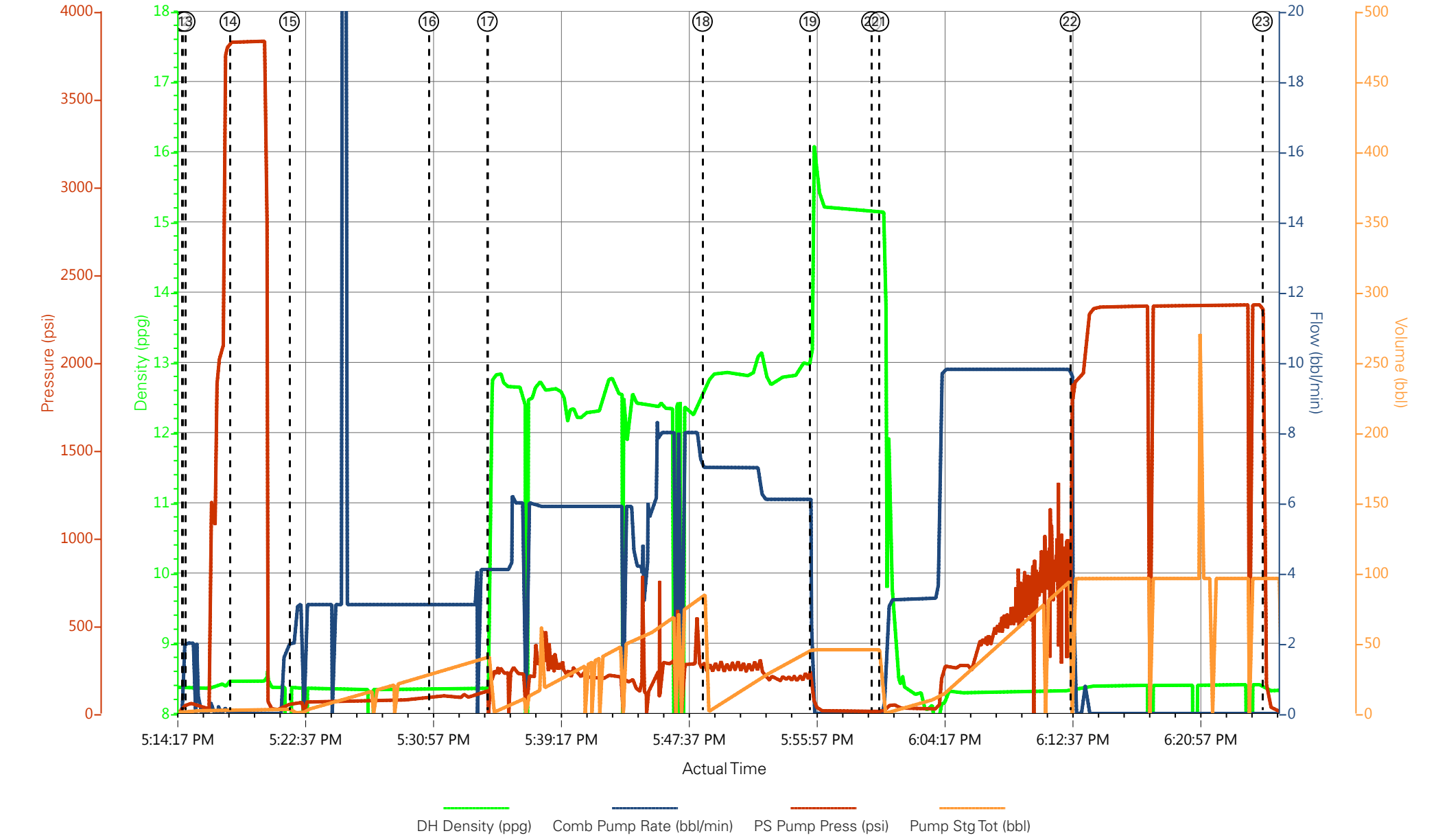
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	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	9/6/2015	07:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	9/6/2015	10:00:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	9/6/2015	10:15:00	USER					
Event	4	Arrive At Loc	9/6/2015	12:00:00	USER					RIG WAS PULLING DRILL PIPE UPON ARRIVAL
Event	5	Assessment Of Location Safety Meeting	9/6/2015	12:10:00	USER					WITH ALL HES PERSONNEL
Event	6	Spot Equipment	9/6/2015	12:20:00	USER					1 PUMP, 1 BULK TRUCK
Event	7	Pre-Rig Up Safety Meeting	9/6/2015	12:40:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	9/6/2015	12:50:00	USER					
Event	9	Prime Pumps	9/6/2015	16:15:08	COM6					FRESH WATER
Event	10	Pre-Job Safety Meeting	9/6/2015	17:00:00	USER					WITH ALL PERSONNEL
Event	11	Start Job	9/6/2015	17:12:00	USER					TD 1582 FT, TP 1572 FT, SJ 46 FT, CSG 8 5/8 IN 24 LB/FT J-55, OH 11 IN, MUD 9.2 PPG
Event	12	Prime Lines	9/6/2015	17:14:48	COM6	8.4	2.00	56.0	2.0	FRESH WATER
Event	13	Drop Bottom Plug	9/6/2015	17:15:00	USER					PLUG LAUNCHED
Event	14	Test Lines	9/6/2015	17:17:54	COM6			3828.00		TESTED LINES TO 3828 PSI, PRESSURE HOLDING
Event	15	Pump Water Spacer	9/6/2015	17:21:47	COM6	8.4	3.0	90.0	40.0	FRESH WATER
Event	16	Check weight	9/6/2015	17:30:52	COM6					PRESSURIZED MUD SCALES, WEIGHED 12.4 PPG

Event	17	Pump Lead Cement	9/6/2015	17:34:41	COM6	12.3	7.0	300.0	84.1	192 SKS 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	18	Pump Tail Cement	9/6/2015	17:48:42	COM6	12.8	7.0	240.0	46.6	120 SKS, 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	19	Shutdown	9/6/2015	17:55:41	COM6					
Event	20	Drop Top Plug	9/6/2015	17:59:43	COM6					PLUG LAUNCHED, WASHED UP PUMPS AND LINES ON TOP OF PLUG
Event	21	Pump Displacement	9/6/2015	18:00:12	COM6	8.4	10.0	800.0	97.2	FRESH WATER, HES RETURNED 21 BBLS LEAD CEMENT TO SURFACE
Event	22	Bump Plug	9/6/2015	18:12:39	USER			2200.0		PRESSURE TO 2200 PSI FOR 10 MIN CASING TEST
Event	23	Check Floats	9/6/2015	18:25:12	USER			2300.0		FLOATS HOLDING, HES RETURNED 1 BBL BACK TO PUMP
Event	24	End Job	9/6/2015	18:30:00	USER					PIPE WAS STATIC THROUGHOUT JOB, HAD GOOD RETURNS DURING JOB, HES USED 10 LBS SUGAR
Event	25	Pre-Rig Down Safety Meeting	9/6/2015	18:40:18	USER					WITH ALL HES PERSONNEL
Event	26	Rig-Down Equipment	9/6/2015	18:50:00	USER					
Event	27	Pre-Convoy Safety Meeting	9/6/2015	19:30:00	USER					WITH ALL HES PERSONNEL
Event	28	Crew Leave Location	9/6/2015	19:45:00	USER					
Event	29	Comment	9/6/2015	20:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT DEPARTMENT, STEVEN WARDELL AND CREW.

PICEANCE ENERGY PICEANCE 28-07W 902727752 SURFACE



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

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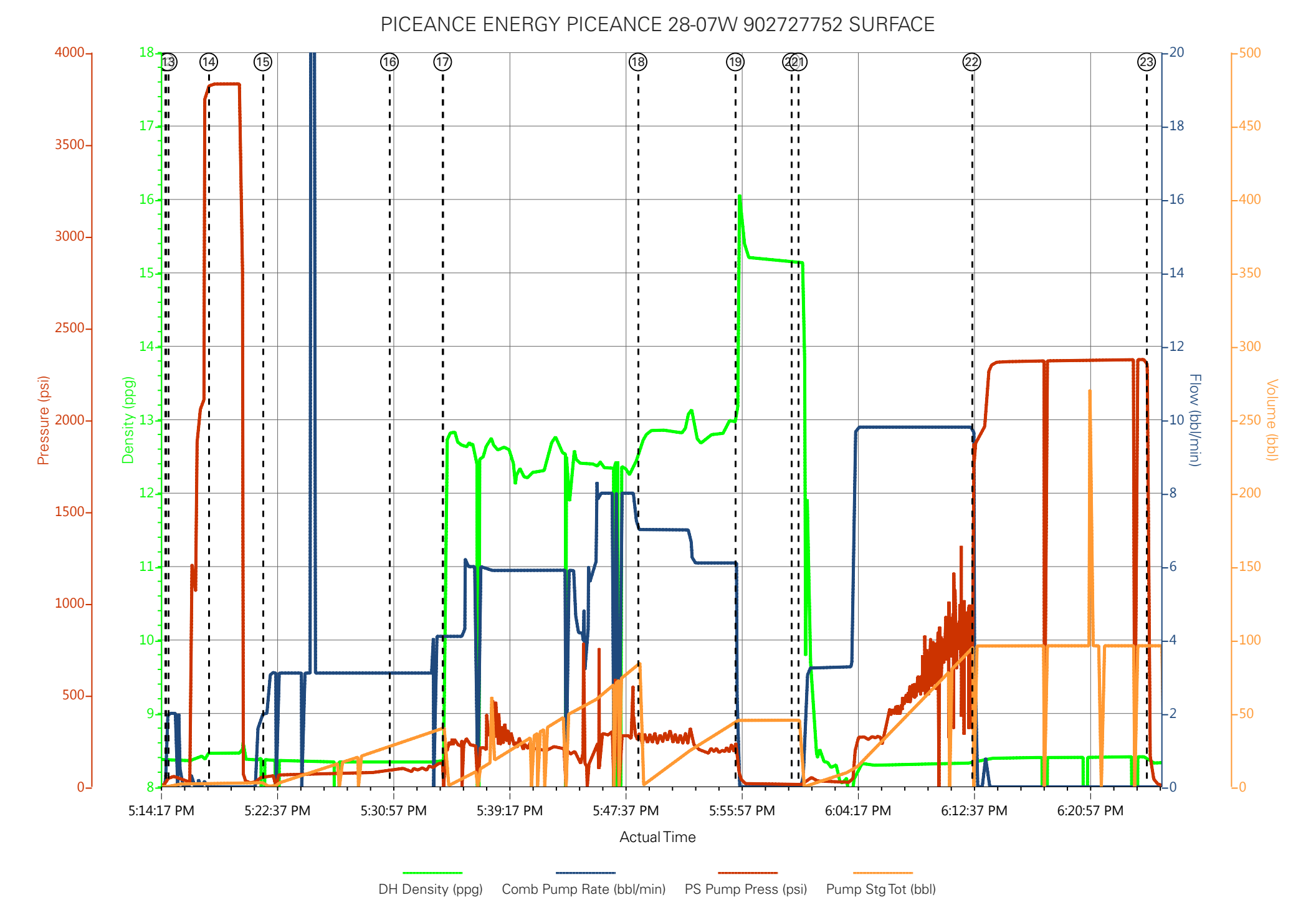
Created: 2015-09-06 08:50:43, Version: 4.2.384 Edit

Customer : PICEANCE ENERGY LLC - EBUS
Representative : ROGER FOSTER
Job Date : 9/6/2015 4:13:40 PM
Sales Order # : 902727752
Well : PICEANCE 28-07W
ELITE #6 : WARDELL / HYDE



HALLIBURTON | iCem® Service

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Customer : PICEANCE ENERGY LLC - EBUS
Representative : ROGER FOSTER

Job Date : 9/6/2015 4:13:40 PM
Sales Order # : 902727752

Well : PICEANCE 28-07W
ELITE #6 : WARDELL / HYDE

HALLIBURTON

Water Analysis Report

Company:	PICEANCE	**Date:**	9/6/2015
Submitted by:	STEVEN WARDELL	**Date Rec.:**	9/6/2015
Attention:	LAB	**S.O.#**	902727752
Lease	PATTERSON 306	**Job Type:**	SURFACE
Well #	PICEANCE 28-07W		

Specific Gravity	*MAX*	1	
pH	*8*	8	
Potassium (K)	*5000*	1000	Mg / L
Hardness	*500*	200	Mg / L
Iron (FE2)	*300*	0	Mg / L
Chlorides (Cl)	*3000*	1000	Mg / L
Sulfates (SO_4)	*1500*	<200	Mg / L
Temp	*40-80*	60	Deg
Total Dissolved Solids		200	Mg / L

Respectfully: STEVEN WARDELL

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
0902727752	10	9/6/2015
Customer:		**Job Type (BOM):**
PICEANCE ENERGY LLC - EBUS		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
ROGER FOSTER		05-077-09775-00
Well Name:		**Well Number:**
PICEANCE		0080127655
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**	**9/6/2015**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**H127209**
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		05-077-09775-00
Well Name:		**Well Number:**
PICEANCE		0080127655
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	9/6/2015

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
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	6
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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Customer Representative:		**API / UWI: (leave blank if unknown)**
ROGER FOSTER		05-077-09775-00
Well Name:		**Well Number:**
PICEANCE		0080127655
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	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